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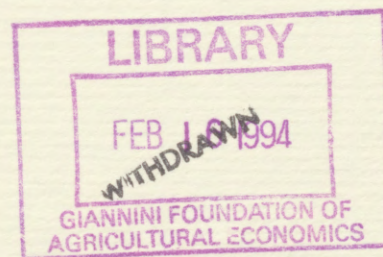
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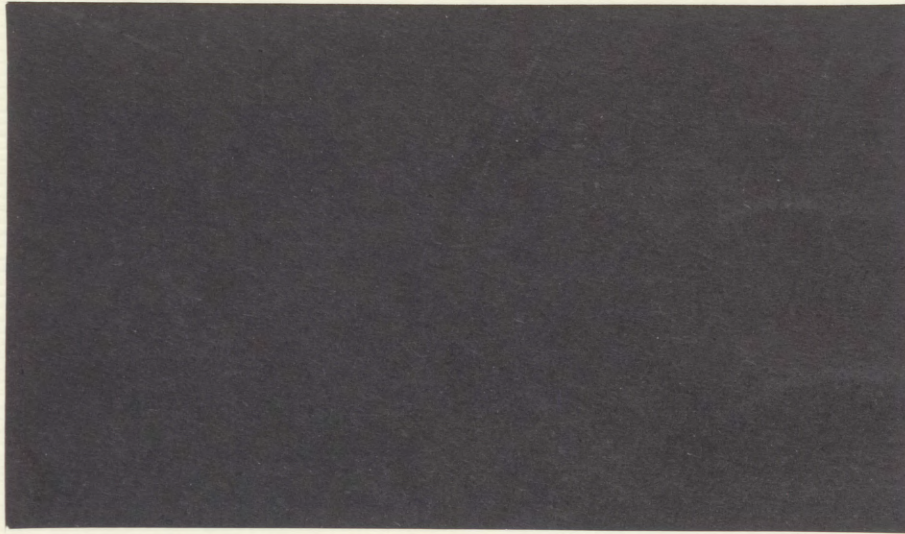


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THE ROLE OF BARTER TRADE
IN PROMOTING NON-TRADITIONAL EXPORTS:
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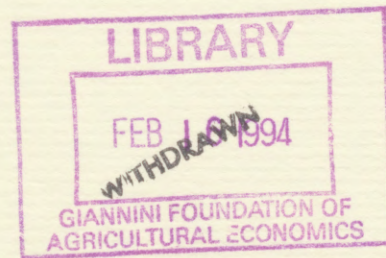
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ABSTRACT

Since the mid-1970s balance of payments-constrained developing countries have made increasing use of countertrade as a vehicle for achieving their objectives of increasing and diversifying their exports. Very little attention, however, has yet been given to assessments of the efficacy of such arrangements in achieving their objectives. This note provides a brief but rather telling examination of the Egyptian experience in this respect. While the results show that the provisions of the barter trade agreements put heavy emphasis on non-traditional exports, they also show that between 1985 and 1989 the gap between target and realized values was considerably higher for non-traditional items than traditional ones and to have increased rather steadily over time. The liberalization of overall trade beginning in 1988 led to a decline in barter trade between 1987 and 1989 but the streamlining of barter trade agreements and opening them up to private trading firms in 1990 led to a modest increase in barter trade, especially with respect to non-traditional commodities by 1991.

Due to the increasing foreign indebtedness of developing countries (LDCs), the substantial slowdown in developed countries' (DCs) import growth and the demise of growth and trade in most of the formerly socialist countries, LDCs are again likely to make increasing use of new means of promoting their goals of economic growth, sectoral diversification and industrialization. One such means is countertrade. Despite much experience with countertrade around the world, there remains considerable controversy as to whether or not it has succeeded in helping the LDCs which have used it in attaining their objectives. While numerous claims are made for one side or another in the debate, the lack of empirical data has constituted a major obstacle to the proper examination of these claims.¹

The purpose of this paper is to test the validity of the claim that countertrade promotes the export of non-traditional products of LDCs. While countertrade can take many different forms, our focus is on one form, namely barter trade. Since barter trade is a particularly non-transparent form of countertrade, the relevant statistical data has been especially difficult to obtain.²

Our investigation of barter trade makes use of the experience of Egypt. Egypt constitutes an appropriate case study for an investigation of barter trade because of (1) the extensive use it has made of barter trade, (2) the importance of commodity

¹ See, e.g., Mirus and Yeung (1986).

