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The transformation of values into prices on the basis of random systems revisited

Ten years ago, I published an introduction to volume II/15 of the MEGA, which was unlike all the other introductions to MEGA volumes. The other introductions are editorial and focus on the genesis and the publication of the corresponding work by Marx or Engels. MEGA II/15 is a critical edition of Engels's publication of the third volume of *Das Kapital*. The editorial board thought it appropriate to ask for an introduction to this volume which would focus not on the genesis but on the scientific impact, the criticisms and the use made of volume III in modern economics. It is impossible to think of competition without conceiving of a tendency towards a uniform rate of profit. Hence it is impossible to have Marxian economics without prices of production. Accordingly, I had in particular to discuss the modern critiques of the transformation of values into prices as one of the most important issues in Marxian economics. At that time, there was a large consensus that the transformation was not possible. But five years ago, I discovered a new solution to the transformation problem, based on random matrices and systems. I found that, if random systems are assumed, total profits are equal to total surplus value, confirming the Marxian formula $P = M$. The result was published in the *Cambridge Journal* 2016, but its significance was not really discussed. At the Conference *Marx in the 21st Century*, I should like to emphasize that $P = M$ is the relationship which keeps the analyses of the first two volumes and of volume III together. It represents the crucial equation in the theory of the forms of value. Not the fetishism of commodities, but the fetishism of capital is the culminating achievement within the theory of the forms of value. $P = M$ also was for Marx important as the analytical basis for the explanation of capitalists as a class. It has often been observed that the formula is essential for the identity of the rate of profit, calculated in values, with the rate of profit, calculated in prices, and this ensures that the core piece of the Marxian theory of accumulation, the production of relative surplus value, can be used for assessing the growth of the organic composition of capital.

The paper therefore shall first defend the importance of the transformation against those who believe that Marxian economics can dispense with prices of production and should be built on values and market prices only, or that the theory of the forms of value matters just for commodities, not for capital, or that one should only have prices of production, forgetting about values. Second, a more transparent proof of $P = M$ shall be presented on the basis of random systems, and it shall be compared with Sraffa's use of the standard commodity for

the transformation of values into prices by means of his reduction to dated quantities and labour. The third and most difficult part concerns the interpretation of these results in the light of the fact that Marxian economics hinges on $P = M$, but that the assumption of random systems is more narrow than Marx or Engels expected and broader than modern critics, from Bortkiewicz to Sraffa, thought.

Professor Kiichiro Yagi, to whom I mentioned this project, thought that he might organize a special event, somehow related to the Conference, in order to discuss the issues raised here in greater depth, for it is clear that they cannot easily be dealt with satisfactorily within the usual 20 minutes.