

MONOGRAPHS IN THE ECONOMICS OF DEVELOPMENT

NO. 10

**Liquidity And Lending:
The Volume of Bank Credit in Pakistan**

RICHARD C. PORTER

March 1963

Pakistan
THE INSTITUTE OF DEVELOPMENT ECONOMICS
Old Sind Assembly Building
Bunder Road, Karachi
(Pakistan)

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THE INSTITUTE OF DEVELOPMENT ECONOMICS

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PREFACE

By the time of publication, there will always be much more recent information available so a statement on timing is helpful. In this monograph, "now" means March-May 1962 and the data used generally stops about the end of March. Another general rule of topical studies is that drastic changes always occur just as the writing is finished. In June 1962, a new Banking Companies Ordinance was released which placed further controls, actual and potential, on the operations of foreign banks. The principal changes are that these banks are now required to maintain capital in Pakistan to the extent of five per cent of deposits and that they must publish balance sheets of their Pakistan operations separately (see Section II of this monograph).

I am indebted to John H. Power and M. Umer Chapra for reading and commenting on this manuscript. I would not have been able even to begin this study without the cooperation I have received from private bankers and State Bank officials. Since many are reluctant to be associated with my arguments and conclusions, I refrain from naming them. But my obligation is no less great for this omission, and I thank each.

July 1962.
KARACHI.

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SYMBOLS AND ABBREVIATIONS

- RC+F** refers to State Bank of Pakistan, Research Department, *Report on Currency and Finance*, issued annually (e.g., *RC+F 60-61* refers to the issue for 1960/61).
- BS** refers to State Bank of Pakistan, Statistics Department, *Banking Statistics*, issued annually (e.g., *BS 59-60* refers to the issue of 1959/60).
- SBP.B** refers to State Bank of Pakistan, *Bulletin*, issued monthly.
- SBP.GFO** refers to State Bank of Pakistan, Research Department, *The State Bank of Pakistan: Its Growth, Functions, and Organization*, Karachi. 1961.
- SBP.AR** refers to State Bank of Pakistan, *Annual Report* (e.g., *SBP.AR 56-57* refers to the issue of 1956/57).
- SBP.SSP** refers to State Bank of Pakistan, Statistics Department, *Statistics on Scheduled Banks in Pakistan*, issued quarterly (begun in December 1961).
- Weekly Statement** refers to the data collected by the State Bank from each Scheduled Bank on Friday of every week and published, for the aggregate of all Scheduled Banks, within a few days. It is available in *SBP:B*, *RC+F*, and *BS*.
- Quarterly Statement** refers to the data collected by the State Bank from each Scheduled Bank on the last day of every quarter and published, for all Scheduled Banks and for two or three subgroupings of them, after a few months. It is available in greatest detail in *BS*. The items on this and the *Weekly Statement* are generally defined differently; hence, the entries in the two *Statements* are rarely comparable.

I.D.E. refers to the Institute of Development Economics.

— in a table means that the value is zero.

n.a. in a table means that the value is not available.

One *crore* is ten million.

One *lakh* is one hundred thousand (100 lakhs = 1 crore).

These two words are not italicized in the text.

Rs. refers to Pakistan rupees.

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SECTION I

INTRODUCTION

This is a study of the determinants of the volume of bank credit in Pakistan. It is undertaken with three purposes. The first, and most important, is the need for this knowledge in order to formulate monetary policy. The second is to provide a description and analysis of the Pakistan banking system with respect to the volume of credit it creates. The third is to suggest an alternative method of analysis of bank credit and monetary policy to that usually employed, especially in underdeveloped countries, in which almost no emphasis is given to the positions and policies of the commercial banks.

These three purposes are interrelated. Because of the present tendency to consider only the central bank, the State Bank of Pakistan, when monetary policy is being discussed, there exists almost no description of the operations of commercial banks in Pakistan. And because there is no real understanding of the commercial banks, there is no sound basis for the State Bank's credit policies. The last two sections of this monograph, Sections XIV and XV, are concerned with the resulting failures of State Bank credit control policies and suggest steps toward the possibility of control of bank credit in Pakistan.

Since the volume of credit is largely determined by the institutional structure of the banking system, the different policies of individual commercial banks, and the interrelations between these banks, it is to this that most of this monograph is directed. The next twelve sections are primarily aimed at improving our understanding of the operations of the commercial banks, and only to lesser extent the policies of the State Bank.

By commercial bank, or just bank, we shall mean Scheduled Bank throughout this monograph. In Pakistan, a commercial bank becomes a Scheduled Bank (*i.e.*, is placed upon the "schedule") whenever its capital assets exceed five lakhs of rupees¹. There are in Pakistan nearly

1. Other quite unimportant conditions must also be fulfilled.

twice as many non-Scheduled Banks as Scheduled Banks², but less than one-tenth of the bank branches are of non-Scheduled Banks; the total deposit liabilities of the non-Scheduled Banks are only about 0.7 per cent of those of the Scheduled Banks³. Of the so-called "indigenous bankers", who are not even listed as non-Scheduled Banks (though they may be quite large), we know even less. But it is generally believed that, in Pakistan, such "banks" are much less prevalent than in some Asian countries. Thus, while this study is concerned only with the Scheduled Banks in Pakistan, it really comes very close to considering the entire banking system.

In Sections II and III, some institutional and legal background to the Pakistan banking system is given. In Sections IV and V, the process by which the banks acquire and hold their principal assets, securities and advances, is described. The next three Sections, VI, VII, and VIII, are concerned with the sources from which individual banks can acquire lendable funds. A description of the process of advance expansion is presented in Section IX. Sections X through XIII contain analyses of the determinants of inter-bank transfers of reserves, cash ratios, liquidity ratios, and indebtedness of banks to the State Bank. The problems of monetary policy are treated in the final two sections.

There are five appendices which contain subsidiary matter too long or too technical for the general reader's interest. These may be omitted, but if they are read, they should be considered along with the section to which they pertain.

SECTION II

THE PAKISTAN BANKING SYSTEM

The banking system of Pakistan is in many important ways no older than the nation itself. Before the partition of British India, the

2. On June 1961, there were 50 non-Scheduled Banks and 28 Scheduled Banks (*BS 60-61*, p. vii).

3. In 1960, the latest figures available for the non-Scheduled Banks, not all of which even bother to report to the State Bank. The deposit liabilities of the non-Scheduled Banks were Rs. 1.96 crores (average of weekly figures over 1960) which might be increased to Rs. 2.20 crores to allow for underreporting (*BS 60-61*, p. 14). The average of the deposit liabilities of Scheduled Banks for December 1959 and December 1960 is Rs. 319.69 crores (*Weekly Statements*).

regions which later became Pakistan were not industrial, even by sub-continental standards, and the banks which serviced them did no more than finance the seasonal flow of food and raw materials to large cities and ports. For this task, there was a quite extensive network of bank branches, especially in East Bengal where the jute crop originated, but it was almost entirely in the hands of Europeans and non-Muslims.

The partition of India and Pakistan almost completely destroyed this banking network. Over 400 bank branches, about 70 per cent of the total number in what became East and West Pakistan, (according to the State Bank) were closed during the difficulties that accompanied Partition. Even after the restoration of order, the exodus did not stop though many Hindu bankers re-opened their Pakistani branches for a while. During the period from 1949 through 1951, sixteen Scheduled Banks withdrew from Pakistan. Not until 1961 did the number of bank branches in Pakistan again reach its pre-Partition size¹.

Nearly a year after Pakistan's official inception, almost 90 per cent of the bank branches were still operated by the Indian and British banks, despite the rapid departure of many Indian banks. Of banks operated by its own nationals, Pakistan had only two at the time of Partition, the Habib Bank and the Australasia Bank². Two new Pakistani banks were soon founded, the Muslim Commercial Bank and the Bank of Bahawalpur, but the system remained overwhelmingly foreign-dominated until the devaluation crisis of 1949 forced the inauguration of the National Bank of Pakistan, a bank whose operations reflect government policy, though it is not entirely owned by the government³. By 1952, half the bank branches in Pakistan were of Pakistani banks, but the total number of branches had increased little over

1. All figures in this paragraph are from State Bank of Pakistan, *Twelve Years of Banking in Pakistan*, (Karachi: State Bank of Pakistan, 1960).

2. Something of the origin and history of these and other Pakistani banks may be found in J.S.G. Wilson, "Money and Banking in Pakistan" in R. S. Sayers (Ed.), *Banking in the British Commonwealth*, (London: Oxford University Press, 1952), pp. 260-302; more recent are the several banking articles in *Trade & Industry*, Karachi, November 1961.

3. For discussions of Pakistan's early financial trials, see M. Baqai, "The National Bank of Pakistan: Its Origin and Development", in *Selected Papers on the Pakistan Economy*, Vol. 2, (Karachi: State Bank of Pakistan, 1955), pp. 87-106; and Z. Husain, "Central Banking in Pakistan", *Federal Economic Review*, October 1954, pp. 1-44.

the preceding few years as the Indian banks continued to withdraw⁴.

The system has grown rapidly since 1952, the National Bank of Pakistan leading in the government-backed efforts to inculcate the "banking habit" throughout the nation. By June 1961, there were 580 bank branches in Pakistan, a three-fold rise from the number in June 1948. Just as important as this tremendous growth in the banking system, however, is the significant change in its structure: 507 of the 580 branches are of Pakistani Scheduled Banks; the Indian banks have steadily dwindled to a position of very minor importance; and the British banks have just held their own in the face of increasing difficulties in obtaining deposits.

Most of the banks in Pakistan, regardless of the nationality of their owners and managers, are basically in the British tradition. In this sense, it is misleading to suggest that the Pakistan banking system is no older than the nation itself. Such hallowed words as "short-term", "self-liquidation", "credit-worthy borrowers" echo along the tall, fan-covered ceilings of McLeod Road with perhaps greater resonance and regularity than ever they did from Threadneedle Street. If the various Scheduled Banks in Pakistan were uniform in their acceptance, and subsequent violation, of these British traditions, there would be less need to consider the banking system in its constituent elements. Because the 33 different Scheduled Banks that now comprise the Pakistan banking system do operate by somewhat differing principles and in vastly differing circumstances, it is necessary that we examine the various segments.

The principal groups are the Pakistani, the British, the American, and the Indian banks. But once we begin to subdivide the Scheduled Banks, State Bank publications become almost useless as sources of information. Even to estimate the relative deposit-size of the various groups is no easy matter; in the estimates below, we rely upon the only two public sources of information:

1) *Quarterly Statements* of the Scheduled Banks are segregated by Pakistani and foreign banks, so that these aid comparisons if the subgroups are no more finely formed. Through September 1961,

4. All figures in this paragraph are from *BS 60-61*, p. 110.

the Indian banks were reported separately from the "other foreign" banks; while this discontinuation is to be praised in the interests of less prejudicial Indo-Pakistan relations, the loss of information is to be pitied by the analyst—perhaps we can hope for a new and more useful breakdown of the foreign banks category, *e.g.*, by the British, American, and other foreign banks.

2) *The annual balance sheets required of the Pakistani banks by companies law*: The foreign banks need not, and do not, release balance sheets of their Pakistan operations, although the State Bank's *Banking Statistics* duly (and uselessly) publishes balance sheets of each foreign bank's total worldwide operations. It is surprising that the State Bank and the government in their determination to Pakistan-ize the banking system, have forced the Pakistani banks to operate under the handicap of giving information to the foreign banks without reciprocation. It would surely not be inequitable, and it would be very useful for analysis, if each foreign bank were required to release a balance sheet of its Pakistan operations⁵.

However, with these two pieces of public information and various semi-public knowledge, we can estimate the relative size, with respect to deposits, of these four segments of the banking system (as of December 1961) (see Table II. 1) No really sound effort can be made to break down quantitatively the relative importance of particular banks within any of these categories except the Pakistani. No more than a qualitative estimate will be attempted for the British and American banks. Some discussion of each of these groups is relevant.

1) *Pakistani banks*: There are now twelve Pakistani-operated Scheduled Banks, four of which are principally government-owned (the National Bank of Pakistan, the Agricultural Development Bank of Pakistan, the Industrial Development Bank of Pakistan, and the Eastern Mercantile Bank). Of these twelve, however, only a few are of significant size as is shown in Table II.2. The two largest are very different in attitudes and, as a result, in portfolios. The National Bank, though it is partly private-owned and makes good profits,

5. Since this was written, such a requirement has been introduced.

Table II.1

Type of bank	Fraction of total deposits
Pakistani	.67 ^a
British	.19 ^b
American	.07 ^c
Indian	.06 ^d
Other	.01 ^e

Source and Procedure: Total deposits of all banks were Rs. 353.90 crores (*Quarterly Statement*, "total demand and time deposits"). Each figure is a fraction of this.

- a. The *Quarterly Statement* separates "total demand and time deposits" of Pakistani banks (Rs. 237.82 crores).
- b. Residual.
- c. The American banks depend for deposits primarily upon the U.S.A. government funds; these are believed to have been about Rs. 20 crores in December 1961. Thus, the total deposit estimate is about Rs. 25 crores.
- d. The Indian banks' "total demand and time deposits" (*Quarterly Statement*) were Rs. 20.39 crores in September 1961 (not available in December 1961). This figure was estimated to have increased proportionately to the total deposits of the whole system between September and December 1961 (the latter rose from Rs. 340.69 crores, *i.e.*, by 4 per cent). Thus, their December 1961 deposits are about Rs. 21 crores.
- e. The four "other foreign Scheduled Banks, the Bank of Tokyo, the Netherlands Trading Society, the Bank of China, and the Deutsche Asiatische Bank are known to be small in Pakistan and the 1-per-cent figure is a token gesture.

Table II.2

Bank	Deposits as a fraction of total Pakistani bank deposits
National Bank	.44
Habib Bank	.34
Muslim Commercial Bank	.11
United Bank	.05
Rest	.06

Source: For total Pakistani banks deposits, December 1961 *Quarterly Statement* (Rs. 237.82 crores); for deposits of particular banks, their annual balance sheets. The deposits of the Muslim Commercial Bank, given for September 1961, are increased by 6 per cent to allow for their growth up to December 1961; those of the United Bank, given for June 1961, are increased by 5 per cent. These per-cent rises are those of the total Pakistani bank deposits over these periods,

is not run on strictly commercial bank principles. As we shall see, it buys assets and lends money where the public interest, as it sees it, requires. The Habib Bank, on the other hand, maintains an extremely conservative policy concerning its assets. The other Pakistani banks neither facilitate generalization nor warrant individual space; but they range from somewhat to very conservative, in their portfolio policies at least. Because of the low capital-deposit ratios⁶, the stockholders do not suffer absolutely from either the conservatism of the Habib Bank or the occasionally unprofitable policies of the National Bank. The ratio of profit to paid-up capital and reserves over the last three years is shown in Table II.3 below:

Table II. 3

Bank	1959 (1)	1960 (2)	1961 (3)
National Bank	.13	.21	.24
Habib Bank	.27	.15	.19
Muslim Commercial Bank	.25	.33	.40

Sources and Notes: Balance sheets of the banks. For National Bank, the sum of "transfer to reserves", "dividend . . .", and "balance carried to balance sheet" divided by the sum of "called-up" capital, "reserve", and "profit and loss: balance . . ."; for Habib Bank, "balance (net profit)" divided by the sum of "issued, subscribed, and paid-up capital", "reserve funds", and "profit and loss account"; for Muslim Commercial Bank, "balance net profit" divided by the sum of "called- and paid-up capital", "reserve fund", and "profit and loss account". The denominator is that of the preceding year.

Such profit rates do not require very high net earning rates on assets with capital-deposit ratios of only about 5 per cent⁷. A final and most

6. .065 for Habib Bank, .045 for Muslim Commercial Bank, and .041 for National Bank in 1960. *Source:* their balance sheets; "paid-up capital" and "reserves" divided by "deposits".

7. It can be easily shown that

$$e = \frac{ap}{1+a}$$

where (e) is the average net earning rate on all assets, (p) is the profit rate on capital, and (a) is the capital-deposit ratio, assuming that liabilities other than deposits are zero. Thus, if a = .05, p = .20 implies that (e) be, not implausibly, about .01.

important characteristic which all Pakistani banks share is their growth relative to other groups of banks. Aided by law (Section III) and led by National Bank policy, the Pakistani banks have moved from a small to a dominant force in their nation's banking system over the past fourteen years.

2) *British banks:* Although the Pakistan government policy has meant the loss of deposits—always, relatively, and often, absolutely—the British banks have remained a strong segment of the system. Their importance today exceeds their deposit strength because their borrowers have not deserted them so rapidly as their depositors and because they have been able to compensate for their deposit losses through borrowing from other banks. Thus, their balance sheets are not conservative in appearance, with advances sometimes exceeding deposits. They neither lend to, nor borrow from, their parent branches except in small amounts, so their foreign connections are irrelevant to their Pakistan operations. The largest of the four British banks is the National and Grindlays Bank, the result of two amalgamations over the past five years⁸.

3) *American banks:* Only three in number, and only one until the summer of 1961, the American banks have become important in the banking system by virtue of their large holdings of the United States government deposits. These have more than doubled over the last year, increasing from around Rs. 10 crores in June 1961 to around Rs. 25 crores by the spring of 1962. At least partly because of their newness in Pakistan, their opportunities for making loans are much less than the funds at their disposal, with the result that these banks are able to lend to other banks not so easily placed.

4) *Indian banks:* Anachronisms and anomalies, considering the present political relations of India and Pakistan, the Indian banks will never revive though their rapid decline seems now stemmed. There have been ten such banks, with about 37 branches, since 1958. Like the British banks, they do chiefly foreign-trade lending, but unlike the British, seem to have placed no roots in the new industrial soil.

In a system consisting of hundreds, or thousands, of banks, many of these differences could be expected to dampen by the sheer weight

8. The National Bank of India, and Grindlays Bank combined in 1958; Lloyds Bank was absorbed into it in 1961.

of numbers. In an analysis of the bank credit in Pakistan, however, we shall be forced to make frequent distinction between the National Bank of Pakistan, the Habib Bank, the other Pakistani banks, the British banks, and the American banks. Even finer breakdowns might be rewarding but must be omitted for the lack of data and in the interests of brevity.

Before any detailed analysis of the various assets and liabilities of the Scheduled Banks, it may be useful to give a perspective by means of their consolidated balance sheet. This is given below, in Table II.4, both in value terms and as fractions of total non-bank deposits in the system, for March 30, 1962:

Table II.4

Item	Amount (rupees in crores) (1)	As fraction of non-bank deposits (2)
<i>Assets:</i>		
Cash	7.60	.02
State Bank balances	19.41	.06
Inter-bank assets	40.29	.11
Securities	128.32	.37
Advances and bills	296.78	.84
<i>Liabilities:</i>		
Demand deposits	215.93	.61
Time deposits	136.10	.39
Inter-bank liabilities	40.29	.11
State Bank debt	72.39	.21
Rest (net)	27.69	.08

Source: *Weekly Statement*, March 30, 1962. The totals are not given; they would mean little since many items are netted out in the "rest (net)". The data are presented as in the *Weekly Statement*, except that the inter-bank liabilities figure is repeated as the asset figure (see Section VIII).

There is little in this aggregate statement to cause notice, relative to that of other banking systems, unless it is the extent of inter-bank indebtedness and of indebtedness to the central bank. These two items will prove especially important in our analysis.

SECTION III

LEGAL RESTRAINTS ON BANKS

Banking is probably the most regulated industry in the world: even a veteran banker would find difficulty in listing any significant fraction of the legal restraints under which he operates. Fortunately, most of the laws pertinent to banking in Pakistan are not pertinent to the problem of the volume of credit so that we may dash quickly through the legal forest¹. The principal documents are but two, the *State Bank of Pakistan Act* and the *Banking Companies (Control) Act*².

From the viewpoint of the volume of bank credit, constraints upon banks concerning their assets are always important. This is of course true of limits to the absolute amounts of certain assets, but these are rare anywhere and are not usually imposed in Pakistan. More relevant are constraints about the amounts that must be held (or not held) in certain assets *relative* to certain liabilities. In Pakistan, the banks must conform to two such constraints, a cash-reserve ratio and a liquidity ratio.

The State Bank Act requires each Scheduled Bank to maintain with the State Bank a deposit balance of at least five per cent of its demand liabilities and two per cent of its time liabilities³. The "Central Government" is empowered to vary these percentages "from time to time, by notification in the official Gazette"⁴. No ceiling is placed upon

1. A new unified *Banking Companies Ordinance, 1962* has been promulgated since this paper was completed.

2. These, plus two lesser laws, the *Banking Companies (Restriction of Branches) Act* and the *Banking Companies (Inspection) Ordinance*, comprise all the relevant legislation.

3. *State Bank of Pakistan Act, 1956*, (as amended up to May 31, 1959), chap. IV, 36-(1), p. 19.

4. *Ibid.*, 36-(2), p. 19.

these ratios, and the Act specifically permits them to be completely “dispensed with”⁵. There is a progressive sale of penal interest rates on any deficits to these reserve requirements⁶.

The maintenance of a minimum liquidity ratio is also required⁷. Liquidity is defined to include cash, balances with the State Bank, gold, and “unencumbered approved securities”. This last category requires some comment. “Approved” securities are those which the State Bank is willing to accept as collateral for its advances, *i.e.*, “stocks, funds and securities, other than immovable property, in which a trustee is authorized to invest trust money”⁸. These include all government securities and presumably almost all, if not all, non-government investments of the Scheduled Banks. To qualify for inclusion in the bank’s liquidity, these securities must also be “unencumbered” which means not being used as collateral for State Bank borrowing. The sum of all these liquid assets is required to be at least 20 per cent of the bank’s time and demand liabilities.

Both of these requirements, the reserve ratio and the liquidity ratio, are applied to the bank’s “liabilities”. This word is used in a very special sense. Excluded from “liabilities” for these purposes are paid-up capital and reserves, credit balances in the profit and loss account, and *State Bank indebtedness*⁹. Thus, the bank must maintain these two ratios against its deposits, time and demand, and its borrowings from other than the State Bank. Sensibly, no distinction is made between the deposits and the borrowings of the Scheduled Banks for these purposes.

The State Bank must grant permission before new branches may be opened, a power which has been used primarily to restrict the expansion of the foreign banks:

It is felt that foreign banks should properly be engaged mainly in financing foreign trade and the fostering of foreign investment.

5. *Ibid.*

6. *Ibid.*, 36-(4) through 36-(8), pp. 19-20.

7. *Banking Companies (Control) Act, 1948*, Section 8.

8. *State Bank of Pakistan Act, op. cit.*, 17-(4) (a), p. 11.

9. *Ibid.*, 36-(2), p. 19.

It has accordingly been laid down that the application of foreign banks for opening new offices should be entertained only in port towns or in large cities from where substantial trade is carried on with foreign countries¹⁰.

This decision has been effectively implemented, with great impact upon the banking system¹¹.

The foreign banks are also technically restricted by the requirement that 80 per cent of a bank's liabilities must be maintained within Pakistan¹². In fact, a bank's foreign-exchange balances and credits are controlled much more completely than this law suggests, and there is very little transfer of bank assets in and out of Pakistan. Even without *any* restrictions, the British banks (the most important segment of the foreign banks) would probably still maintain nearly completely separate Pakistan accounts; the Bank Rate in England is usually too high to encourage lending to the Pakistan branch¹³, and there are no surplus funds here to be lent to English parent offices. For all practical purposes, we can neglect the foreign connections of the foreign banks, except as these influence their methods of operation within Pakistan.

It is important that we recognize, throughout this paper, the tremendous *potential* for control which the State Bank has. For example, the State Bank may inspect any Scheduled Bank at any time, and may

require the bank to summon a meeting of its directors to consider matters arising out of the inspection and to carry out, within such time as may be specified, such changes in its management as the State Bank may consider necessary¹⁴.

The State Bank can also recommend to the Central Government that

10. *SBP:GFO*, p. 46.

11. The largest number of cities in which a single foreign bank has offices is *nine*, by the National and Grindlays Bank (Karachi, Lahore, Peshawar, Quetta, Rawalpindi, Chittagong, Dacca, Khulna, and Narayanganj) (*BS 60-61*, pp. 111-119).

12. *Banking Companies (Control) Act, op. cit.*, Section 9.

13. And there is the ever-present possibility of devaluation.

14. *SBP:GFO*, p. 48.

a bank be forbidden to accept new deposits. The effect of such powers is to force the banks to remain on good terms with the State Bank: a mere "suggestion" by the State Bank may suffice to induce the banks to do something completely against their interests. Thus, the State Bank can write proudly that it receives "such unstinted cooperation" from the Scheduled Banks that it has not been necessary to take "too frequent recourse to statutory powers of credit control"¹⁵. This great power has, as we shall see, had the unfortunate effect of permitting the State Bank to neglect the traditional, and ultimately more effective, techniques of credit control by inducement.

SECTION IV

THE SECURITIES MARKET

The central and provincial government securities, and "other securities" comprise about one-fourth of the Scheduled Banks' assets¹. More relevant, because of the liquidity ratio requirement, is that these investments are presently about one-third of total deposit liabilities². Less than half of these securities are required to be held by the Scheduled Banks in order to maintain the 20-per-cent liquidity ratio³. The majority of the investments in securities are held, technically at least, at the option of the banks and presumably compete with call money, advances, and bills for a place in each bank's asset portfolio.

While, for the Scheduled Banks taken as a whole, some 60 per cent of the total securities are in excess of what is required for the liquidity requirement, this is certainly not equally true of each individual bank. The ratio of investments to deposits for the four leading Pakistani banks in 1961 varied noticeably as is indicated by Table IV.1.

15. *Ibid.*, p. 63.

1. Rs. 128.32 crores out of Rs. 488.23 crores of "total assets" according to the *Weekly Statement* of the Scheduled Banks' position as of March 30, 1962. The "total assets" of this statement does not include certain minor asset items, so the true fraction in investments is somewhat less.

2. Such liabilities were Rs. 392.32 crores on March 30, 1962 (*Weekly Statement*). Included in deposit liabilities are inter-bank borrowings but not State Bank borrowings, as is done in the definition of the base for the liquidity ratio.

3. Since the Scheduled Banks held cash and State Bank deposits of Rs. 27.01 crores (on March 30, 1962; *Weekly Statement*), only Rs. 51.45 crores of "approved unencumbered" securities (= .20 of 392.32 less 27.01) were needed to fulfill the legal requirements.

Table IV.1

Bank	Date	Ratio of investments to total deposits
Habib Bank	Dec. 31	0.47
National Bank	Dec. 31	0.39
Muslim Commercial Bank	Sep. 30	0.21
United Bank	June 30	0.24

Source: Published balance sheets of each bank. The definitions, especially of deposits, may differ slightly between banks.

A close analysis of liquidity ratios may await Section XIII; it is sufficient now to note that, for a great many banks though not necessarily for all, at least some securities are held freely, in the sense that no law requires their place in the bank's portfolio. Where an asset is not required to be held, an analysis of the amount the banking system chooses to hold—and hence the amount it chooses not to hold in alternative assets—becomes more difficult. The examination of motives and traditions internal to the banks will be postponed to Section XIII. Here, we will look only at the mechanism by which banks and others acquire and dispose of securities.

The amount of non-government securities and shares outstanding may be quite large, but its relevance to the banking system is not. The Scheduled Banks hold insignificant amounts of such investments⁴. The rest of the Scheduled Banks' investments, Rs. 125.05 crores, are in the form of central and provincial government securities. And, of these latter, over 85 per cent are central government securities.

While the Scheduled Banks are relatively unimportant participants in the markets of private corporation debt, it is quite the reverse with the debt of the Pakistan governments. In order to make a statement about the extent to which the banking system, as a whole, is a monop-

4. Rs. 3.27 crores (*Weekly Statement*; March 30, 1962), less than 3 per cent of the total of Scheduled Banks' security investments.

sonist of government security issues, it is essential that the relevant concept of "public debt" be defined. This, and the calculation of the fractions owned by various parts of the banking system, require us to make not a brief digression.

We are interested in the public debt for its attribute as an earning asset to the banking system. This is a rather unusual interest, and hence a *caveat* should be strongly pronounced. What we shall call the "public debt" in this section excludes many items that a more normal definition would include—the figures presented should not be mistaken for an estimate of the public debt by a more familiar definition.

It simplifies our task that the concept of public debt we require is so unusual. For it is difficult, if not impossible, for an outsider to know the exact debt position of the governments of Pakistan⁵. What makes our job easier is that we do not need information about five aspects of the public debt, as it is usually conceived:

1) *Coinage and notes of the government*⁶: While the banking system usually owns some quantities of this kind of government debt, it certainly does not view such issues with the same eye as it does the interest-bearing securities.

2) *Bank deposits of governments*: These are liabilities of the State Bank and hence are considered by them as essentially different from earning assets. To count such deposits as merely negative holdings of securities would, from the viewpoint of the State Bank, be mistaken.

3) *Interest-bearing government debt which is neither held nor considered for ownership by banks*: Within this class falls a number of items, such as Prize Bonds, National Development Savings Certificates, and Postal Savings Deposits.

4) *The debt and bank balances of the semi-autonomous government organizations*: Their deposits can be neglected, for the same reason

5. See, for example, N. Sarfraz, *Problems of Budgetary Reform in Pakistan*, (Karachi: Institute of Development Economics, 1961), pp. 24-29.

6. As contrasted to that of the State Bank (which issues all notes of Rs. 5 and above).

as can governments'—that such balances are not treated by the banks as mere negative holdings of securities. Their securities-issues are excluded because they are held in very small quantities, if at all, by the Scheduled Banks⁷.

5) *Advances by Scheduled Banks to governments*: These advances are considered quite different from securities and should not be compared to them⁸.

The public debt with these omissions amounts simply to the total of central and provincial governments' issues of interest-bearing securities. These consist of three kinds:

- 1) the "permanent debt"
- 2) "three-month treasury bills"
- 3) "ad hoc treasury bills"

There is serious doubt whether our concept of public debt should include this latter group of securities, the "ad hoc treasury bills", for they are held only by the State Bank and hence are not available to the Scheduled Banks' securities portfolios. But this problem is not critical.

Data for the first two kinds of securities are available monthly in State Bank publications, but the amount of "ad hoc treasury bills", presumably subject to frequent change, is released by the State Bank only once a year, for June 30. Thus, the most recent available figures for the total public debt (by our definition) are those of June 30, 1961. These are given in Table IV.2.

7. Recall that the Scheduled Banks' investments in other than the central and provincial government securities are less than 3 per cent of their total investments.

8. See the discussion of "counter-finance" in Section VII.

9. Never large and practically nil (less than half a lakh of rupees) for the last two years (RC+ F60-61, p. 152).

Table IV.2

Type of issue	Amount (Rs. in crores)
Central Government : Permanent Debt	242
Central Government : Ad Hoc Treasury Bills	174
Provincial Government: Permanent Debt (East Pakistan)	36
Provincial Government: Permanent Debt (West Pakistan)	5
Total	457

Source: *SBP.AR 60-61*, pp. 34-36.

The ownership of this government debt is distributed as shown below in Table IV.3 for the same date, June 30, 1961:

Table IV.3

Owner	Amount (Rs. in crores)
State Bank, Issue Department	218 ^a
State Bank, Banking Department	89 ^b
Scheduled Banks	128 ^c
Insurance companies	17 ^d
All other	5 ^e
Total	457

Sources: a. *RC+F 60-61*, p. 127.

b. *Ibid.*, p. 133 ¹⁰.

c. *Weekly Statement*, June 30, 1961.

d. *Pakistan Insurance Yearbook, 1961*, pp. 115, 121 (December 1960 figure of Rs. 15.80 crores is given there; Rs. 1 crore has been added to get an approximate figure for June 30, 1961).

e. Residual.

10. It is assumed that all of the Banking Department's "investments" are in Pakistan governments securities. This is probably true, or at least nearly so, but the State Bank remains annoyingly vague: "this item consists of investments made by the [State] Bank in Pakistan and in foreign treasury bills and securities" (Ziauddin Ahmad, "Item-wise Analysis and Correlation of State Bank and Scheduled Banks' Weekly Returns", *SBP.B*, November 1952, p. 6).

The calculation of a few percentages is revealing: 95 per cent of the public debt, by our definition (which may greatly understate the debt by more usual definitions), is held by the banking system¹¹; 92 per cent of the *marketable* public debt (*i.e.*, excluding "ad hoc treasury bills") is held by the banking system; and, 85 per cent of the non-State-Bank-owned public debt is held by the Scheduled Banks.

The essential conclusion of the preceding pages is simple: in the kind of public debt in which it deals, the banking system (including the State Bank) is very nearly the only dealer. A corollary of this is that whatever securities the State Bank decides to sell must be almost entirely purchased by the Scheduled Banks if the State Bank is to effect its decision. And a final corollary, the converse of the previous one, is that whatever securities the Scheduled Banks, taken together, decide to sell must be almost entirely purchased by the State Bank, if the Scheduled Banks are to effect their decision. In these simple theorems lies the essence of the securities market in Pakistan and the key to the Scheduled Banks' attitude toward securities.

If the State Bank were to withdraw itself from any dealings in government securities, these would become, to the Scheduled Banks as a whole, almost perfectly illiquid, and, to individual banks, liquid only to the extent that securities can be sold to other banks. To a banker, there is perhaps no greater horror than the prospect of an illiquid asset. No modest yield would suffice to induce the Scheduled Banks to purchase government securities if a serious possibility of illiquidity existed. Since the governments in Pakistan have shown no inclination to pay more than minimal yields on their debt issues, since there is no sufficiently large alternative buyer to the banking system, and since the State Bank does not wish to purchase the entire debt, the State Bank must support, and support strongly, the liquidity of government securities.

