

A Japanese Contribution to the Calculation Debate:

K. Yamamoto's *Economic Calculation*

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Introduction

It goes without saying that the economic calculation debate is one of the most important incidents in the history of economics. It is not an exaggeration to say that we have been deepening our understanding of the essence of the market economy through seeing the calculation debate. The result of this importance of the calculation debate is publication of hundreds of papers and books over the calculation debate. Exhaustive discussions have been conducted after Ludwig von Mises denied the possibility of rational economic calculation under socialism in 1920. Various accounts of the debate have been presented. Every related papers and books seems have been scrutinized by historians of economic thought. Thus it seems that there is no room for new interpretation or new findings about the calculation debate.

Nevertheless, the purpose of the present paper is to introduce still a new fact of the history of the calculation debate to the historians of economic thought. It is that a Japanese scholar published a book which analyses comprehensively arguments around the possibility of rational economic calculation in the socialist society in 1932. The name of the scholar is Katsuichi Yamamoto, and the title of the book is *Keizai Keisan (Economic Calculation: Fundamental Problem of Planned Economy)* .

The structure of the paper is as follows. In the first section, Yamamoto's life and works are reviewed. Then the general history of the calculation debate and some early comprehensive studies are retraced. We will see Yamamoto's 1932 book , *Keizai Keisan*, in the third section. Finally, his contributions to the study of the calculation debate will be explained as conclusion of the present paper.

1. Katsuichi Yamamoto: His Life and Works

Katsuichi Yamamoto was born in *Yomura* village (now *Honguu* town of *Tanabe* city) in Wakayama Prefecture, Japan, on March 20, 1896. He was dead in *Kawaguchi* city in *Saitama*

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prefecture on August 1, 1986, at his age of ninety-one. During his lifetime, he published more than thirty books and more than hundreds of papers, essays, and notes. All of these works has been, without exception, for the realization of his ideal of a free society.

1.1 Becoming A Marxist

When Yamamoto was fourteen years-old, in 1910, the case of high treason happened. It was the event in which Japanese government vigorously oppressed or suppressed such socialists and anarchists as Shusui Kotoku² and others. They were arrested for projecting assassination of *the Emperor* Meiji, and of them twelve were put to death. It was for the first time that Yamamoto had heard such names as Peter Kropotkin and Karl Marx, and had known about ‘the Social Revolution’. Yamamoto was so shocked by the event because, of those arrested, two was from his village.

During his early years, what was decisive to Yamamoto’s thought was to have read *Bimbo Monogatari (A Tale of Poverty)* by Hajime Kawakami³, which was published serially in *Osaka Asahi Shimbun (Osaka Asahi Newspaper)* from September 1916 to December of the same year. When Yamamoto decided to enter Kyoto Imperial University in 1920, the sole reason was his desire to study under Kawakami. In this way, Yamamoto had started his career first as Marxist, engaging very actively in “enlightening” the bourgeoisie or working class.⁴

1.2 Study of Physiocracy and Criticism of Marxism

In 1923, immediately after his graduation from Kyoto Imperial University, Yamamoto became a lecturer of Wakayama College of Commerce (now Wakayama University). Then, from 1925 to 1927, he went to France to study economics of Physiocracy, especially theories of value of Le Trosne and Turgot. This experience was really decisive to him in that he had started to criticize Marxian economics scathingly and unsparingly from a point of subjective theories of value of Turgot after having come back to Wakayama⁵. In 1930, Yamamoto published his

²Shusui Kotoku(1871-1911) was a Japanese socialist and anarchist. He introduced the works of contemporary European and Russian anarchists, such as Peter Kropotkin, to Japanese intellectuals.

³ Hajime Kawakami (1879-1946) was a professor of Kyoto imperial University, and one of the leading Marxian economists in Japan. On his life and works, see Bernstein 1976.

⁴ However, as he later recalled, Yamamoto had felt some insoluble contradiction in Marx’s theory of capitalist economy from the very beginning of his study.

