PROBLEMS

Egyptian Foreign Trade, 1885-1961: A New Set of Trade Indices

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Foreign trade indices are indispensable for describing and understanding the development and working of an open economy. National income accounting requires constant price estimates of both exports and imports; the corresponding price (unit value) indices are needed to compute terms of trade gains and losses. Economic modeling requires both volume and price indices for setting up empirical export and import functions and for analyzing foreign trade more generally.

In an historical context — and also for certain contemporary underdeveloped countries — foreign trade indices take on a somewhat different, but even more important role. When national income and expenditure estimates are missing, trade indices are not only a first building block needed for such estimates, but may even, combined with other kinds of information, serve as a valuable source of inference about the internal economy of the trading country. Reliable foreign trade data often stretch much further back in time than do domestic production, consumption, and investment series; hence, it is imperative that existing trade data be squeezed to the last drop. Quite naturally, then, much effort has gone into the

* The Egyptian Foreign Trade Index Project at the Institute of International Studies, at the University of California, Berkeley, is supported by NSF Grant No. SOC74-13246, the Institute of International Studies, and the Committee on Research, Berkeley. Free computer time was obtained from the University of California, Berkeley and Los Angeles. We are grateful to the Meyer Library at Stanford University for letting us dispose for a period of two years of its series of official Egyptian foreign trade publications. Professor Carlo Cipolla read an earlier version of this paper and we thank him for various suggestions for improvement.

processing and analyzing of historical data for developed countries. For Britain we need only recall the contributions of Schlote and Imlah. For many less developed countries these are a rich source of information, still untapped. It was with this in mind that we embarked upon computing export and import volume and price indices, with a large number of sub-indicies, for Egypt for the period 1885 to 1961.

A complete technical report will appear elsewhere,[1] and a comparison with various earlier attempts to establish trade indices for Egypt was made in a preliminary working paper and shall not be repeated here.[2] In this paper, we shall present data and computational problems only briefly in Appendix I, and concentrate upon our historically descriptive results with some analysis.

Nonetheless, we feel compelled to preface the body of our paper with some considerations usually ignored by both historians and economic analysts and considered, if at all, only by index technicians. Despite the insouciance with which indices are treated by virtually everyone, they are plagued by theoretical and computational problems that are often so flagrant that they threaten to invalidate indexing as a device for quantitative historical description and analysis. There is no reason to assume that these problems are specific in any way to our study; however, we would not be honest to the reader if we did not call attention to the fundamental uncertainty surrounding our results. In gloomy moments we almost feel that the only conclusive result of our labours has been a strong warning against accepting at face value and without careful scrutiny any index whatsoever.

1. *Index Drift and Uncertainty*

There are two main index formulae: Laspeyres that uses base year weights, and Paasche that uses current year weights. Theoretically, Laspeyres and Paasche indices may differ in any direction, but empirically the former almost invariably exceeds the latter. As a practical expedient, Fisher suggested his "ideal" formula, a geometrical average of Laspeyres and Paasche, assuming that a truer measure lies somewhere between the extremes of the Paasche and Laspeyres formulae. Moreover, the Fisher formula has very attractive statistical properties and is widely recommended by international organizations for use with trade statistics. Only under

[1] The technical report is part of Lucas's dissertation, submitted for the Ph. D. degree at the Department of Economics, University of California at Berkeley, 1977.

[2] BENT HANSEN and EDWARD LUCAS, "A New Set of Foreign Trade Indices for Egypt, 1885-1961", *Working Paper No. 4*, Institute of International Studies, University of California at Berkeley, October, 1976, presented at Tenth Annual Meeting of the Middle East Studies Association, Los Angeles, California, 10-13 November 1976.

entirely unrealistic assumptions, however, does there exist a single "true" index; and, although under these assumptions the Fisher index is indeed a proxy to the "true" index, generally the Fisher index is no more "true" than any other.[3] Nonetheless, we have followed the best current practice and computed Fisher indices. To take full advantage of the increasing detail of the trade statistics over time we have, moreover, followed both theoretical recommendations and the practical example of the U.S. Department of Commerce in calculating chain-indices with annual links.

The indices on which we will rely for our analysis are thus *Fisher chain-indices with annual links*. The basis for these are, however, Laspeyres and Paasche chain-indices with annual links, and it is here that our indexing concern is focussed. As we mentioned, there is a tendency for Laspeyres and Paasche indices systematically to drift apart over time in most situations, and ours is no exception. Table 1 shows the degree of drift over two sub-periods and demonstrates how the drift is concentrated in the latter period, 1929-61. We show only the price indices; the volume indices would, of course, tell exactly the same story. Within the two periods, 1885-1929 and 1929-61, the drift is quite uniform.

TABLE 1

THE INDEX DRIFT

Year	Import Unit Values			Export Unit Values			Net Barter Terms of Trade		
	Laspeyres	Paasche	Fisher	Laspeyres	Paasche	Fisher	Laspeyres	Paasche	Fisher
1885	100	100	100	100	100	100	100	100	100
1929	222.9	144.7	179.5	233.0	234.1	233.5	104.5	161.8	130.0
1961	1,104.5	300.8	576.4	904.2	515.4	682.7	81.9	171.3	118.4
Annual Rate of Increase (percent):									
1885-1929	1.8	0.8	1.3	1.9	2.0	1.9	0.1	1.1	0.6
1929-1961	5.1	2.3	3.7	4.3	2.5	3.4	—0.8	0.2	—0.3
1885-1961	3.2	1.5	2.3	2.9	2.2	2.6	—0.3	0.7	0.2

Source: Appendix II.

For the 44 years from 1885 to 1929, the drift problem is not remarkable. For imports we find a compound, annual rate of price increase of

[3] A rather comprehensive survey of the economic theory of index numbers is given by P.A. SAMUELSON and S. SWAMY, "Invariant Economic Index Numbers and Canonical Duality: Survey and Synthesis", *American Economic Review*, Vol. 74, No. 1, September 1974. For an application to foreign trade indices, see BENT HANSEN, "On the Biases in Foreign Indices", *Review of Income and Wealth*, vol. 23, No. 4, Dec. 1977, pp. 397-404.

1.8 per cent according to Laspeyres, 0.8 per cent according to Paasche. For exports the annual rate of increase is about the same, 1.9 per cent for Laspeyres and 2.0 for Paasche. Both sets of indices agree in telling us that net barter terms of trade, the ratio between export and import prices, improved somewhat over the period.

For the following 32 years, 1929-61, the drift is most disturbing for both import and export prices. Import prices increased here annually by 5.1 per cent according to Laspeyres, but only 2.3 per cent according to Paasche. For exports the corresponding figures are 4.3 and 2.5 per cent. This drift cumulates monstrously over time: Laspeyres's import price index increases fivefold from 1929 to 1961, while Paasche only doubles. For this period net barter terms of trade deteriorated by 0.8 per cent annually according to Laspeyres, but improved by 0.2 per cent annually according to Paasche. The same turns out to be the case for the period 1885-1961 as a whole. On the basis of Laspeyres and Paasche, therefore, we cannot say unambiguously whether the terms of trade improved or declined. Furthermore, computed from Laspeyres and Paasche indices so strongly divergent, our Fisher indices must be surrounded by substantial uncertainty.

That there is a drift between Paasche and Laspeyres should not be surprising. It is the magnitude of the drift that came as a surprise and causes our concern. Why should the drift be so strong for this country and for this period?[4] Fortunately, it is possible to break down the drift into meaningful economic components[5] which can be grouped under two headings: market behaviour and data variability.

Market behaviour refers to whether prices and quantity relatives are positively or negatively correlated. The empirically typical situation, negative correlation, merely means that demand shifts more slowly than supply. The opposite situation, a positive correlation between price and quantity relatives, is fairly rare, but because of its nature is perhaps more likely to occur with trade than with other types of data. This situation occurs for a few years for several of our sub-indices, and is economically

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[4] The literature offers very few comparable computations. Typically the Paasche and Laspeyres indices underlying the Fisher are not published; hence, it is difficult to judge how unusual our results really are, if indeed they are unusual. A computation of chain indices on Danish trade data, presented by ANDERS ØLGAARD, *Growth, Productivity and Relative Prices* (Amsterdam, 1966), Ch. 12, Tables 12.4 to 12.8 is not comparable to ours in that his chains only contain ten links over a period of 87 years, linking business cycle peak years. Yet it is interesting that he finds a small "inverse" drift (Paasche exceeding Laspeyres) in the export price indices and considerable "normal" drift in the import indices, in particular after the twenties.

[5] R. G. D. ALLEN, *The Theory and Practice of Index Numbers* (Chicago, 1975), pp. 62-65. To our knowledge this analysis has never been performed.

possible, for instance, if agricultural producers respond instantaneously to international prices when deciding how much of which crops to market. The more realistic assumption for agricultural commodities, a cobweb model of production, would result in a negative correlation between price and quantity relatives and the usual result of Laspeyres exceeding Paasche.[6] A further factor, specific to LDC's, is the policy of import substitution. Since import substitution begins with lower quality goods, the resulting composition change tends to create negative correlation of the apparent price and quantity relatives.

The second determinant of the Paasche-Laspeyres drift is data variability, measuring how closely individual price and quantity relatives are grouped around their means each year. This factor affects the magnitude of the drift in the direction determined by the market structure. The single most important determinant of the data variability is the degree of aggregation of the data. More aggregation implies less variability, a simple consequence of the law of large numbers. Hence, the number of commodities separately listed and even the size of the country are important determinants of the Paasche-Laspeyres drift. To test this hypothesis — that small items increase variability and thus drift — we recomputed our indices for total exports and imports, excluding commodities from the price index computation in years when the quantity was less than 2 per cent and 10 per cent, respectively, of the largest quantity recorded for the commodity in question. These computations show that the exclusion of years with small quantities does help greatly to reduce the drift on the import side. The 10 per cent rule reduced drift by almost one-half. On the export side the effect was unsystematic. We emphasize that at the same time as the drift was brought down, the Fisher import price index was virtually unaffected, indicating that Fisher indices may be relatively invariant with respect to data variability.

We are now able to say something about our drift problem, and about foreign trade indexing in general for LDC's. All of the factors discussed above should result in a larger drift for imports than for exports, given the respective commodity compositions of each. That our drift increases dramatically in 1930 seems attributable to the tariff reform of that year, beginning an overt government policy of import substitution and, coincidentally, resulting in an enormous disaggregation of the published data. Therefore, there are good reasons for believing that strong drift is a phenomenon common to LDC's and that, accordingly, *first*, foreign trade indices are generally less reliable for LDC's than for DC's, and, *second*, that warning should be made against using single Laspeyres or Paasche indices in describing foreign trade volumes and prices in LDC's.

