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The Other J.M.: John Maurice Clark and the Keynesian Revolution

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Abstract: This paper suggests that Clark's views regarding the Keynesian Revolution illuminate some of the limitations of the Keynesian orthodoxy that developed after the war, bringing more institutional detail and a greater preoccupation with dynamic analysis. Clark developed the multiplier in dynamic terms and coupled it with the accelerator to provide the framework for business cycle theory. His analysis was not formalized and emphasized time lags and non-linearities, similar to Harrod. In addition, Clark was concerned with the inflationary consequences of Keynesian policies and he was dissatisfied with those mechanical interpretations of the income flow analysis, which came to be known as hydraulic Keynesianism. Clark's policy conclusions emphasized the need of balance between employment creation and price stability, and the need of cooperation between social groups.

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> *I am just slightly bothered at having Ken Galbraith classify me as an orthodox Keynesian. I don't think Keynes was an orthodox Keynesian, and I did not think I was, except in the sense that pretty much everybody nowadays recognizes that total volume of spending does not take care of itself automatically. (J. M. Clark to Frederick C. Mills, 30 March 1949)*[1]

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In a recent paper, Malcolm Rutherford and C. Tyler DesRoches (2008) analyzed in detail the reaction of American institutionalists to the advent of Keynes's *General Theory* ([1936] 1964). According to the authors, interwar institutionalists responded to Keynes with "mixed feelings." Some of the younger figures of the movement (among which Leon Keyserling, Mordekai Ezekiel and Isador Lubin) promptly embraced Keynesianism, especially in its Hansen-Currie version, while other leading institutionalists of the time, such as John Maurice Clark, Sumner Slichter, Arthur F. Burns, Edwin Nourse, Harold Moulton, and Morris Copeland, albeit sympathetic with certain aspects of the Keynesian framework, advanced some substantial criticisms of it "on methodological, theoretical, and empirical grounds" (Rutherford and DesRoches 2008, 31).

In the historical reconstruction offered by Rutherford and DesRoches, John Maurice Clark plays an important role. After the great depression, they argue, Clark came to support countercyclical fiscal policy and was among the first American economists to show a general understanding of the income-expenditure approach that later came to be associated with the Keynes name. From the early 1930s, they write, "Clark was developing his version of the multiplier and his *Economics of Planning Public Works* is an extended examination of the promise and problems of public works programs as a means of countering depression and unemployment" (Rutherford and DesRoches 2008, 32-33). Accordingly, Clark is described as "probably the most generously disposed towards Keynes and Keynesian economics" among institutionalists, although, it is added, "even Clark expressed substantial reservations" (39).

Other interpreters have called attention to certain affinities between Clark and Keynes. Alan Sweezy, for instance, enrolls Clark among those who offered "qualified support for Keynesian policies" during the 1930s. Clark is portrayed as "an original and complex thinker," and as an example of such originality Sweezy insists on the fact that the Columbia economist "developed the theory of the multiplier independently of Kahn" (Sweezy 1972, 118).[2] On similar grounds, Richard C. Wiles argues that "while it certainly cannot be said that Clark had anticipated the *General Theory* in all his facets, at the same time these Keynesian-like concepts appear in Clark's works" (Wiles 1971, 165). Still consistently with these views, but with a more emphatic tone, Ronnie J. Davis affirms in his controversial *The New Economics and the Old Economists*:

> It is commonly admitted that Clark was a harbinger to Keynes, with the qualification, however, that he did not piece together or offer a comprehensive theory analogous to the *General Theory*. The fact is that Clark built a theory of aggregates within the context of an explanation of business cycles. And he built this theory on building blocks not dissimilar to those Keynes later used in his own theory. The differences are actually few, but important. Keynes developed a theory which at times seemed to be designed solely to buttress his policy proposals. Clark's unwillingness to synthesize the various elements of his theory made it extremely difficult to test or to apply. (Davis 1971, 84-85)[3]

The aim here is to show that Clark's contributions to the debates before and after the publication of the *General Theory* are central to illuminate the limitations of the dominant Keynesian orthodoxy that emerged after World War II. This note is divided into four sections, discussing Clark's role in the development of the multiplier in dynamic terms, his seminal and independent analysis of business cycles based on multiplier-accelerator interaction, and his criticism of the orthodox Keynesianism of the neoclassical synthesis. The last section pulls the results together to evaluate Clark's contribution.

