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Institution *matters!* But, in what sense?

Yoshikazu Sato

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Yoshikazu Sato

(Clare Hall/Hosei University)

Email: ysato@mt.tama.hosei.ac.jp

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1. Introduction

According to the syllabus, the focus of this lecture on “Institutions and Development” is “development issues at the interface of Law and Economics which are increasingly at the center of policy debate in development.”¹ One of topics covered is “the analysis of institutional change and the constraints on change”. I think the focal point here may be the *actual* change and its constraints. However what I would like to examine in this note is not the constraints in real world, but the constraints of a theory in itself and/or a theorist herself that is, needless to say, concerned with the reality. To put it another way, I would like to discuss on the necessity to *re-construct* or to *re-interpret* the orthodox economics.

The expression of orthodox or heterodox economics seems to be ambiguous and controversial. Everyone knows we have disputed over how we can define the heterodox economics as a consistent entity.² But I don't like to pursue it here because this is not my stuff in this paper. As for the discussion of the constraints of a theory, I will take the case of Keynes' economics, which is standardized.

As is well known, Keynes tackled with the mass unemployment problem in the 1930s. His diagnosis was to increase the effective demand by fiscal and monetary policies. He believed that a capitalist economy was not a self-regulating system, so he concluded the so-called Say's law lost its theoretical validity. Instead, the effective demand was singled out as the determinant of the level of income and employment (the Principle of Effective Demand). When there exists excess supply (e.g. unemployment, idle capacity of equipment) in the economy, the government should intervene positively on the private economic sphere. Government activities must be indispensable for the recovery from the depression. Capitalism cannot survive without an expansionary policy.

In the following we will two topics from standardized Keynes' economics in order to clarify the importance of the consideration on institution, or to demonstrate the constraint of Keynes' theory for understanding the capitalist economy. In section 2 the theory of investment multiplier will be examined. In section 3 we will review the Keynesian policy briefly and then demonstrate the possibility to increase employment and to raise real wage simultaneously. The necessity to reconstruct the orthodox economics will be examined in section 4 and section 5 concludes this note.

¹ Cf. Develop Studies Home Page: <http://www.devstudies.cam.ac.uk/core.html#2>

² The definition of heterodox economics, which usually includes Marxian, post-Keynesian, feminist, structuralist economics and so on, is not simply concerned with taxonomy. It is very important in order to reconstruct economic theory. See, for example, Lawson (2003), Lee (2002).

2. Why Can It Be a Multiple?

Production is constrained by the aggregate demand. Instability of a capitalist economy can be explained by the fluctuation of aggregate demand. Investment demand is most volatile among the components of effective demand. Accordingly the instability of an economy originates in the volatility of investment. Keynes' theory of investment multiplier tells us that:

If investment increases (decreases) by \$10 billion, the national income will usually increase (decrease) by a *multiple* of \$10 billion. Why can it be a multiple?

2.1 Keynes' Theory of Investment Multiplier

First the theory of investment multiplier will be reviewed briefly. In an introductory macroeconomics text, a simple consumption function is assumed and investment is assumed to be constant. That is,

$$(1) C = c_0 + c_1 Y \quad 0 < c_0 \quad 0 < c_1 < 1$$

$$(2) I = \bar{I} \quad \text{const.}$$

Then equilibrium income can be obtained in order to satisfy the equilibrium condition of goods market.

$$(3) Y = C + I$$

$$(4) Y^* = \frac{c_0 + \bar{I}}{1 - c_1}$$

As is easily derived from (4),

$$(5) \frac{dY^*}{d\bar{I}} = \frac{1}{1 - c_1} > 1$$

The value of right hand side (investment multiplier) is larger than unity because the marginal propensity to consume is positive and smaller than unity. Accordingly the extent of fluctuation of income is larger than that of investment. The reason consists in the *psychological factor* in consumption behavior, in other words, *asocial* factor regulate the movement of production. And the volatility of investment depends on the condition of entrepreneur's expectation on the future events, or 'animal spirit' if we use the Keynes' term. The expectation can be said, in a sense, psychological one. This way of thinking is logically consistent, so it may be appropriate to describe the movement of production. We don't deny that the psychological factor plays an important role in a variety of cases. However, can we say this is the whole story? Is it true?

