FOR RELEASE ON DELIVERY
WEDNESDAY, JUNE 11, 1975
2:00 P.M. AMSTERDAM TIME
(9:00 A.M. EDT)

IS THERE A CAPITAL SHORTAGE?

Remarks by

Henry C. Wallich
Member, Board of Governors of the Federal Reserve System

at the

International Monetary Conference
Session II: Capital Requirements and Capital Sources

in

Amsterdam, The Netherlands

Wednesday, June 11, 1975

IS THERE A CAPITAL SHORTAGE?

Remarks by

Henry C. Wallich
Member, Board of Governors of the Federal Reserve System

at the

International Monetary Conference
Session II: Capital Requirements and Capital Sources

in

Amsterdam, The Netherlands

Wednesday, June 11, 1975

Concern about an impending capital shortage has become widespread. A variety of studies of investment requirements over the next five or ten years, of the adequacy of private and public savings and financial arrangements for converting these savings into investment have already been completed. The generality of this concern attests to the importance of the issue.

There are indeed reasons for posing these questions. The experience of the last few years has confronted us with the limits of our capacity to produce. That same experience has shown us that there are limits to our capacity to finance. Meanwhile new demands are being made on our economies. Important decisions may lie ahead -- to increase our efforts to provide resources or to cut back our aspirations. Failure to make the right decisions may lead to economic imbalance, with the risk of more inflation, insufficient jobs, disappointing living standards.

In examining the requirements for new capital, it becomes immediately apparent that the answer differs among countries. The rate of investment and of savings, relative to GNP, varies widely. It runs from about 15 per cent in the United States to close to 40 per cent in Japan. Net savings differ even more dramatically, running from 5 per cent in the United States to 25 per cent in Japan. A flow of investment and saving that might be perfectly adequate in one particular country might bring the economy of another to a grinding halt. What matters is not the level of these flows, but their relationship to the structure of individual economies, to the levels maintained in the past, and to the requirements of a future that is bound to be, in large measure, a continuation of that past. For that reason, my comments are addressed principally to the United States. Some of the data appended, however, will also serve to provide a comparison of the U.S. with other countries. (Tables 1 and 2)

Tests of Capital Adequacy

Capital inadequacy can show up in various forms. First, it may manifest itself in bottleneck situations, with some industries having adequate capacity for high-level operation of the economy and others not having enough capacity to supply the needs of consumers and of other industries when they all operate at a high level. Frequently this is a problem of bottlenecks for raw materials and industrial materials. But it also affects more highly finished goods. In the

United States there probably is a good deal of this capital inadequacy, as the shortage experience of 1973 and 1974 indicates.

It should be borne in mind, however, that the pattern of demand may shift and that the past is no exact guide to the bottlenecks of the future. In a worldwide economy, moreover, insufficient supplies in one country can often be met from abroad, unless the unusual synchronization of cyclical peaks experienced in 1973-74 is repeated.

Second, an over-all shortage of capital with respect to the labor force is possible, even if capacity is fairly evenly distributed among industries. There would then not be enough jobs to provide full employment even when industry is operating close to capacity. This condition, too, I believe to prevail in the U.S. as a result of inadequate past investment.

Capital capacity, in other words, seems to fall short of labor force capacity. This is a serious condition which labor has as urgent an interest to remedy as has business. The peak of labor force growth, reaching 2.4 per cent during the five years 1970-1974, seems to be behind us, but projections for the remainder of the 70's and for the early 80's still show labor force growth in the range of 1.6-1.8 per cent per year.

When capital shortages of the two types described so far are not present, one really cannot speak of a shortage of capital. That would be true not only of the United States, but of any other

economy. However, a society can be dissatisfied with its total supply of goods, or with the rate of growth of that supply. Social strains, or inflation, could be evidence of such a condition. Alternatively, a society may be willing to accept a low rate of growth but may find itself falling behind economically and politically. This condition could be remedied by a more ample supply of capital, if the nation so chose. There is some doubt, however, how much of an acceleration of growth can be accomplished by increasing the supply of capital when other factors of production increase at an unchanged rate.

Another test of capital adequacy is the rate of return on capital. In the U.S. this rate of return has declined severely when properly adjusted for inflation. This would suggest that the demand for capital is low. However, the rate of return measures the average productivity of capital, not its marginal productivity. It is quite possible that average productivity has been depressed by the many adverse factors that have impinged on business -- international competition, strength of labor unions, inflation, widespread hostility to business, government regulation and taxation. Meanwhile, the return on capital at the margin, i.e., for new investment, may nevertheless have risen. This would seem to be indicated by the willingness of business to borrow at very high interest rates and sell new equity even on adverse terms.

