FEDERAL RESERVE BANK
OF NEW YORK

April 13, 1938.

Dear Chairman Eccles:

In behalf of Mr. Harrison, I am sending to you, herewith, a copy of a paper on "The Formation and Use of Capital," which Mr. John H. Williams presented at the recent semi-annual meeting of the Academy of Political Science. It seems to us that the subject matter of this paper, while it is mainly concerned with long-run economic movements, bears directly upon one of the most important economic problems of the day, namely, the place of private investment and of public spending and investment in a recovery program, and we thought you might be interested in reading it.

Yours faithfully,

Allan Sproul,
First Vice President.

Hon. Marriner S. Eccles,
Chairman, Board of Governors
of the Federal Reserve System,
Washington, D.C.

Enc.

The Formation and Use of Capital

by

John H. Williams

My topic this afternoon is "The Formation and Use of Capital." We think of capital formation primarily in two connections, the business cycle and long-run economic progress. From these two points of view, capital formation presents something of a paradox. It is at once the hero and the villain of our economic drama. We have come to look upon capital formation as essential to economic progress and to regard the business cycle, which is primarily a cycle of investment, as the price that we have had to pay for progress through capital formation. Not that we are content to pay this price in so far as we can learn to avoid it, but we have thought of our capitalistic system as one that has demonstrated its powers of growth, one that has resulted in increased real income, increased productivity per worker, primarily by reason of the application of capital to economic effort; and at the same time we have come to look upon the cyclical fluctuations of capital investment as a great unstabilizing force in our economy.

I am not going to speak this afternoon about the business-cycle aspect of capital formation, but about the long-run aspect, its relation to economic progress. That there has been such a relation in the past seems obvious. The whole history of modern capitalism can be brought forward in proof. In no other way could we have sustained the great increase in population that has occurred in the last two hundred years or so. We think of the Industrial Revolution, the expansion of the railway net, the age of steam, the age of electricity, the age of the automobile as all having been made possible through the accumulation and application of capital.

I want to dwell particularly this afternoon on the growing opinion - or possibly we should say the growing fear - that our period of economic progress may be drawing to a close. The fact that we have now had two depressions in a row, the last one the greatest depression in history, and this one already a major depression in that it has gone beyond what we ordinarily think of as the limits of a minor depression, those facts have raised in the minds of many people the fear, the belief, that the period of progress, the period of capital accumulation, of finding always new ways of applying capital in order to improve economic welfare may be drawing to a close. That, it seems to me, is the central thesis of Keynes' last book. That is what underlies a good deal of current investigation of the relation between saving and investment, and the tendency to conclude that there is danger of chronic over-saving or under-investment.

We are told, in other words, that this recurrence of depression may well mean that there is now a bias in favor of economic contraction, that we may have to find out how to live in a contracting economy, or to find some satisfactory alternative for private investment. This is not a new belief. One finds expressions of this kind all down through the nineteenth century. Macaulay said in the 1830's that there seems to be something in human nature which prevents our believing that the next generation can make as much progress as the last. That is particularly true if we, in our generation, have been living through a period of rapid progress.

In England in the thirties, in the "hungry forties," through the fifties, there was a great deal of talk of this kind, and in our own country during the period of the long depressions and the short recoveries - the seventies, the eighties, and the nineties - there were similar expressions of this fear. One of the best known is that of Labor Commissioner Wright in the eighties. He pointed out that in all the industrialized countries there was a growing question as to whether we could find the means of applying new saving. Europe had expanded throughout the world, the frontier was disappearing, the railway nets had been pretty well completed, and it was difficult to foresee how we were to find the means of further progress on a comparable scale.

Again, immediately after the War, fears were expressed by many economists that the world had during the War developed an over-capacity for production and might be in for a prolonged period of retrenchment. And now again, under circumstances of severe and prolonged depression, there has been a recurrence of these fears. How much truth may there be in this view? And more fundamentally, how essential is the continuance of capital accumulation to economic well-being? Those are the two questions I want to deal with.