2.2 Capitalistic Character of Multiplier

I would like to examine this phenomenon from the different point of view. Suppose a simple one-sector economy, which reflects the minimum essentials of a capitalist

economy: class society.

We assume a fixed coefficient production technique. We denote the quantity of goods and the quantity of direct labour necessary to produce unit product as a and τ respectively. Workers are assumed to consume their entire wage and capitalists do not consume (the so-called classical assumption on saving), the production level (X) is determined by the demand for the product as in Keynes' model.

$$(6) X = aX + \tau RX + \bar{I}$$

Production = Replacement demand + workers' consumption demand + Investment

Here R is real wage. Arranging (6), we get,

$$(7) (1 - a - \tau R)X^* = \bar{I}.$$

We have to examine the meaning of the first term of this equation. If the coefficient a is larger than unity, we cannot "produce" goods. Because, input is larger than output. So the coefficient a must be smaller than unity: $1 - a > 0$. It is straightforward. We call this as *net production possibility condition*. If this condition met, the equation above can be rewritten as:

$$(8) (1 - a)(1 - \frac{\tau}{1 - a}R)X^* = \bar{I}$$

Now we denote the labour necessary directly and indirectly to produce one unit of goods as λ , which can be obtained from the following.

$$(9) \lambda = a\lambda + \tau$$

As long as the net production possibility condition is satisfied, λ can be positive.

$$(10) \lambda = \frac{\tau}{1 - a}$$

As is well known as "Fundamental Marxian Theorem", $1 - R\lambda > 0$ in order the positive profits to exist.³ This is called as *surplus condition*. Finally, we can get the relation between X and \bar{I} .

$$(11) X^* = \frac{\bar{I}}{(1 - a)(1 - R\lambda)} > 0$$

Apparently the investment multiplier in this case is:

$$(12) \frac{1}{(1 - a)(1 - R\lambda)} > 1.^4$$

³ Fundamental Marxian Theorem asserts that: there must exist surplus labour for profit to be positive in capitalist economy. See for example, Kruger and Flaschel (1993) part III.

$\therefore 1 - (1 - a)(1 - R\lambda) = R\lambda + a(1 - R\lambda) > 0$

⁴ $1 > (1 - a)(1 - R\lambda) \therefore \frac{1}{(1 - a)(1 - R\lambda)} > 1$

We have demonstrated so far that:

If the net production possibility condition and the surplus condition are satisfied, then

- (i) The level of production can be positive, and
- (ii) The investment multiplier can be larger than unity.

By introducing the production technique and income distribution explicitly, we can show the condition for the positive production and the meaning of the multiplier.

According to the theory of multiplier, if investment decreases by \$10 billion, the national income will usually decrease by a *multiple* of \$10 billion. This proposition is valid as long as '*other things being equal*'; specifically as long as (i) the production technique does not change, and/or (ii) the real wage remains constant. The point is why we can state '*other things being equal*'. Imagine the real wage will rise sufficiently when the investment falls. And capitalists are assumed to supply goods to meet the demand though the real wage rises (the fall of rate of profit). Then the level of production can *increase* (cf. (11)). But this might not happen in a capitalist economy. As capitalists are in complete control in production decisions, the consumption demand by workers cannot be pulled up in order to offset the decrease of investment. Capitalists always decrease the production when the real wage increases. The process of "the decrease of investment → the decrease of production" is not inevitable under any type of society. If we were able to determine the level of production from the point of the social, we can select the optimal proportion of production.⁵ In sum the investment multiplier can work in a capitalistic social structure. Keynes did not understand this capitalistic character of multiplier. This is the constraint of Keynes' economics. We have to spell out the social structure where the concerned theory can work. *The institutions matter!*

3. How Can We Decrease the Unemployment?

There are so many unemployed in the world. Unemployment is a serious problem even today. I think it is necessary to reexamine the theoretical significance of Keynesian policy.