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[6] See HANSEN, *op. cit.*

What, then, are we to do now? Should we assume that the Fisher index approximates some "true" index? Unfortunately, the conditions for Fisher to be a good proxy for a well-defined "true" index are definitely not satisfied. We might still choose to believe that the Fisher index is a good approximation (to what?), or we might choose to simply define price change as the change of a certain selected index, but either choice would be quite arbitrary. We might, finally, try to settle the matter on the basis of some *ad hoc* principle. Thus, it has been argued that for consumer prices and production volumes Paasche is more "interesting" than Laspeyres, because the former is based on weights from a more recent past than those of the latter and, hence, more "relevant" to us.[7] Unfortunately, this argument is also arbitrary and ignores the fact that price and volume indices come in pairs, Laspeyres price and Paasche volume, and vice versa, that are tied together by the value identity. Samuelson and Swamy have argued that price indices are really uninteresting in themselves, valuable only as deflators of value to obtain volume indices.[8] Combined with the previous argument this should lead us to always prefer Laspeyres price indices, for in deflating a value sum by a Laspeyres price index with annual links like ours, the weights of the Laspeyres volume indices are (all the way back) only one year older than those of the Paasche indices. Moreover, there are erratic changes in the weights from year to year (e.g., crop failures) and it is by no means obvious that this year's weights are more "interesting" than those of last year; Fisher becomes then an attractive way of "normalizing" the weights.

We knew of the theoretical ambiguities, of course, before we embarked upon this project and must obviously have had some kind of pragmatic faith in our forthcoming results. Seeing the actual results we are quite disturbed by the drift problem; but, after having dutifully warned the reader, we shall nonetheless follow the advice of the Scottish preacher in Dennis Robertson's well known anecdote and "Look the problem firmly in the face and pass on" to our Fisher indices.

2. *Egypt's Terms of Trade,* 1885 *to* 1961

Chart 1 shows net barter terms of trade (the ratio between export and import prices) and income terms of trade (export value deflated by import prices), the latter both totally and *per capita,* as five-year moving averages for the period 1885 to 1961. We have filled in our price index series for the Second World War with National Bank of Egypt indices.

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7 F. M. FISHER and K. SHELL, *The Economics Theory of Price Indices* (New York: Academic Press, 1972), pp. 58-59.

8 SAMUELSON and SWAMY, *op. cit.*, p. 567, Col. 2.

These indices matched ours very closely when they overlapped ours during the 1950's, and we feel quite confident that they are a good proxy for our indices during the missing years.

The net barter terms of trade do not show any clear or single tendency over the seventy-five years from 1885 to 1961. We have abstained from fitting a simple (linear) trend line. Even with five-year moving averages the fluctuations around any uniform centennial trend are so strong as to make the latter an uninteresting statistical artifact. We prefer to read the curve as moving along a strong upward trend until about 1910, followed by a prolonged downward trend until World War II. After World War II the level shifted upwards but the present trend is uncertain. A United Nations's index, available for the years 1963 through 1971, shows a strong improvement during the sixties, but we do not consider this index reliable or, at least, comparable to ours.

There is some evidence that the upward trend governing Egypt's net barter terms of trade before World War I may go even further back in time. Charles Issawi has proposed [9] to measure Egypt's income terms of trade by the ratio between the value of Egyptian exports and a British export price index, the latter a proxy for Egyptian import prices. We may extend this idea to the net barter terms of trade. We know that the price of Egyptian cotton is a good proxy for her general export price index

TABLE 2

NET BARTER AND INCOME TERMS OF TRADE 1848-52 TO 1883-87
(1883-87 = 100)

Year	Net Barter Terms of Trade (1)	Income Terms of Trade (2)	Population Millions (3)
1846	—	—	5.3
1848-1852	65	16	—
1853-1857	59	19	—
1858-1862	81	21	—
1863-1867	163	61	—
1868-1872	111	61	—
1873-1877	99	85	—
1878-1882	98	92	—
1882	—	—	9.7
1883-1887	100	100	—

Source: CHARLES ISSAWI, "Egypt since 1800: A Study in Lopsided Development", *Journal of Economic History*, XXI, 1961, pp. 1-25, Table I, as far as *average* cotton prices and total export value is concerned. Imlah's export price index for Britain was taken from B.R. MITCHELL and P. DEANE, *Abstract of Historical Statistics* (Cambridge University Press: 1971), pp. 331-32. The population figures are from GABRIEL BAER, *Studies in the Social History of Modern Egypt* (Chicago and London: University of Chicago Press, 1969), p. 136, Table 3.

[9] CHARLES ISSAWI, "Egypt since 1800: A Study in Lopsided Development", *Journal of Economic History*, Vol. XXI, 1961, pp. 1-25.

before the 1950's; but a comparison between our import price index for Egypt and Schlote's export price index (used by Issawi)[10] for Britain from 1885 to 1933 shows that the latter is a biased indicator of the former. Imlah's index,[11] however, does not appear to suffer from such bias and is generally supposed to be superior to that of Schlote. Before the Cotton Famine there are additional problems with this method of calculating net barter terms of trade because at that time cotton was not yet dominating the export side.[12] Using Imlah rather than Schlote, we obtain the figures in Table 2. The trend here is clearly upwards insofar as the 1870's and '80's were better than the 1850's, but is complicated by the violent improvement during the Cotton Famine followed by a considerable fall.[13]

What is known about misleading export and import evaluation (see Appendix I) reinforces our conclusions. Before 1911 the measured level of the terms of trade is perhaps some 10 per cent on the low side; during the thirties it may be too high; while after World War II it is definitely too low and probably more so than before 1911. Thus, corrections for misleading evaluation would probably lead to a stronger fall in terms of trade from World War I to World War II, followed by a stronger improvement after World War II.

Whatever disasters have befallen Egypt during the last 125 years, that of long-term falling net barter terms of trade does not appear to be one of them. The case of Egypt lends no support to the gloomy views of Prebisch-Singer and no comfort to neo-Marxist ideas about "unequal exchange", but the short-run and longer fluctuations are clearly a disturbing factor for economic development.[14]

The income terms of trade, the "capacity to import", show a similar trend. Here, however, it is more adequate to consider a *per capita* measure, also depicted in Chart 1. Measured *per capita*, the income terms of trade show a strong upward trend until 1910. This trend probably

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[10] W. SCHLOTE, *British Overseas Trade* (Oxford, 1952), Appendix Table 26, p. 175 ff.

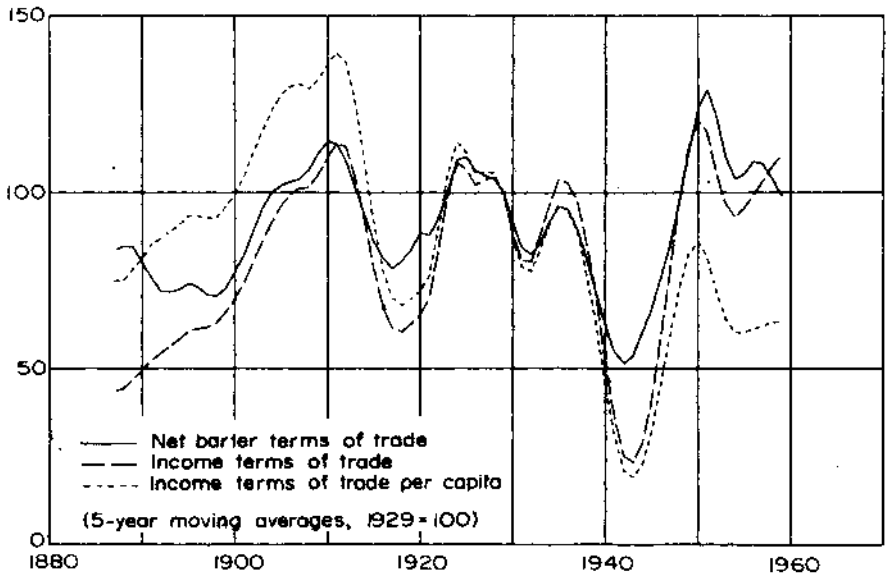
[11] IMLAH, *Economic Elements in the Pax Britannica* (Cambridge, Mass., 1958).

[12] E. R. J. OWEN, *Cotton and the Egyptian Economy. 1820-1914* (Oxford University Press, 1969), Tables 5 and 6, pp. 73 and 80.

[13] It is possible that a deterioration of Egypt's terms of trade was brought about by the Balta-Liman Treaty of 1838 between the Ottoman Empire and Britain which signalized the downfall of Mohammed Ali's trade monopolies. It is interesting, though, that the direct aim of the British (and the Sultan) was to deprive Mohammed Ali of sources for financing his powerful military machinery rather than changing the terms of trade in Britain's favor; see V. J. PURYEAR, *International Economics and Diplomacy in the Near East; a Study of British Commercial Policy in the Levant 1834-1853* (Stanford: Stanford University Press, 1935).

[14] The Prebish-Singer myth of falling terms of trade for LDC's needs no special reference. With regard to the theory of "unequal exchange" see ARGHIRI EMMANUEL, *Unequal Exchange, A Study of the Imperialism of Trade* (New York: Monthly Review Press, 1972).

CHART 1 — Terms of Trade, Egypt, 1885-1961.



extends back to the 1850's (see Table 2). From 1910 the trend is downward with a levelling off and perhaps a change in the trend after World War II. The income terms of trade, or the ability to import, measures total exports in terms of import prices. Algebraically, the income terms of trade is the product of net barter terms of trade and export volume. It is immediately clear that the improvement of net barter terms of trade after World War II saved the country from a further steep decline in income terms of trade.

In analyzing these developments, there is the difficult problem of causality. Recall that until the fifties exports were dominated completely by cotton lint. If Egypt were exporting cotton along a downward sloping foreign demand curve, as was most probably the case, then net barter terms of trade would not be independent of export volume. In the special case of unitary foreign demand elasticity, an increase in the export volume would cause no improvement of the income terms of trade; the only effect would be a proportionate fall in net barter terms of trade. Measurements suggest an inelastic foreign demand.[15] Thus, there is a complex interrelationship between cotton export volume and price, and

[15] T. B. BIRNBERG and S. A. RESNICK, *Colonial Development* (New Haven: Yale University Press, 1975), p. 86, Table 4.3; G. DUGUAY and B. HANSEN, "The Demand for American and Egyptian Cotton", unpublished research report, 1977.

both are influenced by world income, prices of substitutes, domestic demand, and domestic and foreign trade policies. We cannot embark here upon anything like an analysis of the causes of the Egyptian terms of trade movements revealed by our indices, but a few comments are in order. It is natural to relate the long swings in the net barter terms of trade to the vagaries of the world economy — the price depression of the 1890's, the general progress until World War I, the stagnation and the Great Depression during the inter-war period, and the unprecedented boom conditions after World War II. Yet supply conditions and competition from other fibres and other cotton producers may be equally important. Thus, for instance, the strong improvement in terms of trade from 1900 to 1910 was related to a fall in Egyptian cotton yield, and the improvement after World War II was bolstered by the rapid increase of domestic mill consumption. A strong warning should certainly be given against considering changes in net barter terms of trade as acts of God, independent of the country's own domestic policies and developments.[16]

The income terms of trade are an important element of real *national income* calculated from the expenditure side, but cannot be taken as an indicator of real national income without allowing for such changes in the structure of the economy that made trade expand or contract in relation to GNP. Two such tendencies are obvious: the expansion of cotton cultivation before World War I was clearly trade-biased, i.e., trade creating; the import substitution policies embarked upon in the thirties and continued after World War II were equally clearly anti-trade biased.[17] The developments from the outbreak of World War I to the thirties are more complex. The fall in cotton yields to about 1920 was anti-trade-biased; the following efforts to raise yields again, successful from 1925 to 1935, were trade-biased. Hence, the strong increase in income terms of trade *per capita* from 1885 to 1911 does not indicate an equally strong increase in national income per capita. The almost doubling of income terms of trade per capita during this period may have been accompanied by an increase of income per capita of perhaps one-third.[18] The fall in income terms of trade from 1911 to 1937 by about one-third may have been accompanied by a fall in income per capita of some few per cent at most.