This the State Bank has done ever since its inception. Various pious statements and side-issues have been voiced over this period in defence of complete State Bank willingness to "monetize" the debt. Principal among these have been: 1) that national prestige requires that

11. The amount held by the non-Scheduled Banks is negligible. Out of 50 such banks in Pakistan, 43 reported to the State Bank during 1960; they held Rs. 0.15 crores of the government securities.

the Government of Pakistan securities be liquid and without fear of loss¹²; 2) that the development of a securities market is essential for economic development; and, 3) that the safety of the banking system requires this State Bank support¹³. Through all, however, has remained one incontrovertible fact, that if securities are to be sold to the Scheduled Banks, there must be State Bank support to the market.

The State Bank has two ways of giving this support, and it has used both, to varying degrees, over the years. One is always to stand ready to buy (and, less important, sell) securities at stable, though not necessarily unchanging, prices. The second is always to stand ready to lend to the Scheduled Banks on the collateral of their government securities at a reasonable, and reasonably stable, rate of interest. Although it is difficult to discover which of these two policies has predominated at what times, I have the impression that the State Bank preferred, in its early years, to support the market and discourage Scheduled Bank borrowing on securities collateral¹⁴, and in its recent life has reversed this preference. In any case, the State Bank does not now enter the securities market except on rare occasions.

Because they are assured of the liquidity of government securities, the Scheduled Banks are interested in them. They neither desire nor are able to place all their funds, beyond those required by the liquidity ratio, in advances and bills. Each, according to his attitude and advance opportunities, demands government securities for his asset portfolio. Alongside this demand for securities by the Scheduled Banks is the supply which the State Bank has decided the Scheduled Banks should hold (roughly equal to the total public debt less the maximum amount the State Bank believes it can itself hold consistently with monetary stability). These demand (D) and supply (S) functions are shown in Figure IV.1.

12. "In July 1948 . . . many foreign banks were unwilling to make advances against the Government of Pakistan securities . . . now these securities are known to be marketable at firm and stable prices." *SBP:AR 48-49*, p. 7.

13. See, for example, pp. 36 ff. of Azizali F. Mohammad, "Bank Liquidity with Reference to Pakistan", in *Selected Papers on the Pakistan Economy*, Vol. 1 (Karachi: State Bank of Pakistan, 1953), pp. 27-57.

14. The State Bank actually enforced a progressive interest rate schedule on such borrowing in 1950. P. 266 n. of J.S.G. Wilson, *op. cit.*

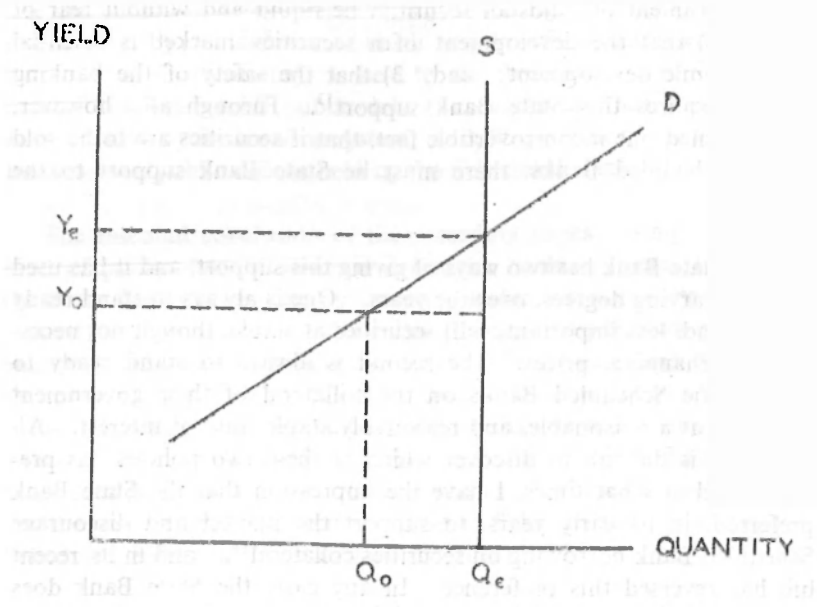


FIGURE IV-1

The entire supply, Q_e , that the State Bank wishes to sell can be placed with the Scheduled Banks at a yield of Y_e . In fact, however, the yields on government securities are seldom sufficiently high to induce the banks to buy freely what the State Bank feels they must buy. In Figure IV.1, the yields are usually of the order of Y_o with the result that the banks wish to purchase only Q_o of the offer.

Unless it wishes to hold more securities than it originally planned, the State Bank has only two options in this situation. One, it can permit the nominal issued-yield to rise to, or toward, Y_e by selling the securities below par. This has, to some extent, occurred in recent years—in the past two years, almost all new issues have been put out

at a slight discount. Often the issued-yield is raised by 0.1 percentage point or so in this manner¹⁵.

But the gap between Y_e and Y_o is not so easily bridged. The 0.1 per cent concessions do little to move the banks' effective demand up to Q_e . So, the State Bank falls back on its second option, to force the Scheduled Banks to hold more securities than they wish (at a yield of Y_o or $Y_o + 0.1$ per cent). The procedure by which this is achieved was undoubtedly an emergency measure at first, but it has now become routine whenever a government issue is about to be offered. State Bank officials visit each bank and suggest a quota for the bank; bargaining ensues, but the final figure is apparently seldom much lower than the initially suggested quota. With the Scheduled Banks increasingly in debt to the State Bank¹⁶, they are increasingly aware of the necessity to remain "popular"¹⁷ with it.

There are of course limits to the extent of this coercion. Even the State Bank, with its great potential for control of the Scheduled Banks, cannot place all the securities it wishes if the Q_o Q_e gap is too large. The State Bank is sufficiently well informed about the position of the Scheduled Banks that it is usually able to make a good estimate of what quantities of the government securities can be marketed at any particular time. Never has it misjudged its power and the Scheduled Banks' situation so badly as to be embarrassing. But, it does resort to a mild subterfuge when the Q_o Q_e gap is unexpectedly, or expectedly but unavoidably, large: the National Bank absorbs a greater portion of those securities to be placed with the Scheduled Banks, and the other banks are correspondingly relieved.

Some evidence of this residual nature to the National Bank's security holdings may be seen in Table IV.4, where the percentage changes in the total investments of the National Bank and of the other Scheduled Banks are given¹⁸, between Decembers over 1955-1961.

15. For example, during 1961, the Pakistan, 1966, 3-3/4 per cent was issued at Rs. 99.75, the Pakistan, 1972, 4 per cent at Rs. 99.50, and the West Pakistan, 1968, 4 per cent also at Rs. 99.50. These three comprised the entire new issue market in that year.

16. See Section VII.

17. This word was used during an interview and excellently summarizes the bankers' attitude toward these negotiations.

18. All these investment figures also include non-government securities, but these, as we have seen earlier, are insignificant.

Table IV.4

Year	Percentage changes in Nat. Bank (1)	Investments of other Sch. Banks (2)	Col. (1) less Col. (2) (3)
1955	22.07	7.68	14.39
1956	23.01	-1.24	24.25
1957	11.17	13.79	-2.62
1958	6.35	14.51	-8.16
1959	23.08	20.96	2.12
1960	37.18	-3.57	40.75
1961	8.45	-12.00	20.45

Source: Col. (1), *Annual Report*, December 31, 1961, the National Bank of Pakistan.
Col. (2), *Weekly Statements* (for all Scheduled Banks less investments of the National Bank), last Friday, December.

Of these seven years, four (1955, 1956, 1960 and 1961) were years known for the tightness of the banks' position, and three (1957 through 1959) for its easiness. In 1955, 1956, 1960, and 1961, the Karachi inter-bank call money rate was at or above the Bank Rate (at the end of December) while, in the other three years, it was lower¹⁹. And in those years of tightness, when the Scheduled Banks were particularly reluctant to accept unwanted securities, the National Bank accepted somewhat greater quantities than usual. Column (3) of the preceding table, which measures the percentage change in the ratio of National Bank to other Scheduled Banks securities holdings, averages 24.96 per cent over 1955, 1956, 1960, and 1961, but only -2.89 per cent over 1957-59.

There is some slighter evidence that the State Bank itself holds a larger share of the securities when the Scheduled Banks show reluctance. As in the preceding table, Table IV.5 below shows the percentage changes in State Bank holdings, *all* Scheduled Bank holdings, and the difference between the two percentages.

19. See Section VIII.

Table IV.5

Year	Percentage change in investment of		Col. (1) less Col. (2) (3)
	State Bank (1)	Sch. Banks (2)	
1955	-5.69	10.20	-15.89
1956	39.68	3.48	36.20
1957	40.36	13.18	27.18
1958	4.00	12.66	-8.66
1959	-5.24	21.41	-26.65
1960	7.33	5.28	2.05
1961	2.56	-6.21	8.77

Source: Col. (1), *RC+F 60-61*, p. 123 and p. 129.

Col. (2), *Weekly Statement*, last Friday, December.

The average of Column (3) is 7.78 per cent for 1955, 1956, 1960, and 1961, and -2.89 per cent for 1957-59. This suggests, much less emphatically, that the State Bank also accepts a larger share when the Scheduled Banks prove reluctant.

For a central bank that is unwilling to watch passively while an ever-increasing portion of the public debt moves into the government hands, these short-run measures are inadequate. Ultimately, the yields must be raised, and the state bank, in its capacity as financial adviser to governments, will strongly urge such increases. In Pakistan's history, the State Bank has almost continually been pressing this very advice upon the governments and having that advice at least partially accepted. Table IV.6 of issued-yields of the central government securities shows that in only a few years in the fifties did at least some issued-yields fail to rise.

Table IV.6

Year	Yield (%) on securities of maturity ^a of		
	five years or less	six through ten years	More than ten years
	(1)	(2)	(3)
1949	..	..	..
1950	..	2.50	3.00
1951	..	..	..
1952	2.75	..	..
1953	3.00	3.00	..
1954	3.00	3.00	..
1955	3.00	3.00	..
1956	3.00	..	3.25
1957	3.00	..	..
1958	3.00	..	3.50
1959	3.50	..	4.00
1960	3.75	..	4.00
1961	3.75	..	..

Source: *SBP:AR 48-49* through *SBP:AR 60-61*; and Sheriar F. Irani, *Market Weekly*, issues of July 1961 through May 1962.

a. Where two issues of the same maturity group were made in the same year, the higher rate is given. There were no new debt issues in the first five months of 1962. The government securities are usually issued and redeemed during the summer months.

There is, therefore, a two-fold tendency for yields to be below their equilibrium level. One, they are issued below it; and two, the equilibrium yield is clearly undergoing a secular, if not continual, rise. The job of the securities-trading market is clear: to bid down the prices of previously issued securities so as to raise their actual yields-to-redemption toward not only the issued-yields of more recent securities but also the even higher market equilibrium yield. Offsetting this tendency is, however, the maturity effect which lowers the equilibrium

yield of a security as it nears redemption (the effect is clearly present in the last table). The usual argument as to why this effect exists is that shorter-dated securities are more liquid. The State Bank, however, now insures that all securities are quite liquid. This maturity effect must result, then, from 1) bankers' traditional aversion to long-term assets (even when they don't represent long-term commitments), 2) a general market expectation of secularly rising rates which makes earlier maturity of present holdings desirable, and/or 3) a fear that the State Bank may not continue its present policies over the entire life of the longer-term securities. But this maturity effect is not very strong and very definitely does not seriously offset the two upward tendencies of the secular yield rise and the below-equilibrium issued-yield.

Curiously, however, the market reflects very little of the pressure that must be exerted by the existence of subequilibrium securities yields. Weeks, sometimes months, pass with few transactions; even those sales that are accomplished are frequently made at no reduction in price. The insurance companies, with their more or less regular accretion of funds, are the only potential buyers. But even they disappear from the market when new issues are expected. For example, in the spring of 1961, the "lack of demand in existing scrips is to a great extent due to institutional investors reserving their funds for participation on (anticipated) more favourable terms in the official borrowing programme expected in the next few months"²⁰.

The insurance companies' funds are of course very limited relative to the Scheduled Banks²¹. And most bankers have long since stopped

20. Sheriar F. Irani, *Market Weekly*, May 5, 1961. (parentheses in original).

21. Insurance companies increase their holdings of the government securities by about Rs. 2 crores each year:

Year	(Rs. in crores)			
	1957	1958	1959	1960
Gov. Sec. with Ins. Co.	9.28	11.30	13.65	15.80
Change in Gov. Sec. with Ins. Co.	(a)	2.02	2.35	2.15

Source: *Pakistan Insurance Yearbooks*, for 1958, 1959, 1960, and 1961.

(a) not calculated.

even trying to sell securities in anything but the most minute amounts²². Moreover, those bankers who do go to the market try to sell off their 3-per-cent's and 3-1/2-per-cent's, while the insurance companies are quite naturally trying to purchase the 4-per-cents:

Enquiries... have now started trickling into the hitherto practically inactive gilt-edged market. These enquiries centred around distant-dated maturities affording a high redemption yield but business was restricted due to absence of sellers at quoted rates²³.

It is usual at this point to note that this is a "thin" or "underdeveloped" securities market. But that explains nothing. The absence of buyers does not necessarily lead to an inactive market; it does necessarily imply a price that is too high. Some banks must be more unhappy holding securities (at the margin) than are the other banks. Why do they not offer attractive price discounts in order to sell? Even if all banks were equally anxious to sell, it would explain only the sparsity of sales, not the almost unbelievable slowness with which the prices of those few sales declined.

There is usually a *tendency* in the direction of lower prices, and hence higher yields²⁴. What requires explanation is not any absence of a tendency, but the sluggishness with which that tendency appears in securities prices and the continued existence of sales at prices which are obviously too high.

Two explanations are required, one where the State Bank pegs the market by buying and selling at fixed rates (as it formerly did) and one where the State Bank does not enter the market (as at present). State Bank "pegging" was never an unlimited affair; banks were not free to

22. To the question: "Do you ever sell securities on the Stock Exchange market?" a memorable, but also typical, answer by one banker was, "We used to try, but we never succeeded."

23. S. F. Irani, *Market Weekly*, September 29, 1961, p. 1.

24. Often the prices of the highest issued-yield securities tend to *rise* slightly. This probably results from insurance companies' efforts to fill their portfolios in the face of bank reluctance to part with their securities of high yield. A small premium usually overcomes this reluctance; for example, Irani reports "large blocks of 4-per-cent-1974 changing hands at Rs. 100.50 against last week's official quotation of Rs. 100". (*Market Weekly*, October 6, 1961, p. 1). This paradox of scarcity in the midst of superfluity will shortly become clear.

unload all their unwanted securities at above-equilibrium prices²⁵. Since the banks were only permitted to sell in moderation, the State Bank could avoid becoming a too-big buyer while maintaining the fiction of a meaningfully pegged buy-sell rate²⁶. When this so-called "market price" became too far above the equilibrium price and the State Bank began to experience difficulty in avoiding extensive purchases, the pegged price would be permitted to move slightly. The yields moved slowly—but move they did—as periodically the pressure became great enough.

It is not well known exactly when or why the State Bank stopped providing this "reasonable support" to the market. But recently it has remained fully aloof. One's first expectation is that the State Bank's withdrawal would free the market to make more rapid adjustments toward equilibrium prices. In fact, just the reverse has occurred. Very few transactions now take place, the banks seem to have ceased trying to sell securities, and the insurance companies often must offer a higher price to get securities at all. The reasons for this are neither certain nor obvious, but the following seem relevant:

1) The banks fear, probably quite correctly, that the State Bank would not approve if they permitted securities prices to drop significantly in an effort to get rid of sizeable quantities.

2) Each bank knows that banks can only sell to each other, beyond small amounts; and hence each recognizes the possibility that heavy selling efforts would sell few securities and even those at the cost of large capital losses in some bank portfolios.

3) Even if the bank were successful in selling securities (by accepting lower prices and hence capital losses), it might be forced to take a larger quota when the next new securities were issued. These quotas are probably based on some concept of a bank's "normal" complement of securities.

25. Officially, the State Bank never provided more than "reasonable support to the market when needed." Ziauddin Ahmad (Deputy Director, Research Department, State Bank of Pakistan), "Central Banking in Pakistan", in S. G. Davies (Ed.), *Central Banking in South and East Asia*. (Hong Kong: Oxford University Press, 1960), p. 151.

26. There always was a small spread, about two *annas* (Rs. 0.12) per hundred rupees, between the buying and selling prices; but it was so small as to be negligible here.

As a result, the market is not used, the banks preferring to take their redundant securities to the State Bank as loan collateral²⁷. Once the market becomes inactive, there are further reasons for not attempting to use it:

1) It might take much time and bother to find a buyer even if a large and reasonable price discount is offered.

2) Should the bank later want the securities back, as is not unlikely in the less busy summer season, it may be impossible to find a seller quickly and at a reasonable price.

Thus, in recent years, a securities market which is "thin" at best has become nearly non-existent.

One cannot quarrel with the State Bank belief that borrowing is the best way for the Scheduled Banks to meet their seasonal needs for extraordinary reserves. There is no purpose to the State Bank buying and selling back large amounts of securities annually. But the present State Bank policy is much more than this. It permits government securities to be issued at cheap yields. This, in turn, requires the State Bank to "bludgeon"²⁸ the Scheduled Banks when it wishes to effect changes in the credit situation, because securities yields are too low to permit their use as an inducement. Also, artificially low securities yields help to enforce an artificially low interest structure and cry hypocrisy at the State Bank's efforts to get the Scheduled Banks to raise their deposit rates.

Thus, some one-fourth of the Scheduled Banks' assets are held for reasons which can be only partly explained by economic analysis. Some of these securities they are required to hold by law (for the liquidity ratio requirements), the rest are held for a mixture of largely non-economic reasons, mostly because of State Bank pressure. To Section XII must be left the task of uncovering the economic reasons why the

27. Since the State Bank no longer buys, it is more than ever obligated to lend on securities collateral.

28. One banker's choice of words. The State Bank puts it more euphemistically: "... the State Bank has endeavoured to achieve the objectives of its credit policy largely through moral suasion and consultations with the commercial banks" (*SBP:GFO*, p. 62).

Scheduled Banks hold unencumbered as many of these low-yield securities they do²⁹.

SECTION V

BANK LENDING

After the Scheduled Banks have fulfilled their legal requirements concerning State Bank balances and government security holdings (needed for the liquidity ratio), after they have purchased whatever other securities they desire or are unable to resist accepting, and after they have set aside funds for such minor items as vault cash, the banks may hold the rest of their assets in advances and bills. There are only three constraints; they must find borrowers; they must be willing to lend to them; and they must have the funds to do it¹. Analysis of the banks' willingness and wherewithal will come later; for the present, we will be concerned with to whom, how, and at what terms the banks lend.

Bank lending in Pakistan is in two principal forms, bills discounted and advances. The discounting of bills of exchange, mostly foreign, makes up about 10 per cent of the total bank lending². The rest is in the form of cash credits, overdrafts, and demand loans. With a cash credit, the customer pays interest upon a certain amount whether he actually uses the funds or not, and pays further interest only on further drawings³. With an overdraft, the borrower is permitted to overdraw his account up to a limit, and pays interest only on his overdrawings. Interest is paid on the full amount of a demand loan whether it is fully used or not; the loan is callable on demand.

Loans not at least technically callable on demand are rare, even when the purpose of the loan may clearly require a long-term commitment by the bank. The rationale of this procedure seems to be that, according to one banker, "we won't lend to anyone who can't get the

29. See Appendix A for further analysis of the matter of this section.

1. *I.e.*, the banks must have sufficient excess reserves to be able to meet the withdrawal that will probably follow any advance.

2. The fraction has been declining in recent years.

3. Up to a fixed limit. Often the credit is granted only in instalments.

same loan from another bank if we need the money". More likely is the desirability of maintaining the fiction that bank assets are short. In any case, loans, demand or otherwise, are the least frequent form of lending. Pakistani banks have not yet convinced their customers of the necessity or desirability of paying interest on borrowed funds that are never used⁴.

There is a vast literature, ever-growing in Pakistan as in other underdeveloped economies, concerning who does and doesn't have access to bank credit. This is not the place to consider the problem in detail⁵. It is enough that we recognize that only a few of the potential bank borrowers of a developed country can consider the bank as a feasible source of funds in an underdeveloped country. Farmers, consumers, and small businessmen rarely achieve the exalted status of bank borrowers. Advances are made to a seeming handful—to big businessmen, with an excellent and long credit history, in a commercial or industrial field, with a sound and readily marketable security, and for a short period of time. In this respect, the bankers "follow the principles if not the practice of the advanced countries from which they imported their banking institutions"⁶.

One point cannot be made too strongly. The fact that there were almost unlimited potential demands for credit in a country like Pakistan would not mean an almost unlimited demand for bank advances. Given the banks' apparently unchanging standards of credit-worthiness and appropriate kinds of loans, there is a very narrow market for bank advances. It often happens that the banks "cannot" make all the advances they would like to—while there are literally millions of unsatisfied seekers after credit.

4. There is one possible exception to this—advances made to owners of fixed deposits.

5. Two recent books of general interest are: E. Nevin, *Capital Funds in Underdeveloped Countries*, (New York: St. Martin's Press, 1961), and W. Diamond, *Development Banks*, (Baltimore, Johns Hopkins Press, 1957). For a description of Pakistan's particular situation, see *Credit Enquiry Commission Report*, (Karachi; Manager, Government Publications, 1959). Much more has been written about bank credit allocation in India, where the situation seems to be very similar to Pakistan. See G. Rosen, *Some Aspects of Industrial Finance in India*, (Bombay: Asia Publishing House, 1962); See also various issues of the *Reserve Bank of India Bulletin*, where many good articles on this subject have appeared. The particular credit problems of the farmer, the small-businessman, and the seeker of long-term funds have filled many pages.

6. W. Diamond, *Development Banks*, *op. cit.*, p. 13.

In all underdeveloped countries this unsatisfied "fringe" of millions must either do without credit, get funds from friends and family, or approach the "indigenous" or "un-organized" financial institutions. Of the latter, Pakistan has its share—money-lenders giving credit at very high, though apparently declining, interest rates. But there are in Pakistan surprisingly few connections between the organized and un-organized credit sectors. It is unlike India, where in many big cities, *shroffs* lend to businessmen who do not meet bank standards and then rediscount the resulting bills (called *hundis*) with the banks⁷; it is unlike Iran, where urban money-lenders take the less creditworthy customers on funds which they have borrowed from banks, and both banks and money-lenders deal in the same short-term discounted bill, the *softeh*⁸. In Pakistan, the bank-credit market is truly separate from the indigenous-credit market. Economically, this gap is unfortunate, but analytically it permits us to neglect a large majority of potential borrowers. Borrowers who do not qualify for bank credit need not concern us, for their demands cannot affect the demand for bank advances⁹.

In a somewhat ambivalent chapter¹⁰, the *Credit Enquiry Commission Report* recognizes the insecurity of small business loans without some sort of insurance such as the *shroffs* used to provide or a government guarantee might now provide. But it nevertheless "must emphasize the need for a greater effort by the commercial banks to directly lend to such enterprises"¹¹. In the subsequent three years, typically, no guarantee programme has been inaugurated, but the State Bank has exhorted the Scheduled Banks to increase these risky and unprofitable loans, despite the fact that the banks presently have more sound loan

7. See H.T. Parekh, *The Bombay Money Market*, (Bombay: Oxford University Press, 1953), pp. 44-49. In 1953, these *hundis* carried interest rates of only 8-9 per cent, extremely low for non-bank, unsecured credit. By 1959, however, the rate was "a minimum of 9-12 per cent." (G. Rosen, *Some Aspects of Industrial Finance in India*, *op. cit.*, p. 37).

8. See R.E. Benedick, "The Money Market in Iran", *Pakistan Development Review*, Autumn 1962. He notes that the "main distinction between bazaar and modern Persian commercial banks is the impressive buildings housing the latter."

9. And are unlikely to affect much the supply of funds with which banks make these advances.

10. Chapter XII, *Credit Enquiry Commission Report*, *op. cit.*

11. *Ibid.*, p. 110.

possibilities than they can readily handle. The National Bank has set an example for the Small Traders' Scheme; the President of its Board of Directors proudly announced that "... borrowers accommodated by the Bank up to Rs. 25,000.00 constituted 97 per cent of the total number of borrowers" ¹². But the height of the folly was achieved elsewhere: one other bank took the *Report* and the State Bank sufficiently to heart to begin to make these highly risky advances (of less than Rs. 10,000) at a *concessional* rate of 4 per cent, about two-thirds the rate for thoroughly sound borrowers ¹³.

Fortunately, the amounts involved in these deviations from rationality are sufficiently small as to be neglected. Until such time as a sensible link is created between banks and the less sophisticated credit agencies, we may safely forget the latter. It must not be thought that the banks' attitude as to who constitutes an acceptable borrower is completely unchanging in all respects. Immediately after Partition, Pakistan had few industries and the banks did not have much to do with their finance; bank credit went almost entirely into foreign, wholesale, and retail trade ¹⁴. As Pakistan's industry grew and its foreign trade declined (relatively) the banks have increasingly made advances to industry. But this has represented no fundamental change in credit policy—their industrial borrowers are also big, sound, short-term, and well-secured.

This relative shift from commercial credit, which in Pakistan is generally highly seasonal, to industrial credit, with much smaller seasonal variations, has been responsible for some smoothing of the banks' operations, though not nearly so much as is commonly believed or might be expected. The April-August period is commonly called the "slack season" in Pakistan; little jute or cotton is travelling then. Traditionally, this is the time when the banks pay off their State Bank borrowings, buy the new issues of government debt, and accumulate excess reserves for the forthcoming "busy" season.

12. Speech of H.N.E. Dinshaw, President of the Central Board of Directors, National Bank of Pakistan; reported in *Dawn*, April 21, 1962 (Supplement), p. 1.

13. See *Speech Delivered by Mr. S.A. Hasnie, Governor, State Bank of Pakistan*, (Karachi: State Bank of Pakistan, 1961). September 8, 1961, p. 12.

14. See Azizali F. Mohammad, "Bank Liquidity with Reference to Pakistan", *op. cit.*, p. 34f.

The fact that the Scheduled Banks were unable to discharge their State Bank borrowings in the summer of 1961, for the first time in history¹⁵, has led many to think that the relative "slackness" of the summer has declined. Actually, the seasonal patterns of both advances and bills have changed remarkably little over the last eight years as Figures V-1 and V-2 show¹⁶:

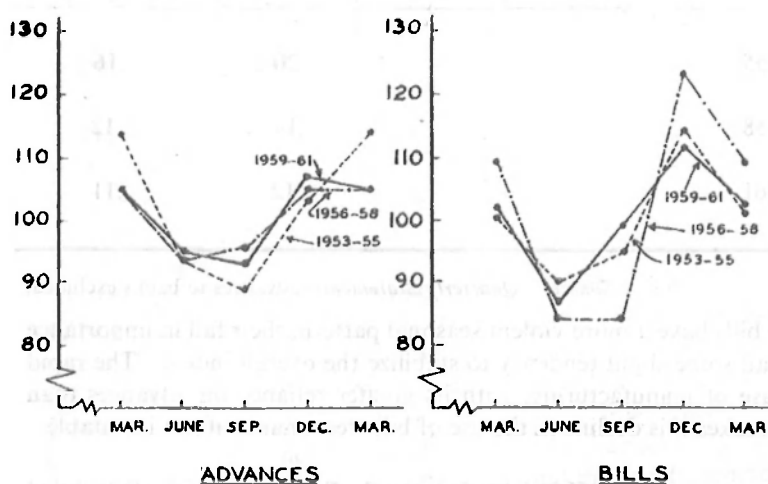


FIGURE V-1

FIGURE V-2

There is no strong evidence of any seasonal flattening in either of these series.

Where some decline in the seasonal fluctuations of bank credit has occurred it has been in a secular shift from bills to advances. The fraction in bills of total advances and bills for each of the three

15. Seldom did the borrowings actually reach zero, but their summer low had never been above Rs. 4.77 crores (September 6, 1957) until 1961 when they were Rs. 30.26 crores (May 26).

16. The seasonal indices are calculated by the link-relative technique from the "advances to others" (than banks) and "bills purchased and discounted" of the *Quarterly Statements*. Arithmetic averages of three relatives are used except for March of 1953-55 (when two relatives are used) since no relative is possible for March 1953. The trend is removed by the usual means. *Monthly* seasonal indices for the sum of bank advances, bills, and investments in "other" securities (from *Weekly Statements*) are calculated, by moving averages, in M.U. Chapra, "Effectiveness of Bank Rate Instrument in Pakistan", *Pakistan Development Review*, Spring 1962, p. 88.

periods is given below in Table V.1:¹⁷

Table V.1

Year	in Decembers	in Marchs
1953-55	.20	.16
1956-58	.14	.12
1959-61	.12	.11

Source: *Quarterly Statements* (advances to banks excluded).

Since bills have a more violent seasonal pattern, their fall in importance has had some slight tendency to stabilize the overall index. The rapid increase of manufacturing, with its greater reliance on advances than bills, makes this decline in the use of bills reasonable, if not inevitable.

The summer of 1961 indebtedness to the State Bank of the Scheduled Banks, which has misled many into seeing a changed seasonal pattern, does not imply that at all. A look at the winter indebtedness of 1960/61 and 1961/62 will suffice. One must not confuse tighter money conditions all year around with a change in the relative tightness of the various seasons. The Pakistan banking system still operates in a credit environment of strong seasonality.

It is not the purpose of this paper to examine closely the way in which banks choose their borrowers, the types and purposes of advances they permit, and the kinds of security they require. But, it is important for us to see if there are any differences between the different banks in Pakistan in these respects. The principal groups of banks are, it will be recalled, the Pakistani, the British, the American, and the Indian banks in that order. We cannot, with existing material, check for differences between banks within each of these groups, but it is very likely that most of the variation, with respect to lending be-

17. These are ratios of averages of bills over the relevant three years to averages of total bills and advances over the same period.

haviour, will be between groups. The State Bank subdivides several quarterly series concerning banks' advances by Pakistani, Indian, and "other foreign" banks¹⁸. This latter category is poorly chosen for our purposes since there are undoubtedly significant differences between the British and the American banks' advances policies. Presently, however, the American banks, for all their wealth of deposits, do not make a large volume of advances; thus, the "other foreign banks" category may reasonably be considered representative of the British banks¹⁹.

The difference between the advances policies of the Pakistani and the British banks are neither so slight as to be unimportant nor so great as is often stated, or hoped. One must never forget that both kinds of banks are historically grounded in British banking principles. This fact explains much of the similarity but also induces an expectation that the Pakistani banks might gradually be breaking away from British traditions. Curiously, however, the advances policies of the two are less dissimilar now than ten years ago (see Table V. 2). This can be seen from three-year averages, over 1953-55, 1956-58, and 1959-61, for the Pakistani and the British (*i.e.*, "other foreign") banks of: 1) advances to other-than-trade sectors as a fraction of total advances; 2) bills discounted as a fraction of total bills and advances; and 3) advances secured by illiquid assets as a fraction of total advances²⁰. In each case, the figures for the two types of banks are more similar in 1959-61 than in 1953-55. The reason is not hard to find. At the time of Partition, there was little industry in what became Pakistan, and the established British banks traditionally financed the raw materials exports of the two wings²¹. The new Pakistani banks were unable immediately to compete in this field, and the British banks were slow to enter the new and rapidly growing manufacturing sector. By 1959-61, however, each had sufficiently encroached upon the other's domain as to cause the disappearance of many previously distinguishing features.

18. Beginning in December 1961, the Indian banks are no longer segregated.

19. This is of course only true as concerns bills and advances *not* to banks. The American banks have large amounts of advances to banks. See Section VIII.

20. For each of these three fractions the total advances (of the denominator) *excludes* advances to banks.

21. Indeed, they were often called the "exchange banks".

Table V.2

Fraction	Banks	1953-55	1956-58	1959-61
1) Other-than-trade sectors	Pakistani	.26	.41	.37
	British ^a	.17	.32	.40
2) Bills	Pakistani	.27	.11	.10
	British ^a	.10	.16	.13
3) Secured by illiquid assets	Pakistani	.07	.08	.06
	British ^a	.14	.10	.04

Sources and methods:

- 1) *BS 48-57* through *BS 60-61*. Only June data is used, other quarters not being available for the early years. The "other-than-trade" sectors are assumed to be "mining and quarrying," "manufacturing," and "construction".
- 2) *BS 48-57* through *BS 60-61* and *SBP:SSP*, December 1961, pp. 3-4. December data is used, it being the seasonal peak for bills.
- 3) *BS 48-57* through *BS 60-61*. June data, other quarters not being available for the early years. The "illiquid assets" are assumed to be "machinery and fixed assets" and "real estate".

- a. Technically, this category includes all non-Indian foreign banks. The bills-to-bills-and-advances fraction for 1961 includes Indian banks as well.

Note: The figures given are arithmetic averages of the fractions for each of the relevant three years.

There remains one great difference in their lending policies: the British banks are willing to make large advances to individual borrowers, while the Pakistani banks are surprisingly reticent. Table V. 3 shows the average advance per borrower account, by economic sector, for the two categories of banks. In almost every category, the foreign banks' average advance is much greater than the Pakistani banks' ²². This is further proof that the Pakistani banks out-Herod Herod in their application of traditional British principles long after the British banks have themselves ceased to practice them ²³.