3.1 The Core Message of Keynesian Policy

As the standard macroeconomics textbook shows, Keynes' complete model on which we will discuss is characterized by the following five equations. For the simplicity of the argument, we abstract the government expenditure, tax and foreign sector.

(13) Equilibrium of Goods Market:

⁵ This paragraph is mainly based on the discussion of Okishio (1976: pp.185-86)

$$I(r) = S(Y) \quad I' < 0, 0 < S' < 1$$

(14) Equilibrium of Money Market:

$$\frac{M}{p} = L(r, Y) \quad L_r < 0 \quad L_Y > 0$$

(15) Production function:

$$Y = F(N; \bar{K}) = f(N)$$

$$f' > 0 \quad f'' < 0$$

(16) The maximization of profit:

$$\frac{w}{p} = f'(N)$$

(17) Labour Supply:

$$w = \bar{w} \text{ (constant)}$$

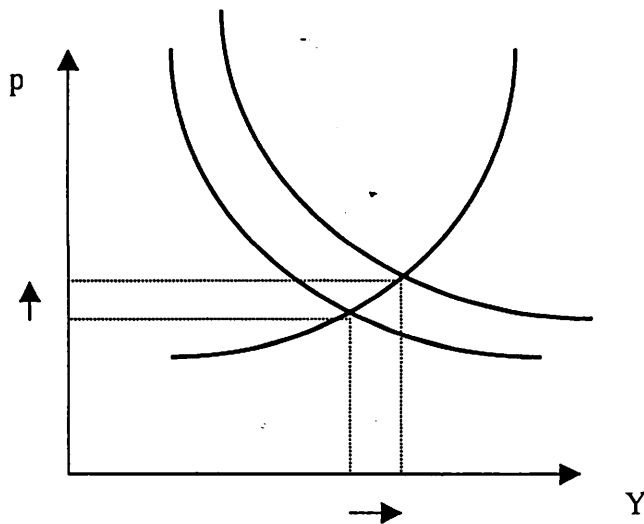
From (13) and (14), we obtain the aggregate demand curve (AD).

$$(18) \quad p = D(Y; M)$$

From (15), (16) and (17), we obtain the aggregate supply curve (AS).

$$(19) \quad p = S(Y; \bar{w})$$

Fig.1



The intersection of these curves gives the equilibrium (Y^*, p^*) . Apparently this equilibrium income (Y^*) does not necessarily coincide with the full-employment income (Y_f) . In the case of $Y^* < Y_f$ (i.e. unemployment equilibrium), we have two options in order to increase Y^* . One measure belongs to the demand side, and another does to the supply side. For the sake of the subsequent discussion, I would

like to list up the determinants here.

- **Determinants of the Aggregate Demand**

- Schedule of marginal efficiency of investment (“animal spirit”) → $I(r)$
- Propensity to consume, propensity to save → $C(Y)$ $S(Y)$
- Liquidity preference, transaction habits → $L(r, Y)$
- Nominal money supply → M

- **Determinants of the Aggregate Supply**

- Production technique, capital stock → $Y = F(N; \bar{K})$
- Money wage rate → $w = \bar{w}$
- Supply behavior of capitalists → $\frac{w}{p} = f'(N)$

Among the determinants above, what Keynes examined was only the factors in the demand side. Most of the chapters of *The General Theory of Employment, Interest and Money* devoted to the analysis of the components, which consist of the aggregate demand. As for the supply side, he assumed the classical first postulate; that is “the wage is equal to the marginal product of labour.” He thought that it is natural to assume the capitalists’ profit maximization behavior. This was “the *given*” for him.

