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MONEY MARKET IN MAY

The money market continued tight in May, although member bank indebtedness to Reserve Banks in the five weeks ended May 29 was somewhat below the high levels reached in mid-April. The yield structure for corporate and municipal securities moved up substantially over the month. Yields on Treasury certificates, notes, and bonds also increased, by as much as 20 basis-points, while increases in Treasury bill rates ranged up to 30 basis-points. The changes in Treasury issues reflected in part the market reaction to the exchange offering for 4.1 billion dollars of maturing 1⅝ per cent Treasury notes and the sale of 1.5 billion dollars in new 119-day tax anticipation bills. A more important general influence, however, was the continued large demand for capital funds by private borrowers.

MEMBER BANK RESERVE POSITIONS

Bank reserve positions in May tightened moderately as the month progressed, following the slight relaxation of pressures late in April when a Railway Express strike in several major cities at first retarded the normal month-end decline in float. Over the course of the five weeks ended May 29, reserves were siphoned out of the banking system by Federal Reserve open market operations and by a decline in float, an outflow of currency, and an increase in Treasury balances at Reserve Banks. These drains were only partly matched by the additional reserves released through movements in gold and foreign accounts, a reduction in required reserves as bank deposits declined, and System payment to the Treasury of interest on Federal Reserve notes.

On the average, however, reserve pressures on member banks for the five weeks ended May 29 were somewhat less pronounced than in the preceding four weeks. Borrowing at Federal Reserve Banks, which had averaged more than 1.1 billion dollars in the first three weeks of April, averaged slightly below 0.9 billion dollars thereafter, through the end of May. Average excess reserves, at 431 million over the five-week period, were little changed from the levels prevailing in April.

The extension of repurchase contracts to Government securities dealers by the Federal Reserve System supplied a small amount of reserves in the first week of May, and again toward the end of the month. The agreements written early in the period were related to the money market pressures that resulted from special dealer-financing needs growing out of their role in the Treasury refunding. The effect of these contracts on reserves was relatively limited, however, since the average level of repurchase agreements outstanding rose only to 88 million in the week ended May 8, and by the end of the following week the balance had run off entirely. Outright holdings of Government securities in the System Open Market Account declined moderately in the first statement week of May as well as in each of the two succeeding weeks. In the closing week of the period, as the runoff of float withdrew reserves from the banking system, there were modest increases in the volume of securities held outright and under repurchase agreements. Over the full five-week period ended May 29, however, the Government security portfolio of the Reserve Banks was reduced by 156 million dollars.

The moderate relaxation of reserve pressures in the week ended May 22 reflected chiefly the behavior of float. The Railway Express work stoppage beginning late in

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Table I
Changes in Factors Tending to Increase or Decrease Member Bank Reserves, May 1957
(In millions of dollars; (+) denotes increase, (—) decrease in excess reserves)

Factor	Daily averages—week ended					Net changes
	May 1	May 8	May 15	May 22	May 29	
Operating transactions						
Treasury operations*	+ 36	− 85	+ 34	− 47	− 37	− 99
Federal Reserve float	−316	−221	+ 1	+393	−362	−505
Currency in circulation	+111	− 90	− 65	+ 9	− 15	− 50
Gold and foreign account	+ 39	− 14	+ 1	+ 5	+ 90	+121
Other deposits, etc	+217	+ 86	+ 37	− 30	− 6	+304
Total	+ 85	−321	+ 8	+327	−327	−228
Direct Federal Reserve credit transactions						
Government securities:						
Direct market purchases or sales	—	− 44	− 92	−118	− 14	−268
Held under repurchase agreements	− 68	+ 88	− 38	− 50	+ 29	− 39
Loans, discounts, and advances:						
Member bank borrowings	−218	+263	− 18	−177	+111	− 39
Other	+ 1	− 1	+ 1	− 6	—	− 5
Bankers' acceptances:						
Bought outright	—	− 1	—	− 4	—	− 5
Under repurchase agreements	—	—	—	—	—	—
Total	−286	+305	−147	−354	+125	−357
Total reserves	−201	− 16	−139	− 27	−202	−585
Effect of change in required reserves†	+ 8	+107	+ 92	+ 69	+ 21	+297
Excess reserves†	−193	+ 91	− 47	+ 42	−181	−288
Daily average level of member bank:						
Borrowings from Reserve Banks	704	967	949	772	883	855‡
Excess reserves†	406	497	450	492	311	431‡

Note: Because of rounding, figures do not necessarily add to totals.
* Includes changes in Treasury currency and cash.
† These figures are estimated.
‡ Average for five weeks ended May 29.

April had led initially to a sharp advance in float, but its effect was much reduced during most of the balance of the period, apparently because Reserve Banks were able to find alternate means of transmitting checks, thus preventing extensive delays in the collection process. The midmonth float peak in the week ended May 22 was somewhat higher than usual, however, and this may have been attributable in part to the continuing impact of the strike.

A temporary dip in Treasury deposits at Federal Reserve Banks also contributed slightly to the moderate easing of reserve positions around the middle of May. The decline in Treasury balances was primarily a result of the cash redemption (described below) of a sizable portion of the 4.1 billion dollars of 1⅝ per cent notes maturing during the month. However, through heavy scheduled calls on all Tax and Loan deposits, as well as the utilization of special additional calls on Class C depositaries, the Treasury was able to restore its balances at the Reserve Banks within a few days. Toward the end of the month, a moderate amount of reserves was released, in effect, as the Treasury acquired 300 million dollars in gold from the International Monetary Fund on May 28 in exchange for noninterest-bearing notes.

With continuous and relatively even pressures maintained on reserve positions, as a result of the mutually offsetting effects of the various factors just described, the money market remained tight throughout the month. Federal funds were quoted at the discount rate on every day, although some trading was occasionally reported at lower levels.

Government Securities Markets

Market attention was focused during much of the month on Treasury financing operations. On May 2, the Treasury announced that holders of the 4.1 billion dollars of 1⅝ per cent notes maturing May 15 would be offered an optional exchange into either 3½ per cent certificates maturing April 15, 1958 or 3⅝ per cent notes maturing February 15, 1962. Subscription books for the exchange were open May 6 through 8 and the new securities were dated May 1, with interest accruing from that date. Later in the month, on May 16, it was announced that a new issue of 1.5 billion dollars of 119-day tax anticipation bills would be brought to market in a special auction on May 22, partly reflecting the sizable "attrition" on the exchange offering and the continued cash redemption of Savings bonds. The new tax issue, which was dated May 27 and will mature September 23, 1957, will be acceptable at full face value in payment of income and profits taxes due September 15, 1957.

Although the new notes and certificates offered in the refunding were priced in line with outstanding securities of comparable maturity, the market exhibited a relatively limited interest in them. Bid quotations on the "rights" remained below par throughout the period when subscriptions for the new issues were being taken. Before the books were closed, a substantial volume of "rights" was pressed onto the market despite the slight discount from full face value. Some of the supply apparently came from investors who preferred to refund their holdings into securities of different maturities (generally shorter) than those offered by the Treasury. Perhaps an even larger portion of the selling was undertaken by holders who had acquired the maturing issues to meet cash needs expected to arise at the time of redemption. In any event, 1.2 billion dollars of the expiring notes were redeemed for cash, resulting in an "attrition" representing 28 per cent of the total issue. Of those notes that were not run off, 2.4 billion dollars were exchanged for the 3½ per cent certificates of 1958 and 0.6 billion for the 3⅝ per cent notes of 1962. The new offerings continued to be quoted at less than par value in "when-issued" trading until May 13, when bids on the 3⅝ per cent notes of 1962 rose to par. By the end of the month, however, quotations on the issue had fallen to $99^{24}/_{32}$. The 3½ per cent certificates of 1958 advanced slightly above par value on May 14, but slipped back to $99^{31}/_{32}$ the following day, and closed the month at $99^{30}/_{32}$.

In the market for outstanding Government securities, the immediate effects of both the refunding and the spe-

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cial tax issue were visible principally at the short end of the Treasury list. Early in the month, following the announcement of the exchange for the maturing 1⅝ per cent notes, Treasury bill yields were marked sharply lower in anticipation of reinvestment demand from sellers of "rights". As the volume of "rights" reaching the market expanded, rates declined still further and, when the extent of the cash redemption was made public, yields on the shorter maturities of outstanding bills dropped as low as 2.65 per cent (bid). As it turned out, however, reinvestment demand fell short of market expectations. Accordingly, bill rates began generally to drift upward from the low point reached on May 13, when the longest bill was quoted at 2.90 per cent (bid). The announcement of the special tax issue hastened the upward movement, and at the end of May the longest bill was bid to yield 3.31 per cent, or 30 basis-points above the end of April. Average issue rates established in the regular weekly auctions of Treasury bills during May followed a similar pattern, falling from 3.039 per cent on April 29 to 2.909 per cent on May 6 and to 2.894 per cent on May 13. In the second half of the month, average issue rates moved back up again to 3.122 per cent on May 20 and 3.245 per cent on May 27.

