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The global economic outlook

~ for the steady economic growth of the world

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Abstract

This paper explores the need to establish a world federal government as the next world governing framework from the broadest economic perspective, by focusing on the relationship between private sector production rate and two factors, economic growth rate and economic stability. A redistribution method is considered as financial policy, and the issuing of world legal tender is considered as monetary policy, which attempts to include a redistribution system covered by a transfer fee.

This paper is an outlook of global economics and provides fundamental solutions to the current economic problems with an upcoming technology, blockchains.

1） Structural reform: The need for a world federal system for the world economy

In this section, we focus on the economic growth rate and its stability, based on the condition that all goods and services in the world are produced by the public and private sectors. Here, production is defined in a broad sense to include capital gain in addition to GDP, as both public and private sectors also profit from capital gain.

The provision of goods and services to satisfy the overall global demand is considered; with an assumption of the tendency that the public sector would produce unprofitable products, while the private sector would produce products of higher profitability. The ratio of private sector production to economic growth rate is outlined in Figure 1. If the logic is followed that more goods and services are produced by the private than the public sector, market competitiveness will favor productivity gain and hence gain in economic growth rate. The graph has a positive slope, as indicated in Figure 1.

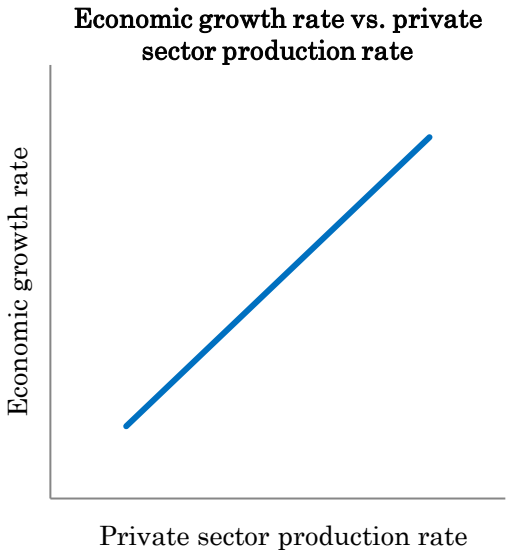


Figure 1 Economic growth rate as a function of private sector production

The competitive logic of the market or its market mechanism include various factors that lead to market equilibrium, which optimizes and stabilizes the economy. However, these factors also include multiplier effects that could lead to divergence effects to various factors that would either stabilize or, in some instances, destroy the economy. Private sectors have more decision makers in the market than public ones, and tend to lead to more multiplier effects in the market. Under market conditions with excessive multiplier effects, economies become unstable and uncontrollable due to the volatility of various economic indexes. Figure 2 outlines economic stability as a function of private sector production.

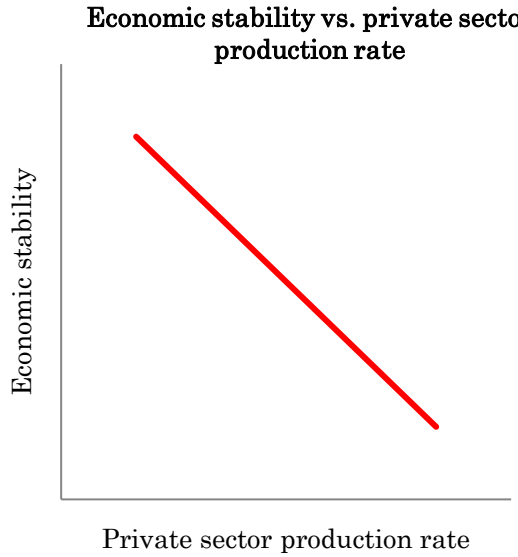


Figure 2　Economic stability as a function of private sector production

Figure 3 superimposes the graphs of Figures 1 and 2, showing the intersection point P of the two lines. P is the equilibrium between economic growth and stability.