⁵ K. Yamamoto “Theories of Value of Physiocracy.” *Keizai Ronso* (Kyoto University), Vol. 26, No. 3, 1928, pp.

maiden work *On Marxism: A Critical Study*⁶, in which he exposed theoretical weakness of and fundamentally logical inconsistency in such theories of Marx as historical materialism, surplus value, and industrial reserve army. Yamamoto also denied a possibility of communist society. However his reason was not the impossibility of economic calculation but that we were not so clever as to manage such a “Great Society” under unprecedented condition of collective ownership of production means at that time⁷. The publication of *On Marxism* marked both Yamamoto’s complete rejection of Marxism and his firm commitment to Libertarianism⁸.

1.3 Transformation: Being A Libertarian Economist

From September, 1931 to April, 1932 Yamamoto went to the Soviet Union and Germany to observe the real state of affairs of planned economy, and to ask some questions about how the problem of economic calculation had been solved⁹. This experience resulted in his second book *Keizai Keisan (Economic Calculation: Fundamental Problem of Planned Economies)* published in 1932¹⁰. In this book, after having recognized “The Significance of the Problem of Economic Calculation”, Yamamoto examined nine major views on possibility of economic calculation. They are those of Neurath, Tschajanoff, Varga, Strumilin, Leichter, Kautsky, Heimann, von Mises, and Halm. This is the first book in the world, which *systematically* analyzes various views on possibility of economic calculation under socialism¹¹. Yamamoto’s recognition that

102-119, Vol. 26, No. 4, 1928, pp. 131-142. “Turgot’s theory of value”, *Naigai Kenkyu* (Wakayama College of Commerce), Vol. 1, No. 2, 1928, pp.20-51. For Yamamoto’s criticism of Marian theory of value, see K. Yamamoto “On Dr. Kawakami’s Theory of Value”, *Naigai Kenkyu*, Vol.1, No. 3, 1928, pp. 203-221.

⁶ *On Marxism: A critical study*: Kyoto: Shiso-Kenkyukai, 1930. According to Yugo Kanou, one of Yamamoto’s students, this book was sold more than twenty thousands. See Y. Kanou “Dr. Katsuichi Yamamoto as Libertarian” manuscript, 1996, p. 8. Although the first person in Japan who denied a possibility of Marx’s communist society is Kinji Tajima of Kyoto Imperial University in 1922, as Toshio Murata, one of the students of Mises, says, Yamamoto is “the first who introduced Ludwig von Mises to Japan, and laid a firm foundation for free economy there”.

⁷ *On Marxism*, chapter 7 and Appendix 3. See also K. Yamamoto “Is Socialism Possible?” *Naigai Kenkyu*, Vol. 1, No. 2, pp. 68-74. Yamamoto’s argument in these works is close to Hayek’s criticism of socialism for its reversion to instinctual morality of tribe in his last book *The Fatal Conceit; The Errors of Socialism*, London: Routledge, 1988.

⁸ At this time, Yamamoto probably had not heard about von Mises or Hayek yet.

⁹ Yamamoto saw Ostrovityanov and Zenis at Com-Academy in Soviet, and Boris Brutzkus and Georg Halm in Germany. Although I do not know the reason, he did not seem see Mises during his trip.

¹⁰ They are those of Neurath, Tschajanoff, Varga, Strumilin, Leichter, Kautsky, Heimann, von Mises, and Halm.

¹¹ Trygve J. B. Hoff’s book *Economic Calculation in the Socialist Society* written in Norwegian, which is also very

the possibility of rational economic calculation is *the* fundamental problem of planned economy led him to sharp criticism of economic control by Japanese government during wartime¹². In 1939, Yamamoto published *The Fundamental Problem of Planned Economy*.¹³ He got his Doctorate in Economics from The Tokyo College of Commerce (now Hitotsubashi University) in 1940. From 1932 to 1943, Yamamoto engaged in rectifying errors of students who were heavily influenced by Marxism at *Kokumin Seishin Bunka Kenkyusyo* (The Institute for Japanese Spirit and Culture).

After the Second World War, Yamamoto endeavored to establish Liberal Party of Japan, and made a draft for the procedure for economic recovery from a Libertarian's point of view. He was elected to the Diet five times. He taught as a professor at Daito Bunka University and Chuo Gakuin University.

Yamamoto's work in the postwar period can be divided into two mutually related areas. First, he had struggled for free market economy Secondly; he had criticized Welfare State and Keynesianism, which came to attract not only ordinary people but also almost all members of the Diet. It is not exaggeration to say that Yamamoto was only consistent libertarian in Japan.