² See, e.g., Welt (1982).

diversification to the Egyptian economy (which has relied so heavily and for so long on the export of a single commodity- cotton- and more recently also oil), (3) the fact that it has undertaken successive reforms of regular trade and then barter trade, (4) its position of importance among LDCs in general and those of Africa and the Middle East in particular, and (5) the availability of the relevant data.

The Egyptian experience with barter agreements dates back to the 1960s when, like the countries of Eastern Europe, Egypt was characterized by a high degree of central planning.

Liberalization of the Egyptian economy began in the mid-1970s and has continued with ups and downs ever since. Nevertheless, for the reasons identified at the outset, renewed interest in, and use of, barter and other forms of countertrade began around 1980 and rose fairly sharply in the mid-1980s before subsiding with accelerated trade liberalization in the late-1980s.³ As a result, the incentives for, and hence the incidence of, barter trade declined substantially after 1987. When the rules of barter trade itself were liberalized in 1990, the incentives for barter trade were again increased. For these reasons, in this paper we focus on the period between 1985 and the present, the first part of which may be regarded as the heyday of Egyptian barter trade.⁴

³ These efforts have included floating of the exchange rate, substantial reductions in tariffs and the elimination of restrictions on capital movements.

⁴ Between 1985 and 1987 barter trade alone accounted for about 13% of Egypt's total trade. For a more detailed account of the evolution of barter trade and its relation to other forms of trade in Egypt see Abdel-Latif (1990).

During this period Egypt had barter agreements with several Arab countries (including Jordan, Lebanon, Sudan and Tunisia), East European countries, and several Western DCs (Austria, Netherlands, Germany, Sweden, Switzerland and United Kingdom).

Before assessing the achievements of Egypt's barter trade and explaining its ebb and flow, we deem it important to provide a brief description of the process as it existed both prior to 1990 and after its reform in 1990.

Before 1990, barter trade would be initiated when one party (A) in Egypt would identify with another (B) in another country a potential transaction involving both imports and exports. Typically, the two parties would discuss both price and quality of both imports and exports, but subject to revision after approval of the agreement had been obtained. Party A would present the agreement to the Egyptian authorities for approval.⁵ Approvals at two different levels were required: first, by a special committee on barter trade, and then by the Minister of Economy. At the first level, the main criterion for approval was the promise of export diversification. Approval at the second level could be obtained only with (1) approval at the first level and (2) an agreement by an Egyptian bank to manage the transaction in such a way as to assure that the values of exports and imports are equalized.

Given the barter character of the transaction, typically the Egyptian party behind barter transactions was and is neither a

⁵ If required to do so, party B would submit a similar request for approval in the other country.

producer nor a distributor but a trading company.⁶ Normally, prices were neither specified in the application nor used as a criterion for approval. Given the length and hence costliness of the approval process its uncertain outcome, the submitting party had an incentive to exaggerate the amount of export diversification to be accomplished under the agreement.⁷

After 1990, the process was reformed in two important ways: (1) the prior approval requirement was eliminated and (2) private trading companies were allowed to participate in barter trade. As a result, both the incentives for overstating the amount of trade diversification expected and the transaction costs of barter trade were reduced and the flexibility and viability of barter trade agreements increased.

For reasons given above, in assessing the effectiveness of Egypt's barter agreements in achieving the country's diversification and growth objectives, it is important to distinguish between traditional and non-traditional exports. Clearly, the diversification objectives suggest that it is more important for barter agreements to specify indicative targets and to realize these targets for non-traditional exports than for traditional exports.

⁶ Until very recently, the trading companies were exclusively publically owned.

⁷ The overestimate of non-traditional exports would arise also in an effort to improve the likelihood of acceptance. Another reason for overestimation of the values to be exported - in this case of both traditional and non-traditional export items - is that the applicant would want to reduce the need for having to reapply in case a new opportunity for a transaction with B should arise in the future.

Table 1 presents data on total exports - both originally planned (P) and actually achieved (A) - under all the barter trade agreements in which Egypt was involved between 1985 and 1989. It also presents the same data broken down into "traditional", "semi-traditional" and "non-traditional" and for several components thereof. Two commodities, namely, raw cotton and rice, are classified as "traditional", two others, citrus and textiles, as "semi-traditional" and all others as "non-traditional". With this classification one can easily discern the priority accorded to non-traditional commodities in the planned or target values (P) of Egypt's barter trade agreements. Even in 1985 the targeted value of non-traditional exports exceeded those of both the traditional and semi-traditional types by at least 40% and by 1989 it was more than ten times as large as that for traditional exports and over six times as large as that for semi-traditional exports.

