Kyoto University

Economic Review

MEMOIRS OF
THE DEPARTMENT OF ECONOMICS
IN
THE IMPERIAL UNIVERSITY OF KYOTO

VOLUME X
1935

PUBLISHED BY THE DEPARTMENT
OF ECONOMICS IN
THE IMPERIAL UNIVERSITY OF KYOTO

INTRODUCTORY DISCOURSE ON THE THEORY OF INTEREST

I

There are three problems of major importance in theoretical economics. One is the problem of price; another is that of interest; and yet another is that of dynamics—the problem of business changes especially. On the problem of price, as Schumpeter once remarked, there is, on the whole, a fair agreement of views. As regards details, of course, supply constitutes the most impenetrable part of economic theory, and opinion is divided on duopoly price, while conflicting opinions are upheld by digerent economists, equally unyielding, on the theory of marginal productivity. Generally speaking, however, it may fairly be said that, in the matter of form, the general equilibrium theory has been established, and, in substance, the marginal utility theory has gained general recognition. The problem of dynamics affords virgin soil in economic theory. Although it is undeniable that it has been quite extensively dealt with by economists of the classical school and downwards, it can hardly be said to have been treated of as yet in a sufficiently systematic way. Fluctuations in the state of business have been the subject of many studies of late, but it is open to doubt whether such studies can rightly be regarded as forming part of economic theory. It clearly belongs to the future to develop the theory of dynamics properly. On the other hand, the problem of interest has been receiving attention for a great many years, and yet there is such a medley of conflicting opinions that no conclusive theory has yet emerged. Not that the efforts of economists have been lacking in this field. Böhm-Bawerk, for instance, devoted his enormous energy and rate ability to the study of this problem. Fisher and

Landry also wrote excellent books on the subject. No equal amount of energy has, indeed, been expended in the enunciation of the theory of value and price. That there still exist so many divergent views, testifies, no doubt, to the great difficulty of the problem and the complexity of the connected phenomena.

I have been studying this difficult problem for fifteen years, and have had occasion to publish my views on Oppenheimer's monopoly theory, Clark's marginal productivity theory, Schumpeter's dynamic theory, and Böhm-Bawerk's agio theory. I was particularly strongly impressed by Schumpeter's dynamic theory, of which I have been a staunch supporter since 1921. While my support of this theory has remained firm, my attitude towards other theories has undergone frequent changes. At first, I supported the dynamic theory against all other theories, but during the last few years I have, while supporting that theory, held that interest is caused by powers. In other words, I take the line that the dynamic theory and the power theory are not irreconcilable, but are complementary to each other. When, some time ago, Professor Schumpeter lectured on his theory of interest at Kobe Commercial University, I observed that the Professor's theory would allow of interpretation as an exploitation theory, an observation which, I think, surprised the Professor. Since the spring of 1932, I have been engrossed in the study of Böhm-Bawerk's theory of interest-rate, and as a result I have conceived the idea of improving my theory by revising and transforming Böhm-Bawerk's theory of interest-rate in the light of the power theory.

It was Lindberg's criticism of Böhm-Bawerk's theory of interest-rate that suggested this idea to me. Lindberg contends that Böhm-Bawerk's theory cannot be accepted as it stands, declaring that it leads, in the ultimate, to the minimum wage theory. Let me enlarge on this point a little further. Böhm-Bawerk takes the line that where the productivity of production goods, or the measure of surplus profit (die Skala der Mehrerträgnisse), is fixed and the amount of capital and the amount of labour are also fixed, both interest and wages become settled at definite points. Lindberg, however, dissents and contends that it is impossible for interest to be fixed at the equilibrium point as claimed by Böhm-Bawerk. He asserts that wages will then settle at the lowest point, and interest will be fixed proportionately. In my opinion, Lindberg's equilibrium point is not the real equilibrium point. I concluded that so long as the economy is pure in my sense and there is no action of powers, there can be no equilibrium interest. Thus, I introduced a relation of power as a factor indispensable to the determination of an equilibrium interest.

My argument, however, lacked something in its theoretical structure, and I could not but feel that it could hardly be upheld stoutly against all kinds of adverse criticism. As already stated, Lindberg's point of view has both positive and negative phases. I renounced its positive phase, but held to its negative phase, namely, the negation of the equilibrium interest as claimed by Böhm-Bawerk. But I went a little too far in recognising the latter, and had to retrace my steps. I now admit that under Böhm-Bawerk's assumption, his interest in equilibrium must be the real equilibrium interest and that accordingly the economic intervention of power is by no means an indispensable condition of the determination of an equilibrium interest.