The view that capital accumulation may be coming to an end and bringing with it the end of an era of progress, presenting us with the quite different problems of a contracting economy, seems to me to rest principally on three grounds. One ground is that there is inherent in the capitalistic system a tendency toward under-consumption or over-production, two names for the same thing. This view has interested economists through all the decades since the early nineteenth century. One of the first expressions of it was that by Sismondi, the Swiss economist, in 1819. We find it again in the writings of Karl Marx, who tells us that capitalism inevitably digs its own grave. We find it again in the social credit theories of the post-War period. In each case it turns essentially on the thought that the re-investment of profit takes away from the consumer the purchasing power which is necessary to take goods off the market without loss to the producer. As Foster and Catchings expressed it, in what they called their dilemma of thrift, the result of the capitalistic system with its re-investment of profit and saving is that purchasing power goes twice into production for once into consumption. Karl Marx put it on the ground that profits represent exploitation of the worker, that the worker does not get the value of his product and therefore cannot consume it, and hence there is under capitalism an inevitable growing tendency toward chronic depression.

We have seen expressions of this thesis in recent years in our own governmental policy. The NRA was based in part upon the idea that there is a tendency toward deficiency of buying power on the part of the masses of the population, and that the way to get recovery is to raise wages in order to increase purchasing power. We have had many expressions of it since the NRA was discarded, particularly in connection with the discussions of the Undistributed Profits Tax and the Wages and Hours Bill. It is a very persistent idea.

This view that there is in the capitalistic system as it has hitherto functioned a persistent tendency toward under-consumption, has both cyclical and secular aspects. With the cyclical aspects I cannot deal. Though in some forms of statement it has a certain plausibility, which Hayek's work has not satisfactorily removed, I have never thought it a very convincing major explanation of the business cycle. As an explanation of what has happened in a secular sense, it has seemed to me totally unconvincing because it flies in the face of history. During the past century and more in which this complaint has been made, we have actually been making more economic progress than at any other time in the history of the world.

A second explanation, and one that appeals to many economists who discard the first, is that there are technological reasons for expecting a declining rate of growth of capital or even a cessation of growth. There is no law which compels steady continuing progress, and economic history does not show such progress. We have progressed by jerks through periods of time that are longer than a business cycle and which some economists call the long waves. The Industrial Revolution in England was followed by recurring periods of unsettlement and even of stagnation. Colin Clark describes the economic condition of the English workman in the middle of the nineteenth century as being truly deplorable. Similarly, the railway expansion, as it passed from country to country, provided no regularity, much less permanency, of progress, and terminated in such periods of stagnation as in the seventies and the nineties. Then came the burst of large scale business organization, and the age of the automobile and electricity, and in the midst of it, the period of the World War. And as we look back at this period from the present decade with its long depression, which is now renewed, we face again the question whether, and by what means, economic progress can be resumed.

As I say, this argument rests largely on technological grounds. It rests also on the disappearance of the frontier. We are told that for a long time the world could rely on pushing out the frontier from the European industrial center, and so long as there remained a world frontier there was always a tendency in favor of renewal of development even though it might be interrupted from time to time. Now, as we are told, the frontier is gone. At any rate, it is gone in this country, and our experiences of the twenties with international investment have not left us in the mood to attempt to develop whatever frontiers may remain elsewhere.

This thesis presents a number of difficult aspects. It is far from proved that if world trade barriers, which have been greatly multiplied by the War and the depression, could be removed, there would not still be room for substantial progress through exploitation of the world's resources. The economically well-developed portion of the world is still geographically the minor part. The area of high real income is not very extensive, and even within this area the income is not really high for any but a minor part of the population. The present stagnation of international investment need not be taken as necessarily a permanent condition. The nineteenth century presents a number of parallels for our present discouragement in this regard, each coming after a period of excessively rapid or otherwise unwise international investment, but proving to be only a temporary interruption of a continuing development. Whether the world will have sense enough, and will find the means, to remove the barriers to international economic intercourse, is one of the largest economic questions of our times.