2. The Early Studies on the Socialist Calculation Debate

2.1. The Socialist Calculation Debate

2.2. The Early Comparative Studies on The Debate

systematic in nature, was published in 1938.

¹² On the detail of economic control in Japan, see T. Nakamura, *Economic Control in Japan*, Tokyo: Nihon Keizei Shinbunsha, 1974. Among his many papers which criticized of Japanese government's control of economic activities, "Critique of Nationalization of Electricity" was the first paper, which was published in 1936.

¹³ Yamamoto 1939.

3. *Economic Calculation: The Fundamental Problems of Planned Economy*

3.1 The First Book on The Economic Calculation Debate

On September 20th 1932, after twelve years from von Mises's theoretical attack on socialism, Chikuma Syobô (Chikuma Publishing Company) in Tokyo printed a book entitled *Keizai Keisan-Keikaku Keizai no Konpon Mondai (Economic Calculation: The Fundamental Problem of Planned Economy)*.

As shown in Table1, *Keizai Keisan* is consisted of his 'Introduction' and seven chapters. In the first chapter, Yamamoto clarifies the role the economic calculation plays in the capitalistic exchange economy, and defines the problem of Socialist society as that of the possibility of economic calculation. Then, in chapter two, he overviews the history of how the problem of economic calculation was recognized by economists. He also introduces main literatures on the problem of economic calculation under socialism in this chapter.

From chapter three to chapter six, Yamamoto discusses arguments concerning the problem of economic calculation in the socialist society by nine economists. These arguments are classified into four headings; calculation in kind, calculation by labor value, calculation by monetary unit, and negation of the possibility of economic calculation under socialism.

In the last chapter, the seventh chapter, Yamamoto explains his own analysis of whether the central planning in the socialist society is possible or not, and after that, from the perspective of the economic calculation, he examines the reality of Soviet economy from the era of war communism through New Economic Policy (NEP) to the period of five-years planning.

Through comparison of contents of Yamamoto's *Keizai Keisan* with those of Otto Leichter's book, Klare Tisch's dissertation, and T.J.B. Hoff's book [Table1-4], we can say that *Keizai Keisan* should be considered as the first book in the world which treats comprehensively the problem of the possibility of economic calculation under socialism.

3.2 Economic Calculation as the Fundamental Problem of Planned Economy

In the first chapter of *Keizai Keisan*, Yamamoto explains the significance of the problem of economic calculation for any types of societies by clarifying two simple facts of our society and the nature of human desire. First, no matter how the means (the goods) to satisfy our desire

increase, they must be too scarce to fulfill our all desire¹⁴. Then we must decide which one of many desires will be satisfied, and we have to be able to compare costs and effects for rational decision. Secondly, the production process from the start of production toward the final consumer goods is very long and very complicated. This fact, with the nature of human desire that only the very man who knows his own desires can compare utilities of goods, implies that it is impossible to compare utilities among various production goods if we had not made careful deliberation, that is, calculation, in addition to our simple value judgments¹⁵.

After these deliberation, Yamamoto defines the notion of ‘economic calculation’ as “calculation of economic efficiency of our activities, or examination of whether the means to satisfy our desires are best used or not.”¹⁶

3.3 Theoretical Analysis

In the first section of chapter seven of *Keizai Keisan*, Yamamoto analyses the possibility of rational production in the centrally planned society in which the freedom of choice of consumer goods and occupation is maintained.

In order for that rational production to be possible, according to him, all of the following four conditions must be satisfied.

- (1) It must be possible to compare strength of all consumers’ needs for all consumer goods.
- (2) It must be possible to know and compare costs of production of consumer goods.
- (3) The necessary number and kinds of labor for each specific work must be collected.
- (4) The demand and supply of produced consumer goods must be balanced.

Then he examines whether these four conditions could be met under the supposed socialism.

Yamamoto insists that both the first and the second conditions can never be met in the socialist state. On the first condition, as the consequence of subjective nature of human desire, he points out that we cannot compare the degree of the strength of the demands of different people directly¹⁷. Thus, in the socialist state, the freedom of choice of consumption must be

¹⁴ He names this fact “the scarcity of the means to satisfy the desire”. Yamamoto 1932, p.2.

