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Volume Author/Editor: Morris A. Copeland

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Chapter Author: Morris A. Copeland

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CHAPTER IV

Are There Patterns in State and Local Requirements?

Nearly all of our present federal debt is the result of national emergencies that were not, in any adequate sense, anticipated. But state and local borrowing has, for the most part, been occasioned by circumstances of a more orderly and predictable nature. It is natural to ask, therefore, how far somewhat stable state and local patterns of financial requirements can be identified so that these patterns may be of help in estimating future requirements.

Two main approaches to the question of possible patterns suggest themselves: a time series approach and a cross-section approach. The former involves the different types of circumstances which lead to borrowing, and in particular the relation between net borrowing and physical capital formation. The latter means distinguishing differences in the borrowing propensities of different types of borrower. We will take the cross-section approach first.

1. *Regional and Community Differences*

What can be done with the cross-section approach without a major statistical undertaking of a type precluded by the nature of the present inquiry is somewhat narrowly restricted. The extent of local government borrowing might be expected to reflect the volume of local government services, and since the populations of large cities in general receive more in the way of such services than do those of rural communities, one might look, for a correlation between community size and size of financial requirements. Available data permit some exploration along this line. They also permit some exploration of regional differences in financial requirements. But the explorations are limited by the fact that the main pertinent statistical compilations relate either to per capita gross debts or to the closely related measurement, per capita debts net of sinking funds. However, a little more information on city debts is available for recent years.

Table 17 analyzes municipal corporate debts and their relation to capital outlays by city size groups for 1950. The pattern revealed by column 7 is a striking one. It seems to confirm the notion that the quantity of those government services that entail financial requirements increases

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with the size of the community. And if one computes per capita capital outlay from columns 1 and 2, he seems to get further confirmation—the resulting series exhibits a steady decline until we come to the two smallest size groups and for these two the per capita expenditure was substantially the same, \$14.70. Moreover, a similar community size pattern both for per capita debts and for capital outlays seems to have been the characteristic one during the 1920's and 1930's and even before World War I.

But the relationship is not an entirely simple one. As might be expected, the per capita data for individual cities deviate somewhat from the schematic pattern of column 7. Moreover if long-term debts are mainly the result of capital outlays, we might reasonably expect the ratio of new long-term debt issues to capital outlays (Table 17, column 9) to be fairly stable. We might also expect the ratio of the debt increment to capital outlay (column 8) to be fairly stable. But on an annual basis both these ratios show a considerable dispersion. Possibly if we had analogous computations for a somewhat longer period much of the dispersion would disappear. But it seems reasonable to say that in addition to the size of the capital outlay there are other circumstances—e.g. the status of the city budget—that determine the extent of recourse to borrowing. And it may be added that, while a small city may have to borrow to finance a major construction project, a large city may adopt a capital expenditure program for such projects that spreads the outlays somewhat evenly over the years.

Table 17 does not tell us whether the pattern of column 7 continues below the 25,000 population limit. Moreover it relates to municipal corporations and the populations within municipal corporate limits. Probably it is proper to assume that the facilities of municipal corporations on the whole serve only the populations included in the table, although reimbursement arrangements and meter charge arrangements that extend such services beyond the corporate limits are more frequent than they used to be. But not all the local government services rendered the populations reported in column 1 come from the municipal corporations. Schools, parks, welfare institutions, fire protection, water supply, sewage disposal, transit systems, and utilities may or may not be provided by the municipal corporation. The inclusion of the New York subway debt in line A accounts for about a third of the \$288.10 in column 7.

Column 5 does not reflect the net financial requirements of municipal corporations, nor does column 4 give net indebtedness. We noted in Chapter I that at the end of World War II the financial assets of these larger cities probably exceeded outstanding debts by something like \$1 billion. For the last few years data for computing per capita net debts

TABLE 17
1950 Capital Outlays and Debt Transactions, 474 Cities, by City Size Groups

	POPULATION (thousands)	CAPITAL OUTLAY (2)	LONG-TERM DEBT (GENERAL AND ENTERPRISE)			PER CAPITA DEBT (4)/(1)	RATIOS TO OUTLAY		
			1st of Year	End of Year	Increment		Added Debt (5)/(2)	New Debt (6)/(2)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			(millions of dollars)				(per cent)		
A. New York	7,892	262	2,135	2,274	139	251	\$288.10	53.0	96.0
B. Other Group I	9,467	236	1,072	1,129	57	113	119.10	24.2	47.9
C. Group I	17,359	498	3,207	3,403	196	364	196.20	39.4	73.1
D. Group II	9,147	210	839	905	66	149	99.00	31.4	71.0
E. Group III	7,709	150	651	685	34	85	88.90	22.6	56.6
F. Group IV	9,944	179	773	862	89	141	86.80	49.1	78.8
G. Group V	8,855	130	531	581	50	88	65.60	38.4	67.7
H. Group VI	8,563	126	482	551	69	98	64.40	54.8	77.8
J. Total	61,577	1,294	6,483	6,987	504	926	113.40	38.9	71.5

NOTE: Data are from *City Government Finances, 1950*. Columns 3 and 4 are net of sinking funds. Column 6 excludes refunding issues. Group I cities are those with a population of over 1,000,000. Group II cities have a population of 500,000 to 1,000,000; Group III of 250,000 to 500,000; Group IV of 100,000 to 250,000; Group V of 50,000 to 100,000; Group VI of 25,000 to 50,000.

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by city size groups have become available. The 1954 figures are as follows:

<i>Per Capita Net Debt</i>		<i>Per Capita Net Debt</i>	
New York City	\$221.70	Group IV	\$80.40
Other Group I	76.80	Group V	60.10
Group II	30.00	Group VI	64.70
Group III	52.50		

NOTE: These figures cover 481 cities. The city size groups are the same as in Table 17. Data on the financial assets of these larger cities are available beginning 1951. See *City Government Finances in 1954*. The population data used in computing the above per capita figures are from the 1950 Census.