The tax anticipation bills were awarded at an average rate of 2.824 per cent, the relatively low rate reflecting the fact that commercial banks could make full payment in Tax and Loan credits for their own and their customers' subscriptions. Following the auction, the new tax issues were quoted at 3.17 per cent (bid) in "when-issued" trading. By the end of the month, as a sizable volume of the bills began to reach the market, rates had risen to 3.26 per cent (bid).

Activity in intermediate and long-term Government bonds was quite limited during the month, as attention focused on Treasury bills and other short-term issues. Early in the month a cautious tone developed from expectations that the Treasury would offer in the near future a long-term marketable bond in exchange for Series F and G bonds maturing during the balance of the year. (It was announced on May 16 that this possibility had been postponed indefinitely.) As the month progressed, however, the basic yield adjustment in the corporate and municipal markets had a pronounced effect on Government issues. In the closing days of May, prices thus declined substantially throughout the Treasury list. Over the full month, prices of intermediate and long-term bonds were marked down by $\frac{14}{32}$ to $1\frac{18}{32}$.

Other Securities Markets

For a time the marked deterioration in sentiment of the preceding month appeared to have been stayed, but toward the end of May downward price pressures appeared to gather momentum once again, especially in the market for corporate issues. Although trading in both corporate and municipal markets was relatively limited, the continuing sizable flow of new offerings and renewed optimism as to business prospects led dealers to mark down prices on outstanding issues substantially over the month, while new offerings that were priced close to the market failed to attract extensive investor interest.

The sharpest adjustment came in the market for corporate issues. In the first half of May, the volume of new publicly issued corporate bonds was quite limited and prices of outstanding corporate bonds drifted down only slightly. But before the end of the month, the total volume of new offerings had risen to about 430 million dollars which, although lower than the new financing a year earlier, exceeded the April 1957 offerings by more than two thirds. The rapidly mounting pressure was initially concentrated on utility issues. In the latter part of the month when an A-rated utility bond was offered with a clause making it nonrefundable for five years, in an effort to overcome some investor resistance, other similarly rated utility flotations not bearing this clause encountered increased marketing difficulty. Prior to this development, A-rated utilities had been reoffered at yields around 4.50 per cent, but subsequently these rates moved upward to well over 5 per cent. These movements quickly set off a widespread rate readjustment in seasoned corporate securities, and by the end of May average rates on Moody's Aaa-rated corporate bonds had advanced to 3.80 per cent, a gain of 9 basis-points over the month and the highest point since January.

A slightly improved atmosphere developed in the municipal markets, following the pronounced congestion of the previous month. The volume of new publicly offered municipal issues declined substantially from the April total, dropping from 700 million dollars to 430 million dollars, or about the same as in May 1956. Average yields on outstanding municipals, after rising moderately early in the month, held relatively steady thereafter, until the closing days when municipal rates shared in the general upward adjustment. Over the month, average yields of high-grade seasoned issues advanced from 2.97 to 3.10 per cent.

Member Bank Credit

Total loans and investments at weekly reporting member banks declined by 1,642 million dollars in the five weeks ended May 22. (Data for the following week were not available at the time of publication, but it seems probable that member bank credit expanded again as banks made payment in Tax and Loan credits for their own and their customers' allotments of the new tax anticipation bill dated May 27.) Although loans fell during the period, most of the contraction in total bank credit was attribut-

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Table II
Weekly Changes in Principal Assets and Liabilities of the Weekly Reporting Member Banks
(In millions of dollars)

Item	Statement weeks ended					Change from Dec. 26, 1956 to May 22, 1957
	April 24	May 1	May 8	May 15	May 22	
Assets						
Loans and investments:						
Loans:						
Commercial and industrial loans	−175	+102	− 109	+226	−241	+ 58
Agricultural loans	—	− 1	− 3	+ 5	—	− 43
Security loans	− 34	+270	− 357	−103	+ 36	− 554
Real estate loans	− 9	− 11	− 14	+ 4	− 5	− 188
All other loans (largely consumer)	+ 38	+ 24	+ 17	+ 14	+ 4	+ 54
Total loans adjusted*	−179	+382	− 466	+146	−208	− 851
Investments:						
U. S. Government securities:						
Treasury bills	−112	+ 91	− 245	− 13	− 17	−1,086
Other	−174	− 29	− 237	−318	− 90	− 454
Total	−286	+ 62	− 482	−331	−107	−1,540
Other securities	− 87	− 31	− 94	+ 3	+ 36	+ 92
Total investments	−373	+ 31	− 576	−328	− 71	−1,448
Total loans and investments adjusted*	−552	+413	−1,042	−182	−279	−2,299
Loans to banks	+ 96	−176	+ 205	+ 2	+ 80	+ 48
Loans adjusted* and "other" securities	−266	+351	− 560	+149	−172	− 759
Liabilities						
Demand deposits adjusted	+107	−482	− 940	−216	+ 94	−3,063
Time deposits except Government	+ 5	+ 46	+ 65	+ 63	+ 80	+1,270
U. S. Government deposits	+ 63	+467	− 240	−253	+ 6	− 46
Interbank demand deposits:						
Domestic	−635	+150	− 142	+403	−811	−1,578
Foreign	+ 10	+ 38	− 1	− 8	+ 47	− 61

* Exclusive of loans to banks and after deduction of valuation reserves; figures for the individual loan classifications are shown gross and may not, therefore, add to the totals shown.

able to heavy bank liquidation of Government securities, as part of the unwinding process following the Treasury financing operation at the end of March. The decline in loans and investments together was about four times as large during the five weeks ended May 22 as in the corresponding period of 1956. Over the year thus far the net contraction of credit at these banks has amounted to 2,299 million, compared with 1,621 million a year earlier.

Weekly reporting member banks reduced total investments by 1,317 million dollars, with portfolios of both Government and other securities lower on balance at the end of the five-week period. Holdings of Treasury issues declined in four of the five weeks, bringing the total decline for the period to 1,144 million, compared with a reduction of 818 million a year earlier. Government securities holdings had risen sharply in the week ended April 3 with the delivery of new Treasury notes and certificates. In the subsequent two months, however, the increase was more than offset as banks sold Treasury issues or presented them for redemption upon maturity. Holdings of other securities declined over the five weeks by a somewhat smaller margin than in 1956.

On balance, 325 million dollars in loans was repaid at these banks in the five weeks ended May 22, in contrast to the net extension of 739 million in loans in the same period a year ago. The reduction occurred chiefly in business loans and in security loans, especially those extended to finance broker and dealer holdings of issues other than Governments. Real estate loans were slightly reduced over the period, while moderate increases were reported for all other loans (largely to consumers).

The decline in business loans—197 million dollars—contrasted sharply with the 324 million gain in the corresponding five weeks of 1956. There were increases this year in loans to manufacturers of metals and metal products, construction firms, trade concerns, public utilities, and the petroleum, coal, chemicals, and rubber group. However, these advances were more than offset by a net contraction of loans to other business groups, including chiefly sales finance companies and commodity dealers. For the year thus far, total business loans have advanced by 58 million, compared with an increase of 1,469 million a year ago.

INTERNATIONAL MONETARY DEVELOPMENTS

Monetary Trends and Policies

Switzerland. The Swiss National Bank raised its discount rate to 2½ per cent from 1½, effective May 15, and at the same time made a 1 per cent increase to 3½ per cent in its rate for advances against securities. This was the first increase in more than twenty years in the Swiss discount rate.

The Swiss economy has been expanding rapidly during the past two to three years. In the first quarter of this year, the pressure on resources has been accentuated as investment, consumption, and exports have risen beyond last year's high levels. After two years of virtual stability, wholesale and consumer prices rose 4.5 per cent and 2.2 per cent, respectively, during 1956; however, prices appear to have eased somewhat in the first quarter of this year. While the increased cost of imports was a major cause of the 1956 price rise, wage increases averaging nearly 5 per cent were also an important factor. However, the most striking evidence of the rise in demand in Switzerland was the 19 per cent expansion of imports in 1956, which brought about an increase in the trade deficit that almost eliminated the country's traditional current-account surplus. Notwithstanding the trade deficit, gold and foreign exchange holdings of the Swiss National Bank rose during 1956, reportedly owing to the influx of short-term capital, but this year the persistent increase in the import surplus seems to have been one of the factors in the more than 90 million dollar decline in gold and foreign exchange holdings during January-April.

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The disappearance of the usual balance-of-payments surplus has contributed to the unaccustomed tightness that has developed on the Swiss money and capital markets where ample investable funds have traditionally kept interest rates low. The rise in interest rates, which began early last year, has accelerated in 1957, with the average yield of government bonds rising some 0.42 percentage point to 3.64 per cent just prior to the discount rate increase in mid-May, after which there was reportedly a further rise. The recent increase in the discount rate was regarded in Switzerland as not only a realignment of the official rate with the market rates but also a measure of restraint designed to counter the excessive pressures on economic resources. The Swiss National Bank is prevented from engaging in open market sales, owing to the smallness of its security portfolio, and Swiss monetary legislation does not provide for variable cash-reserve requirements. However, under gentlemen's agreements with the monetary authorities concluded in 1955, commercial banks and other financial institutions undertook to hold certain minimum balances with the central bank; in addition, in order to prevent an increase in the liquidity of the banking system, the Treasury has for some time, by agreement with the National Bank, generally been accumulating large cash balances rather than redeeming debt.