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16 BIRNBERG and RESNICK, *op. cit.*, emphasize this point and include the terms of trade as endogenous variables in their models.

17 We use the terminology of HARRY G. JOHNSON, "Economic Development and International Trade", in JOHNSON & CAVES, *Readings in International Economics*, A.E.A. (Homewood, Ill.: Irwin, 1968), pp. 291-96.

18 BENT HANSEN, "Income and Consumption in Egypt, 1886/87-1937", forthcoming in *International Journal of Middle East Studies*.

3. *Export and Import Volumes per capita,* 1885-1961

Export and import volumes per capita are depicted in Chart 2. Export volume per capita had already reached its peak by the end of the nineteenth century. During the twentieth century the trend is persistently downwards. There is a tendency toward a fairly constant high plateau from 1902 to 1913, a lower plateau from 1923 to 1937, and an even lower plateau from 1948 to 1961 ,with the two World Wars shifting the levels dramatically downward. But even during the periods 1902-13, 1923-37, and 1948-61, the trend is unmistakably downward. The only period of real progress in per capita exports took place before the end of the nineteenth century, and we can trace an upward trend back till the time of Ismail and the cotton famine.

Import volume per capita has perhaps a slight upward trend, although, again, it is more reasonable to talk about long swings: upwards until 1907, downwards from 1907 until World War II, and then again upwards. The difference between the developments of export and import volumes is partly due to changes in net barter terms of trade as already discussed, and partly to invisibles (interest payments and Suez Canal revenues) together with species and capital movements. Before World War I there was a large net inflow of species and capital, and large interest out-payments. During both World Wars there was a large net outflow of capital.[19] After World War II there was again a substantial capital inflow, supported by rapidly increasing canal revenues after the nationalization of the canal. Thus import volume developments cannot be fully understood without considering the shifting net debt position of the country — from Ismail's £ 100 m. debt in 1880 to a net debt of perhaps £ 200 m. before World War I, to a net creditor status by the end of World War II, to the present situation where Egypt has returned to a debt situation (in relative terms) much like that of Ismail.

4. *Consumer Goods, Capital Goods and Material Imports*

In this section we present a breakdown of the import volume index by consumer goods, capital goods, and materials (Chart 3), with a further breakdown of imported capital goods and materials by agricultural and industrial destination (Charts 4 and 5). All series are volumes per capita and are 5-year moving averages.

There are problems related to these breakdowns that should not be overlooked when analyzing the series. The breakdown is not com-

[19] This is not apparent from the chart as far as World War II is concerned. The reason is probably that our export volume index does not include sales to the Allied forces operating from Egypt. But these sales were in fact paid to Egyptian accounts in London and served to create a huge foreign exchange reserve to be spent after the war.

CHART 2 — Foreign Trade Volumes per capita, Egypt, 1885-1961.

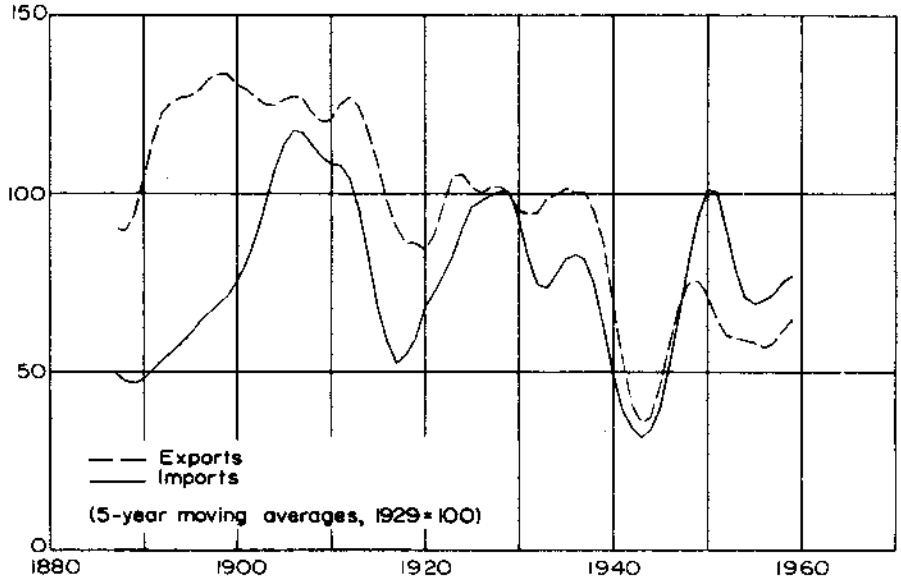


CHART 3 — Import Volumes per capita, Egypt, 1885-1961.

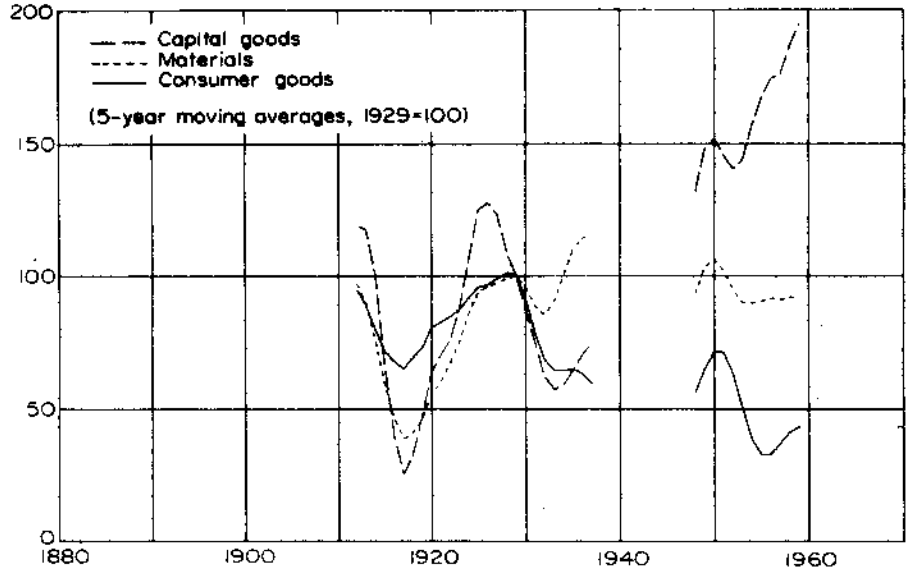


CHART 4 — Capital Goods Import Volumes per capita, Egypt, 1910-1961.

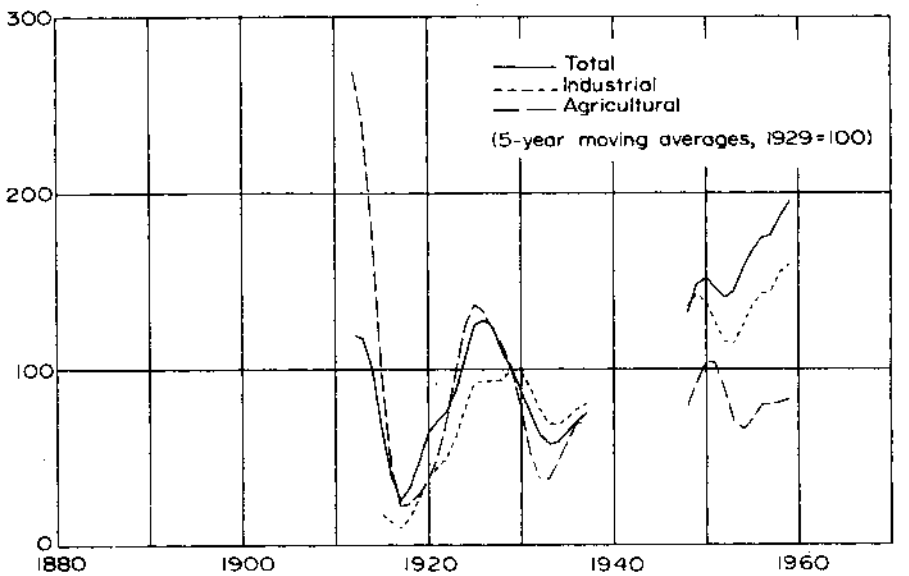
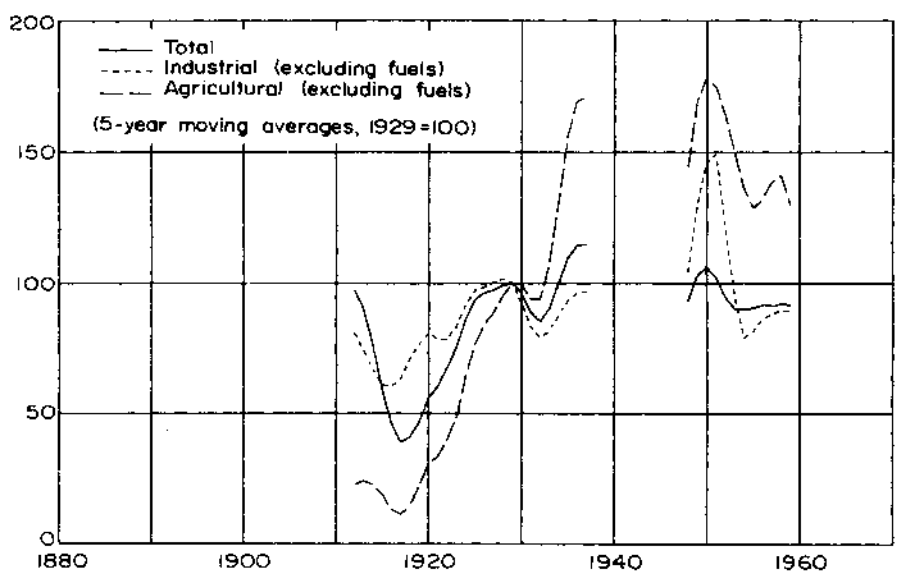


CHART 5 — Materials Import Volumes per capita, Egypt, 1910-1961.



plete, in the sense that enumeration is incomplete, and the non-enumerated commodities, measured by value, changed somewhat over the period. This circumstance may imply unknown biases in the sub-indices. We know the joint bias because the joint percentage of enumerated goods included in the three series developed as follows in selected years (per cent of total import value).