But in any case, we ought not to exaggerate the importance of the frontier. The history of international trade indicates that trade has been greatest among the industrialized, capitalistically-developed countries themselves, and not between such countries and the young countries, which constituted the frontier. Life on the frontier is after all fairly primitive and the main hope for increased production and consumption may lie within the areas which already have higher standards of living and greater technical resourcefulness.

But an even more fundamental question is how essential the continuance of capital accumulation really is for the continuance of economic progress. I have been very much interested by the work recently done by Kuznets in this country and by Colin Clark in England on the relation of capital formation to the national income. The experience of England since the war seems especially significant. I confess to being one of those who during the twenties were inclined to take a dark view of England's future. Here was a small country primarily dependent upon international trade, which had been seriously impaired by the War and the wave of nationalism which followed it. Primarily for this reason, we thought of England as being in a state of semi-chronic depression from which there appeared to be little hope of escape. We talked of the necessity of liquidating the British economy in some sense, by migration of labor and capital or acceptance of a lower standard of living. How could England hope to find domestic alternatives for her great international industries which were declining?

And yet, since 1924, according to Colin Clark, England has made more progress in terms of real income and of productivity per worker than in almost any other period of her history. This small country, whose territory is no greater than that of some of our largest states, supporting a population one-third that of ours, now has a national income about half as large as ours. So long as such comparisons are possible we seem hardly justified in taking a gloomy view of our own potentialities of progress.

How has England's progress been accomplished in the face of such apparently strong grounds for pessimism? Progress has been made in two cycle periods, 1924-30 and 1931-6, the dividing point representing the impact of the world depression. In the second period, the improvement in the terms of international trade following England's departure from gold, which resulted in cheap imports, was an important influence, and even in 1924-29, contrary to much current opinion, the terms of trade appear to have been more favorable to England than in the immediate pre-War period. This may well be a special circumstance in England's case which cannot be generalized, since the "terms of trade" are relative and not all countries could expect improvement in these terms concurrently.

Another circumstance which Clark mentions, and which may strike some of us as more startling, is a "very considerable rise in general standards of consumption, among the rich through the cessation of saving"1/ (and the poor through cheap imports). In his analysis of saving he finds that the important categories are undistributed profits, working and middle class savings (mainly through building societies and life insurance), and state and local authority savings. Even more surprising, perhaps, are his figures of net investment as a percentage of national income, which were 12.2 per cent in 1907, 8.1 per cent in 1924, 7.2 per cent in 1929, and 6.9 per cent in 1935.2/ To sum this up baldly, it seems to tell us that the progressing economic society is that in which (a) the rich no longer save, and (b) the proportion of national income which is saved and invested

1/ Colin Clark: National Income and Outlay, p. 270
2/ Ibid, p. 185

steadily diminishes. Clark sums up his own findings by stating that "I believe the facts have destroyed the view up till now generally prevalent, that the rate of economic growth was primarily dependent upon the rate at which capital could be accumulated. The very rapid expansion in productivity at the present time is taking place at a time of heavily diminishing capital accumulation. What is more remarkable, practically none of the capital which is being saved is being put into productive industry proper."1/

These are surely very arresting statements. In the light of previously accepted economic doctrine, they sound at first like something from Alice in Wonderland. Yet they are the product not of social philosphy or of abstract economic theory but of the soberest kind of statistical work. And on reflection they are perhaps less paradoxical than at first they seem. The statement that in England the rich no longer save appears to mean in part that saving and investment are becoming increasingly institutionalized. The fact that investment has become a smaller fraction of national income may not be altogether irreconcilable with the orthodox view, which has held that capital accumulation is essential to economic progress. The two statements may well relate to different stages or phases of economic progress. In the earlier stages of economic development the emphasis is upon the rate of growth of new capital, but in proportion as the society becomes more capitalistic the emphasis may well shift to the replacement and improvement of existing capital equipment. This appears to be Colin Clark's own conclusion. He stresses the "improvement of our technical knowledge, and what is equally important from the viewpoint of the national productivity, the growing up of a generation of trained and experienced workers and technicians who can apply this knowledge." Given this knowledge and the ability to use it, he concludes that "without new investment the replacement of obsolete capital - - -