In the absence of comparable figures for earlier years, we surmise that before the recent rapid growth of the financial assets of larger cities the community size pattern for net debt was quite similar to that in column 7. At all events financial problems were particularly serious for some of the larger cities in 1933, and there were defaults by Detroit and in the Chicago area.¹ But in 1954, while there is still a definite tendency for the per capita figure to decrease with city size, the pattern certainly is no longer a regular one. In fact even for the grosser computation the regularity is somewhat impaired.²

However, the tendency for per capita debt to decrease with community size apparently does continue below the 25,000 population limit. This seems clear when we add the figure \$19.80 for the net small city and township per capita debt of the rest of the United States to the above list for 1954.³

Available data do not permit us to trace the trend of per capita net debts by community size. But it is possible to show in broad terms what has been happening to gross debts. Table 18 does this. The fact that it refers to gross debts rather than to long-term debts net of sinking funds is probably unimportant. By way of background state debts are included. The ratio of line B to line A shows an irregular downward trend. But even in 1950 local debts were three and one-half times state debts.

Table 18 differs from Table 17 in that all local government debts are included, and in that an attempt is made to include villages and rural

¹ Cook County and three special districts. See A. M. Hillhouse, *Municipal Bonds*, pp. 22-23.

² For long-term debts net of sinking funds the sequence runs: New York City, Other Group I, II, IV, III, VI, V.

³ This figure is not entirely comparable to the figures for the various city size groups, because other units of government, particularly school and special districts, presumably perform a larger share of governmental functions in the smaller communities. But the drop below Group II is probably too large to be fully explained away by this fact. Moreover, there may be significant differences in the importance of these other units of government for Groups I to VI too. Possibly if we had tabulations for cities including the "computed portions" of the debts of these "overlying governments"—the Bureau of the Census used to make such compilations—the 1954 pattern of per capita net debts would be more regular.

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TABLE 18
Per Capita State and Local Debt at Selected Dates, 1902-50

	1902	1922	1932	1940	1946	1950
A. State debt	\$3.41	\$10.53	\$23.20	\$26.80	\$16.82	\$35.60
B. Local debt	\$24.30	\$82.60	\$133.70	\$126.80	\$96.40	\$124.50
C. Local debt in cities of more than 100,000 population	\$70.70	\$161.25	\$223.50	\$230.50	\$180.20	\$203.00
D. } Two hypothetical debt computations for other cities, towns, and villages	\$19.80	\$74.80	\$126.25	\$112.00	\$81.05	\$119.75
E. } Hypothesis#1	\$16.40	\$65.00	\$112.20	\$100.00	\$72.50	\$107.75
F. Ratio of D to C	28.0%	46.3%	56.6%	48.6%	45.0%	59.0%
G. Ratio of E to C	23.2%	40.3%	50.2%	43.4%	40.1%	53.0%
H. Urban debt—rough estimate	\$42.15	\$122.00	\$175.50	\$169.50	\$129.50	\$157.00
J. Rural debt—rough estimate	\$11.83	\$46.75	\$80.00	\$70.90	\$51.50	\$76.00
K. Ratio of J to H	28.1%	38.3%	45.6%	41.8%	39.7%	48.4%

NOTE: Figures refer to gross debts per person at fiscal year-ends. The computed portions of the debts of overlying counties and school and special districts included in line C are those made by the Census Bureau for 1902-40. The estimates for 1946 and 1950 are rough. They are explained in Appendix A. Hypothesis #1 is that the ratio of per capita local debt in rural communities to that in cities, towns, and villages of less than 100,000 population is 3 : 5 in each year. Hypothesis #2 is that this rural to small urban community ratio is 3 : 4. For most years, 1905-31, infor-

mation is available on per capita debts of cities of 30,000 to 50,000 and cities of 50,000 to 100,000 population. Such information for 1923 and 1931 was analyzed, and these two hypothetical ratios were adopted on the basis of this analysis. See Appendix A. In general, per capita local debt decreases with the size of the community but appears to have been nearly as high in 1923 and 1931 for places of 2,500 to 30,000 population as for those of 30,000 to 50,000. A rural to small urban community ratio of 2 : 3 was used for computing lines H and J.

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communities. Per capita debt computations are shown for cities of more than 100,000 population, for other cities and towns and villages, for all urban communities, and for rural areas. Upper and lower estimates are offered for urban communities of less than 100,000 population.⁴ The figures on line J assume a constant ratio to the average of lines D and E.

Two main inferences can be drawn from this table. First, for broad community size classes, the pattern of Table 17, column 5, is confirmed as a highly stable one. Second, although it is stable, the percentage spread between large and small cities in this pattern has been gradually narrowing as the growth of debts in the smaller communities has been particularly rapid. The per capita debts of urban places of under 100,000 population were about 25 per cent of those in larger cities in 1902 and about 55 per cent in 1950. But the upward trend of this ratio was temporarily reversed during the 1930's and during World War II. The table does not enable us to say whether the percentage spread between rural areas and the smaller cities has followed a similar course. The rural-urban ratio probably did (line K).

Table 18 refers to gross debts. We think the two main inferences we have drawn from it probably apply also to debts net of sinking funds. But some qualification is necessary for debts net of all financial assets. The recent rapid growth of these assets in the case of larger cities has presumably made the community size pattern less stable as well as less regular. And while it seems reasonable to suppose that this growth has not halted the trend toward uniformity, it may quite possibly have converted the trend from a leveling-up process for the net debts of smaller communities to a leveling-down process for those of the larger ones.

It does not seem worth while to attempt directly to show that the community size per capita debt pattern applies separately in the several regions of the country. Columns 1, 2, and 3 of Table 19 are consistent with the assumption that it does so apply. But they seem to reflect also another influence. In 1942 the Middle Atlantic region had the highest per capita debts (i.e. debts net of sinking funds); the Pacific region was second; and New England was fourth. These three regions ranked highest in respect to both per capita personal incomes and per capita taxes in that year. In personal incomes the order was Pacific first, New England second, Middle Atlantic third; in taxes Middle Atlantic first, Pacific second, and New England third. At the other end of the scale was the East South Central region; it ranked ninth on all three counts.⁵ The

⁴ Including such communities when they are parts of larger metropolitan areas.

⁵ For the per capita personal income figures see September 1955 *Survey of Current Business*, p. 16. The tax figures are from the census summary, *Governmental Finances in the United States: 1942*. Solomon Fabricant in his *Trend of Government Activity since 1900* finds a marked tendency for per capita government expenditure to increase with per capita income (see pp. 122ff.). His findings reflect both 1942 interstate comparisons and a comparison of 1942 with 1903.