The Demand for Capital

In the U.S. there is no shortage of capital in the short run. There is enough excess capacity materially to increase production. But absorption of this existing excess capacity, important as it is, constitutes a short-run problem. Concern over the adequacy of the stock of capital and its growth through investment pertains to the medium and longer run. In that perspective, it becomes necessary to take into account, in addition to the possible inadequacies already existing, the emerging new demands for capital. Some of the investments for which demand is rising are of a kind that will not add much if anything to output. At the same time, there may be other areas of investment where prospective demands promise to abate.

Areas in which demand for capital is clearly rising include: (a) environmental investment, which is largely unproductive; (b) health and safety investment, which contributes to productivity at best indirectly; (c) mass transit, which promises to contribute to over-all growth by reducing the need for less efficient modes of transportation; and (d) energy investment, which will in some regards be a drag on the economy because relatively expensive energy will be substituted for cheap imported oil.

On the side of diminishing demand one may count: (a) investment in housing, as population growth slows down and as housing construction, owing to its very high cost, shifts increasingly from the customary

single-family home to apartment house dwellings and mobile homes; (b) various forms of nonresidential construction such as schools, where a rapidly declining birth rate is reducing requirements; and (c) inventory investment, the need for which, one may hope, will be held down as better control methods are developed and as inflation abates.

The great bulk of investment in the American economy is private investment, and the largest part of this is investment made by business firms. Gross private domestic investment has been fairly stable historically in the neighborhood of 15 per cent of GNP, with a slight dip during the 1960's and a slight rise in the early 1970's. Within this total, business fixed investment has averaged close to 10 per cent of GNP, with a rising tendency over the last 10 years. This rising tendency becomes even clearer when the data are stated in constant instead of current dollars. Most of the areas of rising investment demand -- environmental, health and safety, energy -- are also in the business sector. Only inventory offers an opportunity here for an easing of demand.

Thus, it is business investment that must be our principal concern. Among the various studies of capital requirements there is a remarkable degree of agreement that nonresidential investment, as a fraction of GNP, will have to average 11-1/2 per cent contrasted with an historic 10-1/2 per cent. It is principally to take care of

this increase that the necessary savings and financing techniques must be found. Taken by itself, this is not a very large amount. The demand side of the saving-investment process seems to generate no insuperable problems. This, however, is not so on the supply side.

The Supply of Savings

It is on the supply side of the saving-investment process that adverse changes have occurred and where remedies need to be applied. Historically, savings rates in the United States, over the past 20 years, have fluctuated within a narrow band for both households and businesses. Personal savings have ranged from 3.4 to 5.7 per cent of GNP, business savings, including depreciation between 10 and 12 per cent. Typically, there has been some compensatory movement, so that the sum has ranged around 15-16 per cent of GNP.

Consumer savings have been remarkably insensitive to inflation. Apparently, the frequently predicted tendency of inflation to diminish saving incentives has been approximately compensated by a desire of households to maintain some prudent relationships between wealth and income. In fact, the savings/GNP ratio has been near the top of its 20-year range for the past three years. There is little reason to expect it to rise further.

Business saving has suffered severely from inflation. Inventory profits have been very high but these profits are of questionable value to their owners. They generate no cash flow,

are not available for investment or dividends, and they do generate a tax liability. Likewise, an adjustment must be made for depreciation that is based on original instead of replacement cost. When these two adjustment factors are deducted from corporate profits, a case can be made that domestic nonfinancial corporations did not earn their dividends in 1974. In other words, this dominant component of the American corporate universe, excluding only financial corporations and foreign subsidiaries, can be said to have had negative net savings.

Some qualifications are required in making this case. Inventory profits, after all, are not altogether valueless. Moreover, corporations also have some benefits from accelerated depreciation methods. Finally, since interest is wholly tax deductible, corporations have the advantage that the tax on the inflation premium is paid by the bondholder, not the corporation.

Inflation is not the only cause of declining business saving. The decline in the rate of return, which was mentioned earlier, can hardly be attributed to inflation alone. Hence there can be no assurance that an ending of, or, much less desirably, an adjustment to continued inflation would restore profits to their historic proportion of GNP. Yet a return to this historic proportion is one of the essential conditions of an adequate flow of savings. The other, and indeed crucial condition, is a better saving performance on the part of government.

Historically, government has sometimes been a net supplier of savings, through debt repayment, and sometimes a net user. The saving or dissaving of the Federal government and of State and local governments sometimes have moved in opposite directions, partly compensating each other's effect on the total savings flow. During the last few years, both the Federal and State and local governments have been net borrowers.

