Egalitarianism Policy and Effective Demand under Globalization

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Abstract. The study examines egalitarianism policies in terms of the relationship between labor and capital and extends the model developed by the economist Bowles. We introduce the demand factor to the Bowles model (2012), which discussed the effectiveness of the income and asset redistribution policies in a global economy. The improvement of productivity and the decrease in the ratio of monitoring labor through asset-based redistribution increase the real wage rate because of its lure for foreign capital. At this point in the Bowles model, the labor supply increases and then employment increases. In contrast, in our model, with the addition of the demand factor, the improvement of productivity increases employment, but the decrease in monitoring labor does not always increase employment as both demand and supply increase. This means that asset-based redistribution in a global economy is not always effective.

Keywords. Egalitarianism, Redistribution, Effective demand, Globalization.

JEL. E12, F60, J80, J88.

1. Introduction

N egative aspects of globalization are receiving a significant amount of attention. One of these is the fear that egalitarianism policies may not be compatible with globalization. Income redistribution may decrease international competitiveness, and asset redistribution may cause capital flights. Examining the effectiveness of egalitarianism policies is an urgent task as it truly indicates that many people worldwide read the French economist Picketty (2013), who sounds the alarm on the expansion of inequality. Here we examine egalitarianism policies in terms of the relationship between labor and capital.

Bowles (2012) argues that income redistribution is difficult under globalization and demonstrated the effectiveness of asset redistribution.

In his book, the ``sharking'' model was constructed in which workers determine labor efficiency considering labor institutions, unemployment compensation, and monitoring by firms with rapid capital movement across borders. It concludes that strengthening firing regulations and expanding unemployment compensation decrease employment due to increase in wages; however, the redistribution of assets increases employment because it improves labor productivity by improving labor incentives. Furthermore, it assures the existence on multiple equilibriums due to endogenous risk premiums, and examines the increase in productivity based on public spending.

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Bowles shows effectiveness of the redistribution of assets, contrasting this with the difficulty in the redistribution of income under globalization.

However, he excludes aspects of effective demand.The significance of emphasizing aspects of supply side economics, following the thinking of Bowles and Boyer (1995), empirically indicates the difficulty of the redistribution of income under globalization.Additionally, Lavoie and Stockhammer (2012) show that the changes a wage-led economy brings about depend on conditions in each country and in each era.We can also look at the strategy of international cooperation to achieve wage-led economies.The fact that the increase in wages assumes the redistribution of income because the consumption propensity for wages is larger than that for capital profits is noteworthy.

Some theoretical research exists that examines the possibility of wage-led economic growth.

Blecker (1989) built a one-country macro model constrained by effective demand and pointed to the difficulty in wage-led growth under international competition.He states that an increase in wages creates a declines in international competitiveness due to an increase in prices and worsens the trade balance.

Nakatani (2008) introduced capital accumulation into Blecker's research (1989) to examine a longer effect.He showed that an increase in wages eventually increases domestic production over the long run.His reasoning is that the decrease in the capital accumulation rate improves the trade balance due to a relative increase in exports.

Blecker (1998) builds two country models in which the change of income distribution in one country affects the other country and goes on to examine how the change in relative wages affects both countries.Nakatani (2012) considers the combination of the growth regimes of two countries based on Blecker.The increase in wage facilitates growth in the foreign country and it supports the home country when the regime in the home country is wage-led and the regime in the foreign country is profit-led. In such a case, the growth rates in both countries increase.The production is somewhat larger in the country that increases wages; although the effect on growth rates is vague when the regimes in both countries are wage-led.In contrast, the production is rather smaller in the country that increases wages when the regimes in both countries are profit-led.

Such theoretical research indicates the importance of considering the effective demand in redistribution policy under globalization.We will examine whether the arguments of Bowles (2012) still hold when we consider effective demand.This examination will also address the limitations in the existing research on income distribution policy that have not yet focused on supply side.

The research from Bowles (2013) introduces the effective demand factors unlike Bowles model (2012).Bowles considers three factors-class conflict, effective demand, and competition as determinants of employment and wages, although his model is designed as a closed system.In the model, competition corresponds to rapid capital movement.Therefore, we can introduce effective demand factors to the Bowles model in the following way.