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correlations between debt and income and between debt and taxes are by no means perfect. But clearly there are significant connections here. It may be suggested that higher levels of living go with higher incomes, that higher levels of living include more extensive and more costly government services, and that higher government costs lead both to higher taxes and to more government indebtedness. The region that seems least well

TABLE 19
State and Local Debts by Census Regions, 1890, 1922, and 1942

	<i>Per Capita Debts Net of Sinking Funds</i>			<i>Per Capita Indexes Designed to Eliminate Much of the Effect of Increased Urbanization</i>		
	1890 (1)	1922 (2)	1942 (3)	1890 (4)	1922 (5)	1942 (6)
A. New England	\$31.70	\$72.40	\$110.25	\$31.85	\$72.40	\$110.35
B. Middle Atlantic	25.20	112.20	244.05	29.50	112.20	243.95
C. E.N. Central	12.20	73.70	88.20	15.60	73.70	86.00
D. W.N. Central	17.50	66.50	85.10	20.35	66.50	79.70
E. S. Atlantic	18.60	51.30	98.00	22.00	51.30	90.45
F. E.S. Central	11.70	40.50	83.20	13.50	40.50	77.20
G. W.S. Central	12.85	65.70	106.60	15.90	65.70	94.65
H. Mountain	19.80	108.50	128.30	21.75	108.50	120.80
J. Pacific	11.10	134.50	154.00	13.65	134.50	152.40
K. United States	18.02	78.90	131.20	21.50	78.90	128.90
L. 9 to 1 ratio	286%	332%	294%	236%	332%	316%
M. 8 to 2 ratio	216%	219%	181%	216%	219%	191%
N. 7 to 3 ratio	162%	165%	145%	141%	165%	140%

Data for columns 1, 2, and 3 are from the censuses of governments. Comparisons were made between 1890 and 1922 weighting the urban population 3, the rural 1, the result being adjusted to make column 5 the same as column 2 and column 4 an index number on column 5 as a base. Similar comparisons between 1922 and 1942 were made with weights of 2½ and 1 respectively to give column 6. See Appendix A. The 9 to 1 ratio on line L is the ratio of the highest to the lowest of the figures on lines A to J. The 8 to 2 ratio is the ratio of the second highest to the second lowest of these figures; the 7 to 3 ratio relates the third highest and third lowest.

to accord with this rule is the East North Central. It ranked seventh in per capita debts and fourth in per capita income and taxes in 1942.⁶ Possibly legal restrictions on borrowing have been more effective in this relatively high income region than elsewhere.

The main purpose of Table 19 was to determine whether geographical differences in the propensity to borrow have been narrowing. Lines L, M, and N give measures of dispersion. In order they are (for the left-hand half of the table): the ratio of the highest regional per capita debt to the lowest; the ratio of the second highest to the second lowest; and the ratio of the third highest to the third lowest. Between 1890 and 1922 all three

⁶ See footnote 5.

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measures increase. This was a period in which there was a particularly marked impact on state and local government debt of the technological changes associated with the industrial revolution. For the country as a whole per capita debt increased nearly four and a half fold. This impact continued during the 1920's; but during the 1930's per capita debt decreased slightly (see Table 18) and during World War II it decreased sharply. The net result for the two decades ending 1942 was a narrowing of the regional percentage differences in debt; all three measures declined.

Unfortunately we do not have a satisfactory basis for carrying the table forward to 1952 to give us a firmer indication of the trend. But while line L shows a slight increase from column 1 to column 3, both the other measures of dispersion declined. We may reasonably surmise that there was a long-term tendency, 1890-1942, toward a narrowing of regional percentage differences in per capita debts, and that this tendency was overpowered by an opposite one during the years of greatest impact of modern technology.

In view of the marked relationship between debts and size of community one naturally wonders whether the trend toward a less marked regional difference is not largely a reflection of the fact that the country has been getting more evenly urbanized. Certainly it has been, as the following urban population percentages for the New England and the three least urbanized regions make clear:

	1890	1920	1940
	(percentage of urban population)		
New England ^a	75.8	75.9	76.1
South Atlantic	19.5	31.0	38.8
East South Central	12.7	22.4	29.4
West South Central	15.1	29.0	39.8

^a New England was the most urbanized region in 1890 and 1920. In 1940 the percentage of urban population in the Middle Atlantic region was slightly higher, 76.8 per cent.

The right-hand half of Table 18 aims to answer this question. To eliminate a major part of the effect of the urbanization influence weighted per capita debt figures were computed. Since the urban-rural difference in per capita debts has been narrowing, a larger relative weight was given to urban populations in the computations for the 1890-1922 comparisons than in the set for 1922-42. The 1890 index number for each region, column 4, bears the same percentage relation to column 5 as that of the weighted regional per capita debt computation for the two dates. Similarly, the ratio of column 6 to column 5 for each region is equal to the ratio of the 1942 to the 1922 weighted regional per capita debt.

The effects of the adjustments are pretty much what one would expect. Between 1890 and 1922 the interregional differentials are widened by the elimination of the narrowing influence of the progress of urbanization in the predominantly rural regions, and between 1922 and 1942,

according to two of the three dispersion measures, lines L and M, the extent of the narrowing is reduced. As for the longer-term trend, it is not entirely clear that any of it remains after the adjustment. Most of the tendency toward a narrowing of regional differences in indebtedness between 1890 and 1942 seems to have been due to the fact that the country was becoming more evenly urbanized.⁷

It is tempting to conclude from this analysis of community and regional differences in per capita debts that there has been not only a trend toward higher per capita incomes and a decrease in urban-rural differences but also, as an inevitable accompaniment of these changes, a trend toward increased per capita state and local government debts.

No doubt there was a substantial upward trend in these per capita debts from 1890 to 1930. But this trend was interrupted first by the depression of the 1930's and then by World War II. Quite possibly the trend is now in process of becoming renewed. But with the recent substantial growth of state and local government financial assets the situation—at least so far as net debts are concerned—is by no means clear.

2. *Different Types of Financial Requirement*

The compilations of gross state and local debt by the Bureau of the Census have in general enabled us to distinguish short-term debt and to classify most long-term debt by purpose of issue. The purpose of issue classification is made essentially on the basis of government functions. The bulk of highway, school, and enterprise debts can probably be safely assumed to represent physical capital formation financing. Doubtless this is the case also with several of the other purpose categories. But debts incurred for veterans' aid and homes and for welfare combine the financing of expenditures on plant and equipment with the financing of bonuses and benefit payments. These seem to us to be two different types of financial requirement. Another difficulty with the debt by purpose classifications in the present connection is that there is commonly a substantial category of debt not identified by purpose.⁸ A considerable part of this is likely to be refunding issues.