Clark and the Multiplier

Our story begins with Clark's version of the multiplier. According to Clark (1939, 201 n3), his initial recognition of the "finite" multiplier "occurred about 1930," and was intended to be "an explanation of the expansion phase of a normal business cycle, and had nothing to do with public stimulative spending." A first discussion of the multiplier by Clark, albeit intuitive and phrased in non-rigorous terms, can be traced in *The Cost of the World War to the American People* (1931). His most articulate and comprehensive treatment of the principle appeared in 1935, both in a paper published in the *American Economic Review* (1935a) and, more extensively, in the theoretical section of the *Economics of Planning Public Works* (1935b).

In this connection, many authors have pointed out that in a footnote of his *Strategic Factors in Business Cycles* (1934a, 85 n15), Clark explicitly states that his recognition and use of the multiplier principle preceded his reading of Kahn (1931).[4] However, Robert Dimand (2002) correctly argues that Clark's claim of an "independent" discovery of the multiplier appears to be quite untenable, at least as far as Keynes (1933) is concerned. As shown by his 1934 correspondence with Hansen (reproduced in Fiorito 2001), at the time Clark was working on his monograph on public works, he might not have been aware of Kahn (1931) but he certainly knew about Keynes' *Means to Prosperity*, which was published in America in 1933 and which attracted the attention of people like Hansen and Paul Douglas.

Leaving aside issues of priority, what concerns us here is whether and to what extent Clark's version of the multiplier diverges from Kahn's and Keynes'. The first relevant difference concerns the time element involved in the multiplier process. As Clark himself wrote in a later reappraisal of his 1935 monograph on public works: "The reader may note that my assumptions as to time are different from those which appear to underlie Keynes's form of this theory. *The kind of adjustment I have in mind does not appear to be one that can take place instantaneously*" (Clark 1941a, 47, emphasis added). Accordingly, Clark illustrates the process implied by the multiplier process through the analysis of the subsequent cycles of expenditures generated by a permanent flow of primary injections – something akin to the "period analysis" popularized and refined by Fritz Machlup (1939). It is assumed in this case that consumers' expenditures are determined by their incomes in the preceding period, *à* la Robertson.[5]

The result is that the total income generated in successive periods can be expressed as a sum of a geometric series, but, as Gottfried Haberler (1946, 458 n1) pointed out, "aggregate saving induced in successive periods by any act of investment approaches the amount of the initial investment, implying that S and I are different for any finite period, the differences becoming smaller with the length of the period." The resulting formula for the "dynamic" multiplier is identical with that for the "comparative-statics" one (Patinkin 1956, 347). For Clark, however, such dynamic interpretation was instrumental to show that some form of monetary accommodation is a prerequisite for the multiplier process to become effective, since saving and investment differ during the process.[6] In Clark's own words:

> During approximately the first year and a half the total amount of otherwise idle funds resulting from the leakages would not be sufficient to finance the indicate expansion of business at the existing rate of circuit velocity of funds, and an increase in the circuit velocity will be called for, even if all the so-called "leakages" are taken and used by business. Subsequently, if the leakages continued at a substantial rate, this condition would be reversed (. . .) Thus the formula, if not carried beyond its proper limits of time, which would seem to be not more than about 12 months, does not call for an impossible progressive pilling up of idle funds. (Clark 1935b, 95)

Thus, in the first stage of an investment-led expansion the circuit velocity of circulation should increase in order to "finance" the continuous stream of injections. While in the second stage, higher induced leakages would provide the ultimate funding for investment. This suggests that Clark was concerned both with the monetary and dynamic aspects of the multiplier mechanism rather than with the equilibrium process that determined the employment and output levels, in contrast with Keynes (Amadeo 1989). The preoccupation with dynamic analysis would be a constant for Clark, until his last book *Competition as a Dynamic Process* (1961), and is similar to Harrod's analysis of the multiplier-accelerator interaction and his lifelong emphasis on dynamic analysis (Besomi 2001).

The preoccupation with the monetary aspects of the multiplier prefigures the discussion of Keynesian authors and the so-called "Circuit School," in particular the notion of an increase in the velocity of circulation for the existing stock of money, and the possibility that new monetary injections would be necessary for the multiplier to operate.[7] But what is the rationale for such an increase in the circuit velocity of money? According to Clark:

> All of these activities call for payments. If businesses have sufficient funds to make these payments, it will joyfully make them. In a depression the ratio of cash balances to volume of business becomes larger than normal (another way of saying that exchange velocity is low, and with it circuit velocity also). These balances are kept, not employed to normal capacity,

> because nothing better offers. When something does offer, they will promptly used, and an increase in rapidity of circulation will naturally result. (Clark 1935b, 101)

Clark's discussion, however, implies more than an increase in circuit velocity brought about by net dishoarding. Drawing upon James W. Angell's empirical studies (1933), Clark considers a circuit velocity of money of 1.6 per year, which corresponds to an average cycle of 7.5 months for money to flow from a consumer through all the exchanges involved in producing the goods he buys and again get back to an ultimate consumer. This velocity, however, refers only to the *existing* flow of money. For the *new* money injected into the system as a consequence of the primary investments, Clark estimates a period of circulation of just two months, which in turn corresponds to a velocity of 6. These two velocities, Clark warns, should not be confused.