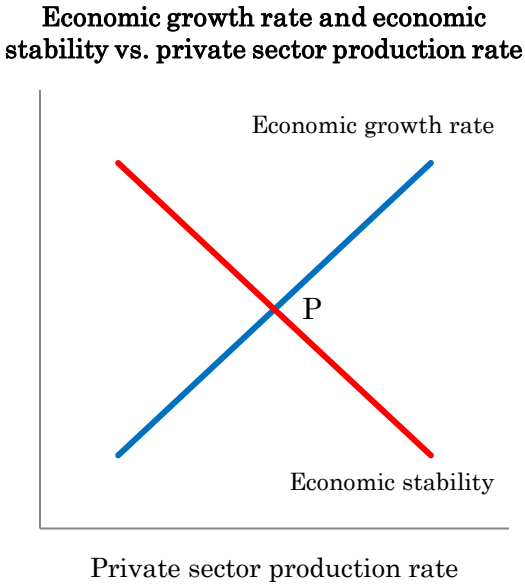


Figure 3　Economic growth rate and economic stability as a function of private sector production

In the capitalist economic system, private sectors tend to have more financial freedom to expand their activities. However, the intersection point P indicates how the private sector production rate is determined by the public sector, through legislation, fiscal policy, and monetary policy. At present, with the global operations of private sectors, these governmental decisions are undertaken by multiple institutions within a multi-polarized world. However, the decisions are subject to competitive logic, leading to weakened control mechanisms.

The establishment of the world federal government,* which globally functions as an autonomous decision-making public sector, is explored as a means of resolving these economic problems. In Sections 2 and 3, we consider the financial policy that is followed to facilitate structural reform of the world economy, as described above, as well as the associated monetary policy that is based on this financial policy.

2）　Financial policy: Ideal model of redistribution

Nowadays, innovation through Information Technology (IT) largely contributes to society, and therefore to the world economy. It has a deflationary effect on the economy through increased

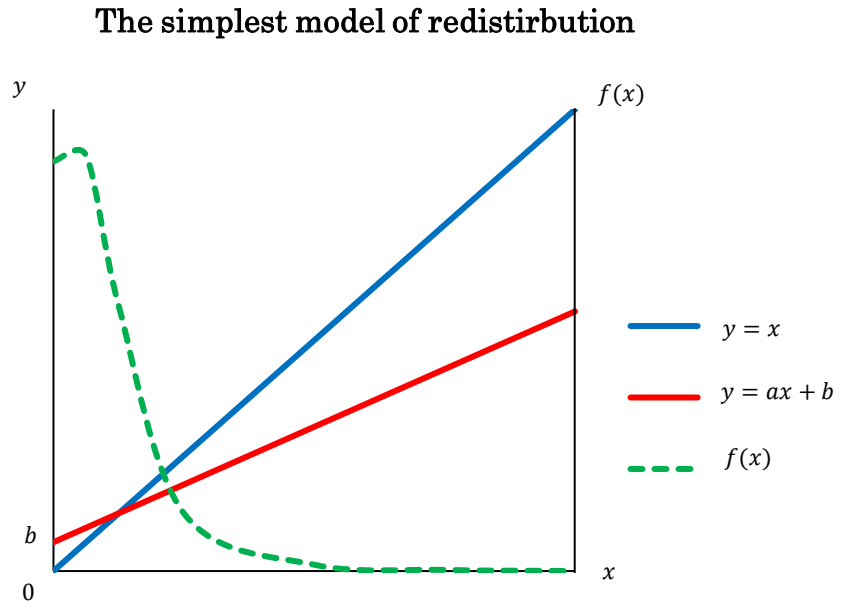
productivity; thereafter, we expect a further deflationary effect through the development of artificial intelligence or the Internet of Things. Furthermore, IT innovation reduces the cost of consumption on the demand-side, thus leading to reduced living costs. As a result, we could observe deflationary effects on both the demand and supply sides.