If there is risk in large advances, there is also profit. The foreign banks charge, on the average, one-half a percentage more on their a-

22. The exception services, arises from the inexplicably large number of small "government services" advances that foreign banks make. Such accounts, with average borrowing of under Rs. 2,000, comprise nearly one-fifth of the total number of their advance accounts (*SBP:SSP*, December 1961, p. 33).

23. Large advances to particular borrowers are believed to risk a "lock-up" of capital as it is then more difficult to withdraw the advance on short notice. See for example, on these "traditions", T. Balogh, *Studies in Financial Organization*, (London; Cambridge University Press, 1948), pp. 74-86.

Table V. 3 (Rs. in lakhs)

Sector	Pakistani banks (1)	Foreign banks ^a (2)
Agriculture, forestry, hunting, and fishing	.006	4.197
Mining and quarrying	.451	43.577
Manufacturing	.942	11.936
Construction	.047	.678
Electricity, gas, water, and sanitary services	.632	2.259
Commerce	.313	1.347
Transport, storage, and communication	1.050	2.509
Services	.115	.061

Source: *SBP.SSP*, December 1961, pp. 30-33. The information is not available for earlier periods.

a. This can be considered representative of the British banks.

vances than the Pakistani banks. Although the distribution of advances by interest rates charged is available separately for the two categories of banks only for December 1961, the differences are too great to be coincidental. The following Table V.4 summarizes these distributions.

Table V. 4

	Pakistani banks (1)	Foreign banks (2)
1) Average rate charged	5.13%	5.60%
2) Average rate charged, excluding zero-interest advances	5.20%	5.73%
3) Per cent of advances made at rates below 4%	22.73%	3.04%

Source: *SBP.SSP*, December 1961, pp. 35-36.

Some part of this difference may be explained by the larger advances made by the foreign banks, if there really is a significant risk involved. But experience in other countries suggests that large advances, up to

a point at least, should command lower rates. A more plausible explanation of this difference in rates will be offered shortly.

Finally, it is important that we examine the course of advance rates over the past few years²⁴. During this discussion two historical facts must be kept in mind: 1) the Bank Rate was raised early in 1959; and 2) the Scheduled Banks began to face unprecedented tightness in lendable funds during the busy season of 1960, a difficulty that has not since eased²⁵. The impact of the first upon advance rates is easily discovered; the effect of the latter is more complex.

The State Bank has published, since June 1958, semi-annual distributions of the volume of advances of the Scheduled Banks by interest rate charged. Table V.5 gives several interesting statistics of these distributions:

Table V.5

Date	Interest rates (in %)			Advances made (as % of total)	
	Average (1)	Variability (2)	Skew (3)	At no interest (4)	Below Bank Rate (5)
1958, June	4.19	1.40	— .98	1.42	16.28
December	4.21	1.29	— .96	2.06	13.81
1959, June	4.96	1.35	—1.35	2.53	21.84
December	5.14	1.28	—1.49	2.01	13.74
1960, June	5.15	1.37	—1.33	2.05	16.75
December	5.28	1.27	—1.35	1.77	12.94
1961, June	5.14	1.40	—1.32	1.95	22.59
December	5.26	1.36	—1.33	1.67	17.29

Source: SBP:B, March 1962, p.32 (typographical errors in the last column were corrected).

Methods: Col. (1): the first moment around zero.
 Col. (2): the square root of the second moment around the mean.
 Col. (3): the cube root of the third moment around the mean.
 Col. (5): the cumulative relative frequency up to, but not including, 3 per cent for June and December 1958, 4 per cent thereafter.

24. This we can do only for all Scheduled Banks together as the breakdown between different categories does not exist before December 1961.

25. Some might date this era from the spring of 1960, but the busy season of 1959/60 was late and most banks were not unusually pressed until the advent of the following busy season.

As a result of the Bank Rate rise, only the average and the skewness of advance rates was noticeably affected. Within a year of the change, the average interest rate on advances had also risen by about one percentage point, as Figure V-3 makes visually clear. This

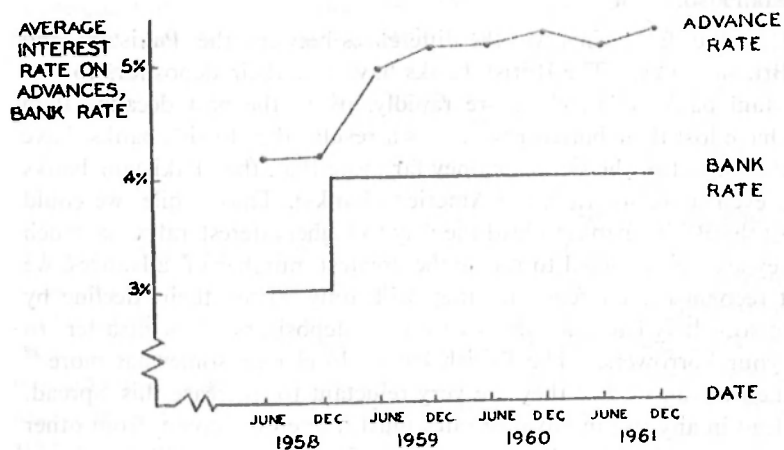


FIGURE V-3

adjustment of advance rates, though hardly instantaneous, seems amazingly rapid when we remember the sluggish pace at which government security rates rose in this period. The increase in the leftward skewness of advance rates following the Bank Rate rise resulted from the failure of the rates on advances made at extremely low rates of interest to rise²⁶.

Much more difficult to comprehend is the failure of average advance rates to increase significantly over 1960 and 1961. The explanation of this phenomenon is necessarily conjectural since bankers are particularly reluctant to discuss in detail the methods by which their advance rates are determined. But two factors seem particularly relevant: one rather universal in banking; and the other specific to Pakistan conditions.

The immediate reaction to shortages of lendable funds (relative

26. One would expect this to increase the standard deviation as well. But, there was also a decline in the relative volume of advances made at very high rates of interest.

to the demand for them) of bankers almost everywhere is to reject marginal borrowers. Only gradually is the price of borrowing increased. While explanations of this process are not always thoroughly convincing, it is sufficient here to note that it seems to be present in Pakistan also.

The other factor involves the differences between the Pakistani and the British banks. The British banks have lost their depositors to the Pakistani banks relatively more rapidly, over the past decade, than they have lost their borrowers²⁷. As a result, the British banks have felt the impact of the tighter money far more than the Pakistani banks (and, even more so, than the American banks). Thus, while we could expect the British banks to lead the way to higher interest rates inasmuch as they are being forced to refuse the greatest number of advances, we must recognize their fear that they will only hasten their decline by doing so. It is bad enough to lose your depositors—it is disaster to lose your borrowers. The British banks do charge somewhat more²⁸ for their advances, but they are very reluctant to increase this spread. The lead in any rise in advance rates must, therefore, come from other places: from the State Bank by means of a presently unlikely rise in the Bank Rate or an insistence that the Scheduled Banks pay higher interest rates on their deposits²⁹; from the National Bank which, however, as a ‘public service’ is apparently doing precisely the opposite; or from the private Pakistani banks, whose liquidity position and banking philosophy do not suggest any such action³⁰.

This failure of advance rates to rise is unfortunate from the viewpoint of credit allocation³¹. But there are implications also for the

27. Number of domestic branches is a less important criterion to bank borrowers than to depositors. Thus, the British banks' inability to expand their branches has cost them much more in deposits than in potential advances.

28. About one-half a percentage point, as we have seen.

29. The State Bank is doing the latter to a slight extent; see Section VI.

30. Their reluctance may also derive from religious injunctions, though it is not clear why. One can easily read the Holy Koran as forbidding *all* interest or *exorbitant* interest (“devour not usury, doubling and quadrupling”, M.M. Pickthall (Trans.), *The Glorious Koran*, (Mentor Edition, 1956) p. 72; it is hard to see how either of these interpretations forbids a rise of advance rates from, say, 5 per cent to 7 per cent. It is sheer rationalization to define usury as an overlarge gap between the bank's advance rates and the rates it pays for funds; but this view is held by some and helps to explain the rise in advance rates that followed the Bank Rate increase.

31. As I have discussed elsewhere. See Part III of my article, “Monetary Policy in the Economic Development of Pakistan”, *Trade and Industry*, (Karachi) January 1962.

volume of credit. Today, despite the high standards which the banks in Pakistan require of their borrowers, there are often more *acceptable* borrowers than banks wish to or can satisfy. Whereas banks used to consider the demand for advances by creditworthy customers as one of the constraints to their lending operations, the shortage of lendable funds may now be more important.

SECTION VI

SOURCES OF FUNDS: DEPOSITS

In this and the subsequent two sections, the "sources" of lendable funds are discussed. This word "sources" is not used in its usual sense nor is it used consistently throughout. In the descriptive material, it means no more than the liabilities which offset, in a balance sheet sense, the banks' assets. In the analysis, it is used in its more traditional sense as sources of *reserves*, which a fractional reserve banking system can then use to expand advances and deposits (deposits are then a result, not a source). The context is clear, so the convenience of the double meaning is persuasive. The principal liabilities of the banking system are deposits, State Bank debt, and inter-bank call money. These three also are the potential sources of reserves for a bank and for the banking system whenever expansion is desired and reserves are inadequate. For a particular bank, all three are sources, but for the banking system as a whole, only State Bank borrowing and new deposits which represent a shift from currency serve as sources of reserves. If the reader will keep all of this in mind, the subsequent use of the word "sources" and the failure always to distinguish between *a* bank and *all* banks will save much space and not confuse.

The principal liability of all banking systems and of almost all individual banks is deposits. In Pakistan, 76 per cent of the total liabilities of the Scheduled Banks are non-bank deposits¹.

In Pakistan, there are basically three kinds of deposits: demand, savings, and fixed². While the words are universal, the meanings are

1. *Weekly Statement*, March 30, 1962. More precisely, demand and time deposits of "others" (*i.e.*, other than banks) are 76 per cent of total demand and time deposits, inter-bank borrowing, and borrowings from the State Bank.

2. Throughout this section, inter-bank deposits are omitted from consideration; see Section VIII.

not, so definition of each is in order. Demand deposits are, as always, those accounts of which a bank is liable to payment without notice. Generally, no interest is paid on such accounts. Only about one per cent of the demand deposits in Pakistan now receive interest, at rates varying from 0.25 per cent to 8.00 per cent³, although several banks used to pay some small interest on such accounts⁴. Fixed deposits are those accounts which must remain in the bank for a stated length of time in order to earn interest. The fraction of total fixed deposits committed for different time periods and the median interest rate earned on each are given below in Table IV.1:

Table VI.1

Time period	Fraction of fixed deposits (1)	Median rate of interest (in %) (2)
Up to 3 months	0.25	2.50
3-6 months	0.08	2.75
6 months to 1 year	0.59	3.00
1-2 years	0.05	3.25
2-3 years	0.02	3.50
Over 3 years	0.01	4.00

Source: SBP:SSP, December 1961, pp. 14-15 (figures are for December 1961, the only date for which they are available).

Almost all such deposits are now fixed for a year or less, and this has probably always been true. Savings deposits have attributes of both fixed and demand deposits. Some portion of a savings deposit may, at any time, be withdrawn without notice⁵; what stays in the account earns interest periodically, though of course at a lower rate than any fixed deposits⁶. For purposes of the *Weekly* and *Quarterly Statements*, where deposits are recorded as being either demand or time, all

3. *SBP:SSP*, December 1961, p. 14.

4. Ziauddin Ahmad, "Item-wise Analysis and Correlation of State Bank and Scheduled Banks' Weekly Returns", *op. cit.*, p.7.

5. Usually, the number of withdrawals per week is fixed, but some banks limit the amount that can be withdrawn without a week's notice.

6. Only about two per cent of all savings deposits earn more than two per cent interest (as of December 31, 1961; *SBP:SSP*, December 1961, p. 14).

fixed deposits are considered time, and savings deposits are divided, according to a formula, between demand and time⁷.

In Pakistan, as in most underdeveloped economies, currency is much more widely used than bank deposits. But just as we expect that development will lead to an increasing amount of money transactions⁸, so also do we expect that development will usually encourage a shift from currency to bank deposits. In the fourteen years of Pakistan's existence, there is little evidence, however, of such a secular trend. Table VI. 2 gives the ratios of currency in circulation, demand deposits, and time deposits to the sum of all three:

Table VI.2

Date	Ratios of		
	Currency (1)	Demand deposits (2)	Time deposits (3)
1948	.61	.33	.06
1949	.60	.32	.07
1950	.63	.30	.07
1951	.62	.31	.07
1952	.62	.30	.08
1953	.61	.30	.09
1954	.60	.29	.11
1955	.61	.28	.11
1956	.63	.27	.10
1957	.61	.28	.11
1958	.60	.28	.11
1959	.57	.29	.14
1960	.58	.27	.15
1961	.54	.29	.17

Source: Cols. (1) and (2), *SBP.B*, March 1962, p. 35 ("other deposits with SBP" are included in demand deposits).
Col. (3), *ibid*, p. 24.

Note: Figures are for end of Decembers; ratios do not always add to one because of rounding.

7. That part of the savings deposit which can be withdrawn without notice is considered on demand. Where banks limit the number, not the amount, of withdrawals, the formula emerges by negotiation with the State Bank.

8. See M. Haq, *Deficit Financing in Pakistan, 1951-60*, (Karachi: Institute of Development Economics, 1961), pp. 25-27.

Up to 1958, there is no evidence of any shift from currency to deposits, though there appears to have been a move from demand to time deposits in the early 1950s. Over the last three years, however, there has been a definite decline in the currency ratio and a corresponding rise in the time deposit ratio. Thus, the relative increase in time deposits has taken place in two spurts, in effect once at the expense of demand deposits and once of currency.

To what extent time deposits have reacted to deposit rates is twice a difficult question, once because of the empirical problem and also because of the interpretative problem. We can construct a rough measure of the level of deposit rates over 1948-61 (with base 1948=100)⁹ as is shown below in Table IV.3:

Table VI. 3

Date	Index of deposit rates	Date	Index of deposit rates
1948	100	1955	128
1949	105	1956	134
1950	120	1957	155
1951	112	1958	170
1952	119	1959	181
1953	119	1960	180
1954	118	1961	177

9. The index is rough; it is constructed as follows. The upper limit of the deposit rates for four kinds of time deposits are averaged, with the following weights: savings, 0.3; three-months, 0.2; six-months, 0.2; and, one-year, 0.3. This is done for June and December of each year and the two figures averaged (except for 1948 and 1949, for which no June figures are available). Since upper limits are used, the resulting figures have little absolute meaning; so index numbers are formed, with 1948=100. Sources: *RC+F 57-58* through *RC+F 60-61*, and *SBP.B*, March 1962, p. 67.

The large increases occurred over 1948-50 and 1956-59, while the large increases in the relative quantity of time deposits occurred over 1948-54 and 1958-61. The correspondences are such that it is difficult to accept or reject correlation between the two series. At best, deposit rates might affect time deposits with a lag of a year or two.

Even if one sees causation, as well as correlation, he is left with the interpretative problem: why did the time deposits come from demand deposits in one case and from currency in the other? From the viewpoint of the individual, the question is immaterial, as it in either case represents a shift from an interestless to an earning asset. But to the banks, taken together, one is an expensive process of gaining no new deposits while the other does uncover new deposits. And to the State Bank, one implies no great change in the credit environment while the other does ¹⁰.

The Scheduled Banks strongly believe that a rise in deposit rates does not attract new deposits to them, taken as a whole, though they recognize that it might reallocate existing deposits. As a result, the banks have done two things: 1) they have agreed not to use interest rates to bid depositors away from each other¹¹; and 2) they stand together and strongly against efforts to get them to raise deposit rates. The State Bank officially considers deposits as a whole interest-elastic, though this probably derives less from any scientific examination than from a reluctance to watch an ever-increasing portion of bank reserves be borrowed from the State Bank. As a result almost entirely of State Bank pressure, the Scheduled Banks finally agreed to raise the rates on savings but not on fixed deposits ¹². They apparently consider savings deposits the least likely to be completely interest-inelastic (or least likely of the time deposits merely to incur conversion from demand deposits) ¹³.

10. In the sense of creating excess reserves (or liquidity) which permit an expansion of banks' earning assets.

11. There seems to be some cheating on this agreement, but not enough to break it down.

12. On May 14, 1962 (reported in *Dawn*, May 15, 1962, p. 14).

13. Of course, the bankers may be correct in their belief and *still* the State Bank be correct in its efforts to get deposit rates raised. Why should the Scheduled Banks be permitted to act as a monopsonist in their purchase of lendable funds from the public? Furthermore, artificially low deposit rates seem to breed artificially low advance rates. But these are side-issues here.

Several special circumstances are often cited to explain the recent rise in the importance of time deposits, none of which have anything to do with deposit rates:

1) The effectiveness of the Martial Law regulations and income tax amnesty at unearthing currency hoards. Much of this may have gone into deposits once its ownership became legal.

2) The recent import and investment regulations may have induced businessmen to hold fixed deposits while waiting for their licences or deliveries.

3) The process of lending foreign exchange to businessmen often involves their putting up as collateral a fixed deposit in local currency (this helps to explain the large amount of advances by Pakistani banks at 3 per cent and 3.25 per cent interest¹⁴).

Since there is no way to test these hypotheses, it is perhaps best to conclude ambiguously: it is possible that the banks, as a whole, cannot increase their deposits by means of higher deposit rates; if this is so, and perhaps even if it is not, it is in the interests of each bank that the banks act together to keep deposit rates from rising.

There is one other way for a particular bank to increase its share of the system's deposits and also for all banks together to raise the ratio of deposits to currency: by an expansion of branches. A greater number of branches in the smaller cities attracts not only deposits in these cities but also increases the attractiveness of bank deposits elsewhere. Over the last decade, branch expansion has undoubtedly been a very successful means of getting more rapid deposit growth. And, as Figure VI-1 suggests, there may even be increasing returns; if we start from the Habib Bank as the median, the implied curve sweeps upward ever more steeply to the right and downward ever more steeply to the left.

14. *SBP.SSP*, December 1961, p. 35.

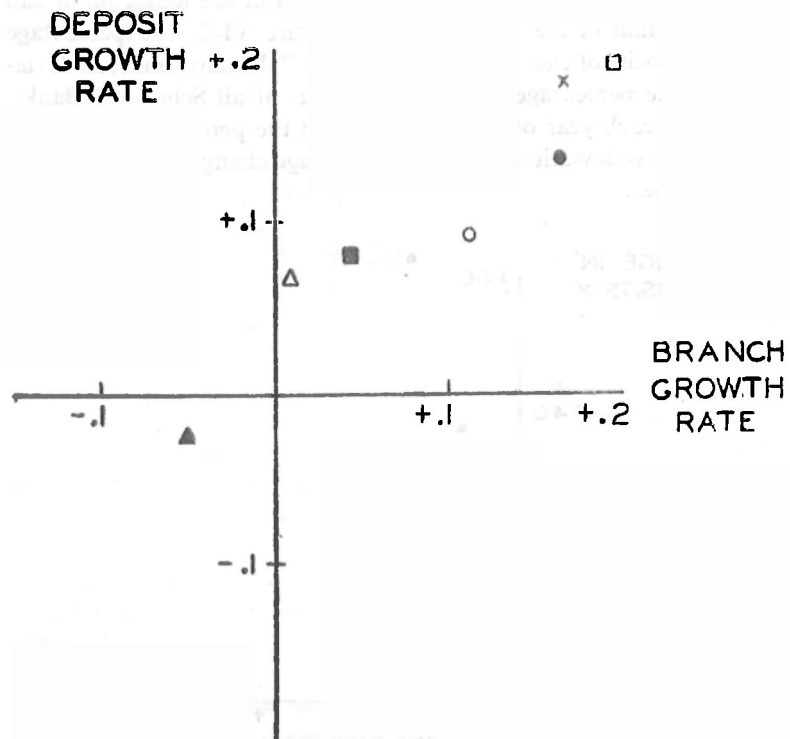


FIGURE VI-1

Note: The symbols are as follows:

- , Bank of Bahawalpur,
- ×, National Bank of Pakistan,
- , Muslim Commercial Bank,
- , Habib Bank,
- , non-Indian foreign banks,
- △, Australasia Bank,
- ▲, Indian banks.

Source: Balance sheets of individual banks for 1954, 1960 and 1961; *Quarterly Statements* of Junes, 1954 and 1961, for deposits of Indian and other foreign banks; State Bank, *Banking Facilities in Pakistan*, (Karachi: State Bank of Pakistan, 1954), pp. 5-9 for branches of Indian and other foreign banks in 1954; *BS 60-61*, p. vii, for these branches in 1961.

Method: The figures are the annual rates of growth which, applied to the 1954 value, give the 1961 value¹⁵.

15. 1960, not 1961, is the terminal date for calculations concerning the Bank of Bahawalpur and the Australasia Bank.

While the deposit-branch relation is certain in the long run, it can be very uncertain in the short run. In Figure VI-2, the percentage change in deposits of each of the three largest Pakistani banks, as deviations from the percentage change in deposits of all Scheduled Banks, is plotted for each year over 1952-61 against the percentage change of their branches as deviations from the percentage change of all Scheduled Banks' branches.

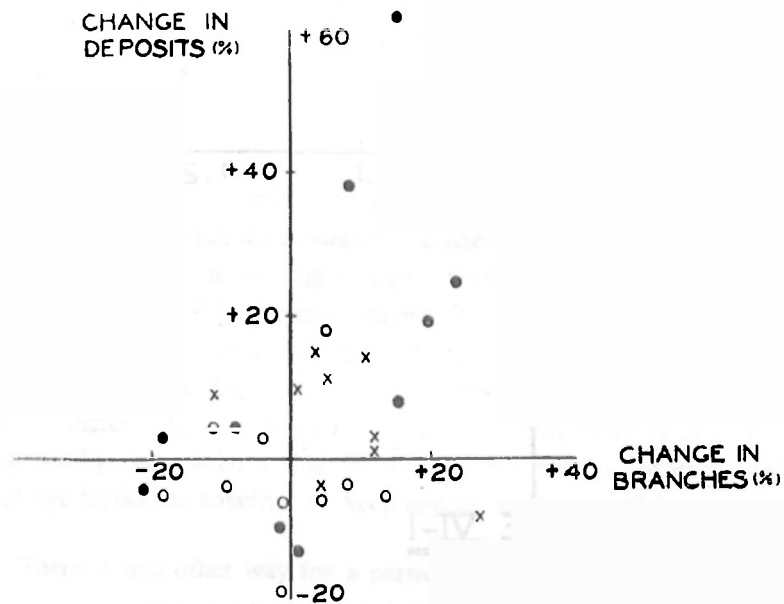


FIGURE VI-2

Symbols: Same as in Figure VI-1.

Sources: Balance sheets of individual banks; for branches of all Scheduled Banks (June figures), *BS 60-61*, p. 110; for deposits of all Scheduled Banks (including inter-bank deposits), *Weekly Statements* for end of June.

An upward function is discernible, but not impressive. Moreover, of the three banks taken individually, only the dots of Muslim Commercial Bank clearly form an upward pattern. This strongly suggests that, no matter how powerful a deposit attraction new branches may be, the results are surely not instantaneous. New

branches attract new deposits only when a reasonably long period is considered¹⁶.

While it is true that individual banks can increase their relative share of the deposits, in the long run at least, by means of branch expansion, there is great doubt whether the system as a whole can induce much shift from currency to deposits in this way. Just before Partition, there were 364 bank offices in what was to become Pakistan, just after Partition, only 62¹⁷. By June 1948, the number had reached 195; not until June 1959 did the number re-attain pre-Partition levels. Yet, through all, the ratio of currency to currency-plus-deposits remained stable between 0.60 and 0.63 until 1959. Nevertheless, it is an article of faith of the State Bank (and the National Bank) that branches attract deposits. The "proof" is usually given by pointing out first the great increase in branch offices since 1948 and then the great increase in bank deposits (in absolute terms) since 1948¹⁸. To my knowledge, it has never even been suggested that much of the past decade's expansion of branches has been an expensive form of non-price competition between the banks for deposits; nor that the National Bank's dedication to the spread of the "banking habit" has achieved little more than subsidy of small-city banking services¹⁹. It may be that the deposit ratio would have declined over the 1950s in the absence of this branch-expansion programme. But I think it more likely that it would merely have meant that the deposits now in lesser cities would have been kept in the larger cities.

This hypothesis can be tested, but to do it well requires information held confidentially by the State Bank and the National Bank—data on the origin and type of deposits that are placed in the new branches. But some casual testing can be done with published material. The

16. The graphs of percentage change in deposits in the next year and over the subsequent two years against percentage change in branches in a particular year, also as deviations, are only slightly different from Figure VI-2.

17. J.S.G. Wilson, "Money and Banking in Pakistan", *op. cit.*, p. 273. But see *Twelve Years of Banking, op. cit.*, where it is said that there were 631 offices before Partition. For the present discussion, the difference is not critical.

18. For example, see *Speech Delivered by Mr. A. Qadir, Governor, State Bank*, (Karachi: State Bank of Pakistan, 1958), pp. 12-13.

19. Since branches are one of the services a bank can provide, their expansion has succeeded in accelerating the Pakistan-ization of bank deposits, for the foreign banks cannot compete.

average population per Scheduled and non-Scheduled Bank office, by city size, is given in Table VI. 4:

Table VI.4

Size of city	Population per office
5—10 lakhs	13,020
2—5 lakhs	13,302
1—2 lakhs	12,272
75—100 thousand	13,693
50—75 thousand	13,544
25—50 thousand	11,098

Source: BS 60-61, p. 50.

But these figures are derived from June 1961 branches and 1951 (*sic*) population statistics. The relatively more rapid growth of the larger cities in the past decade means that the large-city figures are more underestimated than the small. It is not impossible that there are more people per bank branch in the largest cities than in all other sizes of cities; in any case, there are certainly not many fewer per branch in the larger cities. This, together with two facts, indicates how uneconomic this expansion may have been: 1) most bank deposits are business, not personal, and the large cities have relatively more businesses of a depositing nature than the small cities; and 2) the income, output, and transactions per capita are much greater in the bigger cities.

In summary, new deposits are a source of funds for a particular bank if it can find ways to take deposits away from other banks. The banks prefer branch-expansion to deposit-rate rises as the means of achieving this. But there is great doubt whether either of these methods can increase the propensity of the public to use bank deposits. For the banking system as a whole, the stability of the currency-deposit ratio makes it unlikely that new reserves can be uncovered in this way.

SECTION VII

SOURCES OF FUNDS: STATE BANK BORROWING

The State Bank is empowered to lend to the Scheduled Banks against any "form of security as the [State] Bank may consider sufficient"¹. Despite periodic protestations against excessive use by banks of this borrowing privilege, the State Bank has always been liberal in its provision of funds to the banks in this way. From a primarily seasonal phenomenon, borrowing from the State Bank has recently become a large, continual source of reserves for the Scheduled Banks; their State Bank debt currently amounts to over 20 per cent of their deposits².

It is difficult to ascertain the exact indebtedness of the Scheduled Banks to the State Bank, though the various figures are all close to the true value. The State Bank itself publishes its Banking Department's "other loans and advances", which consist mostly of advances to the Scheduled Banks, but also of advances to cooperative banks and others³. Data for State Bank borrowing is also calculated on the basis of the Scheduled Banks' *Weekly* and *Quarterly Statements*, but the two figures rarely agree, and once both gave figures higher than the State Bank's⁴. Over the 32 quarters of 1954-61, the *Weekly Statement's* figures exceeded the *Quarterly Statement's* only seven times, three of those times by more than two crores of rupees; the *Quarterly Statement* was larger in 23 cases (two being identical), eight times by more than one crore of rupees. The *Weekly Statement* has not been the larger since June 1959. The biggest excess of the *Quarterly* over the *Weekly Statement* occurred in December 1961, a difference of Rs. 6.65 crores.

There is no reason why the banks should "window-dress" either return, so the difference probably results from the timing of the two *Statements*. The *Quarterly Statement* is submitted long after the date

1. *State Bank of Pakistan Act, op. cit.*, chapter IV, 18-(1) (b), p. 14.

2. On March 30, 1962, *Weekly Statement*. State Bank debt was Rs. 72.39 crores; deposits (excluding those of banks) were Rs. 352.03 crores.

3. See Ziauddin Ahmad, "Item-wise Analysis . . .," *op. cit.*, p. 6.

4. Implying negative advances to cooperative banks. On March 31, 1961, the State Bank's "other loans and advances" were Rs. 34.57 crores (*RC-F 60-61*, p. 129); the *Weekly* and *Quarterly Statements* were Rs. 35.41 crores and Rs. 35.42 crores respectively (*RC-F 60-61*, p. 136, and *BS 60-61*, p. 22).

while the *Weekly* is submitted almost immediately. Though the *Quarterly* figures are probably the most accurate, we shall find it convenient to use the *Weekly*, with the reservation that these are probably underestimates.

The State Bank lends to the Scheduled Banks on several kinds of security: 1) on government, or other "approved" securities; 2) on private bills that are suitably endorsed; 3) on bills and advances to governments (called "counter-finance"); and 4) on no tangible security (called "clean"; technically, on government guarantee). The data, and estimates, of the amount of borrowing done in each of these categories since 1954 is presented in Appendix B. Each of these types of collateral requires some further discussion.

1) *Government securities*: Although the State Bank is not legally obligated to lend unlimited amounts to banks on government securities collateral, their present philosophy as manager of the public debt nearly forces them to stand ready to do so (as we have seen in Section IV). The only effective limit to this lending now is the Scheduled Banks' demand for such loans.

2) *Private bills*: The Bill Discounting Scheme was introduced in 1952 in order to "evolve an instrument for providing seasonal credit on a self-liquidating basis"⁵. Not all bills are eligible as collateral under this scheme, only those

bearing two or more good signatures one of which shall be that of a Scheduled Bank, or any corporation approved by the Central Government....having maturities not exceeding five years....⁶.

Moreover, the State Bank is only obligated to lend on such collateral

5. *SBP:GFO*, p. 50.

6. *State Bank of Pakistan Act, op. cit.*, chapter IV, 17-(2) (d), pp. 10-11. Technically, the State Bank is empowered to rediscount bills (*i.e.*, purchase bills that have been discounted by the banks) or to lend to the banks on the collateral of their discounted bills. Any bill which qualifies for one action automatically qualifies for the other. In fact, lending on bill collateral is far more common; to use the term, rediscounting in Pakistan is, therefore, very misleading and is here avoided.

up to "the limit fixed each year by the [State] Bank"⁷. Nevertheless, it would appear that almost all bills are eligible and that, at least in recent years, the limits placed by the State Bank on such borrowing have not been very strict. Table VII.1 shows the fraction of total bills that have been used as collateral over the past four years⁸:

Table VII 1 (Rs. in crores)

Date	Bills used as collateral (1)	Total bills (2)	Ratio [(1) ÷ (2)] (3)
1958—December	1.22	20.52	0.06
1959—March	1.46	17.09	0.09
December	2.57	20.11	0.13
1960—March	3.22	18.38	0.18
December	15.51	23.00	0.67
1961—March	4.92	21.25	0.23
December	15.05	26.56	0.57

Sources: Col. (1), Appendix B.

Col. (2), *Weekly Statements*.

When we consider that many bills must be in the hands of banks that do not borrow from the State Bank and hence do not wish to use them as borrowing collateral, it appears that probably nearly all the bills of

7. *Ibid.*, chapter IV, 17-(2) (d) and 17-(4) (d), p. 11.

8. The quarters before December 1958 are omitted since no figure for bills collateral alone is available (see Appendix B). Only the two quarters of peak borrowing are included.

banks wishing to borrow were used as eligible collateral in the last two years. In theory, the State Bank can always refuse to accept any bills as collateral. Thus, the limits to the State Bank's willingness to accept this collateral seem to be complete, from zero to one hundred per cent. The amount that the Scheduled Banks can get from this source is far from unlimited, however even if they could manage to borrow upon *all* of their bills, this type of credit is but a small and declining part of their total bills and advances⁹. The immediate effect of the Bill Discounting Scheme was to encourage the use of bills, the ratio of bills to bills and advances rising from 0.06 and 0.09 in 1950 and 1951 respectively to 0.15 in each of 1952 and 1953 and a peak of 0.21 in 1954; but this ratio has fallen again, to 0.11 by 1960 and 0.10 in 1961¹⁰. Even the usefulness of bills as State Bank borrowing collateral has not overcome the Pakistan economy's growing preference for other forms of credit.

3) *Counter-finance*: By 1953, a system had developed whereby various Scheduled Banks make loans to the Central and Provincial Governments to facilitate the food procurement schemes of these governments. In turn, these advances may be, and are, *readily* used as collateral for State Bank borrowing at one percentage point *below* the Bank Rate. The amounts of the borrowing in this manner, called counter-finance, are given, since December 1955, in Appendix B; in every December and March since December 1957, counter-finance has represented over one-third of the total State Bank borrowing, and during the past year (1961) it has always been more than one-half.

Why governments prefer to borrow from commercial banks instead of issuing *ad hoc* bills to the State Bank is a mystery we need not solve, for the monetary effect is very nearly the same. Almost all of such loans are freely counter-financed if the bank feels any need at all. This statement cannot be proven because of the scarcity of data on Scheduled Banks' loans to governments; information is published by the State Bank only annually, for June 30, and only since 1956. Such loans clearly represent, as is shown by Table VII.2, a significant part of the Scheduled Banks' advance portfolio.

9. See Section V.

10. *Weekly Statement*, end of Decembers, is used here since the *Quarterly Statement* does not go back to 1952.