In periods of recession, the danger that government borrowing may crowd out a substantial volume of private sector borrowing is small. The danger mounts, however, as recovery proceeds. Once full employment is reached, obviously any resources that government draws on to itself must lead to a reduction of resources available to the private sector, other things equal.

The stance of government at full employment, whether a net supplier or demander of savings, can be estimated on the basis of the high employment surplus or deficit. Since the early 70's, this computational variable has fluctuated around an average of approximately zero. At the present time, it shows a moderate deficit. The projection shown in the Fiscal 1976 Federal budget shows it rising rapidly to a level of $61 billion by 1980.

If this projection had probability, the outlook for an adequate flow of savings would be very good. The projection, however, is the result of its assumptions. Continued moderate inflation is

expected to push taxpayers into higher tax brackets, and this substantial rise in the effective tax burden is not expected to be counteracted fully by tax cuts. Likewise, the projection assumes only moderate expenditure increases and few new spending initiatives.

History provides ample reason to question both assumptions. The effects of inflation on tax brackets have already been compensated repeatedly by tax cuts, principally in 1969 and 1975. A slowdown of government expenditures is more desirable than probable. Meanwhile, the trend of State and local affairs, where there is less fiscal flexibility, suggests that deficits in that sector will continue. A Federal surplus of some magnitude would therefore be required merely in order to get the public sector as a whole into a zero deficit position. A substantially larger surplus would be required to offset the shortfall of savings below expected investment in the private sector, once the economy returns to high employment.

Constraints in Financial Markets

The uncertainty about the future over-all flow of savings noted in the previous section is compounded by constraints that may appear in the financial markets. For many years now, the capital structure of corporations has moved in the direction of a higher share of debt relative to equity. This appeared to be the way to maximize profits at a time when credit was readily available and borrowers' ratings went unchallenged.

The events of the last few years have changed that picture. Borrowing became less easy, and credit ratings were tested. In good part the consequence was not a shift toward more equity financing but toward more debt in short-term form as longer term financing became less easy. (Table 3) Now the need for a stronger equity component in corporate capital structures has become pressing. Yet internal generation of equity has become more difficult while external financing is suffering from the relatively low level of stock market prices.

Another change may affect the role of banks in the financial picture, which had expanded in recent years. Banks have become increasingly cautious, partly as a result of past over-expansion and mounting risk, partly because of a generally declining capital position. Thus the role of banks in the financing of investment may be more limited.

The stock market, too, has become a less productive source of funds, owing to diminishing buyer interest. Individuals have been net sellers of equities for many years. Of late, the interest of institutional investors also has shifted in some degree away from equities and toward bonds.

Another financial constraint is the level of the money supply. A rapid expansion of the money supply would run the risk of engendering inflationary expectations that by themselves might raise interest rates

and choke off financing. A more moderate growth of the money supply, on the other hand, consistent with a gradual return to price stability, limits the banks' ability to contribute to the flow of financing.

Review of Studies of Capital Requirements and Availability of Savings

Studies of capital adequacy, as noted earlier, abound. A few of them are compared in an attached table. Their selection implies no intention to downgrade others that are not mentioned. Those chosen predominantly arrive at the conclusion that there will be no shortfall of savings. That selection was made because this paper questions the conclusion.

After removing the multi-billion-dollar tags from the estimates by expressing all amounts as per cent of GNP, it appears that the investment requirements projected in the different studies are not very far apart, ranging from 15.5 per cent to 16.4 per cent of GNP. It is in the projection of savings that larger differences show up, the range being from 14.2 to 16.4 per cent of GNP.

There is surprisingly little difference among projections of business saving. The principal uncertainty, inevitably, attaches to projections of government savings. By a slight majority, the projections incline toward a very small government surplus, combining Federal and State and local budgets. If the expectation of a State and local deficit is correct, this implies a more sizable Federal surplus.

The most extensive examination of investment requirements and savings flows is that by Duesenberry and Bosworth, about to be published by The Brookings Institution and summarized by Professor Duesenberry in his testimony before the Ways and Means Committee of the House of Representatives in January 1975. This study concludes that we can avoid a capital shortage, "but just barely." The basis for this conclusion is a substantial Federal surplus of 1.3 per cent, equal in the terminal year 1980 to $31.7 billion. For the private sector alone a deficiency of savings of one per cent of GNP, or $23.7 billion is arrived at. The Duesenberry-Bosworth study goes farthest in making the point that is common to all studies: avoidance of a capital shortage depends crucially on getting the Federal budget under control.