It was argued above that in the case of governments the relation between physical capital formation and financial requirements is tenuous, and that this is so in large part because governments do not follow business-like accounting procedures. Nonetheless, in distinguishing different types of net financial requirements it seems wise to push in a direction that is

⁷ Fabricant, *loc.cit.*, finds that per capita government expenditure has tended not only to increase markedly with per capita income but also to increase significantly with urbanization (the percentage of the population living in places of 2,500 or more inhabitants) and to decrease significantly with population density.

⁸ In the earlier years in Tables 2B and 2C this includes floating debt. See note on Table 2B and Appendix B.

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suggestive of the distinction between balance sheet accounts and income statement accounts. We will distinguish: (a) physical capital formation financing, (b) emergency deficit financing, and (c) budget financing. This is not an exhaustive classification of net financial requirements, but these three categories should cover a very large percentage of the state and local total.

The physical capital formation type of requirement is doubtless self-explanatory. When a government incurs large capital expenditures in a given year that cannot well be met out of the year's taxes and other revenue receipts it must have recourse to financing. Usually this means a long-term debt issue. However, in 1946 some capital expenditures were financed by liquidating holdings of government securities.

There are three main types of emergency deficit requirements. A temporary government deficit may be caused by a public disaster such as a flood. Apparently the debts incurred to finance disaster deficits have not loomed very large in the aggregate figures. They cannot be identified in Tables 2A, 2B, and 2C. Again, a temporary deficit may occur during or after a war. The main occasion for this type of deficit has come to be state payments of bonuses to veterans. Over \$1.75 billion of state bonus bonds were outstanding at the end of 1950.

A third type of temporary deficit results from depressions. Both state welfare debt, Table 2B, line F, and city debt for charities, hospitals, and corrections, Table 2C, line G, show marked bulges after the prolonged depression during the 1930's. But these bulges tell only part of the story, the emergency expenditures part, and this may well be less important in the future. Hereafter financing depression benefit payments is likely to come mainly from federal funds, if we count the Unemployment Compensation Fund as federal.⁹ Before 1930 it is difficult to see in Table 8 any effects of depressions on state and local government receipts. Even the depression of 1921 does not show. At that time receipts came quite largely from sources that had little or no built-in flexibility, especially the general property tax. But states, and even local governments, are becoming more and more dependent on somewhat flexible sources. In the future state and local depression deficits may be due to decreased revenue receipts quite as much as to emergency expenditures.

Even though government physical capital formation expenditures are not written off in accordance with businesslike depreciation schedules, there are in general systematic annual provisions for the retirement of the debts incurred to finance them, either through sinking funds or through serial maturities. And even though government emergency deficits are not

⁹ Payments into this fund are reflected in Table 8 as expenditures and in Table 5 as receipts. Payments out count as expenditures in Table 5 and as both expenditures and receipts in Table 8.

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entered on the books as deferred charges and then gradually written off, here too the systematic debt retirement provisions commonly achieve a somewhat similar effect. In both cases there are effects similar to those of depreciation accounting; but as is obvious in the case of physical capital formation, there are important differences too.

The relations between financing and physical capital formation will be considered shortly. But we have not yet defined the third type of financial requirement. We have named the way of meeting this type of requirement budget financing for the expedient that it most often employs—budget borrowing. Narrowly construed, budget borrowing means temporary within-the-year borrowing to enable receipts collected in one or two annual installments to finance a somewhat continuous flow of expenditures. But it is reasonable to construe the term a little more broadly. Essentially it means short-term borrowing to modify the time pattern of receipts from other sources so that it will fit the time pattern of expenditures closely enough to avoid the necessity of a large temporary advance accumulation of cash. In its broader sense it may include short-term notes that anticipate a planned bond issue as well as short-term tax anticipation notes.

If short-term borrowing were confined to budget borrowing, even in this wider sense, we might expect that the ratio of outstanding short-term debt to total nonfinancial expenditures would—in the aggregate figures for all state and local governments—be a somewhat steady one. We might expect, too, that the ratio of cash to total nonfinancial expenditures would be fairly steady. If so, the liquidity ratio—cash to short-term debt—should also be quite stable. But Table 20 does not show much stability. Evidently in 1932 short-term borrowing was partly for depression emergency financing. And during the middle 1940's the large wartime accumulations of cash probably obviated to some extent the need for budget borrowing. The least variable ratio is that of cash to expenditures, column 8. But by 1932 cash balances had been drawn down and short-term debts had risen until the two were almost equal. Then during the war cash balances rose and debts declined. The liquidity ratio, column 5, had been 1:1 in 1932. In 1946 it was 20:1. And despite large postwar expenditures, the liquidity ratio, though down sharply from its peak, was still far higher in 1953 than the 2:1 figure of 1922. Possibly these three ratios will exhibit greater stability in the future. The record to date shows that short-term debts have varied directly and cash balances inversely with recent budget deficits; they have not mainly reflected what we have called budget financing requirements.

Sinking fund assets are commonly related to gross debt or gross long-term debt. But they do not bear a stable relation to either. The ratio to gross debt was 15.3 per cent in 1922, 9.9 per cent in 1932, and 14.5 per

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cent in 1944. Actually they seem to reflect much the same influences as do cash and short-term debts. They have therefore been included in Table 20, column 6. The ratio of cash plus sinking fund assets¹⁰ to short-term debt may be regarded as a second and more inclusive measure of liquidity.

One important way of thinking of cash, sinking fund portfolios, and short-term debts is to note that changes in these balances represent financial sources and uses of funds. During 1930-32 funds from these

TABLE 20
State and Local Short-Term Debt, Expenditures, and Cash
Balances at Selected Dates, 1922-53

June 30	Debt	Expenditures	Cash	Sinking Funds	(3)/(1)	(3)+(4)/1	(1)/(2)	(3)/(2)
(1)	(2)	(billions of dollars)	(3)	(4)	(ratio)	(6)	(per cent)	(8)
1922	0.68	6.3	1.4	1.57	2.06	4.4	10.8	22.9
1929	1.33	9.0	2.2	3.40	1.65	4.2	14.8	24.5
1932	1.76	8.9	1.8	1.94	1.02	2.1	19.8	20.2
1942	0.97	13.8	4.6	2.02	4.53	6.8	7.0	32.0
1944	0.63	13.9	5.2	2.54	7.78	12.3	4.5	35.7
1946	0.33	17.9	6.9	2.20	20.00	27.5	1.8	34.1
1948	0.63	26.3	8.5	2.35	13.50	17.2	2.4	32.8
1950	1.05	33.5	9.5	2.96	9.15	11.9	3.1	29.8
1953	1.78	40.4	11.6	3.45	5.16	6.7	4.4	29.0

^a Nonfinancial expenditures during the calendar year.