Table VII.2

(Rs. in crores)

Year	Scheduled Banks' loans to governments (1)	Col. (1) as fraction of Sched. Banks' total advances (2)
1956	7.75	0.10
1957	5.44	0.05
1958	11.82	0.11
1959	20.10	0.18
1960	15.91	0.11
1961	33.06	0.16

Source: Col. (1): RC+F 56-57 through RC+F 60-61, in section on "Money and Banking".

Col. (2): Total advances from *Weekly Statements*, end of June.

We have no way of knowing whether these amounts are higher or lower at other times of the year than June¹¹. Thus, it is impossible to show what fraction of these loans are counter-financed during the busy season. Nevertheless, it is most likely that almost all of it is, at least, in recent years.

Not all banks participate in these advances to governments. Probably over 80 per cent of them are made by the National Bank, and most of the rest by the Habib Bank, and recently, the Eastern Mercantile

11. Since this was written, I have found figures for Scheduled Banks' advances to governments for *Decembers*, in Government of Pakistan, *Economic Survey, 1961-62*, (Karachi: Manager of Publications, 1962), p. 120. The guess of the text can be verified; the fraction of such advances counter-financed in Decembers was 0.99 in 1957, 0.99 in 1958, 0.27 in 1959, 0.92 in 1960, and 0.85 in 1961.

Bank. It is said that only the Habib Bank does not counter-finance almost immediately and continually. The banks do not consider counter-finance as State Bank indebtedness. That the very conservative Habib Bank enters into it indicates how differently it is viewed. In fact, it is seldom stated, if indeed recognized, that counter-finance is a form of borrowing from the State Bank. For example, note the wording of the President of the Board of Directors of the National Bank:

This phenomenal rise in our advances... has been contributed to substantially both by our increased assistance to the Government in the implementation of their foodgrains procurement schemes and our enlarged credit facilities to the private sector. I may mention here that the finance to the Government exercised no pressure on our resources as they were counter-financed by the State Bank of Pakistan¹².

Just as the banks have no reservations about counter-financing all their government advances whenever their needs require, so also has the State Bank no qualms. Whether, indeed, the State Bank has the power to refuse such a collateral offer is unlikely, but the State Bank has so far shown no unwillingness to counter-finance without limit. Although the State Bank rarely mentions counter-finance in public, its Governor's speech of 1960 gives a clue to the favourableness of its position:

It is a major aim of national economic policy to accelerate the rate of development in East Pakistan. In pursuance of this objective, the State Bank has provided liberal counter-finance to the National Bank of Pakistan to make possible large-scale financing of the jute trade.....¹³.

4) "Clean" advances: It is difficult to get information about the extent to which the State Bank lends to Scheduled Banks without any further security than the bank's note. It is certain that only the government-controlled banks are presently so favoured, but other banks

12. Speech of H.N.E. Dinshaw, *op. cit.*

13. *Speech delivered by Mr. S. A. Hasnie, Governor, State Bank of Pakistan on September 10, 1960*, (Karachi: State Bank of Pakistan, 1960), p. 9.

could conceivably qualify. In fact, however, it is never really necessary that the State Bank lend "clean" since it can alternatively accept as collateral the bank's advances or its buildings (or, in short, any asset).

From the preceding description of the forms of State Bank lending to the Scheduled Banks we can draw several valuable conclusions. First, and the most important, the existence of "clean" lending, even if no more than one rupee's worth, indicates that the State Bank could lend to the Scheduled Banks just as much as it wishes. The appropriateness of the collateral can never be a constraint. This we have always known was legally correct¹⁴, but the lack of a legal constraint does not imply the absence of constraint. So far the State Bank has, we are almost certain, never lent "clean" to other than the government banks, principally, the National Bank. If the State Bank continues this policy, as it almost must (since other banks cannot offer a government guarantee), it means that its "clean" advances are determined by the demand for them by the National Bank, assuming the State Bank accepts the National Bank's views as to how much borrowing it requires.

Thus, the volume of Scheduled Bank borrowing from the State Bank is a function of three variables: 1) the Scheduled Banks' demands for such borrowing; 2) the amount of eligible collateral in the hands of those banks which wish to borrow; and 3) the State Bank's willingness to supply. Full analysis of these factors must await later sections, but we may here note that the third factor, the State Bank's willingness to supply such borrowing, is not very flexible. Unless the State Bank wishes to alter radically the conditions in which the Pakistan governments issue securities and borrow from the Scheduled Banks, it must continue to accept *all* government debt obligations as collateral. Moreover, it is unlikely that the State Bank would dare to refuse these even if it wished. What the State Bank now lends "clean" is also not very optional. Such lending is presumably done when another government bank, the National Bank, believes that some advance (that it could not make with existing funds) is in the public interest; the State Bank presumably must usually accept the National Bank's views in this respect.

14. Recall that the State Bank may accept whatever security it "may consider sufficient".

If securities and government advances must be accepted and "clean" advances made to the government banks when the latter require, there is left very little room for State Bank policy concerning its lending to banks. Only with respect to the extent that it accepts bills as collateral can the State Bank display its willingness or unwillingness. Thus, the important determinants of State Bank borrowing are presently only two, the Scheduled Banks' wishes and the availability of suitable collateral. The effects of each on indebtedness will be analysed in Section XII.

SECTION VIII

SOURCES OF FUNDS: CALL MONEY

Call money, or more generally, inter-bank deposits and borrowings, is unique among bank funds in that what is a source of funds to the borrowing bank is a use of funds to the lending bank. Thus, the amount of inter-bank reallocation of funds must be considered with respect, simultaneously, to bank assets and bank liabilities. While not very important in a strict balance-sheet sense, call money never amounting to more than ten per cent of Scheduled Bank assets or liabilities¹, the market for this inter-bank lending is critical to an understanding of the operations of the Pakistan banking system.

We must begin by defining carefully the method of operation of this market and the product which is handled. Basically, Scheduled Banks lend to each other, and occasionally to non-Scheduled Banks, through what is known as the "Karachi inter-bank call money market". It is indeed a Karachi market only, but this is small hindrance since the chief offices of almost all banks are in that city and the surpluses and shortages of other branches can easily be channelled through Karachi. The market is strictly inter-bank by agreement between the banks themselves. It is at least technically a *call* money market, although we shall soon see that it is not that simple. And finally, it is a "market" only in a figurative sense. Brokers no longer try to operate, and prices are nowhere posted; buyers and sellers meet over the telephone, and price changes are rippled out by rumour.

1. "Money at call and short notice" was Rs. 30.45 crores, from the asset side, and "inter-bank deposits and borrowings" were Rs. 40.29 crores, from the liabilities side, on March 30, 1962 (*Weekly Statement*). These figures, unusually high, are only 6.6 per cent and 8.7 per cent of the Scheduled Banks' total liabilities of Rs. 464.71 crores (*Weekly Statement*, also March 30, 1962).

All the funds lent on the call money market are, by definition, at call. But much of this carries a "gentleman's agreement" that it will be renewed for some time and will be recalled at short notice only if a real emergency arises. Thus, much of what is nominally call, or demand, borrowing is in its essence time borrowing; any distinction that is made between the two assumes serious risk of being almost entirely arbitrary.

Similarly, the distinction between inter-bank *borrowing* and inter-bank *deposits* is a dubious one. The State Bank maintains that inter-bank deposits are those funds "received by a bank in the usual course of business, primarily for the benefit of the depositing bank"² while any funds that are "solicited" are considered borrowings. The difference may be useful for theoretical purposes, but it is impossible to make in practice for two reasons. One, while there is a meaningful difference between inter-bank deposits and borrowings on the demand accounts, because of the need for clearing balances, the distinction fades when one considers time accounts. And two, because deposits look better, so bankers think, than borrowings on a bank's balance sheet, there are frequently successful collusions to label loans as deposits rather than borrowings. Thus, to notice only what is called "money at call or short notice" or inter-bank time and demand *borrowings* is to neglect some inter-bank borrowings that are not so labelled.

On the other hand, to total *all* inter-bank transfers, both demand and time and both borrowings and deposits, will overcount the amount of borrowing (by the extent of the genuine unsolicited inter-bank clearing accounts). But even the total of borrowing is probably an over-estimation of borrowing, though by how much we cannot know. Because much of the borrowing is only technically at call, and is really time borrowing, the borrowing bank which finds itself temporarily sated will often re-lend its call money at call. It does this partially because the "gentleman's agreement" works both ways — what is implicitly lent for time is also implicitly borrowed for time — but chiefly because it cannot be certain that it will be able to borrow these funds again once they are returned. The existence of the "gentleman's agreement" means that the market is extremely inflexible in the very short run. Thus, it is possible that some banks are *both* borrowers

2. Ziauddin Ahmad, "Item-wise Analysis . . .", *op. cit.*, p. 7.

and lenders in the call money market — a paradox only if one insists on taking the word, “call”, too literally.

Ideally, one would like to net out such positions; since we cannot, we must not expect to find an exact answer to a question about the net inter-bank reallocations of funds. The word, “net”, must be interpreted properly. The net inter-bank lending, in one sense, is of course zero for all banks. What is meant throughout when “net inter-bank reallocation of funds” is used is the result of the following procedure: 1) net out each bank’s position in this reallocation; 2) segregate all banks into two groups, net lenders and net borrowers; and 3) add up the lendings of the net lenders (which will of course equal the sum of the borrowings of the net borrowers). The first step cannot be done either for inter-bank borrowings alone or for all inter-bank transfers so we must resign ourselves to some error; the second and third steps also give some trouble.

It is somewhat frustrating to be able to choose among several estimates of a figure when you know that none of them is quite what is desired. We may add up the data for inter-bank reallocations from either the assets or the liabilities side of either the *Weekly* or the *Quarterly Statements* of the Scheduled Banks. No two are quite identical nor are the differences always explicable. The four possible measures are:

- 1) *Quarterly Statement*, Assets side: the sum of “balances with other banks” and “advances to banks”.
- 2) *Quarterly Statement*, Liabilities side: the sum of “demand deposits from banks”, “time deposits from banks”, and “borrowings from other banks”.
- 3) *Weekly Statement*, Assets side: the sum of “balances with other banks (current account)” and “call money”. This neglects time deposits and explicitly time lendings to other banks.
- 4) *Weekly Statement*, Liabilities side: the sum of “inter-bank demand deposits”, “inter-bank demand borrowings”, “inter-bank time deposits”, and “inter-bank time borrowings”.

The figures for each of these are given below in Table VIII.1 over the past two years:

Table VIII.1

(Rs. in crores)

Date	Definition of inter-bank reallocation			
	(1)	(2)	(3)	(4)
1960—March	18.50	24.35	15.10	22.58
June	22.74	27.05	15.72	21.75
September	33.22	35.17	29.25	35.07
December	31.86	35.06	25.65	34.44
1961—March	27.60	23.72	17.01	23.61
June	29.59	25.44	20.58	25.78
September	25.59	29.25	25.35	30.06
December	33.98	30.79	26.35	30.45
1962—March	n.a.	n.a.	36.12	40.29

Source: As given in text above.

The omissions of definition (3), based on the assets of the *Weekly Statement*, make it continually and distinctly lower than the other three. Between definitions (1), (2), and (4), there is little to choose and even less defence to a choice. Definition (4) is perhaps preferable for no better reason than that there may be some failure to net out *inter-branch* lending in the *Quarterly Statements* (the figures from (1) and (2) tend to be slightly higher than from (4))³.

3. Definition (4) has the added advantage of being the longest series. It goes back to June 1952.

But by none of these definitions do we get a figure for call money or, more generally, for inter-bank borrowings or, even more generally, for inter-bank transfers⁴. Not only do we not get anything really meaningful, we fail to get it even in the less useful gross sense. For the present, we need notice from all this just a few things: 1) the *Weekly Statement* asset figure for "call money" is no more than a minimum value of the true amount of such inter-bank borrowing, by any definition; 2) the "true" amount of inter-bank borrowing is almost as elusive in concept as it is in fact; and 3) while we may now talk about the "call market," we shall later (Section X) find it convenient (if not necessary) to forget the term and deal in inter-bank borrowings, deposits, and total transfers.

The volume of inter-bank accounts follows a seasonal pattern very similar to bank advances and bills. The summer quarters see relatively little lending, the winter months relatively much. This fact is worth noting only in that there has been, in the past, a misconception that "at times, both in the busy and slack seasons, the call market becomes nominal, the volume of actual transactions being extremely small"⁵. Only once (1953/54) over the past decade has the December-March peak not been at least ten per cent above the preceding June figure.

Two other things should be noted about the volume of inter-bank borrowings and deposits (definition 4). One is a slight but noticeable decline in the seasonality of the volume of funds over the last few years. The call market is becoming more year-around. And the second is a tremendous growth in recent years; in December 1956, Rs. 20 crores were lent for the first time, not until September 1960 was Rs. 30 crores lent, but Rs. 40 crores were lent only a year and a half later, in March 1962.

A listing of which banks are lenders and which borrowers in this market is not a chance affair, dictated by temporary and unexpected surpluses and shortages. At all times of the year and over the years,

4. We shall worry more about what we do get from definition (4) in Section X.

5. Ziauddin Ahmad, "Money Market in Pakistan," *Federal Economic Review*, October 1955, p. 231. The statement may well have been correct before 1952.

certain banks lend to certain other banks. A very few, if any, banks in Pakistan have ever borrowed at some times and lent at others. Precise data are impossible and even rough estimates very tenuous, but it is easy to segregate the banks into borrowers, lenders, and neutrals.

Very few of the Pakistani banks ever borrow, much or often, in the call market, though the National Bank sometimes does and is the principal recipient of funds freely deposited with it for clearing purposes. All of the other leading Pakistani banks, Habib Bank, Muslim Commercial Bank, and United Bank, generally lend on the call market or are neutral. According to their 1961 balance sheets, the amounts each listed as cash assets at call and balances with other banks are given below in Table VIII.2:

Table VIII.2

(Rs. in crores)

Bank	Date	At call	With banks ^a
National Bank	Dec. 31	1.63 ^b	1.17 ^c
Habib Bank	Dec. 31	^d	14.14 ^e
Muslim Commercial Bank	Sept. 30	^d	4.57 ^c
United Bank	June. 30	2.43 ^b	1.84 ^e

Source: Balance sheets of particular banks.

- a. This probably includes State Bank deposits in some cases.
- b. Money at call and short notice.
- c. Balances with other banks on *current* account.
- d. No listing.
- e. "Cash with bankers".

Generally, banks prefer to hide their borrowings from other banks, so we can only guess to what extent these figures represent net transfers of funds between banks⁶. But it is a good guess that the Pakistani banks, except for Habib Bank, are either neutral or small lenders. The Habib

6. Of these four banks, only the United Bank and the National Bank give any explicit information on their inter-bank borrowings; the United Bank gives Rs. 0.5 crores as "borrowings from banks" (including the State Bank) and the National Bank gives Rs. 4,198. (*sic*) as borrowings from banks other than the State Bank.

Bank probably does about half of the total lending in the inter-bank reallocations.

The extent to which the Pakistani banks, principally the Habib Bank, are creditors among banks may be seen from the *Quarterly Statement* as presented below in Table VIII.3 (where the Pakistani banks' data are given separately):

Table VIII.3

(Rs. in crores)

Item	Pakistani banks	All banks	Ratio:
	(1)	(2)	Col. (1) to Col. (2) (3)
<i>Assets:</i>			
Balances with other banks	11.39	12.61	0.90
Advances to banks	9.12	21.37	0.43
Total (<i>definition 1</i>)	20.51	33.98	0.60
<i>Liabilities</i>			
Demand deposits from banks	4.95	11.13	0.44
Time deposits from banks	3.90	11.95	0.33
Borrowings from other banks	1.45	7.71	0.19
Total (<i>definition 2</i>)	10.30	30.79	0.33

Source: SBP: SSP, December 1961, pp. 2-3.

Thus, the Pakistani banks do something like 60 per cent of the lending and only 33 per cent of the borrowing. And if, as is likely, the Pakistani banks carry among themselves larger than average clearing balances, allowance for these might bring these fractions down to around 43 per cent and 19 per cent, respectively (the fractions on "advances" and "borrowings").

The rest of the lending is done by the American banks. There is no published material upon which to base this statement, but it is common knowledge. The total assets of the three American banks are around Rs. 30 crores, of which almost half must be in inter-bank loans (of one type or another). This accounts roughly for the other half of the total inter-bank reallocations of funds of about Rs. 30 crores in December 1962.

The borrowing is done by the British and the Indian banks, primarily by the former. This can be seen below in Table VIII.4 which gives their inter-bank positions, by definitions (1) and (2), for September 1961⁷:

Table VIII.4

(Rs. in crores)

Item	Indian banks (1)	Other foreign banks (2)	All banks (3)	Ratio: Col. (1) to Col. (3) (4)	Ratio: Col. (2) to Col. (3) (5)
<i>Assets:</i>					
Balances with other banks	0.38	0.31	11.32	0.03	0.03
Advances to banks	0.23	11.79	14.27	0.02	..
Less American estimate ^a	..	11.79	..	..	..
Total (<i>definition 1</i>)	0.61	0.31	25.59	0.02	0.01
<i>Liabilities:</i>					
Demand deposits from banks	1.30	10.34	15.96	0.08	0.65
Time deposits from banks	—	5.58	8.71	—	0.64
Borrowings from other banks	0.24	2.74	4.58	0.05	0.60
Total (<i>definition 2</i>)	1.54	18.66	29.25	0.05	0.64

Source: Unpublished release of State Bank.

a. On the assumption that all the "advances to banks" of this category were made by the American banks.

7. The Indian banks are no longer segregated in December 1961, so September is used.

With the one deduction for the American banks, the "other foreign banks" column may be considered close to that of the British banks. They do almost none of the lending and nearly two-thirds of the borrowing. The Indian banks do much more borrowing than lending but are sufficiently small in each to be neglected.

These figures, it must be remembered, refer to the total of inter-bank reallocations of funds. The call money market is something less than this by the amount, roughly, of inter-bank deposits (in the strict sense of unsolicited funds). If allowance is made for the greater amounts of these latter in the Pakistani banks, it is clear that the British banks do over 80 per cent of the true call money market borrowing. The Pakistani and the American banks probably each do about 50 per cent of the lending in the call market.

This configuration of lenders and borrowers is but another manifestation of the differential deposit-getting and advance-making abilities of the banks in Pakistan. Call money has become the British banks' answer to their relative decline in deposits. In fact, at least one of the British banks now borrows more money on call than it has in its deposits. Call money lending suits the conservative temperament of the Habib Bank; and the American banks are too new, and perhaps also too conservative, to have yet found another outlet for their huge United States government deposits.

Thus, the continual process of transfer of funds which the call money market effects makes the price of these transactions a particularly sensitive indicator of the tightness or easiness of the banking system. When the demand for advances is relatively light, the British banks are able to get their call money at lower prices; when they demand larger amounts of call money, the Habib Bank and the American banks are able to get higher prices for these funds. As we shall see in later sections, the call rate together with the Bank Rate explains much of the balance sheets of the Scheduled Banks and the reaction of these balance sheets to changes in the demand for advances.

The range of possible interest rates on call money is large. Many years ago, it was not unusual for the rate to drop to 1/4 per cent during the slack season (even the British banks experienced slack then); more recently, it has been unusual for the rate to go below 1 per cent for more

than an occasional summer month or two. In February 1956, the rate rose above the Bank Rate for the first time, but it has been above it at the end of six different months since then⁸. A call money rate above the Bank Rate is not a temporary aberration, as might at first be thought; it merely means that the British banks are out of eligible collateral for State Bank borrowing (or reluctant to engage in it further for other reasons) and the lenders are taking advantage of it.

There is call money and there is call money. Because it represents many kinds of loans between banks, it is not unexpected that there is frequently no single rate quoted. Usually a spread of 1/4 per cent covers the lowest and highest rates. For example, currently (March 1962) the rate is 3-3/4--4 per cent; National and Grindlay's Bank, the biggest single borrower of call money and always ready to borrow more or repay its debt on a moment's notice, gets the lower rate while the other banks mostly must pay the higher.

This preferential rate to certain borrowers gives us a clue to the process of precise change in the call market. If there were upward pressure, the number of borrowers who received the lower quotation would gradually diminish, and simultaneously a few least-favoured borrowers would find themselves paying a higher rate. It must always be remembered that this market is an example of bilateral oligopoly with all its indeterminacy. Since it would be tiresome to re-negotiate the rates anew each day and would subject everyone to unnecessary and undesirable uncertainty, the participants implicitly agree to alter the rates and move the funds only when it is clear to everyone that such a step is called for.

Thus, it is not abiding fully by the rules for a lender to take advantage of a momentary desperation or for a borrower to seek greater funds with offers of big rate increases. It is not that the call rate never moves, nothing could be farther from the truth; it is just that it moves slowly and meaningfully. Also, the rate does not reach the extremes it might in a more competitive, less restrained market. Lenders stop trying to put out their funds when the rate gets low; they do not bid the rate down further in an effort to clear their surpluses. Similarly, borrowers stop trying to get funds when the rate gets high; they do not bid the

8. December 1956, April 1960, October 1960, December 1960, January 1961, and February 1961. *RC:F 60-61*, p. 149.

rate up further in an effort to find more funds. All participants see the market as a whole, with all its frustrating inelasticities, and are capable of seeing the futility of competitive bidding where supplies or demands are nearly fixed. The call rate is meaningful as an indicator of the tightness of the system. But its level is neither the result of a competitive process nor that which completely eliminates excess supplies and demands.

SECTION IX

PROCESS OF EXPANSION

In Pakistan, most banks can be readily classified as tight or easy banks on the basis of their reactions to increased demand for advances. There are banks that can easily adjust their balance sheets in order to make the new loan if they decide in favour of it; there are others that must worry and work especially hard to meet the liquidity strain that new advances impose. The process of expansion quite naturally differs greatly for these two so dissimilar types of banks.

The easy bank is far from "loaned up" by any definition of that nebulous phrase. By necessity or by policy, the bank makes fewer advances than it can readily handle. Such a bank often has excess cash assets, usually in the form of unnecessary deposits in the State Bank. It frequently maintains relatively large clearing balances with other banks. If the bank decides to make a new advance, these can be used first. The second step in the process of expansion is the withdrawal of call lending from the market or the counter-finance of government advances¹. Which of these is chosen may depend upon many things, not least being the relative rates of interest in the call market and on State Bank borrowing.

Once a bank has cut to the minimum its cash and reserve ratios, has ceased to be a call money lender, and has fully counter-financed any government advances, that bank has passed over from an easy to a tight position. Further expansion of advances requires difficult and expensive adjustments of the balance sheet—adjustments which also do not improve the appearance of the balance sheet. Such a bank

1. The possibility of sale of government securities is neglected throughout, although occasionally it may be possible (see Section IV).

really has three sources of lendable funds open to it: it may borrow 1) call money; 2) from the State Bank on the collateral of its "approved" securities; and 3) from the State Bank on the collateral of its "eligible" bills.

When the bank has a choice of acquiring new lendable funds by all three of these methods, its choice on grounds of least cost alone is quite complicated². It is sufficient to recognize that the relative levels of the call money rate and the Bank Rate are important to its decision. If the bank chooses to use State Bank borrowing, it will eventually exhaust its stock of eligible collateral. The liquidity requirement makes the holding of some quantity of unencumbered securities essential, and hence, the amount of securities which can be encumbered is much less than the bank's total holding of them. Not all the bank's bills are always acceptable, and even if they were, such assets comprise a small part of the portfolios of most banks. There is a very definite limit to the amount of borrowing from the State Bank a particular bank can do³.

There is no such technological constraint upon call market borrowing. In theory, a bank can always attract to itself a larger amount of call money if only it offers a sufficiently high price. In fact, the call market does not react quickly to offers of higher rates (see Section VIII), and even its long-run reaction is generally inelastic, at least in the range of the higher rates. Thus, while it may technically be true that *some* increased call money can be borrowed by means of a quite large rate rise, the inelasticity of the market may place a *profitability* constraint upon further expansion⁴.

As an example, consider a bank which is currently borrowing Rs. 5 crores on call at 3.75 per cent. It is considering increasing its borrowing to Rs. 6 crores but it expects that this additional demand on its part will push the call rate up to 4 per cent. If it does the extra borrowing, its annual call money expenses will rise from Rs. 18.75 lakhs to Rs. 24.00 lakhs; its *marginal* rate of interest on the last crore of borrowing

2. See Appendix C.

3. Unless it receives "clean" advances from the State Bank; then there is no limit.

4. Even if the dubious appearance of the bank's balance sheet does not stop its expansion first.

will be 5.25 per cent. Moreover, this additional crore of borrowing will not permit the bank to increase its advances by one crore, for reserves and liquidity must be held against the additional call money debt. So, Rs. 100 lakhs of call money only facilitate Rs. 80 lakhs of advances (the other Rs. 20 lakhs going into cash assets)⁵. Thus, if the additional crore of call borrowing is to be profitable, the bank must have customers for its advances willing to pay 6.56 per cent. This rate is well above average advance rates (over one percentage point above) and, as we have seen (Section V), individual banks have little ability, or at least desire, to raise advance rates. It is very likely that this hypothetical bank will not increase its call market borrowing in these circumstances, even though the call money rate, at 3.75 per cent, is nearly 2 per cent below the rate at which new advances could be made.

This example is not unrealistic⁶. This is one way that the expansion of advances in tight banks may come to an end. As long as the bank's demands on its advances continue strong, the bank has two possible ultimate constraints to its expansion. One, its supply of eligible State Bank collateral may become exhausted; and two, the marginal call money rate may get too high to be profitable. When both become operative, the expansion must end. The bank cannot expand in the way that is profitable, and it is not profitable to expand in the way it can.

The advance-expansion process has been described, at the micro-economic level, for easy and tight banks. But each is not equally relevant. Those banks with fairly-to-very-conservative advance policies, relative to their deposits, seem always to be involved to a lesser extent in any advances expansion. Those banks with more liberal lending policies best attract potential advances customers when the demand for advances rises. Thus, the advances and bills to total deposits ratio of the conservative Habib Bank was 0.40, 0.40, and 0.46 over 1959-61, while that of the National Bank was 0.66, 0.75, and 0.92 over the same three years⁷. Those banks which make most of the advances also make most of the increments of advances. Thus, when

5. Perhaps securities may be purchased.

6. And can be generalized and made rigorous. see Appendix C.

7. *Source*: Balance sheets of these banks.

expansion occurs, either seasonally or secularly, the tight banks lead. The result is that the tightness of the tight banks increases much more rapidly than that of the easy banks. This poverty (of reserves) in the midst of plenty explains, and is evidenced by, the curious behaviour of the call market (as we shall see in the next section).

Thus, the easy banks can make large increments in their advances with relatively little difficulty. It would actually be quite hard to estimate the limits to their expansion; fortunately, this is not necessary as any expansion of advances on their account is of lesser importance. For the tight banks, also the principals of any advance expansion, the problems of expansion are serious. Every new advance of a rupee requires the prior discovery of a rupee of reserves to meet the concomitant withdrawal⁸. There are several sources of such new funds. The purpose of the next four sections is to examine the extent to which each can be tapped as the system becomes increasingly tight. In Section X, the determinants of the volume of inter-bank transfers are analysed; in Section XI, the possible economization of cash and excess reserves; in Section XII, the amount of indebtedness to the State Bank; and in Section XIII, the size of the liquidity ratio. To understand the limits to advance expansion in the system, we must look at each, for they are the means whereby the tight banks acquire funds.

SECTION X

INTER-BANK REALLOCATIONS OF FUNDS

Funds are reallocated among banks in two ways, by borrowing and lending call money and by clearing balances maintained in one bank by another. The economic implications of these two processes are quite similar although the motives of the participating banks are quite different. In the call market, the borrowing bank is paying a price in order to acquire funds; in the other case, the depositing bank

8. Part of any withdrawal will probably return to or stay in the banking system as deposits, but no single bank is large enough to rely on this. For example, the National Bank, with the largest deposits of any bank in Pakistan, holds about 30 per cent of the total non-bank deposits in the system. Such deposits comprise 45 per cent of the sum of deposits and currency (both figures are for December 1961). Thus, the National Bank can expect, on the average, a return of less than 14 per cent of any withdrawn new advances. Other banks must expect much less. In fact, it happens that currency drawings often occur simultaneously with advance expansion (see Section XIII), which means that an even smaller flow-back may be safely anticipated.

is foregoing earnings in order to possess useful cash assets. Because the motivations are so different, analysis of the amounts that are transferred in each of these categories should be conducted separately. Unfortunately, as was stated earlier, it is difficult to make a meaningful separation of these two types of inter-bank reallocations. We can at best approximate the distinction by treating all "inter-bank borrowings" (time and demand) as call money and all "inter-bank deposits" (time and demand) as unsolicited balances. To what extent this bifurcation is useful will shortly become apparent.

In the call money market, which consists only of banks, certain banks are traditionally lenders and certain others borrowers. Very few banks find themselves sometimes a borrower, sometimes a lender of call money. But to make this statement, correct in itself, runs the risk of overlooking a very important attribute of such a market: every participant is *potentially* a borrower or a lender, at *some* call rates. There is some rate, sufficiently high, that will convert all potential borrowers into lenders, and some rate, sufficiently low, that will convert all potential lenders into borrowers. One way to classify the Scheduled Banks might be by the call rate at which a bank wishes neither to lend nor to borrow call money.

Such a classification is, of course, impossible but it is not pedagogically uninteresting. We can imagine the American banks, not wishing to tie up any more funds than necessary in government securities and unable for the present to make many advances, anxious to lend their surplus funds at call even at very low rates; for them, the only real alternative is increased cash assets of no earning power. At the other extreme are certain of the British banks, their eligible State Bank collateral exhausted and liquidity ratio at a minimum, these banks would require quite a high call rate (and not a few months) to induce them to stop borrowing. Thus, for each bank, we can visualize a downward-sloping supply-and-demand schedule for call loans. Such a schedule is pictured (CC) in Figure X-1.

At a call rate above i_0 , this hypothetical bank becomes a lender of call money; at rates below i_0 , a borrower. There is, of course, no reason for assuming that this schedule is linear, as drawn in Figure X-1: we might expect several regions of distinct non-linearities. Around i_0 , there may be an inertia region of call rates where the bank would

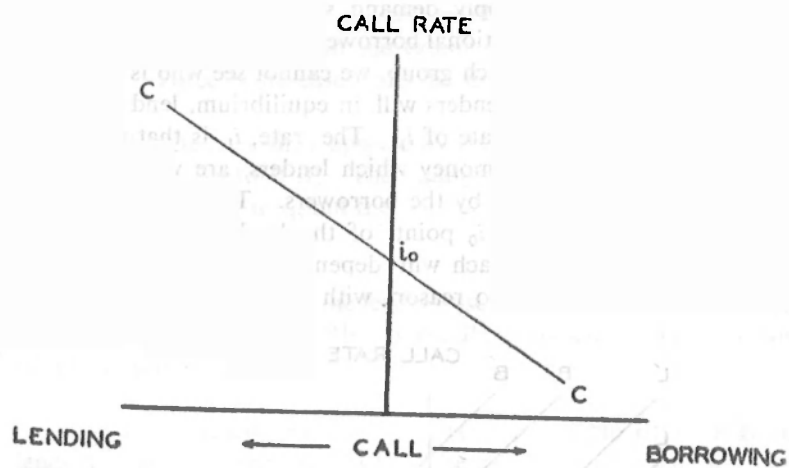


FIGURE X-1

neither borrow nor lend. The Bank Rate would surely provide a kink for these banks which are still borrowing at call rates in that neighbourhood. There may be a floor to lending rates or limits to borrowing quantities as the call rate approaches zero. And the amount of lending eventually reaches a technical and institutional maximum.

The “neither-a-borrower-nor-a-lender-be” point, i_0 , will differ greatly between banks. But, it is not unreasonable to assume that the i_0 points of the traditional lenders are closely grouped (at a low level) and that the i_0 points of the traditional borrowers are closely grouped (at a high level). The critical diversity of i_0 points is *between* these two groups, not within each. If it is assumed that all the i_0 points of the banks comprising each group are identical, we can easily draw a schedule for the low- i_0 group and a schedule for the high- i_0 group. These aggregated schedules are simply the horizontal sum of the individual schedules of the members of the group and of course cross the call-rate axis at the i_0 point, assumed the same, of the members. This simplification does make it impossible for us to consider one British bank borrowing from another (or one American bank borrowing from another); while these are indeed conceivable occurrences, neglect of them is not serious.

In Figure X-2, the supply demand schedules of the traditional lenders, LL, and of the traditional borrowers, BB, are drawn. Because of the aggregation within each group, we cannot see who is lending to whom, but the traditional lenders will, in equilibrium, lend OI_1 to the traditional borrowers at a rate of i_1 . The rate, i_1 , is that rate which equates the supply of call money which lenders are willing to offer with the amount demanded by the borrowers. This equilibrium rate is somewhere between the i_0 point of the lenders and that of the borrowers—how far from each will depend upon the slopes of LL and BB (here drawn, for no reason, with identical slopes).