Japan. The Bank of Japan on May 8 raised its basic discount rate 0.73 per cent to 8.395 per cent; this was accompanied by a parallel rise in the bank's other rates (except those on export bills) and its penalty rates. The rate had previously been raised to 7.665 per cent from 7.3 on March 20, but at that time adjustments were made in the Bank of Japan's progressive rate structure in order to ease seasonal tightness on the money market by enabling the banks to obtain additional central bank credit at the lower rates.

The governor of the Bank of Japan reportedly described the discount rate increase as intended to bring about a rise in commercial bank loan rates, reduce the rate of investment, and counter the growing trade deficit. Demand has been expanding rapidly in Japan for the past two years and, with the investment boom continuing unabated and industrial bottlenecks beginning to appear, the Bank of Japan has grown increasingly concerned about inflationary pressures. The most serious symptom of excessive demand has been the soaring level of imports, which in the first four months of this year exceeded exports by 617 million dollars' equivalent; this was apparently a major factor in the reported fall of 229 million dollars, or more than 15 per cent, in the nation's foreign exchange reserves. Domestically, the banks have had increasing recourse to central bank credit in order to finance the substantial increase in bank lending, which is largely attributed to the financing of investments and imports. Prior to raising its discount rate, the Bank of Japan advised the leading Tokyo banks in discussions held at the end of April that in the future they would be expected to extend new credits only insofar as this could be financed by the collection of outstanding loans.

India. The Reserve Bank of India raised its rate on advances against bills created under the Bill Market Scheme to 4 per cent from 3½, effective May 16. While this rate had technically been left unchanged when the bank's rate on advances against securities was raised to 4 per cent last February, the stamp duty levied on such bills was increased to the equivalent of ½ per cent per annum at that time; as this stamp duty has now been lowered to ⅕ per cent per annum, the present rate increase raises the actual cost of borrowing under the Bill Market Scheme only negligibly. Neverthless, the authorities' action in raising what is now officially regarded as the bank rate comes as a warning against the inflationary pressures which threaten India's internal and external economic balance. A sharp rise in imports has increased the trade deficit greatly, and since the spring of 1956 there has been a heavy drain on India's foreign exchange reserves. Domestically, commercial bank credit continues to expand and bank borrowing from the Reserve Bank has been increasing substantially. To counter the inflationary pressures, the government has, along with its monetary restraint policy, tightened fiscal policy; last month, substantial increases in direct and indirect taxes were announced.

United Kingdom. Interest rates rose substantially during May, as the earlier decline in the average Treasury bill tender rate was reversed and a marked weakness appeared in the market for gilt-edged securities. At the first tender in May the Treasury bill rate had fallen to 3.74 per cent, the lowest level in more than two years and more than 1¼ per cent below the discount rate; however, it then rose at each of the following four tenders and was 3.92 per cent on May 31. The yield of 2½ per cent Consols rose nearly 0.30 percentage point last month and touched 4.95 per cent on May 24, the highest level since December 1956; toward the end of the month, however, the gilt-edged market rallied and Consols closed at 4.90 on May 31.

The success of the authorities' funding efforts so far this year was signaled by the Treasury's announcement that, the bulk of the 401 million pounds of government securities maturing June 15 having already been acquired by the government departments, the remainder would be repaid in cash on that date. An issue of 100 million pounds, 4½ per cent Conversion Stock 1962, offered for cash on May 8, was stated to be more than adequate to cover the repayment of the June maturities still outstanding in the hands of the public; this issue was officially declared to have been oversubscribed.

The statement of the London clearing banks for the four weeks ended May 15 shows a more-than-seasonal 71 mil-

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lion pound increase in net deposits. This was wholly accounted for by the substantial increases in the banks' Treasury bill holdings and in investments. Although advances rose for the fourth successive time, the increase was only slight and there has been no further pressure on bank liquidity; after having fallen nearly 5 percentage points in February and March, the average liquidity ratio of the clearing banks has recovered only slightly during the past two months and stood at 32.9 per cent on May 15; however, all of the clearing banks' liquidity ratios are now above the conventional 30 per cent minimum.

Canada. Government bond yields rose to record levels last month, as there was an acceleration of the upward trend that began in April. Interest rates on government securities have increased as much as 0.25 percentage point in the past two months, generally more than making up the declines in February and early March. By contrast, the average Treasury bill tender rate has continued to fluctuate within a narrow range slightly below the February peak, and stood at 3.76 per cent on May 30. The slow reduction in the chartered banks' government securities portfolios which has been under way since March continued in May; the banks' liquid-asset holdings remained at the comfortable levels characteristic of recent months, but there was some borrowing at the Bank of Canada during the last week of the month. While the chartered banks' business loans rose slightly in May, the usual seasonal expansion in bank lending in Canada has been later and less marked this year than in 1956; on May 15 business loans were only about 110 million dollars greater than at the beginning of the year, compared with a 400 million dollar increase in the first four and one-half months of last year.

Exchange Rates

American-account sterling was generally firm during May, with the quotation at or above the $2.79 level except for a brief period at midmonth and again at the month end. Early in the month the rate moved as high as $2.79½, as sterling met with commercial demand in a market encouraged by the announcements that during April Britain had recorded a 111 million dollar increase in gold and dollar reserves and a 45 million dollar surplus with the European Payments Union. Although the rate eased somewhat subsequently, as the special factors affecting the increase in reserves were realized, it nevertheless remained above $2.79 until midmonth, when commercial demand for sterling in New York slackened concurrently with a rise in demand for dollars in London; the rate then slipped to as low as $2.78⅞ on May 17. In the latter part of May the quotation ranged between $2.78 31/32 and $2.79¼ as rather substantial offerings of sterling, particularly by oil companies, generally were offset by commercial demand.

The forward market was relatively active early in the month, as purchases by oil companies readily absorbed offerings by sugar interests; discounts on three and six months' sterling then narrowed to as little as ¾ and 1 17/32 cents. Except for a brief narrowing again about midmonth, discounts subsequently widened and, at the month end, stood at 15/16 and 1 27/32 cents.

Demand for transferable sterling in order to cover short positions in the market, along with occasional purchases by sugar interests, firmed the rate for such sterling to $2.7775 on May 7. Continued demand soon met with good offerings from Swiss and German sources, however, and the rate weakened to $2.7735 on May 14. The rate thereafter fluctuated within narrow limits until near the month end when it rose as high as $2.7790. On May 31 the rate stood at $2.7760. As regards security sterling, interest in British petroleum stock had the effect of slightly firming the rate at midmonth. Generally, however, the quotation declined, dropping from $2.58¾ on May 1 to $2.55¼ on May 24, and closed on May 31 at $2.56½.

The Canadian dollar continued to strengthen during May, appreciating from $1.04 27/64 on May 1 to as high as $1.04 61/64 on May 27. Early in the month conversions of United States dollar proceeds from recent sales of Canadian securities in the New York market were particularly important in bringing higher quotations. Thereafter, short cash positions in Canadian dollars, offerings of United States dollars by Canadian commercial interests, and strong demand for Canadian dollars from London contributed to the further upward movement of the rate. At the month end, the rate eased slightly to $1.04 11/16.

THE EXPANDING ROLE OF STATE AND LOCAL GOVERNMENTS IN THE NATIONAL ECONOMY

In coping with the growing requirements for governmental services of a population increasing rapidly in both numbers and wealth, State and local governments have come to play an increasingly important role in the national economy. While expenditures by these governments have been rising for many decades, they have increased particularly rapidly since the end of World War II and a further acceleration seems assured for at least several years. In contrast to the fluctuations in business and consumer demand, moreover, the postwar uptrend in State and local expenditures has not been punctuated by occasional cyclical setbacks, but has proceeded uninterruptedly during recession as well as prosperity. As the upsurge in some types of business and consumer spending has tapered

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off in recent months, the accelerated growth of State and local government outlays has been among the chief factors responsible for the sustained high level of total employment and the continued gains in national income.

Major Characteristics of State and Local Government Activity

By most yardsticks, State and local governments constitute one of the biggest "industries" in the United States. State and local authorities now employ more than 5 million persons—some 10 per cent of the nation's total nonfarm employment and more than twice the number of civilians employed by the Federal Government. Purchases of goods and services by these authorities, currently at a seasonally adjusted annual rate of over 35 billion dollars, absorb about 8 per cent of the nation's total output and nearly match the recent rate of business investment in new plant and equipment or of consumer purchases of durable goods. Total State and local spending during 1956, including such expenses as interest on debt and unemployment compensation payments as well as purchases of goods and services, was probably close to 45 billion—an amount more than a third larger than Federal Government outlays for nondefense programs and equal to about 60 per cent of total Federal spending.

The number of State and local governmental units is larger than is generally realized. Although the total has been declining because of the consolidation of school districts, there still were more than 100,000 local authorities in the United States in January 1957—or substantially more than the number of manufacturing establishments with twenty or more employees listed in the 1954 Census. Moreover, this count of local governments does not record as distinct units some of the many special authorities—such as certain transit or toll road units—that frequently enjoy a considerable degree of financial autonomy.

