Innovative Financial Technologies To Facilitate Trade With Eastern Europe

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Abstract

The European Economic Community is overshadowing the great market potential of the emerging, newly liberated Eastern Bloc countries. Entering these formerly communist markets is challenging because of a lack of sound economies and weak currencies. This paper develops a model whereby North American businesses enter these markets and accept local currencies for products and services, purchase local goods with the local currency and then sell these goods through international commodity exchanges.

Introduction

Eastern Europe is in the world's spotlight as the former satellites of the Soviet Union spinoff from the clutches of central planning and attempt to become truly independent nations with distinctive political goals. These newly found political freedoms are seeking an economic expression as all of these countries are simultaneously attempting to establish market driven economies. As the Eastern European economies change and grow there will be many profitable opportunities for entrepreneurially orientated pro-active North American businesses to exploit. For example, Eastern Europe will offer superior opportunities for exporters because of the current lack of domestically produced consumer goods (Liles-Morris 1990) and outdated telecommunication technology (Morant 1990). Additionally, small businesses, which comprise a majority of North American firms, are uniquely positioned to take advantage of emerging counter trade opportunities with Europe's newly liberalizing countries (NLCs) (Fiebleke 1990) because of their inherent ability to be flexible and to adapt to market dynamics such as the recent disruption of world oil supply and the corresponding economic slowdown (Boudette et al. 1990). The purpose of this article is to expand on the seminal work of Randall, et al. (1990) and to develop a model of trade financing that utilizes international commodity markets to facilitate market entry by North American firms.

Background

The Eastern Europeans are attempting to develop rapidly, or in the cases of Hungary, Czechoslovakia, and Poland, re-develop modern, market-driven economies through investment, infrastructure creation, and trade expansion. However, this will be a difficult and time consuming task. The Hungarians have enjoyed a long standing entrepreneurial culture. However, forty years of communist rule has severely misallocated resources to such an extent that apartments in Budapest sell for $50,000 (U.S. currency) when most workers earn less than $2500 per year (Boudette et al. 1990).

Capital starved Eastern European businesses are attempting to facilitate the formation of capital by various means. Hungary, in its quest for capital, established a formal stock exchange in Budapest in June of 1990 (Savannah Morning News 6-22-90). Entrepreneurs in Czechoslovakia have developed an innovative database matching Czechoslovakian firms with potential foreign exporters, industrial developers, and investors (Fowler 1990). In addition, other nations are attempting to help Eastern Europe with various programs and trade policies.

One of the most significant factors in the initial stages of the economic enlightenment of Eastern Europe is the
newly created European Bank for Reconstruction and Development (EBRD). The EBRD was chartered on April 9, 1990 in Paris with total assets of approximately $12 billion. Western European nations joined with Japan and the United States to create the asset base for the bank, with the Western Europeans retaining controlling interest in the EBRD. The bank's mission, like that of other development banks, is to facilitate the development of the Eastern European nations by funding the establishment of an infrastructure required for economic growth. Approximately sixty percent of the bank's lending capacity is allocated toward privatization, with the remaining forty percent allocated toward NLC infrastructure development (Farnsworth 1990).

One of the driving forces behind the changes in Poland, Hungary, Czechoslovakia, Romania, and Bulgaria is the fact that the economic development of these countries has been much slower than their counterparts in Western Europe. Chief among the suspected causes of this lack-luster of economic growth was the establishment by the Soviets of the Council for Mutual Economic Assistance (COMECON). This organization was designed to create a single, economic unit of the Soviet Union and its eastern satellites, independent of other nations for material, technology, or markets (Billy 1977). Through COMECON, the Soviets directed the nations of Eastern Europe to specialize in the extraction of raw materials and the production of specific products that best "fit" into the central plan's economic framework, based on each nation's specific advantages. This mandated interrelationship between and among all the economies of the COMECON nations resulted in significant production, distribution, and pricing aberrations (Welt 1984), which caused the misallocation of resources (Fieleke 1990). Furthermore, the previous barriers to explicit private ownership had removed individual incentives for entrepreneurial efforts.

As the nations of Eastern Europe begin to open up to the West, there exists tremendous opportunities in a variety of markets for risk accepting, pro-active North American businesses. Companies that are willing to act as entrepreneurs and enter these markets should discover significant latent demand for most types of consumer goods resulting in potentially profitable outlets for their products. However, it appears that market entry by North American firms will not be easy. The interdependent economies of the NLCs are weak, their product quality and design are sub-standard by western measures (Forker 1990), and their currencies have little or no international trading value (Boudette et. al. 1990). Additionally, Western European business firms, also aware of what is happening in the Eastern Bloc, have established trading relationships with the NLCs (Fieleke 1990), and are anxious to exploit this emerging market. A final consideration is that the success of the integration of the Common Market may entice former Eastern Bloc countries to affiliate with the new European Union. Hence, it is imperative for the North American private business sector to develop innovative financial and marketing technologies that focus upon satisfying the unique needs of the Eastern European market.