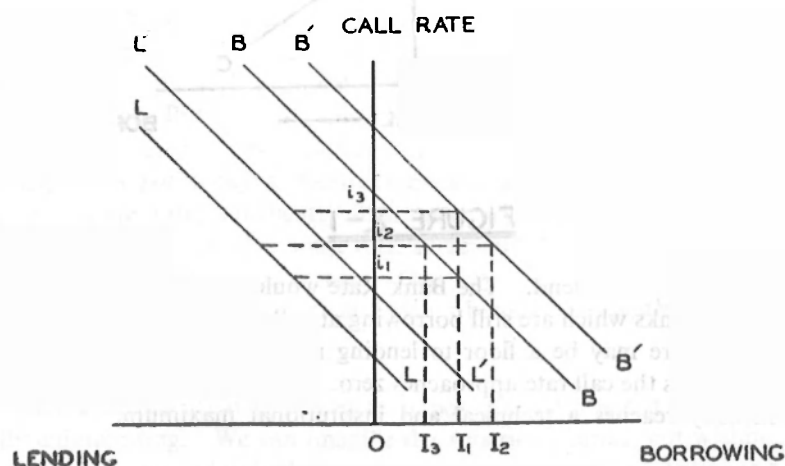


FIGURE X-2

We must now consider what happens to the call rate and to the quantity of call money when there is an expansion of demand for advances. In the face of such an expansion, the typical call-lender bank will prefer to lend less into the call market, and the typical call-borrower will seek to borrow more. In terms of Figure X-1, an expansion of demand for advances will cause a rise in the i_0 point, wherever it is (and perhaps also a change in the slope of the schedule, but this may be neglected). Thus, the call market supply-and-demand schedule will in these circumstances generally shift upwards and to the right, from LL toward L'L' for lender banks and from BB toward B'B' for borrower banks.

Exactly what happens in the call market in response to these shifts depends very critically upon the extent, absolutely and relatively, of the shifts. Three basic cases may be distinguished:

1) Both schedules shift upward by the same amount¹, from LL to L'L' and from BB to B'B'. The equilibrium interest rate in the call market rises from i_1 to i_3 , but the volume of funds transferred remains unchanged at OI_1 .

2) Only the schedule of the lenders rises, from LL to L'L', the borrowers' schedule remaining at BB. The call rate rises to i_2 and the volume of funds declines to OI_3 .

3) Only the schedule of the borrowers rises, from BB to B'B', the lenders' schedule remaining at LL. The rate rises to i_2 and the volume of funds increases to OI_2 .

The only sure conclusion of this is that the call rate will rise in response to an increased demand for advances, regardless of how this increased demand is distributed among the banks. If the traditional borrowers receive the greater part of the new advances demand, then the volume of call funds will increase; if the traditional lenders receive it, the volume will decline. Theory can tell us no more.

The historical evidence is, however, much more voluble. In Figure X-3, the volume of inter-bank borrowing (time and demand) as a fraction of total "other" (*i.e.*, non-bank) deposits is plotted against the call rate as a ratio to the Bank Rate over the past decade². There is a distinct upward slope, indicating that in booms, seasonal or secular, the traditional borrowers in the call market receive the larger share of the

1. Always assuming identical and unchanging slopes. If this is not assumed, the conclusions are much more complex but not fundamentally altered.

2. The series covers exactly 40 quarters, starting in June 1952 because it is not possible to separate bank from non-bank deposits before that date. The volume of inter-bank borrowing is "deflated" by the volume of "other" deposits in the banking system in an effort to remove the effect of the strong upward trend in each of these absolute figures. The call rate is divided by the Bank Rate in an effort to make allowance for the rise of the latter in 1959; the conclusions of Appendix C suggest that this ratio is particularly relevant to the bank's calculations. All data are found in *RC & F 57-58*, *RC & F 60-61*, Irani's *Market Weekly* (*op. cit.*), and *SBP:B*, April 1962.

new demand for advances. The call market is again seen as the means whereby the British banks are able to retain their advance customers despite declining (relative) deposits. Needless to say, the correlation

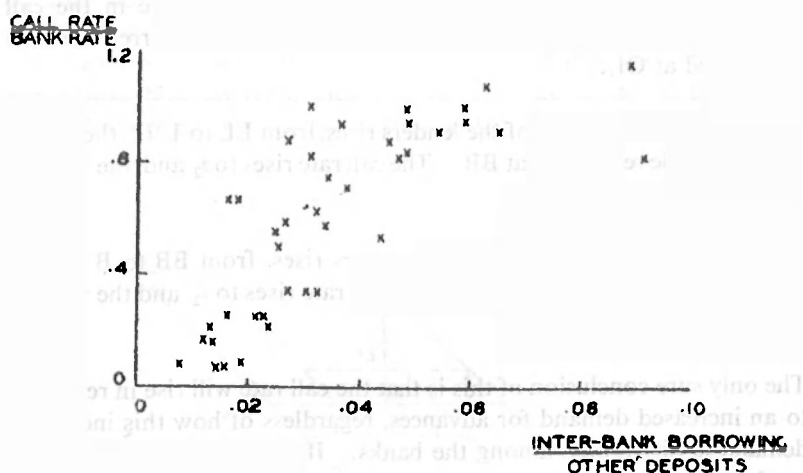


FIGURE X-3

in Figure X-3 is not perfect—surts in advances demand are not always proportioned in exactly the same way—but the positive slope is clear.

Two other aspects of Figure X-3 should be noticed. One, the pattern suggests that some inter-bank borrowing will occur even if the call rate is zero³. This indicates that some portion of this so-called borrowing probably consists more correctly of deposits held for the convenience of the lender. A correct dichotomy between these two types of loans is unattainable but might be better estimated if the entire pattern of crosses was shifted about one percentage point to the left.

Two, the relationship appears to flatten out in the region where the call rate equals the Bank Rate. It is difficult to discover a good reason why this should be so; while it is easy to believe that the borrowers' schedule changes shape at the Bank Rate, it is not easy to find a reason why the lenders' should be (for these latter are not in debt to the State

3. About one per cent of "other" (*i.e.*, non-bank) deposits.

Bank). And, since the borrowers' schedule shifts much more than the lenders', the pattern in Figure X-3, approximately traces the mirror image of the traditional lenders' schedule⁴. Thus, it is perhaps wisest to blink at appearances⁵. If the two extreme right-hand crosses (September and December 1960) are considered aberrations, the relationship in Figure X-3 seems unaffected by the proximity of the call rate to the Bank Rate⁶.

Call money is but one of the two ways that banks reallocate funds between themselves. We must also consider inter-bank deposits. Most banks *both borrow and lend* inter-bank deposit balances—unlike call money where a bank almost always *either borrows or lends*. Presumably, the amount of funds the bank borrows in this way is not a variable at its discretion; banks accept balances from other banks whenever they are offered. But the amount a bank maintains as balances in other banks is subject to its decision.

When the demand for advances rises, how will a bank react with respect to its balances in other banks? There is surely a tendency to lower such deposits as those banks whose advances expand use these balances as reserves and those banks whose advances do not expand seek to profit from the higher call rates. Offsetting this, however, is the need for larger clearing balances when economic activity is more rapid. Especially those banks which increase advances must expect greater variability and even losses in their clearings. We cannot know *a priori* which of these forces will predominate.

In fact, it seems that the former has been the more important over the last decade as Figure X-4 shows⁷. There is a slight, but distinct,

4. By mirror image is meant this: if Figure X-3 were relabelled "inter-bank lendings" instead of borrowing, the pattern of crosses would approximate the traditional lenders' schedule.

5. See Appendix D.

6. Some of the apparent curvature may result from hidden "deposits" in "borrowings". At low call rates, some 1—2 per cent of "other" deposits are inter-bank "borrowings" when we should expect almost none. Probably the extent of these misnomered borrowings declines as the call rate rises. If the lower crosses were moved 1—2 per cent to the left and the higher ones left unmoved, the slope of the relationship would seem even less affected by the nearness of the call to the Bank Rate.

7. In Figure X-4, the variables are the call rate "deflated" by the Bank Rate and the ratio of inter-bank *deposits* to "other" (*i.e.*, non-bank) deposits. The period and sources are the same as for Figure X-3.

negative slope to the pattern of crosses. But the scatter is sufficiently random that it is clear there are many forces other than the call rate and behind it the demand for advances, determining the volume of inter-bank deposits.

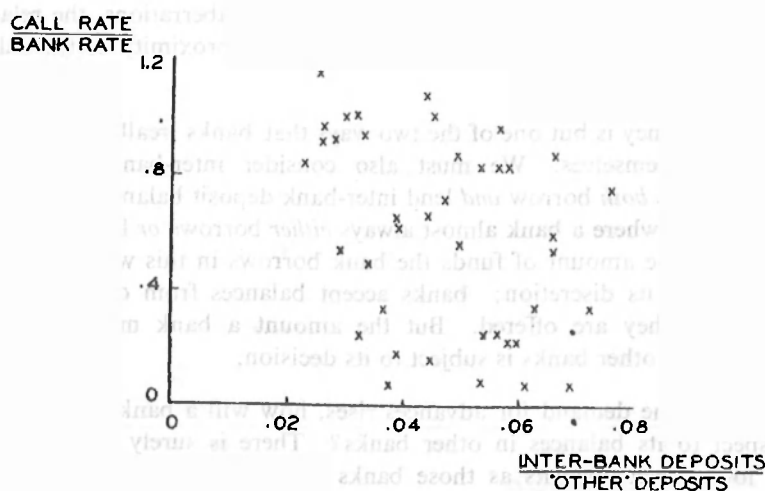


FIGURE X-4

Figure X-4 gives an indication of the gross amount of inter-bank transfers by way of deposits, but it is not necessarily an indication of the *net* amount. This latter figure could be calculated only if we know the position of the individual banks and could add up the net position of the net lenders (or the net borrowers)⁸. If, at one extreme, those banks which received deposits from other banks never made such deposits themselves, the gross position would indeed be the net. If, at the other extreme, every bank held just as large balances in other banks as it receives from other banks, the net position is zero regardless of the gross. In fact, all we can say is that the *net* inter-bank transfer of funds through deposit balances is between zero and the gross transfer.

If the net transfer through deposits is zero, then the overall net transfer (through deposits and borrowings) is, as shown in Figure X-3, greatly responsive to the call rate. If, however, the net transfer through

8. See Section VIII for the meaning and definition of "net" in this context.

deposits is equal to the gross transfer, then the overall net transfer is much less correlated to the call rate, as is shown in Figure X-5. But the positive slope is still quite clear.

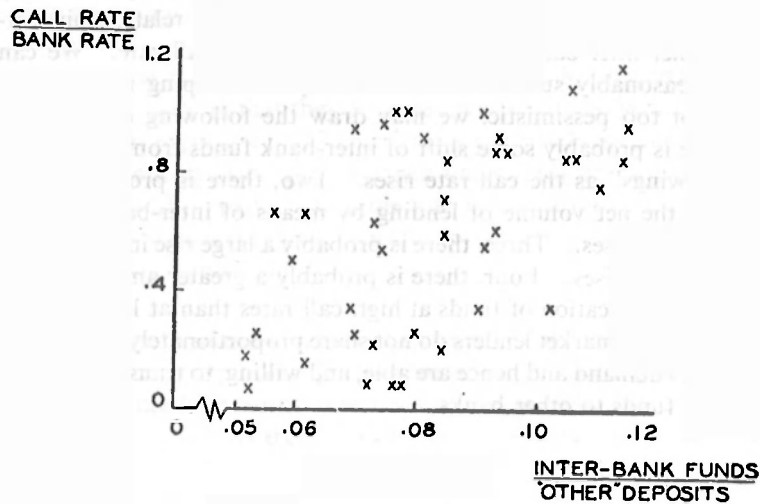


FIGURE X-5

Note: The same period and sources as Figures X-3 and X-4. "Inter-bank funds" are the sum of inter-bank *deposits* and *borrowings*.

This gross-versus-net problem is one that appeared to a lesser extent even in the call borrowing analysis. Occasionally, a bank will temporarily lend on call what it has earlier borrowed "on call". But the situation was rare enough there to be neglected. In deposits also, probably few of the banks which receive large amounts of such balances also place large amounts with other banks. The National Bank is undoubtedly the biggest receiver of such deposits and its balances with other banks are probably very small⁹. So the net transfers implicit in Figure X-4 may be fairly near the gross. But even this does not solve the problem, for the sum of the net transfers through call money and the net transfers through deposits is not equal to the overall net

9. The National Bank may receive as much as half of the inter-bank deposits, which were Rs. 10.68 crores at the end of December 1961 (*Weekly Statement*). But its balances with other banks in current account were only Rs. 1.17 crores on that date (See Section VIII).

transfer. Many banks may be net borrowers of call and net lenders of deposits, and these positions should, in the overall, be netted out¹⁰.

Thus, the conclusion must be very nebulous. Probably something like Figure X-3 or Figure X-5 represents the "true" relationship between the *net* inter-bank transfer of *funds* and the call rate. We can only be reasonably sure that this is an upward-sloping relation. If we are not too pessimistic, we may draw the following conclusions. One, there is probably some shift of inter-bank funds from "deposits" to "borrowings" as the call rate rises. Two, there is probably some decline in the net volume of lending by means of inter-bank *deposits* as the call rate rises. Three, there is probably a large rise in call *lending* as the call rate rises. Four, there is probably a greater amount of net inter-bank reallocation of funds at high call rates than at lower. And five, the big call-market lenders do not share proportionately in increases in advances demand and hence are able, and willing, to transfer a greater volume of funds to other banks.

SECTION XI

DETERMINANTS OF CASH ASSETS

For reasons of liquidity in the very short run, banks must always hold some balances in the various cash assets—assets which earn nothing (except in unusual circumstances) but are acceptable to all for meeting obligations. In Pakistan, there are basically three such assets: 1) actual notes and coins in the vault; 2) current account balances with other banks; and 3) balances with the State Bank in excess of what is legally required. Since we have examined the second of these in the previous section, we will here consider only the first and third. It should not be thought that the second differs from the other two with respect to its use by the bank as pure liquidity; it is just that it also has the attribute, unlike the other two, of being an inter-bank transfer of funds, and hence was conveniently considered there. Moreover, in Pakistan (as was mentioned earlier), it is difficult to be certain to what extent the labels on inter-bank accounts, deposit or borrowing, time or

10. The State Bank, and only it, can clear all this up by publishing the *net* positions of the Pakistani, British, American and other foreign banks in inter-bank deposits and borrowings. This data, over the 1950s, would add greatly to our knowledge of inter-bank relationships. The "netting-out" procedure would, of course, need to be carefully planned.

demand, convey the true nature of the account. Thus, what are called demand accounts between banks may in fact be fairly illiquid balances. For these reasons, here we will treat as cash assets only vault cash and excess reserves with the State Bank.

Cash assets place the bank in somewhat of a dilemma, as mentioned in the last section, in that they are most needed at the very time when they are most expensive. When a bank's potential for converting cash assets into earning assets is great, then uncertainty about the retention of deposits is also great. Thus, the way in which the quantity of cash assets reacts to changes in the demand for advances, or the call money rate, cannot be predicted.

In the case of inter-bank deposits, it was found (Section X) that the profitability consideration slightly outweighed the liquidity need; higher call rates induced the banks to hold smaller inter-bank balances. Figure XI-1 shows that this is true also of the other non-earning cash assets.

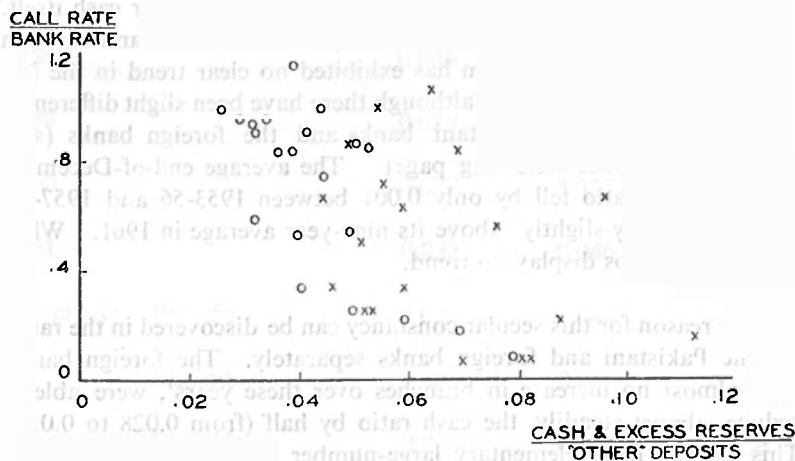


FIGURE XI-1

As before, the sum of cash and excess reserves is deflated by "other" (*i.e.*, non-bank) deposits in order to remove the secular trend. The state of tightness in the system is measured by the call rate, as a ratio to the Bank Rate to allow for the upward shift in call rates after the Bank Rate rise. The data are from *Weekly Statements*, end of each

quarter (June 1952 through March 1962)—as before, with the exception that crosses are used for the data up through December 1956 and circles thereafter.

The pattern of crosses and circles, taken as a whole, is significantly negatively sloped. But this is misleading, as separate examination of the two periods indicates. There are several differences between the two: the pattern of the later period 1) is less erratic; 2) is more clearly of negative slope; and 3) is centred more to the left. This suggests that the banks, in their earlier years, determined the size of their cash assets more or less independently of opportunity cost considerations, and that these cash asset balances were generally large. In recent years, on the other hand, such balances have been reduced and have become more subject to change when foregone profits dictate.

There are several possible explanations of this relative decline in cash assets. The one that offers itself most readily concerns various ways by which banks might reduce their relative needs for cash itself. In fact, however, the use of cash *per se* (i.e., notes, coins and silver in vaults) in the banking system has exhibited no clear trend in the last decade (relative to deposits), although there have been slight differences in the changes of the Pakistani banks and the foreign banks (see, Table XI.1, on the following page). The average end-of-December cash in vault ratio fell by only 0.001 between 1953-56 and 1957-61, and was actually slightly above its nine-year average in 1961. While erratic, the ratios display no trend.

The reason for this secular constancy can be discovered in the ratios for the Pakistani and foreign banks separately. The foreign banks, with almost no increase in branches over these years¹, were able to reduce, almost steadily, the cash ratio by half (from 0.028 to 0.014). This follows from elementary large-number theory: if deposits (per branch) double, a bank need not as much as double its vault cash to cover the same degree of risk of temporary shortage. The branch expansion of the Pakistani banks has precluded them from sharing

1. Between June 1953 and June 1961, the number of branches of foreign banks in Pakistan fell by ten; the Indian branches declined by thirteen and the other foreign branches rose by three (*BS 60-61*, p. 110).

Table XI. 1

Period	Ratio of cash to non-bank deposits of		
	All banks (1)	Pakistani banks (2)	Foreign banks (3)
1953	0.027	0.048	0.028
1954	0.033	0.044	0.023
1955	0.027	0.035	0.020
1956	0.041	0.050	0.019
1957	0.038	0.047	0.018
1958	0.036	0.060	0.029
1959	0.020	0.044	0.014
1960	0.027	0.037	0.014
1961	0.033	0.046	0.014
Averages: 1953-56	0.032	0.044	0.023
1957-61	0.031	0.047	0.018
1953-61	0.031	0.046	0.020

Source: BS 48-57 through BS 60-61.

Notes: Col. (1): *Weekly Statements* for last Friday December; "cash in Pakistan" divided by "other" (i.e., non-bank) deposits.

Cols. (2) and (3): *Quarterly Statements*, December; "notes, coins, and silver" divided by time and demand deposits "from others" (than banks). These columns are *not* strictly comparable with Col. (1).

these economies of scale. Not only is their cash ratio double that of the foreign banks, but it is rising². Economies of scale, greater use of telegraphic transfers, and improved intra-bank (inter-branch) communication have failed to offset fully the increased vault cash requirements of the branch-expansion programme.

If the ratio of cash plus excess reserves to deposits has declined, but that of just cash has not, the decline must have occurred in the excess reserve ratio. It did as is shown in Table XI.2 below:

Table XI.2

Date	Ratio of excess reserves to non-bank deposits
1953	0.019
1954	0.026
1955	0.028
1956	0.023
1957	0.015
1958	0.015
1959	0.011
1960	0.011
1961	0.011

Source: Weekly Statements, for last Friday December.

Note: Excess reserves are "balances with State Bank" less "statutory reserves".

2. Of course, some of the Pakistani banks may prefer to cover a greater part of the cash-shortage risk than do the foreign banks. But, this almost certainly will not account for the entire difference.

The ratios begin to decline in 1956 and the average over 1957-61 is almost half that of 1953-56. It is no coincidence that the Scheduled Banks' holdings of the government securities began to increase rapidly about the same time as this excess reserve ratio began its decline. By 1957, the State Bank was pushing out large quantities of these securities; with their irreproachable ability to serve as collateral for State Bank borrowing, these securities began to replace excess reserves as the bank's emergency reserves. With potential liquidity abundant, most of the busy season excess reserves with the State Bank are no more than slight miscalculations of probable required reserves.

Cash in vaults and excess reserves are but a small fraction of deposits even for banks with many branches. The fraction is probably as low now, at 2-4 per cent, as banks dare press it and is not very responsive to changes in the call rate. Only once have suitable earning assets been so scarce as to push the fraction over 10 per cent; as long as the banking system remains even fairly tight, the cash ratio will not be subject to much variation.

SECTION XII

DETERMINANTS OF STATE BANK INDEBTEDNESS

Critical to an understanding of the determinants of the volume of credit in any banking system are the answers to *when* and *how much* do the banks borrow from the central bank. In Pakistan too, these questions must be asked. But first there is the important, though lesser, problem of defining the term "indebtedness". At its simplest, of course, the word means the sum of Scheduled Bank borrowings from the State Bank in all the various guises discussed in Section VII. However, this neglects the fact that some banks also "lend" to the State Bank in that they maintain balances above those required (*i.e.*, excess reserves). We wish to get a figure which represents not just indebtedness but the larger concept, *net* reserves borrowed by the Scheduled Banks from the State Bank; for, if one bank keeps excess reserves of a rupee and another borrows a rupee, this is much more an inter-bank transfer than a creation of new reserves by the State Bank.

Thus, in this section, we shall use this latter concept, the difference

between excess reserves and State Bank indebtedness¹. This is usually called "net free reserves"², a particularly well-chosen label. The only problem with this concept is that it is not thoroughly symmetrical in all ways. It does give the net amount that the Scheduled Banks together lend to (if positive) or borrow from (if negative) the State Bank. But borrowings cost the Bank Rate, while lendings earn nothing; this gap in the profitability means that there are many configurations of bank circumstances that will induce the bank neither to borrow from nor to lend to the State Bank.

For a particular bank seeking funds the choice is often call money borrowing or State Bank borrowing; for a bank seeking an outlet for funds, the choice is often call money lending or excess reserves with the State Bank. Thus, for borrowers, the call rate is weighed against the 4-per-cent Bank Rate, while for lenders, the call rate is weighed against zero-yield excess reserves. Net free reserves will clearly be greatly influenced by the relation of the call rate to the Bank Rate. Moreover, the regions around call rates of zero and of the Bank Rate will be especially significant.

The expected relation between net free reserves and the ratio³ of the call rate to the Bank Rate is shown in Figure XII-1. The path of net free reserves as the call rate rises, for a fixed Bank Rate, is ABCDE (or ABCDF). This tortuous hypothesis is best explained segment by segment.

AB: Lending on call involves some expense and nuisance to the lending bank; there is, therefore, for each bank, some floor call rate below which the profits are not worth the bother. On Rs. 1 crore of call money, for example, a bank earns each day about Rs. 278 at 1 per cent, Rs. 139 at 0.50 per cent, and Rs. 70 at 0.25 per cent. Somewhere around $\frac{1}{4}$ — $\frac{1}{2}$ per cent most lending banks withdraw their

1. By tradition, the sign is positive if excess reserves exceed indebtedness, negative if the reverse.

2. This term is also calculated, though slightly differently, in *RC & F 60-61* (for the first time). The figure, as used there, comprises excess reserves *plus* cash-in-tills *minus* borrowing from the State Bank. Since cash ratios are fairly stable (Section XI), the two calculations are very similar.

3. See Appendix C for the relevance of this ratio.

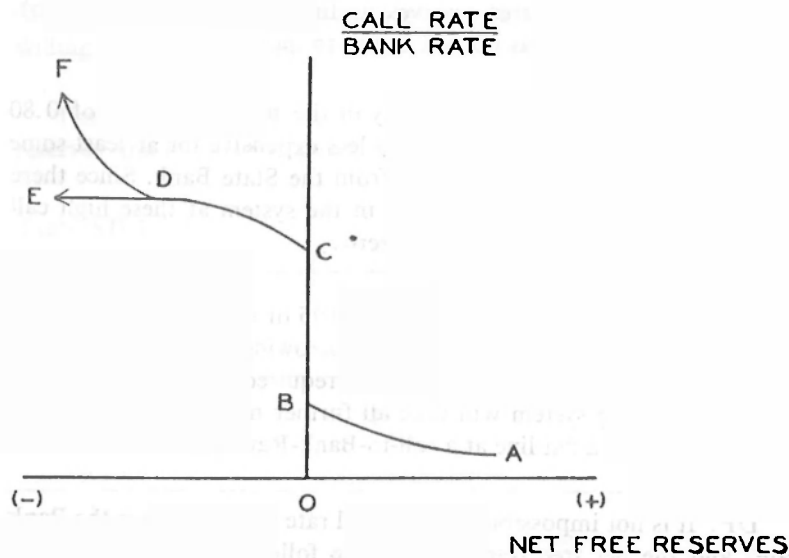


FIGURE XII-1

funds from the call market⁴. These funds are almost always transferred to the State Bank balances, though of course there are other possible placings for them⁵. At call rates of B and below, potential call lenders prefer to hold excess reserves. Potential call borrowers are of course out of debt to the State Bank at these low call rates, so net free reserves become increasingly large at call rates below B. B is presumably somewhere below 1 per cent.

BC: At call rates above B, it is still profitable for the seekers of funds to borrow call, not State Bank; and the rates are now sufficiently attractive to induce the lenders to run down their excess reserves. Thus,

4. Call rates of "1/4 per cent" have not been quoted since 1954 and rates of "1/4—1/2 per cent" only twice (in May and June 1959). The floor seems to have risen since rates of "1/4 per cent" were quoted six times over 1949-53. See *RC & F 53-54* through *RC & F 60-61*.

5. Principally, cash-in-vaults and government securities. Banks see no need to burden themselves with unnecessary supplies of cash, and the purchase of securities they are not forced to buy and may never be able to sell is unthinkable (Section IV).

the positive part of net free reserves declines to zero (or nearly so), while the negative part has not yet begun to increase.

CD: At some call rate, probably in the neighbourhood of 0.80 to 0.95 of the Bank Rate⁶, it becomes less expensive for at least some seekers of funds to begin to borrow from the State Bank. Since there are already negligible excess reserves in the system at these high call rates, net free reserves move below zero.

DE: Once the call rate has reached 0.95 of the Bank Rate (about $3\frac{3}{4}$ per cent at present), the State Bank borrowing becomes less costly than call money (because reserves are required against call money). Then, the banking system will take all further new reserves from the State Bank; DE is a flat line at a call-to-Bank-Rate ratio of about 0.95.

DF: It is not impossible that the call rate will rise above the Bank Rate, and the net free reserves schedule follow DF instead of DE. This might occur under two quite different sets of circumstances:

1) The Scheduled Banks exhaust their supplies of eligible collateral and the State Bank refuses to lend further amounts to them in the absence of such collateral. If the demand for advances is great, some banks may then bid up the call rate in a frantic effort to get new funds somewhere.

2) Despite plentiful supplies of eligible collateral, some banks may feel (or be induced by the State Bank to feel) that indebtedness to State Bank should be kept within limits. If they then require funds, they would feel the necessity for taking call money despite its expense (relative to the Bank Rate). This possibility is unlikely, for it is not clear why, a bank should decide that State Bank debt is bad, and then plunge more deeply into call money debt⁷.

Thus, if there is a DF segment to the schedule, it probably means

6. See Appendix C.

7. This criticism does not apply to the argument that the schedule is ABCD—and stops at D (*i.e.*, banks cease at that point to do further borrowing of either kind).

simply that some banks have run out of State Bank collateral, and are willing to pay above the Bank Rate for funds.

The following Table XII.1, summarizes the schedule of net free reserves and its two components as the call rate rises:

Table XII.1

Call rate	Excess reserves (1)	State Bank debt (2)	Net free reserves (3)
A to B	+	0	+
B to C	0	0	0
C to D	0	+	-
D to E (or F)	0	Very +	Very -

If the reader prefers to see only the State Bank indebtedness, he needs look only at the negative net free reserves quadrant at call rates above C. Some such debt does begin to take place at call rates below C, but (as we shall soon see) mostly for special reasons.

In Figure XII-2 are presented the configurations of the call-to-Bank Rate ratio and the ratio of net free reserves to "other" deposits⁸ over the last 33 quarters (March 1954 through March 1962)⁹. The

8. "Other" deposits are non-bank deposits. The ratio is taken to deflate the secular trends in net free reserves and deposits.

9. Data on Scheduled Bank borrowings from the State Bank are not available before March 1954. Source: *Weekly Statements*.

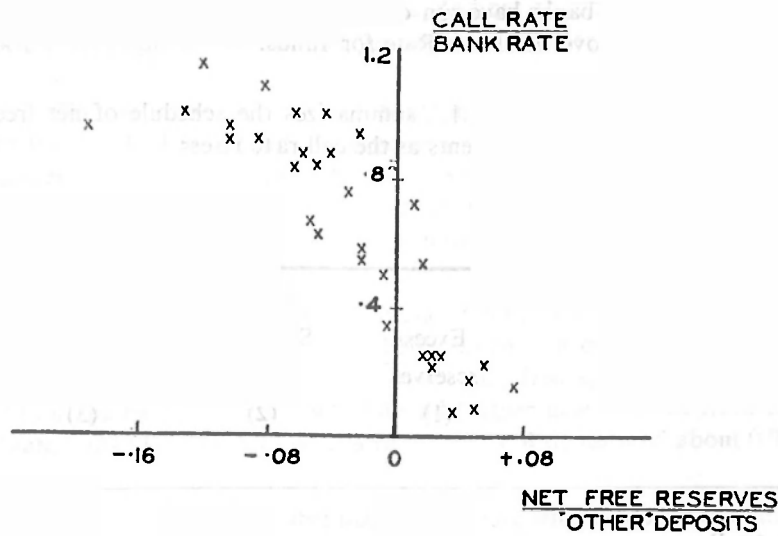


FIGURE XII-2

crosses range from positive net free reserves of nearly 8 per cent of non-bank deposits (in June 1956) to negative net free reserves of nearly 20 per cent (in March 1962). While the pattern is roughly that hypothesized in Figure XII-1, there is little more than the generally negative slope to recommend it. There appears to be neither a flattened AB segment nor a vertical BC segment.

We need not look far to find the reason for this poor fit. The hypotheses of Figure XII-1 are derived on the assumptions that each bank is rational (in the sense that, having decided to borrow, it borrows where it is cheapest if it has a choice), and that all State Bank borrowing is done at the Bank Rate. The first assumption does not usually apply to the National Bank, and its peculiarities significantly affect the position of the entire Scheduled Banks. The National Bank seems to prefer under most circumstances to get its new funds at the State Bank. And the National Bank, with its outpouring of nation-serving advances, frequently needs funds. Although exact figures are impossible to acquire, it is very probable that the National Bank has borrowed from the State Bank, at the Bank Rate or one per cent below it at times when it could have gotten call money at one per cent (September 1957),

1-1/2—1-3/4 per cent (June 1957), and 2-1/4—2-1/2 per cent (March 1959, when the Bank Rate was 4 per cent)¹⁰. The second assumption does not apply to counter-finance where the borrower is charged one percentage point below the Bank Rate.

Clearly, it would be more sensible to test the hypotheses on all Scheduled Banks *except* the National Bank, whose size peculiarities and especially great access to counter-finance distort the picture. Unfortunately, this is not statistically possible since no quarterly figures for the National Bank are available (and the annual ones are largely incomparable with the *Weekly Statements*). But a close approximation can be made to this ideal. Most of the counter-financing is done by the National Bank¹¹. And most of the National Bank's indebtedness to the State Bank is through counter-financing¹². Thus, we can come close to eliminating the National Bank's borrowing from the net free reserves figures if we omit all counter-finance from the calculations. This is done in Figure XII-3, which is constructed in the same way as Figure XII-2 except that net free reserves are now calculated from excess reserves minus all Scheduled Bank borrowing from the State Bank other than counter-finance. As before, the net free reserves figures are divided by "other" deposits as a secular deflator, and the data now cover the 25 quarters, December 1955 through December 1961¹³. The circle represents an estimate of the March 1962 observation, probably an accurate one¹⁴.

10. Estimated on the weak assumption that if there is counter-financing, at least some of it is done by the National Bank. See next paragraph.

11. Rs. 28.88 crores of National Bank counter-finance out of Rs. 28.88 crores total counter-finance in December 1961 the only date for which the National Bank counter-financing figures are available (see its published balance sheet for December 1961 and Appendix B). The fraction is probably somewhat less than 100 per cent in other quarters.

12. Rs. 28.88 crores of the National Bank counter-finance out of Rs. 37.96 crores of the total National Bank borrowing from the State Bank in December 1961 (see its published balance sheet). The fraction is probably between 50 per cent and 75 per cent in most years.

13. All data again from *Weekly Statements* except for the counter-financing (See Appendix B). Only those 25 quarters are included for which counter-finance data is available.

14. The assumption is that counter-finance was Rs. 40 crores at the end of March 1962. Based on hearsay, the estimate is nevertheless surely within Rs. 5 crores of the true figure. Since net free reserves (including counter-finance) are Rs. —68 crores, those excluding counter-finance are Rs. —28 (± 5) crores. The ratio is therefore —.080 (± .015).