By comparing the growth patterns of the two categories of target exports between 1985 and 1989, however, it can be seen that the dramatic rise in the relative importance of non-traditional goods in the overall export targets for Egypt's barter agreements is largely due to the sharp fall (of almost 80%) in the export targets of traditional commodities and the somewhat smaller fall (about 50%) in the targets for semi-traditional commodities.⁸ The growth in the target values for

⁸ The sharp reduction in the export targets for traditional commodities via barter trade was no doubt due to the increasing realization that such exports are unlikely to be trade creating

non-traditional exports under Egypt's barter agreements was slightly over 50%.

The traditional criticism of barter trade agreements has been that they cause exports to be diverted from those countries in the rest of the world (which pay for them in foreign exchange) to barter trade partners, thereby not only failing to increase total trade but in fact lowering foreign exchange earnings. The alleged absence of such trade diversion in the case of non-traditional exports is what justifies the priority assigned to non-traditional exports in Egypt's barter trade agreements.

Turn now to the realized values (A) of barter exports in Table 1. One can see that, after remaining relatively stable at a low level (averaging only 250 million U.S. dollars) between 1985 and 1987, the absolute values of non-traditional exports via barter trade actually fell off rather sharply in 1988 and 1989.

Perhaps even more revealing in terms of the ability of pre-1990 barter agreements to realize export diversification objectives is the data presented in Table 2 concerning the relative degree of success in reaching the targeted or planned values of exports. In the case of traditional exports, in no year did the actual export values fail to reach at least 57% of target values. In the case of non-traditional "other industrial" exports, however, in no year did the actual values constitute as much as 50% of target values and by 1989 they reached only 2% of target levels. In the case of the semi-traditional citrus and

and that they may have the effect of lowering the prices received for such exports.

textile exports, actual performance was between these two extremes in each of the years, the realization rate ranging from a high of almost 70% in 1985 to a low of 32.7% in 1988.

Since no overall assessment of the net benefits of Egypt's pre-1990 barter trade would be complete without consideration of the import side of such trade, in Tables 3 and 4 we present information on the import side of the country's barter trade transactions comparable to that on the export side presented in Tables 1 and 2. As can easily be seen, the patterns emerging from the barter imports data for 1985-89 are very similar to those noted above for barter exports. In particular, they reveal the same tendencies for realized values to lag well behind planned values. This was especially so for 1987-1989 and for items in which consumer tastes would be expected to play a greater role.

It should be noted that all commodities ranking high on the list of commodities imported under barter agreements are also produced in the "modern, non-traditional" segment of Egypt's industrial sector. This suggests that the net diversification benefits from this side of barter trade need not be any more positive than those from the export side. We conclude from the above results that, as originally signed, Egypt's pre-1990 barter trade agreements were indeed intended to achieve a substantial diversification in the commodity composition of trade in favor of non-traditional commodities. The consistent and sharp reduction in planned exports and imports under barter arrangements for traditional items, moreover, reflects the understandable desire to minimize the vulnerability of such trade to trade diversion

and hence to the criticism that it fails to contribute to export diversification and growth.

Nevertheless, the rather sharp reductions in the actual values of non-traditional exports and imports after 1987 and the even sharper reduction in the ratio of actual to planned barter trade suggest that this form of countertrade has been relatively ineffective in realizing diversification objectives. Note that this low realization percentage was in contrast to the degree of realization of targets for traditional exports (which averaged 75% over the period and was still 60% in 1989). It is clear, therefore, from the pre-1990 data that the trade and production diversification objectives of pre-1990 barter trade proved difficult to realize. Indeed, the extremely disappointing performance of Egypt's barter agreements in achieving such objectives begs an explanation. Based on insights offered by Egyptian trade officials (in interviews) and obtained from the post-1989 experience, we offer the following clues toward a more complete explanation:

- (1) In order to compete in international markets, Egyptian products must be competitive in price, quality and service (mainly delivery time). In each of these dimensions, barter trade tends to be problematic. First, as long as the approval process for barter arrangements was lengthy (as it was prior to 1990), the respective price quotes that might have looked attractive to the parties prior to the lengthy approval process may no longer be valid or attractive by the time the approval process had been completed. Second, since qualitative factors were and are

relatively more important for non-traditional products than for other products, even if their price is right, product quality may be costly to demonstrate. As a result, consumers in their respective countries may well stick with suppliers whose quality is known. Finally, especially when barter trade is accomplished through bureaucratic public sector trading companies, the barter character of trade reduces Egypt's competitiveness in delivery time since any delay on the import side can delay export delivery relative to what it would be in the absence of the need to balance export and import values.⁹

(2) Since the aforementioned disadvantages of barter trade arise only when there exist better alternative trade channels [Hoffmann (1987)], one can easily understand why barter trade was considerably more important before the acceleration of trade liberalization efforts in 1988, which had the effect of freeing up alternative trade channels.