> To avoid a misunderstanding which may result from comparisons between the two figures of 6 cycles of secondary effects per year with 1.6 per year (the circuit velocity of money) it should be emphasized that the two are not quantities of the same order. The 6 cycles per year do not represent the velocity of circulation of anything, but rather the speed with which an increased velocity is transmitted through the economic system. (Clark 1935b, 88)

Thus, according to Clark, the new money injected into the system through dishoarding would circulate faster than the existing money and this, in turn, would generate a general increase in the circuit velocity of all means of payment. This, Clark insisted, leads to the following conclusion: "that there is no absolute necessity at any stage of the process for government outlays to take the form of an increase in the supply of purchasing media. If the attitude here taken towards changes in velocity is correct – and of that the writer has no doubt – this necessity disappears" (Clark 1935b, 102).

Clark's analysis of new monetary injections and increasing velocity of circulation encountered some early criticism in the *Review of Economic Statistics*.[8] Hansen suggested that:

> Here also, however, any attempt to isolate out the stream of the "new money" and its income velocity apart from the whole flow of income is of very doubtful validity. All that can be said is that the injection of "new money" into the income stream probably, under given conditions, not only adds to the total money quantity, but quickens the income velocity of money as a whole; under other conditions it might well have the opposite effect. (Hansen, Boddy and Langum 1936, 61)

Even though Hansen's critique suggests that it would be futile to separate the income velocity of the "new money" from the increased velocity of the "old money,"

he fundamentally accepts Clark's notion that to understand the dynamic functioning of the multiplier it would be necessary to analyze the monetary transmission mechanism.

The last aspect to be emphasized deals with Clark's cautious attitude toward theoretical formulations.[9] In his discussion of the multiplier the Columbia economist listed a series of factors which may hinder – or interfere with – the working of the mechanism. Among these factors Clark included: 1) the possible "crowding out" of private investments by public spending programs (1935c, 84); 2) the impairment of business confidence by "unlimited deficit financing" (86); and 3) the possibility of a fall in private capital investment due to the expectation that growth of demand will cease after deficit spending disappears (85-86). Added to these should be 4) Clark's skepticism upon the idea of a constant marginal propensity to consume. As Clark put it in explicit terms: "the assumption that conditions governing the leakages remain unchanged for this length of time is . . . unrealistic" (1935b, 93). In any case, Clark concluded, "estimates of stimulative effects, based on such an approach as the Kahn-Keynes formula, are hardly worth carrying beyond, let us say, one year, even as rough approximations" (1935a, 387).

Clark's preoccupation with a dynamic multiplier underscores his views on the business cycle. In that sense, it should be noted that, while relying on a multiplier-accelerator approach to business cycles, unlike Keynes who was uncomfortable with the accelerator concept, Clark's understanding of fluctuations was not mechanistic.[10] Keynes' discussion of the trade cycle in chapter 22 of the *General Theory* was based on the idea that changes in investment were the central element of output and employment fluctuations, and that expectations (animal spirits) played a significant role in the explanation of turning points. Clark's preoccupation with the implausibility of the stability of multiplier and accelerator parameters over time suggests that his views on the multiplier-accelerator dynamics were close to Keynes' non-formalized view of the cycle.

The Accelerator-Multiplier Interaction

So far we have dealt with the multiplier in connection to the assessment of the impact of a program of public investments. It should be emphasized, however, that Clark originally developed the multiplier within a framework of business cycle analysis (Fiorito 2001; 2007). In order to obtain a "closed" theory of the cycle Clark had to combine the multiplier with the accelerator principle.[11] As he recollected in a letter to Paul Samuelson:

> As to the multiplier, I got the idea as one answer to the problem why an expansion, with its cumulative effects which were well recognized, should turn into a contraction. And it occurred to me that if the expansionary effects of an increasing capital investment returned in cumulative fashion, but diminished by "leakages," that could produce a series of the type, the sum of which to infinity is a finite quantity, and also that the time-profile

> of that series would be an asymptotic curve, concave downward, increasing at a diminishing rate. Combine this with the accelerator principle, with time lags, and you could get a model that would convert the expansion into a contraction; as you showed in your article in equating the accelerator and the multiplier. (J. M. Clark to Paul A. Samuelson, April 21, 1953)[12]