Of the vast number of State and local governmental units, however, the forty-eight States and the eighteen most populous cities spent directly some 47 per cent of the total outlays in 1955. Furthermore, the States financed a substantial part of local government spending, notably that by counties and school districts (see Table I). Since the States also received the bulk of the Federal grants, which in 1955 financed 8 per cent of total State and local expenditures, about half the funds eventually disbursed by all the 100,000 governmental units were channeled through the States. By contrast the school districts, although numbering over 50,000, had authority over only 20 per cent of total State and local government expenditures, and themselves financed only 13 per cent.

Despite the tremendous variety of State and local governmental functions, most spending by these governments is devoted to the provision of a dozen or so major services.

Table I
Number and Expenditures of State and Local Government Authorities
(Dollar amounts in billions)

Governmental unit	Number of units January 1957		Expenditures—fiscal years ended in 1955			
			By spending unit		By source of funds	
	Actual	Per cent of total	Amount	Per cent of total	Amount	Per cent of total
States	48	*	14.4	36	17.4	43
Counties	3,047	3	4.7	12	3.3	8
Municipalities	17,167	17	10.4	26	9.1	23
Townships	17,214	17	1.1	3	0.9	2
School districts	50,453	49	8.2	20	5.2	13
Special districts	14,423	14	1.6	4	1.5	4
Federal Government	—	—	—	—	3.1	8
Total	102,352	100	40.4	100	40.4	100

Note: Because of rounding, details may not add to totals.
* Less than 0.5 per cent.
Sources: United States Bureau of the Census. For number of units: *Governments in the United States in 1957;* for expenditures: *Summary of Governmental Finances in 1955.*

In fact, as indicated in Table II, two of these—education and transportation (chiefly the construction and maintenance of streets and highways)—account for more than half of total State and local expenditures. Expenditures for public protection, health, and welfare (including relief and other assistance payments) absorb another 30 per cent of aggregate outlays, while the remainder is largely taken up by the "overhead" costs of government operation and by interest payments on outstanding debt.

Like private industry, the States and localities must venture on substantial investment programs if they are to meet the expanding needs and demands of a growing population. As a result, a sizable proportion of State and local spending has always consisted of capital outlays on land, equipment, buildings, highways, and other public works. During most of the postwar period, capital expenditures by State and local governments have been advancing at an even faster rate than that of private investment in new plant and equipment; by 1955, such outlays represented more than a quarter of total State and local spending. Highways and schools absorbed 70 per cent of total capital outlays in that year (see Table III); most of

Table II
General Expenditures of State and Local Governments By Purpose, Fiscal Years Ended in 1955

Purpose	Amount (billions of dollars)	Per cent of total
Education	11.9	35
Highways and other transportation	6.8	20
Public health and housing*	4.5	13
Police, fire, and sanitation	3.5	10
Public assistance payments	3.2	9
All other	3.9	12
Total	33.7	100

Note: General expenditures exclude outlays of publicly owned utilities and liquor stores and payments into retirement and unemployment trust funds. Because of rounding, details may not add to totals.
* Includes health, hospitals, recreation, libraries, housing and community redevelopment, and natural resources.
Source: United States Bureau of the Census, *Summary of Governmental Finances in 1955.*

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Table III
Capital Outlays of State and Local Governments
By Purpose, Fiscal Years Ended in 1955

Purpose	Amount (billions of dollars)	Per cent of total
Highways and other transportation	4.4	41
Education	3.1	29
Utilities	1.2	11
Housing, parks, and natural resources	0.6	6
Sanitation	0.5	5
Hospitals	0.3	3
All other	0.6	6
Total	10.7	100

Note: Because of rounding, details may not add to totals.
Source: United States Bureau of the Census, *Summary of Governmental Finances in 1955.*

the remainder was devoted to utilities, hospitals, and sanitary facilities.

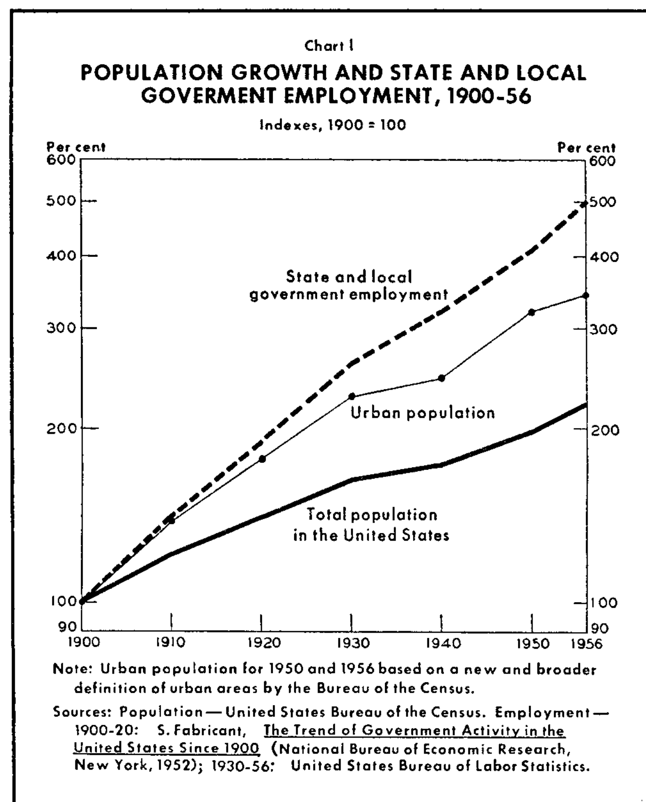
The Growth of State and Local Outlays

At least since the turn of the century, State and local expenditures and employment have been expanding considerably more rapidly than the economy at large. Between 1902 and 1955, for example, State and local outlays increased about thirtyfold while gross national product expanded on the order of twentyfold. With respect to employment and population, the contrast is even sharper. At present, the country's total population and employment stand at approximately 2¼ times their 1900 levels, but State and local government employment has increased more than five times. Furthermore—although the data for the pre-1929 period are sparse and therefore inconclusive—the growth in State and local demand apparently has outpaced that of the rest of the economy not only for the half century taken as a whole, but also during most peacetime years of the period taken individually.

The forces that have propelled this rapid expansion are closely linked to the economic development of the nation itself. Chiefly they include the growth of the country's population and its increasing concentration in urban and suburban areas, the changes brought about by the automobile and other advances in technology and standards of living, and the expanding responsibilities assigned to government.

The growth of outlays for education, the largest component of State and local spending, illustrates the intricacy of these forces and their interactions. Over the years, the share of education in State and local budgets has been gradually increasing, although at least since the 1870's and until about 1950 the growth in the school-age population has been much slower than that of the population as a whole. (In 1952, for example, there were actually fewer school-age children than in 1930.) The apparent paradox can be explained in terms of the growing needs—and opportunities—for more intensive schooling that have developed over the years. These have been reflected in sharp increases in the proportion of school-age children actually enrolled in schools, in the attendance rate, and in the length of the school term; in raised educational requirements for teachers; and in the upgrading of standards for the size of school buildings and their equipment and recreational facilities. In addition, State and local governments have been assuming greater responsibilities in the field of higher education, so that students in public universities now outnumber those at private institutions. Clearly, each of the major factors mentioned earlier—the increase in the urban population, the advances in technology and wealth, and the growth of government responsibilities—has played a major part in raising the share of outlays for education even when the proportion of school-age children in the population was declining.

The growth in other categories of State and local outlays has also been closely related to these same factors. Most important, perhaps, has been the persistent migration of population from farm to city—a trend still in evidence. Indeed, while the growth rate of State and local employment since 1900 has far outpaced that of the country's total population, during most of this period it did not much exceed that of the urban population (see Chart I). In urban communities, many services that farm families perform largely or wholly for themselves must be taken over by the local government. Moreover, the provision of such services as police and fire protection, sanitation, and water supply is a much more complicated and expensive matter than on a farm. Cities also must under-



Note: Urban population for 1950 and 1956 based on a new and broader definition of urban areas by the Bureau of the Census.
Sources: Population—United States Bureau of the Census. Employment—1900-20: S. Fabricant, The Trend of Government Activity in the United States Since 1900 (National Bureau of Economic Research, New York, 1952); 1930-56: United States Bureau of Labor Statistics.

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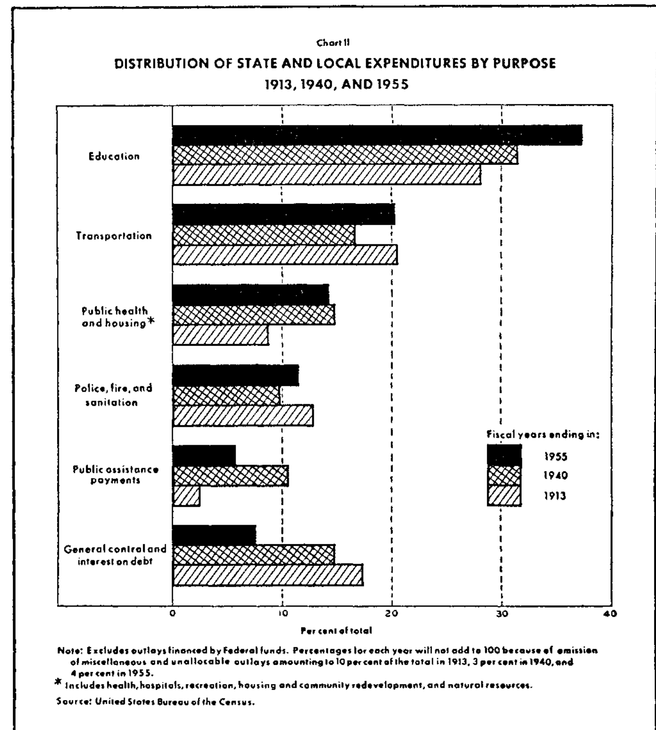
take substantial public outlays of types that are relatively minor in farm areas, including the building and repair of streets and in many instances the provision or subsidization of public transportation.