¹⁵ Yamamoto 1932, p.6.

¹⁶ Yamamoto 1932, p. 6.

¹⁷ Yamamoto 1932, p. 247.

maintained for the socially rational production. On the second condition, he denies the possibility to make a rational calculation of cost of production in the socialist planned state because there are no objective market prices¹⁸.

On the third and fourth conditions, he plainly denies the possibility that the central planning office can find *a priori* the equilibrium prices (and wages) at which the demand and the supply of consumer goods (and, of labor of specific works) are balanced. Thus, according to Yamamoto, it must be unavoidable that there would be excess demand or excess supply of each consumer goods (and labor of specific work).¹⁹ Then the problem is how the socialist should adapt to these disequilibrium states. This problem should be answered by the examination of whether the socialist state as the only supplier could rise or reduce prices when the demand exceeds supply or vice versa. Although market socialists like Heimann would answer to this problem affirmatively, Yamamoto believes that the socialist state must avoid flexible change of prices in order to maintain the order of the society. His reasoning is as follows.

If the price is raised in response to shortage of the product or is gone down in response to the surplus of the product, the consumers would immediately rush to the product whose price was reduced (that is, to the product oversupplied) and there would emerge shortage of the product. At the same time, they would avoid to buy the product whose price was risen (that is, the product in short supply) and the product would remain unsold. This is because it should be assumed beforehand to restrict the production of goods in the next production period, which is oversupplied, and to expand the production of the product supply of which is less than demand. In other word, the very action of the socialist state to raise the price of the product in short supply would teach the consumers that it would be reduced in the next period. Thus, with the flexible price change by the state, the consumers would be very speculative, and the state would have lost the only indication to decide the expansion or the contraction of the production. In other words, “in the planned economy, to change the prices in response to occasional shortage or surplus of the products should transform the orderly society into the chaotic one.”²⁰

¹⁸ Yamamoto 1932, p. 246.

¹⁹ Because it is only the emergence of this disequilibrium between demand and supply that teaches whether the production in the next period should be increased or decreased, Yamamoto maintains that the pure collectivist society must presume it as one of its institutional mechanisms. (Yamamoto 1932, p. 234.)

²⁰ Yamamoto 1932, p. 240. Thus, according to him, market socialism is institutionally contradictory with the socialist planning. As we see below, with these reasoning, he understands that Soviet-Russia under the five-year planning never cut down the once determined price no matter how long the product has been left unsold, and never rise the once

Because that economy in which demand and supply cannot be balanced principally does not deserve to be called an economic order, and it is impossible for the socialist state to adjust the supply of the product to the demand, the central authority of the state had to think up feasible method to determine equilibrium prices deliberately *in advance*. But this is definitely impossible.

After these considerations, Yamamoto describes the possible reality of socialist planned economy as follows;

“It is the economy in which the central authority of the state (for example, economic planning committee) pushes ahead thoughtlessly the production plan which it has considered *for a time being* as necessary or appropriate without any confidence in the magnitude of social effect as well as that of social sacrifice – the economy in which freedom of choosing occupation as well as freedom of choosing consumption goods must be taken away. Namely, (it is) a rein of terror.”²¹

3.4 Critical Assessment of the Reality of Soviet Economy

Yamamoto is concerned not only with theoretical analysis of the possibility of rational economic calculation in the socialist state, but also with the reality of socialist experiment conducted in the Soviet Russia after the 1917 revolution. In the second section of the seventh chapter of his *Keizai Keisan*, Yamamoto applies his theoretical analysis to the three successive phases of the Russian economy; the era of War Communism, that of New Economic Policy (NEP), and that of the first five-year planning.

During the era of War Communism from 1917 to March of 1921, all efforts were devoted to eradicate all markets and market relations. Consequently, as his analysis predicts, production of goods decreased drastically. The economy had been in the state of groping in the dark, workers were forced to engage in forced labor, and rationing of goods was executed.²²

In March of 1921, Soviet Russia adopted New Economic Policy (NEP), under which the economy was transformed into the mixture of planning, monetary, communistic and capitalistic factors. With gradual endorsement of free trades, markets began resorted, the production increased, and the economy found itself orderly functioning.

determined price no matter how quickly the product has been sold out.

