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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

IMPORTANT FACTORS IN THE WORLD COFFEE MARKET

May 7, 1954

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Statistical data in Appendix A has been obtained from numerous sources particularly the U.S. Department of Agriculture, the Pan American Coffee Bureau and George Gordon Paton Co.

I. SUMMARY AND CONCLUSIONS

1. The history of coffee production and prices has been turbulent. The slowness with which production can be increased has resulted in periods of scarcity and high coffee prices, overplanting, and periods of surpluses and low prices.
2. This boom and bust situation has been peculiar to Brazil owing to the large proportion of world production concentrated there and the relative ease with which production could be expanded.
3. The 1930's was a decade of coffee surpluses and low prices. The first half of the 1940's saw the loss of a large segment of the market through war. Hence, this 15-year period represents one of relatively stagnant conditions with low coffee prices and large accumulated stocks in Brazil. Some expansion in production took place in favored locations in the 1940's.
4. In the postwar period consumption expanded rapidly as compared with production. The deficit was covered largely by drawing down the Brazilian stocks.
5. Higher prices stimulated the rate of expansion in new planting after 1949 but did not reduce consumption to the extent necessary to equate it with production. Stocks continued to decline.
6. Adverse weather in Brazil (drought and then frost) has reduced the volume of new coffee available in 1953-54 and 1954-55.
7. Low production and low stocks has created a critically short world supply situation. This brought about another sharp advance in coffee prices late in 1953.
8. The outlook is for a continuation of shortages and high prices for the next few years.
9. Except for frost damage, however, it is believed no shortage in productive capacity would exist. In other words no great increase in capacity is required to meet 1953 levels of consumption.
10. The important issue is whether or not high prices will engender another cycle of overplanting in Brazil and thus a recurrence of surpluses.
11. More data is required before an answer to this question can be attempted.
12. In the event high prices since 1949 have increased the rate of production coffee prices will need to decline in order to encourage more consumption.
13. In the event of resort to price support measures, surpluses will likely occur particularly of Brazilian coffees sometime after 1957.

II. INTRODUCTION

1. The July, 1953 Brazilian frost altered radically the world coffee supply for 1954-55 and 1955-56. There is certain to be further repercussions. Its implications, therefore, are important for the economic and financial situation of all coffee exporting countries.

Coffee Price History

2. Chart 1 (page 2) shows annual average real 1/ coffee prices since 1913. Although the long-term trend is practically flat, the range of annual variation is wide. This extreme variation is chiefly attributed to 1) the difficulty of adjusting supply to demand, and 2) government price support policies.

3. There is a lapse of four to five years between planting a new tree and the first commercial crop. Supply, therefore, cannot be quickly varied in response to price changes, an insufficient supply and high prices can exist for several years before new trees can be brought to bearing age. During this "gestation" period it is difficult to judge when sufficient trees have been planted. The problem is intensified by the lack of good information as to the number of bearing trees, their ages and yields and the rates of abandonment and new planting.

4. Periodically overplanting has occurred. High prices have engendered a boom in new planting and eventually, an oversupply of coffee and low prices.

5. This boom and bust sequence has been peculiar to Brazil largely because the availability of resources (chiefly land and labor) has permitted rapid expansion and because a large proportion of world production is concentrated there. The conditions for rapid expansion were not as favorable in other coffee producing countries and their influence on supply has been less spectacular.

6. Chart 1 shows that in the years 1924-29 real coffee prices 2/ were relatively high (18.3 cents per pound on the average or 30 percent above the 1920-39 price of 14.25 cents) 3/

7. The late 1920's were the hey-day of coffee expansion in the State of Sao Paulo, Brazil. High prices led to extensive new planting, which was prolonged by the success of Federal and State price support measures. The result, as shown in Chart 1, was an excess of exportable production over world imports which extended from the late 1920's through the 1930's.

1/ Prices expressed in terms of the average value of the dollar in the interwar period, 1920-39.

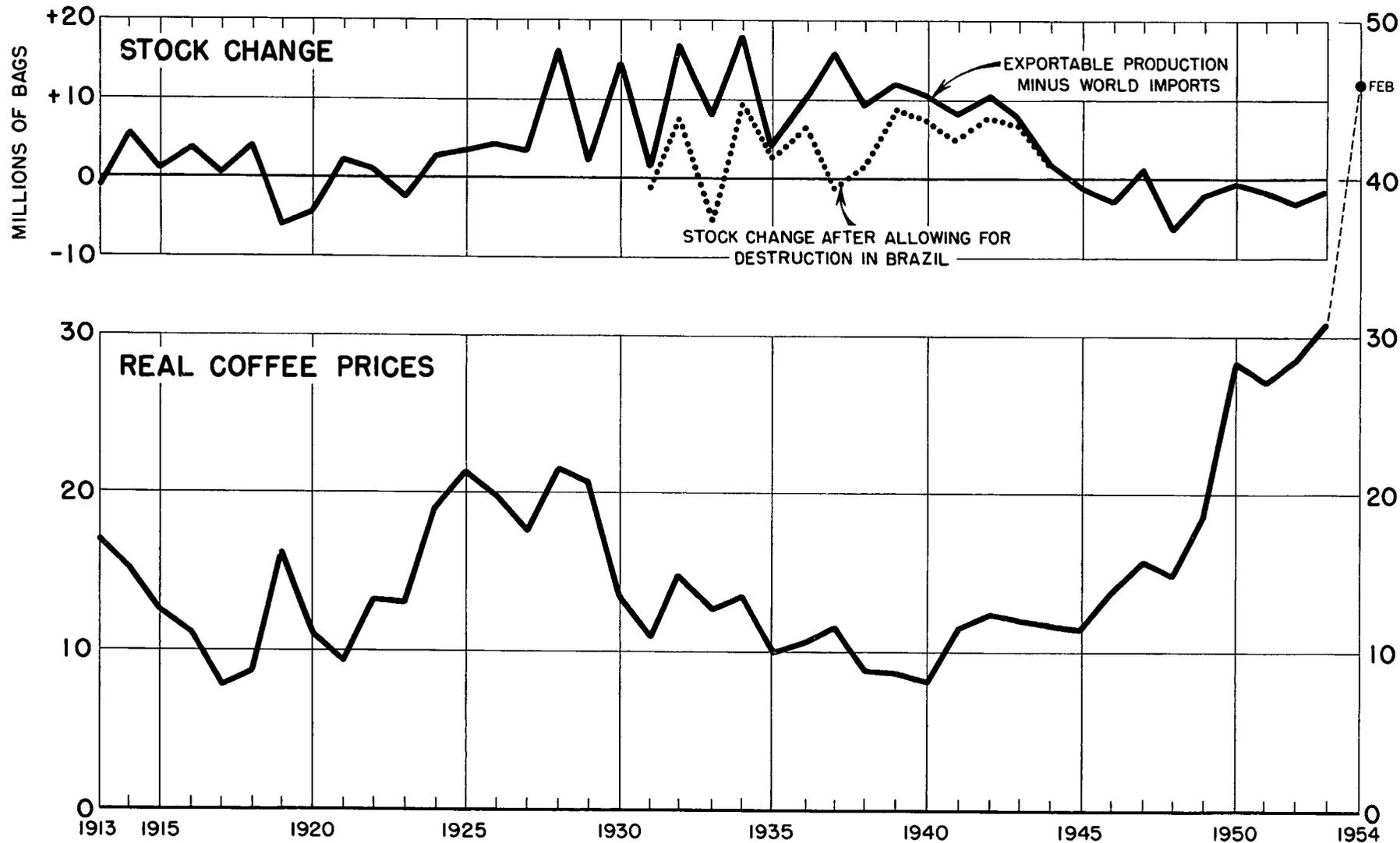
2/ Actual coffee prices are given in Table 1 in the Appendix.