Continual pressure to enlarge State and local outlays also is exerted by the side-by-side advances in technology and standards of living, which broaden the scope of governmental services that the public expects and is willing to pay for. Probably the strongest push has come from the development of motor transport and the spread of automobile ownership, which have multiplied the need for more and better highways. In addition, State and local governments are called on to accept the responsibility for licensing drivers, establishing and enforcing traffic regulations, and other related functions.

A final major factor pushing up State and local outlays has been the enlargement of government responsibilities toward the needy, particularly during and since the depression of the 1930's. Public welfare and assistance payments, which comprised a negligible part of State and local budgets before the 1930's, have grown to about 10 per cent of total outlays since that time. While nearly half of State and local expenditures for relief and unemployment compensation are financed by the Federal Government, the amounts provided by the States and localities themselves are large and have been growing steadily. Of course, the broadened social role of government has also been reflected in the rapid expansion of many types of expenditures other than direct-assistance payments, such as those for public health and housing.

Despite the huge growth of State and local outlays, the pattern of these expenditures, when Federally financed outlays are excluded, is not markedly different today from that before World War II—or even before World War I (see Chart II). The most striking change is the increase in the share of total expenditures devoted to education, and even this is largely a post-Korea development. Moreover, the growth of the share of education would probably be somewhat smaller if the outlays were expressed in *real* terms, since costs of school building and operation have increased more rapidly than many other types of costs faced by these governments. On the other hand, the approximate stability since 1913 of the share of State and local funds allocated to highways reflects to some extent the relatively modest increase in road construction costs, partly attributable to the rapid improvement in road-building techniques; in real terms, the share of highway construction has probably been expanding.

The only class of expenditures whose share in the total has declined appreciably is that devoted to the "overhead" costs of governments. Expenditures to maintain the executive, legislative, and judicial organs, and for financial and other general administration have increased much less



Note: Excludes outlays financed by Federal funds. Percentages for each year will not add to 100 because of omission of miscellaneous and unallocable outlays amounting to 10 per cent of the total in 1913, 3 per cent in 1940, and 4 per cent in 1955.

* Includes health, hospitals, recreation, housing and community redevelopment, and natural resources.

Source: United States Bureau of the Census.

rapidly than other outlays. The burden of interest payments relative to total outlays also has decreased sharply (mainly since World War II), reflecting chiefly a marked increase since the thirties in the proportion of outlays financed by revenues rather than borrowing. In addition, interest rates on municipal securities have declined since the mid-thirties, partly because the tax-exempt income yielded by these obligations has become more attractive as Federal tax rates have risen. Although municipal yields have increased sharply over the past two years, they are still lower than at any time before 1935.

Cyclical Behavior of State and Local Outlays

So strong have been the forces tending to raise State and local outlays that the growth of these expenditures has been arrested only during severe downturns in aggregate business activity. Since 1920, as Chart III shows, both State and local government employment and the physical volume of construction financed by these authorities have continued to advance during most business recessions. (Wages and salary payments and construction outlays by State and local governments comprise about three quarters of their total purchases of goods and services.) Only during the depression of the 1930's did a decline in State and local demand actually aggravate an over-all downturn, and even then the decline did not occur until 1931. Moreover, a comparison of State and local spending with revenues for the period since 1929 (earlier data are not available in sufficient detail) indicates that the budgetary position of State and local governments also has moved counter-

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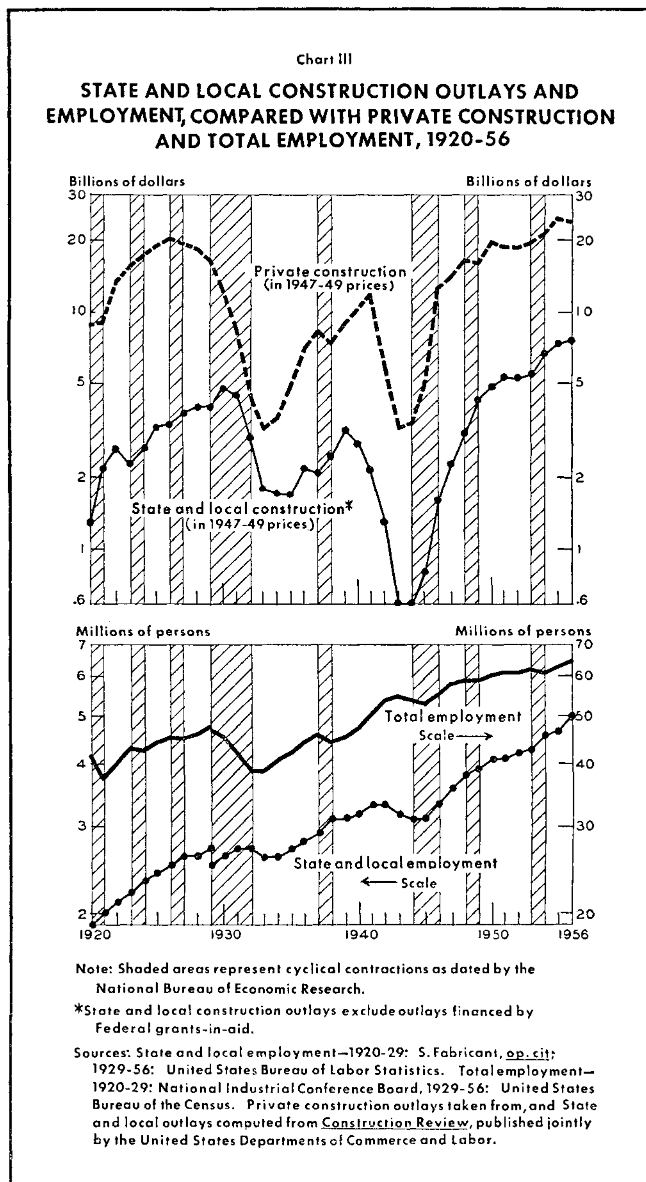
cyclically—again with the exception of the depression years after 1931. During recessions, expenditures have advanced more rapidly than revenues—so that States and localities were adding more to aggregate demand than they were withdrawing through taxation—while the reverse has been the case (although not so regularly) during periods of prosperity, and particularly in wartime.

The sustained and sometimes accelerated growth in State and local expenditures during recessions has depended primarily on the stability of revenues and the increased receptivity of the capital markets during many of these periods, rather than on efforts to pursue a compensatory fiscal policy. For the most part, State and local authorities have relatively little leeway to vary expenditures and receipts for purposes of economic stabilization, since they possess neither the extensive taxing authority nor the broad borrowing capacity of the Federal Government. While neither businesses nor individuals are likely to emigrate to other countries as a result of high Federal taxes, they can and do consider local taxes in their choice of residence. Similarly, a local governmental unit that wishes to borrow must meet standards of credit-worthiness much like those applied to private business since, unlike Treasury securities, State and local debts carry some risk of default. During the depression, for example, thousands of small local units and even a few State governments were unable to meet their obligations. On the whole, therefore, State and local spending must be governed by current and prospective revenues (except in those few instances where reserves against a "rainy day" have been built up during earlier periods of surplus). This "fact of life" is expressed in many areas by such devices as the earmarking of certain taxes, and by constitutional and legislative restrictions on tax rates and indebtedness.

Chart III

STATE AND LOCAL CONSTRUCTION OUTLAYS AND EMPLOYMENT, COMPARED WITH PRIVATE CONSTRUCTION AND TOTAL EMPLOYMENT, 1920-56



Note: Shaded areas represent cyclical contractions as dated by the National Bureau of Economic Research.

*State and local construction outlays exclude outlays financed by Federal grants-in-aid.

Sources: State and local employment—1920-29: S. Fabricant, op. cit; 1929-56: United States Bureau of Labor Statistics. Total employment—1920-29: National Industrial Conference Board, 1929-56: United States Bureau of the Census. Private construction outlays taken from, and State and local outlays computed from Construction Review, published jointly by the United States Departments of Commerce and Labor.

Partly because of these limitations, the design of State and local tax systems is such that revenues tend to be maintained despite downturns in business activity. A considerable part of State and local revenues is raised from property taxes and other sources that generally yield a fairly steady flow of income even during mild recessions. A further and perhaps more fundamental source of the strength in revenues appears to be the vigor of the public demand for State and local government services and the existence in many cases of large backlog demands. Even during recessions, the public has often proved itself willing to accept increases in State and local tax rates so that expenditures might be maintained or even increased. Except for the interval from 1931 to 1933, State and local revenues have in fact advanced in every year since 1929.