As these impacts are large, the monetary policy—which has the primary aim of controlling the inflation rate—has been hard to achieve and maintain, hence further widening the gap between the prevailing monetary policy and the market fundamentals described above. Quantitative easing, one of the main monetary interventions, has resulted in lower liquidity in the market, thus further enhancing the concentration of wealth and widening of the income gap. Nowadays, this leads not only to economic problems but also social instability, which threatens the foundation of a healthy economy.

If ongoing deflation through technological innovation was intended to be a positive factor, the development of a social system that accepts this trend is the only means of satisfying both economic growth and stability. If the various technological innovations in future further contribute to the development of society, it will not be merely an ideal to redistribute these innovations to the whole world for welfare by global taxation. Needless to say, various approaches have been undertaken by both public and private sectors around the world to redistribute wealth. However, the world now needs a wholehearted sharing of economic stability by developing a clear social policy.

This fundamental concept could be considered as redistribution that secures the cost of living of lower-income families. An example of the manner of distribution is represented by the following equation and the graph in Figure 4. We set the simplest manner of distribution, $y = ax + b$

$$\int_0^{\frac{b}{1-a}} f(x) \cdot (y - x) dx = \int_{\frac{b}{1-a}}^{\infty} f(x) \cdot (x - y) dx$$



x: pre-distributional income; y: post-distributional income; a: distribution rate; b: absolute standard of living; $f(x)$: population distribution prior to distribution

Figure 4　Redistribution of income as a function of pre-distributional income

This is the simplest model of redistribution based on the progressive taxation system. In the next section, we try to embed the redistribution concept in a newly proposed world currency.

3）　Monetary policy: Issuing global currency

In the course of global monetary history, the US Dollar as fiat currency of the United States of America has been established as the key global currency. However, as described in Section 2, the changing global economic environment has already entertained discussions about the introduction of a newer currency, based on newer innovative technologies, as well as discussions about the regulation of such newcomers.

These new currencies, often called cryptocurrencies, are based on blockchain technology, which enables issuing these on an Internet-based distributed ledger system. Blockchain technology itself could expand its ability to manage the intrinsic information that needs to be recorded in various databases of social system-related information, including economic activities. Further, it is expected to be safer and less costly.

In implementing a new world currency, the system can include transfer fees that could be allocated to the cost of issuing new entities, including system management. If the cost of the redistribution described in Section 2 could be funded from this transfer fee and without a governmental tax system, the redistribution rule could be clarified; the currency itself could be considered as contributing to welfare. This can be the most fundamental world governmental

policy embedded in introducing a new currency, as a function often referred to as universal basic income, where everyone can regularly and by default receive some money for living.

In determining the total cost of redistribution, the living costs of half of the global population (i.e., the lower-income families) could be covered, and even though a certain sum of money would need to be paid for this redistribution, as long as the redistribution received is greater than our payment for it, it may be considered as a means of respecting democracy. More than half of global population would agree to receive such a payment. Considering the equations in Section 2, the following equation could be derived to determine the value b as the median standard of living prior to redistribution as the simplest example.

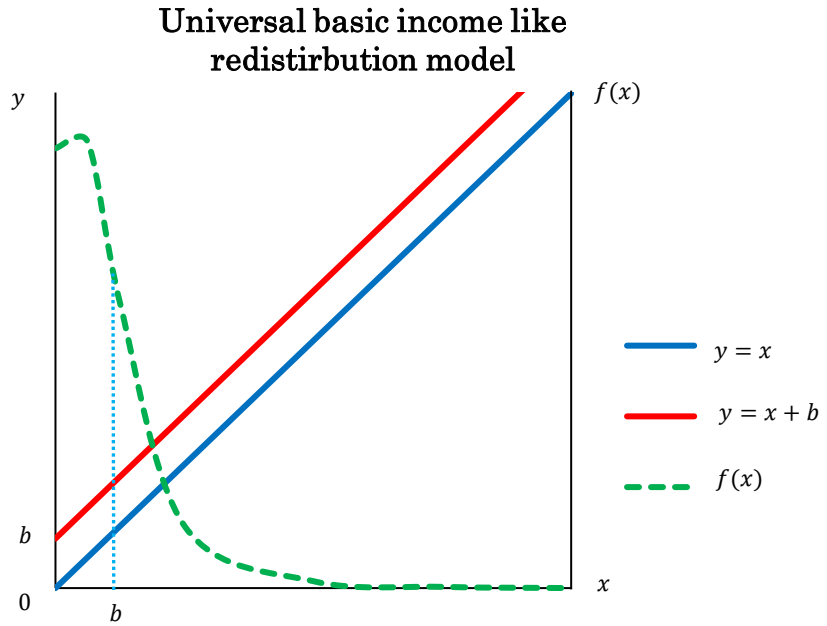
$$\int_0^b f(x)dx = \int_b^\infty f(x)dx$$