Clark had adumbrated some form of cumulative process generated by a functional relation between production, purchasing power and consumption as early as 1932 – in a passage which attracted Samuelson's attention[13] – while more articulate discussions of the multiplier-accelerator interaction appear in his *Strategic Factors in Business Cycles* (1934a) and in his contribution to the report of the Columbia University Commission on *Economic Reconstruction* (1934b). The most complete and telling of the combined effects of the two principles, however, is found in an "additional note" to the reprint of Clark's famous 1917 accelerator paper. The salient passage is reproduced below in its full length:

> The important thing is, of course, what behavior should be expected with the principle in question [the accelerator] operating under actual conditions. For this purpose the behavior of replacements should be carefully reconsidered. But more important is the fact that the interaction between consumers' purchases and the production of capital goods runs in both directions; and that the greater part of the fluctuations in the total amount of consumers' spendings or purchases are the result of fluctuations in their incomes, in which fluctuations in the production of durable goods play an important or controlling part . . . An original disturbing impulse may come from either side; on either side it can start a series of interactions, mutually reinforcing one another. In the case of the production of durable capital goods, some six to eight months might be expected to elapse after an original impulse before the activity of production showed anything like the full effects. It would presumably take a shorter time for the resulting income to be distributed and to take effect on movements of consumers' purchases – let us say, on the average, two or three months. This picture is still highly simplified, but may contain enough of the important elements to afford a basis for prediction of an approximate normal pattern of behavior. What would such a pattern be?
>
> If we start with an upward inflection of consumers' purchases, then the first period of six to eight months would witness an upward curve in production of capital goods, reaching a substantial amount by the end of the period, while the first effects of the reaction on consumers' purchases would have begun to show themselves in a slight reinforcement of the original rise. In the second period, consumers' purchases would continue to rise, and production of capital goods also; but the latter might now be rising in something like a straight line. The natural result would be a

> straight-line in consumers' purchases, with a slight lag. As this continued, the production of capital goods might soon reach a point at which it would taper off and cease to increase, though remaining at a higher level than at first, the result would be to put an end to the derived increase of consumers' purchases; and bring about a downward (relative) inflection of this curve. The result of this, with a lag, would be to start a decline in production of capital goods, which would in turn result in a decline of consumers' purchases, relative to their secular trend, and probably a positive decline unless the secular trend is very strongly upward. This would in turn drive the production of capital goods below its initial level. This downward movement would then ultimately reverse itself as a result of a similar series of interactions in the reverse direction. (Clark 1936, 354-55)

This passage reveals that in 1936, Clark had quite a definite idea of the possibility of combining the accelerator and the multiplier into a "closed" model, in the sense that, given certain initial conditions, it would generate fluctuations of capital stock and income.[14] As to the assumptions, both the accelerator and the multiplier are "lagged," potential supply of producers' goods is unlimited, while producers of consumers' goods face variations in demand mainly by adjusting their production through an increase (or reduction) of their stock of capital goods. Quite interestingly nothing is said here about the behavior of prices, although elsewhere Clark repeatedly speaks of their rising trend during booms. Since "[i]t takes time to produce the equipment and durable goods, and meanwhile there is a shortage which sends prices up" (Clark 1934a, 177). Producers may further expand supply, as a result of inflation, and that may lead to over-investment. This suggests that the multiplier and accelerator dynamics also had nominal effects.

The puzzling aspect concerns the exact nature of the functional relation between production, purchasing power and consumption. The movement of production between the turning points is made quite clear, with the accelerator and the multiplier reinforcing each other, but when it comes to explaining the turning points themselves Clark's exposition is lacking and requires a good deal of interpretative effort. Problems arise when Clark, in the second period of his example, introduces a drop in the rate of growth of capital goods production, followed – with a lag – by a correspondent drop in (the rate of growth of) consumption. Capital goods production, he continues, would soon "taper off and cease to increase," with the consequence that the derived consumption would also stop to increase. This would mark the beginning of the downturn phase of the cycle.