Capital market conditions also have remained favorable to State and local financing during most recessions. During the moderate cyclical setbacks of the mid-1920's and the mild recessions of 1949 and 1953-54 municipal security flotations actually increased, possibly reflecting some reduction in the pressure from competing private issues as well as the propitious market climate fostered to some extent by Federal Reserve policy. During the depression years, however, municipal borrowing had to be curtailed, partly because of the demoralization of the municipal markets caused by the rash of defaults.

Thus, the only period during which State and local operations markedly aggravated a business downturn, the early thirties, was also the only one in which tax revenues failed to grow and borrowing opportunities were sharply restricted. This experience does not, of course, rule out the possibility of future declines in State and local revenues or sharp contractions in the demand for their securities, but it does give grounds for optimism that such setbacks may be prevented if sharp or prolonged recessions can be averted.

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Recent Developments and Prospects for the Future

Strongly rising State and local outlays have played a significant part in maintaining business activity at record rates in recent months, as some types of private expenditure have declined. Since the advance in industrial production and employment began to level off late in 1956, State and local employment (seasonally adjusted) has continued to increase quite steadily at a rate of nearly 20,000 persons per month, offsetting much of the decline in factory employment over that time. At the same time, since the absorption of funds and resources by the housing industry has decreased, State and local governments have been able to increase their expenditures on construction without adding unduly to inflationary strains. As a result, the number of construction workers employed on State and local projects has increased while employment in home building declined, permitting over-all construction employment to remain relatively stable. The still rapid growth of State and local government revenues and the near-record municipal security flotations of recent quarters point to continued advances in outlays in coming months.

Looking to the years ahead, it seems virtually certain that further population growth and shifts will continue to push State and local spending steadily upward. Merely to maintain the current rate of per capita outlays, State and local governments will have to expand their purchases of goods and services by about half a billion dollars each year—even if prices and wages do not advance. However, present trends in the composition of the population indicate that actual outlays will have to increase much faster. The migration from farm to city, and the even more costly migration from city to suburb, appear to be continuing, and both these shifts tend to raise per capita outlays. In addition, the most rapidly increasing part of the population recently has been, and for some time will continue to be, the children of school age. Enrolment in public elementary and high schools expanded by more than 7 million students (or 27 per cent) between 1950 and 1956, and by 1965 is expected to increase by another third from current levels—or by an additional 10 million students.

Yet another stimulus to State and local outlays is already emerging from the Federal highway program. Outlays on Federally aided highway construction (currently more than a third of all highway building) increased by about 20 per cent in 1956, and are scheduled to double the 1956 rate by 1965 (and to increase even further through 1972). Actual construction will be carried out by the States, but most of the cost will be financed by existing Federal highway-user taxes, rather than from the States' own revenues. While the availability of Federal funds may tend to reduce the States' own expenditures on interstate highway projects, the States may utilize at least a part of their "freed" funds for nonaided construction.

Expenditures on education and highways, which as noted earlier comprise more than half of State and local spending, thus may be expected to mount rapidly for some time ahead. At the same time, most other components of State and local spending, especially those associated with population growth and suburban development, also appear likely to continue to expand significantly, if not spectacularly. Unless a severe depression or other catastrophe supervenes, State and local outlays seem virtually certain to make steady and substantial contributions to advances in business activity and to the country's economic growth for many years to come.

RESERVE REQUIREMENTS FOR CENTRAL BANKS ABROAD

About half of the world's central banks are required by law today to hold gold or foreign exchange reserves against their note issues and in many cases certain of their deposit liabilities. Of the remaining central banks, some have never been subject to any formal reserve requirements, while in other cases these requirements have been suspended.

Whether or not they are subject to reserve requirements, all central banks must obviously take into account the effect of their domestic money and credit policies on their gold and foreign exchange reserves. The state of a country's international reserves is, of course, only one criterion for central bank policy, and the importance of this guidepost varies from country to country and over time; it is obviously of greatest concern to countries that are heavily dependent on foreign trade, or that have to operate on a narrow margin of reserves. The existence of a prescribed ratio between the liabilities of a central bank and its international reserves may perhaps be best regarded as a symbol of this relationship between internal and external policy rather than as a mechanical formula capable of universal application.

Evolution of Central Bank Reserve Requirements

Before World War I, England and many other countries operated under the so-called "fiduciary" issue system, in accordance with which a specified amount of notes could legally be issued without any gold backing, and reserves had to be held only against notes issued above this limit. The first country that adopted a prescribed ratio between a central bank's liabilities and its international assets—

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40 per cent—was the Netherlands in 1864; a few other countries followed, and in 1913 the Federal Reserve System was set up with ratios of 35 per cent in gold against deposits and 40 per cent against notes. However, it was only during the 1920's that the ratio system gradually spread throughout most of the world, being adopted at that time by all of the newly founded central banks, as well as by the existing banks with the exception of the British, Finnish, Norwegian, Swedish, and Japanese, which continued to adhere to the fiduciary system.

The reserve ratios established in the 1920's were fixed at from 30 to 50 per cent; in a few countries where they were less than 30 per cent, the legislation stipulated a gradual increase to above 30 per cent. During the 1930's, however, it came to be generally felt that the high ratios immobilized an undue portion of the international reserves, and that the legal cover could be reduced without impairing the credit structure. Central bank reserve requirements were accordingly lowered in many countries during the 1930's; in the United States they were reduced in 1945, and in the Union of South Africa in 1948.

During the 1930's, indeed, a body of opinion developed in opposition to the very principle of central bank reserve requirements, on the ground that there was no need of relating the volume of domestic currency and credit to international reserves. Very few countries, however, repealed or suspended the central bank reserve requirements before World War II; of those that did, the most important were Germany and Italy, which not only freed the central bank from legal reserve requirements, but actually spent much of the reserves for purchases abroad of strategic materials. After the outbreak of World War II, however, many countries, including Canada, France, and the Netherlands, suspended their legal reserve ratios, while practically all of the Bank of England's gold cover was transferred to the Exchange Equalization Account, and virtually the entire note issue became fiduciary. Following the war, several countries—among them Canada and the United Kingdom—continued the wartime arrangements, and others, for instance New Zealand, actually repealed the statutory reserve requirements. On the other hand, the Netherlands reimposed the requirements in 1956 and Belgium in early 1957. Some of the countries that established new central banks during this period did not provide for reserve requirements, for instance, Ceylon, Ecuador, West Germany, Israel, and the Philippines; those that did so included the Belgian Congo, Burma, Iraq, Pakistan, Rhodesia, Nyasaland, Surinam, Syria, and Vietnam.

Today, some thirty central banks abroad[1] are legally required to hold reserves of gold or gold and foreign exchange. Seven of these central banks are in Europe, namely, Belgium, Eire, Finland, Iceland, the Netherlands, Portugal, and Switzerland; among the banks in Asia are those of Indonesia, Pakistan, and Thailand; in Africa, those of the Belgian Congo, Ethiopia, and the Union of South Africa; and in Latin America, those of Mexico and Venezuela. In Brazil, which does not have a central bank, currency must also be backed by international assets. A few of the other central banks, while not bound by formal reserve requirements of the traditional type, operate under other legal provisions designed to accomplish similar ends, as in Ceylon, Ecuador, Guatemala, and the Philippines.

[1] This article does not cover the USSR, the countries of Central and Eastern Europe, Continental China, North Korea, or North Vietnam.

Trends of Opinion on Central Bank Reserve Requirements

These developments in monetary legislation reflect deep differences of view among the various countries regarding the function of central bank reserve requirements. One of the more important reasons frequently advanced for doubting the usefulness of such requirements is that it is undesirable for a central bank to frame its domestic monetary and credit policies by using as one major criterion the level of its international assets relative to its notes in circulation and other liabilities. Another criticism is that the gold and foreign exchange that have to be held as "cover" for domestic currency become unavailable to meet urgent balance-of-payments needs. In addition, many of those who advance these arguments also feel that to some extent central bank reserve requirements merely reflect a reluctance to depart from established practices. Above all, it is asserted that there is no advantage in a prescribed linking of the domestic currency and the international reserves, since experience has shown that formal provisions of this sort are not a safeguard against currency depreciation. As was summed up in a statement by the West German Government submitted last year to Parliament in connection with a proposal for new central bank legislation:[2]

> Nor can the stability of the currency be secured by reserve requirements under which the bank of issue has to maintain a specified amount of gold or foreign exchange in a particular relationship to the volume of central bank money. To prove that such a tie would not serve the purpose, it is sufficient to point out that a low stock of gold or foreign exchange (as in 1949-50) would bring about a deflationary policy, and contrariwise an ample stock (such as exists today) would permit an easy monetary policy. In either case this would conflict absolutely with a reasonable economic policy, and could harm the national economic welfare.
>
> The stability of the currency thus is to be secured neither by regulations concerning internal or external parity, nor by reserve requirements, but so far as the responsibility of the bank of issue is concerned, by maintaining a proper balance in the quantity of circulating money, thereby avoiding on the one hand a surplus, and on the other a shortage, of the money

[2] Government memorandum accompanying the 1956 German Federal Bank bill (Begründung-Entwurf eines Gesetzes über die Deutsche Bundesbank, Bundesrat Drucks. 323/56).