3/ All prices refer to Santos 4's at New York unless otherwise stated.

UNITED STATES: REAL COFFEE PRICES AND STOCK CHANGE**

SANTOS NO 4, NEW YORK

(GENTS PER POUND - EXPRESSED IN TERMS OF 1920-39 DOLLARS)*



*Actual prices deflated by the BLS General Wholesale Price Index and expressed in terms of 1920-39 average coffee prices (14 24 cents per pound)

** Stock change is difference between exportable production and world imports

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8. Practically all of this surplus was located in Brazil. The volume became so great that large scale destruction of stocks was undertaken. The dotted line in Chart 1 shows the net stock change on a world basis after allowance for annual destruction in Brazil.

Is Another Boom in the Making?

9. Since 1949 real coffee prices have been very much higher than in the late 1920's (see Chart 1). The 1953 average price was 120 percent above the 1920-39 average in real terms. As of February, 1954 the real price was more than three times the 1920-39 average (see Chart 1 above). The average for 1954 will be much higher than that for 1953.

10. High coffee prices since 1949 have already caused an increase in the rate of new planting. Has this rate been high enough to result in over-planting? Will present very high prices produce another boom and bust sequence? These questions cannot be answered at present with any degree of accuracy because there are too many variables of unknown magnitude. In the sections below it is attempted to outline the sequence of events leading up to the present situation and to indicate the gaps and inadequacies in the available information.

III. THE POSTWAR COFFEE MARKET

Surplus Stocks and Stagnation

11. Although the war isolated most coffee countries from the European market most Latin American exporters except Brazil were able to market their coffee in the United States. The bulk of the unused supplies, therefore, were located in Brazil. In 1945-46 these amounted to 16.8 million bags ^{1/} (see Table 2).

12. High Brazilian stocks and U.S. price ceilings acted as a drag on coffee prices during the war and early postwar years.

13. It was generally believed this set of circumstances made coffee a relatively unattractive crop. Little new planting prior to 1949 was reported except in areas particularly favorable to coffee or where alternative crops were not attractive. During the war years some Central American countries added to their productive capacity, in Brazil new planting occurred in remote areas of Sao Paulo and in Parana. In Africa and Colombia production increased steadily throughout the 1940's.

14. The net effect of these tendencies is shown in Chart 3 (see page 25). The long-term trend of exports and exportable production declined until 1945. Since then a reversal in trend has occurred. An upward trend in production, therefore, was taking place prior to the 1949 price increase.

^{1/} Each bag weighs 60 kilos or 132.2 pounds.

Consumption Exceeds Production

15. Postwar world consumption was maintained at a higher level than exportable production 1/ by drawing down on the Brazilian stock (see Table 2 and Chart 1). Such a situation could not continue indefinitely; in the absence of an increase in production, consumption eventually had to decline to production levels.

The 1949 Price Rise

16. By the 1949-50 season Brazilian stocks had been reduced to 7.5 million bags and were to fall further (see Table 2). Recognition of the changing situation caused coffee prices to rise sharply in the fall of 1949. Within a few weeks Santos 4's rose from 27.5 to 55 cents per pound. This higher price level persisted with little variation from late 1949 to late 1953.

Increasing Consumption

17. Higher prices resulted in a drop in U.S. per capita civilian consumption after 1949. The effect on the volume of U.S. net coffee imports, however, was largely offset by increased military usage and a larger population (see Table 4)

18. In Europe demand remained strong as postwar reconstruction progressed. Consumption was still considerably below prewar and imports continued to increase in spite of high prices 2/

19. The 1949 price rise, therefore, slowed down the rate of increase in world consumption but the check was insufficient to balance it with production. The drain on Brazilian stocks continued.

New Planting After 1949

20. Higher prices stimulated new planting. In Brazil a significant spurt occurred in Parana, the newest coffee area. This plus attempts to maintain old trees in production and some new planting in other states presaged an expansion in Brazil's exportable capacity 3/. Private observers had forecast a 3 million bag increase by 1954-55 over the 14-15 million bag average of the past few years.

21. In Other Western Hemisphere countries a reviving interest in coffee has occurred. The last three Colombian crops also show moderate increases, but this has not been reflected in the volume of exports due to adverse weather in 1949-50 and 1950-51 plus stock accumulations in 1952-53

1/ Lack of adequate data on domestic consumption in producing countries restricts the study to the export market. Hence throughout this report the production data refer to exportable surpluses and the consumption data to imports.

2/ In addition to higher green coffee prices increased import and excise taxes had raised the average European roasted coffee price considerably above U.S. levels (see Table 7).

3/ The term "capacity" is used here to mean the level of production under normal weather conditions given the number of trees and their condition.

22. In Africa a significant postwar increase in exports has taken place (see Table 5 and Chart 3 page 25). Exports have more than doubled as compared to prewar, in the past three years they have averaged 14 percent above the 1945-49 level.

Increasing Capacity

23. The degree of increase in productive capacity following the 1949 price rise is not known with certainty because data on new planting is inadequate and the new trees have not had time to bear. From 1945 to 1953, however, the trend of production for export has been rising at an annual rate of 2.5 percent for Brazil, 3.6 percent for the Western Hemisphere, excluding Brazil and Colombia, and 2.5 percent for the world as a whole. There has been a persistent long-term trend increase of 2.3 percent per annum for Colombia and 6.2 percent for Africa (see Chart 3, page 25).