²¹ Yamamoto 1932, p. 250.

²² Yamamoto points out that these facts which implies abandonment of freedom of choices of goods and occupation, are the unavoidable result of eradication of markets. See Yamamoto 1932, p. 259.

The first five-year planning marked the era during which the Soviet economy got into the full-fledged socialistic planned economy.²³ In this era, markets began to break down again, and the economy was got into turmoil. Even though production increased as for the planned products, their qualities were worsened and the number of the kinds of products was decreased. The equilibrium of the economy was destroyed. Then forced labor and rationing had resurged.

Following these examination of the realities of the Soviet economy, Yamamoto concludes Russian experience verified his theoretical argument that the socialist state was impossible to conduct rational and orderly production because it lacked freely market transaction.²⁴

Conclusion: A Japanese Contribution to the Calculation Debate

When Henry D. Dickinson reviewed Trygve J. B. Hoff's original Norwegian edition of *Economic Calculation in the Socialist Society* in 1940, he wrote as follows:

The problem of economic calculation in a social system where the ownership of all means of production is, in the ultimate analysis, vested in a single organ of social administration has been a live issue among economists for some years. It seems now to have reached a stage in which none of the disputants has very much new to say. Consequently, it is now ripe for a comprehensive survey and a judicial summing-up. This has been very successfully attempted by a Norwegian scholar in the work before us. The author has produced a critical review, at a very high level of theoretical competence of practically everything that has been written on the subject in German and English.²⁵

The author of present paper believes that, if Dickinson were able to read Yamamoto's *Keizai Keisan*, he would write the same review as that of Hoff's book. However the last sentence should be that "The author has produced a critical review, at a very high level of theoretical competence of practically everything that has been written on the subject in German and Russian." *Keizai Keisan* is, beyond doubt, the first comprehensive and critical survey of the

²³ Yamamoto believes that, in order to verify the correctness of his theoretical analysis, examination of the era of the five-year planning is the most important. Yamamoto 1932. Pp. 267-8.

²⁴ Yamamoto 1932, p. 253.

²⁵ Dickinson 1940, pp. 270-274.

arguments concerning the problem of the possibility of rational economic calculation in socialist society. This is the most important contribution Yamamoto made to the history of economic thought. In addition to this, his book made several other contributions to our understanding of the calculation debate.

First of all, it should be acknowledged that “German Language Debates on Socialism” is very much fertile. Especially Eduard Heimann’s idea clearly anticipates so called market socialism by Oskar Lange, and Yamamoto’s critical analysis that flexible change of prices are inconsistent with the socialist order teaches us the reason why the market socialism was never tried in the socialist society.

Furthermore, through reading *Keizai Keisan*, we can know that there was “Russian Language Debate on the Economic Calculation.” The possibility of rational economic calculation is not only theoretical issue, but also practical challenge. Thus, in order for us to understand history of socialism in the 20th century, especially to appreciate meanings of Soviet experiment, we must be aware of the Russian Language Debate and its influence on Soviet economy.

Although the present paper does not go into detail of Yamamoto’s 1932 book, the present author believe, the above explanation should be enough to say that, with publication of *Keizai Keisan*, Katsuichi Yamamoto made immortal contribution to the study of the calculation debate and the history of economic thought.

Table 1. K. Yamamoto *Economic Calculation*, 1932.

INTRODUCTION

CHAPTER I The Significance of the Problem of Economic Calculation

1. Economy and Economic Calculation
2. Economic Calculation in the Capitalist Exchange Economy
3. The Necessity of Economic Calculation in the Socialist Planned Economy
4. The Significance to Study Economic Calculation in the Socialist Planned Economy
5. Scholar's Concerns with the Problem of Economic Calculation

CHAPTER II A Historical Survey of the Study of the Problem and the Main Literature

1. A Historical Survey of the Study of the Problem
2. The Main Literature on the Problem

CHAPTER III The Arguments of Making Economic Calculation in Material Terms

1. Summary and criticism of Otto Neurath's Idea
2. Summary and criticism of A. V. Chayanov's Idea

CHAPTER IV The Arguments of Making Economic Calculation in Labor Value

1. Summary and criticism of Eugen S. Varga's Idea
2. Summary and criticism of Stanislav G. Strumilin's Idea
3. Summary and criticism of Otto Leichter's Idea