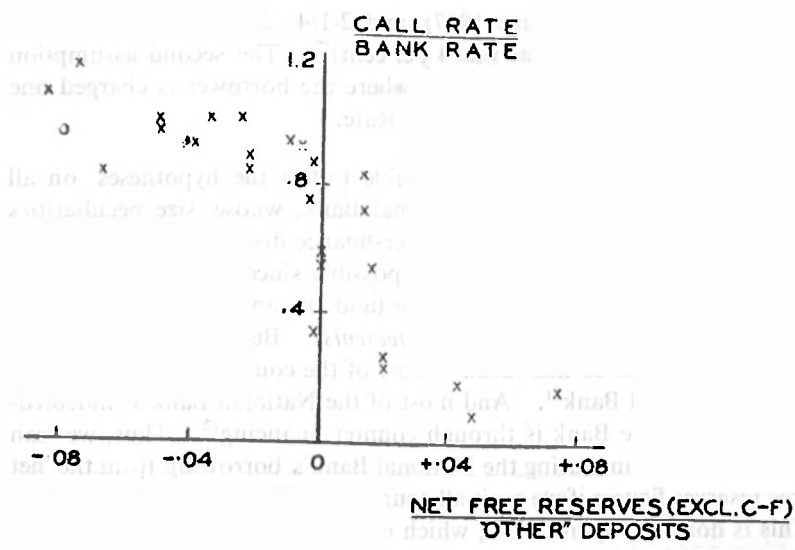


FIGURE XII-3

Figure XII-3 fully supports the hypotheses of Figure XII-1. There is a relatively flat AB segment over the range of call rates 0.1 to 0.3 of the Bank Rate. There is the vertical BC segment up to call rates about 0.8 of the Bank Rate¹⁵. Finally, there is a CD, DE, and/or DF range in the region where call rates are close to the Bank Rate.

It is not easy to point out where and when the potential State Bank borrowers run out of collateral. Twice (up through December 1961) net free reserves (excluding counter-finance) reached minus seven per cent of non-bank deposits and twice (up through December 1961) the call rate passed the Bank Rate. The times were the same, December 1956 and December 1960. This suggests that 7 per cent is the approximate point of collateral exhaustion, but if the estimate for March 1962 is correct, the point is now out past 8 per cent.

There must always be a DF segment somewhere (as long as "clean" advances from the State Bank are limited), in the short run fairly fixed,

15. This vertical segment has random deviations which tend slightly to the positive net free reserve side. It is reasonable that errors should tend toward excess reserves in view of the penalties and embarrassment attendant to failure to satisfy the legal reserve requirements.

in the long run capable of being shifted leftward. Since the State Bank must now accept securities as collateral (and counter-finance), the start of the DF segment depends upon the willingness of the State Bank to accept bills as collateral and the extent to which bills are eligible. These put limits, both long-run and short-run, on the DF segment's position. The State Bank cannot accept less than no, nor more than all, eligible bills as collateral. Actually, the range to the State Bank's willingness to accept bills is, of course, much more narrow. Given the policy of encouragement to the Bill Discounting Scheme, *some* bills must always be accepted. And not all the banks wish to go into debt to the State Bank so that, even if those banks which borrowed from the State Bank were permitted to use *all* their bills as collateral, only a fraction (perhaps 50—80 per cent) of the total bills in the system would in fact be used as collateral. Since bills collateral now represents only a small part of the State Bank borrowing and bills are declining in importance¹⁶, the collateral-exhaustion limit clearly cannot be much varied¹⁷. Of course, if the State Bank were to become willing to lend "clean" to banks, this limit could be greatly varied, at least in the direction of expansion. For the State Bank to accept private guarantees as readily as a government guarantee (*i.e.*, to give "clean" advances to non-government banks) would be a very serious step which State Bank officials maintain will not be taken. But, as we shall see in Section XV, it is very possible that the State Bank will soon be forced to consider such an action, no matter how thoroughly it objects. Until the final section, however, we shall assume that the present policy of lending "clean" only to government banks is continued.

Banks can, therefore, borrow as much as necessary up to this limit but experience real difficulty edging much beyond it. This case of expansion up to a point and near impossibility of expansion beyond it, together with the relative immobility of this limiting point, are critical to our understanding of the volume of credit the Pakistan banking system creates.

16. See Section V.

17. See Appendix E for a more rigorous version of this statement.

SECTION XIII

DETERMINANTS OF LIQUIDITY RATIOS

All Scheduled Banks are required by law to maintain certain liquid assets to the amount of at least 20 per cent of certain liabilities (see Section III). The assets which qualify under this legislation as "liquid" —cash, State Bank balances, and unencumbered approved securities comprise, in fact, neither the most liquid of a bank's assets nor all the assets which most banks consider fully liquid. Government securities are, as we have seen (Section IV), far from easily marketable, being liquid only in the different sense that they are undeniable collateral for State Bank borrowing. There is another sense in which the legally defined liquid assets are illiquid: by the very law that 20 per cent of liabilities must be kept in these assets, they become only 20 per cent liquid, *i.e.*, a deposit withdrawal of a rupee releases only 20 paise (Rs. 0.20) of liquid assets to help cover the withdrawal, the other 80 paise of the withdrawal must be found elsewhere. Balances with banks (other than the State Bank) and call lendings to banks are universally considered liquid by bankers (even though some so-called call money is not quite that liquid; see Section VIII).

Thus, what each banker would consider his liquidity ratio may differ from the concept used not only by the State Bank but also by other bankers. Nevertheless, we should not underestimate the relevance of the liquidity ratio, as defined by the State Bank. For some banks, at least at some times, this requirement becomes a real constraint on their operations; if a bank is in danger of failing to fulfil this requirement, it is quite immaterial whether the officers of the bank believe in the intrinsic worth of the formula. For many other banks, their conservative tendencies would never permit them, in the foreseeable future, to approach even distantly so illiquid a portfolio as the 20-per-cent ratio implies; in such cases, the degree of their conservatism may be measured as well by one formula as by another.

The fact that the 20-per-cent figure is so far below the ratio in fact maintained by most banks at most times makes it less useful as a predictive device. It is always more convenient to the central bank planner if no bank has any reserves or liquidity in excess of what is required and if all banks are trying to expand; under these circumstances, it is

amazingly easy to predict the effect upon credit and money supply of various central bank actions. This is not the situation in Pakistan for many reasons, not the least of which is the vast amounts of excess liquidity kept by some Scheduled Banks.

Exactly how large is the liquidity ratio of particular banks, or even of particular groups of banks, is impossible to say. Even the liquidity ratio of all Scheduled Banks as a whole is not officially released and must be estimated, albeit rather closely. Nevertheless, estimates give a good indication of the extent to which these ratios exceed 20 per cent. For the Scheduled Banks as a whole, the liquidity ratio at the end of March 1962 was 38 per cent¹. Not only is this ratio nearly twice the legal requirement, but it is also the lowest that the ratio has been since March 1954 (it has been as high as 53 per cent in September 1959). The liquidity ratio of the Pakistani banks as a whole has ranged, over March 1954 through December 1961, from a low of 47 per cent in June 1957 to a high of 57 per cent in December 1954². The ratio of all foreign banks (other than Indian) as a whole has ranged, over almost the same period, from a low of 35 per cent in September 1961 to a high of 53 per cent in June 1956³.

The ratio of the Pakistani banks is high, relative to the foreign banks, chiefly because the ratios of the two largest Pakistani banks, the National Bank and the Habib Bank, are kept high. The reasons are, of course, not the same. The Habib Bank's conservative lending policies leave it with sizeable quantities of unencumbered securities and often excess reserves as well. The National Bank, though a liberal maker of advances, aids the State Bank by taking large amounts of government securities issues and then has no need to encumber them extensively, preferring counter-finance as a source of lendable funds. The lesser Pakistani banks also seem to maintain fairly high liquidity ratios.

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1. See "Sources: Col. (1)" of Table XIII.1 in this section.
 2. These figures are necessarily calculated somewhat differently and are over-estimates. See "Sources: Col. (2)" of Table XIII.1 in this section.
 3. Also an overestimate. See "Sources: Col. (3)" of Table XIII.1. The period covered here is March 1954 through September 1961; the December 1961 figures fail to separate Indian from other foreign banks, and hence are not comparable.

The low level of the ratio for "other foreign" (*i.e.*, other than Indian⁴) banks is noteworthy when we recall that this includes the American banks whose liquidity ratios are probably quite high. In September 1961, for example, all "other foreign" banks had Rs. 35.12 crores of liquid assets and Rs. 98.93 crores of liabilities, as defined by the liquidity ratio requirement⁵. The overall liquidity ratio was, therefore, 35 per cent. But something like Rs. 20 crores of these liabilities were in the American banks and probably something like Rs. 10 crores of the liquid assets (assuming the American banks kept about a 50-per-cent liquidity ratio). Moreover, it is not implausible that almost all of the securities collateral put up for State Bank borrowing (Rs. 4.63 crores; see Appendix B) belonged to the British banks. This means that the British banks as a whole held something like Rs. 21 crores (35—10—4=21) of liquid assets and Rs. 79 crores (99—20=79) of liabilities, a liquidity ratio of under 27 per cent. Thus, by the autumn of 1961, the British banks, individually and together, had liquidity ratios very near the legal minimum⁶.

For some banks, therefore, the liquidity ratio is a legal constraint; for most, however, it is a matter of taste and policy. Where the liquidity ratio is the latter, it is subject to change. In the remainder of this section, we shall examine two kinds of change. One, secular movements in the ratio, for different banks and different groups of banks. And two, changes in the ratio in response to short-run changes in the situation of banks (especially in the demand for advances).

Table XIII.1 presents *estimates* of the liquidity ratios, since 1951, of all Scheduled Banks, Pakistani Scheduled Banks, non-Indian foreign Scheduled Banks, the National Bank, the Habib Bank, and the Muslim Commercial Bank. These figures must be viewed with extreme caution, for they are *not at all comparable* across rows, and *less than perfectly comparable* down columns (see "Note" at bottom of table):

4. The ratios of the Indian banks are usually high, in the 50—60 per cent region.

5. The liquid assets are overstated as there is no data on the extent to which the "other foreign" banks had encumbered securities. For sources and methods, See "Sources: Col. (3)" of Table XIII.1.

6. There cannot have been much diversity between particular British banks since *each* must have kept the ratio at or above 20 per cent and the average for all was less than 27 per cent.

Table XIII.1

Year*	Liquidity ratio of						
	All banks	Pakistani banks	Foreign banks	National Bank	Habib Bank	Muslim Bank-I	Commercial Bank-II
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1951	n. a.	n. a.	n. a.	0.62	0.59	0.45	0.79
1952	n. a.	n. a.	n. a.	0.46	0.65	0.30	0.48
1953	n. a.	0.58	0.43	0.51	0.74	n. a.	0.56
1954	0.50	0.57	0.44	0.54	0.59	n. a.	0.45
1955	0.46	0.57	0.42	0.51	0.58	n. a.	0.45
1956	0.44	0.55	0.37	0.54	0.61	n. a.	0.53
1957	0.44	0.54	0.39	0.46	0.64	0.36	0.53
1958	0.47	0.54	0.42	0.48	0.63	0.34	0.48
1959	0.48	0.55	0.43	0.44	0.71	0.31	0.48
1960	0.44	0.52	0.39	0.56	0.61	0.30	0.46
1961	0.40	0.48	n. a.	0.52	0.55	0.31	0.45

*All figures are for end of December, except where otherwise noted below.

Sources:

Col. (1): *Weekly Statements*, the sum of "cash in Pakistan", "balances with State Bank", and "investments" (Central and Provincial Government and "other") less encumbered securities (Col. (1) of Appendix B); all this divided by the sum of "inter-bank deposits", "inter-bank borrowings", and "other deposits", both time and demand.

Cols. (2) and (3): *Quarterly Statements*, the sum of "gold", "notes, silver, and coins", "balances with the State Bank", and "total investments in shares and securities"; all this divided by "total demand and time deposits" (including inter-bank) and "borrowings from other banks".

Cols. (4), (5), and (6): published balance sheets of the banks, December 31 for Habib and National Banks and September 30 for Muslim Commercial Bank. The sum of "cash in hand" and "investments" (in government securities and "others") divided by "deposits". Four percentage points are then added to compensate roughly for the balances with the State Bank. In 1957, the National Bank included its State Bank balances in "cash in hand", so the four per cent is not added to that figure.

(footnote continued)

If we neglect the declines in liquidity ratios of the three Pakistani banks between 1951 and 1952, there is little indication of any secular fall in the liquidity ratios of any bank or group of banks up through 1960. And it is still too soon to know whether the generally sharp declines in 1961 are permanent or temporary. Of course, the strongest evidence that plentifully liquid banks were not reducing their liquidity ratios in the past would be no justification for assuming that they would not reduce them in the future. Managers, directors, and the bank's environment change and so, at least eventually, may its policies and attitudes. But the lack of any strong evidence of secular change permits us to neglect it when we study the present short-run problems.

There are many influences upon the liquidity ratio of a bank which can affect its level in the short run. Surely, the most important of the systematic influences is the state of demand for the bank's non-liquid assets, *i.e.*, advances and bills. As the demand for advances expands, and the call rate rises in reflection of this increasing tightness, the liquidity ratio of the banking system should decline. Holdings of excess reserves and cash assets are reduced and securities are increasingly encumbered by the "tight" banks. In the denominator of the liquidity ratio, the changes will also tend to lower that ratio. Inter-bank borrowing

(Footnote to Table XIII.1 continued)

Col. (7): same source as Col. (6). Since the Muslim Commercial Bank did not segregate "cash in hand" and "cash at banks" in the years, 1953-56, the latter was for all years counted in liquid assets in the computation of the ratio in this column. Since Col. (7) is 0.14 to 0.18 higher than Col. (6) in every year (for which both figures are available) except 1951, we are probably justified in assuming that the "n.a." figures in Col. (6) are about 0.40, 0.29, 0.29, and 0.37 over 1953-56 respectively.

Note: The figures of Col. (1) are probably quite close to accurate, erring only to the extent of the errors in the data for State Bank borrowing on securities collateral (see Appendix B). The ratios of Cols. (2) and (3) make *no* allowance for encumbered securities, and hence are *overestimates* to that extent. In Cols. (4) through (6), inaccuracy appears because of the uncertain labels on the banks' balance sheets; the chief errors are the exclusion of all "due to other banks" from the denominator, necessary because State Bank debt is not separated from debt to other Scheduled Banks, and the dubious method by which we include State Bank balances. Col. (7) is obviously a large overestimate as it includes all call lending and balances with other banks as liquid assets.

will rise⁷, and so also will an advances expansion usually increase non-bank deposits⁸. Thus, the tendency is clearly for the liquidity ratio to react inversely to the call rate.

That this expectation is generally fulfilled can be seen in Figure XIII-1 where the liquidity ratio is plotted against the call-to-Bank Rate ratio for each of the 33 quarters, March 1954 through March 1962⁹.

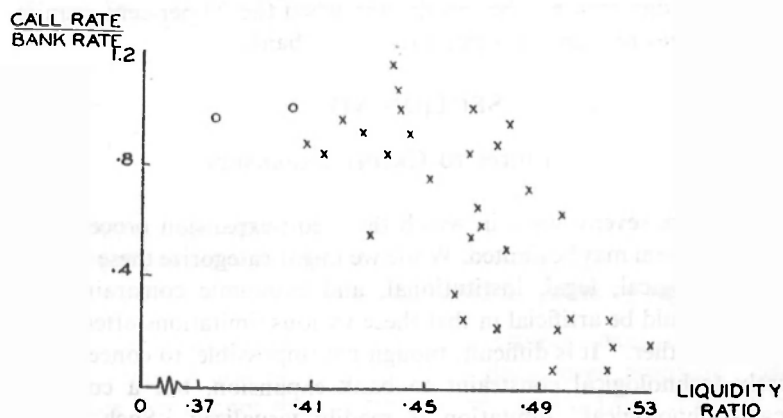


FIGURE XIII-1

The well-behaved pattern of crosses presents only one disquieting feature, shown by the replacement of the cross with a circle for December 1961 (at a liquidity ratio of about 0.403) and for March 1962 (at one of about 0.375). These circles are unexpectedly far to the left of the pattern. Two observations are of course inadequate to reject the hypothesis of mere temporary aberration, but they may well indicate

7. It is not net but *gross* inter-bank accounts that are relevant to the liquidity ratio. That these rise with the call rate is certain from Figure X-5 (Section X).

8. *Ceteris paribus*. In fact, expansion of advances usually is accompanied (in the winter busy season) by a drain into currency of bank deposits. So, in Pakistan, it is not uncommon to find non-bank deposits declining when advances expand. This makes the system even more "tight" when it occurs. The historical evidence shows an absence of a large seasonal pattern in non-bank deposits (See M. U. Chapra and A.N.M. Azizur Rahman, "Seasonal Variations in Scheduled Banks' Activity," *Pakistan Development Review*, Autumn 1962) which suggests that the deposit-creating ability of busy season advances and the deposit-reducing ability of the concurrent currency drain approximately offset each other.

9. The sources and methods are those cited in Table XIII.1 for Col. (1).

a leftward shift of this relationship. This would not be surprising; it is often claimed that prolonged tightness in bank positions induces bankers to economize their lower-yield assets. Perhaps the banks in Pakistan enter the next decade with an altered attitude about desirable liquidity ratios. If the two circles are taken at face value, they suggest that, at any particular call rate, the banks will on the average now maintain a liquidity ratio of at least five percentage points less than before. Indeed, the day may not be too distant when the 20-per-cent requirement becomes relevant to a majority of the banks.

SECTION XIV

THE LIMITS TO CREDIT EXPANSION

There are several ways in which the credit-expansion process of a banking system may be limited. While we might categorize these roughly as technological, legal, institutional, and economic constraints, the division would be artificial in that these various limitations often merge with each other. It is difficult, though not impossible, to conceive of a purely technological constraint to bank expansion, but a combined "legal-technological" limitation is readily visualized. Such a limit would occur, in Pakistan, if every bank were at minimum required reserves and liquidity and the system were unable to uncover new reserves¹. Certain banks in Pakistan are occasionally at or very near this "legal-technological" limit, but as a constraint to credit expansion in the banking system as a whole, it is not now or soon likely to be at all relevant.

The "economic" constraint is usually the operative limit to credit expansion. Given the banks' very careful delineation of the credit-worthiness of potential borrowers and reluctance with which interest rates on advances are altered (Section V), the demand for advances at this relatively fixed set of rates is quite inflexible at any moment of time. It sometimes happens that every bank would like to make further advances at existing rates but that demand is inadequate to permit it. There is of course no competitive bidding down of advance rates (partly because it is seen by each to be of little advantage to the group as a whole and partly because such slack is expected to

1. *i.e.*, could neither borrow further from the State Bank nor induce people to hold less currency (relative to deposits).

be temporary), no lowering of credit standards, no bidding-up of security prices. The rates and the volume in the call market dwindle toward zero, the banks clean up their State Bank debt, and then all sit back to await better times. Although seemingly fatalistic, this short-run policy of the banks in the face of inadequate demand for advances is probably a thoroughly wise one—active efforts on their part to increase advances would achieve little, and the purchase of low-yield securities would be foolish if banks ever anticipate a revival of advances demand.

As the demand for advances increases, however, the Pakistan banking system cannot expand as far as its “technological-legal” limit, given its present structure and institutions. Eventually, what may be labelled the “institutional” constraint becomes operative. Most simply stated, this occurs when those banks which wish to expand cannot and those banks which can expand do not wish to. To see how this constraint works, we must examine the banking system by segments:

1) The National Bank (and other government banks) is able to get all the funds it desires from the State Bank, even receiving “clean” advances if it cannot find customary collateral. Thus, the only constraint on the National Bank’s lending is its own inclination.

2) The “easy” banks satisfy those potential borrowers they wish to and then lend the remainder of their funds at call.

3) The “tight” banks borrow all they can from the call market and the State Bank and then begin to turn down potential borrowers².

Thus, the limit to credit expansion is reached. It is easy to see qualitatively, but nearly impossible to predict quantitatively. The amount of credit outstanding when this limit is reached depends very critically upon the distribution of the demand for advances between banks, upon the advances policies of the National Bank and the “easy” banks, and upon the willingness of the borrowers to take bills as opposed to advances (since the former often may be used by the “tight” banks to get new reserves).

The relevant limits to credit expansion are then two: the extent

2. There may be “neutral” banks which are no longer lending on call but have not yet begun to borrow funds. That the dichotomy between “easy” and “tight” is not perfect makes it no less useful.

of the demand for creditworthy advances up to a point and the institutional inflexibilities of the system thereafter. Neither of these constraints, the "economic" or the "institutional", are really constraints in the strictest sense of the word. Each is capable of being relaxed by the banks themselves. And in the long run, the banking system would surely manage to achieve this relaxation if the constraint continued to operate. A continually inadequate demand for advances would eventually induce banks to lower rates or relax credit standards; a continually unsatisfied demand would induce reverse reactions. Also, continued unsatisfied demands would induce an eventual shift of borrowers from "tight" to "easy" banks, and higher advance rates might induce the "easy" banks to reformulate their advance policies. But these are long-run effects. In the short run, both of these constraints do function as real limitations to bank-credit expansion.

From the viewpoint of State Bank credit control policy, the problem is straightforward—though the solution is not. One of these two limits is, at any moment, determining the volume of credit in the system. What can the State Bank do to affect the levels at which each of these limits operates? The table below shows, in deceptively simple fashion, what the State Bank must do in each of the four possible cases, where it wishes to expand or contract credit and where the existing determinant is "economic" or "institutional":

Determinant of the Volume of Credit

	"Economic"	"Institutional"
Expand credit	SBP must cause an increase in the demand for advances.	SBP must relax the institutional constraints to expansion.
Contract credit	SBP must cause a decrease in the demand for advances <i>or</i> tighten the institutional constraints below the present advances demand.	SBP must tighten the institutional constraints to credit <i>or</i> cause a decline in advances demand below the present institutional limits.

To analyse the power of the State Bank to achieve its desires concerning the volume of credit requires the analysis of four more elementary powers: the ability of the State Bank 1) to cause an increase in the demand for advances; 2) to cause a decrease in the demand for advances; 3) to contract the “institutional” limit to credit; and 4) to expand the “institutional” limit to credit.

There is a consensus among economists and bankers that there is little a central bank can do to expand the demand for advances or to induce banks to make advances they prefer not to make. To the traditional discussion of this we may add two factors specific to the Pakistani bank environment. The State Bank is even more powerless to induce advance expansion here because it cannot now affect the relative yields of the competing asset, government securities. Of course, even increases in securities prices and central bank purchases of them are no guarantee of advance expansion—they may result merely in excess reserves—but they do represent an effort in the right direction. On the other hand, the existence of government-operated commercial banks, principally the National Bank, does make it possible for Scheduled Bank advances to be increased by government policy. The National Bank need only lower its rates and relax its credit standards sufficiently and at least some new advances can always be made. The net result is at best very little more promising in Pakistan than elsewhere. When the demand for advances, acceptable to the banks, is inadequate from the government view, there is little the State Bank can do to affect this demand, either directly or by inducing the banks to lower their standards of acceptability.

The contraction of the demand for advances is far easier to achieve by State Bank action, by the imposition of selective controls which forbid completely or limit greatly certain kinds of advances. Such controls have been frequently applied by the State Bank, usually on the justification of social undesirability of certain advances. While such action may have great effect upon the allocation among economic purposes of bank credit, it may have equally important effect upon the total demand for credit and hence, where demand is the determinant, upon the total volume of credit. Quite large chunks of potential demand may be removed in this manner³.

3. Examples abound in Pakistan's brief career. See *SBP:GFO*, pp. 63-69, for a summary of the more important of the State Bank's selective credit controls.

The ability of the State Bank to affect the volume of credit when it is determined by the "institutional" constraint is quite limited. It cannot influence the amount of credit created by the "easy" banks since it has no policy tools it is willing to use that can reach these banks. It can affect the credit of the National Bank only insofar as it can coax it into lending more or less (and accordingly, borrowing more or less from the State Bank). The State Bank has only some slight power over the "tight" banks, namely the limits on the extent to which bills will be accepted as collateral for State Bank borrowing. As we have seen, bills comprise a small and declining portion of banks' advances and bills portfolios, so that even this power is waning.

This great inability to influence significantly the "institutional" limits of credit expansion have led the State Bank to the frequent use of two alternatives, selective controls and persuasion. These credit control techniques have their place in any banking system, and perhaps especially in an underdeveloped economy, but they should be chosen for their own merits and not because other techniques have been unwisely abandoned.

In summary, the banking system *may* at any time create credit up to the limits of the "institutional" constraint, if demand warrants. This amount may be much larger or much smaller than the State Bank, or more generally the government, may feel is appropriate. But, there is very little the State Bank can presently do to alter this limit. If it wishes the limit raised, it can presently do no more, without a drastic change of policy, than offer to accept all bills as collateral and exhort the National Bank to liberality⁴. If it wishes the limit lowered, it can only reduce the amount of bills it accepts as collateral and attempt to inhibit the National Bank's liberality. When these prove inadequate, as they almost certainly will if the desired reduction of credit is of any significant size, persuasion and selective measures must be introduced.

The State Bank assumes very little responsibility for the volume of bank credit in Pakistan. Occasionally, this is admitted and justifica-

4. It *could* lend 'clean' to all banks or, more radically, request the United States Government to move some of its deposits from the State Bank to the American banks, thus providing new lendable funds through the call market. It may have been no coincidence that, in the winter of 1961/62 when the State Bank felt most helpless, some Rs. 10 crores were so shifted. But, a policy of requesting a foreign government to conduct Pakistan's monetary policy surely should not warrant consideration.

tion is attempted along two lines. One, that the volume of credit is unimportant anyway: "In an economy like Pakistan's, where bank credit forms roughly 6 per cent of the total national income, credit control policies can, at best, produce only a limited effect on the total effective demand"⁵. And two, that credit contraction will not lower prices (and may actually raise them), but will reduce real output, hence credit should never be restricted, and it, therefore, matters not that such restriction is not possible anyway⁶.

More usually, however, it is not admitted, and it is one of the purposes of this monograph to display this fact. But it is not enough to prove that the State Bank now exercises inadequate powers of credit control; it is important that it also be shown that the State Bank *is capable* of greater control. It is the purpose of the final section to indicate the kinds of changes necessary if the State Bank is to fulfil its avowed responsibility for the volume of bank credit.

SECTION XV

TOWARD THE POSSIBILITY OF CREDIT CONTROL

"Whereas it is necessary to provide for the constitution of a State Bank to regulate the monetary and credit system of Pakistan"¹. So opens the preamble to the *State Bank of Pakistan Act*. And yet, the State Bank, by the end of its first fourteen years, has come to a position where it has almost no control over the volume of credit except by such direct interventions as exhortation of the banks or proscription of certain types of loans. Of the indirect approaches to credit control, the State Bank is not now willing and able to follow any.

It is not necessary, though it is not uninteresting, to reconstruct the sequence of steps, sometimes bold, sometimes hesitant, by which the State Bank has arrived at this position². But it is necessary to ask

5. *SBP:GFO*, p. 62.

6. A beautiful example of such a series of dubious assertions is the speech of Mr. Abdul Qadir, the then Governor of the State Bank. *State Bank, Speech Delivered by Mr. A. Qadir, Governor, State Bank of Pakistan*. (Karachi: State Bank of Pakistan, September 7, 1955), pp. 7-8.

1. *State Bank of Pakistan Act, op. cit.*, p. 1.

2. The interested reader is directed to two sets of documents, the *Annual Reports* of the State Bank and the *Speeches* of its governors at the annual general meetings.

whether the repudiation of the indirect means of credit control is not inevitable in an underdeveloped economy. All the literature on this subject agrees that traditional indirect central bank influences upon the volume of credit and money are at least difficult to apply effectively, if not impossible or dangerous³. Because the State Bank's rejection of indirect control is so frequently defended in the generalities of this literature—that such control is too difficult or even impossible in an economy such as Pakistan's—it is essential that we examine specific arguments in order to discover whether they do really apply to the Pakistan banking system.

1) That banks in underdeveloped economies usually carry a sufficiently large volume of excess reserves to be immune to changes in their reserves. Where the liquidity and/or shiftability of assets is uncertain and the development of the banking habit tenuous, there is good reason for large holdings of cash assets. Monetary policy by indirect means will indeed be frustrated if the banks' lending policy is insulated from the state of their reserves in this way. There are countries where this situation exists⁴; but Pakistan is not one of them. Government securities are so amply liquid (Section IV) that cash assets may be kept small, and are (Section XI).

2) That banks may operate quite independently of the central bank, and hence need not react to its policies. Where the banking system is composed of branches of foreign-owned banks and where these branches freely borrow from and lend to their parent offices, almost complete independence of the central bank may be achieved. Reserve shortages require no more than a transfer of funds from the home office; policy changes of the central bank induce neither alarm nor reaction⁵. While the Pakistan banking system does consist of

3. See, for example, S. G. Davies (Ed.), *Central Banking in South and East Asia*, *op. cit.*; R. S. Sayers (Ed.), *Banking in the British Commonwealth*, *op. cit.*; E. Nevin, *Capital Funds in Underdeveloped Countries*, *op. cit.*; R. S. Sayers, "Central Banking in Underdeveloped Countries" in *Central Banking After Bagehot*, (Oxford: 1957), pp. 108-133; J. O. W. Olakanpo, "Monetary Management in Dependent Economies", *Economica*, November 1961, pp. 395-408; R. B. Stevenson, "By What Measures Can a Central Bank Exercise Credit Control in a Young Economy?", *Journal of the Institute of Bankers*, October 1961, pp. 362-379.

4. Examples may be found in *Central Banking in South and East Asia*, *op. cit.*

5. Sayers refers aptly to "a remote figure in a financial institution in the capital" ("Central Banking in Underdeveloped Countries", *op. cit.*, p. 127).

foreign banks to the extent of about one-third of its deposits, these banks rarely borrow from or lend to their home offices more than minimal amounts (Section III). Adequate evidence in itself of the dependence of the Pakistan banking system upon the State Bank are the two facts that i) at one point during the past winter season, Scheduled Bank borrowing from the State Bank exceeded 20 per cent of their non-bank deposits (Section VII), and ii) about one-fourth of Scheduled Bank assets (Section IV) are in securities, whose price, yield, and liquidity are potentially so subject to State Bank influence. The dependence of the Scheduled Banks upon the State Bank is more than adequate for credit control purposes.

3) That money markets are too underdeveloped to transmit interest rate changes, with the result that changes in such rates as the central bank can directly affect, the Bank Rate and/or government securities rates, will not induce changes in the yields (or other market conditions) of advances, deposits, call money, or "indigenous bank" loans. Following Pakistan's only rise in the Bank Rate, however, rates on advances and call money readily responded (Sections V and VIII); if securities rates and deposit rates were more sluggish, it was largely the fault of the State Bank itself for failing to encourage an active securities market (Section IV) and for permitting extensive oligopsonistic collusion in the determination of time deposit rates (Section VI). And the non-Scheduled Banks and other "indigenous bankers" are of sufficiently little importance that their rates and terms may be neglected. Thus, in Pakistan, interest rates are more than adequately responsive, or are potentially so, to movements in either or both of securities yields and the Bank Rate.

4) That an underdeveloped economy is particularly insensitive to changes in interest rates. If, as is commonly believed, rates of return on the investments made possible by bank advances are higher in underdeveloped than advanced countries, this greater insensitivity to rates of potential bank borrowers is probably correct. But this misses the point. The purpose of change in the interest rate structure is to influence the banks as lenders, not their customers as borrowers. If the determinant of the volume of credit is the "institutional" constraint and not the "economic" (as defined in the previous section), it is the impact of interest rate changes upon the bank lending potential that is relevant. And, as we will see shortly, the "institutional" limit is not insensitive to fairly small changes in interest rates.

5) That too small a portion of the economy is influenced by the volume of bank credit for changes in credit to have any impact on the economy⁶. That bank credit is six per cent of national income⁷ not only fails to prove its insignificance but may actually prove the opposite. Because there are so many users of credit and money who get it not directly from banks but indirectly through buyers and sellers who do qualify for bank credit, any change in the volume of credit may have a greater multiplied effect in Pakistan than in more developed economies. Certainly, it is pertinent that currency and demand deposits, the two important means of payment, have kept in remarkably constant relationship to each other (Section VI) despite the erratic expansions and contractions of bank credit over the 1950s. The wholesaler's bank credit becomes, to some extent, the farmer's cash holding. Perhaps even the very reluctance of the monetary authorities to attempt credit restriction is testimony to its effectiveness—for what is effective may be mistaken and may be avoided on the principle of minimization of mistakes⁸.

We must not fall into the equally foolish trap of thinking that control of bank credit would be as powerful a tool of economic policy in Pakistan as in more developed economies. Ten per cent, the probable ratio of bank credit to national income in Pakistan, is not zero; neither is it 28 per cent⁹. But, in Pakistan, where the large agricultural sector shambles along, impervious to almost all government economic policies, we must choose our economic weapons less hopefully than in the more developed countries.

6. In Pakistan, the same people who offer this argument often stress the dangers to the economy of credit restriction. Even the Research Department of the State Bank flirts with this contradiction in Chapter 9 of *SBP.GFO*: "credit control policies can, at best produce only a limited effect . . ." (p. 62); "expanded credit supply would exercise a salutary effect on prices . . ." (p. 63); "it was feared that any [credit] restrictions at that stage would impede . . ." (p. 65); "it was considered desirable to raise the Bank Rate to supplement the anti-inflationary fiscal policy . . ." (p. 67).