Table 1

	Money Supply	Money wage rate	Restriction against Profit maximization Principle
Price	+	+	Decrease
Income	+	-	Increase
Consumption	+	-	Increase
Investment	+	-	Increase
Rate of interest	-	+	Decrease
Employment	+	-	<i>Increase</i>
Real wage rate	-	+	<i>Increase</i>
Wage share	- if $\sigma < 1$	+ if $\sigma < 1$	<i>Increase</i>

Such factors as the schedule of marginal efficiency of investment (‘animal spirit’), a propensity to consume and a liquidity preference are regarded as psychological in character, so the policy agent cannot control them *directly*. Within the time framework that Keynes assumed, the production technique and the quantity of capital

equipment do not change. In addition Keynes accepted the classical assumption of the firm as stated above. Accordingly the control variables that the policy agent can manage can be the quantity of nominal money supply and the fiscal factors such as government expenditure and tax, which are excluded in the model above for the sake of simplicity. I will take a case of monetary policy. The effect of the increase of money supply, for example, can be usually summarized in Table 1.

In this Table, the sign “+” (“-“) means that the concerned variable moves to the same (opposite) direction with the change of money supply, for example. It can be easily understood that the fiscal policy to aim to increase the effective demand has the same effect in the case of monetary policy. Here I abstract the special cases that the elasticity of liquidity preference of interest rate is infinite (i.e. liquidity trap) and/or the elasticity of investment of interest rate is zero.

Notice!! The employment increases, however, the real wage rate decreases when the government tries to stimulate the economy by expansionary policy (an increase of money supply). The direction of change is conditional, which depends on the value of income elasticity to the profits in real term. Wage share is defined as:

$$(20) \text{ Definition of Wage share: } \mu = \frac{wN}{pY} = \frac{wN}{pf(N)} \equiv \mu(N)$$

The derivative of this can be written as:

$$(21) \frac{d\mu}{dN} = \frac{Nf''}{f}(1-\sigma) \quad \text{where } \sigma = -\frac{f'(f-Nf')}{Nff''}$$

Therefore, considering the character of the production function, we get,

$$\therefore \text{sgn}\left(\frac{d\mu}{dN}\right) = \text{sgn}(\sigma - 1)$$

As σ can be written in the form:

$$(22) \sigma = \frac{\pi}{Y} \frac{dY}{d\pi} = -\frac{f'(f-Nf')}{Nff''}$$

where π expresses the profits in real term:

$$(23) \pi = Y - \frac{w}{p}N = f(N) - Nf'(N)$$

In sum, σ defines the elasticity of production to the profit. That σ is smaller than unity means the capitalist does not increase the production as long as the proportional increment of profit is larger than that of production. So in this case capitalists are thought as being more profit seeking.

Again, check over the direction of change of income, employment, real wage rate and so on. The real wage rate decreases, though the employment increases. Actually workers can get jobs in exchange for the decreased real wage rate. It should be stressed that the essence of Keynesian expansionary policy is to provide the firms a

profitable situation by raising the price level – an inflation policy.

3.2 Alternative to Keynesian Policy

We have to raise the following questions:

- (i) “Do workers always give up the increase of real wage when they get additional jobs?”
- (ii) “Can we have a policy that would increase an employment and a real wage rate *simultaneously*?”

The answer to the first question is “No!” and it is “Yes!” to the second. The point in this answer is “Institutions *matter!*” We must clarify the institutional configuration that Keynes’ theory takes it for granted. For Keynes, a capitalistic social structure was given, which was *an inviolable sanctuary* for him. However the capitalistic institutions are emerged historically in the real world, which were not obtained as a solution from the game theoretic exercise. Institutions are the actual and historical