1910	86.0	1920	95.6	1929	93.9
1939	97.1	1946	89.1	1961	91.9

Unfortunately, there is no accurate way to distribute non-enumeration over the sub-indices. If enumeration actually were distributed evenly over the sub-indices we would have an upward bias in the volume indices by about 11 per cent from 1910 to 1920, insignificant bias from 1920 to 1939, and a downward bias from 1939 to 1961 by about 5 per cent. But there is nothing to guarantee such proportionality, and the bias might be concentrated in a single sub-index. Possibly the capital goods index is the most understated, but it is difficult to be sure.

Taking Chart 3 at face value, the development after World War II is particularly striking. With consumer goods imports per capita falling, and materials imports stagnant, capital goods imports soared. The unexpected feature is that there is no tendency for materials imported per capita to increase. It is a well-known complaint about import substitution policies that they often lead to an excessive increase in materials imports and, hence, may bring little relief to the balance of payments. Egypt's industrial import substitution policies have very much been based on domestic raw materials and fuel (oil), e.g., industries such as cotton textiles, phosphate and nitrate fertilizers, cement, steel, and paper. The assembly-type industries (automobiles, T.V. sets, refrigerators, etc.) did not play any big role during our period, that is, through 1961.

There are interesting features also in earlier periods. Total capital (though probably not industrial capital) goods imports per capita appear to have been lower in the thirties, after the tariff reforms, than before World War I. The peak of capital goods imports per capita before World War II was reached in the second half of the 1920's partly in anticipation of the tariff reform, presumably, but with the Great Depression wiping out the effects of the increase in protection from 1930. Materials imports developed very differently. With only a small setback in the early 1930's, these increased strongly during the whole interwar period. Materials, however, weer heavily influenced by chemical fertilizers and are better discussed in relation to breakdowns by agriculture and industry.

Chart 4 shows a partial breakdown of total capital goods imports into imports for agricultural and industrial purposes. Notice that the breakdown is not complete. Capital goods imported for purposes of

transportation, communication, and certain other sectors are included in the total but not shown separately. The implicit index increased enormously in the period after World War II. The interesting feature of this chart is that the investment policies adopted during the years after World War II appear to be the continuation of a trend already established during the interwar period. Our series go back only to 1913 and may not correctly describe the situation before World War I, but apparently industrial investment was low at that time, followed by a strong upsurge to the end of the 1920's. After a setback during the 1930's (and World War II, presumably), the trend was continued after World War II, with a temporary setback after the Korean boom. Agricultural investments apparently fell strongly during the interwar period as compared with years before World War I, and developments during the 1950's did not reverse the trend.

In Egypt, World War I — and not World War II or the Nasser regime — is thus the great divide for industrial and non-industrial development, but with the Great Depression seriously retarding industrialization.[20] If this interpretation is correct the tariff reform of 1930 supported rather than initiated industrial development.

Chart 5 similarly gives a breakdown of materials imports by agricultural and industrial destination, excluding fuels. The conspicuous feature here is the strong increase of fertilizer imports during the interwar period, with the years after Wold War II actually running at a lower level (recall, however, that the chart is on a per capita basis). In Chart 4 we can see agriculture shifting from fixed capital investment in machinery, equipment, and livestock to the increased use of fertilizers (circulating capital). This shift in the emphasis of agricultural investments is probably related to the increasing labour supply and the fall in fertilizer prices, but is also part of a technological diffusion and a deliberate governmental "green revolution" policy aiming at increasing cotton yields.[21] This policy was largely carried to a successful conclusion before World War II.

Imports of materials for industrial use (not including fuels) reached a peak at the end of the 1920's which, apart from the speculative years

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20 Our findings on this point support the hypothesis proposed by ROBERT L. TIGNOR, "The Founding and Ideology of Bank Misr", 10th Annual Meeting of the MESA, Los Angeles, November 1976, that nationalistic views on the economic future of Egypt changed from the time of the financial crisis of 1907; and that with World War I the underlying economic factors had definitely shifted in favour of industrialization. In addition to shifts in relative prices, Tignor points to the changed situation with regard to Egyptian indebtedness.

21 For a detailed discussion, see ALAN R. RICHARDS, *Accumulation, Distribution and Technical Change in Egyptian Agriculture, 1800-1940*, unpublished Ph. D. thesis, University of Wisconsin, Madison, Wisc.: 1975, Chapters 4 and 5.

around the Korean boom, has never again been surpassed. The reason is, as we have already mentioned, the emphasis in Egyptian industrialization policies on industries using domestic materials. The residual index for the materials breakdown, mainly fuels, declined substantially after World War II.

In addition to the sub-indices presented above, a substantial number of additional sub-indices were also prepared. The internal computer format of our data and the structure of our programming make it quite easy to compute an index for any subset of our 1070 commodities, and hopefully our data will be useful for future studies of both the Egyptian economy and index number problems.

5. *Final Remarks*

This paper contains a first presentation of what we believe is the most ambitious attempt made so far to establish comprehensive long-run foreign trade indices for a less developed country. The value of such indices appears to be indisputable; answers may be given to a number of central issues concerning the relationship between countries and about the development of the country itself.

As it turns out, however, establishing trade indices over such a long period with such comprehensiveness can be said almost to create more questions than it answers. One reason is that modern computer technology, which makes such a project feasible at all, also makes it possible to compute indices for an endless variety of formulae that with old-style computational methods would for practical reasons have never been considered. The variety of indices that can be provided makes it painfully clear that the index formulae used may make all the difference. The drift between Laspeyres and Paasche in our chain-indices is a case in point. The real difficulty involved here is not, however, that different index formulae give different answers; with the data stored in the computer we can now at a negligible cost compute indices for Egypt for almost any formula that the analyst might require. The real difficulty is that the analyst does not know what he wants. Ricardian, Heckscher-Ohlin, neo-classical, neo-Marxist — and what have you — trade theory fail, without exception, to express their theorems in terms of computable indices. Theirs is, more often than not, a two commodity trade world in which index problems have no place. If the index problem is considered at all in trade and development contexts, the facile view is commonly taken that variously prepared indices tend to be quite similar, so that at most a problem of approximation is involved. Our results demonstrate that this is not the case. In this regard our results are no less disturbing than the indices quoted in Gerschenkron's classical study of

Soviet machinery output.[22] The point we would like to make in conclusion is that, primary data problems apart (and they are by no means small), what is inadequate is not the indices. They are well-defined and can be adjusted to requirements. It is trade theory that is inadequate in not specifying the indices that could be used for corroborating or refuting its predictions. The aggregation problem has yet to be solved as Robertson noticed a quarter of a century ago. We have assumed that the Fisher index should be used and there are, indeed, arguments in favour of this formula. Should our assumption be challenged, the tentative analysis we have made on the basis of our Fisher indices would by implication be challenged, too.

With this proviso, our indices point to the following conclusions:

1. Egypt has not suffered deteriorating net barter terms of trade in the very long term. The centennial trend may even have been favourable to the country, but long swings and short-run fluctuations are the predominant feature of terms of trade developments.

2. The income terms of trade (import capacity), measured per capita, reached a peak in 1907, fortuitously (?) coinciding with the great financial crises of that year. Since then the trend has been persistently downwards.

3. Export volume per capita reached its peak already during the last years of the nineteenth century. Since then the trend has been persistently downwards, more strongly so than the trend in income terms of trade.

4. As a result, but also because there have been alternating, prolonged periods of substantial capital exports or imports, import volume per capita shows no definite trends but has developed in long swings: upwards to 1907, downwards to the thirties, and then again upwards.

5. The overall impression is one of substantial progress until the end of the nineteenth century, prolonged by improving terms of trade until 1907, from which point stagnation or downward trends begin to predominate in all per capita series.

6. Breakdowns of the import volume indicate that the industrialization process, usually ascribed to the tariff reform of 1930 and deliberate government efforts during the fifties, may have to be viewed as the continuation of tendencies clearly discernible in the Egyptian economy from the time of the First World War.

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[22] Alexander Gerschenkron, *A Dollar Index of Soviet Machinery Output* (Santa Monica: The Rand Corp., 1951).

APPENDIX I. DATA PROBLEMS

The underlying data are the detailed, annual, official Egyptian foreign trade returns, collected by the customs authorities and published in the *Annual Statement of the Foreign Trade of Egypt*, 1919 to 1961, the *Monthly Summary of Foreign Trade*, 1918 to 1961, and in the *Commerce Extérieur de l'Egypte* from 1878/82 to 1918. For the years 1885 to 1905, as well as for 1909 and 1918, our access was limited to the summary information presented in the *Annaire Statistique*, 1913 and other issues. Complete data do not appear to be available in the United States for the period 1940 to 1943 and for that reason we did not include 1940 to 1945 in our indices.

There were two major revisions of the commodity classification — 1919 and 1930. The earliest period, for which we have only summary data, is, in effect, a fourth classification. In addition, each year there were a great many small modifications in the classification, tending toward a greater number of commodities and toward metric quantity units, especially by weight. In the earliest period the summary data listed less than 100 commodities; by 1930 there were almost 10,000 imports listed and at least half as many exports. The primary problem was to select from this *embarras de richesses*. Commodities were chosen both for their numerical importance and their intrinsic interest, and many smaller commodities were aggregated from the later data to provide continuity with the earlier data. Altogether we collected data on 1,070 commodities, 871 imports and 199 exports, although very few series last for anything like the entire period. Our data consist of approximately 70,000 coded entries. The number of enumerated commodities included in each yearly indexing computation from 1885 to 1961 (species excluded), with and without quantity description, increased for imports from 33 and 45 to 356 and 374, respectively. For exports the corresponding numbers increased from 18 and 20 to 85 and 86, respectively. For the general export and import indices, coverage in terms of value increased from 53 to 91 percent for imports and remained unchanged at 96 percent for exports. Coverage is thus very satisfactory.[1] Details about these matters are included in Appendix II.

Egyptian trade with the Sudan is a special problem. Before 1915, when the Sudan was separated administratively from Egypt, such trade was considered internal and thus does not appear in the Egyptian returns. For the period 1915 to 1955, it had a special status and was also excluded. This problem is minor, presumably, but some adjustments are needed for the period before 1955.

The official returns have been accepted at face value apart from a few instances where obvious mistakes were discovered. Smuggling played a minor role with the exception possibly of precious stones and hashish; but underevaluation is known to be a problem, in particular before 1911. The low tariff rates prevailing until 1930 (8 percent *ad valorem* for almost all imports and 1 percent for exports) fortunately meant that the incentive to under-invoicing and other methods of illegal underevaluation was not overly strong. But the customs authorities' own method of applying negotiated rather than actual prices to cotton (and some major import commodities) is believed to have led to underevaluation of the value of cotton exports by at least 10 percent with some under-

[1] American pioneers in the field of national indices, Fabricant and Kuznets, considered 40 percent coverage as a minimum — rather arbitrarily of course.

evaluation on the import side.[2] We have not adjusted the computed indices for this particular source of underevaluation, but we shall consider it *ad hoc* in the appraisals of our results. After the tariff reform of 1930 the incentive to underevaluate imports became on balance stronger. After World War II capital flight became a motive for under-invoicing exports and over-invoicing imports. How this new factor may have affected the customs evaluation is difficult to say. For the period 1946 to 1962 customs authority figures for exports f.o.b. were on average 4.2 percent higher than exchange authority figures, whereas customs figures for imports c.i.f. were 0.7 percent lower than exchange authority figures for imports f.o.b. and, accordingly, must have been some 10 percent lower than exchange authority figures c.i.f. Whether this represented an increased underevaluation by customs authorities for imports, or overevaluation by exchange authorities and vice versa for exports, we cannot know.[3] In addition there is an exchange rate problem involved to which we now turn.