(3) The private estimates or plans of the amounts of exports to be accomplished via barter agreements, especially those of non-traditional commodities, were biased upward in order to shorten the lengthy approval process, improve the chances of approval and to avoid the need to make a new application for any new barter trade opportunities.

⁹ Quite naturally, these problems would be more likely to arise at the implementation stage than at the planning stage and for non-traditional exports than for traditional ones, thereby explaining why the actual values are consistently well below the planned ones and especially so for non-traditional commodities.

Naturally, when in the 1990 reform of barter trade the complicated prior-approval process for barter agreements was cancelled and private trading firms were allowed to participate in such arrangements, one would no longer expect planned transactions to be systematically overestimated and the shortcomings of barter trade to be as large as in the previous period. Although no official statistics have yet been released on barter trade since 1989, the limited information available indicates (1) that actual level of barter trade transactions has risen somewhat, especially for non-traditional commodities, (2) that a large portion of that trade is handled by private trading firms, and (3) that the gap between planned and actual barter transactions has narrowed considerably.

The recent improvement in the magnitude, and the effects, of barter trade indicate that barter trade need not be unable to achieve product diversification objectives, especially when such trade can be conducted without complicated approval requirements and through private trading arrangements. This is the case even when regular trade has been liberalized. The reason for this is that even when the exporting LDC's trade has been liberalized, there may be other advantageous trading opportunities in the rest of the world which in the absence of barter trade would go untapped.

Even if the more sober evaluation of Egypt's barter trade for the period through 1989 (instead of that for the post-1990 period in which barter trade reforms have been in place) were correct, it would not necessarily apply to other forms of

countertrade. Indeed, Abdel-Latif (1990) and Abdel-Latif and Nugent (1992) provide evidence that another widely practiced form of countertrade, namely counterpurchase, has proven especially beneficial, at least for most of the cases evaluated. The other forms provide more specific incentives for desirable performance and cooperation than do the barter agreements investigated here.

REFERENCES

Abdel-Latif, Abla, "The Egyptian Experience with Countertrade: Case Studies," *The Journal of World Trade* 24 (October 1990), 17-34.

Abdel-Latif, Abla and Jeffrey B. Nugent, "Countertrade as Trade Creation and Trade Diversion: Theory and Case Study," paper presented at the Western Economic Association Meetings in San Francisco, Ca. July 12, 1992.

Hoffmann, Helga , "Countertrade", in J. Eatwell, M. Milgate, and P. Newman, eds., *The New Palgrave - Economic Development*. New York: W.W. Norton.

Mirus, Rolf and Bernard Yeung, Economic Incentives for Countertrade, *Journal of International Business Studies*. 17 (Fall 1986), 27-39.

OECD, *The Development Impact of Barter in Developing Countries: Synthesis Report*. Paris: OECD 1979.

Verzariou, P., *Countertrade, Barter and Offset*. New York: McGraw-Hill, 1985.

Welt, Leo, *Countertrade: Business Practices for Today's Market*. New York: American Management Association's Publications Division.