^b Excludes currency prior to 1942.

SOURCE: See Appendix A.

sources exceeded the total nonfinancial deficit for the three years. During 1945-46 these balances absorbed more than a third of the nonfinancial surplus.

In Chapter I we noted that while in the earlier years of the present century a substantial part of physical capital formation by state and local governments was matched by the increase in net indebtedness, this same rule did not apply in 1930-50. Nonetheless Tables 2B and 2C show that outstanding debts have continued to be chiefly capital formation debts. It would seem therefore that there should be some pattern of relationship between borrowing and capital formation. Our present purpose is to determine whether there is, and if so, what its nature is. In view of the inadequacies of the data on other aspects of capital formation our attention will be largely confined to new construction.

The question of the capital formation financing pattern might be approached in a number of different ways. We will take first the relation between the volume of capital formation and the size of the nonfinancial

¹⁰ Sinking fund assets include a small amount of cash, but it has not been deemed worthwhile to eliminate this double counting.

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TABLE 21
State and Local New Construction Expenditures
and Deficits, 1916-53

	<i>Construction</i> (millions of dollars) (1)	<i>Deficit</i> (2)	(2)/(1) (per cent) (3)
THREE-YEAR MOVING AVERAGES			
1916	637	150	23.5
1917	619	200	32.3
1918	654	250	38.2
1919	789	300	38.1
1920	1,046	600	57.3
1921	1,298	750	57.8
1922	1,436	850	59.2
1923	1,544	800	51.8
1924	1,692	800	47.3
1925	1,870	700	37.4
1926	2,050	600	29.3
1927	2,159	500	23.1
1928	2,253	350	15.5
YEARLY FIGURES			
1929	2,254	100	4.4
1930	2,545	550	21.6
1931	2,153	700	32.5
1932	1,418	250	17.6
1933	846	150	17.7
1934	864	-300	-34.8
1935	852	-350	-41.2
1936	1,153	-100	-8.7
1937	1,203	-100	-8.3
1938	1,383	-100	-7.2
1939	1,673	300	17.9
1940	1,500	100	6.7
1941	1,303	-1,300	-100.0
1942	872	-1,700	-195.2
1943	445	-2,300	-517.0
1944	442	-2,600	-589.0
1945	562	-2,500	-445.0
1946	1,248	-1,900	-152.2
1947	2,184	-500	-22.9
1948	3,231	400	12.4
1949	4,456	1,200	26.8
1950	4,910	1,800	36.7
1951	5,957	900	15.1
1952	6,096	400	6.6
1953	6,535	200	3.1

NOTE: Column 1 excludes construction financed by federal aid.

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deficit. A second relation to be considered is that between capital formation and new financing. Probably too we should examine the relation between deficits and new issues. And since debt retirement practices have effects that in some ways resemble those of depreciation accounting, it may be of interest to attempt a comparison of depreciated improvements and outstanding debts.

In general terms we considered the relation between deficits and new construction in connection with Table 4; there did not seem to be one. But certainly if we were to examine the figures for individual cities and other individual units of government, we would expect to find one. The question is, "Is there a relation in the aggregate figures?" Table 21 gives the ratio of the nonfinancial deficit to new construction expenditures by years, 1929-53, and three-year moving average computations, 1916-29. The ratio fluctuates around a third during the first ten years. It markedly declines during the late 1920's but rises above 30 per cent again in 1931. Then it drops to nearly -35 per cent in 1934 and except for 1939-40 remains negative for more than a decade, reaching a low of more than -500 per cent in the last full wartime year. With the large construction expenditures after the war it rises again to 37 per cent in 1950, then tapers off to 3 per cent in 1953. We conclude that there is a relation, but that it is obscured by another factor, the general level of nonfinancial receipts relative to nonfinancial expenditures. When this level is high, even a large volume of capital expenditures can be financed without recourse to net borrowing. When it is low, a substantial part of these expenditures must be met by an increase in net debts, or alternatively, if credit is difficult to obtain as it was during most of the 1930's, construction expenditures may be curtailed.

Net borrowing reflects emergency deficit financing as well as capital formation financial requirements. It also reflects such financial developments as increases and decreases in cash and in short-term loans and the volume of debt retired. One would expect, therefore, a somewhat closer relationship if we shift the basis of comparison from net borrowing to gross long-term borrowing exclusive of refunding issues. Column 4 of Table 22 on the whole confirms this expectation. The numerator of the ratio it reports excludes loans by federal agencies and the denominator excludes from the value of state and local construction work the amount of federal aid for such construction. The table is on a quinquennial basis. In Table 21 we used an annual basis to bring out the observed relationship. If Table 22 were on an annual basis, there would be an obvious year-to-year correlation between new issues and new construction. The fact that the quinquennial ratio in column 4 does not vary much above three-fourths or much below three-fifths except in 1940-44 and the fact that the ratio shows no clear trend are much more significant for our present

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long-term purpose than the year-to-year correlation. The exceptionally low ratio in 1940-44 is not surprising in view of the large surpluses during these five years. Nor are the high ratios in 1920-24 and 1945-49; construction expenditures stepped up sharply in both these instances. But the drop in the ratio to 62 per cent in 1950-53 is puzzling. However, we may note that in these four years state and local deficits were falling.

TABLE 22
State and Local New Long-Term Debt Issues and New
Construction, 1915-53

	<i>Security Issues</i>	<i>New Construction</i> (millions of dollars)	<i>Deficit</i>	(1)/(2) (per cent)	(3)/(1)
	(1)	(2)	(3)	(4)	(5)
1915-19	2,160	3,253	1,150	67	53
1920-24	5,371	7,022	3,700	77	69
1925-29	6,968	10,678	2,450	65	35
1930-34	4,717	7,826	1,350	60	29
1935-39	4,204	6,264	-350	67	-7½
1940-44	2,040	4,562	-7,800	45	-382
1945-49	9,060	11,681	-3,300	77	-36
1950-53	14,670	23,498	3,300	62	23

NOTE: Column 2 excludes construction financed by federal aid.