We assume the following economy.Goods produced by labor and capital are either for investment or consumption.Workers are homogeneous and immobile across borders.Employers monitor workers and threaten to fire them in order to extract greater effort.In contrast, capital moves freely on a global scale, reacting to the after-tax profit rates.The interest rate and time preferences are constant on a global scale, each country acts as a small country.Workers consume all of the wage and unemployment compensation they receive.Capital retains some of profit income.Political pressure to increase the unemployment compensation rises when

the unemployment rate is high, and vice versa.This view is also introduced in Bowles (2013).

From here forward, this study comprises the following sections.Section 2 explains the Bowles (2012) model and section 3 introduces effective demand factors into the basic model.Section 4 conducts comparative statistics analysis, followed by our conclusion.

2. Bowles Model (2012)

We explain the Bowles model (2012) as the basic model here. We denote labor time h, effort per labor time by workers e, production per effort y, and the proportion of monitoring workers m.Thus, gross production Q is as follows:

$$Q = yeh(1-m) \tag{1}$$

We standardize labor time h to $0<h<1$, and assume that workers can choose 0 or 1 in unit effort.

Firms monitor workers and determine wage levels to equalize the pay-offs of those working and those shirking.Thus, the following equation holds.

$$w - a = (1 - \tau)w + \tau(1 - h)b \tag{2}$$

where w, a, τ, and b are wage, disutility of labor, probability of firing, and unemployment compensation, respectively.The left hand is the pay-off of those working and the right hand is the pay-off of those shirking.The first term on the right hand indicates the case of continuation on contract, the second term signifies the case of firing and getting a new job, and the third term shows the case firing and unemployment.

From (2), we get

$$w = \frac{a}{\tau(1-h)} + b \tag{3}$$

This wage level is the minimum to prevent workers from shirking.A firm's profit and worker's utility is optimal at this wage.In equation (3), wagew is the increasing function of the disutility of labor a, employment h, andunemployment compensation b.Equation (3) represents the equilibrium condition of labor supply.We can depict the labor supply function from (3).

The profit rate is

$$r = \frac{y - k - \frac{w}{1-m}}{k} \tag{4}$$

where k is the required capital per labor time.

k as intermediate goods is removed in (4) because the production goods have characteristics of both investment and consumption.Workers who engage in monitoring also get wages.

After-tax profit rate is

$$\pi = r(1 - t) = \frac{(1-t)(y - k - \frac{w}{1-m})}{k} \tag{5}$$

wheret is tax on capital.

Expected after-tax profit rate is

$$E(\pi) = \pi(1 - d) \tag{6}$$

where d is the probability of confiscation.This probability is different in different countries and depends on the macroeconomic policies and political environments in each country.

We assume the security asset interest rate is ρ .Zero profit condition is

$$E(\pi) = \rho \tag{7}$$

\begin{equation}
In this model, capital can rapidly move across borders.

When we assume $\frac{1}{1-d}$, we get from (5)-(7)

$$w = (1 - m)\left(y - k - \frac{k\rho\mu}{1-t}\right) \tag{8}$$

Equation (8) is the equilibrium condition for labor demand.We can depict a labor demand curve from this equation.

Therefore, we can summarize this model in two equations, (3) and (8) and two endogenous variables, w and h.

The results of the comparative statistics are demonstrated in Table 1.

TABLE 1. *The Result of Comparative Statistics*

	H	w
t	-	-
m	-	-
y	+	+
k	-	-
ρ	-	-
μ	-	-
a	-	0
τ	+	0
b	-	0

The distinctive results are that protection policies for workers, such as strengthening firing regulations (τ ↓) and improving unemployment compensation (b ↑), decrease labor supply and employment as shown in Graph 1.

Therefore, relaxing firing regulations (τ ↑), decreasing the rate of monitoring labor, and strengthening labor discipline should improve wages and employment.
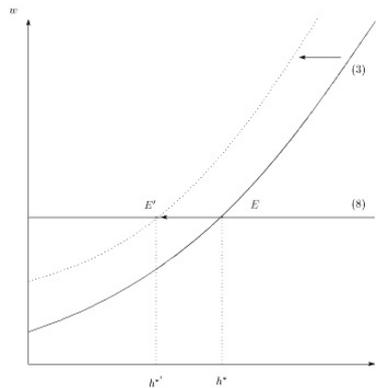
GRAPH 1. *Determination of Wages and Employment*

An improvement in productivity from trade union encouragement and realization of fair wages, a decrease in the disutility of labor, and an increase in the elasticity of labor supply on wages also improve wages and employment.

In summary, asset based redistribution improves labor, and subsequently, the ratio of labor for monitoring and the increase in productivity improve employment.