Table 1

Planned (P) and Actual (A) Exports under Egypt's Barter Agreements 1985 - 1989

Values in million U.S. Dollars

| COMMODITY | 1985 | | 1986 | | 1987 | | 1988 | | 1989 | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| | P | A | P | A | P | A | P | A | P | A |
| Raw Cotton | 122.8 | 110.7 | 101.0 | 101.0 | 92.3 | 80.0 | 68.5 | 48.1 | 19.7 | 18.0 |
| Rice | 21.3 | 12.9 | 24.6 | 16.8 | 33.3 | 18.5 | 20.9 | 5.0 | 11.5 | - |
| <u>Total Traditional Commodities</u> | 144.1 | 123.6 | 125.6 | 117.8 | 125.6 | 98.5 | 89.4 | 53.1 | 31.2 | 18.0 |
| Citrus | 10.3 | 9.5 | 11.3 | 7.6 | 17.3 | 10.6 | 22.4 | 10.1 | 10.2 | 6.8 |
| Fabrics and Cotton Yarn | 101.0 | 66.0 | 121.0 | 59.0 | 161.0 | 73.0 | 158.2 | 48.9 | 42.9 | 15.8 |
| <u>Total Semi-Traditional Commodities</u> | 111.3 | 75.5 | 132.3 | 66.6 | 178.3 | 83.6 | 180.6 | 60.0 | 53.1 | 22.6 |
| Various Industrial Products | 138.9 | 49.3 | 56.6 | 15.0 | 213.3 | 59.4 | 52.7 | 15.5 | 40.0 | 5.1 |
| Others | 58.8 | 9.4 | 88.6 | 52.9 | 8.9 | 1.4 | 165.9 | 18.2 | 286.5 | 1.6 |
| <u>Total Non-traditional Products</u> | 197.7 | 58.7 | 145.2 | 67.9 | 222.2 | 60.8 | 218.6 | 33.7 | 326.5 | 6.7 |
| <u>Total Exports</u> | 453.1 | 257.8 | 403.1 | 252.3 | 526.1 | 242.9 | 488.6 | 145.8 | 410.8 | 47.3 |

Source: Egyptian Foreign Trade Corporation

Table 2

Realized Values of Exports as Percent of Target
 Values for Different Categories of Egypt's Barter Trade, 1985 - 1989

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|--------------------------|------|------|------|------|------|
| Traditional Exports | 85.8 | 93.7 | 78.4 | 59.4 | 57.7 |
| Semi-traditional Exports | 69.6 | 50.3 | 46.9 | 32.7 | 42.6 |
| Non-traditional Exports | 29.7 | 46.8 | 27.4 | 15.4 | 2.0 |

Source: Computed by dividing the "A" entries by the corresponding "P" entries from the data presented in Table 1 and multiplying by 100.

Table 3

Planned (P) and Actual (A) Imports under Egypt's Barter Agreements 1985 - 1989

Values in million U.S. Dollars

| COMMODITY | 1985 | | 1986 | | 1987 | | 1988 | | 1989 | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| | P | A | P | A | P | A | P | A | P | A |
| Reinforced Steel | 118.0 | 82.3 | 93.7 | 73.7 | 82.4 | 65.0 | 66.0 | 40.0 | 18.0 | 18.0 |
| Wood and Cement | 44.3 | 29.1 | 60.0 | 24.0 | 53.9 | 3.5 | 55.0 | 10.6 | 4.0 | - |
| Industrial Tools and Raw Materials | 100.0 | 28.0 | 70.0 | 37.0 | 192.0 | 73.0 | 92.8 | 24.1 | 75.7 | 18.9 |
| Means of Transportation | 72.3 | 56.0 | 47.0 | 33.0 | 78.0 | 25.9 | 39.0 | 13.5 | 24.5 | 0.5 |
| Chemicals and Fertilizers | 37.8 | 34.0 | 83.0 | 38.0 | 38.0 | 17.0 | 85.8 | 6.7 | 8.0 | - |
| Paper and Other Related Products | 32.0 | 12.0 | 19.0 | 10.0 | 32.0 | 2.0 | 14.5 | 0.9 | 8.3 | 0.6 |
| Others | 48.7 | 8.0 | 30.4 | 10.1 | 49.8 | 5.0 | 135.5 | 7.8 | 272.3 | 1.8 |
| <u>Total Imports</u> | 453.1 | 249.4 | 403.1 | 225.8 | 526.1 | 191.4 | 488.6 | 103.6 | 410.8 | 39.8 |

Source: Egyptian Foreign Trade Corporation

Table 4

Realized Values of Imports as Percent of Target
 Values for Different Categories of Egypt's Barter Trade, 1985 - 1989

| | 1985 | 1986 | 1987 | 1988 | 1989 |
|--------------------------|--------|------|-------|------|------|
| Reinforced Steel | 70% | 79% | 79% | 61% | 100% |
| Wood and Cement | 66% | 40% | 6% | 19% | 0% |
| Industrial Tools | 28% | 53% | 38% | 26% | 25% |
| Means of Transportation | 77% | 70% | 33% | 35% | 2% |
| Chemicals and Fertilizer | 90% | 46% | 45% | 8% | 0% |
| Paper | *37.5% | 53% | 6.25% | 6.2% | 7.2% |
| Others | 16.4% | 33% | 10% | 6% | 0.7% |

Source: Computed by dividing the "A" entries by the corresponding "P" entries from the data presented in Table 3.

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