I am going to publish shortly a book entitled, "Studies in Theories of Interest." It is a collection of my studies in theories of interest—Böhm-Bawerk's theory of interest in particular. In this book, I take the stand that an equilibrium interest is possible only where there is the intervention of social powers. But as the object of my studies described in the book is to promote the understanding and digestion of various theories hitherto enunciated on the subject, and not to set forth my point of view in concrete form, I think the book will have its own *raison d'être.* irrespective of the views I hold myself.

As I have stated, I am now obliged to give up the original idea of transforming Böhm-Bawerk's theory of interest-rate along the lines of the power theory, but I hold strongly to the view that interest is due to powers. Nor do I see any reason to abandon this viewpoint. I propose to formulate a theory of interest by accepting Böhm-Bawerk's theory of interest-rate as it stands—on the conditions he assumes, while not renouncing Schumpeter's dynamic theory, and by linking them to the power theory. Not that I am attempting to piece these theories together into a sort of mosaic. As I believe that I have got hold of something fundamental which these theories have in common, I am making bold to synthesise them into an organic body.

When I refer to Böhm-Bawerk's theory of interest-rate here, I mean the latter half of his positive theory of interest, in which he deals with "the determination of interest-rate in the market." In my opinion, there is no necessary theoretical connection between the former half of his theory, in which three causes of interest are described, and the latter half. My endorsement of his theory of interest-rate does not necessarily mean my support of his view on three causes of interest.

II

The above explanation, however, will be hardly sufficient to make clear the characteristics of my theory of interest or the position it occupies among the various theories of interest.

It appears that the productivity theory has been rendered invalid by Böhm-Bawerk's criticism of it. The productivity theory as hitherto advanced has done nothing beyond recognising technical and physical productivity in capital. It has failed to go a step further and demonstrate that capital has value-producing power, that is, the power to produce value which is more than cost or amortization. If the principle is to be accepted that, the value of the product being imputed to production goods, the value of both becomes equal (this is what is called the cost principle), no room is left for the creation of surplus by production.

Such seems to have become the generally accepted interpretation since Böhm-Bawerk. From this point of view, it would seem to be futile to attempt to explain interest by productivity.

Schumpeter's dynamic theory is the cost principle—the theory of imputation—carried to its logical conclusion. If the value of the product is wholly attributable to production goods, it must be absolutely impossible for any disparity in value, and accordingly surplus, to exist between the two. If so, surplus can only be formed in a dynamic state. This argument is, in my opinion, irrefutable. The only point requiring elucidation is what kind of dynamic state it is in which surplus is created. In this respect, I think my view is in conflict with Schumpeter's own theory of interest. I maintain that the perfect operation of the principle is possible only where there exists no power in the shape of class relation. Where class relation exists, its operation is checked to a certain extent. If it is checked to any extent, the value of the product must be higher than that of production goods. Capital, we may say, has productivity to that extent. Let me repeat that the question of whether or not capital has productivity is substantially the question of whether class relation rules or not. If class relation rules, capital has productivity. Nay, it may be claimed that capital is capital because it has productivity, so that capital is capital only because class relation rules.

From this point of view, I regard the attempt to explain interest by productivity as no other than an attempt to explain interest by class relation. This explanation may not yet be sufficient. If the value of production goods is lowered to a point below productivity by reason of class relation, will not the value of the product (namely, value producing power) come down to the value of production goods? This conception appears possible from the fact that competition brings the price of the product down to the price of production goods. But the reply to this question must be in the negative. No matter what is the value of production goods, the value of the product does not follow its lead. It has its own way of settling down. I shall defer to a later occasion a detailed discussion of this point, but it may be replaced by the assertion that physical productivity means value productivity. In short, the relation in which the value of production goods and the value of the product stand to each other is this: It is the former that follows the latter, not the latter that follows the former. Consequently, if anything occurs to interrupt this sequence, there necessarily arises a lasting disparity between the two factors.