The Eastern Bloc Market

The Eastern European countries discussed in this article are shown in Table 1.

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<th>Economic Profile Of Eastern European Countries</th>
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<td>POPULATION (MILLIONS)*</td>
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<td>POPULATION GROWTH RATE*</td>
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<td>PER CAPITA INCOME*</td>
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<td>GNP GROWTH RATE*</td>
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<td>1989 DEBT/EXPORT RATIO**</td>
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<td>MAJOR WESTERN TRADING** PARTNER</td>
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*: THE 1990 INFORMATION PLEASE ALMANAC
**: Fieleke (1990), NEW ENGLAND ECONOMIC REVIEW
***: Romania's aberration in the debt/export ratio is due to reporting problems
The Eastern Bloc market consists of approximately 100 million people. The population growth rate is relatively low ranging up to a 6% annual growth rate. The per capita income figures are not comparable due to measurement inconsistencies, exchange conversions, and aberrations in income measurement. In some cases such as Hungary, there are significant inconsistencies between per-capita income measures and modal incomes (with the former at $7,910 and the latter at approximately $2,400). The NLCs' (with the single exception of Romania) high debt to export ratio provides much insight on their inability to engage in monetary exchanges, and suggests very high debt loads. Finally, it is apparent from past transactions that Germany has already positioned herself to exploit emerging opportunities in Eastern Europe. The re-unified Germany will be even better prepared to increase trade with the NLCs because of the connections between former East German traders and their former COMECON counterparts in the NLCs.

**Typical Deterrents To Exporting**

There are a large number of obstacles to be overcome in getting a product to market. It is a complex process producing any product, given the fact that financing must be secured, assets and labor must be brought together, the product (or service) must actually be produced, distributed, sold, and revenues collected on a sufficient scale to pay for the inputs, service the debt and compensate the equity investor(s). Additionally, there is little research pertaining to Eastern European consumer preferences or trends (Naor 1990).

These problems loom large enough for businesses operating within local economies without the added problems of selling abroad. Exporting a product generally involves selling at an increased distance, with the attendant problems of absentee management. The North American business is operating within a new language and cultural environment, which requires a unique marketing strategy including advertising, channels of distribution, pricing, and prerequisite product modification. At the very least, the product will need to be relabeled and packaged, re-priced to account for local competition and exchange rates, and then re-positioned to best meet the local market needs (Korth 1985). Since selling abroad implies a increased level of risk, it may necessitate new sources of financing. Some advocates are recommending that Eastern Bloc countries allow a second or private monetary system. However, this may take years of political maneuvering to achieve (Rahn, 1989). In addition, there currently are government imposed barriers to trade and factor flows. These trade restrictions take many forms, but tariffs and quotas are among the most common.

A final problem involves payment, which typically is made in a hard currency such as U.S. dollars. Profit and loss from foreign operations will depend not only on sales and costs but also on the exchange rate existing when the income is transferred back to the North American company. While foreign exchange markets permit the ready conversion of one currency to another, the dynamic fluctuations in exchange rates adds additional financial risk. However, there are many U.S. government programs designed to help ameliorate the economic difficulties incurred by U.S. businesses involved in international trade (Howard and Herremans 1988).

**The Paradox Of Selling In Eastern Europe**

There are certain problems in exporting that are unique to the situation in Eastern Europe today. Since the currency of these countries does not readily trade in foreign exchange markets and the debt to export ratio is typically high, the Eastern European countries have a severe shortage of hard currency available to purchase imported consumer goods. In Eastern Bloc nations a government agency, often referred to as a foreign trade organization, will allocate the limited foreign exchange that they do control to obtain commodities the planners deem economically crucial. Therefore, under the current system of payment you must receive governmental permission from the NLC to export your products to them. If your product is not considered to be strategically important, your request may be denied (Folsom, et. al. 1988).