1/ Ibid, p. 272

appears to give all the necessary scope for the introduction of technical and organizational improvements, and to bring about the rapid increase in productivity under which we are now living."[1]

That this is a phase of change from an earlier to a later phase of capitalism, as I have suggested, appears to be borne out by Clark's estimates, and also those of Paul Douglas which he cites, of yearly additions to British home capital since the 1860's. Clark introduces them with the remark that "this (the decline of new investment) is no more than the continuation of a process which has been going on for generations." Capital accumulation was most rapid in the 1860's, which was also the period in which real income rose most rapidly. The absolute yearly additions to home capital reached their maximum in 1875, and have declined not only relatively but absolutely since that time. What conclusion to draw from these figures is rendered somewhat uncertain, at least for the pre-War period, by the fact that he offers no comparable estimates for international investment. From the standpoint of the British economy as a whole, and the effects of capital accumulation on it, neither category of investment would by itself tell the whole story, and neither could validly be excluded, and at some periods much more of British capital was invested abroad than at home. But in the post-War period, and particularly since 1930, the decline has been in both home and overseas investment. Yet it has not prevented a marked increase in per capita real income.

Some significant changes in capital formation in our own country and its relation to national income appear to be indicated by Simon Kuznets' study, recently published,[2] of "National Income and Capital Formation, 1919-1935." For this period he finds that of the average yearly volume of gross capital formation in the United States, 62 per cent in current prices and 68 per cent in 1929 prices

1/ Ibid, p. 272
2/ National Bureau of Economic Research, New York, 1937.

represents capital consumption (replacement) and only 38 and 32 per cent, respectively, net addition to the stock of capital goods.1/ Leaving out public agencies, in order to get a measure of private capital formation, the comparison is even more striking. His figures show that of gross private capital formation, 81 per cent is accounted for by capital replacement and only 19 per cent by net capital formation.2/ These figures again suggest that our problem of economic progress has become mainly one of replacement of capital and of taking advantage of opportunities to improve the capital we replace and the technical efficiency with which we use it. From this point of view, an increase of the obsolescence rate might well be of greater importance in determining real income and productivity per worker than the search for new outlets for further capital development. And one should add, of course, that it is by no means certain that such new outlets will not be found.

Two other findings in Kuznets' figures deserve special mention. The first is the importance of residential construction in capital formation.3/ For the period studied it constituted 24 per cent of the yearly gross capital formation (1929 prices) and 11 per cent of the net addition to capital. Where to draw the line between investment and consumption is a difficult question, which we need not attempt to answer here (it would probably be different for different analytical purposes), but one important change which appears to be taking place in the modern economy is an increase in spending upon durable consumer goods, including not only houses but automobiles and many other products, as compared with producer goods; and here again, as the volume of such goods grows, it is the replacement (and improvement) rather than the further increase of volume, which will assume increasing significance.

1/ P. 49, and Table 14.
2/ Including business, residential construction, and net change in claims against foreign countries.
3/ See tables 13 and 14.

The other significant fact shown by Kuznets' figures is the importance of public agencies in capital formation. For the period covered, 1919-35, public agencies accounted for 24 per cent of gross capital formation and 49 per cent of the net increase in our stock of capital goods. These are striking figures, particularly the share of government in new capital formation. That this share is so large is due in part, of course, to the increased activities of government growing out of the depression and the conscious use of public spending and investment as a means to recovery. But the figures for the twenties[1] show that even then, under conditions of prosperity, government agencies accounted for about one-fourth of net capital formation. One conclusion that has been drawn by economists who are fearful of a secular tendency toward declining private investment is that public investment must take its place. These figures indicate the importance which public investment has already assumed in our economy.