Trade values are for the whole period from 1885 to 1961 expressed in Egyptian pounds. Both export and import price indices are thus based on prices in terms of Egyptian pounds and reflect movements in both international prices and the Egyptian exchange rate(s). Under the gold standard it did not matter much whether trade prices were expressed in domestic or foreign currency. But with the subsequent devaluations of the pound sterling to which the official Egyptian par rate was tied without changes during the whole period, and the introduction of multiple rates after World War II, problems do arise. As long as unified, single exchange rates prevailed, that is until 1946, the currency problem remains a minor one, despite the pound sterling devaluations. With multiple rates, however, measurement in domestic currency may cause serious problems such as the distortion of measured terms of trade because average depreciation may differ for exports and imports.[4] In our case the problem is compounded by the fact that we do not know at which exchange rates exports and imports, invoiced in foreign currency, actually were converted into Egyptian pounds by the reporting authorities.

We already noted that our price indices are actually unit value indices. Since the quantity measures used by the customs authorities are not always of much economic relevance (kilos for machinery, numbers for ships, and so forth), unit values lack economic meaning to the same extent. The problem is further complicated by quality and composition change highly significant for many commodities over this long span of time. It has to be admitted that to some extent we have obtained our high coverage by accepting unit values of doubtful meaning. But to exclude all capital goods and most manufactures from a trade index seems an unsatisfactory way of correcting for this problem, especially when the unit value series are well behaved. The resulting index would either be heavily weighted toward primary products or contain a finished manufactures component of low and dubious coverage. The preferred solution is to recompute each index with an external and reliable "specified" price series substituted for the unit values of commodities suspected of masking quality improvements or

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[2] The problem is discussed in detail by A. E. CROUCHLEY, *The Investment of Foreign Capital in Egyptian Companies and Public Debt*, Technical Paper No. 12, Ministry of Finance, Cairo, 1936, Chapter VIII.

[3] J. N. BHAGWATI, A. KRUEGER and C. WIBULSWADI, "Capital Flight from LDCs: A Statistical Analysis", in J. N. BHAGWATI, ed., *Illegal Transactions in International Trade* (Amsterdam: North-Holland, 1974), p. 151, Table 1. The authors indicate possible export underevaluation by as much as 20 percent in 1966.

[4] Estimates of average depreciation for exports and imports with detailed information about the multiple rate systems are given in BENT HANSEN and KARIM NASHASHIBI, *Foreign Exchange Regimes and Economic Development: Egypt*, N.B.E.R. (New York: Columbia University Press, 1975), Chapters 2 and 3.

composition change.[5] For commodities subject to import substitution (e.g., cotton textiles), unit values are obviously biased since first lower and then higher quality items are produced domestically.

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[5] ROBERT E. LIPSEY, *Price and Quantity Trends in the Foreign Trade of the United States*, N.B.E.R., Studies in International Economic Relations, No. 2 (Princeton, N.J.: Princeton University Press, 1963), Chapter 4, discusses this problem in great detail. Unfortunately this procedure introduces its own biases and, in that sense, is less than perfect.

APPENDIX II. INDEX TABLES

The following tables, referred to in the text or used for charts, have been included below:

Table 1.a	Total Imports, 1885-1961
Table 1.b	Total Exports, 1885-1961
Table 2	Imported Consumer Goods, 1910-1961
Table 3	Imported Capital Goods, 1910-1961
Table 3.a	Imported Agricultural Capital Goods, 1910-1961
Table 3.b	Imported Industrial Capital Goods, 1913-1961
Table 4	Imported Materials, 1910-1961
Table 4.a	Imported Agricultural Materials (not fuel), 1910-1961
Table 4.b	Imported Industrial Materials (not fuel), 1910-1961.

For convenience the following code was used:

Q:	Volume index
P:	Unit value index
LAS:	Of the Laspeyres type
PCH:	Of the Paasche type
FSH:	Of the Fisher type
NCOM:	Number of commodities included in commodity subset for each year
NCOMQ:	Number of commodities for each interval with quantity information in both beginning and end years
COV 0:	Value of NCOMQ divided by value of NCOM for the base year of each indexing interval
COV 1:	Value of NCOMQ divided by the value of NCOM for the end year of each indexing interval
VALUE:	Value of NCOM divided by total import or export value for each year.

All indices were computed for yearly intervals, except for 1939-46, and chain-linked.

The gap in Tables 1.a and 1.b for the years 1940 to 1945 was interpolated from indices published by the National Bank of Egypt. For a discussion of those indices, see Hamsen and Lucas, *op. cit.*, Appendix A.

The population figures used in this paper are official Egyptian counts and estimates from 1897 to 1971. For the period 1885 to 1897, yearly estimates were obtained by log-linear interpolation between the 1882 census figures as adjusted by Gabriel Baer (*op. cit.*, p. 136) and the official census figure for 1897.

TABLE 1.a

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — TOTAL IMPORTS (EXC SPECIE)
DATA SUBSET — ALL DATA

Year	QLAS	QPCH	QFSH	PLAS	PPCH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1885	23.2	35.7	28.8	44.9	69.1	55.7	33	45	77.6	76.8	68.4
1886	20.7	31.7	25.6	44.1	67.7	54.6	33	45	76.8	77.9	70.3
1887	21.7	33.1	26.8	43.8	66.8	54.1	33	45	77.9	76.2	69.0
1888	20.3	30.9	25.1	44.6	67.9	55.0	33	45	76.2	76.7	70.6
1889	18.7	28.6	23.1	43.8	66.8	54.1	33	49	76.7	78.1	71.7
1890	20.6	31.4	25.4	46.0	69.8	56.7	33	49	78.1	75.1	72.4
1891	24.0	36.3	29.5	45.2	68.3	55.6	33	49	75.1	72.7	71.6
1892	24.4	36.9	30.0	43.9	66.3	54.0	33	49	72.7	73.9	70.0
1893	24.9	37.4	30.5	41.6	62.5	51.0	33	49	73.9	71.9	69.0
1894	28.6	43.0	35.0	38.5	57.8	47.2	33	49	71.9	73.9	69.4
1895	27.5	41.2	33.7	36.3	54.3	44.4	33	49	73.9	75.0	70.1
1896	31.3	46.9	38.3	37.4	56.0	45.7	33	49	75.0	73.4	66.7
1897	34.1	50.4	41.5	37.5	55.4	45.6	33	49	73.4	72.7	67.7
1898	35.0	51.3	42.4	38.3	56.2	46.4	34	49	78.1	77.7	62.8
1899	34.7	50.8	42.0	40.2	58.7	48.6	34	49	77.7	78.8	64.7
1900	39.4	56.5	47.2	44.5	63.8	53.3	35	50	79.3	78.5	63.4
1901	43.9	63.2	52.6	43.0	61.9	51.6	35	50	78.5	77.4	64.4
1902	46.0	65.6	54.9	40.3	57.4	48.1	37	52	77.7	75.2	63.5
1903	51.9	74.0	62.0	40.4	57.5	48.2	38	52	75.6	75.1	61.2
1904	62.7	89.5	74.9	41.0	58.4	48.9	40	52	75.4	76.4	59.6
1905	65.1	93.1	77.9	41.3	59.0	49.3	42	52	76.4	54.0	61.1
1906	69.7	99.5	83.3	43.0	61.4	51.4	95	152	71.4	70.8	85.3
1907	70.5	100.3	84.1	46.4	66.0	55.4	95	155	69.6	74.2	85.0
1908	68.1	96.2	80.9	46.5	65.7	55.3	42	160	57.6	79.7	87.3
1909	64.6	90.9	76.6	43.6	61.3	51.7	46	52	77.6	58.8	64.3
1910	63.9	89.3	75.5	47.0	65.7	55.6	118	178	77.2	78.1	86.5
1911	71.5	99.6	84.4	48.8	67.9	57.5	120	179	82.9	83.3	86.8
1912	65.2	90.7	76.9	50.9	70.9	60.1	123	183	83.4	82.8	88.4
1913	67.4	93.5	79.4	53.1	73.7	62.6	155	198	86.7	85.7	89.9
1914	53.5	74.2	63.0	52.2	72.3	61.4	152	200	84.9	89.0	90.9
1915	39.4	49.1	44.0	70.3	87.5	78.5	149	202	89.7	89.1	94.1
1916	44.0	52.7	48.2	105.4	126.2	115.3	148	205	89.2	91.2	90.9
1917	33.1	39.4	36.1	150.2	178.9	163.9	139	201	69.0	62.1	90.0
1918	39.4	45.8	42.5	199.1	231.5	214.6	132	200	63.9	63.8	94.5
1919	36.8	41.6	39.1	203.1	229.7	216.0	235	293	89.7	88.9	95.8
1920	65.1	71.8	68.4	253.0	278.9	265.6	232	303	70.8	72.9	96.4
1921	55.2	58.4	56.8	169.4	179.3	174.3	246	309	87.5	86.3	94.4
1922	57.9	64.9	61.3	119.0	133.4	126.0	246	307	86.3	86.6	94.5
1923	65.6	72.2	68.8	111.8	123.2	117.4	247	309	86.9	87.0	93.9
1924	73.5	78.9	76.2	114.6	123.0	118.7	248	307	86.9	87.3	95.4
1925	88.5	93.4	90.9	111.1	117.3	114.2	256	323	87.7	87.3	96.8
1926	82.7	87.4	85.1	106.9	112.9	109.8	254	322	85.6	84.3	95.5
1927	82.6	86.2	84.4	100.7	105.1	102.9	259	328	87.0	84.7	95.5
1928	87.9	88.3	88.1	105.1	105.6	105.3	261	329	87.1	86.0	97.3

TABLE 1.a (continued)