Table 22 also relates the deficit to the new issues. In general the quinquennial figures in columns 1 and 3 move in the same direction; 1925-29 is an exception. But the ratio in column 5 shows a wide variation, from -3.8 in 1940-44 to almost 0.7 in 1920-24. And if we were to compare 1949-50 with 1951-53 we would find security issues increasing and the deficit declining. We may surmise that when new construction outlays and security issues show a prolonged period of increase, as in 1915-29, a larger proportion of the outlay is likely to come out of current sources toward the latter years of the period.

In Table 23 the three main categories of state and local debts are related to *approximate* depreciated values of the types of improvement they have helped to finance that have been computed on the basis of somewhat arbitrary depreciation rates. In view of the assumptions made in computing lines B, E, and H, little significance attaches to the absolute levels of the ratios shown on lines C, F, J, and M. The purpose of the table is to give an indication of the probable movements.

The highway debt to value ratio may well have been rising for a decade or more before 1922-32. The decrease in 1932-51 is mainly a reflection of the fact that during the 1930's and 1940's federal grants-in-aid provided for a substantial part of construction cost. Had this part been excluded from line B the debt to value ratio would have been higher in 1951 than in 1932.

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The arbitrariness of the depreciation rate is obviously serious in connection with the level of the ratios on line F. Forty years would be more reasonable for the life of school buildings than twenty.¹¹ A computation on this basis would not make the level of the debt to value ratio seem unduly high in the case of school properties.¹²

TABLE 23
State and Local Debt and Depreciated Construction, a Rough
Three-Function Comparison, Selected Years, 1922-51
(in millions of dollars)

	1922	1932	1942	1951
HIGHWAYS				
A. Long-term debt outstanding	1,883	4,167	3,312	4,101
B. Depreciated construction	3,113	6,615	6,062	9,029
C. Ratio of A to B	60.5%	62.9%	54.7%	46.3%
EDUCATION				
D. Long-term debt outstanding	1,747	3,798	2,662	4,728
E. Depreciated construction	1,626	3,114	2,605	5,165
F. Ratio of D to E	107.5%	122.0%	102.5%	91.6%
ENTERPRISES AND SEWAGE SYSTEMS				
G. Long-term debt outstanding	1,352	4,132	4,417	6,298
H. Depreciated construction	1,800	3,536	4,153	5,285
J. Ratio of G to H	75.0%	116.8%	106.0%	119.1%
K. New York City enterprise debt outstanding	a	1,137	1,938	2,137 ^b
L. Line G minus line K	a	2,995	2,479	4,161
M. Ratio of L to H	a	84.7%	59.7%	78.6%

^a Not tabulated.

^b 1950 figure.

NOTE: Figures on long-term debt outstanding cover: states, counties and cities, towns and villages, line A; states, school districts and cities, towns and villages, line D; states and cities, towns and villages, line G. Construction (including construction financed by federal aid) was depreciated at 10 per cent per year for highways and 5 per cent per year for education and enterprises and sewage systems.

SOURCE: See Appendix A.

The recent history of the school debt to value ratio seems to have been similar in several respects to that for highways. The ratio had probably been rising for a decade or more before 1922-32; total school district debt was only \$46 million in 1902, \$1.125 billion in 1922. School debts were retired more rapidly than school buildings depreciated in 1932-42. State

¹¹ But the annual construction figures used in computing line E do not go back far enough to enable us to get much notion of the movement of the debt to value ratio with a 2.5 per cent depreciation rate.

¹² For a more careful computation of the level we should add short-term debts to the numerator and the value of school sites and equipment to the denominator. In 1951 short-term school district debt was about 4.5 per cent of long-term. Probably the net effect of allowing for short-term debts, sites, and equipment would be to reduce the level of the debt to value ratios slightly, except in 1932.

grants-in-aid for education increased from about \$400 million in 1932 to over \$2.5 billion in 1952.

In the case of the enterprise and sewage debt to value ratio a rough check on the level is available. For 1943 the census tabulations for cities of over 250,000 population include enterprise balance sheets. These show liabilities equal to 44 per cent of the book value of the assets. Sewage systems are combined with enterprises in the third section of the table because they are not separated in the construction outlay estimates. Presumably the level of the debt to value ratio should be a little less than half that shown on line J.

Another difficulty with this ratio computation results from the acquisition of the IRT and BMT subways by New York City in 1940. Line H does not include the private construction of these properties. Consequently line M probably gives a better indication of the movement of the debt to value ratio in 1932-51 than line J. Apparently this ratio rose sharply in 1922-32, dipped in 1932-42, and then rose again in 1942-51, but was lower in 1951 than in 1932. Since many government enterprises compile annual balance sheets, we might suppose that the debt to value ratio in this case would be less sensitive to the general financial position of state and local governments than in the case of depreciated highway and school construction expenditures. Table 23 does not seem to support this supposition.

3. *Orderly and Disorderly Finance*

Consideration of possible patterns in state and local requirements suggests various tendencies toward patterns, tendencies which may perhaps lead to more stable relationships than those that seem to have characterized the past forty or fifty years.

Tendencies toward stability in turn suggest that state and local public finance has been somewhat orderly: this has not always been the case. In the following chapter we will comment briefly on the disorderly aspects of nineteenth-century finance that led to the establishment of various restrictions on state and local borrowing. There has been some disorderliness too in the twentieth century.

In general it has seemed wise for purposes of our present inquiry to take what governments have borrowed as the measure of their financial requirements and not to attempt to pass judgment on the adequacy of the occasions for borrowing. But at this point we must recognize that the occasions have not always been adequate. When we say finance has sometimes been disorderly, we mean that the occasions have sometimes been distinctly inadequate—indeed, that public borrowing has sometimes served primarily private purposes. On the whole the restrictions inherited from the nineteenth century have prevented such abuses, but not entirely.

Disorderly finance is especially likely to characterize periods of very

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rapid growth. During the 1920's Detroit was one of the most rapidly growing cities. Detroit industry was also particularly severely hit by the 1929-33 recession. It is hardly surprising that this city overdid the laying of street pavements, sidewalks, water mains, and sewers. As a result it had in 1931 a gross per capita debt for these purposes of \$106; the average debt for all cities of over 500,000 population was then only \$61.50.

