

# SDGs and Japanese Modern Economist Koki Shoji

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## 1. Introduction

United Nations adopted the 2030 Agenda for Sustainable Developments in 2015. This shows blueprint for peaceful and prosperous future of the world community. This adoption has 17 Sustainable Development Goals in its center point.

The 17 goals include no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reducing inequality, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions and partnerships for the goals. Those are very comprehensive and ambitious.

Those, however, can be divided into three dimensions. Firstly, several goals can be classified as goals for saving natural resources: clean water and sanitation, affordable and clean energy, climate action, life below water and life on land. Secondly, some goals can be thought as goals for sustainable economies: no poverty,

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zero hunger, good health and well-being, quality education, decent work and economic growth, industry, innovation and infrastructure, reducing inequality, and responsible consumption and production. The latter ones are originally called as sustainable economy. Thirdly, the others are the goals for preparing for good societies to achieve the former two groups of goals: gender equality, sustainable cities and communities, and justice and strong institutions and partnerships for the goals.

Why does the international community need such goals in the 21<sup>st</sup> century? Human beings have developed modern economic system and encourage economic growth all over the world in the 20<sup>th</sup> century. This trial, however, has raised many problems like depletion of natural resources and abnormal weather. If we leave these problems as they are, human beings' economic activities could possibly come to the end in the near future.

However, several goals are not unknown at all for human beings. Human beings continued their lives for thousands of years. Our traditional societies have been very sustainable in many aspects. Not a few thinkers of old days wrote about sustainable economy both in the east and the west. We will tell about one of them.

His name is Koki Shoji. He is an affluent merchant and economist. He was born in 1793 and died in 1857. He spent his whole life in Arita in Saga, Japan. The place is very famous for production of colorful pottery even today.

## 2. Koki Shoji's life and works

The ancestors of Koki Shoji moved in Sarayama pottery producing area from the other place. His great-grandfather started selling paint brushes because the artists who painted the cups needed them.

Koki, who succeeded the business from his father, also began money lending business and became a millionaire. Though he was a skillful businessman, he was also a very ethical guy. When a big fire burned out Arita town, Koki gave his money and food to refugees to save them.

He also loved books. Koki Shoji started writing for himself and published several books. His main work, *A Secret Conversation on Economy* consisting of 30 volumes. He published this books in 1831. In those days, the governor of Saga feudal domain was Naomasa Nabeshima. He was one of enlightened monarchs and tried to reconstruct the domain's economy. Koki Shoji's large work was presented to the governor through Kokudo Koga, the professor of Kodokan school.

Naomasa Nabeshima's reform was sometimes very radical. He nationalized all lands in Arita and redistributed to original landlords and their peasantry. This radical reform shook Arita economy violently. After this quake ceased, Koki Shoji wrote another book, *The Points of Commerce*, which consisted of 10 volumes. He explained merchants' philosophy and economic thought in this book.

Meiji Restoration would happen in ten years after Koki Shoji's death. Japanese economy would change from a traditional style into the western style. Samurai would change into a modern businessman. Japanese rare spies like Japanese wolf and Japanese otter would become extinct.

### 3. Koki Shoji's economic thought

Koki Shoji began his book, *A Secret Conversation on Economy* like this:

Nowadays people say that the economy means profit and wealth. This, however, is a fallacy. This is a so-called temporary expedient by silly people.

Though it is a good way in enriching a family, this thought will cause disasters in governing a nation. It is true that the economy means a government with love and justice.

Even in Europe, the word “ political economy ” means methods of managing the economy of the nation. The Chinese characters which means economy also meant governing the nation and saving people originally. There is no difference between the west and the east in that the economy had the same meaning as SDGs.

Koki Shoji wrote a fallacy here. Even though the method is effective to enrich a family, it could not bring about the prosperity of the nation. One of the most famous economists, John Maynard Keynes also wrote about the same fallacy. The so-called fallacy of composition is like this:<sup>1</sup>

The trouble arises, therefore, because the act of saving implies, not a substitution for present consumption of some specific additional consumption which requires for its preparation just as much immediate economic activity as would have been required by present consumption equal in value to the sum saved, but a desire for ‘ wealth ’ as such, that is for a potentiality of consuming an unspecified article at an unspecified time. The absurd, though almost universal, idea that an act of individual saving is just as good for effective demand as an act of individual consumption, has been fostered by the fallacy, much more specious than the conclusion derived from it, that an increased desire to hold wealth, being much the same thing as an increased desire to hold investments, must, by increasing the demand for investments, provide a stimulus to their production; so

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<sup>1</sup> Keynes [ 1936 ] p.105.

that current investment is promoted by individual saving to the same extent as present consumption is diminished.

When people save money, the purpose of it is to accumulate wealth and become rich. This method might be able to enrich the family. The savings, however, means the same amount of decrease of consumption. The decrease of consumption will reduce the effective demand. Because of this, the production and output must decrease and the national income will be reduced.

Koki Shoji was also a successful merchant himself. From the experience as a merchant, he derived very interesting philosophy. For example, he distinguished thrift and stinginess clearly in another book of his, *The Points of Commerce*.