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required for the production, the distribution, and the consumption of goods.

A strong currency rests, of course, not on gold, but on the country's intrinsic economic strength—which is the result of the productivity, adaptability, and resiliency of its economy—and on the efficient management of its monetary and fiscal affairs. No inherent virtue is therefore to be attached to the function of gold and foreign exchange as cover for the domestic currency. At the same time, however, there is in some countries a growing belief in the usefulness of statutory reserve requirements as a means of symbolizing the risks embodied in a decline of foreign exchange reserves—particularly when exports are being hampered, and imports stimulated, by persistent internal inflationary pressures. The value of such institutional arrangements cannot of course be assessed in absolute terms, but they can be important. For instance, when in Belgium the statutory reserve requirements were re-established earlier this year, the banking community and the general public welcomed them as a culmination of the postwar effort of monetary rehabilitation and reconstruction. In the Netherlands, when statutory reserve requirements were re-established last year, the government explained that it advocated the proportional system of reserve requirements:[3]

> not so much because of tradition, since the meaning and the purpose of [the system] have substantially changed since the abandonment of the gold standard, but because . . . considering the economic structure of the country [i.e., the heavy dependence on foreign trade], the proportional system of reserve requirements . . . offers the greatest assurance of a smoothly working formula for limiting the amount of money created by the central bank.

Composition of the Required Reserves

In countries that operate under the legal reserve ratio system, the degree of restrictiveness of the requirements depends essentially on three elements: the stipulated composition of the required reserves (whether gold alone, or gold and foreign exchange, and if foreign exchange, of what kind); the specific central bank liabilities that are subject to the statutory reserve requirements (whether the requirements apply only to the note issue outstanding, or certain other central bank liabilities as well); and the prescribed level of the legal reserve ratio.

As to the composition of the required reserves, there are today only four countries, aside from the United States, where the statutory reserves must be held exclusively in gold—Belgium, El Salvador, Switzerland, and the Union of South Africa. Elsewhere it is provided that the required cover shall consist of gold and/or foreign exchange of types described below. In a few of these countries, gold must constitute a prescribed portion of the reserves, with the remainder held in either gold or foreign exchange. This is notably the case in Cuba, India, Iran, Portugal, Surinam, and Venezuela. In Portugal, for instance, the gold part of the cover must never fall below 25 per cent of the central bank's sight liabilities; in India, it must be maintained at a specified absolute amount, equal to slightly more than one fifth of the total required reserve—which also is an absolute amount.

Sometimes the central bank is required to hold all or part of the metallic cover of its currency within the country itself; this, for instance, is the case in India, Pakistan, Switzerland, and Venezuela. Many central banks, however, can keep their gold reserves wherever they wish. In actual fact, most banks keep a portion of their gold reserves under earmark in the vaults of other central banks, particularly in New York and London.

The eligibility for cover of foreign exchange (generally in the form of deposits and short-term securities) is determined in a variety of ways, either in the monetary legislation itself or by actual central banking practice. Certain of the older statutes merely provide that eligible foreign exchange must be "convertible"; this is usually interpreted as meaning convertible into gold. In Portugal, eligible foreign exchange is defined in the statute as a currency convertible into gold, or having a gold guarantee as to its exchange value or for its repayment in gold, with the bank's board of directors determining what currencies fulfill these conditions. Other statutes specify that foreign exchange eligible as cover must be "convertible into gold or into other currencies that themselves are convertible into gold" (the Netherlands), or be "convertible into gold or have a guaranteed gold content" (Iran), or be "freely convertible into gold" (Cuba), or be "fully convertible into gold" (Surinam). In countries that are members of the sterling area or have close ties with sterling, foreign exchange reserves may be held in sterling. India requires that foreign exchange, to be eligible as reserves, must be "payable in the currency of any foreign country which is a member of the International Monetary Fund". In a number of countries, it is specifically provided that medium-term government securities denominated in the currencies that are eligible as legal cover may be included in the required reserves.

A few countries also count as part of their eligible reserves their net credit balance with the International Monetary Fund (Cuba, the Dominican Republic, Indonesia, and Mexico) or their gold contribution to the IMF (Colombia and Iran); Indonesia includes, in addition to its net credit balance with the IMF, its contribution to the International Bank for Reconstruction and Development. Moreover, silver, which at the beginning of the twentieth

[3] Explanatory Notes attached to the bill containing "Provisions for Giving Effect to Article 17 of the Bank Act of 1948" (Memorie van Toelichting op het wetsontwerp houdende "Bepalingen ter uitvoering van artikel 17 van de Bankwet 1948", Zitting 1954-55—3810).

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century frequently formed part of a central bank's legal reserves, is still eligible as a component in a few countries, including Ethiopia, Mexico, and Pakistan; in Mexico, for instance, one fifth of the reserve may be in silver.

By and large, foreign countries keep an important part of their monetary reserves in the form of United States dollars. These either are kept as deposits with United States banks or are invested in United States Treasury bills and other short-term securities. The growing use of the dollar as a reserve currency reflects the increasing importance of settlements in dollars; these arise not only from greatly expanded transactions with the United States but also from the more frequent use of dollars for trade and other transactions between nondollar countries.

In several countries where there are no central bank reserve requirements, the gold and foreign exchange reserves are held, wholly or in part, by special funds that have been assigned primary responsibility for maintaining the foreign exchange value of the national currency. In the United Kingdom, practically all gold, together with the entire official dollar reserves, is held by the Exchange Equalization Account; in France, Italy, and Spain, a part of the gold and foreign exchange reserves is similarly carried by a stabilization fund or a foreign exchange institute. These various entities, although legally separate from the central bank, are usually administered by it; most of these institutional arrangements date back to the 1930's.

Liabilities Subject to Reserve Requirements

In most countries the legal reserve requirements apply to central bank deposits as well as to the notes in circulation. There are still, however, certain countries, including Eire, Pakistan, Switzerland, and Thailand, where they apply only to notes; Brazil too maintains reserve requirements only against the note issue. In Iraq and Libya, the legal reserve cover must be held against coins as well as notes.

The liabilities other than the bank notes to which the legal reserve requirements are applicable often comprise all central bank non-note demand liabilities, as in Belgium, Indonesia, Portugal, El Salvador, Surinam, and Venezuela; in the Netherlands, reserves must be held against bank notes, and "drafts, deposits, and other current-account balances". Sometimes these liabilities include all deposits (as in Burma and Cuba), and sometimes only demand deposits (as in Colombia and Vietnam); in South Africa, reserves must be held against all liabilities after deducting an amount equal to the central bank's foreign assets. Under some legislation, reserves are required only against demand liabilities denominated in domestic currency (as in the Dominican Republic and Mexico).

The usual reserve ratio provisions are occasionally supplemented by other requirements. In Iran, for instance, there is, in effect, a statutory ceiling on the note issue; and in the Dominican Republic, the central bank, which as noted above is required to hold a reserve against its notes and other demand liabilities denominated in domestic currency, is also required to adjust its monetary policy in response to fluctuations in certain other reserve ratios that will be described later.

The fiduciary reserve system, under which only part of the note issue has to be covered by international reserves, remains only in Finland; in that country, central bank notes and other demand liabilities may exceed the gold and foreign exchange cover by a given amount. Elsewhere, this system has been either suspended as in Norway in 1940, or abandoned as in Japan in 1941 and in Sweden in 1948. In England, the authorized fiduciary issue had been changed several times during the 1930's, and beginning in 1939 when, as already noted, the international reserves were transferred to the Exchange Equalization Account, virtually all the note issue became fiduciary. While a ceiling has been retained on the fiduciary note issue, this can be raised by the Treasury, although parliamentary review is required if the issue continuously exceeds the legal ceiling for more than two years. Sweden also has retained a note issue ceiling, which can be modified only by Parliament.

The Prescribed Level of the Reserve Ratios

The third element in the legal reserve ratio system—the prescribed level of the ratios themselves—is marked by a wide range of rates. As to the countries that have to maintain the required reserves exclusively in the form of gold, the prescribed level is 25 per cent in El Salvador and the Union of South Africa (as well as in the United States), 33⅓ in Belgium, and 40 in Switzerland; in the last country, however, the reserves have to be held only against notes in circulation. In countries where the required reserves may be held in the form of gold and/or eligible foreign exchange, the ratios as a rule range from 25 to 50 per cent; only Indonesia has a lower ratio (20 per cent),[4] while higher ratios are maintained by a few countries, for instance, Thailand (60), Iraq (70), and Eire and Libya (100). The most typical ratios are 25 and 50 per cent, with such countries as Brazil, Cuba, Mexico, Rhodesia, and Nyasaland maintaining 25 per cent, and such countries as the Netherlands, Portugal, and Venezuela maintaining 50 per cent.

As a rule, the central banks—although usually only after government or parliamentary sanction—may permit the reserves to drop below the statutory minimum for a limited period of time, as under the monetary legislation of Burma, India, Indonesia, Pakistan, and the Union of

[4] The reserve requirements have been temporarily suspended since early 1957.

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South Africa. The Dutch legislation establishes only the principle of statutory reserve requirements; the exact level—50 per cent—is fixed by royal decree, and so may be changed again at any time. In earlier years, the statutes of many countries provided for a tax on the central bank whenever reserves fell below the legal minimum, and sometimes also called for an increase in the discount rate, but provisions of this sort have been largely eliminated during the past two decades.