Year	QLAS	QPCH	QFSH	PLAS	PPCH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1929	100.0	100.0	100.0	100.0	100.0	100.0	255	328	85.7	66.9	95.8
1930	92.9	89.4	91.1	94.2	90.6	92.4	335	516	82.7	88.4	94.4
1931	72.1	67.7	69.9	82.4	77.5	79.9	362	410	92.0	90.4	94.6
1932	65.8	59.6	62.6	81.6	73.8	77.6	355	415	88.0	88.8	95.6
1933	69.7	61.2	65.3	78.0	68.5	73.1	376	416	86.5	89.2	95.4
1934	80.8	69.2	74.8	75.3	64.5	69.7	386	425	95.3	94.6	96.1
1935	92.3	77.5	84.6	74.1	62.2	67.8	381	430	92.4	92.5	96.8
1936	89.4	71.0	79.7	79.1	62.8	70.5	382	428	91.4	92.0	96.8
1937	94.6	72.5	82.8	93.3	71.6	81.7	400	436	96.1	94.8	98.8
1938	93.7	71.0	81.5	92.2	69.9	80.3	397	436	94.8	95.1	97.4
1939	81.8	60.5	70.4	99.4	73.6	85.5	325	433	85.7	86.6	97.1
1940	—	—	43.3	—	—	129.0	—	—	—	—	—
1941	—	—	33.2	—	—	177.9	—	—	—	—	—
1942	—	—	45.3	—	—	217.8	—	—	—	—	—
1943	—	—	26.7	—	—	261.8	—	—	—	—	—
1944	—	—	35.0	—	—	257.5	—	—	—	—	—
1945	—	—	39.5	—	—	269.8	—	—	—	—	—
1946	81.4	47.2	62.0	308.0	178.5	234.4	415	422	99.4	99.3	91.0
1947	94.6	54.0	71.5	336.3	191.8	254.0	430	432	99.9	99.7	95.5
1948	136.2	81.5	105.4	364.4	218.0	281.8	436	440	99.9	99.9	95.8
1949	148.0	85.7	112.6	364.6	211.1	277.4	437	442	99.8	99.9	97.2
1950	174.2	98.4	130.9	380.1	214.7	285.6	439	445	99.6	99.9	96.0
1951	215.2	113.9	156.6	436.2	231.0	317.4	429	441	98.9	99.5	95.7
1952	157.0	81.2	112.9	494.2	255.6	355.4	423	438	99.0	97.8	97.7
1953	140.7	66.1	96.4	477.4	224.2	327.2	428	437	99.8	99.9	96.6
1954	132.7	63.4	91.7	453.8	216.8	313.6	418	436	98.2	97.7	95.2
1955	149.0	69.7	101.9	467.9	218.8	320.0	414	430	99.4	94.5	92.9
1956	151.6	69.1	102.3	480.1	218.9	324.2	406	426	99.3	98.7	91.6
1957	144.7	64.1	96.3	508.6	225.3	338.5	402	417	99.8	98.7	96.0
1958	193.6	84.6	128.0	502.9	219.6	332.3	374	415	99.9	100.0	95.8
1959	175.4	78.0	116.9	495.8	220.4	330.5	356	385	99.9	99.8	92.0
1960	188.4	81.9	124.2	492.0	213.9	324.4	356	374	99.4	99.5	93.2
1961	207.5	87.1	134.4	495.5	207.9	321.0	—	390	—	—	91.9

TABLE 1.b

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — TOTAL EXPORTS (EXC SPECIE)
DATA SUBSET — ALL DATA

Year	QLAS	QPCH	QFSH	PLAS	PPCH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1885	51.8	51.6	51.7	42.9	42.7	42.8	18	20	99.5	99.4	97.3
1886	48.7	47.7	48.2	41.3	40.5	40.9	19	20	100.0	99.2	96.6
1887	51.0	49.8	50.4	42.5	41.5	42.0	19	22	99.2	98.8	96.8
1888	47.5	46.1	46.7	44.2	42.9	43.5	19	22	98.8	97.5	96.6
1889	51.3	49.5	50.4	47.1	45.4	46.3	20	23	97.6	98.4	97.4
1890	56.1	54.0	55.1	42.9	41.3	42.1	21	25	98.5	99.8	97.4
1891	72.2	69.6	70.9	38.9	37.5	38.2	20	25	99.8	99.9	98.1
1892	79.3	75.8	77.5	34.5	32.9	33.7	20	24	99.9	99.8	97.9
1893	70.4	67.2	68.8	37.2	35.5	36.4	20	24	99.8	99.8	98.0
1894	81.9	77.9	79.9	30.0	28.5	29.2	20	24	99.8	99.3	98.0
1895	79.6	75.4	77.5	32.8	31.1	32.0	20	24	99.3	99.7	98.3
1896	78.5	74.4	76.4	34.9	33.1	34.0	21	25	99.8	100.0	98.4
1897	86.4	81.8	84.0	29.7	28.1	28.9	21	23	100.0	99.8	98.0
1898	88.0	82.9	85.4	28.1	26.5	27.3	22	26	99.9	99.8	97.9
1899	95.4	89.6	92.4	33.8	31.7	32.7	23	27	99.9	99.9	98.6
1900	80.5	75.1	77.7	44.1	41.1	42.6	24	27	100.0	100.0	98.9
1901	89.9	83.4	86.6	37.4	34.7	36.0	26	28	100.0	99.9	98.7
1902	95.9	88.9	92.3	39.2	36.4	37.8	26	29	99.9	99.9	98.8
1903	82.7	76.3	79.4	49.5	45.6	47.5	24	28	99.9	99.9	98.8
1904	87.6	80.6	84.0	49.9	45.9	47.9	25	27	99.9	99.9	98.7
1905	96.6	88.8	92.6	44.3	40.7	42.5	26	29	98.0	99.4	98.7
1906	96.2	88.6	92.3	54.3	50.0	52.1	35	42	99.8	99.9	98.9
1907	97.9	90.3	94.0	60.0	55.3	57.6	35	41	99.9	99.8	98.4
1908	90.6	83.6	87.0	49.3	45.5	47.3	26	42	99.4	99.6	99.0
1909	97.6	89.9	93.7	56.0	51.7	53.8	27	30	99.7	99.2	98.7
1910	86.1	78.8	82.4	70.9	65.0	67.9	42	48	99.8	99.8	99.0
1911	96.6	88.5	92.5	62.4	57.2	59.8	42	48	99.8	99.8	99.2
1912	120.2	110.0	115.0	60.7	55.6	58.1	42	49	99.8	99.7	99.1
1913	100.2	91.6	95.8	66.8	61.1	63.9	46	55	99.8	99.4	99.1
1914	86.0	78.4	82.1	59.3	54.1	56.7	48	57	99.7	99.8	98.9
1915	105.7	97.3	101.4	53.7	49.5	51.5	45	58	99.6	99.9	98.6
1916	82.7	75.8	79.2	95.5	87.6	91.4	44	54	99.9	99.8	99.0
1917	63.0	57.2	60.0	138.8	126.0	132.2	47	58	99.9	99.7	98.9
1918	74.1	65.3	69.6	134.2	118.3	126.0	40	56	98.8	98.3	99.3
1919	97.1	84.7	90.7	173.2	151.0	161.7	53	64	99.7	99.7	99.4
1920	60.5	51.9	56.1	318.1	272.8	294.6	54	64	99.7	99.1	99.5
1921	73.5	62.5	67.8	112.5	95.5	103.7	59	69	99.5	99.7	99.1
1922	96.4	82.4	89.1	114.3	97.7	105.7	60	70	99.7	99.7	99.3
1923	109.1	93.5	101.0	120.7	103.4	111.7	60	70	99.7	99.8	99.5
1924	105.9	90.5	97.9	140.3	119.9	129.7	57	70	99.7	99.8	99.5
1925	93.3	79.8	86.3	143.4	122.6	132.6	56	67	99.8	21.6	99.5
1926	85.0	86.5	85.8	93.2	94.9	94.1	59	69	99.7	99.6	99.3
1927	95.0	96.4	95.7	96.5	98.3	97.6	62	72	99.7	96.0	99.2
1928	98.2	98.9	98.5	109.7	110.6	110.2	63	73	99.8	99.7	99.2

TABLE 1.b (continued)

Year	QLAS	QPCH	QFSH	PLAS	PPCH	PFSH	NCOMO	NCOM	COV 0	COV 1	VALUE
1929	100.0	100.0	100.0	100.0	100.0	100.0	61	73	99.7	95.9	99.3
1930	80.5	79.6	80.0	77.5	76.7	77.1	68	96	99.0	99.7	97.9
1931	93.2	91.4	92.3	57.7	56.5	57.1	68	76	99.7	99.7	99.3
1932	91.8	88.4	90.1	59.0	56.8	57.9	69	75	99.7	94.0	99.1
1933	100.1	95.9	98.0	58.0	55.6	56.8	72	78	99.7	99.7	99.2
1934	102.5	97.1	99.8	61.8	58.5	60.1	71	78	99.6	99.5	99.1
1935	109.8	103.2	106.4	66.3	62.3	64.3	70	79	54.6	55.5	98.9
1936	98.6	92.0	95.2	69.2	64.6	66.9	71	80	99.7	99.7	98.8
1937	116.1	107.4	111.7	71.1	65.7	68.3	70	78	99.7	99.6	98.5
1938	99.8	91.4	95.6	61.6	56.5	59.0	69	78	99.6	99.7	98.7
1939	113.9	104.2	108.9	61.3	56.0	58.6	53	77	48.4	63.4	98.9
1940	—	—	69.5	—	—	78.6	—	—	—	—	—
1941	—	—	54.3	—	—	79.8	—	—	—	—	—
1942	—	—	40.1	—	—	91.3	—	—	—	—	—
1943	—	—	38.7	—	—	126.0	—	—	—	—	—
1944	—	—	34.3	—	—	152.7	—	—	—	—	—
1945	—	—	50.5	—	—	159.6	—	—	—	—	—
1946	82.9	65.6	73.8	187.5	148.5	166.9	76	80	100.0	99.7	96.5
1947	101.9	79.6	90.1	208.7	163.1	184.5	77	81	98.3	100.0	97.1
1948	110.0	82.8	95.4	328.2	247.2	284.9	76	81	100.0	99.8	98.7
1949	116.4	86.7	100.4	302.7	225.5	261.3	80	83	99.8	88.7	96.5
1950	123.8	90.6	105.9	368.7	269.8	315.4	80	85	100.0	100.0	98.0
1951	93.9	65.5	78.4	591.9	413.0	494.4	78	81	99.9	100.0	98.2
1952	87.6	57.5	71.0	480.2	314.9	388.9	76	79	100.0	100.0	98.2
1953	115.7	74.8	93.0	350.7	226.8	282.1	82	82	100.0	99.9	97.7
1954	106.6	68.0	85.2	388.2	247.8	310.2	82	86	100.0	100.0	97.2
1955	109.6	68.4	86.6	386.9	241.5	305.7	81	86	100.0	99.9	97.0
1956	102.3	63.6	80.6	428.3	266.1	337.6	82	85	100.0	99.4	95.3
1957	114.8	70.5	89.9	466.5	286.6	365.6	82	87	100.0	100.0	96.6
1958	124.9	76.6	97.8	410.5	251.6	321.4	84	87	100.0	100.0	96.8
1959	132.8	77.9	101.7	379.3	222.7	290.6	83	87	100.0	100.0	95.8
1960	168.2	96.3	127.3	382.4	218.9	289.3	85	86	100.0	100.0	96.9
1961	140.6	79.8	105.9	388.0	220.2	292.3	—	87	—	—	96.1