7. *SBP.GFO*, p. 62. Actually, the figure is probably about 10 per cent; the 6-per-cent figure implies a price inflation of over 100 per cent in the past decade, surely an overestimate.

8. This reluctance may also derive from fears about the *desirability* of exercising credit control; but our discussion of this will logically await proof that such control is possible.

9. The ratio in the U.S.A. Source: *Federal Reserve Board Bulletin*, April 1962, p. 427 ("loans" of "all commercial banks" on December 27, 1961) and p. 470 ("national income" of the fourth quarter of 1961).

With respect to its banking and credit structure, Pakistan seems rather favoured among underdeveloped economies. None of the traditional arguments against the possibility of credit control apply, at least with any real strength, to Pakistan. The State Bank, if it wishes, is capable of great influence upon the quantity of bills and advances made by the Scheduled Banks, upon, at but one remove, the size of the nation's money supply, and upon, a few removes further, the rate of economic activity in the nation. There are many ways in which this influence can be exerted, only one of which will be discussed in detail in the ensuing paragraphs: the choice of techniques is not unimportant but is also not nearly so important as the recognition that control is possible. The method outlined below has, I think, certain special virtues but, in any case, suffices to prove this possibility of *indirect* credit control, rendered effective by making the "*institutional*" constraint much more flexible. The indirectness of the technique and the fact that it does not function through the effective demand for advances but through the ability of the banks to satisfy this demand—given the institutional structure of the banking system—are the two respects in which it differs from what presently passes for State Bank credit control. It will be convenient first to outline the basic changes suggested and then to examine their effectiveness in expanding and contracting credit.

The changes are few and simple. The State Bank must be prepared to buy and sell unlimited quantities of government securities at the prices it declares¹⁰, and it must be willing to change these prices as the credit situation requires. Furthermore, the State Bank must be ready to alter the Bank Rate as a short-run control measure.

Making a market for government securities would not be a new policy for the State Bank, but the precise method surely would be. The State Bank must abandon all its efforts to induce (or "bludgeon") the Scheduled Banks to hold unwanted securities. Entirely by means of price (and hence yield) variations, the State Bank *can* achieve almost any reasonable goal concerning the amount of government securities the Scheduled Banks (and insurance companies) hold. If it is to use the yield on securities as an inducement mechanism, as I am suggesting, then *no* element of State Bank pressure on Scheduled Banks' buying, selling, and holding government issues may be preserved. This is the

10. The buying price and the selling price need not be identical. The latter may exceed the former by a small margin if the State Bank wishes.

first step: all those who hold government securities must be doing so because they wish to.

There is not just one set of prices that will achieve this first step. Since the State Bank will fix the prices of *all* government securities, it will be able to determine not only the “average” yield on these securities but also the extent of the yield differential on more distant maturities. Thus, it may be possible to induce the banks and insurance companies to hold a given volume of government securities in several ways. For example, a low yield on securities near maturity and a high yield on those far from redemption may induce a certain total holding of securities, primarily consisting of long-dated issues; some yield between these two yields, set for all securities regardless of redemption dates, may achieve the same total placement of securities, though more of it will consist of short-dated issues. Thus, the State Bank will have some freedom in its yield-setting. Given that it wishes to determine the total volume of government securities not held by itself, the State Bank may also choose, within limits, *one other variable* as a matter of policy: 1) the yield on very short securities; 2) the yield on very long securities; 3) the shape (but not the position) of the yield-maturity relationship; or 4) the composition by maturity of the government securities not held by itself. Which of these four the State Bank will prefer to determine is a question we need not ask; what is now important to notice is that the State Bank will no longer be able to set *all* of these variables as it pleases—only one. This loss is trivial when compared to the gains elsewhere.

The question of cost to the government arises. Will this policy require, over a period of time, a higher interest rate on government securities and/or a greater debt-servicing cost to the governments? This, of course, depends upon the level at which yields are in fact set. In order to make the question manageable, we will assume that, under this new policy, exactly the same volume of securities is placed with the banks as would have been under the old policy and that the composition of these holdings is also the same.

Inasmuch as the present yields are almost certainly kept below equilibrium, which will not be possible under this new policy, the interest rates will rise on all government securities. This rise will probably be neither negligible nor terribly large (as the State Bank perhaps fears)¹¹.

11. See Appendix A for estimates of the differences between actual and equilibrium yields.

If the yield of every issue of the government permanent debt rose by one percentage point, this would increase the interest cost of governments by Rs. 2.83 crores per annum (see Section IV). If we recall that much of this (almost two-thirds ¹²) is held by the State Bank and the National Bank, we must reduce this estimate, to get a true *net* cost to government, to not more than Rs. 2.00 crores. This is about one-half of one per cent of the total annual revenue receipts of governments. Surely, this is not a forbidding magnitude.

The question of cost is, however, more than just this gap between present actual yields and present equilibrium yields; we must also examine the more nebulous gap between present equilibrium yields and equilibrium yields under the new policy. The direction and size of this latter gap will be chiefly determined by whether the banks consider securities more or less liquid under the new policy. At present, the liquidity of securities derives not from their marketability, which is almost nil, but from their eligibility as collateral for four-per-cent loans from the State Bank. Under the new policy, these securities will have greater liquidity in one sense, in that the banks will have a choice whether to sell securities or to use them as collateral for borrowing. In another sense, their liquidity will be lower because neither the selling price nor the borrowing rate can be known for certain. In sum, an uncertain selling price is better, from a liquidity viewpoint, than complete inability to sell; an uncertain borrowing rate is worse than a certain one, given that the average rate is the same in each case. The loss of certainty about the borrowing cost will surely be the more serious, with the result that equilibrium yields will also be raised by the new policy. But the additional cost on this account will probably be very small compared to that resulting from the actual-equilibrium yield gap. So, the total additional cost to governments will still be of the order of less than one per cent of government revenues.

Let us now consider the State Bank actions when it wishes to limit the volume of bank credit. If the "institutional" potential for expansion vastly exceeds the actual credit volume, probably little can be done

12. Assume the National Bank held about Rs. 40 crores of government securities in June 1961 (this is about half-way between their December figures for 1960 and 1961; see its balance sheets). The total permanent debt held outside the State Bank was Rs. 150 crores and the total permanent debt was Rs. 283 crores (Section IV). Thus, 39 per cent $(150 - 40 - 283)$ was held by neither the State Bank nor the National Bank.

even under the new policy except by direct intervention. But if the “institutional” constraint is somewhere close to being effective the new policy permits it to be tightened to a much greater extent than was before possible. The State Bank’s buying-selling prices on government securities may be reduced and the Bank Rate raised. Consider separately the effects upon “easy” and “tight” banks:

1) “Easy” banks will be induced to purchase securities (with their now more attractive yields) with their surplus funds. This will reduce the supply of funds entering the call money market.

2) “Tight” banks will be doubly discouraged from selling government securities in order to expand advances: their yields will be higher, and a capital loss must be incurred in order to make what may turn out to be short-lived, though higher yield, advances. Fewer funds will be available from the call market and borrowing at the State Bank is more expensive. With advances rates only slightly above the Bank Rate and not rapidly flexible (Section V), a small rise in the cost of bank borrowing may be very effective in reducing bank lending.

There is no simple way to prevent the “easy” banks from expanding their advances if they wish, but it is not their expansion that predominates. If they can be stimulated into placing their surplus reserves in government securities rather than the call market, a significant contraction of the lending powers of the system will occur. For, even if the “tight” banks are willing to accept capital loss from selling securities, they can do this only as long as they have excess liquidity—something which, by definition, a “tight” bank does not have in abundance. A reduction in the bill-discounting limits may still be used, as at present, but it will then only supplement the ability to contract the “institutional” constraint, while now it represents almost the entire ability¹³.

Expansion of the “institutional” constraint requires precisely the opposite actions, a raising of securities prices and a lowered Bank Rate. The “easy” banks will be thereby encouraged to sell securities to the State Bank and lend additional funds on the call market. Borrowing,

13. I would actually favour discontinuance of the policy of variation in bill-discounting limits. Eligibility should be carefully defined, and all such bills always accepted. The present system of direct negotiation of limits violates the principles of indirection and inducement which are not unwisely preferred by central bankers.

both on call and from the State Bank, is made cheaper to the “tight” banks¹⁴.

The bill-borrowing limits can be increased as much as possible, and the other measures currently used by the State Bank can be continued. The difference again lies in the fact that these relatively inept movers of the “institutional” constraint are relegated to a more appropriate subordinate position. The principal mover under the new policy is the activation of the potential reserves of the conservative banks by prompting them to sell securities to the State Bank and augment the volume of call funds.

For both contraction and expansion, the reason the new policy permits the “institutional” constraint to be so much more extensively and easily moved is basically its ability to affect the “easy” banks as well as the “tight” banks. Under the present State Bank policies little can be done indirectly beyond the slight flexibility of the bill-discounting of the “tight” banks. Under the proposed policy are added the variation in the cost of borrowing to the “tight” banks and the variation in the volume of funds supplied to the “tight” banks by the “easy” banks.

This greatly increased policy-flexibility in the “institutional” constraint is made possible by only three major changes, the removal of pressure on the holders of government securities, the creation of a market for these securities by the State Bank, and the willingness to use the Bank Rate. It should be noticed that even these are more than the minimum changes needed; the Bank Rate could be pegged, and much of the same contraction and expansion still be attained. Probably, the raising of the Bank Rate when contraction is desired will have a much greater impact than its reduction when expansion is to be facilitated. To get contraction, State Bank borrowing must be actively discouraged; to get expansion¹⁵, such borrowing must merely be facilitated and not necessarily actively encouraged.

14. Of course, this assumes that at least the “tight” banks are trying to expand advances but cannot because of the “institutional” constraint; monetary policy for expansion when there is an inadequate effective demand for bank credit is another problem, perhaps insoluble and certainly not now being considered.

15. Remember, we are assuming that banks wish to expand but are prevented by the “institutional” constraint.

That it is more important to raise the Bank Rate than to lower it is a welcome discovery from another point of view: that of the structure and level of interest rates in Pakistan. As I have argued elsewhere¹⁶, the interest structure is presently too low from the viewpoint of credit allocation (not discussed here) and should be prompted upward by government policy. Certainly, one convenient way to accomplish this is, over the next few years, to raise the Bank Rate when restrictive pressure is desired but not to lower it when expansion is being facilitated.

Having seen that it is *possible* to control the volume of bank credit in Pakistan, we must now consider whether such control is *desirable*. It is convenient first to consider an alternative to control, roughly the present State Bank monetary policy. This policy, or more accurately this series of actions over recent years, is *not* the complete absence of control—in some ways it has been a partially successful policy of control and in other ways much worse than no control at all. By no control is meant here that the banking system is always able to make all the advances it wishes to make¹⁷; in other words, the “economic” constraint, discussed in the previous section, is always the determinant of the volume of credit. In Pakistan’s recent history, this has not always been the determinant for two reasons: 1) the State Bank has frequently attempted to shift this effective demand for advances by means of selective credit measures; and 2) the banks have, especially recently, been constrained from making all desirable advances by the “institutional” limitation—neither have the “tight” banks been able to find reserves nor has the State Bank been able to provide them. In the first case there is control in that a limitation of credit occurs (relative to what would have occurred) which the State Bank desires (and causes); in the second case also a limitation occurs which, however, the State Bank does *not* desire but feels nearly helpless to prevent.

The policy suggested here is different in two ways, 1) that it permits greater contraction or makes possible contraction when it is so desired, and 2) that it permits greater expansion or makes possible expansion when it is so desired. The essential point is that the policy does *not* imply that greater contractions or expansions are desirable—it merely

16. “Monetary Policy in the Economic Development of Pakistan”, *op. cit.*, Part III.

17. Other definitions are possible.

makes them possible. The State Bank may be wise in its fear that, at a time of inflation, credit contraction might reduce real output and fail to retard the price rises; if so, under any policy, credit should not be drastically reduced at such a time¹⁸. But this same argument has a corollary that the failure of credit to increase at an appropriate rate might cause a retardation of the rate of growth of real output. One cannot have it both ways. If one believes that the volume of credit has no effect upon the important variables of the economy, then credit policy is neither desirable nor undesirable—it is immaterial. If, on the other hand, one believes that credit does have some effect upon the economy, then an active credit policy will be at least sometimes desirable, and the State Bank would be unwise not to prepare itself for the execution of a credit policy.

It may be that credit restriction at a time of inflation is sometimes undesirable and ineffective, especially if the price rises are basically caused by over-large government deficits, as in the mid-1950s. But now, when more conservative (probably too conservative) budget policies are being conducted, the resurrection of at least the possibility of credit control is essential. Restrictive measures, if called for, can now be used effectively. But this is not the primary reason why State Bank credit control is now required. In the absence of government deficits¹⁹, there is currently no automatic means of expansion of the Scheduled Banks' reserve base. A stagnation of reserves, in a banking system already at the limit of its expansion²⁰, means a stagnation of credit expansion, something a growing economy cannot afford. The State Bank is not now capable of preventing this stagnation; if it was forced to the limits of its abilities during the 1961/62 busy season, what will it do in 1962/63, or if that is survived, in 1963/64? Under present State Bank policies, the continued absence of new government deficits will soon force a complete stagnation of credit unless the State Bank begins to make "clean" advances to non-government banks²¹. But this is a

18. It is not the purpose of this already-long monograph to examine the exact effects of the volume of bank credit upon prices and output. We may here accept the State Bank's judgement as to the direction and extent of the desirable credit movements.

19. And it goes without saying in the absence also of balance-of-payments surpluses.

20. The "institutional" limit, not the "technological-legal" limit.

21. Or, perhaps more euphemistically, begins to accept new forms of assets (*e.g.*, buildings, advances, *etc.*) as collateral.

drastic step and introduces further elements of arbitrariness and potential favouritism into the dealings between the State Bank and the Scheduled Banks²².

Thus, credit control now requires, or will soon require, measures which are too arbitrary and too direct to influence the banking system in the way a central bank ideally should and in Pakistan can. A system of indirect inducements, such as is described here, should be considered; the Pakistan financial system is no longer so rudimentary as to require being bumped from emergency to emergency in such crude fashion.

Appendix A

(SECTION IV)

Statistical investigation of securities yields gives a great deal of support to many of the statements of Section IV, especially to those about the sluggishness of the price reactions in the government security market. Also, some insight into the shape of the equilibrium yield structure is gained despite the fact that the market moves too slowly to reach that equilibrium before it becomes obsolete.

In this appendix, we shall be concerned only with the market for securities of the Pakistan Central Government over the period June 1958 through May 1962. The following symbols will be used:

- C_t is the number of years the security has been in circulation at time t (this is sometimes written without the subscript):
 $C_{t,j} = C_t - j = C - j.$
- M_t is the number of years, as of time t , until the security is redeemed: $M_{t,j} = M_t + j.$
- Y_t is the *actual* yield-to-redemption of the security at t (in per cent).
- Y_t^e is the *equilibrium* yield-to-redemption at t (in per cent).
- Y' is the yield at the time of issue (in per cent):
 $Y' = Y_{t,c}$

22. Just as the variable bill-discounting limits already do.

It is hypothesized that securities yields move, in this year, some fraction of the distance from their level of last year to their equilibrium level of this year:

$$(A-1) \quad Y_t - Y_{t-1} = k (Y_t^e - Y_{t-1})$$

Thus, if (k) is one, securities prices reach their current equilibrium level within a year; if (k) is zero, securities prices never change despite any alterations in their equilibrium level. Generally, $0 < k < 1$.

The equilibrium yield is assumed to be a simple function of the time-to-maturity of the security, although that function may shift as time passes:

$$(A-2) \quad Y_t^e = A_t + bM_t$$

Traditional economic thinking suggests that $b > 0$ and $A_t > 0$; though the values of A_t may vary from year to year, we will assume that the slope (the maturity effect) does not.

Substituting (A-2) into (A-1) in order to eliminate the unobservable Y_t^e , we get:

$$(A-3) \quad Y_t = kA_t + kbM_t + (1 - k) Y_{t-1}$$

The parameters, k, b, and A_t , of this equation may be estimated using data for Y_t , M_t , and Y_{t-1} over 1959-62¹. This regression is:

$$(A-4) \quad Y_t = \begin{pmatrix} .719 \text{ in } 1959 \\ .948 \text{ in } 1960 \\ .891 \text{ in } 1961 \\ .883 \text{ in } 1962 \end{pmatrix} + .006 M_t + .760 Y_{t-1}$$

(.005) (.022)

where the standard errors of the coefficients are placed in parentheses

1. Because of the lagged Y_t , the 1958 data cannot be used here. The years before 1958 were excluded by a fear that the structure of the market may have been quite different; the provincial government securities were excluded by the possible complications of the (perhaps different between provinces) risk premiums in their yields; securities maturing in *less than two years* were omitted since their prices often remained quite different from redemption values right up to redemption, and thus their yields-to-redemption often begin to get very large (in absolute value) even two years before redemption. The data are published in *RC+F*, "Yield on Central and Provincial Governments' Securities" (Table No. 48 in *RC+F 60-61*). The permanent debt of the Central Government consisted of seven issues in 1958 and 1959, of eight in 1960 and 1961, and of nine in 1962. The data are all as of the last Friday of June, except for 1962 which is as of May 4.

beneath them². Implicit in equation (A-4) are the following estimates of the parameters of (A-3):

$$\begin{aligned}k &= 0.240 \\b &= 0.025 \\A_{1959} &= 2.996 \\A_{1960} &= 3.950 \\A_{1961} &= 3.713 \\A_{1962} &= 3.679\end{aligned}$$

The coefficient of determination is 0.909.

Despite this apparently good explanation, equation (A-4) is not a very happy result. The coefficient of M_t is quite insignificant which means that the slope of the equilibrium yield curve (the maturity effect) is not significantly different from zero. Furthermore, the pattern of the values of A_t , over 1959-62, is disturbing; while it is plausible that the equilibrium yield curve shifted upwards by about one percentage point in the year-and-a-half after the one percentage point rise of the Bank Rate, it is extremely unlikely that this structure shifted *downwards* in the succeeding two years of increasingly tight money.

The problem is a basic one. In the short run, the "best" explanation (in the sense of the highest coefficient of determination) of an economic variable is often achieved by means of the value last period of that variable. Even in an active securities market where yields adjusted rapidly to changed conditions, we should not expect very great movements in yields. Where shifts in the yield curve and the maturity effect upon yields are not great, this year's yield will be very close to last year's; where the market is not quickly responsive, this similarity will be greatly increased. Equation (A-4) tells us little more than this: yields change slowly in Pakistan Government securities. There are ways around this problem, but all require the removal of Y_{t-1} from the list of independent variables, for it too completely swamps the influences we seek to measure.

One such way is to assume that (k) equals one in equation (A-3);

2. Standard errors for each of the constant terms cannot be computed because of the method of calculation. All variables were, in effect, measured in terms of deviations from *annual* means because it greatly simplified the computations.

the coefficient of Y_{t-1} , thus becomes zero, *a priori*, and the variable can be omitted. This regression is³:

$$(A-5) \quad Y_t = \left\{ \begin{array}{l} 2.741 \text{ in } 1958 \\ 2.864 \text{ in } 1959 \\ 3.164 \text{ in } 1960 \\ 3.301 \text{ in } 1961 \\ 3.398 \text{ in } 1962 \end{array} \right\} + .042 M_t \quad (.007)$$

The coefficient of determination is 0.524, the maturity effect significantly different from zero, and the constant terms behave more plausibly (rising by 0.30, 0.14, and 0.10 percentage points in the three years after the one percentage point Bank Rate rise). Nevertheless, the equation is still not very satisfactory for two reasons. One, the assumption that actual yields are equilibrium yields is very dubious in the context of Pakistan securities markets, even if the results of such an assumption seem reasonable. But, two, the results are not reasonable if we look carefully at the constant terms in equation (A-5). The intercept of the "equilibrium" yield curve is 2.741 per cent in 1958, when the Bank Rate was 3 per cent; by 1962, over three years after the Bank Rate had been increased to 4 per cent, this intercept had risen only to 3.398 per cent. In a period of increasing tightness, it is not reasonable that the equilibrium yield structure would have declined *relative* to the Bank Rate. Because of this, we must view the "equilibrium" yield equation (A-5) with skepticism.

There is a second way to avoid the problems that the lagged yield, Y_{t-1} , causes in estimation of the coefficients of equation (A-3). We may apply equation (A-3), lagged one year, to itself in order to eliminate Y_{t-1} . This introduces the variable, Y_{t-2} , which in turn is removed by substituting equation (A-3), lagged two years. This process is continued until the only remaining yield variable on the right-side of (A-3) is $Y_{t-c} = Y^i$, the yield at issue. By these repeated substitutions, equation (A-3) becomes⁴:

3. To be strictly comparable to equation (A-4), equation (A-5) should also omit observations from 1958. However, because the 1958 data do not seriously alter the estimated coefficients, they were included. Were 1958 excluded, the constant terms would be about 0.01 higher, the maturity effect (b) 0.001 lower, and the coefficient of determination 0.04 lower.

4. To derive (A-6) from (A-3), all M_{t-j} terms must be replaced by $(M_t + j)$.

$$(A-6) \quad Y_t = k [A_t + (1-k) A_{t-1} + \dots + (1-k)^{c-1} A_{t-c+1}] \\ + kb [1 + (1-k) + \dots + (1-k)^{c-1}] M_t \\ + kb [(1-k) + 2(1-k)^2 + \dots + (c-1)(1-k)^{c-1}] \\ + (1-k)^c Y^i$$

Summing the series involved in the coefficients, we get:

$$(A-7) \quad Y_t = k [A_t + (1-k) A_{t-1} + \dots + (1-k)^{c-1} A_{t-c+1}] \\ + b [1 - (1-k)^c] M_t + \frac{b(1-k)}{k} [1 - (1-k+kc)(1-k)^{c-1}] \\ + (1-k)^c Y^i$$

While equation (A-7) is too complicated to estimate by simple procedures, we can approximate it with a linear equation. First the derivatives of (A-7) are computed:

$$(A-8) \quad \frac{dY_t}{dM_t} = b [1 - (1-k)^c] > 0 \\ \frac{dY_t}{dY^i} = (1-k)^c > 0$$

The derivative with respect to C_t cannot be easily handled as equations (A-6) and (A-7) stand. However, by writing (A-6) as an integral equation:

$$(A-9) \quad Y_t = k \int_{j=0}^c A_{t-j} (1-k)^{jd} + kb M_t \int_{j=0}^c (1-k)^{jd} \\ + kb \int_{j=0}^c j (1-k)^{jd} + (1-k)^c Y^i$$

and assuming that $\log_e(1-k) = -k$ approximately, we can derive

$$(A-10) \quad \frac{dY_t}{dC_t} = k (1-k)^c [A_{t-c} + bM_{t-c} - Y^i]$$

Recalling from equation (A-2) that $(A_{t,c} + b M_{t,c})$ was the *equilibrium* yield of the security at the time it was issued, we see that dY_t/dC_t will be positive or negative according to whether the *actual* yield at issue was below or above the *equilibrium* yield.

A linear regression of Y_t upon M_t , Y^i , and C_t (with different intercepts for each year) can then be estimated; the derivatives of the complicated equations (A-7) and (A-9) giving an indication of the meaning of the coefficients estimated. This regression is:

$$(A-11) \quad Y_t = \begin{cases} 0.836 \text{ in 1958} \\ 0.932 \text{ in 1959} \\ 1.144 \text{ in 1960} \\ 1.208 \text{ in 1961} \\ 1.224 \text{ in 1962} \end{cases} + .025 M_t + .611 Y^i + .025 C_t$$

(.007)
(.171)
(.012)

The coefficient of determination is 0.710 (as compared to 0.524 when only M_t was used in equation (A-5)⁵. The coefficients of M_t and Y^i are significantly different from zero at the one-per-cent confidence level, and the coefficient of C_t is significantly different from zero at the five-per-cent confidence level.

If we assume these coefficients to be approximately equal to the first derivatives of (A-7) and (A-9) we have:

$$(A-12) \quad \begin{aligned} 0.611 &= (1-k)^c \\ 0.025 &= b [1 - (1-k)^c] \end{aligned}$$

If the first of these is evaluated at $C=5.7$ (the mean value of C over the entire sample), it yields an estimate of 0.083 for (k) . This estimate of (k) is much lower than that derived from equation (A-4) (0.240); both estimates, however, give testimony to the argument that (k) is small and certainly not of the order of 0.6 to 1.0⁶. The second and first

5. The simple coefficient of determination between Y_t and Y^i is 0.413 and between Y_t and C_t is 0.115. The effect of C_t upon Y_t when C_t is the only independent variable is negative.

6. As will be seen in the next paragraph, a value for (k) as high as 0.375 is estimated if only 1958 and 1959 data are used. If (k) is less than 0.4, the securities market requires at least *five* years to alter actual yields by 90 per cent of any change in equilibrium yields.

together place (b) at 0.064. The coefficient of C_t being positive (0.025) indicates that securities usually enter the economy with yields *below* their equilibrium yields.

With so few observations, to fit the same regression to portions of this data approaches folly. Thus, it is offered with a warning that it be treated with skepticism. The table below summarizes the results for 1958 and 1959 together and for 1961 and 1962 together :

	1958 and 1959	1961 and 1962
Coefficient of determination	0.793	0.800
„ „ M_t	0.041	0.000 *
„ „ Y^1	0.057	1.145
„ „ C_t	-0.020	0.072
Estimate of k^\dagger	0.375	-0.025
„ „ b	0.044	-0.002

*Positive, but less than 0.0005.

†Evaluated, as earlier, at the mean values of C; C = 6.1 in 1958, 1959 and C = 5.4 in 1961, 1962

This subdivision of the sample suggests (but no more!) three possible conclusions: 1) that the rate of adjustment of securities yields toward their equilibrium values (k) has declined in recent years; 2) that securities of greater maturity have not recently commanded as large a premium as earlier (b); and 3) that new securities have been issued recently at yields below equilibrium yields while earlier the reverse was true (the coefficient of C_t). These suggestions gain greater value in that they corroborate the conclusions of Section IV.

Returning to the estimates of equation (A-11), we can deduce the equilibrium yield functions over 1958-62. This is done by assuming that the government issues each year its securities at the equilibrium yield, *i.e.*, $Y_t = Y^1$ since this equality indicates that there is no tendency for the market to change the issue-yield. This also implies that the C_t coefficient would be zero and hence we must put the average value of that term (as in equation (A-11)) into the constant term of our new equilibrium yield function⁷.

7. Thus (0.025) times (5.7) is added to each constant (5.7 is the mean value of C in the sample).

These steps give us:

$$(A-13) \quad Y_t^* = Y_t = Y^i = \left\{ \begin{array}{l} 2.514 \text{ in } 1958 \\ 2.761 \text{ in } 1959 \\ 3.306 \text{ in } 1960 \\ 3.470 \text{ in } 1961 \\ 3.512 \text{ in } 1962 \end{array} \right\} + .064 M_t$$

It is particularly worth noting that the constant terms conform to *a priori* expectations—the yield curve intercept bears almost *exactly* the same relationship to the Bank Rate after the Bank Rate rise (3.512 by 1962) as before it (2.514 in 1958). Moreover, four-fifths of this rise in the equilibrium yield curve intercept occurred within 18 months (by June 1960) of the Bank Rate change (from 2.514 to 3.306). It is also interesting that this equilibrium yield curve is much more affected by the maturity of the security than any of the actual yield relations. This is also reasonable; when actual yields differ considerably from equilibrium yields, they will not be so greatly affected by factors that significantly affect those equilibrium yields. Equation (A-13) is plotted in Figure A-1, for each of the years 1958-1962 and with the maturity time noted for which the equilibrium yield equals the Bank Rate.

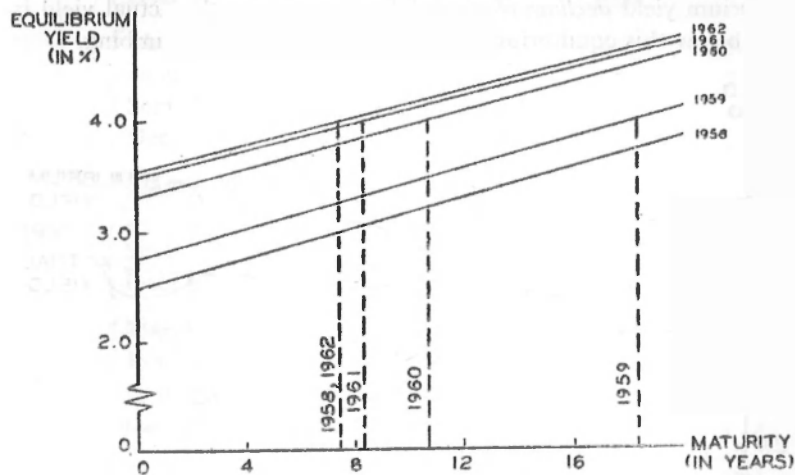


FIGURE A-1

As an illustration of the difference between the actual yield (as estimated in equation (A-11)) and the equilibrium yield (as computed in (A-13)), let us consider the yield history of a hypothetical central

government security issued in 1957 at 3 per cent and to be redeemed in 1967. For each year, its actual and equilibrium yields may be computed (from equations (A-11) and (A-13) respectively):

Year	Actual yield (1)	Equilibrium yield (2)
1957	3.00	—*
1958	2.92	3.09
1959	3.02	3.27
1960	3.23	3.75
1961	3.29	3.85
1962	3.31	3.83

* not calculable.

These two series are plotted in Figure A-2. It should be noted that the equilibrium yield *declines* over 1961/62, but by then the actual yield is so far below this equilibrium yield that it continues its climbing.

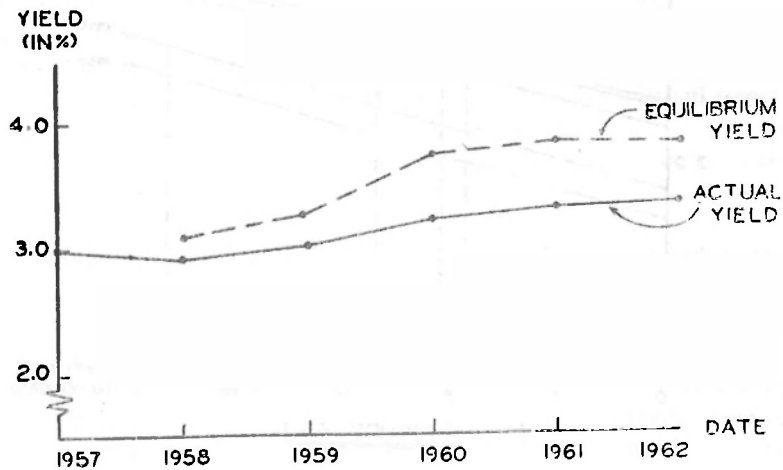


FIGURE A-2

Appendix B

(SECTION VII)

SCHEDULED BANKS' BORROWINGS FROM THE STATE BANK (by type of collateral offered)

(Rs. in crores)

Year	Date	Securities (1)	Bills (2)	Counter- finance (3)	Total (4)
1954	March 26	1.85	n.a.	n.a.	4.92
	June 25	0.71	"	"	1.41
	Sept. 24	0.72	"	"	0.97
	Dec. 30	1.05	"	"	12.77
1955	March 25	2.12	"	"	12.92
	June 24	0.99	"	"	0.98
	Sept. 30	1.02	"	"	2.82
	Dec. 30	5.58	6.09	6.17	17.84
1956	March 29	8.10	1.14	3.70	12.94
	June 29	4.11	—	—	2.83
	Sept. 28	4.03	—	0.52	4.19
	Dec. 28	8.13	13.31	—	21.44
1957	March 29	8.11	8.47	—	16.58
	June 28	5.65	—	4.42	9.30
	Sept. 27	4.93	—	1.03	5.72
	Dec. 27	5.06	3.37	6.28	14.71
1958	March 28	2.35	3.72	6.43	12.50
	June 27	2.62	1.25	—	3.87
	Sept. 26	1.59	0.63	—	2.22
	Dec. 26	3.27	1.22	13.65	18.14
1959	March 27	1.22	1.46	5.63	8.31
	June 26	0.35	0.64	—	0.99
	Sept. 25	0.70	0.55	—	1.25
	Dec. 24	3.36	2.57	3.82	9.75

(Contd. on next page)

(Contd. from previous page)

Year	Date	Securities (1)	Bills (2)	Counter- finance (3)	Total (4)
1960	March 24	5.48	3.22	6.60	15.30
	June 30	0.55	0.06	—	0.61
	Sept. 30	0.57	0.53	4.71	5.81
	Dec. 30	11.04	15.51	14.62	41.17
1961	March 31	12.71	4.92	17.78	35.41
	June 30	3.39	3.95	26.42	33.76
	Sept. 29	4.63	11.22	20.79	36.64
	Dec. 29	5.85	15.05	28.88	49.78
1962	March 30	8.10	n.a.	n.a.	72.39

Sources and Methods:

Col. (1): Through March 1958, the encumbered securities of the Scheduled Banks (*courtesy*: State Bank). From June 1958 on, the figure is from the *Weekly Statement* (as reported to the press; it is not given in any State Bank publication), "borrowings from State Bank: others"; this figure includes not only borrowings on security collateral but also any "clean" borrowing by the Scheduled Banks.