What is left unexplained here is the cause of the initial dampening on the effect of the accelerator. Clark had considered the hypothesis of some form of time lags both in the working of the multiplier and the accelerator. However, the mere existence of time lags, is not per se a sufficient condition for the generation of cycles, unless specific hypotheses are made about the magnitude of the relevant parameters – qualifications ignored by Clark and first introduced by Samuelson in his

mathematical formulation. Samuelson, in fact, aimed at eliminating the necessity of referring to nonlinear models, thereby shifting the burden of the explanation of the cycle to the choice of specific parameters ranges (1939).[15] Mickal Kalecki ([1954] 1971) suggested that likely parameters would dampen the cycle and that external shocks would be needed to keep the system going. But to analyze Clark's reasoning merely through the lenses of mathematical models would be misleading. On the contrary, textual scrutiny of the passage quoted above reveals that Clark is reasoning in terms of a nonlinear theory where the structural parameters are allowed to change during the different phases of the cycle. That is, in fact, what Harrod (1948) claimed would be the correct interpretation of his model.[16]

Clark's description of what happens in the second phase leaves no doubt in this connection: "in the second period, consumers purchases would continue to rise, and production of capital goods also; but the latter might now be rising in something like a straight line." If strict proportionality were maintained, this could not happen since there would be accelerating growth. Therefore either the accelerating parameter (investment response to increasing consumption) or the multiplier (consumer's response to increasing income) has decreased somehow. Clark mentions only the second hypothesis, basing his analysis on a Keynes-type consumption function. According to the Columbia economist, "we have to reckon with a tendency toward saving a progressively increasing proportion of our income as our income itself gets larger" (1934b, 359).[17] As a consequence

> at the peak, people with more income than usual are saving a larger percentage of it than usual, and spending a smaller percentage for consumers' goods. Thus demand for consumers' goods in general does not increase as fast as productive power, so that the tapering-off process which starts the reversal is an inevitable thing. (Clark 1934b, 366)

Clark had also mentioned the possibility of a drop in the accelerating parameter in 1917 due to uncertainty of producers regarding permanency of an increase in demand leading to unwillingness to undertake capital expansion (1917, 232-233). The non-linearities in the multiplier and accelerator provided the upper and lower limits that explained the cyclical turning points. Further, the fact that Clark is reasoning in terms of the multiplier-accelerator model is confirmed by Clark's insistence on the need of limiting the expansion of capital facilities. Differently from conventional Keynesians, Clark was not merely interested in the level of aggregate demand but also in its internal composition.[18] Clark made some concrete policy proposals in this connection in 1934:

> Two great objectives are: stabilized demand for durable goods, and sustained general purchasing power. If one business were to stabilize its demand for plant equipment, it would help stabilize the demand exerted by the members of the equipment industries, but the benefits would be diffused among industries in general. Or if this business pays high wages, it

> sustains consumers' purchasing power, but again the benefits are diffused among industries in general. Industry as a whole bets back what it contributes to such policies as this, but single industries do not. Hence their interest in such policies is far weaker than that of business as a whole. Under the circumstances, it is remarkable that the philosophy of high wages has made the headway it has. But so long as it is merely a philosophy, it will not go as far as the interest of business requires.
>
> To that end it needs to be converted from a mere philosophy into an organized interest, wide enough to include those who contribute and those who benefit, on a basis somewhat more solid than mutual expression of good will. This requires a genuine affiliation of consumers-good industries, capital-goods industries and credit institutions, capable of stabilizing capital investment and demand for durable goods, sustaining diffused purchasing power and reducing the spread between the most efficient and the least efficient producers.
>
> Such a system involves reciprocal agreements between capital-equipment industries and their customers, in which the capital equipment industries would use systematic price concessions in the duller periods to make it worthwhile for their customers to assume the costs and risks of putting their requirements on something like a scheduled basis. The cooperation of credit institutions would also be required to provide a basis on which orders might be maintained in what would otherwise be a depression, as well as to restrain tendencies to expansion of the boom type. This is a form of customer representation which, difficult as it plainly is, might yield tangible results. It may require the setting up of quotas for equipment expansion as distinct from output, and would almost certainly call for a more coherent organization of credit institutions themselves. In an attempt to stabilize demand for consumers' goods, control of credit would have to bear the brunt of the burden. (Clark 1934c, 24-25).

In that respect, it is clear that Clark had a more sophisticated view of the problems associated with managing the business cycle than hydraulic Keynesians had. In particular, because of the interaction of multiplier and accelerator forces, and the necessity of credit creation a process of coordination between producers in the capital and consumer goods sectors, and the credit creating institutions would be necessary to tame fluctuations. In that respect, Clark's views were more refined and less readily comprehensible for a larger audience than the policy prescriptions of Hansen's simple multiplier model.

After the General Theory

Quite curiously Clark did not participate directly in the post-*General Theory* debate in the United States, even though Clark was at the time an authority in the studies of business cycles and very "representative" among American economists – in 1935, he

served as president for the American Economics Association. Clark's remarks on Keynes are fragmented and scattered throughout a series of articles. A common theme is that the positive effects of the multiplier may be largely offset by an induced increase in prices and wages.[19] In that respect, Clark was more concerned with instability that would follow recovery, than with the possibility of stagnation that dominated the analysis of several American Keynesians during the War.[20] The general flavor of Clark's remarks can be gained from the following representative miscellany quotations taken from his post 1936 writings.