Tax Remedies

Several studies of capital requirements feature proposals for tax reform designed to increase the flow of saving. Typically they involve measures that would affect the distribution of income as well as reduce the Treasury's revenue. In the second regard, at least, such proposals may be counterproductive by increasing the Treasury's borrowing needs. A more moderate but perhaps less controversial device may be mentioned here. It focusses upon improving the capital structure of corporations.

Even if an improvement in budgetary posture makes over-all capital flows adequate, problems of corporate debt capacity and equity financing remain. The debt problem is in good part the result of the fact that interest is tax deductible while corporate profits retained or paid out in dividends are taxed to the corporation. A tax structure that would place the same burden on all three forms of disposing of net operating income -- interest, retentions, and dividends -- would avoid this bias and would facilitate and encourage equity financing. The tax rate could be so set as to produce the same revenue as the present tax structure, if a reduction of the tax burden of corporations should prove economically or politically impractical.

Such a tax structure could not be introduced overnight, because it would drastically change the relative position of corporations with high and low indebtedness. But it could be applied to corporate debt and equity created in the future, if the necessary safeguards against loopholes can be built in. Alternatively, the revised tax structure could be phased in gradually, giving firms an opportunity to modify their capital structure over time. The result, I believe, would be easier financing and stronger credit.

Capital Imports and Exports

There can be no doubt that there is at least a possibility of a serious capital shortage in the United States. Whether it will materialize depends very largely upon whether Congress can avoid deficits

in the Federal budget and even achieve a surplus. Resolving the capital shortage problem by means of better budget policy would be by far the preferred solution. Should this solution not materialize, the United States will have to ask itself to what extent, if at all, it can still perform as a capital exporter. The United States ceased to be a net capital exporter when the current account went into deficit in the late 60's. The high cost of oil imports probably has had the effect of preventing the U.S. from becoming once more a capital exporter, although it should be noted that the U.S. current account deficit is small relative to what might be considered to be the appropriate share of the U.S. in the aggregate deficit imposed upon the oil-importing countries by the oil-exporting countries. As the oil problem comes into balance, the U.S. will have to ask itself very seriously whether it would be advantageous to remain a capital importer.

Summary and Conclusions

(1) There is a distinct possibility that a capital shortage may appear in the United States, once the economy moves back to a high level of economic activity.

(2) Higher demands for capital are ahead, mainly as a result of prospective increases in environmental, energy, health and safety, and mass transit investment. These increases probably will be compensated only in part by relatively modest declines in the share of housing and perhaps of inventory accumulation in total investment.

(3) The principal threat of a shortage of investment funds arises, not from increases in demand, but from uncertainty about the adequacy of savings. One source of uncertainty is the decline in corporate profits that becomes apparent once realistic accounting methods are employed. Another is the apparent trend of the Federal as well as of State and local budgets toward larger deficits.

(4) Studies that conclude that there will be no capital shortage appear to rely heavily on the assumption that the Federal budget will be in surplus and will be supplying capital to the private sector. Continuation of the Federal financing patterns of recent years would do little to make this hope come true.

(5) In addition to the possibility of an over-all capital shortage, business may experience constraints in its financing because of the existing heavy burden of debt, especially short-term. In order to strengthen the equity base and facilitate financing, it is suggested that the method of taxing corporations be shifted gradually, without loss of revenue, in the direction of taxing income used to pay interest while reducing the present tax on the portions of income used to pay dividends and retained in the business.

TABLE 1a.--Gross Saving, 1970-72, Annual Average

	Per cent of GNP	
	Japan	U.S.
Households[1/]		
Net saving	13.5	5.3
Depreciation	3.3	3.2
Corporations		
Net saving[2/]	5.8	1.5
Depreciation	8.6	5.8
Total private		
Net saving[2/]	19.3	6.8
Depreciation	11.9	8.9
Government[3/]		
Net saving	7.3	-1.0
Depreciation	1.0	--
Statistical discrepancy	-1.2	-0.4
Total gross saving	38.2	14.3
Total net saving	25.4	5.4

Source: Henry C. and Mable I. Wallich, "Money and Banking in Japan," in Asia's New Giant: How the Japanese Economy Works, Brookings Institution, forthcoming, 1975.

1/ Includes households, private unincorporated business and private nonprofit institutions.

2/ Includes inventory valuation adjustment.

3/ Government and government enterprise.