The most striking case of disorderly finance during the past sixty years is that of the Florida land boom during the 1920's. The following figures from the 1932 census give some indication of the expansion of local government debts that accompanied this boom:

<i>Selected Florida Counties</i>	<i>Per Capita Debts</i>	
	<i>1922</i>	<i>1931-32</i>
Charlotte	\$80	\$827
Indian River	none	785
Martin	none	976
St. Lucie	190	1,286
Sarasota	146	947
Florida average	96	338
United States average	80	141

NOTE: Debt figures are net of sinking funds. The 1932 census reports include 1931 figures in the case of Florida. Indian River and Martin Counties were organized after 1922.

A community can overdo its capital outlays and overexpand its debts, and there may be nothing more sinister involved than enthusiasm and bad judgment. But the laying of street pavements and sidewalks, sewers, and water mains over a substantial area on which no dwelling units have yet been erected can, in effect, constitute a subsidy to private promoters of real estate developments. And, of course, the aid to private interests can go still further.

Hillhouse cites Coral Gables "as the outstanding example of municipal aid to bankrupt promoters."¹³ Of the city's bond issues in 1925-30, some 30 per cent went for bankers' commissions, promotion, and the like. Four of the five city commissioners during 1926-27 were connected with a Coral Gables development corporation that sold properties to the city at exorbitant markups in these two years.

Against the scattered instances of disorderly state and local finance since 1890 we should set the long-term trend toward greater orderliness, if we are to have a balanced picture. We will not attempt to trace this trend in detail, but merely note some of the developments that have contributed to it.

First, there has been an increasing reliance on full-time trained and career service personnel for the management of state finances and the finances of the larger local government units. If one would fully appreciate what this means, he should have in mind that a century and a half ago few

¹³ A. M. Hillhouse, *Municipal Bonds*, pp. 84-85.

units of government would have been large enough to employ this kind of financial management even if the trained personnel had been available. New York was the only city of more than 50,000 population in 1800. One should have in mind also that at that time there was a general distrust of the executive branch of government. State and city legislatures made up budgets—to the extremely limited extent that there was any budgeting—and made appointments. City councils let contracts, and various city council committees managed various municipal departments. Not only have the functions of financial management come to be vested in executive officers, but public financial administration seems today to be in process of becoming a profession, and professional competence is coming to be a requirement for appointment to the more important financial posts. This development has been aided in a general way by the spread of the civil service merit system (in 1952 some 20 states and 96 of the 105 cities of over 100,000 population had comprehensive merit systems in operation) and by changes in the direction of a greater centralization of control within the executive, as for example under the city manager plan. Much more specifically it has been aided by the organization (1906) and growth of the Municipal Finance Officers Association of the United States and Canada. In 1949 this association had over 2,000 members.

Second, in the case of local governments, orderly finance has been encouraged by state supervision. In the early nineteenth century state concern with city management was largely confined to the enactment of city charters, for the most part modeled on the federal pattern. With the growth of cities in 1820–50 came waste, mismanagement, and corruption in municipal administration. Hence the years following 1850 were characterized by state “interference.” In a few cases, notably New York City, the state took over municipal functions.¹⁴ But such abrogations of local self-government proved to be temporary. A more permanent type of state “interference” in municipal affairs consisted of restrictive provisions incorporated in state constitutions, statutes, or charters. The provisions relating to local debts are considered in Chapter V. Gradually the concept of local self-government was modified to permit supplementing such restrictions with administrative supervision. At first state supervision “was primarily concerned in overseeing local collection of taxes due the state.”¹⁵ Later the objective and nature of the supervision were broadened to include: preparing accounting manuals and standard accounting forms, classifications, and procedures; requiring financial reports on prescribed forms; requiring state or state-supervised post-audits; prescribing budget

¹⁴ See E. Dana Durand, *The Finances of New York City*, Chapter IV. Central Park, the police force, fire protection, and the health service were transferred to newly created special districts, each governed by a state-appointed commission or board.

¹⁵ Wylie Kilpatrick, *State Supervision of Local Finance*, p. 1.

forms and procedures; and determining the legality of bond issues.¹⁶ There are instances too (principally in the case of local units that are in default) where a state has gone so far as to require the approval of a local budget and local bond issues by a state supervisory agency. It scarcely need be said that these moves in the direction of state supervision have disclosed and helped to eliminate extensive practices which had not previously been brought into accord with the law.¹⁷

These comments on state supervision suggest a third aspect of the trend toward more and more orderly finance—the development of new and improved techniques of financial administration and the adoption of these techniques by one unit of government after another. State supervision has helped to spread their use among local units. In the development of the techniques private research agencies played a significant role, particularly bureaus of municipal research. And individual cities seem on the whole to have taken the lead in adoptions.¹⁸

We will not attempt to examine the various improved techniques of financial administration. But we may note that they can fairly be expected, in the course of time, to push toward a closer connection between financial capital requirements and physical capital formation. And the growing emphasis on enterprise financial statements and the more careful long-term planning of capital formation for general governmental purposes should bring increased attention to the ratio of long-term capital improvement debts to the corresponding asset valuations.

But does this mean for general government or even for government enterprises that the relation between physical capital formation and financial capital requirements will presently be somewhere near as close as in the case of private business? For enterprises, possibly. There is good reason to expect that business accounting practices will be increasingly insisted on and no reason to doubt that regular annual compilations of debt to asset value ratios will be feasible. Of course this would leave the relation between outlay on physical capital and the raising of capital through financial channels complicated by proprietorship investments

¹⁶ *Ibid.* See especially Tables 10–15, which summarize the extent of state supervision as of 1940. Every state did some supervising at that time. Use of state-prepared accounting systems was mandatory in Indiana and Ohio; nineteen states required comprehensive annual financial reports of all local units; nine made annual or biennial audits of all local units; ten prescribed budget systems for all local units. Kilpatrick's study does not cover state supervision of property assessments, but this phase of supervision is not pertinent here.

¹⁷ See, for example, Don C. Powers, *The Financial History of New York State*, pp. 245ff.

¹⁸ "The system of the executive budget, centralized accounting, and independent auditing was thus developed in both theory and practice on the municipal level before it was thought of either by states or by the national authority." Paul Studenski and Herman E. Krooss, *Financial History of the United States*, p. 351. But states have led sometimes too. An amendment to the New York State constitution gave the governor the item veto in 1872. See *ibid.*, p. 195.