Col. (2): Derived residually by subtracting Columns (1) and (3) from Column (4). Thus, the figure is not available before December 1955. From December 1955 through March 1958, the figure includes any "clean" advances by the State Bank to the Scheduled Banks; the figures derived for June and September of 1956 and 1957 are negative and hence are assumed zero in the table (this is perhaps a result of the under-estimation of Column (4) in the *Weekly Statement*). From June 1958 on, the figure no longer includes any "clean" borrowing.

Col. (3): Borrowing from the State Bank on collateral of government advances (*courtesy*: State Bank).

Col. (4): *Weekly Statement*.

Note: The figures in Column (1) up to March 1958 were intended as rough estimates, not accurate statistics, and should be treated as such.

Appendix C

(SECTION IX)

The purpose of this appendix is to show rigorously that, if a bank has a choice between various sources of funds with which to make new advances, it will not usually be indifferent between them. Profitability considerations will dictate the sequence in which the various sources should be tapped. Also, in this process, we shall see more clearly the nature of the ultimate limits to the profitable expansion of a single bank.

Since we are interested in advance expansion in the face of inadequate funds, it will be convenient to begin with a bank that 1) has no excess cash assets, and 2) is doing no lending in the call money market, but 3) is *not yet* in debt either to the State Bank or to the other banks (through call borrowing). We shall assume that this bank has more securities than are required to maintain its liquidity ratio initially (see Section IV). Finally, since the scale of operations of the bank is irrelevant, we may divide all assets and liabilities figures by the amount of initial deposits in the bank. The bank's initial balance sheet may then be written:

<i>Assets</i>		<i>Liabilities</i>	
Reserves	= 0.05	Deposits	= 1.00
Securities	= 0.15 + e	Call debt	= 0.00
Advances	= 0.80 - e	SBP debt	= 0.00

where (e) is the initial excess of the actual liquidity ratio over the required¹. Since (e) plays an important role in what follows, it will be wise to specify more carefully what "initially" means. The "initial" position occurs when a bank must turn to either the State Bank or the call market if it is to further increase its advances².

1. "SBP" means State Bank of Pakistan and "advances" includes bills throughout. The assumption, that no excess cash assets means these are 5 per cent of deposits *plus* call debt (on which reserves must be held), will be arbitrarily maintained throughout this appendix. A more basic set of assumptions, leading to the same 5-per-cent ratio, might be that 1) half of deposits are always demand, half time (requiring 3-1/2 per cent of deposits to be kept as State Bank balances), and 2) 1-1/2 per cent of deposits must be kept in vault cash (without any economies of scale).

2. If it is possible for the bank to expand its deposits or sell some of its securities, it is not yet to the "initial" position. We assume that, at the "initial" position, neither of these is possible.

We must consider three possible ways for the bank to acquire funds: 1) borrow call money; 2) borrow from the State Bank on the collateral of securities; and 3) borrow from the State Bank on the collateral of eligible bills. It is easy to compare the relative merits of the second and third ways; borrowing on securities collateral can *never* be preferable to borrowing on bills, for the two cost the same (the Bank Rate) and “encumbering” bills does not affect the liquidity ratio³. Thus, between posting bills or securities collateral, the bank either will be indifferent or will prefer to post bills. We must take our task in two parts: 1) the bank *has* eligible bills and may either use them for State Bank borrowing or borrow call money; and then 2) the bank *has no* eligible bills and may either post securities collateral for State Bank borrowing or borrow call money. In the interests of simplicity and brevity, we may neglect the intermediate case of *some* eligible bills *after* the use of which securities collateral is posted.

First, the case where eligible bills *are owned*. The bank makes new advances of an amount (a), simultaneously increasing its deposits by that amount. The deposits are withdrawn⁴, which reduces the initially just adequate cash reserves by an equivalent amount (a). In order to replenish its cash reserves, the bank borrows (i) of call money and (b) from the State Bank on its bills collateral. Its balance sheet, at the end of this expansion, is:

	<i>Assets</i>		<i>Liabilities</i>	
Reserves	= 0.05 + i + b - a	Deposits	=	1.00
Securities	= 0.15 + e	Call debt	=	i
Advances	= 0.80 - e + a	SBP debt	=	b

The bank must choose the most profitable combination of (i) and (b). But, its choice is constrained in two ways: 1) the ratio of its cash reserves to its deposits plus call debt must be at least 5 per cent; and the ratio of its reserves plus securities⁵ to its deposits plus call debt

3. In fact, bill borrowing has not always cost exactly the Bank Rate; because the differential has been neither constant nor large, we may simplify by assuming it zero.

4. We assume that the bank expects, correctly, these new deposits to be fully withdrawn. For simplicity, we neglect any later flows of deposits back to the bank.

5. Technically, its *unencumbered* securities; but we are not yet considering borrowing on securities collateral.

must be at least 20 per cent. Mathematically, we may write that the bank is to maximize its marginal profits on the advances expansion (P), where

$$(C-1) \quad P = ar_A - br_B - ir_1$$

(where r_A , r_B , and r_1 are, respectively, the rate of interest (marginal) on advances, State Bank borrowing (*i.e.*, the Bank Rate), and call money) subject to the reserve-ratio constraint,

$$(C-2) \quad (0.05 + i + b - a) \geq 0.05(1.00 + i)$$

and the liquidity-ratio constraint,

$$(C-3) \quad (0.05 + i + b - a) + (0.15 + e) \geq 0.20(1.00 + i)$$

Inequalities (C-2) and (C-3) can be reduced to the following:

$$(C-4) \quad 0.95i + b \geq a$$

$$(C-5) \quad 0.80i + b \geq a - e$$

If constraints (C-4) and (C-5) are graphed, it is seen, that the situation differs according to whether $a \leq 6.33e$. In Figure C-1,

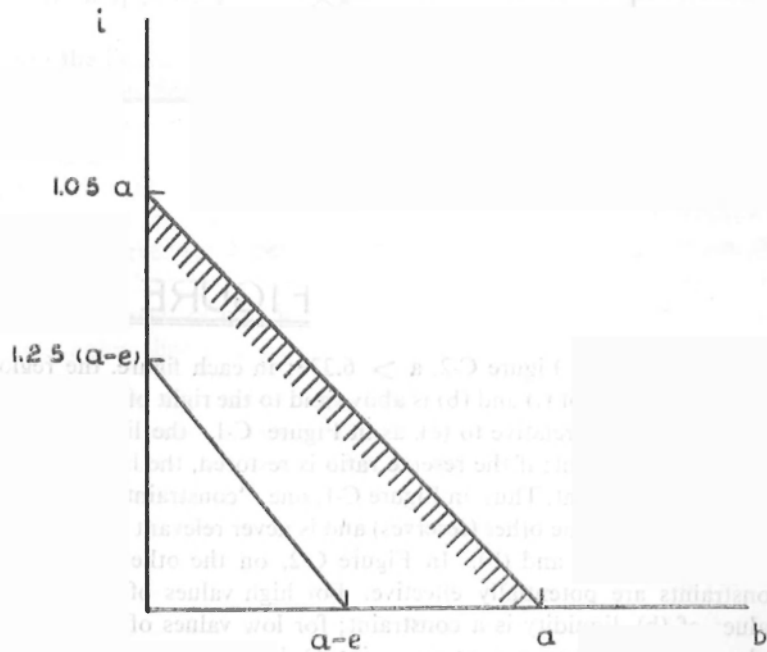


FIGURE C-1

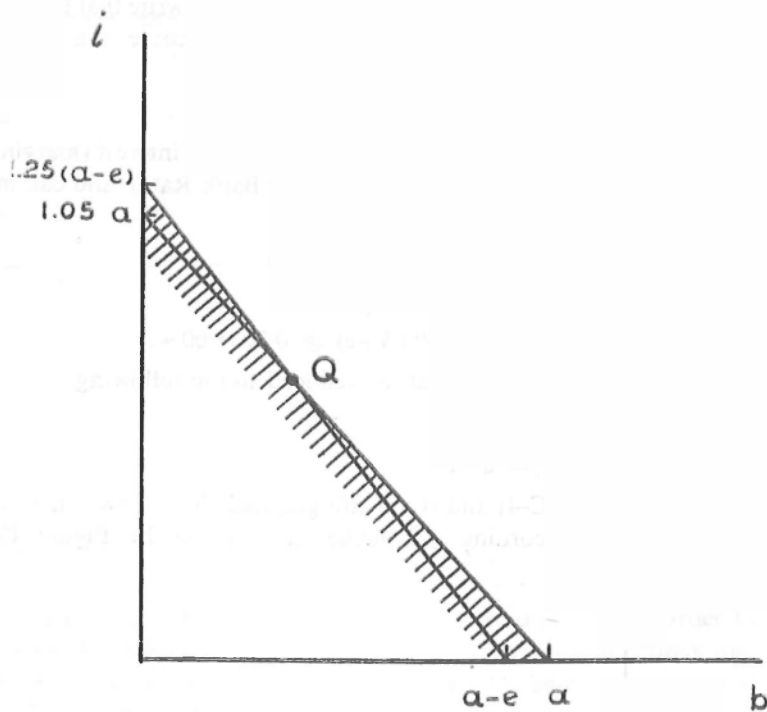


FIGURE C-2

$a < 6.33e$, and in Figure C-2, $a > 6.33e$; in each figure, the region of feasible choice of (i) and (b) is above and to the right of the shading. When (a) is small relative to (e) , as in Figure C-1, the liquidity ratio is never a constraint; if the reserve ratio is restored, the liquidity ratio is at least 20 per cent. Thus, in Figure C-1, one "constraint" (liquidity) always lies inside the other (reserves) and is never relevant to the bank's choice between (i) and (b) . In Figure C-2, on the other hand, both constraints are potentially effective. For high values of (i) and low values of (b) , liquidity is a constraint; for low values of (i) and high values of (b) , reserves are; at one point, Q , both constraints are operative. Thus, when (a) is large relative to (e) , either the liquidity ratio or the reserve ratio or both may constrain the bank's choice between (i) and (b) .

The bank must choose the least costly combination of (i) and (b) from among those above and to the right of the shading. Clearly, the optimum combination will be along the shading since borrowing of any kind that is not required to fulfil the constraints is unnecessarily costly. The problem, as seen in Figures C-1 and C-2, is to find the point along the shading which is touched by the most profitable iso-profit line. The slope of the iso-profit lines (di/db for constant values of P , a , r_A , r_B , and r_i in equation (C-1)) is:

$$(C-6) \quad -r_B - r_i \frac{di}{db} = 0$$

or

$$(C-7) \quad \frac{di}{db} = -\frac{r_B}{r_i}$$

In Figure C-1, where $a < 6.33e$, there are two possibilities:

- 1) if $r_i < .95r_B$, $i=1.05a$, and $b=0$;
- 2) if $r_i > .95r_B$, $i=0$, and $b=a$.

When the liquidity ratio provides no constraint on the bank's choice, the bank will finance its advances expansion either entirely by State Bank borrowing (on bills collateral) or entirely by call money borrowing. The choice depends only on the relative rates of interest of the two sources of funds. It should be noted that, if the bank chooses to borrow call money, it must borrow an amount *greater than* (a) since it is required to hold reserves (of 5 per cent) against such borrowing⁶. Thus, the question the bank asks is whether one rupee of (b) costs more or less than 1.05 rupees of (i); hence the result depends upon whether r_i is greater or less than $0.95r_B$.

In Figure C-2, where $a > 6.33e$, the problem is more complicated; there is now a range of values of r_i and r_B which will induce the bank to finance its expansion by *some* call borrowing and *some* State Bank borrowing (*i.e.*, the point Q is a possible touching point of the highest feasible iso-profit line). There are then three possibilities:

- 1) if $r_i < 0.80r_B$, $i=1.25(a-e)$, and $b=0$;
- 2) if $0.80r_B < r_i < 0.95r_B$, $i=6.67e$, and $b=a-6.33e$;
- 3) if $r_i > 0.95r_B$, $i=0$ and $b=a$.

6. Liquidity must also be held against such borrowing, but liquidity is no constraint in this case.

The $r_1 \geq 0.95r_B$ criterion is familiar from the preceding case; the $r_1 \geq 0.80r_B$ criterion results from the fact that the liquidity ratio is now a constraint (except in the third possibility). Since liquid assets must be held against call money debt, this means that to reduce (b) by one rupee requires increasing (i) by 1.25 rupees; thus a second criterion is introduced, whether $r_1 \geq 0.80r_B$.

To summarize, we must distinguish three ranges of r_1 , less than $0.80r_B$, between $0.80r_B$ and $0.95r_B$, and greater than $0.95r_B$. When r_1 is less than $0.80r_B$, as in Figure C-3, the bank borrows only call money; once advances expand beyond $6.33e$, the bank's excess liquidity is used up, and it must maintain ever larger excess reserves in order to meet its liquidity requirements⁷.

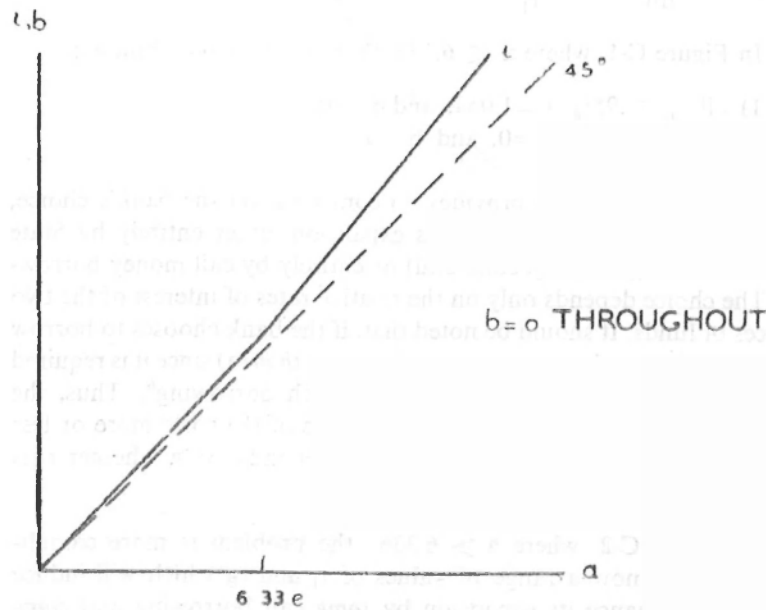


FIGURE C - 3

7. The bank might be willing to purchase additional securities, rather than keep excess reserves, if it were sure that the higher demand for advances would continue. But that need not concern us here.

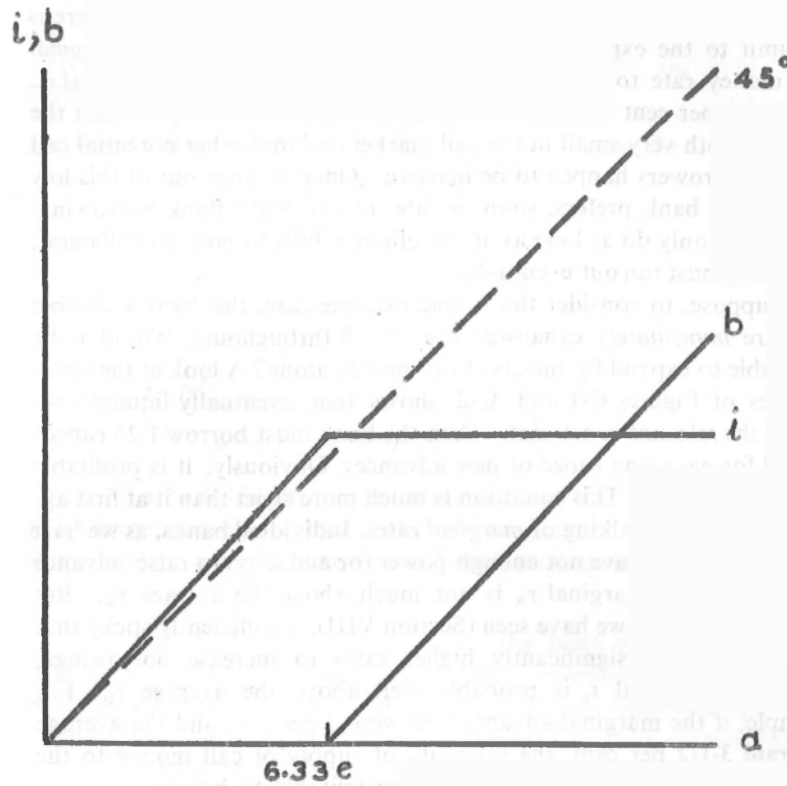


FIGURE C-4

When r_i is between $0.80r_b$ and $0.95r_b$, as in Figure C-4, the bank expands by borrowing call money until its excess liquidity is used up (at $a=6.33e$) and thereafter by borrowing from the State Bank (on its bills). When r_i is greater than $0.95r_b$ (not pictured), the bank expands its advances by borrowing, on a one-to-one basis, from the State Bank; its initial excess liquidity never changes.

It can easily be shown, by substituting the optimum values of (i) and (b) into the marginal profit equation (C-1), that expansion is *always* profitable to the bank as long as the marginal earning rate on advances

(r_A) is greater than the Bank Rate (r_B) . Does this mean that there is no limit to the expansion potential of a bank? Yes, if the *marginal* call money rate to it stays below four-fifths of the Bank Rate (*i.e.*, below 3.2 per cent in Pakistan today). But this would require that the bank be both very small in the call market *and* that other potential call money borrowers happen to be inactive. Once r_i rises out of this low region, the bank prefers, soon or late, to use State Bank borrowing. This it can only do as long as it has eligible bills to post as collateral, and these must run out eventually.

Suppose, to consider the simple extreme case, the bank's eligible bills are *immediately* exhausted (*i.e.*, $b=0$ throughout). Would it be profitable to expand by means of call money alone? A look at the vertical axes of Figures C-1 and C-2 shows that eventually liquidity becomes the relevant constraint. Then the bank must borrow 1.25 rupees on call for each one rupee of new advances. Obviously, it is profitable only if $r_i < 0.80r_A$. This condition is much more strict than it at first appears, for we are talking of *marginal* rates. Individual banks, as we have seen (Section V), have not enough power (or audacity) to raise advance rates; thus, the marginal r_A is not much above the average r_A . But the call market, as we have seen (Section VIII), is sufficiently sticky that it might require significantly higher rates to increase borrowings; thus, the marginal r_i is probably well above the average r_i . For example, if the marginal advance rate were 7 per cent and the average call rate 3-1/2 per cent, the elasticity of supply of call money to the bank need only be 1.67 to make it unprofitable to borrow.

We may now turn to the other basic situation, where the bank can borrow on securities collateral (as well as on call) but not on bills collateral, to see if the conclusions are altered. We start with the same initial position and again assume that the bank makes new advances of (a) and borrows call money (i) and from the State Bank on securities collateral (b). The only difference is that this last action encumbers securities and hence directly affects the liquidity ratio. The balance sheet, after (a) of new advances are made, is:

<i>Assets</i>		<i>Liabilities</i>			
Reserves	=	0.05 + i + b - a	Deposits	=	1.00
Unencumbered securities	=	0.15 + e - b	Call debt	=	i
Encumbered securities	=	b	SBP debt	=	b
Advances	=	0.80 - e + a			

The profit equation and the reserve ratio constraint are the same as equations (C-1) and (C-2), respectively; but the liquidity ratio constraint becomes:

$$(C-8) \quad (0.05 + i + b - a) + (0.15 + e - b) \geq 0.20(1.00 + i)$$

or, simplifying,

$$(C-9) \quad i \geq 1.25(a - e)$$

It is left to the interested reader to show that inequalities (C-4) and (C-9) provide three possible problems to the bank:

- 1) if $a < e$, inequality (C-9) is inoperative. Thus, only the reserve constraint is relevant.
- 2) if $e < a < 6.33e$, both constraints are potentially relevant.
- 3) if $a > 6.33e$, inequality (C-4) is inoperative (since the value of i demanded by liquidity considerations always exceeds the value required by reserve considerations). Thus, only the liquidity constraint is relevant.

The critical values of r_1 and r_B for the bank are again whether $r_1 \geq 0.95r_B$. There is now *no* $r_1 \geq 0.80r_B$ criterion since the choice between call money and State Bank borrowing on securities does not involve differential liquidity effects: call money requires extra liquidity to be held and borrowing now reduces liquidity (unlike bills-collateral borrowing which did not). This problem may be solved in the same way as before, with the results:

- 1) when $a < e$,
 - i) if $r_1 > 0.95r_B$, $i=0$, and $b=a$;
 - ii) if $r_1 < 0.95r_B$, $i=1.05a$, and $b=0$.
- 2) when $e < a < 6.33e$,
 - i) if $r_1 > 0.95r_B$, $i=1.25(a-e)$, and $b=1.19e - 0.19a$;
 - ii) if $r_1 < 0.95r_B$, $i=1.05a$, and $b=0$.
- 3) when $a > 6.33e$, $i=1.25(a-e)$, and $b=0$,
regardless of whether $r_1 \geq 0.95r_B$.

When $r_1 < 0.95r_B$, the results are as pictured in Figure C-3; only call money is used to finance expansion. It should be noted that

call money competes more successfully with State Bank borrowing on securities than on bills, because of the different liquidity effects of the two kinds of State Bank borrowing. Whereas the call rate needed to be less than 0.80 of the Bank Rate to replace, always and entirely, bills-collateral borrowing, it need only be less than 0.95 of the Bank Rate to replace securities-collateral borrowing.

When $r_i \geq 0.95r_B$, the problem is more complicated, as seen in Figure C-5. While there is excess liquidity ($a < e$), State Bank borrow-

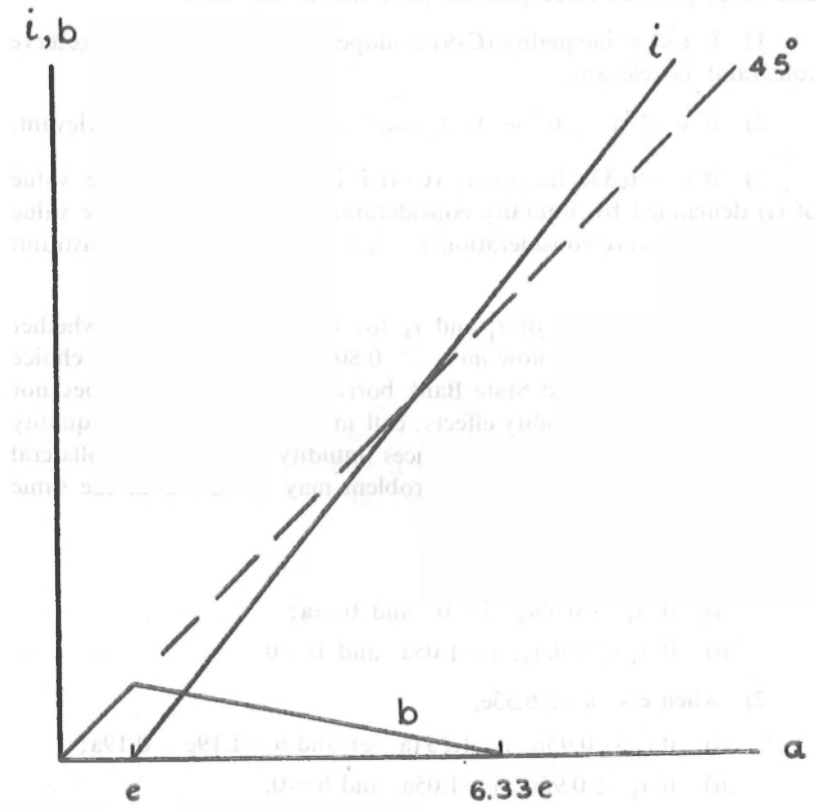


FIGURE C-5

ing is used; once the excess liquidity disappears, the liquidity and reserve ratios are both just maintained by borrowing call money and repaying State Bank debt; and once all securities have become unencumbered, excess reserves are accumulated in order to meet the liquidity requirement⁸.

It is even more obvious in this situation that expansion eventually requires the borrowing of call money at a rate sufficient to make the new advances and to provide the liquidity which must be held against call debt. Thus, as before (when the eligible bills were exhausted), expansion eventually requires the borrowing of 1.25 rupees of call money for each one rupee of new advances. Expansion is profitable as long as $r_1 < 0.80r_A$, the same criterion we discovered earlier.

Two important conclusions emerge from this appendix. One is that a bank which has a choice between two or more sources for new funds will prefer one particular combination of borrowings, if it considers only its profits. All feasible debt combinations are not equally profitable; in fact just the opposite, it is rare that profit maximization does not dictate one precise combination of borrowings. Other considerations may lead to the rejection of the profit-maximizing combination of debt, but it is still relevant to the bank's calculations.

The second conclusion concerns the nature of the limit to the expansion of a single bank. The limit is not technological or institutional; provided that call money can be found at some price, the individual bank can always expand. But sooner or later, the marginal price of call money to the bank will exceed 80 per cent of its marginal earning rate on advances. When this happens, it is no longer profitable to expand⁹.

8. The possibility of purchasing new securities with these excess reserves is again neglected.

9. Of course, many banks would prefer to stop expanding long before this limit is reached, for other reasons.

Appendix D

(SECTION X)

The exact relationship between the rate on call money and the amount of inter-bank call borrowing follows from, though not very simply, the shapes and positions of the schedules of the borrower and the lender banks. Let us assume that, for each group of banks, the amount which is borrowed (or, if negative, lent) is a decreasing function of the ratio of the call rate to the Bank Rate. To the borrower banks' schedule is added a shift parameter which increases when the demand for advances rises; to the lender banks' schedule is also added such a shift parameter, usually less than that of the borrower banks. Mathematically, we may write:

$$(D-1) \quad I_B = f(i) + a$$

$$(D-2) \quad I_L = g(i) + ka$$

$$(D-3) \quad I_B = -I_L = I$$

where: I_B = the borrowings of the borrower banks;
 I_L = the borrowings (always negative, and hence lendings) of the lender banks;
 i = the ratio of the call rate to the Bank Rate;
 a = the shift parameter for borrower banks;
 ka = the shift parameter for lender banks;
 I = the volume of inter-bank borrowing.

By substitution, we may reduce equations (D-1) through (D-3) to one equation relating (i) and (I):

$$(D-4) \quad I = \frac{kf(i) - g(i)}{1+k}$$

Two extremes of this function may be easily seen. If $k=0$ so that the lenders' schedule never moves, equation (D-4) reduces to

$$(D-5) \quad I = -g(i)$$

The amount transferred is simply the "mirror image" of the lenders' supply schedule, regardless of the shape or shifts of the borrowers'

schedule. If, on the other hand, the borrowers' schedule never moves (*i.e.*, $a=0$ but $ka > 0$, which requires finding the limit of (D-4) as k approaches infinity), equation (D-4) reduces to

$$(D-6) \quad I = f(i)$$

The amount transferred is simply the borrowers' schedule. For intermediate values of (k), the relationship (D-4) involves both schedules, the borrowers' and the lenders'.

The shape of (D-4) may be seen by taking the first and second derivatives of I with respect to (i):

$$(D-7) \quad dI/di = \frac{k f'(i) - g'(i)}{1+k}$$

$$(D-8) \quad d^2 I/di^2 = \frac{k f''(i) - g''(i)}{1+k}$$

Where the primes and double primes refer to the first and second derivatives of $f(i)$ and $g(i)$ with respect to (i). Equation (D-7) is not necessarily positive or negative even if we stipulate that any realistic values of $f'(i)$ and $g'(i)$ are negative. The positive relationship of (i) and (I) which is in fact discovered implies that

$$(D-9) \quad \frac{g'(i)}{f'(i)} > k$$

If (k) is small (*i.e.*, very much less than one), condition (D-9) merely requires that the lenders' schedule be not too insensitive to changes in (i) relative to the borrowers' schedule.

In the text, Figure X-3 suggests that there may be some curvature in the relationship between (i) and (I). Specifically, it appears that an ever-larger volume of (I) is transferred as (i) increases toward the unity region. Thus, the second derivative, $d^2 I/di^2$ appears to be positive. This requires, in terms of equation (D-8), that

$$(D-10) \quad g''(i) < k f''(i)$$

Since (k) is small, this means either that $g''(i)$ is negative or that $f''(i)$ is a large positive. Neither of these seems very plausible. The former implies that the lenders supply ever-larger increments of (I) as (i) approaches the Bank Rate; the latter implies that the borrowers demand ever smaller decrements of (I) as (i) approaches the Bank Rate. This latter is surely not true, the reverse being far more likely: borrowers will probably demand ever-larger decrements of (I) as (i) approaches the Bank Rate (see Appendix C). Even the former seems less than equally likely as its reverse: as the call rate nears the Bank Rate, we would expect the lenders to draw ever closer to the limits of their lending, and further increases in (i) to evoke ever-smaller responses. Thus, if forced to a choice, we should expect *a priori* exactly the opposite curvature to the relationship between (i) and (I) as that exhibited in Figure X-3.

There are two further possible explanations of this curious curvature. One is that there has been a secular shift, or a series of shifts, unrelated to the demand for advances, in the supply schedule of lenders over recent years; and that, since in the last few years high call rates have occurred, this shift has given the appearance of curvature. It is true that the American banks, sizable lenders in this market, have recently received great increments of the United States government deposits. But most of this has occurred since June 1961, while the two extreme right-hand crosses in Figure X-3 are those of September and December 1960.

The other possible explanation is that we are mistaken in assuming the lenders' schedule to be a function of the *ratio* of the call rate to the Bank Rate¹. If the alternative assets of the lenders are not government securities or advances, whose rates are at least somewhat tied to the Bank Rate, but cash and excess State Bank balances, whose yield is zero, then their lendings may be a function of the call rate alone. If this is so, the model of equations (D-1) through (D-3) is incorrect, and (D-2) should be replaced by:

$$(D-11) \quad I_L = g(bi) + ka$$

where (b) is the Bank Rate, and hence (bi) the call rate. The relation of (I) to (i) and (b) is then not equation (D-4) but:

1. Though it is clear from Appendix C that the borrowers' schedule is almost certainly a function of this ratio.

$$(D-12) \quad I = \frac{k f(i) - g(bi)}{1+k}$$

The effect of the rise in the Bank Rate in 1959 can then be calculated by taking the partial derivative of (I) with respect to (b):

$$(D-13) \quad dI/db = \frac{-i g'(bi)}{1+k}$$

This will be positive for all values of (i). Thus, the volume of funds transferred would be greater, at all (i) values, *after* the Bank Rate rise. And, since call rates have been generally high over the last few years, this shift would appear as a curvature. But this explanation also fails to make sense of the two extreme crosses in Figure X 3, those of September and December 1960.

The conclusion of the text may be wise: half to remain mystified, and half to deny that a mystery exists.

Appendix E

(SECTION XII)

The statement in the text, that the collateral-exhaustion limit of the Scheduled Banks is relatively invariant to State Bank policy, will be made more rigorously here. The State Bank cannot reject borrowing applications based on government securities collateral or counter-finance (Sections IV and VII); as far as State Bank policy is concerned, we may accept these borrowings as given¹. Here, then, we shall examine the effects upon the limit to Scheduled Bank borrowing of a change in the State Bank's willingness to accept bills as collateral.

The following symbols will be used in this appendix:

B is the amount of borrowing done on the collateral of bills;

D is the total amount of State Bank borrowing;

T is the total amount of eligible bills held by those Scheduled Banks which are in debt to the State Bank².

1. Also assumed given throughout this appendix is any "clean" lending.

2. Assumed fixed here. To the argument that an increased willingness on the part of the State Bank to accept bills collateral will evoke greater bill-lending in the banking system, we need only note that this has not in fact occurred.

At any moment of time, we can define (a) and (b) as the following fractions:

$$(E-1) \quad B = a T$$

$$(E-2) \quad B = b D$$

Now consider two extreme changes in State Bank policy:

1) If the State Bank were now to refuse to accept bills as collateral *at all*, the amount of borrowing would decline by (b D) to:

$$(E-3) \quad D_1 = (1-b)D$$

The per-cent fall in borrowing would be:

$$(E-4) \quad \frac{D-D_1}{D} = b$$

2) If, on the other hand, the State Bank were to accept *all* bills as collateral, the amount of borrowing would rise by (1-a)T to:

$$(E-5) \quad D_2 = D + (1-a) T = (1-b + \frac{b}{a})D$$

The per-cent rise in borrowing would be:

$$(E-6) \quad \frac{D_2 - D}{D} = \frac{b}{a} - b$$

Before analysis of these results, however, two provisos should be made. One, the State Bank can never force banks to borrow more than they wish, so (E-6) is the per-cent rise in but a restricted sense; (E-4) is not so restricted. And two, a change in the eligibility of bills may affect the amount of borrowing under securities or counter-finance; since any such changes would probably be compensatory, their neglect may lead us to overestimate the State Bank's effect.

Numerical content may now be given formulas (E-4) and (E-6) by the example of December 1961. The total borrowing was Rs. 49.78 crores, of which Rs. 15.05 crores was on the collateral of bills (see Appendix B). Thus, (b) was equal to 0.30. The total of all bills in the

Scheduled Banks was Rs. 26.56 crores, of which at most 80 per cent (i.e., Rs. 21.25 crores) were held by banks which had done State Bank borrowing. Thus, (a) was *at least* 0.71. Using (E-4) and (E-6), we may say that State Bank policy could have caused a decline in borrowing of 30 per cent and could have permitted an increase in borrowing of *no more than* 12 per cent. In fact, the limits to the possible change the State Bank could effect were somewhat less, especially in the upward direction; it is not impossible that *every* bill in *every* bank that was in debt to the State Bank was in fact used as collateral during the busy season of 1961/62. Of course, that bills are now 100 per cent eligible collateral does not mean that they will always be so.

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