24. On the basis of these trends and an absence of bad weather a theoretical increase in world production to about 33 million bags could be expected for 1954-55. This is about equivalent to the present level of consumption.

25. The implication is that a reasonable balance between production and consumption would have been a possibility for a few years at a price level of between 50 and 60 cents. No considerable deficiency in productive capacity, therefore, is believed to have existed prior to the 1953 Brazilian frost.

IV. THE PRESENT SITUATION (1953-54)

Poor 1953-54 Brazilian Crop

26. During the 1952-53 growing season, whilst the 1953-54 Brazilian crop was on the trees^{1/}, drought conditions prevailed. Official estimates of the 1953-54 crop were progressively lowered from 16.9 to 14.0 million bags.^{2/}

27. The effect of the drought in Brazil was to reduce the estimate of 1953-54 world exportable production to 31 million bags. It became evident, therefore, if world consumption did not decline to a similar level, a further reduction in stocks would occur.

Tightening Supply

28. At the beginning of the present season (July 1, 1953) Brazilian port stocks were 3 million bags (see Table 2). Interior old crop stocks

^{1/} The first flowering occurs in August/September; the ripe cherries are harvested and processed from March/April on and the crop moves to market after July 1.

^{2/} These estimates include Brazilian port and coast consumption of some 0.9 million bags which must be deducted to arrive at the exportable surplus.

were small. Since then Brazilian exports have exceeded exportable production. It is currently estimated that by June 30, 1954 port stocks will be down to 1.5 million bags. This means that there will be very little stock left in Brazil to bolster the 1954-55 supplies.

Frost in Brazil

29. July 4, 1953 a bad frost was reported in Brazil. In Parana, the newest producing area, many trees were heavily damaged. Hopes for a substantial increase in production have now disappeared and a low 1954-55 crop is in prospect.

The Rise in Prices

30. Prices began to rise sharply in late December, 1953 (the November average was 58 cents per pound). As of March 31st the market had gone up to 91.5 cents but by April 23rd it was down to 86 cents. 1/

31. This price rise is the result of anticipatory market forces. Statistically there is no coffee shortage at present in the sense that levels of consumption have to fall. But there is a probability that this will happen in future. In anticipation of this situation, therefore, buyers are becoming more eager to buy and sellers more reluctant to sell. Higher prices, therefore, are conditioning the market to an expected reduction in supply by forcing consumption downwards.

V. THE SITUATION TO 1957-58

32. For the next four seasons the world's coffee capacity is unexpandable in terms of the number of trees planted. The most important variables are the number of non-bearing, newly planted trees that will come into production each year less old trees which go out of production, the rate of recovery from the 1953 Brazilian frost and actual weather conditions. Yields per tree can be increased by using fertilizers and by adopting other known improved production techniques, but it is unlikely that such measures will be adopted to the extent necessary to make an appreciable difference in production in the short-run.

A. 1954-55

Production Level

33. Until Parana and parts of Sao Paulo have recovered from the effects of the 1953 frost, Brazilian productive capacity will be below the 17 to 18 million bag pre-frost estimate given above (see Section III (20) page 4). It will take at least two years for substantial recovery. 2/ Thus in 1954-55

1/ A peak of 96 cents was reached on the Futures Market April 3rd.

2/ This is an assumption requiring verification, the period may be longer.

and 1955-56 at least crops well below normal will be harvested. Private estimates for the 1954-55 marketing season are currently averaging around 13.5 to 14 million bags. ^{1/}

34. Production in other countries will approximate 17.5 million bags. Total 1954-55 exportable production, therefore, will be about 30.5 million bags. ^{2/}

Total Supply

35. From a statistical point of view some further reduction in stock is possible as a means of supplementing the volume of coffee available for consumption in 1954-55.

36. The size of world coffee stocks July 1, 1954 is not known but a good guess would be 10 million bags. ^{3/} The major proportion represents working stock which cannot be removed from the marketing pipeline. Some quantity - perhaps 3 million bags - can be made available for consumption.

37. For the 1954-55 season, therefore, a reasonable estimate of world supply available for consumption is 30.5 million bags ^{4/} from the new crop and 3 million from stock or about 33.5 million bags.

Consumption Levels

38. The recent sharp upward price movement, however, will undoubtedly reduce world consumption from the 33 million bag 1953 level. This may come about in several ways. There could be a switch to substitutes such as tea or cocoa. This may not occur to any great extent because, for independent reasons, cocoa doubled in price in 1953 and tea prices are rising. Moreover, any significant degree of substitution for coffee would drive cocoa and tea prices still higher.

39. Other alternatives will be adopted, such as adulteration with chicory and similar extenders including a weaker brew. Finally greater use will undoubtedly be made of soluble coffee, which produces more cups of coffee per pound of green coffee than can be obtained by ordinary methods of preparation. A rapid expansion of soluble coffee consumption, however, depends upon how soon new manufacturing capacity can be created.

^{1/} From these estimates about 0.9 million bags must be deducted for Brazilian port and coastwise consumption.

^{2/} This assumes domestic consumption in coffee producing countries will not decline to the point where a larger proportion of the crop is exported.

^{3/} This is made up of 1.5 million bags in Brazil, 0.75 in Colombia, 3.5 million in the United States, 2.0 million Western Europe and 2.25 million bags afloat and in other countries.

^{4/} This estimate may be expected to change as better information becomes available.

40. Higher coffee prices after 1949 reduced U.S. per capita consumption by some 10 percent or from 18 to 16 pounds (see Table 4). The increase since December, 1953 has carried prices from 58 to about 90 cents or by 32 cents per pound as compared with 27 5 cents in 1949. A further shrinkage in per capita consumption may be expected; should it amount to another 10 percent per capita the effect would be about 2 million bags. On the other hand annual increases due to a larger population will continue.

41. In Europe the situation is complicated by the diversity of conditions. Import duties and excise taxes have raised coffee prices considerably above the U.S. level (see Table 7). The rise in green coffee prices, therefore, represents a smaller percentage increase to European than to American consumers. Imports continued to rise after the 1949 price increase by roughly 0.7 million bags per annum. The total volume of imports remains somewhat lower than prewar and the per capita supply is lower still. As a guess higher prices will cause a smaller reduction in consumption in Europe than in the United States assuming no change in government import policies.

42. The basic point, however, is that, if the reduction in world consumption is insufficient to prevent a further reduction in stock in 1954-55 the situation in 1955-56 would become more vulnerable because tappable world stock available to meet possible emergencies would be further reduced

Prices

43. Even if the effect of higher prices on the level of consumption were known, it would not be possible to name the equilibrium price for the next season without taking into consideration the attitude of the coffee trade. This largely hinges on 1) the actual adjustments in the levels of consumption which finally emerge, 2) expectations of the size of the next coffee crop (i.e. 1955-56), and 3) the trade's readiness to reduce stocks which are already at very low levels.

