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ASPECTS OF COUNTERTRADE
AND DEVELOPMENT

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I. Introduction

Countertrade or international barter has enjoyed a flourish of activity during the 1980s. Some authors have suggested that countertrade is an effective development tool for third world countries and indeed represents the beginning of a rearrangement of the international economic order in favour of lesser developed countries. Griffin and Rouse (1986, p.178) state, "that counter-trade is a development strategy currently being adopted by leading third world countries that may achieve the long sought restructuring of the global economic order". And they assert (p.196) : "Many countries (including South Korea, Indonesia, Malaysia, Saudi Arabia, China, Australia and Canada) insist upon counter-trade in spite of solid foreign reserve holdings. For these industrializing nations, linking trade flows is a major tool by which diversification of trading partners and exertion of national sovereignty over multi-nationals can be achieved." The Far Eastern Economic Review in its cover story on January 27, 1983 states (p.49) : "By compelling these industrialized countries to accept part payment in commodities the primary producers are circumventing the international pricing mechanism and achieving what decades of negotiations on international commodity agreements and cartels has failed to achieve".

On the other hand, others have suggested that countertrade is an aberration reflecting a misguided understanding of international trade and finance by LDC policymakers. For example, Banks (1983, p.179) states : "Any attraction which countertrade (and other forms of barter) may have for developing countries is largely based on a misapprehension concerning its ability to ameliorate their difficult trade and payments situation in the context of a world recession. In practice, countertrade will almost certainly make matters worse."

The thesis of the present paper is that neither of these two views is generally correct. That is, the popularity of countertrade does not signal the beginning of a new international economic order by shifting terms of trade in favour of developing countries nor does it represent ignorance by LDC policymakers. Rather it seems that countertrade is more a natural outgrowth of the economic environment of the 1980s : the presence of state trading agencies in countries with balance of payments deficits, combined with exchange rate volatility and declining money growth.

The outline of the paper is as follows. In Section II the various types of countertrade are defined and examples given. Section III first criticizes the claim that countertrade enables developing countries to improve their trading terms. The experiences of OPEC and ASEAN are contrasted to illustrate that the countries most active in countertrade are generally those that sell counter-traded goods below world market price levels. Section II also examines why countries with balance of payments deficits are more prone to engage in countertrade if their external trade is conducted largely by state trading agencies. Section IV considers how exchange rate volatility and declining money growth also have contributed to the surge

in countertrade. The literature on this aspect of countertrade has generally focused directly on modern economies. But in the present paper the efficiency of barter in primitive economies is first examined. This analysis of primitive economies gives further understanding why economic agents in modern economies, especially state trading institutions, may embrace countertrade given uncertain exchange rates and liquidity shortages. Section V briefly discusses the future prospects of countertrade.

II. Types of Countertrade

Countertrade can take many forms and is estimated to account for anywhere from 5 percent to 30 percent of world trade.¹ The range is wide because governments do not routinely record countertrade transactions in their balance of payments. First, there is simple barter. The recent agreement by the Philippine Board of Investments and the Indonesian government to exchange phosphoric acid from the Philippines for ammonia from Indonesia is an instance of this type of countertrade.

An offset (also called parallel barter or counterpurchase) occurs when a business firm must purchase goods often unrelated to its business operations as part of an international deal. The actual counterpurchase may take place over a multi-year period. For example, when International Commodities Export Corporation recently exported fertilizer to Indonesia to fulfill a government contract, it purchased Indonesian products including cocoa, coffee and rubber.

A buyback (also called import compensation) results when payment to a foreign firm or foreign government for their capital equipment or technical assistance in constructing a new factory in the

local economy is made with output derived from the equipment or factory. China has relied on technology and equipment supplied by U.S. and Japanese firms to develop its oil and coal resources. Oil and coal derived over the years from these investment projects are often used as payment to the U.S. and Japanese firms.

Finally, bilateral clearing occurs when governments of two countries attempt to balance their bilateral trade, and therefore conserve on the use of foreign exchange. For example, India's import bill for Soviet oil declined in the 1980s as the market price of oil fell, which led to a trade surplus for India with the Soviet Union. The Soviet Union then asked India to purchase more of its goods in order to balance their trade.