TABLE 2

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED CONSUMER GOODS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	68.7	58.7	59	84	84.8	85.4	47.7
1911	76.7	62.1	59	84	85.4	86.2	48.7
1912	67.4	63.7	59	85	85.9	85.4	46.1
1913	73.3	65.5	69	92	88.1	89.0	47.9
1914	56.7	64.3	68	92	87.8	90.7	46.7
1915	49.3	75.6	68	91	91.9	91.3	53.6
1916	56.1	98.8	66	91	91.3	93.2	49.5
1917	43.5	132.0	59	90	49.5	46.3	48.2
1918	59.3	171.5	61	91	74.5	73.1	55.3
1919	46.8	186.2	109	136	89.3	89.3	51.1
1920	79.0	234.8	102	138	56.7	68.3	50.7
1921	66.8	163.1	113	141	91.3	88.1	54.7
1922	64.5	124.4	113	140	88.1	88.0	51.6
1923	74.1	116.5	114	141	88.2	87.3	53.0
1924	75.8	120.3	114	141	87.3	88.5	50.0
1925	88.9	119.5	120	149	89.1	87.7	50.8
1926	81.3	111.2	118	150	86.5	82.8	48.0
1927	82.0	105.8	123	155	87.9	83.3	49.6
1928	90.5	105.8	125	155	87.7	87.7	51.2
1929	100.0	100.0	125	155	87.7	74.9	49.6
1930	88.1	92.1	148	233	81.2	87.5	47.8
1931	64.9	76.3	157	184	90.2	88.7	44.0
1932	58.5	73.0	154	190	84.7	86.4	43.6
1933	56.7	68.5	161	186	78.6	82.1	40.4
1934	61.1	66.9	170	192	95.0	95.2	38.9
1935	67.0	64.1	163	191	92.3	93.7	37.1
1936	59.9	68.5	159	187	83.6	85.7	36.3
1937	59.2	78.9	168	187	95.1	94.2	34.3
1938	56.2	74.9	167	188	94.2	91.9	31.8
1939	45.5	80.9	130	186	77.0	83.6	30.4
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	43.6	234.8	176	179	99.9	100.0	35.0
1947	43.3	263.4	180	182	99.7	99.9	31.2
1948	76.0	301.1	183	183	100.0	99.8	38.2
1949	76.8	283.8	185	188	100.0	100.0	34.6
1950	94.1	296.4	185	186	100.0	100.0	37.0
1951	103.0	334.6	178	185	99.2	100.0	34.4
1952	88.0	385.5	179	183	99.9	99.1	41.9
1953	67.2	374.8	181	186	99.6	100.0	39.6
1954	41.9	358.4	177	185	99.1	100.0	25.9
1955	40.3	348.6	174	180	100.0	78.1	21.4
1956	44.0	330.3	172	181	100.0	99.9	21.7
1957	53.3	339.8	169	177	99.9	100.0	27.6
1958	69.7	304.9	146	173	99.7	100.0	24.8
1959	70.2	307.4	131	153	99.9	99.6	27.7
1960	64.8	299.8	134	140	99.4	98.0	23.9
1961	71.9	297.5	—	161	—	—	24.6

TABLE 3

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED CAPITAL GOODS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	79.4	27.1	7	12	70.6	71.9	3.4
1911	76.1	26.0	7	12	71.9	64.7	2.7
1912	85.3	26.7	7	12	64.7	46.7	3.3
1913	105.6	28.7	12	16	64.5	45.6	4.0
1914	106.1	26.9	11	17	43.0	22.5	4.9
1915	25.3	32.2	11	20	22.5	28.4	1.6
1916	23.4	46.0	11	22	34.3	44.5	1.3
1917	17.7	58.0	11	20	44.5	28.2	1.1
1918	11.8	93.4	10	19	24.9	29.6	.8
1919	32.7	95.5	20	33	38.5	39.7	2.4
1920	80.4	109.3	23	37	44.8	45.0	3.2
1921	49.6	192.8	23	37	44.9	42.5	6.4
1922	57.2	108.7	23	37	42.5	48.7	5.3
1923	71.5	84.7	22	37	48.5	55.0	4.9
1924	83.1	88.0	22	35	55.0	51.7	5.3
1925	131.9	72.4	27	39	57.3	67.5	6.1
1926	113.6	91.1	27	40	68.2	63.8	7.3
1927	122.7	78.1	27	41	63.8	63.2	7.3
1928	79.1	118.4	27	42	63.1	52.3	6.7
1929	100.0	100.0	22	41	50.8	26.2	6.6
1930	83.4	97.5	34	66	59.0	66.5	6.4
1931	70.0	91.2	42	51	85.7	98.3	7.5
1932	51.3	94.0	40	49	86.1	75.5	6.5
1933	44.5	96.1	43	50	79.1	85.3	5.9
1934	58.7	83.4	43	51	85.3	77.1	6.2
1935	67.1	92.7	45	56	83.6	91.9	7.1
1936	60.0	107.7	44	53	91.5	86.3	7.6
1937	82.5	98.3	49	58	91.2	85.0	7.9
1938	87.4	109.8	48	57	85.0	89.3	9.7
1939	64.8	115.6	33	57	72.9	72.3	8.2
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	82.0	227.2	61	62	99.9	99.6	8.5
1947	112.5	258.0	63	63	100.0	98.0	10.5
1948	184.4	277.3	67	68	99.9	100.0	11.3
1949	193.5	297.2	66	67	98.4	100.0	12.1
1950	203.2	334.9	66	67	99.9	99.6	12.0
1951	189.2	353.2	63	67	92.3	96.1	8.9
1952	176.3	394.2	61	64	91.9	86.8	11.4
1953	182.6	305.5	64	65	100.0	99.2	11.7
1954	212.4	302.1	62	66	90.9	89.0	14.7
1955	268.6	328.7	62	65	97.1	100.0	17.8
1956	273.1	322.7	59	63	96.5	95.4	17.5
1957	207.0	297.6	61	64	98.7	92.8	12.5
1958	328.1	341.5	61	64	99.8	100.0	17.4
1959	298.9	376.8	61	62	99.8	100.0	19.2
1960	323.3	387.5	58	63	99.6	100.0	20.5
1961	366.5	392.8	—	58	—	—	22.0

TABLE 3.a

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED AGRICULTURAL CAPITAL GOODS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	164.0	46.6	6	7	84.5	78.0	2.8
1911	169.1	45.8	6	7	78.0	73.3	2.4
1912	179.6	45.0	6	7	73.3	63.8	2.7
1913	188.5	45.8	6	7	63.8	45.6	2.6
1914	151.7	45.5	6	7	45.6	38.5	2.7
1915	14.1	55.4	6	7	38.5	47.6	.3
1916	15.4	60.2	5	7	45.9	71.6	.3
1917	19.3	53.1	5	6	71.6	62.0	.3
1918	7.4	133.5	5	6	53.1	81.5	.2
1919	20.2	179.5	10	11	97.3	78.1	.7
1920	33.4	239.0	12	13	98.2	97.8	.7
1921	23.4	206.5	12	14	97.2	99.1	.7
1922	46.0	164.6	12	13	99.1	98.4	1.5
1923	77.2	108.1	12	14	98.4	99.1	1.6
1924	93.0	115.3	12	13	99.1	98.1	1.8
1925	123.6	98.5	13	14	98.4	99.1	1.8
1926	110.2	100.8	13	14	99.1	98.7	1.8
1927	71.6	88.4	13	14	98.7	98.7	1.1
1928	92.0	103.5	13	14	98.7	98.4	1.6
1929	100.0	100.0	10	14	96.5	95.1	1.5
1930	61.7	106.9	7	13	92.9	85.3	1.2
1931	26.9	107.1	10	11	97.9	97.2	.8
1932	17.7	105.3	10	11	97.2	81.5	.6
1933	32.2	102.2	12	13	97.3	98.0	1.0
1934	39.5	100.4	12	13	98.0	98.4	1.2
1935	44.2	97.1	12	13	98.4	99.1	1.1
1936	70.8	97.0	12	13	99.1	98.7	1.9
1937	63.1	103.3	11	13	98.2	98.6	1.5
1938	65.8	104.0	11	12	98.6	97.7	1.6
1939	39.5	111.6	6	13	46.7	39.2	1.1
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	62.5	192.6	14	14	100.0	100.0	1.3
1947	68.2	214.9	14	14	100.0	100.0	1.2
1948	83.2	266.0	14	14	100.0	100.0	1.1
1949	90.5	282.9	14	14	100.0	100.0	1.2
1950	119.4	300.0	13	14	99.6	100.0	1.5
1951	153.1	328.8	13	13	100.0	100.0	1.5
1952	104.1	351.1	12	13	99.4	99.7	1.4
1953	46.1	345.2	12	13	99.7	98.9	.8
1954	72.2	319.1	13	13	100.0	99.4	1.2
1955	92.9	386.9	14	14	100.0	100.0	1.7
1956	117.8	411.2	12	14	100.0	100.0	2.2
1957	100.2	390.1	12	12	100.0	100.0	1.8
1958	100.5	466.9	12	13	100.0	100.0	1.7
1959	109.6	470.1	12	12	100.0	100.0	2.0
1960	135.5	519.8	11	12	99.9	100.0	2.7
1961	119.0	560.5	—	11	—	—	2.3

TABLE 3.b

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED INDUSTRIAL CAPITAL GOODS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	—	—	0	1	0.	0.	.2
1911	—	—	0	1	0.	0.	.2
1912	—	—	0	1	0.	0.	.2
1913	16.3	83.8	1	4	51.7	42.0	1.0
1914	22.8	76.5	1	5	42.0	16.7	1.7
1915	10.6	95.0	1	9	16.7	20.1	1.1
1916	9.8	158.0	1	9	20.1	20.9	1.0
1917	4.0	348.4	1	9	20.9	13.4	.9
1918	5.3	373.0	2	9	13.4	11.6	.8
1919	14.4	248.9	2	11	12.8	22.9	1.6
1920	46.1	233.8	3	12	23.2	16.7	2.2
1921	33.5	306.7	3	12	16.7	17.4	3.8
1922	29.6	231.0	2	12	17.3	20.7	3.3
1923	46.1	136.3	2	11	20.7	27.1	2.9
1924	58.1	125.7	2	11	27.1	32.2	3.0
1925	99.5	99.7	4	13	34.9	30.9	3.5
1926	76.0	101.0	3	13	30.9	24.7	3.0
1927	65.6	109.3	3	13	24.7	33.1	3.0
1928	74.3	108.3	4	14	33.2	28.0	3.2
1929	100.0	100.0	2	14	25.9	6.8	3.7
1930	85.2	102.8	18	27	54.9	71.9	3.8
1931	82.9	94.6	22	23	96.9	97.1	5.2
1932	66.8	100.4	22	23	97.1	95.5	5.1
1933	44.4	103.1	23	23	100.0	100.0	3.5
1934	67.4	86.3	23	23	100.0	95.9	4.1
1935	66.9	100.8	24	24	100.0	100.0	4.3
1936	64.0	95.4	24	24	100.0	100.0	4.0
1937	86.7	99.1	24	24	100.0	100.0	4.7
1938	76.9	109.6	24	24	100.0	100.0	4.7
1939	69.0	127.0	24	24	100.0	93.9	5.4
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	93.7	264.1	26	26	100.0	100.0	6.3
1947	126.8	301.9	26	26	100.0	100.0	7.8
1948	172.6	336.5	26	26	100.0	100.0	7.2
1949	186.0	367.5	26	26	100.0	100.0	8.1
1950	154.5	408.8	26	26	100.0	100.0	6.2
1951	156.0	440.3	22	26	86.6	93.6	5.1
1952	153.4	486.5	21	23	86.6	78.3	6.9
1953	114.3	527.2	24	24	100.0	98.9	7.0
1954	144.9	492.5	24	25	85.4	85.1	9.1
1955	223.4	517.5	25	26	96.6	100.0	13.1
1956	221.7	494.9	24	25	95.0	92.4	12.2
1957	135.2	468.7	28	28	100.0	100.0	7.2
1958	251.3	475.9	27	28	99.8	100.0	10.4
1959	256.5	568.3	27	27	100.0	100.0	13.9
1960	262.5	561.2	25	27	99.9	100.0	13.5
1961	188.1	567.5	—	25	—	—	9.1