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and by retained earnings and other inside funds, just as it is with private noncorporate business. So far as enterprises are concerned the main limiting factor to such a development would seem to be the difficulty of defining net enterprise income so sharply and in so businesslike a way that any implicit subsidy or indirect tax can be identified. And this limiting factor does not significantly affect the possibility that a more businesslike relation between physical capital formation and financial capital requirements may presently come to prevail.

For general government the answer to our question is by no means clear. It is true that a fully developed capital budget would imply capital asset accounting in a sense that would provide up-to-date figures on depreciation reserves, and hence presumably up-to-date debt to depreciated value ratios at least on an over-all basis for each unit of government. If capital outlays were defined as expenditures on real estate and its structural improvements, on depreciable equipment, and on additions to inventories; if current budget receipts and expenditures were defined to exclude portfolio transactions as well as transactions in the public debt; if charges against current (i.e. nonfinancial) receipts were defined to include depreciation, interest, expenditures on services, and cost of nondurable goods used; and if each government unit were to pursue a policy of balancing its current budget in this sense each year, the relation between capital outlays and net borrowing might indeed become somewhat comparable to that which characterizes private business today.

But a government unit that adopted a fiscal policy of this sort would thereby be committed to confining any contribution it might make toward a fiscal countercycle to its capital expenditures on real property, on depreciable equipment, and on increased inventories. Except for these physical capital items it would have ruled out the possibility of treating recession emergency expenditures as deferred charges that could be spread over a number of years, although the term "capital budget" has sometimes been construed to cover just such a budgetary practice.¹⁹ Moreover, if it relied on flexible revenue sources like an income tax or a sales tax, it would—apart from recession increases in federal grants-in-aid—be compelled to curtail its current expenditures during a recession or else to have recourse to additional tax levies or increased rates.

The qualification "apart from recession increases in federal grants-in-aid" is, of course, a major one. Federal aid is a part of the subject of the next chapter. And in Chapter VI we trace the gradual development of some measure of responsibility for a countercycle as a federal government function. But it is unlikely that financing recession-incurred nonfinancial deficits will, in the calculable future, cease to be a significant source of state and local government capital requirements.

¹⁹ See the paper by the present writer referred to in Chapter II, footnote 6.

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In speculating both about changes in government functions and about possible new developments in fiscal procedures such as the capital budget, it seems safe to assume a good deal of historical continuity. Surely the immediate outlook is that changes in the amount of state and local net indebtedness are likely to continue to reflect broadly the whole government budgetary position—including adverse influences on that position during recessions—and that the connection between state and local physical capital formation and financial requirements is likely to continue to be an extremely loose one.

4. *Summary*

There seems to be a somewhat definite tendency for larger communities to have larger per capita gross debts, and larger per capita debts net of sinking funds, than smaller communities. But such differences in indebtedness for communities of different sizes seem to have been diminishing, the growth of debts in the smaller communities having been in process of gradually catching up with that in the larger ones.

The pattern by community size for net debts (in the sense of fully net) is less regular and probably less stable. Also the recent rapid growth of financial assets of larger cities may have converted the trend toward diminishing differences in per capita debts from one of leveling up the debts of smaller communities to one of leveling down those of larger ones.

Regional differences in per capita state and local government debts (net of sinking funds) seem in a general way to be associated with regional differences in per capita incomes and in levels of living.

Between 1890 and 1922 such regional differences in indebtedness widened. Between 1922 and 1942 they narrowed. The longer-term trend, 1890–1942, was toward a narrowing of regional differences in indebtedness. For the most part this trend seems to have reflected the fact that the several regions have been getting more nearly alike in respect to community-size composition, the more rapid growth of urban than of rural communities having been particularly pronounced in the regions that were predominantly rural in 1890.

Consideration of the variations in per capita debts with community size and the variations between census regions seems to suggest an upward trend in the level of such debts that is likely to continue, particularly when account is taken of the strong probability that both the process of urbanization and the growth of per capita incomes will continue in the years ahead. No doubt there was an upward trend in per capita state and local debts from 1890 to 1930. But this upward movement was interrupted by the depression of the 1930's, and the interruption was prolonged by World War II. It is still too early to determine with confidence whether the trend is being resumed, especially for per capita debts net of financial assets.

Our analysis of government financial requirements by the three main

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types of requirement reveals relatively little stability in financing patterns.

A. Barring another occasion for postwar bonuses, emergency financing will hereafter probably be chiefly depression financing. During the 1930's such financing was to a considerable extent occasioned by countercyclical expenditures. In future, revenue decreases may prove to be relatively more important than they have commonly been so far.

B. In the past, variations in short-term indebtedness—and in liquid assets—have sometimes met a substantial part of the longer-term variations in financial requirements. In future they may perhaps be used more exclusively for short-term purposes.

C. While most long-term debt has been incurred to finance physical capital formation, the relation between borrowing and construction is very much complicated by changes in the financial condition of governments. On a quinquennial basis the ratio of new (non-refunding) bond issues to new (non-federally-financed) construction has—except for 1940–44—varied between 45 and 77 per cent since 1915; but the ratio of new bonds to increase in net debt has varied widely. For the three types of capital asset for which rough debt-to-value ratio computations can readily be made, schools, highways, and even water and sewage systems, changes in the ratios appear to have been quite sensitive to changes in the financial condition of governments. They also reflect the growing importance of federal and state aid.

While in general we assume government debts are incurred to finance legitimate (though not necessarily wise) expenditures, it is well to recognize that debts have sometimes been incurred because of disorderly financial practices. There were striking instances of such borrowing in connection with the Florida land boom of the 1920's.

But the fiscal procedures of governments have been gradually improving, and this process can be expected to continue. Eventually it may quite possibly help to make the patterns in state and local financial requirements more definite and stable.

The development of more businesslike accounting and budgeting practices for government enterprises is part of this process. In the course of time it may help to give the relationship between enterprise capital assets and enterprise debts a pattern that is a good deal more like that of comparable private businesses.

The state and local government capital budget practices so far developed would not be likely to have any such effect on the relation between general government-improved real properties and durable equipment and government debts, although the further development of such practices may some day push in this direction. For the nearer future, except for public enterprises, the very loose connection between capital formation and borrowing is likely to continue.