While this type of currency rationing does not exist in market economies, the transformation from a planned economy to a market economy is neither rapid nor automatic. There are several prerequisites as these economies convert from planned systems to market driven structures. In the absence of private property, there is no incentive to engage in a risk accepting venture, since an individual's income is determined by the state's fiat and not by one's own enterprise. In addition, there are significant quality and assortment disparities between what the developed nations want and what the NLCs have historically produced under the COMECON master economic plans (Forker 1990). Western producers have little incentive to export to former Eastern Bloc countries because Eastern Bloc countries lack sufficient foreign exchange. Thus, the economic problem in Eastern Europe is circular. There is no incentive to increase production, because the products people desire to buy are unavailable and there is no incentive for foreigners to fill this deficiency.
because the currency they would receive in payment does not convert.

**Using Counter Trade To Sell In Nonmarket Economies**

One way to export when you are unwilling or unable to accept local currency for partial or total payment is to engage in countertrade (Welt 1982). Countertrade has been in existence for thousands of years and has been effective in transferring goods between buyer and seller. (In some types of countertrade it is difficult to identify who is the buyer and who is the seller because both enter the transaction with goods and both leave the transaction with goods.) While countertrade has been utilized in the past more frequently by larger firms, business will be able to engage in more profitable countertrade activities with the coordination and communication abilities of international information networks established to facilitate exchange. An example of this type of network is one established in Prague designed to bring together the Czech entrepreneurs with their counterparts worldwide (Fowler 1990). A summary of the five major forms of countertrade; (1) barter; (2) counterpurchases; (3) compensation; (4) evidence accounts; and (5) switch trading is provided in Welt (1982), Welt (1984) and Randall, et. al. (1990).

Barter, an explicit exchange of one product for another product is the simplest countertrade strategy (Onkvisit and Shaw 1989), and can be utilized in the transaction when the monetary prices are not directly equivalent to the products' respective economic values. Exchanges between western nations and Eastern bloc nations have sometimes utilized barter and the resulting goods price system to facilitate the transaction. However, barter transactions have several unique problems (Welt 1984): (1) deriving an agreeable exchange price based upon a mutual coincidence of wants, (2) commercial financing of the transaction is difficult to obtain since there is no contractual obligation for a cash payment, and (3) total physical distribution costs of the two-way exchange may significantly reduce the transaction's return. Due to these problems barter typically accounts for less than fifteen percent of all countertrade transactions" (Welt 1984). A model of a barter exchange is presented in Figure 1.

Counterpurchase is a second form of countertrade (Onkvisit and Shaw 1989). A counterpurchase trade consists of two separate but offsetting transactions, with the products being priced in terms of a convertible currency. Thus, each transaction has a unique and enforceable contract (Welt 1982). In the NLCs, the government facilitates, through its Foreign Trade Organization, the counterpurchase by offering a "cluster" of domestic products to the western firm to satisfy the terms of the exchange (Welt 1984). Due to the creation of two contracts with specific monetary values attached, counterpurchases meet the security requirements of conventional financing technologies to be utilized. A conceptual model of a counterpurchase exchange is shown in Figure 2.

Compensation or "buyback" trades typically arise when one nation has some strategic resource, either a technology, process, product, or raw material, that a second nation demands. If the second party does not have the currency to purchase the resource outright and lacks suitable products for a straight barter or counterpurchase arrangement, then a compensation transaction may be utilized. The outcome of a compensation exchange arrangement is similar to that of a joint

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**FIGURE 1**

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<thead>
<tr>
<th>BARTER</th>
<th>GOODS</th>
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<td>US PRODUCER/</td>
<td>FOREIGN</td>
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<tr>
<td>EXPORTER</td>
<td>FIRM</td>
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</tbody>
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venture in that the party possessing the strategic resource will be paid in the strategic resource's output. A model of a compensation transaction is depicted in Figure 3.

A fourth form of countertrade is evidence accounts. Evidence accounts (Welt 1984) are exchanges where purchases by one country are credited against its export sales. The accounting units are in a negotiable currency, but the evidence accounts are not directly exchangeable. Hence, if a NLC has exportable products but limited negotiable currency, then it can purchase western goods using an evidence account that will later be offset by an equivalent value of exports to that same nation. An evidence account exchange is shown in Figure 4.