TABLE 4

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED MATERIAL INPUTS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	67.2	58.1	50	80	67.1	67.8	35.0
1911	76.6	58.3	52	81	80.1	81.4	34.7
1912	75.8	62.5	55	84	81.9	82.0	38.6
1913	75.4	66.1	72	88	87.1	86.8	37.8
1914	62.0	65.0	72	89	86.6	89.4	39.2
1915	38.4	92.8	69	90	89.2	88.2	38.9
1916	36.9	160.0	69	90	88.2	90.0	40.1
1917	25.8	246.7	68	89	92.7	85.5	40.6
1918	28.7	323.5	60	89	49.5	54.5	38.4
1919	33.2	285.3	104	122	93.1	92.0	42.2
1920	59.0	341.1	105	126	89.5	85.7	41.8
1921	44.2	197.6	108	129	89.4	90.0	33.3
1922	57.0	134.8	108	128	90.0	89.8	37.5
1923	60.4	126.8	109	129	90.2	90.7	35.7
1924	76.3	124.4	110	129	90.5	90.8	39.6
1925	91.3	116.3	107	133	90.2	90.2	38.6
1926	85.5	113.1	107	130	87.2	89.7	39.0
1927	82.5	104.6	107	130	89.7	89.6	37.5
1928	88.4	103.7	107	130	89.6	89.0	37.2
1929	100.0	100.0	106	130	88.6	63.2	37.7
1930	95.3	92.5	151	215	88.1	93.2	39.5
1931	76.4	83.0	161	173	94.9	92.3	42.8
1932	72.4	80.8	159	174	91.6	92.4	45.4
1933	82.2	75.5	170	178	93.9	95.1	49.1
1934	98.5	71.7	171	180	96.8	96.6	51.1
1935	115.2	69.6	171	181	93.6	91.6	52.6
1936	112.6	69.7	177	186	96.6	96.5	52.7
1937	120.6	84.1	181	189	97.4	96.5	56.5
1938	116.9	82.8	180	189	96.8	97.6	55.7
1939	106.6	87.7	161	188	92.0	95.0	58.6
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	72.9	241.8	175	178	98.9	98.8	45.7
1947	93.8	255.8	184	184	100.0	99.8	49.8
1948	119.3	279.7	183	186	99.9	100.0	42.3
1949	133.3	281.7	183	184	100.0	99.7	45.3
1950	146.2	278.2	185	189	99.1	99.7	41.0
1951	140.9	334.0	185	186	99.7	100.0	35.7
1952	120.5	366.8	180	188	100.0	99.4	41.5
1953	112.6	336.5	181	183	100.0	100.0	45.3
1954	128.7	323.7	177	183	99.8	99.7	54.6
1955	140.1	331.5	175	182	100.0	99.5	53.7
1956	132.4	347.9	174	179	100.0	98.5	52.3
1957	128.2	377.8	171	175	100.0	100.0	56.0
1958	162.7	371.8	165	176	100.0	100.0	53.6
1959	130.8	353.4	162	168	100.0	99.7	45.1
1960	152.7	341.5	162	169	99.4	100.0	48.8
1961	155.3	333.8	—	168	—	—	45.3

TABLE 4.a

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED AGRICULTURAL MATERIAL INPUTS

Year	QFSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	9.6	123.7	1	1	100.0	100.0	1.3
1911	16.2	122.8	1	1	100.0	100.0	1.8
1912	19.0	141.3	1	1	100.0	100.0	2.6
1913	19.4	136.2	1	1	100.0	100.0	2.4
1914	19.7	125.3	1	1	100.0	100.0	2.8
1915	16.6	159.4	1	1	100.0	100.0	3.4
1916	6.9	221.1	1	1	100.0	100.0	1.2
1917	10.0	302.1	1	1	100.0	100.0	2.3
1918	.8	421.5	1	1	100.0	.7	.2
1919	20.1	284.6	4	4	100.0	100.0	3.0
1920	40.6	285.7	4	4	100.0	94.4	2.8
1921	14.8	180.6	5	5	100.0	100.0	1.2
1922	39.6	145.8	5	5	100.0	100.0	3.3
1923	31.5	135.2	5	5	100.0	100.0	2.3
1924	54.5	132.0	5	5	100.0	100.0	3.5
1925	80.1	123.1	5	5	100.0	100.0	4.2
1926	78.5	116.2	5	5	100.0	100.0	4.3
1927	68.9	108.9	5	5	100.0	100.0	3.8
1928	88.3	104.5	5	5	100.0	100.0	4.4
1929	100.0	100.0	5	5	100.0	37.2	4.4
1930	100.4	95.9	5	7	97.5	96.5	5.1
1931	84.2	85.0	6	6	100.0	100.0	5.7
1932	74.4	87.2	6	6	100.0	100.0	5.9
1933	92.0	80.4	7	7	100.0	100.0	6.9
1934	127.3	68.1	7	7	100.0	100.0	7.4
1935	169.3	60.0	7	7	100.0	92.7	7.9
1936	170.7	62.0	8	8	100.0	100.0	8.4
1937	193.9	69.8	8	8	100.0	100.0	8.9
1938	158.0	74.3	8	8	100.0	100.0	8.0
1939	147.2	78.0	3	8	83.3	100.0	8.5
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	70.5	162.1	3	3	100.0	89.7	3.5
1947	149.2	154.1	6	6	100.0	100.0	5.6
1948	176.5	176.8	5	6	100.0	100.0	4.7
1949	231.1	196.0	5	5	100.0	98.5	6.4
1950	250.4	199.2	7	7	100.0	100.0	5.9
1951	228.1	214.9	7	7	100.0	99.9	4.4
1952	225.8	242.9	7	8	99.9	100.0	6.1
1953	202.9	226.3	6	7	99.9	100.0	6.5
1954	202.1	222.9	6	6	100.0	100.0	7.0
1955	176.0	215.9	6	6	100.0	100.0	5.2
1956	152.3	211.1	6	6	100.0	100.0	4.3
1957	244.8	216.3	6	6	100.0	100.0	7.2
1958	280.6	218.1	6	6	100.0	100.0	6.4
1959	133.4	194.8	6	6	100.0	97.5	3.0
1960	232.6	155.2	4	7	92.2	100.0	4.0
1961	192.2	148.2	—	4	—	—	2.9

TABLE 4.b

HANSEN-LUCAS EGYPTIAN FOREIGN TRADE INDICES
COMMODITY GROUP — IMPORTED INDUSTRIAL MATERIAL INPUTS

Year	QPSH	PFSH	NCOMQ	NCOM	COV 0	COV 1	VALUE
1910	59.0	69.5	30	37	90.6	89.7	13.4
1911	64.5	71.1	30	38	89.6	89.4	13.0
1912	63.1	73.9	33	41	90.9	89.4	13.7
1913	58.4	71.9	39	44	92.4	92.0	11.6
1914	48.9	70.0	39	45	91.2	90.8	12.2
1915	40.4	81.7	38	43	90.8	86.0	13.2
1916	50.5	104.8	39	46	86.2	91.0	13.1
1917	45.0	201.5	39	45	96.3	83.8	21.1
1918	57.1	243.9	38	47	72.3	78.1	21.0
1919	60.1	222.3	58	62	97.6	98.1	21.8
1920	81.9	267.5	57	63	87.5	83.6	16.6
1921	57.3	152.3	58	63	92.9	96.5	12.1
1922	59.6	129.1	58	62	96.5	95.3	13.7
1923	68.1	122.4	59	63	96.5	96.9	14.2
1924	82.4	124.6	59	63	96.9	96.0	15.6
1925	92.1	115.1	55	64	91.6	94.4	14.1
1926	82.2	113.5	55	61	95.7	94.8	13.7
1927	86.6	100.7	57	63	95.4	95.9	13.8
1928	92.9	104.2	57	63	95.9	96.0	14.4
1929	100.0	100.0	57	63	96.0	80.5	13.8
1930	87.2	88.0	80	101	91.8	96.3	12.5
1931	69.8	77.2	83	85	98.2	97.2	13.3
1932	66.8	75.3	82	85	93.0	94.2	14.2
1933	76.8	71.4	84	87	90.3	93.8	15.8
1934	86.1	71.1	86	89	99.0	99.2	16.2
1935	92.8	71.2	86	88	99.2	98.2	15.8
1936	94.6	72.2	87	89	99.1	99.3	16.8
1937	97.4	85.9	87	89	99.3	99.3	17.0
1938	102.6	80.4	87	89	99.3	99.4	17.4
1939	90.5	89.6	81	89	97.4	89.8	18.6
1940	—	—	—	—	—	—	—
1941	—	—	—	—	—	—	—
1942	—	—	—	—	—	—	—
1943	—	—	—	—	—	—	—
1944	—	—	—	—	—	—	—
1945	—	—	—	—	—	—	—
1946	74.5	291.0	87	89	97.5	99.9	20.6
1947	93.0	311.0	90	90	100.0	100.0	21.9
1948	139.2	326.1	89	91	99.7	100.0	21.1
1949	148.3	307.1	89	90	100.0	99.8	20.1
1950	170.6	309.9	90	93	98.2	100.0	19.5
1951	301.3	327.8	89	90	99.6	100.0	27.4
1952	126.0	346.6	84	90	99.9	100.0	15.0
1953	93.5	314.9	84	86	100.0	100.0	12.9
1954	103.1	300.6	81	85	100.0	100.0	14.8
1955	123.4	301.1	79	85	100.0	98.3	15.7
1956	128.6	308.7	78	83	99.9	96.7	16.5
1957	130.4	350.0	80	80	100.0	100.0	19.3
1958	147.5	334.8	77	34	100.0	100.0	16.0
1959	127.7	326.9	75	78	100.0	100.0	14.9
1960	153.1	328.2	76	77	100.0	99.9	17.2
1961	154.0	325.0	—	79	—	—	16.0