III. Countertrade, The Terms of Trade and Payments Deficits

Terms of Trade

Countertrade is said to allow LDC policymakers to bypass the international pricing system and assist LDCs in their development plans by improving their terms of trade.² Yet this view certainly misconstrues the pricing process. In a barter transaction, as in a monetary one, it is the relative price that matters. Supply and demand forces are just as important with barter as with monetary exchange. There are numerous examples where prices were adjusted in countertrade proposals when there were changing market conditions. Thailand in 1981 terminated an agreement to barter its maize for Romanian fertilizer when high world maize prices made the deal uneconomic.³ Oil countertrade proposals are often altered to reflect changing world prices of oil. Such a pricing adjustment occurred in a barter of planes from the United Kingdom for

Saudi Arabian Oil when oil prices fell sharply during winter 1986.⁴ Indeed one gets a clearer picture of why some countries are or not avid counter-traders by considering their policies in relation to world markets for their commodities.

OPEC. Consider first OPEC. Many of these nations are saddled with large foreign debts at the same time that cartel production quotas limit their exports of oil. These nations are inclined to hide price discounts on oil through countertrade to increase exports. Hence OPEC nations have been active countertraders since they have been willing to accept prices below existing world levels. The Saudi Arabian government has lamented that countertrade leads to lower oil prices, despite having participated itself in such deals.⁵ Banks (1985, p.257) reports that in 1984 as much as 20 percent of exports of OPEC was countertraded. Indeed it has been said that "Oil is the currency of countertrade."

Recent reports suggest that oil countertrading and price discounting remain strong.⁶ Libya has offered to supply all of Uganda's oil imports in exchange for coffee, maize and beans. Libya has evidently given a special price to Uganda to undercut other oil exporters. Also, Libya has traded oil for capital goods, including a water treatment facility, an airforce air shelter and a housing complex.

Besides trading oil for commodities, Iraq has offered to pay off foreign debts in oil and Iran has exchanged oil for cement manufacturing capacity in a deal with a Turkish firm. Nigeria has indicated it is now prepared to countertrade. Oil capacity in Nigeria is about 2 million barrels a day but its daily OPEC quota is 1.6 million barrels. Although Nigeria officially states it will countertrade within the quota, it is reported that the

countertraded oil will likely come from the unused capacity. Even non-OPEC oil producers countertrade oil. Mexico has offered to barter oil at a discount to Nicaragua for agricultural goods and raw materials.

ASEAN. It is useful to contrast the experience of OPEC with that of certain ASEAN countries: Thailand, Malaysia and Indonesia.⁷ These countries specify that the prices of their countertraded goods should reflect world prices and countertrade deals should represent an addition to already existing trade. This helps explain why they have generally been less active in countertrade than many OPEC nations that readily countertrade oil at discount prices.

Thailand set guidelines in 1981 to govern its countertrading. Specifically, Thailand wished to increase exports of six agricultural products: maize, cotton, rice, rubber, sugar and tapioca. Thailand has found few opportunities to barter its agricultural products, as they have been relatively strict to require world prices for their bartered goods and that barter trade not substitute for existing trade. It is estimated that countertrading activity through early 1986 was only approximately U.S. \$ 175 million, with three of the four major deals being made with Soviet Bloc countries.⁸

The Malaysian government introduced countertrade policies in 1983 and accepts countertrade proposals from foreign suppliers bidding on government contracts. These policies attempt to shift exports away from traditional raw materials to higher value added goods; e.g., logs, tin and crude palm oil are excluded from countertrade. Malaysia requires that its countertraded exports be sold either a) to the country that supplies the imports fulfilling the government contract or b) to designated third

countries. In this way the government seeks to insure that countertrade does not merely replace cash trade. Through March 1985 countertrade totalled about M \$330 million (U.S. \$132 million).⁹

Of the three countries, Indonesia has been the most active in countertrading since introducing policies in 1981 to promote non-oil and gas exports including plywood, rubber, timber, cocoa beans and textiles. The government requires foreign firms winning major government contracts to purchase Indonesian goods equivalent in value to materials imported for the government project. Indonesia though has not closely monitored whether counter-traded goods satisfy its additionality requirement and represent new trade. Foreign suppliers taking countertraded goods are permitted to assign these goods to traders who sell them in the best available markets. It is difficult to know in exactly what countries these goods eventually end-up and therefore whether countertrade displaced some cash trade. This assignment rule along with the vigour in which Indonesia promoted countertrade, given declining oil and gas revenues, led to approximately U.S. \$1.5 billion in countertrade contracts through 1986. But recently activity has declined. It is estimated that a total of about U.S. \$200 million worth of deals were made in the two years 1986 and 1987 compared with U.S. \$400 million in 1985.¹⁰

The governments of two other ASEAN countries, the Philippines and Singapore, have not been actively involved in countertrade. Philippine countertrade has been kept to a minimum due in part to International Monetary Fund restrictions, and Singapore has a free trade policy. However, Singapore in 1986 and 1987 granted pioneer tax exemption status for five years with possibility of extension to nine trading companies, including Cargill trading of the U.S., to establish subsidiaries in Singapore

engaging in countertrade. Singapore is already a center of entrepot activity in Southeast Asia and is intent in competing more effectively with Hong Kong for countertrade business .