44. July and August is the season of frost danger in Brazil. To this may be added other unfavorable weather news droughts, insect damage, fungus diseases, etc. With the present short supply situation and jittery market atmosphere such events could have an exaggerated effect on coffee prices

45. Another important factor is the policy ^{likely to be adopted by} coffee producing governments, especially when prices show a tendency to fall. Would coffee countries try to maintain high prices for an uneconomically long period by holding a part of the supply off the market?

46. Under such conditions no accurate forecast can be made of the prospective level of coffee prices in 1954-55. Conditions necessary for a price increase from present levels would be 1) no substantial reduction in world consumption, 2) poor prospects for the 1954-55 crop outside Parana, and 3) price support programs in important producing countries. The reverse of these could cause prices to ~~be maintained or even increased further.~~

decline.

B. 1955-56

47. In 1955-56 the Brazilian crop will still be below normal as a result of the frost, although with no further adverse weather, production should increase over 1954-55. A level of consumption in 1954-55, which would further reduce stocks, plus adverse weather could cause a further deterioration in supply conditions in 1955-56.

C. 1956-57 and 1957-58

48. In these years Brazil should have recovered from the worst effects of the frost. It is reasonable to expect that by that time the level of world capacity would rise to the point where 33 million bags could be supplied out of annual production, i.e. the equivalent of 1953 consumption, and, perhaps, allow some addition to stock.

49. It is unlikely, however, that coffee prices would weaken to any great extent before 1957-58 because 1) over a four year period further adverse weather could be encountered in one or more years 2) even a substantial surplus due to better than average weather conditions could be absorbed into stocks 3) coffee governments are likely to be tempted into price supporting measures and 4) Brazilian producers may allow a large number of existing old trees to go out of production.

D. Summary of Intermediate Term Prospects

50. In order to clarify and summarize the exposition to this point the table below has been constructed. It shows the statistical balance between stocks, production and consumption by crop years from 1951-52 to 1957-58 under the various assumptions made above. These data are presented for illustrative purposes rather than as firm estimates.

	<u>Prospective World Coffee Supply and Distribution</u>						
	<u>1951-52</u>	<u>1952-53</u>	<u>1953-54</u>	<u>1954-55</u>	<u>1955-56</u>	<u>1956-57</u>	<u>1957-58</u>
		(m i l l i o n			b a g s)		
<u>Supply</u>							
Opening Stocks	13.2	11.9	11.0	10.0	9.5	9.5	11.0
Exportable Production:							
Brazil	14.1	15.1	14.0	13.0	14.0	16.0a/	17.5b/
All other	16.7	17.3	17.0	17.5b/	18.0b/	18.5b/	19.0b/
Total	<u>30.8</u>	<u>32.4</u>	<u>31.0</u>	<u>30.5</u>	<u>32.0</u>	<u>34.5</u>	<u>36.5</u>
Total Supply	<u>44.0</u>	<u>44.3</u>	<u>42.0</u>	<u>40.5</u>	<u>41.5</u>	<u>44.0</u>	<u>47.5</u>
<u>Distribution</u>							
Consumption	32.1	33.3	32.0	31.0	32.0	33.0	34.0
Closing Stocks	11.9	11.0	10.0	9.5	9.5	11.0	13.5
Total Distribution	<u>44.0</u>	<u>44.3</u>	<u>42.0</u>	<u>40.5</u>	<u>41.5</u>	<u>44.0</u>	<u>47.5</u>
<u>Change in Stock</u>	(-1.3)	(-0.9)	(-1.0)	(-0.5)	(0.0)	(-1.5)	(-2.5)

a/ This estimate has been adjusted downwards to account for some lingering effects of the 1953 frost.

b/ Rounded estimates of the extrapolated trends in Chart 3, page 25.

51. Further reductions in world stocks are a possibility up to and including the 1955-56 season because expected reductions in consumption will be insufficient to provide a balance with expected production. From 1956-57 on, however, production should increase to the extent necessary to meet a larger volume of consumption and still permit sorely needed additions to stock.

52. It should be reiterated that these conclusions are based on two major assumptions: 1) that Brazil will recover from the 1953 frost by 1956-57 and 2) that no further adverse weather will occur. To the extent that these assumptions are incorrect the period of short supply will be extended.

VI. LONG-RUN PROSPECTS

53. The period from 1958-59 on is differentiated from the previous four years by the ability of producers to expand capacity through new planting. This has been the traditional way in which output has increased in the past and it could play an important role in the future.

54. Long-run prospects for the coffee market are here considered in terms of the extrapolation of trends as modified by recent events. This involves first an estimate of the likely volume of consumption against which the trend in production may be compared.

55. In the long-run the world demand for coffee will increase. World trade has expanded from a pre-World War I level of 18 million bags to an average of 31 million bags over the past five years.

56. Data on import trade since 1930 are shown in Chart 2 (page 24) for various areas. The fitted lines of trend extrapolated to 1960 show the general direction of imports in each area, assuming no great variation in the underlying conditions influencing consumption.

57. The trend in U.S. imports has risen steadily with the exception of the early war years. The annual rate of increase of the fitted line is 3.0 percent or about 0.7 million bags per annum. Since 1949, however, the actual level of imports has flattened out. In 1954 an actual decline may be expected due to high prices. After 1955 it is reasonable to expect a continuation in the long-term trend in growth as population increases.

58. In Europe the trend during the 1930's was fairly flat. During the war years imports declined drastically. Recently the volume of imports has increased rapidly and is now near prewar levels. It can be expected that higher prices will check the rate of increase out not eliminate it. In lieu of a fitted trend line, therefore, a freehand line having rate of increase of about 4 percent per annum has been drawn in. After 1960, however, the rate of change may decline.

59. In Western Hemisphere countries excluding the United States the long-term trend has been upwards at an annual rate of 4 percent or about 0.06 million bags. Since 1949, however, the level of imports has ceased to increase. The effect of higher prices, therefore, is similar to that

in the United States, an absolute decline in imports may occur over the next few years.

60. For Africa, Asia and Oceania some decline in the level of imports is assumed.

61. The long-term trend of total world imports from 1930 to date reflects the absolute decline in European consumption during the war. It is thus abnormally low and requires an upward adjustment for purposes of estimating future consumption. Two such estimates have been made in order to illustrate the method of adjustment. They are both plotted in Chart 2 (page 24).