Substitutes for Legal Reserve Ratios

In certain countries, the monetary legislation seeks through other arrangements to accomplish ends similar to those of the reserve ratio system. These arrangements take the form of reserve "signposts" intended to warn of an approach to a critical level of reserves, but without immobilizing part of the central bank's gold and foreign exchange holdings as legal cover or placing an absolute ceiling on central bank credit.

In the Guatemalan statute, one "signpost" is the ratio between the bank's net reserves and its average sales of exchange during the preceding three years. Whenever this ratio falls to 40 per cent, a so-called "emergency system of international transfers", provided for in monetary legislation, can be put into effect by the president of the country upon the request of the central bank; moreover, whenever the ratio drops below 25 per cent, certain credit operations must be curtailed. In Ecuador, there are two "signposts" designed to shift the authorities' attention from the past to the future: one relates the central bank's reserves to the volume of money held by the public (because an increase in the money supply may portend an increase in the demand for foreign exchange); and the other relates a decline in reserves to the anticipated deficit in the current year's balance of payments. The relevant provisions of the Dominican legislation are a combination, with modifications, of certain of the Guatemalan and Ecuadoran provisions, and on the whole are more restrictive. Moreover, the Dominican legislation also employs the conventional ratio of reserves against demand liabilities, as was indicated earlier, with the bank being required to pay a monthly penalty on the amount by which the reserves fall below 50 per cent of the liabilities.

Certain other central bank statutes that do not provide for minimum reserve requirements contain "cautionary" clauses that merely admonish the bank to maintain an "adequate" supply of reserves. In Austria, for instance, the bank "must hold stocks of gold and foreign exchange in such amount as may be required for regulating payment transactions with foreign countries and for maintaining the value of the currency". In New Zealand, the reserves must be sufficient to "provide a reasonable margin for contingencies, after taking into account prospective receipts and disbursements of overseas funds, and having regard to the economic position within New Zealand". In Ceylon, Paraguay, and the Philippines, the statutes spell out the reasons for maintaining adequate reserves, and instruct the bank to take "remedial measures" whenever the reserve position is endangered. The Ceylon and Philippine laws also give detailed guidance for judging the adequacy of reserves. The authors of the Philippine statute have commented as follows:[5]

> Attempts have been made in recent Latin American legislation to provide mechanical ratios of a different sort [from the traditional reserve ratio] . . . but, unfortunately, even such refined ratios are unlikely to serve as an adequate guide to appropriate central bank policy. In recognition of the foregoing, the Philippine Central Bank Act leaves the question of the adequacy of the international reserve of the Bank to the judgment of the Monetary Board and merely lays down broad guiding principles to be followed in the exercise of that judgment.

India, where the reserve ratio system was abandoned last year, is a case by itself. The central bank is now required to maintain a specified absolute amount of gold and foreign exchange, although this minimum can be reduced when necessary to a specified lower level for relatively extended periods. This unusual arrangement was obviously intended as a compromise between the arguments for a reserve ratio system and for not maintaining one, as can be inferred from the central bank's following comment:[6]

> The principle of linking foreign exchange reserves to note issue is in one sense a relic of the past and many countries have modified this principle in the last two decades . . . The amendment that has now been made does not go as far as certain foreign countries have gone in this respect.

Under all of these various substitutes for legal reserve ratios, the authorities technically have greater freedom in the determination of monetary policy than under the reserve ratio system. In practice, however, if a country wants to maintain long-run stability, its policies are deeply influenced by the state of its international reserves, whether or not prescribed reserve ratios are in effect.

[5] David L. Grove and John Exter, "The Philippine Central Bank Act", *Federal Reserve Bulletin,* August 1948.

[6] "Reserve Bank of India (Amendment) Act, 1956", *Reserve Bank of India Bulletin,* September 1956.

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SELECTED ECONOMIC INDICATORS
United States and Second Federal Reserve District

Item	Unit	1957			1956	Percentage change	
		April	March	February	April	Latest month from previous month	Latest month from year earlier
UNITED STATES							
Production and trade							
Industrial production*	1947-49 = 100	145p	146	146	143	− 1	+ 1
Electric power output*§	1947-49 = 100	227	226	224	215	#	+ 6
Ton-miles of railway freight*§	1947-49 = 100	—	113p	106	113	+ 7	+ 5
Manufacturers' sales*	billions of $	28.5p	28.8	29.1	27.2	− 1	+ 5
Manufacturers' inventories*	billions of $	52.5p	52.3	51.9	48.0	#	+ 9
Manufacturers' new orders, total*	billions of $	27.8p	27.6	28.2	27.8	+ 1	#
Manufacturers' new orders, durable goods*	billions of $	13.2p	13.5	14.0	14.1	− 2	− 6
Retail sales*¶	billions of $	16.3p	16.3	16.4	15.4	#	+ 6
Residential construction contracts*	1947-49 = 100	—	n.a.	n.a.	315	n.a.	n.a.
Nonresidential construction contracts*	1947-49 = 100	—	282	323	252	−13	+ 6
Prices, wages, and employment							
Basic commodity prices†	1947-49 = 100	88.8	88.7	88.9	91.8	#	− 3
Wholesale prices†	1947-49 = 100	117.2p	116.9	117.0	113.6	#	+ 3
Consumer prices†	1947-49 = 100	119.3	118.9	118.7	114.9	#	+ 4
Personal income (annual rate)*	billions of $	339.3p	338.1	336.6	321.7	#	+ 5
Composite index of wages and salaries*	1947-49 = 100	—	154p	154	147	#	+ 5
Nonagricultural employment*	thousands	51,992p	52,063p	52,108	51,327	#	+ 1
Manufacturing employment*	thousands	16,919p	16,931p	16,980	16,918	#	#
Average hours worked per week, manufacturing†	hours	39.9p	40.1	40.2	40.3	− 1	− 1
Unemployment	thousands	2,481	2,700	2,881	2,564	− 8	− 3
Unemployment‡	thousands	2,690	2,882	3,121	n.a.	− 7	n.a.
Banking and finance							
Total investments of all commercial banks	millions of $	73,970p	72,230p	73,150p	74,790	+ 2	− 1
Total loans of all commercial banks	millions of $	90,990p	90,630p	89,340p	85,290	#	+ 7
Total demand deposits adjusted	millions of $	107,250p	105,230p	107,000p	106,110	+ 2	+ 1
Currency outside the Treasury and Federal Reserve Banks*	millions of $	30,922p	30,846	30,811	30,551	#	+ 1
Bank debits (337 centers)*§	millions of $	82,457	77,414	80,287	75,548	+ 7	+ 9
Velocity of demand deposits (337 centers)*	1947-49 = 100	146.9p	141.3	143.8	138.8	+ 4	+ 6
Consumer instalment credit outstanding†	millions of $	31,532	31,273	31,233	29,419	+ 1	+ 7
United States Government finance (other than borrowing)							
Cash income	millions of $	4,804	12,235	7,427	4,368	−61	+10
Cash outgo	millions of $	6,726	7,203	6,802	5,428	− 7	+24
National defense expenditures	millions of $	3,280	3,873	3,968	3,009	−15	+ 9
SECOND FEDERAL RESERVE DISTRICT							
Electric power output (New York and New Jersey)*§	1947-49 = 100	154	155	159	157	− 1	− 2
Residential construction contracts*	1947-49 = 100	—	n.a.	n.a.	285	n.a.	n.a.
Nonresidential construction contracts*	1947-49 = 100	—	n.a.	n.a.	268	n.a.	n.a.
Consumer prices (New York City)†	1947-49 = 100	116.9	116.0	115.9	112.3	+ 1	+ 4
Nonagricultural employment*	thousands	7,835.7p	7,827.9	7,803.7	7,799.1	#	#
Manufacturing employment*	thousands	2,662.1p	2,665.4	2,662.0	2,705.3	#	− 2
Bank debits (New York City)*§	millions of $	73,059	69,893	74,483	66,379	+ 5	+10
Bank debits (Second District excluding New York City)*§	millions of $	5,340	4,997	5,170	5,040	+ 7	+ 6
Velocity of demand deposits (New York City)*	1947-49 = 100	181.7	181.3	191.6	176.0	#	+ 3
Department store sales*	1947-49 = 100	109	115	115	106r	− 5	+ 3
Department store stocks*	1947-49 = 100	131	131r	129	124	#	+ 6

Note: Latest data available as of noon, June 3, 1957.

p Preliminary.
r Revised.
n.a. Not available.
* Adjusted for seasonal variation.
† Seasonal variations believed to be minor; no adjustment made.
‡ New basis. Under a new Census Bureau definition, persons laid off temporarily and those waiting to begin new jobs within thirty days are classified as unemployed; formerly these persons were considered as employed. Both series will be published during 1957.
# Change of less than 0.5 per cent.
§ Seasonal factors revised. Back data available from the Domestic Research Division, Federal Reserve Bank of New York.
¶ Revised series. Back data available from the United States Department of Commerce.

Source: A description of these series and their sources is available from the Domestic Research Division, Federal Reserve Bank of New York, on request.

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