The final form of countertrade is known as switch trading (Welt 1984). Switch trading is a complex triangular trading agreement between: (1) a nation that wants some exportable strategic resource, but lacks both hard currency and exportable products, (2) a second nation that possess the desired strategic resource, and (3) a third nation that will procure the strategic resource for the first party by paying the second party in hard currency and accepting an evidence account as payment from the first party. A model of switch is presented in Figure 5.
The Randall-White-Miles Commodity Market Countertrade Model

None of these bilateral (and sometimes trilateral) countertrade arrangements fully meets the needs of a foreign business selling goods on the local economy of a Eastern Bloc country. There are significant transactions costs associated with each non-currency transaction. In addition, trading goods for goods makes the earnings from a sale unknown until those goods are sold. This uncertainty makes it more difficult to secure export financing. A private sector solution to the transfer risk problem is to utilize the commodity market as a payment tool. Consider a case where a North American business plans to export to goods to Poland and be paid in Polish zlotys. Zlotys do not convert in the international exchange market. However, a countertrade model that uses the international commodity markets to finance the exchange solves that problem in the following way. (We call this model the Randall-White-Miles Commodity Countertrade Model, or simply the RWM model.) The concept assumes the North American firm will use the Polish currency it earned in exchange for exporting its goods to buy Polish commodities that are traded on the international commodity market. The Polish commodities can then be converted
to a traded currency by selling those commodities in the commodity exchange market. Figure 6 shows the movement of goods into domestic commodities and then the conversion of the commodities into currency via the international commodity market. Clearly, the zloty price of the North American business' goods will be a function of the good's dollar price, the zloty price of the Polish commodity and the international spot price of that commodity. Mathematically, the exchange is as follows:

**Equation 1**

\[ \Gamma = \phi \delta \beta^4 \]

where: 
- \( \Gamma \) = price of the good in foreign currency 
- \( \phi \) = U.S. dollar price of the good 
- \( \delta \) = foreign currency price of the traded commodity, F.O.B. 
- \( \beta \) = commodity price (in dollars in the international commodity market)

This process allows an exporter to trade goods for convertible currency when no market based currency exchange rate exists.

The RWM model also provides important pricing information to the exporter. For instance, what should the price of a $2.25 tube of toothpaste be if the American exporter plans to buy Polish wheat with the zlotys? Assume the price of wheat is 200 zlotys per bushel in Poland and the international spot price of wheat is $2.45 per bushel? Using equation 1, the zloty price of the toothpaste is \( Z183.67 = (2.25 \times Z200 / (Z200)) \).

In some instances, a western seller may be contemplating exporting a product that competes directly with a domestic product being sold in the NLC. In this case, the price in foreign currency units will already be established. To determine whether or not to enter the market, the western seller must convert the foreign price back into dollars to determine if the price is sufficient to cover costs. The dollar price equivalent of a Polish good depends on the zloty price of the good, the zloty price of the foreign commodity (wheat) and the international price of the commodity. Using the previous notation, the formula is:

**Equation 2**

\[ \phi = \Gamma (\delta^4) \beta \]

Suppose an American shirt manufacturer wants to export a shirt that costs $15 to produce in the U.S. when similar shirts sell in Poland for 300 zlotys. The American exporter again decides to use the zlotys to purchase wheat. Can the American manufacturer compete if the price of wheat is 200 zlotys per bushel? Assuming a spot price at $2.45 per bushel, 300 zlotys for the shirt translates to only $3.67 ($3.67 = Z300 \times 2.45 / (Z200 \times Z1)) Hence, this price is too low for the shirt manufacturer to compete.

While these equations are straightforward, there are two items that require additional attention. First, the Polish price of the traded commodity must be quoted FOB because the international prices are quoted for the commodity at a specific geographic location. Thus, the price of shipping the commodity from Poland to the market must be factored in. Second, it should be readily apparent that the items within the brackets establish an exchange rate between zlotys and the dollar. Essentially, this trade financing scheme makes the zloty a commodi-
ty backed currency.

When the contract specifies payment in the future, exporters generally hedge against exchange rate risk by entering a forward contract to sell the foreign currency at some time in the future. This insures the seller will receive a guaranteed price in dollars. Since there is no market for non-traded currencies, there is also no futures market in them. However, if the contract specifies the payment in zlotys sometime in the future, the seller is still able to remove any exchange risk and lock in a price received for the sale by using forward contracts. Since the zlotys will be paid in the future, the seller contracts to buy Polish wheat with zlotys at that future time, while selling a wheat contract for future delivery in the international commodity market.

Feasibility Of The RWM Model

The principle advantage of the RWM model is that it immediately opens up markets that have been closed due to problems in funding the exchange. For example, if the American firm buys Polish products that have a developed, worldwide market with zlotys earned from Polish sales, then they would be able to convert their nonconvertible currency into a hard currency in one simple step. Since wheat is one of Poland's most marketable products (Europa World Yearbook, 1989), the American company could secure the right to buy wheat with their zlotys and then simply sell the wheat in the international commodity market for hard currency. Commodity prices are known, and there is an active international market in London for commodity futures if the wheat is to be delivered at some date in the future.