As mentioned above, the analysis excludes the effective demand.We will address this in the next section.

3. Conclusions and the way forward

The following model includes effective demand.

First, we model a goods market.The equilibrium equation in the goods market is

$$(y - k)(1 - m)k = i + c + g \qquad (9)$$

wherei, c, and g are investment, consumption, and government spending, respectively.

We assume that the investment depends on the after-tax profit following Bowles (1988).[i]The investment function is

$$i = i_0 + i_r rk(1 - m)(1 - t)h, \quad i_0 > 0, \quad i_r > 0 \qquad (10)$$

where i_0, i_r, and k(1-m)h are animal spirits, the sensitivity of theinvestment on the profit, and the value of capital, respectively.

We assume that workers consume all their wages, and some profit income s_r is saved.Thus, the consumption function is

$$c = [w + (1 - s_r)r(1 - t)k(1 - m)]h \qquad (11)$$

We assume that the government spends all the unemployment compensation. Thus, we get

$$g = b(1 - h) \qquad (12)$$

We assume that an excess supply in the goods market increases unemployment compensation, and vice versa.Workers politically call for more hospitable unemployment benefits in a recession, and vice versa.

In Japan, after the "Lehman Shock," the anti-poverty campaigns increased and the acknowledgment of the unemployment compensation and social welfare was

facilitated.[ii]The distinction of this model is that the unemployment compensation b is endogenous.Thus, the dynamic equation on employment is

$$\dot{b} = \alpha[(y - k)(1 - m)h - (i + c + g)] \tag{13}$$

In summary, this model is complete with seven equations, (3)(4)(8)(10)-(13) and seven endogenous variables w, h, i, c, g, r, and b.[iii]

Variables are determined as follows.First, we assume that h is a value in (13).Thus, b is determined in (3) because w is determined in (8).The variable r is also determined in (4).Therefore, i, c, and g are determined from (10)-(12), respectively.Finally, h is from (13).

Next, we conduct the comparative statistics analysis.

We assume $\dot{b} = 0$$ in (13), and then substitute (3)(4)(8)(10)-(12) for it.We get[iv]

$$h = \frac{i_0 + (1-m)\left(y - k - \frac{k\rho\mu}{1-t}\right) - \frac{a}{\tau}}{(1-m)[y - k + \rho\mu k(s_r - 1 - i_r)]} \tag{14}$$

We also assume $y - k + \rho\mu k(s_r - i_r - 1) > 0.$[v]
The results of the comparative statistics analysis are represented in Table 2.[vi]

TABLE 2. *The Result of Comparative Statistics*

	h	w	b
t	−	−	±
m	±	−	±
y	+	+	±
k	±	−	±
ρ	±	−	±
μ	±	−	±
a	−	0	+
τ	+	0	−
i_0	+	0	−
i_r	+	0	−
s_r	−	0	+

The effect of i_0, i_r, s_r on employment h indicates the normal results for a demand constrained economy.The increase of the investment demand, the increase in i_0 and i_r and the consumption demand, and the decrease in the s_r increases the production.

The variables b and h move in opposite directions.The model distinctively indicates that a worsening employment situation strengthens the political demand for more hospitable unemployment compensation.

The implications are different, although the qualitative results of t, a, τ, and y in h are the same.

First, we look at strengthening the tax for capital, an increase of t.In Bowles (2012) the increase of t and the decrease of τ, decrease the wage rate w because of the capital flight.Thus, both the labor supply and employment decrease.In contrast, in our model, the decrease of wage w decreases the consumption demand.This results in the decrease of employment h.

Next, we address the increase of the marginal disutility a and the decrease of the regulation of firing, a decrease of τ.In Bowles (2012), the increase in disutility and the decrease in regulation for firing decrease employment because of the decrease

in the labor supply.In our model, the unemployment compensation decreases because the decrease in the employment makes the goods market excess supply.Therefore, the decrease in the effective demand from the decrease in government spending decreases employment h.

The improvement of labor productivity y increases the real wage rate w due to the attraction of foreign capital.It results in an increase of employment due to the increase of the labor supply.In contrast, in our model, the employment increases because the increase in the demand is more than the increase in the supply.

Next, we take a look at the increase of m.In Bowles (2012), it results in the decrease of the real wage rate w.Thus the employment h decreases due to the decrease in the labor supply.Conversely, in our model, the effect of the increase in m is ambiguous because it decreases both demand and supply.

The increase in m decreases h when an autonomous demand like animal spirits is small.