TABLE 1b.--Household Savings as Per cent of Disposable Income 1960, 1970-7 , for Selected Industrial Countries

	1960	1965	1970	1971	1972
Japan	19.2[1/]	17.5	20.7	20.2	21.0
Germany	15.0	15.9	16.7	15.0	15.1
France	9.7	11.1	12.7	12.3	12.1
United States	4.9	6.0	9.0	9.0	7.2
United Kingdom	4.7	6.1	5.2	4.9	5.0

1/ 1961.

Note: Definitions differ from those underlying national statistics; ratios, therefore, also will not be the same as derived from national sources. Disposable income includes households and private nonprofit institutions serving households.

TABLE 2.--Savings and Savings Rates in Selected Industrial Countries

		Savings as Per cent of GDP				
		Corporate	Government	Household	Total[1/]	GDP[2/]
Germany:	1961	6.0	7.8	5.5	19.3	333.4
	1965	4.5	5.0	7.7	17.3	462.0
	1969	3.4	6.1	7.9	17.3	605.7
	1970	3.7	5.8	8.4	18.0	687.0
	1971	2.4	5.5	8.3	16.2	762.5
	1972	1.9	4.6	9.1	15.5	834.6
	1973	1.2	6.1	8.4	15.7	930.6
France:	1961	3.3	4.0	6.4	13.7	328.2
	1965	2.9	4.8	7.6	15.3	489.0
	1969	4.6	4.9	6.8	16.3	722.8
	1970	3.7	4.9	8.3	16.9	808.2
	1971	3.9	4.5	8.2	16.6	898.9
	1972	3.8	4.4	8.1	16.3	1001.9
	1973	3.7	4.3	8.6	16.7	1146.2
U.K.:	1961	4.4	0.9	4.3	9.6	27.14
	1965	4.9	2.3	4.2	11.4	35.35
	1969	1.9	6.5	3.1	11.5	45.74
	1970	0.1	7.8	3.4	11.1	49.96
	1971			3.2	11.9	55.65
	1972	1.2		3.4	7.4	61.18
	1973	n.a.				n.a.
U.S.:	1961	2.5	0.9	4.0	7.6	525.7
	1965	3.6	2.1	4.1	9.8	692.1
	1969	2.0	1.9	4.6	8.5	927.9
	1970	1.2	-0.6	6.2	6.9	983.2
	1971	1.7	-1.2	6.3	6.8	1059.7
	1972	2.2	-0.1	5.1	7.2	1161.9
	1973	2.2	0.6	6.2	9.1	1297.5

Source: OECD, National Accounts, 1961-1972; 1962-1973, Vol. 1.

1/ Savings excluding depreciation by OECD definitions.

2/ In billions of local currency.

TABLE 3.--Aggregate Capital Structure of Nonfinancial Corporations
1965-74
(Billions of dollars)

Year	(1) Short-term debt	(2) Long-term debt	Equity	(1)/(2)	((1)+(2))/(3)
1965	172	176	404	.975	.864
1966	189	194	437	.978	.878
1967	198	215	471	.921	.879
1968	228	238	506	.956	.921
1969	259	261	551	.991	.944
1970	269	290	594	.927	.942
1971	278	321	645	.865	.932
1972	302	356	706	.847	.934
1973	349	394	765	.887	.971
1974	404	438	876	.922	.963

Source: Flow of Funds Section, Board of Governors of the Federal Reserve System, 1974.

TABLE 4.--Comparison of Studies of Capital Requirements
(Per cent)

	NYSE	Duesenberry *	Friedman	DRI	N.P.A.
GNP growth	8.6	8.7	10.1	8.5	10.1
Inflation rate	5.0	3.0	6.2	4.3	6.0
Real GNP growth	3.4	5.5	3.7	4.0	3.9
Unemployment rate	n.a.	5.0	5.5	5.0	5.5
Long-term interest rate	n.a.	7.5	n.a.	8.0	n.a.
As per cent of GNP:					
Gross pvt. dom. inv.	16.4	15.8	15.8	15.5	16.4
Nonresidential	12.1	11.6	11.5	11.4	12.3
Inventory	.4	.9	.8	.6	.6
Residential	3.9	3.3	3.5	3.5	3.5
Total savings	14.2	15.8	15.8	15.5	16.4
Business	10.5	10.2	10.8	10.7	11.7
Personal	3.9	4.7	4.9	4.6	4.9
Govt. Federal	-.2	1.3	-.1	.4	.1
Govt. State		-.3			
Other[1/]	n.a.	-.1	.2	-.2	-.3
Investment gap	2.2[2/]	0	0	0	0

*--Refers to 1980, the end of projection period.

1/ Statistical discrepancy less net foreign investment.

2/ Represents an average annual gap of over $50 billion for the 12-year projection 1974-85.