As already stated, the productivity theory of interest has been abandoned since Böhm-Bawerk's criticism, but I am inclined to think, despite the present situation, that if productivity is regarded as the result of the disturbance of the process of imputation by class relation, productivity furnishes a really effective clue by which interest can be adequately explained. In this sense, my theory is, in a manner, a revived form of the productivity theory of interest, which seems to have been torn to pieces by the criticism levelled against it by Böhm-Bawerk and Schumpeter.

In spite of his very scathing criticism of the productivity theory, however, Böhm-Bawerk's own theory of interest-rate cannot but be looked upon as a sort of productivity theory. The "measure of surplus profit" (die Skala der Mehrerträgnisse) which he assumes in his theory is no other than productivity itself, and without this assumption, his explanation would be void. It must, further, be noted that this assumption lacks any convincing justification. Its justification is sought merely in experience. This incidentally shows that the theory of interest cannot be formed without assuming a certain state of productivity and that an adequate explanation of interest is impossible, apart from the productivity theory. How is it, then, that the premise of class relation means the existence of the productivity of capital.

III

I put a very wide construction on power relation. Class relation is interpreted as a relation of this kind. This class relation nowadays takes the form of the rival existence of the bourgeoisie and the proletariat, and consequently the relation between enterprises capable of utilising capital and labourers. Because of class relation, economics now assumes the shape of Vorschussökonomie (advance payment of wages) and this Vorschussökonomie embodies payments attended by surplus. To explain it in another way. If labourers are fully provided with the means of livelihood, they will not have to get a part of the price of the product, before it is finished, as advance payment of their wages. Again, if their social position is sufficiently high, the amount of payments in advance will not be so small that, as is actually the case, it is barely enough to support the livelihood of proletarians.

In this regard, I cannot but recall Gustav Schmoller's explanation of the level of wages. He says: "In the level of wages is reflected a relation of power between social classes. Class disparities, transferred in national consciousness, firmly established, and expressed in the modes of living, and which change but slowly and almost imperceptibly, are reflected especially in the level of the entire wages especially, as in the distribution of the entire income, or in the differential wages for various groups of labourers."[1] If wages are determined by such class relation and if, consequently, the purely economic process of imputation is not fully operative in determining them, then—and then only—is it possible for capital to acquire productivity. There can be no productivity of capital unless there is Vorschussökonomie and the consequent low level of wages, or, in other words, the interruption of the process of imputation. In so far as

1) Gustav Schmoller, Allgemeine Volkswirtschaftslehre, Zweiter Teil, 6 te Aufl. 1904, S. 763.

attention is confined to a purely economic relation between equals, independently of the consideration of the relation of capital (Kapitalverhältnis), it is impossible to conceive a lasting productivity of capital.

It is by no means a new idea to explain interest by a relation of power. To cite contemporary theories only, Stolzmann and Tugan-Baranowsky are clearly of this school of thought. I shall pass over Stolzmann's theory, which, not being based on the marginal utility theory, is too far removed from the stand I take. Tugan-Baranowsky, while supporting the marginal utility theory, attaches prime importance to powers in his explanation of how wages are determined. But since wages represent the price of one of production goods and consequently form a factor in the cost of production, fluctuations in wages must necessarily affect the price and amount of the product. His theory, which takes no account of this mutual relationship, and which fails to make clear how far the cost principle operates, must be described as inadequate. If Stolzmann's theory is anterior to the marginal utility theory, that of Tugan-Baranowsky is anterior to the equilibrium theory. Gustav Schmoller's theory, to which reference has already been made, is merely a fragmentary description; it can hardly be regarded as theoretically constituted. Theoretically, I propose to give to the power theory of interest a form posterior to the equilibrium theory.

Tugan-Baranowsky makes no attempt to demonstrate why the price of the product, determined by marginal utility, is greater than that of production goods. He assumes from the start that it is greater. He does not seem to think that it is matter requiring proof. Marx, who likewise attaches importance to class relation, as is well-known, assures and demonstrates by his labour value theory that the product obtains a price greater than the wages which are determined by the cost of the production of labour power. So long, however, as the labour value theory is discarded, the greater price of the product, namely, the superiority of the price of the product, calls for due illustration. The answer to the question why it is greater will be given, I think, when it is made clear, on the one hand, that the price of production goods cannot follow the lead of the price of the product due to the interruption of the full operation of the process of imputation by class relation, and, on the other hand, that the cost principle cannot operate, independently of imputation, and that consequently the price of the product does not follow the price of production goods, which may be on a lower level. To affirm the latter point seems to point to the conclusion that Schumpeter's dynamic theory cannot be supported in its present form. In short, in order to enable the power theory posterior to the equilibrium theory to explain interest effectually, it is necessary to clear up two phases, positive and negative, in regard to the superiority of the price of the product. Negatively, it must be made clear that, no matter how far competition is carried on, the price of production goods does not follow the lead of the price of the product and that consequently the surplus that is created continues in existence. Positively, it must be shown that the price of the product does not follow the lead of that of production goods, and that the former creates surplus by determinant factors of its own.