> An enormously important element in the attitudes of government will consist of certain economic consequences of Mr. Keynes (for which M. Keynes himself should not be held too closely responsible). These consequences include a propensity to intervene at any point short of something called full employment on a chart, representing a condition probably quite unattainable in actual life by the measures advocated. They also include a propensity to obliviousness of the importance of wage and price adjustment, and an insolvency-preference – to give a Keynesian name to the philosophy of unlimited deficit spending as the one tested and reliable way to secure full employment. They also include a dogma, the purport of which appears to be that deficit spending will take effect in sustaining or increasing physical output and employment, and will not tend to be dissipated in increased prices and wage rates, until "general full employment" is reached. I hesitate to present this doctrine, feeling that I must have misinterpreted it, because as I have presented it, it is unsupported by reason and flies in the face of experience. My conjecture is that in any attempt to approach full employment by this route, the tendency of money wages and prices to swallow up a major part of the benefits would prove to be one of the chief difficulties. (Clark 1942a, 9)

Other interesting remarks on the inflationary consequences of Keynesian policies appear in Clark (1939). Clark's growing concern with inflation is also confirmed by his several contributions on "price controls" during the early 1940s (see Clark 1941b; 1942b; 1942c). It is worth noticing that in 1940-1941 Clark served as a consultant for the Office of Price Administration (OPA).[21] Clark seems to point out that inflationary pressures would be felt before full employment was achieved, and in that respect it seems that he is not referring to a sort of general supply constraint of the sort that would be developed by Milton Friedman, with the notion of a natural rate. In fact, Clark seems to suggest that even before full employment is reached, groups with economic power would try to increase their share of the pie at the expense of others, and have negative effects on the level of activity.[22] In other words:

> There is every likelihood that groups with monopolistic or partially monopolistic power would be able to prevent any program for ensuring full operation of industry via maintaining an adequate flow of dollar

> income and expenditure, by simply rising their own price, or wage, and corralling an increased amount of the dollar flow for themselves, at the expense of reduced physical output. (Clark 1944, 66)

Conflicts of interest, from the side of costs, and not mere technical problems associated with efficient allocation, and excess demand, are behind the inflationary pressures. In his words:

> With regard to the structure of wages and prices, most economists would agree on the general outlines of the competitive ideal as desirable, usually with floors attached, but would differ widely in the importance they attach to it. Some seem to hold that it contains the whole secret of full employment, though Pigou's elaborate defense of this theme has the air of a devoted rearguard action. Some tend to lavish attention on the minutiae of correct adjustment, and the corresponding correct allocation of resources, while others tend to disregard this whole area of questions, on the ground that refinements of correct allocation of resources are far vastly less important than using the resources for something, as against involuntary idleness – as is, of course, correct. The effects of wages and prices on total volume of employment are surprisingly obscure, and the few existing serious studies have only made a beginning with them.
>
> This issue will not be easily resolved, bedeviled as it is by conflicts of group interests. But there seems to be little doubt that a structure of wages and prices, filled with monopolistic restrictions and inflationary drives from the side of costs, can be far enough to be a serious handicap to a high level of employment, as well as to healthy international relations. And this issue appears to be growing, rather than subsiding into relative insignificance. In fact, the Keynesian revolution in theory, great and important as it is, may turn out to be the opening stage of a greater revolution, precipitating us into the theory and practice of an indeterminate economy of organized groups, whose social roots go far deeper, and whose social effects are far wider, than questions of wages and policies; but an economy in which wages and prices are mainly determined by other than competitive forces. The present postwar crises may create receptiveness for this idea, as the great depression of the thirties created receptiveness for Keynesian theory. (Clark 1947, 1-2)

The dynamical picture of the economy proposed by Clark insinuates that as the economy moves toward full employment, social pressures by different interest groups, both labor and capital, would lead to inflationary pressures.[23] As a result, an implied Phillips type relation emerges in which higher levels of output are accompanied by accelerating inflation. In addition, the relation is not a mechanical one, reflecting excess capacity in labor markets as later developed by Samuelson and Solow, but based on the outcome of the interactions between social groups.[24]

Inflation was not the only concern that Clark had with respect to the Keynesian Revolution. Clark was particularly vocal regarding the dangers of a new orthodoxy. In that regard he believed that:

> The current generation of young economists has in "Keynesianism" a new and powerful orthodoxy, which threatens to displace the old. This new orthodoxy is a tremendously important fact. Not since Ricardo has the stream of Anglo-Saxon academic theoretical economics been refreshed with such a major current so resembling Ricardianism in that it grows out of and interprets new and dominantly significant problems and conditions, and is embodied in a formula both academically satisfying and offering a basis for policy in action. It expresses elements, long neglected because of the too-implicit acceptance of some of the formulas of Ricardian orthodoxy.
>
> What is the moral? I suggest that it is that we give the newer orthodoxy its due as a great reorientation and a great contribution to our tools of thinking, without repeating the former error of too-implicit and uncritical acceptance. Orthodox Keynesianism, with orthodox imperfect-competition theory added, does not answer all questions or foreclose diverse major lines of inquiry. We shall need fresh jobs of constructive heresy, and this time they had better not wait for over a century to be developed and to gain acceptance. (Clark 1944, 65-66)

There is also some correspondence that may be illuminating in connection with Clark's general attitude toward Keynesian orthodoxy. In 1941, Clark wrote to Keynes:

> It has seemed to me that what I call the "income-flow analysis," of which yours is the most noted presentation, has done something which has not been done in comparable degree since Ricardo and Marx, namely, constructed a coherent logical theoretical system or formula having the quality of a mechanism, growing directly out of current conditions and problems which are of paramount importance and furnishing a key for working out definite answers in terms of policy. On this a "school" has grown up. All that has tremendous power, and is also exposed to the dangers of too-undiscriminating application, from which classical economics suffered, and of which I think the [Richard V.] Gilbert-[Don] Humphrey attitude is an illustration.
>
> I am myself enough of an "institutionalist" (whatever that may mean) to have more than a lurking distrust of formulas and equations! But not enough of an institutionalist to ignore their importance: merely to want to think all round them and reckon with the imponderables that modify their action; and the other factors which no single formula can comprehend — for instance, the long-run incidence of continued large deficit spending. (John M. Clark to John M. Keynes, July 24, 1941. *John M. Clark Papers*, Rare Book and Manuscript Library, Columbia University)

Two days later Keynes replied:

> I agree with what you say about the danger of a "school," even when it is one's own. There is great danger in quantitative forecasts which are based exclusively on statistics relating to conditions by no means parallel. I have tried to persuade Gilbert and Humphrey and [Walter S.] Salant that they should be more cautious. I have also tried to persuade them that they have tended to neglect certain theoretical considerations which are important in the interest of simplifying their statistical task. (John M. Keynes to John M. Clark, July 26, 1941. *John M. Clark Papers*, Rare Book and Manuscript Library, Columbia University)

In this connection, Herbert Stein argues in his classic *The Fiscal Revolution in America* (Stein 1969, 489 n23) that: "when Keynes visited Washington in June 1941, on behalf of the British government, he was surprised at the extent to which the Washington economists had absorbed his thinking and the sophistication with which they applied it. At the same time he was critical of some of the procedures used, for reasons which suggested that he was still more classical than his Washington colleagues."[25] It is also worth noticing that Keynes, in contrast to many of his American followers, but not Clark, was seriously concerned with inflationary pressures or balance of payments problems after the economy started recovering, and, in particular, during the war period, as evidenced by his *How to Pay for the War* (see Skidelsky 2000, 20).

Conclusions

John Maurice Clark was of the same generation of Keynes, Hansen and Schumpeter, all born in the 1880s. Even though Clark was a prominent economist, and influential both in academia and in policy circles, the Keynesian Revolution relegated him to a peripheral position, thrusting several young Keynesians into the center of the academic and the policy-making worlds. This paper suggests that Clark's views regarding the Keynesian Revolution illuminate some of the limitations of the Keynesian orthodoxy that developed after the war. Clark's contributions can be summarized in four main categories:

1) Clark developed the multiplier in dynamic terms. Furthermore, Clark recognized that a higher velocity of circulation, and additional credit was necessary for the operation of the multiplier. As a consequence, Clark anticipated, albeit in a rather confused fashion, some of the themes, which were to be discussed in connection to the famous "finance motive debate."

2) Clark coupled the multiplier with the accelerator. Clark seems to be in line more with Kalecki and Harrod than Keynes. His analysis was not formalized and emphasized time lags and non-linearities.

3) Clark's dissatisfaction with Keynes' *General Theory* is twofold. On the one

hand, Clark was concerned with the inflationary consequences of Keynesian policies. Keynes himself was aware of the possibility of bottlenecks in certain markets and admitted the possibility of inflationary tensions, but Clark's analysis is far more emphatic, and provides a rudimentary notion of a Phillips type relation. On the other hand, Clark was dissatisfied with those mechanical interpretations of the income flow analysis, which came to be known as hydraulic Keynesianism.