62. The first estimate is represented by the upper line labelled "pre-1953 trend". This shows the likely trend in world imports (and consumption) at the 50 to 60 cent price level prevailing from late 1949 to late 1950. The rate of annual increase is about 3 percent.

63. The second estimate is represented by the lower line labelled "trend adjusted for higher post-1953 prices". It is more realistic in that the absolute level has been shifted downwards. The rate of annual increase, however, remains the same, i.e. 3 percent, as there is no evidence to indicate that higher prices will affect the rate of growth. X

Supply

64. During periods of low stocks the level of trade is largely determined by levels of production. Moreover, supply has fluctuated much more than consumption and is largely responsible for the alternate periods of scarcity and surplus. The key to market conditions, therefore, is to be found largely in future production movements.

65. In Chart 3 (page 25) an extrapolation of exports has been made of total production since 1945. The obvious reason for not using the long-term trend since 1930 is that a fundamental change in the direction of trend occurred in 1945 and that the new trend is likely to continue. The rate of increase is roughly equivalent to the rate of increase in the consumption trend i.e. about 3 percent per annum.

66. It is important to note, however, that the individual production trends have been extrapolated from production data up to 1953 whereas new trees planted after the 1949 price rise would not come into the bearing stage until 1954 and trees planted after the 1953 price rise will not bear until 1958 or later. Hence it may be necessary to adjust upwards the extrapolated production trends to account for the effect of the two price increases on the rate of new planting.

1/ ~~This will require a downward adjustment after 1960, if European consumption levels out.~~

2/ The data in Chart 3 represent exports for all areas except Brazil which are exportable production. As most of these areas do not maintain stocks of any size the level of exports is a fair guide to exportable surpluses.

67. To the extent that the price increases do stimulate new planting, the future rate of annual increase in production will exceed consumption. The result on a free market will be the appearance of surpluses and falling prices.

68. In the past the stimulation of high prices has had the greatest effect on production in Brazil. Due to the large proportion of production concentrated in Brazil the effects of the increases has been a predominant factor. Hence in order to judge the effects of the 1949 and 1953 price increases attention must be focused primarily on Brazil.

69. Whether or not a new coffee boom and bust is in the making in Brazil is debatable. Some observers believe that the basic conditions for another big boom no longer exist. They argue the remaining good coffee land is limited, it is high priced, and there is an insufficiency of cheap labor. If so, then the future growth trend may well be quite different to that in the past. A steady and moderate increase in output in Brazil and elsewhere through expansion in new areas and the gradual adoption of new techniques with increased yields per tree is less likely to breed over-expansion and subsequent surpluses than are gold rush conditions on the frontiers of Brazil.

70. Others claim this view to be erroneous. Brazil is a large country with vast frontiers about which little is known. Prices are now high enough to permit producers to overcome transport and other obstacles associated with new areas. The stage, therefore, is set for another boom.

71. There is inadequate information on prospective production conditions in Brazil to express an opinion on this question. The situation needs further study. One of the main difficulties is the paucity of published information. This subject is treated more fully in Appendix A.

The Problem of Coffee Policy

72. The present situation holds both an extraordinary opportunity and a grave responsibility for coffee producing countries.

73. In the first place the fruits of the recent price rise must be considered as a windfall which cannot be expected to continue indefinitely, as coffee production may be expected to increase. Meanwhile there is opportunity to utilize the extra earnings from high coffee prices for purposes of economic development.

74. Secondly, producing countries will need to resist the temptation to hold coffee prices at high levels. The adoption of high price support measures will encourage overplanting to an unnecessary degree. The inevitable result would be a surplus disposal problem and low prices.

Appendix A

Available Data on Brazilian
Coffee Productive Capacity

1. Specifically the Brazilian situation contains four important unknowns:

- 1) Annual Weather Variability. The extreme southern location of the new producing areas and the concentration of production in Sao Paulo and Parana make the weather factor extremely important, particularly frost and drought. This is more true of the future due to the increasing importance of Parana and its vulnerability to frost. The weather factor, however, is not susceptible to accurate analysis and forecasting. It can only be hoped that alternate good and bad crops will cancel out in the long run.
- 2) The Present Situation. The lack of available and reliable data on rates of planting and abandonment, tree numbers, ages and yields precludes an accurate estimate of present capacity on the basis of published information. The trend of new planting and production is upwards but the degree is uncertain.
- 3) Frost Recovery. Although it has been assumed above that Brazil will recover substantially from the 1953 frost in two years the rate and degree of recovery is dependent upon a number of variables of unknown magnitude.
- 4) The Effect of High Prices on New Planting. The level of Brazilian production after 1958 will be largely dependent upon planters' reactions to the now extremely profitable coffee prices. Changes in the underlying economic situation in Brazil are such that it is not possible to state from published information 1) the exact extent of new planting to date, 2) the present rate of new planting, 3) the potential for an extensive increase in capacity, and 4) the probability of an intensive increase in capacity through better production techniques.

2. What is Needed. In order to gauge accurately the likely level of coffee productive capacity in Brazil over the next few years under normal weather conditions the following information is necessary.

- 1) Number of bearing trees, their ages by groups and yields by age groups on a regional basis.
- 2) Annual numbers of new plantings and retirement of old trees.
- 3) The effect of the 1953 frost and the time period required for recovery.

4) The rate of adoption of new production techniques and high yielding varieties of trees.

3. For long-term estimates additional data is necessary covering the following:

5) Availability of new coffee land.

6) Attempts to replant on old coffee land.

7) General economic factors such as the relationship of coffee and competing crops' prices and costs, availability of labor etc.

4. What is Available. The information available to the Bank falls short of the minimum required for a sound judgment. Much of the required data is not amenable to collection by statistical methods and therefore depend on knowledge and experience. This is largely true for items 3) to 7) above.

In the case of items 1) and 2) the published data is largely inadequate because:

1) It is available only for scattered years.

2) Only portions of the necessary information are collected.

3) The annual returns are not always comparable due to variations in the type of information gathered.

Table 1
Coffee Prices
Basis - Green Coffee Spot Prices in New York
(cents per pound)

<u>Annual</u> <u>Average</u>	<u>Brazilian</u> <u>Santos 4</u>	<u>Colombian</u> <u>Manizalez</u>
1930	12.9	17.2
1931	8.8	15.6
1932	10.6	11.4
1933	9.1	10.5
1934	11.1	13.7
1935	8.9	10.3
1936	9.5	11.3
1937	11.0	11.6
1938	7.7	11.0
1939	7.4	11.6
1940	7.1	8.3
1941	11.3	15.0
1942 a/	13.4	15.9
1943 a/	13.4	15.9
1944 a/	13.4	15.9
1945 a/	13.4	15.9
1946	18.5	21.8
1947	26.7	30.1
1948	27.1	32.5
1949	31.8	37.4
1950	50.5	53.3
1951	54.2	58.7
1952	54.0	57.0
1953	57.9	59.8

a/ O.P.A. ceiling prices.