In Bowles (2012), the increase in k, ρ, and μ decrease the labor supply based on the decrease in the real wage rate from the capital flight.

However, in our model, the effect on employment is ambiguous because it affects both demand and supply.

4. Conclusion

We introduce the demand factor to the Bowles (2012) model that showed the effectiveness of the redistribution policy under globalization and examine the Bowles argument (2012).The improvement of productivity and the decrease in the ratio of the monitoring labor through asset-based redistribution increase the real wage rate due to its lure for foreign capital.

At this point, in the Bowles model, the labor supply increases and then employment increases. In contrast, in our model, the improvement of productivity increases employment, but the decrease in the monitoring labor does not always increase employment because both demand and supply increase.This means that asset-based redistribution under globalization is not always effective.

However, our research is preliminary.We have to consider productivity improving policies of government spending and the endogenous risk premiums as in the research by Bowles (2012).These issues can be addressed in future research.

Appendices

Appendix 1.

From (3) and (8), we get

$$h = 1 - \frac{a}{(1-m)\left(y-k-\frac{k\rho\mu}{1-t}\right)-b} \tag{15}$$

Substitute (15) for (13), we get

$$\dot{b} = \alpha\left\{-i_0 - (1-m)k\rho\mu\left(i_r - s_r - \frac{t}{1-t}\right)\left[1 - \frac{a}{(1-m)\left(y-k-\frac{k\rho\mu}{1-t}\right)-b}\right] - b\frac{a}{(1-m)\left(y-k-\frac{k\rho\mu}{1-t}\right)-b}\right\} \tag{16}$$

Thus, we get

$$\frac{\partial\dot{b}}{\partial b} = -\alpha\left\{\frac{a}{(1-m)\left(y-k-\frac{k\rho\mu}{1-t}\right)-b} + \left[b - (1-m)k\rho\mu\left(i_r - s_r - \frac{t}{1-t}\right)\right]\cdot\frac{a}{\left[(1-m)\left(y-k-\frac{k\rho\mu}{1-t}\right)-b\right]^2}\right\} < 0 \tag{17}$$

Appendix. 2

Substitute (8) for (4), we get

$$r = \frac{\rho\mu}{1-t} \qquad (18)$$

Substitute (18) for (10), we get

$$i = i_0 + i_r k \rho\mu(1-m)h \qquad (19)$$

Next, substitute (8) and (18) for (11), we get

$$c = [(1-m)\left(y - k - \frac{k\rho\mu}{1-t}\right) + (1-s_r)\rho\mu k(1-m)]h \qquad (20)$$

Using (3) and (8), we get

$$b = (1-m)\left(y - k - \frac{k\rho\mu}{1-t}\right) - \frac{a}{\tau(1-h)} \qquad (21)$$

Thus, from(12) and (21), we get

$$g = (1-m)\left(y - k - \frac{k\rho\mu}{1-t}\right)(1-h) - \frac{a}{\tau} \qquad (22)$$

Substitute (19), (20), and (22) for (9), we get (14).

Appendix. 3

$$\frac{db}{dt} = \frac{k\rho\mu}{(1-t)^2[y-k+\rho\mu k(s_r-i_r-1)]}\left\{(1-m)[y-k+\rho\mu k(s_r-i_r-1)] - \frac{a}{\tau}\right\} \qquad (23)$$

$$\frac{dh}{dm} = \frac{i_0 - \frac{a}{\tau}}{(1-m)^2[y-k+\rho\mu k(s_r-i_r-1)]} \qquad (24)$$

$$\frac{dh}{dy} = \frac{(1-m)^2\rho\mu k\left(s_r-i_r-1+\frac{1}{1-t}\right)-(1-m)(i_0-\frac{a}{\tau})}{(1-m)^2[y-k+\rho\mu k(s_r-i_r-1)]^2} > 0 \qquad (25)$$

In (14) when we assume 0<h<1, $-(1-m)\left(y - k - \frac{k\rho\mu}{1-t}\right) < i_0 - \frac{a}{\tau} < (1-m)\rho\mu k(s_r - i_r - 1 + \frac{1}{1-t})$. Thus, the sign of (25) is determined.