4) Clark's policy conclusions emphasized the need of balance between employment creation and price stability, and the need of cooperation between social groups. In that respect, the role of institutions was emphasized.

Notes

1. *J. M. Clark Papers*, Rare Book and Manuscript Library, Columbia University.
2. On this specific issue, see our discussion below.
3. The above assessment, however, is based almost exclusively on the analysis of a single monograph by Clark (1934a) and, more importantly, it appears to be deeply biased by Davis' general contention that, there was no Keynesian Revolution in American economic thinking because the prevailing attitudes toward economic policies had in large measure anticipated Keynes on wages and fiscal policies.
4. See, among others, Davis (1971), Dorfman (1970), Fiorito (2001), Hegeland (1966) and Shute (1997).
5. The similarity between Clark and Robertson was noted by Samuelson (1963).
6. Wray (1988) argues correctly that Keynes' assumption of a timeless multiplier is not incorrect, since savings does not limit investment. In that context, Wray shows that, with endogenous money, the expectations of future profits govern both investment and the supply of finance.
7. Clark emphasized dishoarding as the source of new money, but he did not disregard the role of bank credit. In fact he argues, "in the average cycle pattern, bank loans rise strongly during the up-swing of general business and remain approximately stable in the down-swing" (1934a, 103). Keynesian authors and the Circuit School also underscored the role of bank credit. For the work of Joan Robinson and Richard Kahn on money, and its relation to the Circuit School, see Vernengo and Rochon (2001).
8. A similar critique was raised by Villard (1941).
9. This, again, is reminiscent of Harrod's criticism of dynamic modeling in terms of functional equations. See Besomi (2001).
10. For a discussion of Keynes' views on the accelerator see his correspondence with Harrod on the issue (Keynes 1980, 170-78).
11. As it is quite well known, Clark had presented his own version of the accelerator in 1917. On Clark's version of the accelerator see Fiorito (2007).
12. The letter is reproduced in Fiorito (2001).
13. Samuelson quotes the following passage as textual evidence of Clark's understanding that the volume of consumption demand is itself influenced by the level of investment through income payments to the factors producing producers' goods: "[I]f we take as our initial fact a moderate decrease in the rate of growth of consumer demand (such as needs no particular explanation), this may result – with a lag – in a positive decline in rates of production of durable producers' or consumers' goods. This in turn reduces purchasing power, unless offset by opposite movements elsewhere, and results in a positive decrease in consumers' demand, presumably extended to more commodities than those originally affected. And this in turn further extends and intensifies the shrinkage of durable goods, etc." (Clark 1932, 692-693 quoted in Samuelson 1939, 787).
14. Kalecki ([1933] 1971), published originally in Polish, and Harrod (1936) make similar use of multiplier-accelerator interaction to explain the cycle.
15. Kaldor (1940) provides the counter-alternative emphasizing non-linearities.
16. This point is recognized by Besomi (2001) as being central to the proper understanding of Harrod's theory.

17. A graphical non-linear savings function appears in Kaldor (1940).
18. Keynes was to some extent concerned with the composition of demand, and emphasized the need for the socialization of investment in order to maintain full employment. For a discussion see Minsky ([1975] 2008, 143-58).
19. In fact, the preoccupation with higher wages and prices might have been one of the concerns of the Federal Reserve Board when it raised the reserve requirements in 1936. Marriner Eccles, the chairman of the Fed, was concerned with the inflationary effects of an expansion. There is no evidence, however, that Eccles had been influenced by Clark, even though Lauchlin Currie, Eccles' advisor and main connection with Keynesians in academia, might have been. For a discussion of Eccles' views see Vernengo (2008).
20. For the Keynesian preoccupation with stagnation see Paul Samuelson's discussion in Colander and Landreth (1996, 160). See also Sievers (1962, 131).
21. In that context see Barber (1996).
22. Keynes tackles some of these issues in chapter 21 of *The General Theory*.
23. The reference to healthy international relations is somewhat cryptic, but presumably refers to external imbalances that might follow the economic recovery. These imbalances were the main topic of discussion during the Bretton Woods meeting.
24. It must be noted that, according to Leeson (1997), Alvin Hansen's views on inflation slowly evolved into a belief that a tradeoff between unemployment and inflation existed.
25. Colander (1984) describes the initial negative reaction of Keynes toward Abba Lerner's functional finance, and his eventual reconciliation after reading Lerner's book.

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