Table 2

Brazil. Coffee Supply and Distribution
(thousand bags of 132.3 pounds)

	Opening Stocks July 1	Exportable Production	Total Supply	Exports	Stock Change
1945-46	16,800	11,394	28,194	16,007	-3,800
1946-47	13,000	12,608	25,608	14,373	- 400
1947-48	12,600	12,253	24,853	16,125	-2,600
1948-49	10,000	15,750	25,750	17,745	-2,450
1949-50	7,550	14,945	22,495	16,935	-1,800
1950-51	5,750	15,716	21,466	16,593	- 821
1951-52	4,929	14,120	19,049	16,333	-1,973
1952-53	2,956	15,120	18,076	14,968	- 4
1953-54	2,950	13,200	16,150	(14,650) ^{1/}	(-1,500)

^{1/} This represents a balancing item rather than an estimate.

Note. Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

Table 3

World Coffee Exportable Production
as Related to Exports
(thousand bags of 132.3 pounds)

<u>Year</u>	<u>Crop-Year</u> <u>Exportable</u> <u>Production</u> <u>1/</u>	<u>Calendar</u> <u>Year</u> <u>Exports</u>	<u>Difference</u> <u>2/</u>
1945	20,634	27,393	6,759
1946	23,695	29,277	5,582
1947	27,266	28,608	-1,342
1948	26,271	32,297	6,026
1949	30,650	34,737	4,087
1950	29,306	29,288	- 18
1951	30,039	31,840	1,801
1952	30,977	32,133	1,156
1953	32,204	34,328	2,124
1954	30,800		

1/ Crop years July-June ending with year shown.

2/ These differences are illustrative but not statistically accurate due to differences between crop years and calendar years and inaccuracies of the production data

Note: Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

Table 4

United States' Coffee Supply and Distribution
(thousand bags of 132.3 pounds)

	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
<u>Supply</u>							
Stocks January 1	3,631	2,981	3,231	4,030	3,463	3,380	3,302
Imports	18,867	20,947	22,060	18,424	20,301	20,266	21,017
Total Supply	<u>22,498</u>	<u>23,928</u>	<u>25,291</u>	<u>22,454</u>	<u>23,764</u>	<u>23,646</u>	<u>24,319</u>
<u>Distribution</u>							
Reexports <u>1/</u>	448	281	194	117	150	149	175
Military	(381) <u>a/</u>	248	589	482	1,254	509	533
Civilian							
Disappearance	19,450	20,168	20,478	18,392	18,980	19,686	19,601
Stocks							
December 31	<u>2,981</u>	<u>3,231</u>	<u>4,030</u>	<u>3,463</u>	<u>3,380</u>	<u>3,302</u>	<u>4,010</u>
Total Distribution	<u>22,498</u>	<u>23,928</u>	<u>25,291</u>	<u>22,454</u>	<u>23,764</u>	<u>23,646</u>	<u>24,319</u>
<u>Civilian</u>							
Population (millions) <u>2/</u>	144.6	147.2	149.6	152.3	153.2	155.5	158.3
Per Capita Disappearance (lbs.)	17.8	18.1	18.1	16.0	16.3	16.7	16.4

Note: Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

1/ Green and roasted.

2/ Population eating out of civilian supplies.

a/ Army surpluses made available for civilian use.

Table 5

World Coffee Exports
(million bags of 60 kilos)

<u>Period</u>	<u>Total</u>	<u>Brazil</u>	<u>Colombia</u>	<u>Other Latin America</u>	<u>Africa</u>	<u>All Other</u>
1909-13	18.12	12.64	0.77	3.70	0.18	0.82
1914-18	17.70	11.88	1.12	3.70	0.20	0.81
1919-23	20.56	12.80	1.86	3.91	0.42	1.57
1924-28	22.95	14.09	2.33	4.28	0.65	1.60
1929-33	25.30	15.00	3.21	4.52	1.15	1.55
1934-38	27.02	14.58	3.83	4.91	2.03	1.66
1940-44	22.04	10.81	4.37	4.18	2.52	0.16
<u>1945-49</u>	<u>30.40</u>	<u>16.27</u>	<u>5.43</u>	<u>4.56</u>	<u>3.95</u>	<u>0.20</u>
1950	29.23	14.84	4.47	4.88	4.65	0.39
1951	31.84	16.36	4.79	4.87	5.27	0.55
1952	32.13	15.82	5.03	5.69	5.12	0.47
1953	34.33	15.56	6.63	6.38	5.03	0.73

Note. Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

Table 6
United States Per Capita Income,
Amount Spent on Coffee and
Coffee Consumption

<u>Annual Average</u>	<u>Per Capita Coffee Consumption</u> (pounds of green coffee)	<u>Average Retail Price of Roasted Coffee per Pound</u>	<u>Cost per Consumer</u>	<u>Per Capita Income</u>	<u>Percent of Income Spent on Coffee</u>
1925-29	11.9	48.8 cents	\$ 4.90	\$ 651	0.75
1930-34	12.6	31.0 "	3.30	410	0.80
1935-39	14.2	24.2 "	2.87	507	0.57
1940-44	14.8	26.6 "	3.29	896	0.38
1945-49	18.1	43.7 "	6.66	1,334	0.49
1949	18.3	55.4 "	8.54	1,436	0.60
1950	16.5	79.4 "	11.03	1,482	0.74
1951	16.8	86.8 "	12.23	1,581	0.77
1952	16.9	86.7 "	12.32	1,639	0.75
1953	17.1	88.1 "	12.68	1,703	0.75

Note: Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

Table 7

Retail Coffee Prices and
Per Capita Consumption
in Various Countries

	Retail Prices of Roasted Coffee (dollars per pound)		Per Capita Consumption of Green Coffee (pounds) ^{1/}			
	<u>1938</u>	<u>1953</u>	<u>1938</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
United States	0.23	0.88	16.5	16.8	16.9	17.0
Canada	0.36	1.03	3.3	6.1	6.8	7.1
Argentina	0.15	1.03	4.5	3.5	3.8	4.0
France	0.64	1.60	10.0	7.8	8.3	8.5
Italy	0.83	2.20	1.8	2.2	2.9	3.1
Germany	0.67	2.62	6.3	1.8	2.6	2.1
Belg./Lux.	0.53	1.71	13.6	13.8	13.1	12.7
Sweden	0.39	1.22	18.4	13.0	14.8	15.7
Norway	0.37	1.19	14.6	10.2	14.5	11.5
Finland	0.64	2.37	15.8	7.9	11.7	12.1
Denmark	0.35	1.15	20.2	8.2	10.2	14.7
Netherlands	0.73	2.40	13.2	3.6	4.2	6.6
Switzerland	0.45	1.30	9.1	9.1	8.3	9.2
Spain	0.66	2.23	0.5	0.5	0.5	0.7
Europe	0.55	1.74	5.7	n.a.	n.a.	4.2

^{1/} Strictly per capita imports except for the United States.