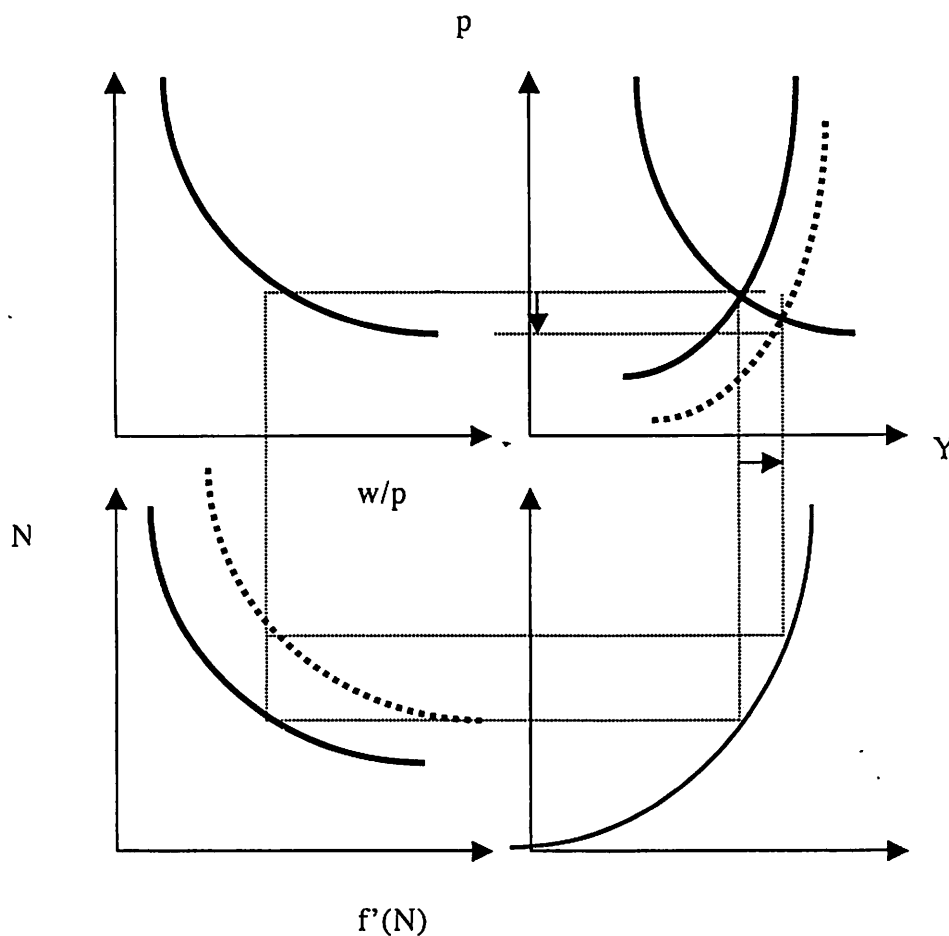


Fig.2

product of the interactions among people who belong to a variety of social classes. Essentially institutions and rules that organize it are not the unchanging and everlasting but can be subject to change. Therefore the rules including property law, in particular, private ownership can be changed. We have right to change them legally, because we set them up collectively. We must not forget this fact.

Assume to alter the “behavioral pattern of a capitalist in the supply side; that is, to restrict the profit maximization principle.” If we could succeed in restricting the behavior and/or could push a capitalist to produce at the point that is below the profit-maximizing point from a viewpoint of the social, the aggregate supply curve would shift downward as shown in Figure 2.⁶

If the principle of profit maximization is restricted, the employment must be larger than that, which satisfies this principle. The marginal product of labour curve will move upward, as the result, the aggregate supply curve will move downward. Consequently, the equilibrium point moves to the direction of northeast.

Someone may think that the point that does not the principle of profit maximization (eq. (16)) should be ‘inefficient’. Remember that equation (16) show only the optimal employment when the price and money wage are given. Optimal means the maximization of profit. So to speak, it means optimality from the capitalist’ point of view. All points on the production function can be qualified as being optimal from technical point of view. Therefore the restriction against the principle of profit maximization is irrelevant to the technical efficiency.