Table 2 shows the natural resources available in sufficient volume for trade in the various Eastern European countries. The items listed with an asterisk are those items that are traded on the international commodity exchanges. Those items represent a country's goods that can be easily converted to hard currencies via the proposed futures conversion method. In addition, there are a number of agricultural products grown that are traded on the commodity exchanges.

Managerial Implications

The RWM model has several advantages over the NLC government selling commodities directly for hard currency and allocating the proceeds among foreign exporters. As mentioned above, it introduces a degree of convertability to the NLC's currency. Competition to enter the NLC market will insulate that the NLC inhabitants are receiving the maximum level of imported goods for the commodities that they are allocating to export. More importantly, it allows the consumer market to determine which goods should be imported. If an North American business tries to sell consumer goods in Poland that the Poles do not want, the American firm earns no zlotys and therefore buys no Polish wheat. Under the current system, the Polish government would exchange wheat for hard currency and have expended the scarce hard currency for consumer goods the consumers may not desire. Additionally, trade resulting from the futures conversion method could encourage the North American business to invest directly in the NLC and employ local labor as well as to initiate vertical integration of their operations into the NLC. Much of the local currency would be used to pay employees and buy merchandise locally, and the other currency can be

<table>
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<tr>
<th>Commodity</th>
<th>Bulgaria</th>
<th>Czechoslovakia</th>
<th>Hungary</th>
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<td>Bauxite</td>
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* GOODS TRADED ON COMMODITY EXCHANGE (Source: The Futures Game and The 1990 Information Please Almanac)
converted using RWM Commodity Market Countertrade model. No matter what alternative the North American business uses, this method stimulates the local economy of the foreign country and promotes economic stability and political security.

Conclusions

The utilization of the RWM Commodity Market Countertrade model as a private sector method of currency conversion will enable the pro-active western firms to engage in trade with the Eastern bloc nations to a much greater extent than the reliance upon governmental financing programs alone. The increased levels of trade will further help develop the economies of Eastern Europe by encouraging the establishment of an entrepreneurial infrastructure, hence facilitating both the economic and political goals of the Western Alliance.

Suggestions For Future Research

The problems typically encountered in transborder, cross cultural trade provide many opportunities for future research. The current political, economic, and environmental situations in Eastern Europe increase both the complexity of and the importance of this research. The NLC's situation is confounded both by currency that is not readily convertible and political systems that are highly turbulent.

Four major categories of researchable issues appear to be emerging from dynamic environment of Eastern Europe. These research categories are not designed to be exclusive nor exhaustive but to simply suggest future opportunities that may help both predict and explain these dynamic economic and trade interrelationships. Research is needed on (1) the impact of the political/economic union of the European Community on trade with Eastern Europe; (2) the results of the "age of ethnic unrest" on governments, trading patterns, international regulations, and currency markets; (3) the rate of economic and political development of Eastern Europe; and (4) the willingness of international markets to accept either the NLC's currency or futures contracts.

When political and economic systems are changing as rapidly as they are in the NLC's, due in part to interaction with the European Community and emerging ethnic and regional interests, many of the assumptions and ground rules that have governed trade in the past are ignored. The current political/economic situation suggests that stability for many of the NLC's may not be the norm. When governments and their economic systems are not stable, for example during revolts, war, or civil strife countertrade arrangements typically gain in acceptance. Research pertaining to the interrelationship between political/economic dynamics and the utilizations of countertrade would contribute to the existing body of knowledge.

A major factor in trade with the NLC's is the rate of economic development, redevelopment, and reunification. Western investment will completely alter the trading patterns and norms that have existed in the NLC's since COMECON. The reunification of Germany has already had profound impact on the economies and political structures in all of Europe, and indeed the entire world. Research pertaining to the effects of economic development, redevelopment, and reunification is crucial to enhance the understanding of trade.

The RWM model provides a simple starting point for additional research on countertrade technologies. A more comprehensive model is needed to better capture both the inter-organizational and intra-organizational decision frameworks. In addition, research is needed on the acceptance of NLC's contracts and products by Western firms. Differences in quality, standards, and legal contracts must be better understood before progress can be achieved in the economic analysis of the metamorphoses of Eastern Europe. In sum, as Eastern Europe unfolds, more research is needed to help make U.S. businesses better and more successful trading partners.

***References***


6. Folsom, Ralph H., Michael W. Gordon and John A. Spanogle, *International Business Trans-