Note. Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources.

Table 8
Annual Average
World Coffee Imports
(thousand bags)

<u>Country</u>	<u>1909-13</u>	<u>1925-29</u>	<u>1930-34</u>	<u>1935-39</u>	<u>1940-44</u>	<u>1945-49</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
United States	6,828	10,659	12,025	13,900	16,366	20,618	20,357	20,274	<u>21,065</u>
<u>Europe</u>									
France	1,862	2,721	3,108	3,036	692	1,262	2,522	2,771	<u>2,842</u>
Scandinavia ^{1/}	1,253	1,632	1,806	2,034	461	1,191	1,474	1,861	<u>1,975</u>
Benelux	1,307	1,245	1,461	1,462	128	1,505	1,195	1,194	<u>1,344</u>
Italy	438	754	695	568	72	463	889	1,016	<u>1,112</u>
Germany ^{2/}	3,016	2,006	2,398	2,663	191	118	677	942	<u>1,311</u>
United Kingdom	174	291	299	273	546	711	721	720	<u>507</u>
Switzerland	190	210	247	289	165	280	331	304	<u>319</u>
Other	1,550	1,343	1,328	1,185	368	460	825	832	<u>768</u>
Total	<u>9,790</u>	<u>10,202</u>	<u>11,342</u>	<u>11,510</u>	<u>2,623</u>	<u>5,990</u>	<u>8,634</u>	<u>9,640</u>	<u>10,178</u>
<u>Other Countries</u>									
Argentina	213	391	359	401	482	542	476	518	<u>571</u>
Canada	106	188	243	302	448	569	669	738	<u>813</u>
South Africa	199	214	213	253	403	381	198	201	<u>196</u>
Other	617	1,022	950	1,230	1,338	1,571	1,324	1,174	<u>1,276</u>
Total	<u>1,135</u>	<u>1,815</u>	<u>1,765</u>	<u>2,186</u>	<u>2,671</u>	<u>3,063</u>	<u>2,669</u>	<u>2,631</u>	<u>3,856</u>
<u>World Total</u>	<u>17,753</u>	<u>22,676</u>	<u>25,132</u>	<u>27,596</u>	<u>21,660</u>	<u>29,671</u>	<u>31,658</u>	<u>32,545</u>	<u>34,099</u>

^{1/} Finland, Norway, Sweden, Denmark.

^{2/} Western Germany After 1945.

Note: Small discrepancies occur between estimates on this and other tables due to rounding and the use of different sources

Table 9
Annual Average
World Coffee Exports
(thousand bags)

<u>Country of Origin</u>	<u>1925-29</u>	<u>1930-34</u>	<u>1935-39</u>	<u>1940-44</u>	<u>1945-49</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>
<u>West. Hemisphere</u>								
Brazil	14,102	14,936	15,095	10,812	16,266	16,358	15,821	15,562
Colombia	2,451	3,149	3,972	4,370	5,429	4,794	5,032	6,632
El Salvador	729	863	918	891	1,026	1,059	1,098	1,149
Guatemala	760	720	759	762	877	848	1,007	1,159
Mexico	443	524	599	486	608	865	870	1,267
Haiti	549	532	436	342	459	417	541	372
Venezuela	835	774	733	527	521	308	498	691
Costa Rica	253	323	396	338	321	309	333	465
Domin Republic	70	126	187	162	253	290	442	374
Ecuador	108	157	223	197	175	273	340	311
Nicaragua	231	217	259	218	186	268	303	313
Honduras	25	27	29	30	57	137	138	187
Peru	11	37	47	26	20	27	45	NA
Cuba	--	12	89	94	--	--	--	--
Other	182	129	136	106	57	62	67	90
Total	<u>20,759</u>	<u>22,526</u>	<u>23,878</u>	<u>19,361</u>	<u>26,255</u>	<u>26,015</u>	<u>26,535</u>	<u>28,572</u>
<u>Africa</u>								
Fr Africa <u>1/</u>	66	230	726	861	1,413	1,830	1,947	2,064
Br. East Africa	304	489	752	712	848	1,213	1,325	1,102
Angola	169	190	279	320	742	1,074	794	719
Belgian Congo	7	102	289	416	528	590	515	561
Ethiopia	210	277	209	130	291	458	424	467
Other	5	9	58	82	128	104	115	112
Total	<u>761</u>	<u>1,297</u>	<u>2,313</u>	<u>2,521</u>	<u>3,950</u>	<u>5,269</u>	<u>5,120</u>	<u>5,025</u>
<u>Asia and Oceania</u>								
Indonesia	1,395	1,305	1,349	--	40 <u>a/</u>	402	313	548
India	135	161	156	51	33 <u>a/</u>	14	40	33
Other	146	137	111	106	124	140	125	150
Total	<u>1,676</u>	<u>1,603</u>	<u>1,616</u>	<u>157</u>	<u>197</u>	<u>556</u>	<u>478</u>	<u>731</u>
<u>World Total</u>	<u>23,196</u>	<u>25,426</u>	<u>27,807</u>	<u>22,039</u>	<u>30,402</u>	<u>31,840</u>	<u>32,133</u>	<u>34,328</u>