The result of this “policy” can be summarized as in the Table 1. You can find the real wage rate can increase and at the same time the employment increases. If we remove the “given” for Keynes, we can have a different solution for the unemployment problem. The constraint of a Keynes’ theory and/or Keynes himself consists in the fact that he presumed a capitalist economy as *an inviolable sanctuary*. What I would like to assert is that we have to read what is **not** written explicitly in the theory, in other words, we have to try to re-construct the theory from the social and political point of view. We have to transcend the constraint that the concerned theory assumes to be given. A core message is often stated in the form that the theorist is not willing to

⁶ What does “the social” mean? We wrote elsewhere on this question as:

It comprises the potential for social formation that underpins society. A society cannot be organized without the social. As a historical experience, the social was initially understood as ‘Gastfreundschaft’, ‘Convivial’ and a support for the weak. It played a role in transforming strangers, notably from potential enemies to friends. While society necessarily entails some antagonistic relations, the social can help resolve conflict. (Sato=Valatin, p.16)

As for the theoretical importance of ‘the social’, see Sato (ed.) (2003), Sato (2004) and Shimizu and Sato (2003), for example.

demonstrate or it is hidden beneath the theory. For Keynes, this must be the maintenance of the status quo, that is, the capitalistic mode of production.

4. Necessity to *Re-construct the Orthodox Theory*

The line of argument above seems to be *too fundamental Marxian*, or it is too optimistic to imagine a policy to restrict the profit maximization principle. I admit that the political feasibility of the 'policy' above is a big issue. In reality the power of Capital has been intensified among the advanced industrial economies especially since the end of the Golden Age. Some people still believe that the market mechanism can be treated as Omnipotent though market failed in the 1930s. Nevertheless, in the 1980s and '90s, there was the attempt to privatize and/or deregulate all parts of the economy. I can say that it was a trial of "Dreams come true again." Though such an attempt seemed to be successful on the surface, it failed at a deeper level. Recent economic policy, which is often called as neo-liberal, can be characterized by the increase of part-time and contingent worker in the labour market, for example. In general, such change has the effect of decreasing the average wage. If we apply our AD-AS model to this case, this can be interpreted as the case that the money wage rate falls. The result of this is shown in the Table 1. Neo-liberal policy can be understood as an attempt to change the supply side to be favorable for the firms. As is easily noticed from the comparative static analysis, the income and employment increase at the expense of the fall in the real wage rate.

Most of the argument about practical alternative such as neo-liberal policy is confined within the existing social and political framework. In principle, political change entails altering the structure, which determine how the system itself works. We don't have to compile with the status quo. I believe that "another world is possible."

5. Concluding Remarks – '*Think Different*'

The applicability of a specific theory should not be judged by its superficial resemblance to realities. We have to have theoretical apparatus that help us to understand the mechanism underneath 'realities'. In this sense the theory of institution *a la* Marx in the tradition of heterodox macroeconomics is still effective.

To sum up, we must be free from the orthodox way of thinking. Now it is evident that it is a dream to suppose that a market mechanism can work smoothly and that a government can behave like a gifted arbitrator. The challenge for us is to design an efficient socio-economic system where people can enjoy liberty, fairness and equality. In searching the solution we must scrutinize the working of a variety of institutions, in particular, its governance structure.

We must reconsider the meaning of ownership. Apparently ownership does not mean the relationship between a person and a thing. That Ms. A owns Goods X means the relationship Ms. A and other people concerning the goods X. If Ms. A is in complete control of the goods X and she can exclude all other people on this, Ms. A can be said to own the goods X. That is, the ownership comes down to the problem of decision-making, or the location of power. Then the problem of power must be central when we consider the governance structure.

Again we must be free from the image of human being: '*Homo economicus* (economic man)', which the orthodox economics presumes naturally. Needless to say we don't live for only money and wealth. Profit is not the only organization principle of a society. We should extend a sphere of activity that is not governed by profit principle but **NON-profit principle**.

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