Countertrade then surely cannot be an effective means of bypassing the existing world pricing structure, except that it may permit countries (e.g., OPEC) to price discriminate more easily since countertrade deals are more complicated and less transparent than overt monetary agreements. The international pricing system (i.e., world supply and demand) is not being circumvented; rather markets are being segregated with nations initiating barter often accepting lower prices on bartered goods. On these exports the nation incurs a terms of trade deterioration, although the country's (and the world's) real income may increase since the price of these exports still exceeds marginal cost.¹¹

Balance of Payments Deficits

Another reason generally given for the attractiveness of countertrade in the 1980s is the balance of payments deficits experienced by many countries.¹² Yet balance of payments deficits are not a unique feature of the 1980s. Deficits (and surpluses) were much more a part of the Bretton Woods System (1944-1971) where exchange rates were fixed, although adjustable. International barter did not flourish during this period or in the 1970s for that matter.¹³ In fact, countries today have additional tools to address payments deficits not available to policy-makers during Bretton Woods : they can alter their exchange rates, gradually or drastically, without prior approval by the International Monetary Fund or even allow their currencies to float.

It is a special characteristic of countries experiencing deficits in the 1980s that makes barter

appealing. Many of these countries, often LDCs, conduct much of their international trade through state agencies.¹⁴ State trading agencies naturally take into account the country's balance of payments in its trade behaviour. To the extent that barter can provide a closer matching of exports and imports, permit price discrimination or "hide" foreign exchange from creditor banks, barter will be a useful tool for these agencies.

If a deficit country relies on private domestic firms to conduct the nation's international trade, then no large-scale resort to barter will likely occur.¹⁵ Private firms are interested in their own balance sheets and income statements and not the country's balance of payments. Bartering the firm's products for say fertilizer will generally not be initiated by the firm since its employees and shareholders do not wish to be paid in fertilizer.

Government agencies, on the other hand, do not participate in international trade for profit. Nor do government employees get paid directly from the receipts of foreign sales. Rather the imports received from bartering exports may be destined for use or consumption anywhere in the economy where say fertilizer is in demand. Hence, state trading agencies will more likely embrace barter than private firms since economy-wide imports and exports can be better balanced and because imported goods can be directed to various parts of the country through state distribution facilities.

IV. Money, Barter and Exchange Rates

Primitive Economies

A common perception shrouding countertrade may be, "money was invented to replace barter, not the other way around." It may seem that any resort

to barter, domestic or international, marks a reversion to an antiquated method of conducting transactions. Yet it cannot be maintained that barter was ever the primary means of trade, even in the more primitive economies. That is, it is a misperception to suggest that a medium of exchange was introduced to replace barter for all time by enlightened individuals who eventually (or all of a sudden) realized the greater efficiency associated with monetary exchange. Indeed Humphrey (1985, p.48) asserts : "No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money ; all available ethnography suggests that there has never been such a thing." Barter and a medium of exchange have existed side by side and market participants had a choice as to which form of exchange they found more attractive.¹⁶ In many cases the medium of exchange was "primitive" or "commodity" money such as rice, whales teeth, shells, cattle, maize or salt instead of currency and checking deposits. Nevertheless, individuals often found barter more convenient and economical than the use of money, be it commodity, fiat, or bank money.

There may be several reasons for this preference for barter. A barter trade can accomplish in one transaction what may take (at least) two transactions with a medium of exchange. For instance, a fisherman can barter fish directly for the furs of a hunter. With a medium of exchange, the fisherman first sells fish for money and in turn exchanges money for furs. Of course, a double coincidence of wants must be met before the single barter transaction dominates the use of money. Yet as Einzig (1986, p.343) points out : "the 'double coincidence' (to quote the word of Jevons) that must arise is by no means difficult to achieve in a small community where everybody knows a great deal about everybody else's products and requirements.