In Schumpeter's dynamic theory, it is maintained that the processes of imputation and competition take place concurrently, and that while the price of the product is reduced by competition, the price of production goods is raised by the process of imputation, so that profit becomes absolutely eliminated through pressure from both sides. As I have stated already, I do not recognise such action in competition.

IV

I have now reached the stage at which I feel called upon to make clear in what sense I support the dynamic theory.

I admit that there is no interest in the static state, provided it represents a state in which free competition has been thoroughly carried on, and the imputation of the price of the product to that of production goods has perfectly taken place. But in actual economies, there is no perfect operation of the process of imputation. Let me offer some explanation as to why this is so.

The theory of imputation is invariably connected with the world of value, and it is probably permissible to extend this connection to the field of price. Even if value is attributed to a certain commodity, it will not necessarily follow that this value becomes price and actually be paid. Now suppose that the price of 100 is obtainable by the action of AB. If it is assumed that the value of currency corresponding to one unit of price is one, it means that 100 of this value is obtainable by it. If the value of B is 30, that is, if it is assumed that B is always obtainable by paying the value of 30, the value of A is 70. But whether or not this value will manifest itself as the price of 70 depends on economic conditions. Value of a certain size does not always express itself in a price of exactly the same size. In the present instance, the value of the produce must be attributed to production goods; value imputation will be thoroughly and perfectly executed. It is nevertheless another matter whether a price of the same size will be paid for them. Where a price of this size is not paid, the imputation of price is not thorough; it is disturbed. In the present case, then, it may be said that although the imputation of value from the product to production goods is effected thoroughly, the imputation of price does not take place with the same thoroughness. But why is such the case?

Schumpeter ascribes it to a new combination. To explain it with special emphasis on negative phases, he says, it is because a new combination does not spread quickly, or there is not a quick reversion to it. It is, however, possible that even where this reversion is perfect, there will be no perfect imputation of price. This can easily be inferred from the theoretical structure of Böhm-Bawerk's theory of interest-rate. So long as there is a certain limit to the amount of capital, there must be surplus left, no matter how far a new combination may become disseminated. Should the cost principle cause the price of the product to follow the lead of the price of production goods in this case, this contention would be undermined, but otherwise it must be accepted. The conclusion is then inevitable that a shortage of capital prevents a thorough imputation of price and brings surplus into existence. But it may further be asked whether there is not something which makes this imputation lasting and necessary. If surplus is due to a shortage of capital, it will disappear the instant capital is replenished. In this sense, it is temporary and fortuitous. In my opinion, so long as class relation is assumed, it is possible to discern in it such factors as render surplus a matter of necessity. I am of opinion that there exist factors which prevent the perfect imputation of price to production goods. The most fundamental of them is a relation of power—a factor which is not purely economic. If this obstacle is removed, and if the accumulation of capital takes place without let or hindrance, the price of the product will be wholly attributed to production goods, and there will be no surplus at all.

Needless to say, there is a pretty wide difference between a theory of interest so constituted and that of Schumpeter, but it may well be termed a dynamic theory in that it maintains that interest is possible in a dynamic state only—not in a static state. It is true that it differs greatly from Schumpeter's point of view in that it attributes the imperfect imputation to a relation of power, considering that it traces surplus to imputation, it may be regarded as another form of the dynamic theory.

When I said that "the explanation of interest on the basis of power partakes somewhat of the character of the dynamic theory," or that the dynamic theory admits of interpretation as the power theory, I had such circumstances in mind. Schumpeter's dynamic theory—as an extension or a revision of Böhm-Bawerk's theory of interest—leaves the action of power entirely out of consideration, and explains how interest can come into being, independently of its action. It assumes that interest is free from the intervention of power. In this sense, his theory seems to be diametrically opposed to the power theory of interest, but when what it calls the dynamic state is analysed, it will be seen that the formation of interest, as claimed by the power theory, constitutes part of it. Moreover, it seems impossible to assert, if this part is left out of account, that interest inevitably results from the dynamic state, for while it may be possible to explain divergences in profit between enterprises—excess profit, so to speak,—it cannot explain the general profit or interest.