$$\frac{dh}{dk} = \frac{\left[i_0-\frac{a}{\tau}-(1-m)\frac{k\rho\mu}{1-t}\right][1+\rho\mu(1-s_r+i_r)]+(1-m)^2\rho\mu(1-s_r+i_r)y}{(1-m)^2[y-k+\rho\mu k(s_r-i_r-1)]^2} \qquad (26)$$

$$\frac{dh}{d\rho} = \frac{-\frac{k\mu}{1-t}(1-m)^2(y-k)-(1-m)\mu k(s_r-i_r-1)[i_0-\frac{a}{\tau}+(1-m)(y-k)]}{(1-m)^2[y-k+\rho\mu k(s_r-i_r-1)]^2} \qquad (27)$$

$$\frac{dh}{d\mu} = \frac{-\frac{k\rho}{1-t}(1-m)^2(y-k)-(1-m)\rho k(s_r-i_r-1)[i_0-\frac{a}{\tau}+(1-m)(y-k)]}{(1-m)^2[y-k+\rho\mu k(s_r-i_r-1)]^2} \qquad (28)$$

Notes

[i] Shimano (2015) supports the assumption empirically.
[ii] The social welfare is a type of reservation wage because many unemployed workers receive it.
[iii] Please refer to Appendix 1 for the stability condition.
[iv] Please refer to Appendix 2 for the calculation.

[v] There are some controversies on the Keynesian stability condition. Refer to Abe (2014, 2013), Hein, Lavoie, and van Treeck (2011), Skott (2012), and Skott and Zipperer (2012).

[vivi] Refer to Appendix 3 for the principal calculations.

References

Abe, T. (2014). Cyclical patterns in Japanese manufacturing firms: analyzing three post-Keynesian models. *Evolutionary and Institutional Economic Review,* 11 (1), 1-18. doi: 10.14441/eier.110101

Abe, T. (2013). Estimation of the Kaleckian investment function in Japanese manufacturing. *Post Keynesian Review*, 2(1), 29-38.

Blecker, R. (1998). International competitiveness, relative wages, and the balance-of-payments constraint. *Journal of Post Keynesian Economics*, 20(4), 495-526.

Blecker, R. (1989). International competition, income distribution and economic growth. *Cambridge Journal of Economics*, 13(3), 395-412.

Bowles, S. (2013). Three's a Crowd: My Dinner Party with Karl, Leon, and Maynard. In J. Wicks-Lim and R. Pollin (Eds.), *Capitalism on Trial: Explorations in the tradition of Thomas E. Weisskoph (pp.17-41). Northampton, MA:* Edward Elgar.

Bowles, S. (2012). Feasible egalitarianism in a competitive world. In *The New Economics of Inequality and Redistribution (pp.73-100). New York,* Cambridge University Press.

Bowles, S., & Boyer, R. (1995). Wages, Aggregate Demand, and Employment in an Open Economy: An Empirical Investigation. In G. Epstain and H. Gintis (Eds.), *Macroeconomic Policy after the Conservative Era (pp.143-171). Cambridge,* Cambridge University Press.

Bowles, S., & Boyer, R. (1988). Labor discipline and aggregate demand: A macroeconomic model. *American Economic Review*, 78(2), 395-400.

Hein, E., Lavoie, M., & van Treeck, T. (2011). Some instability puzzles in Kaleckian models of growth and distribution: A critical survey. *Cambridge Journal of Economics*, 35(3), 587-612. doi: 10.1093/cje/beq026

Lavoie, M., & Stockhammer, E. (2012). Wage-led growth: Concept, theories and policies. *Conditions of Work and Employment Series*, No.41, International Labour Office.

Nakatani, T. (2012), Significance of post-Keynesian economics: Kaleckian-Steindl proposition and its extension to open wage-led economies. *Post Keynesian Review*, 1(1), 17-37.

Nakatani, T. (2008). International competition and Steindl proposition.*Journal of Economics & Business Administration, Kobe University*, 197(1), 51-64 (in Japanese).

Picketty, T. (2013). it *Le Capital au XXIesiècle.*Seuil.

Shimano, N. (2015). An empirical analysis of the effect of financialization on capital accumulation in Japan: From the viewpoint of the spread of shareholder value orientation in Japanese firms. *Political Economy Quarterly*, 51 (4), 70-82 (in Japanese).

Skott, P. (2012). Theoretical and empirical shortcomings of the Kaleckian investment function. *Metroeconomica*, 63 (1), 109-138. doi: 10.1111/j.1467-999X.2010.04111.x

Skott, P. & Zipperer, B. (2012). An empirical evaluation of three post Keynesian models. *Intervention: European Journal of Economics and Economic Policies*, 9 (2), 277-308. doi: 10.4337/ejeep.2012.02.09