Changes in money supply may affect the preference for barter versus monetary trade. Einzig (1966, p.417) states :

"As a rule the relative extent of monetary and natural economies is liable to changes, and changes in the volume or value of money are liable to affect it. A moderate rise in prices through an expansion in the volume of money tends to increase the proportion of monetary economy to natural economy, because an increased number of people are tempted by higher prices to sell against money rather than barter their goods or services. Conversely a decline in prices due to monetary causes leads towards an increase in the relative importance of natural economy. This phenomenon is noticeable also in primitive communities using modern money. During the depression of the thirties, the sharp decline of prices of local products in many parts of the world resulted in a reluctance to accept lower prices in money, and many people reverted to barter."

Moreover, while money may be used for domestic transactions, barter may be chosen for foreign trade. For example, even into the 1930s the inhabitants of the Yap island group in the Caroline Islands in the West Pacific avoided the use of foreign currencies because the currencies were subject to sharp fluctuations in their international value and acceptability. Although barter and "stone" money were used for domestic trade on the Yap islands, foreign trade was generally conducted through barter¹⁷.

Exchange Rates in Modern Economies

What then of countertrade in the current world economy ? If market participants have access to a sophisticated multilateral payments system, then why choose international barter rather than enjoying the fullest benefits of a medium of exchange ? Consider a hypothetical example of trade among four countries : Indonesia, the Philippines, Japan and the United States. One possible trading pattern would be as follows. The Indonesian government exports rubber to Japan with payment in yen. It then sells these yen for pesos to purchase sugar from the Philippines. Over the same period, the Philippine government sells sugar in the U.S. for dollars and then exchanges dollars for rupiah to purchases Indonesian rubber. An alternative scheme, for Indonesia and the Philippines at least, would be for state ministers of both countries to agree to barter rubber for sugar. State trading agencies, by identifying a double coincidence of wants, achieve their export and import preferences with one transaction.

There are some complications associated with the barter transaction, as there may be some imbalance between the respective volumes of rubber and sugar that the two countries wish to trade. Yet this imbalance may be slight enough to justify avoiding the series of monetary transactions cited above, especially if exchange rates are not rigidly fixed. With fluctuating exchange rates the potential adverse change in exchange rates during the time in which foreign currency is held adds an element of risk to the monetary transactions.

Another problem with monetary exchange occurs if say the Philippines wishes to import the rubber before it actually exports the sugar. The Philippines may be unable to obtain credit to finance the purchase

of rubber because of a balance of payments deficit and a large foreign debt. But such financing may be implicitly given to the Philippines through a barter agreement when the Philippines agrees to ship the sugar at some agreed-upon time after the rubber has been imported.

The arguments above suggest that it is not ~~surprising that international barter would increase when exchange rates are more volatile, which is~~ a situation that characterizes the 1980s. The Bretton Woods Adjustable Peg System provided reasonable exchange rate stability from 1944 to 1971 since currencies were pegged to the U.S. dollar. The 1970s, although no longer a period of fixed exchange rates, witnessed more stability than the 1980s. For instance, from 1971 through 1979, the average annual change in the effective exchange rate of the U.S. dollar against other O.E.C.D. currencies was 3.8 percent. From 1980 through 1986 the average annual exchange rate change of the dollar against O.E.C.D. Currencies was 7.6 percent.¹⁸ The dollar declined in value by approximately 40 percent against the two other major currencies, the Japanese yen and West German mark, from February 1985 to March 1988. Greater exchange rate volatility adds risk to using foreign currency in conducting international trade, therefore, international barter becomes relatively more attractive.

Monetary Growth in Modern Economies

The historical experience suggests that barter grows when there is either too much money and hyperinflation¹⁹ or too little money in the economy. In the absence of perfect wage and price flexibility, a shortage of money will mean a contraction of economic activity and more limits on the profitable division of labor. Economic agents naturally seek

to overcome this shortage of money by utilizing other means to facilitate trade. The worldwide contraction in domestic money supplies and the depression of the 1930s led developed countries to show greater preference for barter. In Europe especially, bilateral trade agreements were made between governments to conserve on the use of money.²⁰

The weighted average of the real money supply in the 21 leading industrial countries increased approximately 1.57 percent per year from 1970 through 1979. From 1980 through 1985 the real money supply in these countries increased approximately .53 percent per year. The real money supply in these countries fell by approximately 2.25 percent per year during the four year period 1979-1982.²¹ The relative decline in the rate of growth of money also helps explain the growing appeal of countertrade.²²