Thrift and stinginess are utterly different. Thrift is to only yourself and stinginess is to other people.

Thrift means avoiding waste by the merchant himself. The saved money will be invested in another business. This activity makes the community wealthier and brings more happiness to neighbors. Stinginess, however, means sticking to his own money and the money will not be reinvested. Koki Shoji could possibly refer to the difference between the old way of feudal merchants and modern business.

Karl Heinrich Marx also wrote about the same difference between a miser and a capitalist like below:<sup>2</sup>

As the conscious representative of this movement, the possessor of money becomes a capitalist. His person, or rather his pocket, is the point from which

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<sup>2</sup> Marx [ 1867 ] pp.168-169.

the money starts and to which it returns. The expansion of value, which is the objective basis or main-spring of the circulation M-C-M, becomes his subjective aim, and it is only in so far as the appropriation of ever more and more wealth in the abstract becomes the sole motive of his operations, that he functions as a capitalist, that is, as capital personified and endowed with consciousness and a will. Use-values must therefore never be looked upon as the real aim of the capitalist; neither must the profit on any single transaction. The restless never-ending process of profit-making alone is what he aims at. This boundless greed after riches, this passionate chase after exchange-value, is common to the capitalist and the miser; but while the miser is merely a capitalist gone mad, the capitalist is a rational miser. The never-ending augmentation of exchange-value, which the miser strives after, by seeking to save his money from circulation, is attained by the more acute capitalist, by constantly throwing it afresh into circulation.

Finally, Koki Shoji approached our SDGs the most closely when he referred to his thought of saving fortune.

Thrift means saving fortune. If you waste fortune, you will lose blessing of the heaven. Then you will spoil the grace from the nature.

Why do we have to save fortune? Because we have to save natural resources, salvage poor people and think much of our future offspring, we should keep sustainable growth. This is no other than SDGs.

#### 4. Economic models with energy

In Koki Shoji's thought of saving fortune, saving natural resources which are represented as the blessing of the heaven by him is very important. We call it "energy" here. Saunders [ 1992 ] concluded that even energy saving innovation could not reduce energy's amount which is used in the economy. Such an innovation will promote the availability of energy. People will input not only more capital and labor but also more energy to achieve faster economic growth.

In Saunders's model, macro production function is defined as this:

$$Y = TF(T_K K, T_L L, T_E E)$$

Here  $Y$  is output,  $K$  capital,  $L$  labor and  $E$  energy input.  $T$  is total factor productivity and  $T_K$ ,  $T_L$  and  $T_E$  are production factors' augmenting progress of technology.

First of all, we consider Cobb-Douglas production function case.

$$Y = T(T_K K)^\alpha (T_L L)^\beta (T_E E)^\gamma, \alpha + \beta + \gamma = 1$$

In this case, when the input of each production factor, capital, labor and energy increases proportionally, the output also increase at the same ratio. Even if energy saving innovation is very strong, people cannot reduce the yearly input of energy into zero. In addition to that, if the economic growth is faster than energy saving speed, the energy input will increase absolutely, too.

Secondly, we consider more general form of production function, which is called CES production function<sup>3</sup>. We take two steps approach. At the first step, we introduce a smaller production function consisted of capital and labor as production factors.

$$U(K, L) = [a(T_K K)^{-\rho_1} + (1 - a)(T_L L)^{-\rho_1}]^{-\frac{1}{\rho_1}}, a > 0, \rho_1 \neq 0, \rho_1 > -1$$

At the second step, we construct the final production function of the above one and energy input.

$$V(U, E) = [bU^{-\rho_2} + (1 - b)(T_E E)^{-\rho_2}]^{-\frac{1}{\rho_2}}, b > 0, \rho_2 \neq 0, \rho_2 > -1$$

This two steps approach is authorized when energy and the aggregation of capital and labor are weakly separable. Even if so, we obtain the same conclusion as Cobb-Douglas production function.

## 5. Conclusion

Now Covid-19 spreads all over world. This situation makes the world economy disastrous. For a while, we have to keep executing economic operations taking an enough distance with each other. This makes economic cost higher and activity level will be reduced in every country. From another point of view, however, this is a good chance for the transformation into sustainable economy. We only have to restart economic activities slowly and in the lower level.

Rapid decline of economic activity and national income, however, gave unequal effects between rich people and poor people. That is also another aspect of covid-19 crisis. We need to call in the governments of love and justice just as Koki

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<sup>3</sup> CES production function means constant elasticity of substitution, which says that the substitution between two production factors is smooth. When parameter approaches zero, the production function coincides with Cobb-Douglas type one in its limitation.



Shoji wrote 200 years ago.

### References

- Keynes, J. M., *The General Theory of Employment, Interest and Money*, London: Macmillan, 1936.
- Marx, K. H., *Das Kapital. Kritik der politischen Ökonomie*, Buch 1, Hamburg: Otto Meissner, 1867.
- Saunders, H. D., 'The Khazzoom-Brookes Postulate and Neoclassical Growth,' *Energy Journal*, Vol. 13, pp.131-148. 1992.