The reference to public investment brings us to the third reason which is advanced for expecting a slower rate of economic progress in the future than in the past, the relations of government to private enterprise. There are many who believe that we have come to a critical stage in these relations, in that we have developed a hybrid system, which is neither free enterprise nor collectivism, but such a combination of the two as gives neither a proper opportunity to function effectively. The result, it is felt, is likely to be an impasse, from which there can be no escape until it has been resolved by a much clearer indication than we have yet had of which course we mean to follow.

The history of governmental intervention did not, of course, begin yesterday. Indeed it is doubtful whether we have ever had a system that could truly be called laissez-faire. But undoubtedly, under the conditions of the post-War world, we have been having intervention on a larger scale and in different ways

[1] Ibid, Table 13.

from those to which we had become accustomed; and that has been true not only of countries such as Germany or Russia, where free enterprise has been entirely supplanted by a planned economy, but also, in much less degree, in countries like our own, where governmental intervention has been forced by the great economic emergency of the depression. It was inevitable that this pressure for governmental intervention should take the form of demand not only for emergency recovery measures, but also for reforms and measures of social amelioration, some of which were overdue. It is a great misfortune from a technical point of view that the pressure for such measures should come under conditions which make it very difficult to institute them successfully. But that we must accept as a fact of democracy and of human nature. It would seem more intelligent, instead of storming against such intervention, to turn our minds to the difficult problem of directing it into constructive channels.

I am not convinced that in logic, at least, governmental intervention need mean the impairment of private initiative. It might well create the conditions under which private enterprise could operate successfully, in the interests of the whole community. But there may well be dangers of applying to the longer future conclusions which are valid only for the emergency, and of adopting measures in the emergency which may produce longer-run results which were not foreseen,or desired, in the beginning. It is in these connections that the disposition to take a gloomy view of the future of private capital formation might have special significance. There is at the present time, as a consequence of the renewal of the depression, a growing disposition to take sides as between a policy of removing obstacles to, and improving the conditions requisite for, private investment and a policy of renewed and enlarged public spending and investment. Into the merits of this question, strictly on grounds of recovery policy, I cannot enter. But one can readily see how the balance of emphasis as between two such approaches might be influenced by a pessimistic outlook regarding private capital formation, and how readily by such pre-judgment we might find ourselves committed to measures which might bring about that very impairment of private enterprise which had been feared. Some economists point already to a progession of this kind in a chain which runs from deficit financing, intended to revive private investment, to increased taxation, which both by its amount and by the forms that it has taken, has a tendency to impair investment and the incentive to invest. How correct this analysis may be I have not space to consider, but there would seem to be an obvious danger of driving capital away from private investment and into public investment by a combination of high surtax rates and tax-exempt securities; and I have become more and more inclined to think, as I have studied the problem, that the undistributed profits tax, and the capital gains tax in its present form, work in the same direction.

Perhaps here again, we can take a lesson from the English experience or that of the Scandinavian countries. In those countries also there has been a large and a growing participation by government in the economic life of the community and in the organization and direction of saving and investment, but, as Colin Clark's figures would seem to prove, such intervention has been effected in ways which have not impaired private initiative and the processes of private capital replacement and improvement to which he mainly ascribes England's post-War economic progress. In England, also, there is a heavy tax burden, probably exceeding ours, but with the important difference that it has accumulated more slowly, so that the process of adjustment has been more deliberate.

There is perhaps no need of a conclusion for this paper. Of the three grounds which I have discussed as constituting the main bases which have been cited as indicating a prospective decline of capital formation, and with it of economic progress under private capitalism, the last, the relations of government to private enterprise, seems to me to raise the most important, and the most immediately pressing, questions. The main point of this paper, I think, is that in dealing with these questions, the answers which I have attempted to give to the other two appear to me to have much relevance.

Federal Reserve Bank of New York.

April 7, 1938.