It will thus be seen that the contention that the interest owes its existence to a relation of power is at once both a sort of productivity theory of interest and another form of the dynamic theory. Because of the imperfect imputation of price, which is due to a relation of power, capital has value productivity and is necessarily accompanied by dynamic profit. The action of power brings surplus as productivity or surplus as the gains of the entrepreneur. These are things which the fundamentals of many theories of interest have in common and, moreover, I think I can discover the same things in Böhm-Bawerk's theory of interest-rate, which is regarded as his most monumental scholastic achievement.

V

In my opinion, of the two sections of Böhm-Bawerk's theory of interest, the latter section, that is, the theory of interest-rate (the neo-wages-fund theory, in a sense) is destined to survive for all time. Regarding the former section, or the theory of the causes of interest, it has invited many adverse criticisms. Nor is there any logical connection between that section and his theory of interest-rate. His theory of interest-rate is formed to the exclusion of the element of time preference. Although this remark may appear to be the boldest pronouncement ever made on Böhm-Bawerk's theory, I am not giving utterance to it without some warrant. While leaving the demonstration of this assertion to a later occasion, I shall now proceed, on the basis of the above assumption, to discuss the subject.

Böhm-Bawerk's theory of interest-rate clearly assumes a certain fixed productivity (measure of surplus profit accruing from one month's labour by round about production). It is a theory of interest based on productivity, though it does not demonstrate how the productivity of capital necessarily arises. Needless to say, Böhm-Bawerk is so trenchant in his criticism of the productivity theory of interest that it seems that under his criticism this theory has been demolished, but he himself recognises productivity quite freely. He assumes it on the ground that it is an empirical fact. Next, he assumes capital and population to be fixed. Under these assumptions, he makes clear where natural interest, or interest in equilibrium, settles and consequently where wages in equilibrium settle. He makes clear how the advance payment of wages prevents perfect imputation and how consequently interest must needs spring up. How is it, then, that interest does spring up in this case? The advance payment of wages is the basic condition, and a shortage of capital is the cause which is directly responsible for bringing interest into existence. A shortage of capital here acts as a spoke in the wheel of the imputation of price, and surplus and interest accordingly result. Needless to say, this mode of expression is different from that employed by Böhm-Bawerk. According to him, where the product is obtainable in the future only, the imputation of the superiority of value undergoes transformation. The imputation of the price of that portion which is left after interest is deducted may testify to the fact of perfect imputation. But this represents nothing more or less than the difference in the modes of expression employed. To express it in the way I have, from my own point of view, by no means implies that any distorted construction has been put on Böhm-Bawerk's theory.

As I have already stated, I propose to explain interest by power. I maintain, however, that the method of demonstration to be adopted should be one posterior, not one anterior, to the equilibrium theory. In this sense, I take my due from Böhm-Bawerk's theory of interest-rate in laying down the fundamentals of my argument. I nevertheless take the view, as I have already mentioned, that the productivity of capital should not be taken for granted, but, that the reason for its inevitable existence should be clearly explained. I must also take up the supposition of Böhm-Bawerk's theory of interest-rate in the stand I take that the imputation of this productivity, or, to be more exact, the imputation of the price of the product, is not perfect. His argument, however, shows, whether he was aware of it or not, that a shortage of capital impedes this process of imputation. In this regard, I think it necessary to make clear why this impediment is inevitable and why, accordingly, it does not necessarily depend on the amount of capital.

As is well-known, Böhm-Bawerk's theory of interest, in its essentials, repudiates the action of power. It takes the line that even if power does affect interest and wages, either accidentally or as a temporary deflection, it cannot exert any lasting influence on them. In this respect, there is a wide gap between my theory, which emphasises the action of power, and the theory of interest of the Böhm-Bawerk school. I think, however, that this is the logical conclusion of the theoretical construction peculiar to Böhm-Bawerk, and that when his premises are properly scrutinised, it will be seen that acceptance of his point of view does not debar acceptance of my theory.