CHAPTER V The Arguments of Making Economic Calculation in Monetary Term

1. Summary and criticism of Karl Kautsky's Idea
2. Summary and criticism of Eduard Heimann's Idea

CHAPTER VI The Arguments of Impossibility of Economic Calculation

1. Summary and criticism of Ludwig von Mises's argument
2. Summary and criticism of Georg Halm's View

CHAPTER VII Conclusion: Summary of My Own View

1. Theoretical Analysis
2. An Examination of Russia's Experience

Table 2. Otto Leichter *Economic Calculation in the Socialist Society*. 1923

I.	The Problem of Accounting in the economy
II.	Value calculation, monetary Calculation, and Price Calculation under Capitalism
III.	Accounting for Commodity Production or Social Production
IV.	Accounting under Socialism (I)
V.	On the other Solutions
VI.	Accounting under Socialism (II)

Table 3. Kläre Tisch *Economic Calculation and Distribution in the Centrally Organized Socialist Society. 1932*

Preface

- 1 . The Problem of socialism
- 2 . The Object of this Research: Guild Socialism

Part I Economic Calculation and Distribution in the Centrally Organized Socialist Society

Chapter 1 The Foundation of Economic Calculation and Necessity of unit of measurement

1. Distribution
 - a) Distribution under Capitalism
 - b) Distribution under Socialism
 - c) The Principle of Distribution
2. The Principle of Equal Distribution
 - a) Equality in the Natural Economy
 - b) Exchange and Objective Unite of Measurement
 - c) Equal Distribution by Abstract Unit of Income
3. Control of Production

Chapter 2 Execution of Economic Calculation

1. Economic Planning
2. Unit of Value
3. Accounting System: The Determination of Prices of the Means of Production
4. Money
 - a) Money as Medium of Exchange and Unit of Value
 - b) Money for Equal Distribution of social Products
5. Money and Abstract Unit of Income
6. Labor Money

Chapter 3 Other Problems of the Socialist Economy

1. Accumulation of Capital
2. Interest
3. Profit and Pension of the Firm

Part II Explanation and Criticism of Suggested Solutions

Chapter 4 Calculation in Kind (Calculation in Physical Units)

1. Otto Neurath
2. A. V. Chayanov

Chapter 5 Skepticism

1. Von Mises-Marschak Controversy
2. George Halm
3. Max Weber

Chapter 6 The Possibility of Rational Economic Planning: Non-Marxian Arguments

1. Eduard Heimann
2. Owen?
3. Karl Polanyi

Chapter 7 Marx and Marxists

1. Karl Marx
2. Karl Kautsky
3. Otto Leichter
4. Communist Internationalist

Conclusion

References

Table 4. Trygve J. B. Hoff *Economic Calculation in the Socialist Society*, 1938

Preface

1. Statement of the Problem—Earlier Treatment of the Subject---Possibility of “Objective” Discussion
2. Definition and Assumptions
3. Procedure---Additional Assumptions---The Aim of Social Economic Activity
4. Calculation in Socialist Societies with a Natural Economy
5. The Possibility of Economic Calculation in Marxist-Communist Communities
6. Money and the Formation of Prices of Consumer Goods in a Socialist Society with Free Choice of Goods and Occupation
7. Reserves, Profit and Risk in the Socialist State
8. Interest in the Socialist Society
9. Rent in the Socialist Society
10. Depreciation in the Socialist Society
11. Mises’ Theory. Proposed Solutions: Mathematical Solutions and the “Experimental Method”
12. Other Solutions, Marginal Costs as Criteria
13. Other Suggested Solutions: Competition in the Socialist Community
14. Economic Calculation in a Socialist Society Where There Is Free Choice of Goods or Occupation
15. Resume and Conclusions

Appendices

- A. The Price-Mechanism in a Private Capitalist Society
- B. Alleged Defects of Capitalist Societies and the Chances of Eliminating Them in Socialist Societies
- C. A Comparison between our Conclusions and Experiences in Soviet Russia

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