If we redistributed b to the entire global population, the total amount of redistribution R could be represented as follows:

$$R = \int_0^\infty f(x)dx \cdot b$$

This could serve as a reference point for the determination of a transfer fee rate that would include various costs for the issuer's functioning.

The graph is shown in Figure 5:



x: pre-distributional income; y: post-distributional income; b: absolute standard of living at median of population distribution, prior to redistribution; $f(x)$: population distribution prior to redistribution

Figure 5 Redistribution of income as a function of pre-distributional income

Gold could be used to stabilize the value of the new currency; it could stabilize the price of

existing legal currencies, as a means of introduction into the exchange market. At the same time, to maintain liquidity as world currency, the issuer could have the role of adjusting the rate of gold reserves to the whole issued amount. Therefore, the issuer needs to maintain two operations, namely, redistribution for the micro economy and maintenance of gold as the main means of asset management for the macro economy.

The management of the issuing entity of the world currency should be independent from the world government, similar to the legislative and judicial functions. However, it should remain within the public sector; therefore, all currency users must have the right to join its management by personal election, rate-based decisions, and direct or indirect means. In the end, the currency and its issuer would generate more trust and affinity under consensus, resulting in growth and stability of the global economy.

Further, the following characteristic features of redistribution could be considered:

- In areas where more people would benefit from redistribution, a demographic reversal will result, in particular with respect to inflation and population growth. This would correct disparities but may lead to inflation or confusion in the local society due to rapid change. The social and economic impact of redistribution needs to be observed continuously and cautiously.
- Redistribution formation could take place in various manners, such as building public sanitation, or preserving the environment for those whose lifestyle would not rely as much on the monetary system.
- At the beginning of issuing universal gold-backed currency, the issuing entity could be formed by a consortium of central banks managed on a universal blockchain or universally regulated blockchains. Each central bank can issue it based on their actual gold assets along with their own real and digital currencies.
- If redistribution may work well as price stabilizer, the currency could be reduced to fiat currency.

* Appendix: What is the world federal government?

On August 23, 1947, in Montreux, Switzerland, world federalists from various countries gathered for a meeting at the first international congress of the "World Movement for World Federal Government." They called upon the peoples of the world to join in their work, and published the Montreux declaration, comprising six principles.

These principles are presented below:

MONTREUX DECLARATION: The World Federal Government's Six Principles

1. Universal membership: The world federal government must be open to all peoples and nations.

2. Limitation of national sovereignty, and the transfer to the world federal government of such legislative, executive and judicial powers as relate to the world affairs.

3. Enforcement of world law directly on the individual whoever or wherever he may be, within the jurisdiction of the world federal government: guarantee of the rights of man and suppression of all attempts against the security of the federation.

4. Creation of supranational armed forces capable of guaranteeing the security of the world federal government and of its member states. Disarmament of member nations to the level of their internal policing requirements.

5. Ownership and control by the world federal government of atomic development and of other scientific discoveries capable of mass destruction.

6. Power to raise adequate revenues directly and independently of state taxes.