Schmoller, who is said to hold facts of history in scrupulous regard, declares that wages represent nothing but a reflection of a relation of power. That interest and wages react on each other and that interest is consequently influenced by wages are a mere common sense in the theory of equilibrium. The fact is incontrovertible that interest and wages are influenced by power, but Böhm-Bawerk's theory of interest illustrates the inability of power to influence interest. Must we, then, repudiate Böhm-Bawerk's theory of interest as inconsistent with known fact? I do not think so. It is because of his peculiar assumption that he concludes the inability of power to influence interest. If his assumption is replaced by a condition such as actually rules, it is possible to discard his conclusion and it can be demonstrated that both interest and wages are influenced by power. In Böhm-Bawerk's theory, the size of population (amount of the labour supplied) and the amount of capital (means of subsistence) are fixed. Such being the case, attempts to force up wages or interest by power, for instance, must, in the ultimate, end in a reversion to the equilibrium point. For, the increase of wages causes unemployment, and the increase of interest bring about a shortage of labour. This conclusion of the inability of power to influence interest is induced by the assumption which fixes the amount of capital and the size of population. Böhm-Bawerk himself acknowledges the possibility of the increase of interest or wages being realised where the capital is increased or the labour population changes, though he asserts that in that case it is the economic factor (organisation of pure economics) that renders it possible and that this contingency is bound to arise, regardless of the action of power.

In this case, however, the question of how far power exerts its influence resolves itself into the question of whether the impulse to the movement of wages lies on the side of power or on the side of the economic factor. If positive action or the impulse to force up wages or interest is recognised to lie on the side of power, the economic factor will not be motive power, even if it is the condition that makes it possible. This is especially so, when, for instance, the demand of power, such as, for instance, the forcing up of wages, has stimulated such a circumstance. Stimulation of this kind is always present. In the meantime, the size of population is directly affected by higher wages. If unemployment arises, it will check the increase of population or even reduce it. The reduction of the interest-rate by a rise in wages will stimulate the increased accumulation of capital. If it gives rise to other circumstances tending to check this tendency, that is neither here nor there. In refutation of the popular belief that, while it is allowable that the increase of wages will bring down the interest-rate, the lower interest-rate will lead to a reduction in accumulated capital, Schmoller says that such a view does not bear close scrutiny; it is not borne out by facts. It is on record, he says, that in the days when a very low interest-rate ruled, and in a country where the interest-rate was lowest, the biggest increase of capital was witnessed. Nobody, he contends, thinks of spending his savings simply because the interest-rate is falling. Even though the interest-rate may fall to the low level of 1.5 or 2 per cent., the accumulation of capital will go on unchecked. Those who wish to live on interest in the future will be stimulated, by the lower interest-rate, to redoubled efforts to save money.

My contention in this regard can easily be accepted by any one who adopts the method of considering the equilibrium interest and wages as the functions of productivity, capital and population the quantity of which must be assumed to be affected by power. In short, Böhm-Bawerk's theory of interest-rate is inconsistent with the power theory, so long as it adheres to the assumption that capital and population are fixed, but it can go hand in hand with the power theory, if it concedes that capital and population are the functions of wages and interest. In this sense, I believe that it is possible to re-write Böhm-Bawerk's so-called neo-wages-fund theory so as to make it compatible with the power theory. As economic theory which is irreconcilable with the indisputable fact of history that wages and interest are determined by a relation of power can hardly be expected to serve its purpose as such. In order that it may be made to serve its purpose as an economic theory, the neo-wages-fund theory must discard its own premise in favour of an historical premise—a premise given in history, so to speak—so that it can be turned into an historical wages-fund theory.

Thus, my theory of interest is an historical wages-fund theory, a power theory, a productivity theory, and a dynamic theory all at the same time. These seemingly conflicting theories have fundamentals of truth common to them all, and it is my intention to extract these common fundamentals from these theories in order to formulate a systematic theory on such a basis.

What I have written above does not cover all the reforms that I propose to carry out in reconstructing Böhm-Bawerk's theory of interest. In his theory, the element of time in the shape of the roundabout period of production constitutes the predominant factor, and all, from the intensity of capital to the amount of capital, are analysed into elements of time. His effort in this direction is also regarded as another of his splendid scholastic achievements. In my view, however, this is the outcome of Böhm-Bawerk's excessive abstraction in regard to the method of production. I think it impermissible to analyse the formation of capital into productive periods. I shall, however, defer a detailed discussion of this point to a future occasion.

YASUMA TAKATA