V. The Future of Countertrade

Will countertrade continue to grow in popularity and perhaps account for as much as 50 percent of world trade by the year 2000, as predicted by James Walsh of the U.S. Department of Commerce?²³ Whether this growth does take place will certainly depend on the volatility of exchange rates and especially ~~the U.S. dollar rate, monetary policy in OECD countries, and the pervasiveness of state trading agencies~~ in developing economies. It is very difficult to predict the course of future exchange rates or monetary growth in the OECD. But the extent of state trading in developing countries may depend in part on the trend in many countries to privatize activities formerly undertaken by government. Privatization schemes are being implemented or at least being seriously considered in Indonesia, where over 200 state firms are being considered

for sale; Malaysia, port facilities and sewage and water supply facilities may be privatized; Philippines, where over 400 state firms may be sold; Pakistan, considering privatizing basic industries that were originally nationalized in 1972; Thailand, a state bank and state zinc refinery may be sold; Sri Lanka, its state-run telecommunications authority and state-owned tea estates may be privatized; India, where a general privatization of segments of the public sector including the telecommunications and airline industries may take place; and China, with its economic reforms, to name some examples. The International Monetary Fund, World Bank and the U.S. Agency for International Development have pushed privatization in many developing countries. If these programs achieve the desired results of lower budget deficits and greater production efficiencies, then the move to privatization will continue. In particular, governments may relinquish some of their involvement in international trade and the role and scope of state trading may diminish. Countertrade should decline as more trade is left in private hands.

Yet OPEC governments have not been as active in privatization and are unlikely to reduce their role in oil production and trading. Moreover the world share market crash in October 1987 may lead to delays or indefinite postponements of some privatization plans. Hence, it is perhaps too early to tell whether both the overall impact of privatization and its particular effect on state trading and countertrade will be significant.

FOOTNOTES

1. See for example Cohen and Zysman (1986, pp.41-42), Miramon (1985, p.24), Cooper (1984, p.36), Walsh (1983, p.3), Banks (1983, pp.162-163), Alexandrides and Bowers (1988, p.44).
2. See in particular Griffin and Rouse (1986) and the Far Eastern Economic Review, January 27, 1983, pp.49-56.
3. See Dauman (1986, p.18).
4. See Beutel (1986, p.12).
5. See Euromoney Trade Finance Report, February 1985, p.19.
6. See recent issues of Euromoney Trade Finance Report and Trade Finance.
7. Indonesia is also a member of OPEC but it does not countertrade oil.
8. See Dauman (1986, p.14).

9. See Euromoney Trade Finance Report, June 1985, p.43.

10. See Trade Finance, September 1987, p.41.
11. Cooper (1984) and especially Banks (1985) provide thorough discussions as to why domestic and international price controls can lead to production surpluses and a resort to countertrade. See also Rieber (1982) for a general equilibrium model of international price discrimination.

12. See for instance Walsh (1983) and Czinkota and Talbot (1986), among many others.
13. Barter did expand to some extent during the 1970s as East-West trade grew. The preference for barter then was a result of the nonconvertibility of the currencies of many Eastern countries. ~~International barter between more market-oriented economies did not surge until the 1980s. For further discussion of this point, see Cohen and Zysman (1986).~~
14. Banks (1983, p.174) cites India, where perhaps 70 percent of imports involve state agencies.
15. The importance of state involvement in international trade in explaining the rise of countertrade is underscored by Cohen and Zysman (1986).
16. See also Dalton (1982) for a succinct discussion of barter.
17. For a further discussion of the trading in Yap, see Einzig (1966, pp.36-40).
18. See OECD Economic Outlook, 42, December 1987, p.195.
19. See Dornbusch and Fischer (1986) for an examination of the German, Austrian and Polish hyperinflations during the 1920s. There is also a discussion of the Italian hyperinflation of the 1940s and the recent periods of high inflation in Israel and Argentina.
20. See Banks (1983, pp.177-178) for further discussion of bilateral trade among European countries during the depression years. Ellis (1945) provides the seminal analysis of the effects of bilateralism.

21. See International Financial Statistics : International Monetary Fund, various issues; computations by the author. In 1986 the real money supply in these countries increased by 9.2 percent. A continuation of this trend should reduce countertrade, all else equal.
22. For related perspectives on the recent worldwide contraction and the role of exchange rates in explaining the surge in countertrade, see Banks (1983), Business International, August 31, 1984, pp.273-275, Cooper (1984) and Griffin and Rouse (1986).
23. This prediction by James Walsh, an economist, is reported in Cooper (1984, p.36).

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