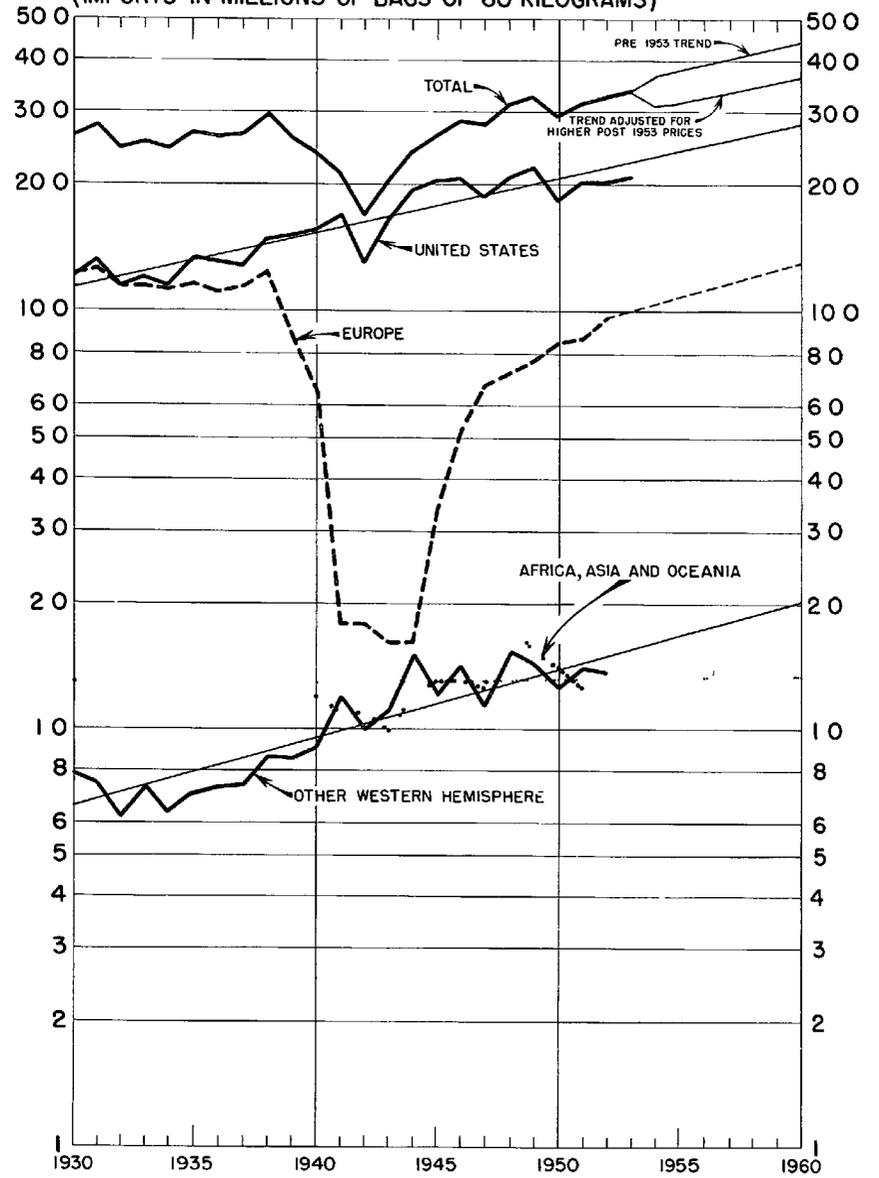
1/ French West and Equatorial Africa, French Cameroons and Madagascar.

a/ Four-year average.

Note There may be slight discrepancies in these estimates as compared with other tables due to the necessity of using different sources.

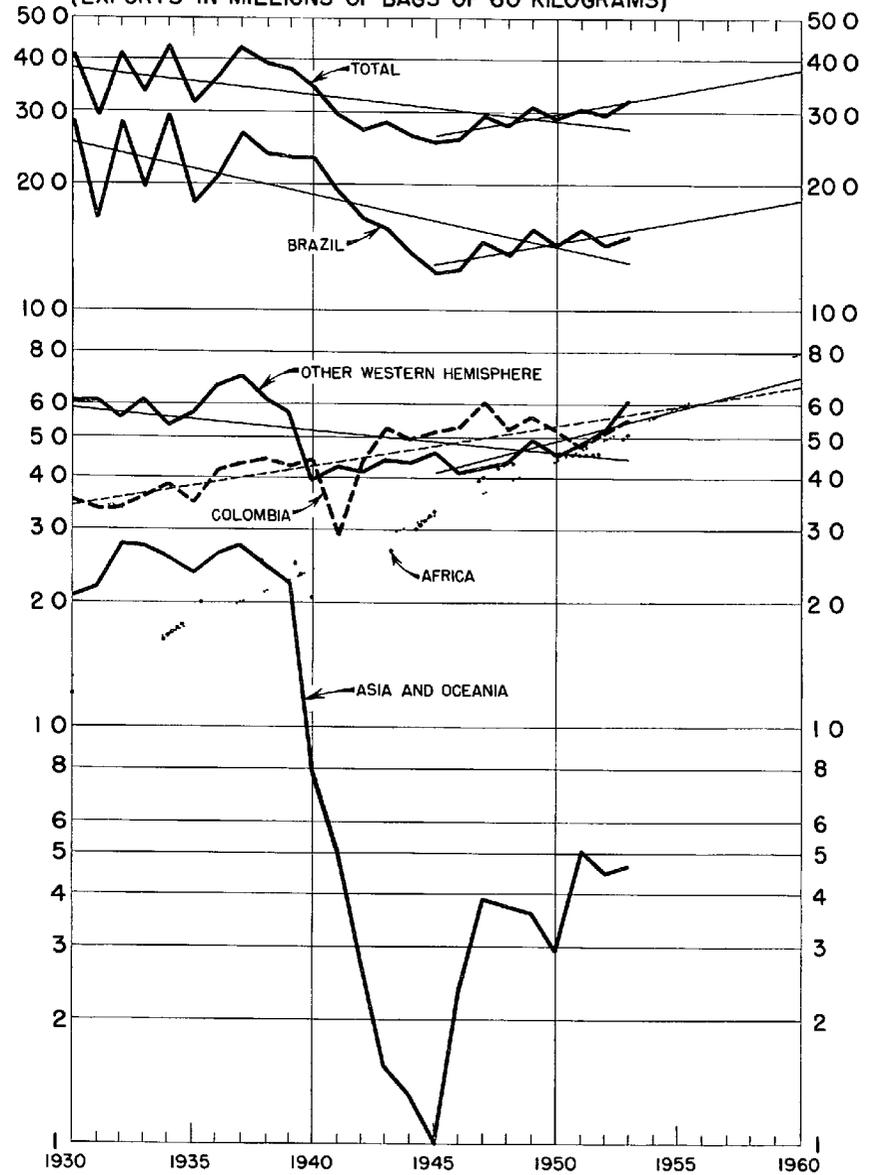
COFFEE CHANGES IN IMPORTANCE OF MARKETS

(IMPORTS IN MILLIONS OF BAGS OF 60 KILOGRAMS)



COFFEE CHANGES IN IMPORTANCE OF PRODUCING AREAS

(EXPORTS IN MILLIONS OF BAGS OF 60 KILOGRAMS)



NOTE: For Brazil exportable production, for other countries, exports