Institutions and Macroeconomic Performances in the Profit Squeeze Age

Shigeyuki Hattori

1. Introduction

Kalecki in 1943 clarified that full employment has two contradict meanings to firms. One is the increases in their sales and the other is no discipline of labours. Labourers can buy more consumption goods in the full employment periods. But also it is easier for them to resist firms in order to raise their wages, because of their easiness to change their jobs. In the slumps, firms demand the government to increase aggregate demand, but firms do not like booms being continuing. He finally prophesied that, in the post World War II periods, there would be political business cycles (Kalecki, 1990).

Kalecki thought that full employment is always good to firms in the economical senses, because the government deficit raises profits (see, Kalecki, 1991, pp.242-3). Even when full employment raises real wages, profits do not decrease, if high real wages raise the sales of consumption goods in the same amounts (see, *Ibid.*, pp.243-4). To him, problems of full employment lie only in the social or the political aspects. However, if investment is the decreasing function of real wages, or the increasing function of mark-up, full employment may reduce profits (see, Nell, 1989, pp.179-83, and Marglin and Bhaduri, 1991). Growth in real wages means more consumption in one sense, but the profit squeeze in another. When mark-up rises, whether profits increase or decrease is determined by whether which factor is stronger.

In the 1960s, the golden age of capitalism, rapid technical progress induced investment. Higher mark-up can increase investment to achieve full employment. In this age, unless labourers resist reducing their wages, economic growth with full employment can be achieved. But, since oil crises, the age of the profit squeeze has begun. Slow technical progress decreases investment. However, also in this age, high mark-up can induce investment. Labourers should choose high real wages or employment in such situations.

The former is the case of the United States, and the latter is the case of Europe. However, other countries have important differences in institutions. Due to life-time employment system, firms in Japan can raise their profits more by increasing output. Besides, in Japan, risk of investment is shared with labourers and this induces invest-ment. These factors make differences between the United States and Japan, in spite that real wages are flexible in both countries. On the other hand; in North Europe, where trade unions are strong to participate in the determination of investment, they can increase investment, irrespective of the profit squeeze.

2. Basic Model

In this chapter, we reformulate the short-period model on a Kaleckian line. Price is determined by adding profit margin to cost. For simplicity, we assume that there is no material cost and wage cost per output is one. The following equation holds;

$$p = m + 1 \tag{2.1}$$

$$P = \frac{m}{m+1} Y \tag{2.2}$$

where p is the price level, m is mark-up, P is profit, and Y is national income. We express profit and national income as real terms, not nominal terms. In this chapter, mark-up is assumed to be given. Equation (2.2) shows that the rise in mark-up raises the profit share of national income.

The consumption function is,

$$C = (1 - s_w) W + (1 - s_p) P$$
$$= \left\{ \frac{1 - s_w}{m+1} + \frac{(1 - s_p) m}{m+1} \right\} Y \tag{2.3}$$

where C is consumption, W is wage, and s_w and s_p are the propensities to save out of wage and profit. Wage is also as a real term. For we assume $s_p > s_w$, the rise in mark-up raises the average propensity to save.

Firms' investment increases as their utilization rate or expected profit rate increases, or as risk of investment decreases. In the short period, where capital stock is given, the rise in income or profits raises the utilisation rate or profit rate. Expected profit rate is the increasing function of the actual profit rate. As a result, investment func-tion is the increasing function of income and profits. Yet future profit rate of invest-ment is uncertain, because the sales in the future are uncertain. Firms may not be able to sell their goods in the future as much as they expect now. But, even in such

cases, firms may earn some profits, when their mark-up is high enough. Firms' risk to invest is, therefore, the decreasing function of mark-up. Then, the investment function is,

$$I = I(Y, P, m) \qquad \frac{\partial I}{\partial Y} > 0, \ \frac{\partial I}{\partial P} > 0, \ \frac{\partial I}{\partial m} > 0, \ \frac{\partial^2 I}{\partial Y^2} > 0, \ \frac{\partial^2 I}{\partial P^2} < 0, \ \frac{\partial^2 I}{\partial m^2} < 0 \qquad (2.4)$$

where I is investment. Profit motive is more important when profits are low, so does risk factor. On the other hand, firms need to invest more, when the utilisation rate is high enough. These factors determine the second order conditions.

3. Mark-Up and Aggregate Demand

National income consists of consumption and investment;

$$Y = C + I$$
$$= \left\{ \frac{1 - s_w}{m+1} + \frac{(1 - s_p)m}{m+1} \right\} Y + I(Y, P, m) \qquad (3.1)$$

By differentiating the equation (3.1), we obtain the following equation;

$$\frac{dY}{dm} = \frac{(s_w - s_p)Y}{(m+1)^2} + \left\{ \frac{1 - s_w}{m+1} + \frac{(1 - s_p)m}{m+1} \right\} \frac{dY}{dm} + \frac{\partial I}{\partial m} + \frac{\partial I}{\partial P} \cdot \frac{dP}{dm} + \frac{\partial I}{\partial Y} \cdot \frac{dY}{dm} \qquad (3.2)$$

$$\therefore \ \frac{dY}{dm} = \frac{(s_w - s_p)Y + Y\frac{\partial I}{\partial P} + (m+1)^2 \frac{\partial I}{\partial m}}{(m+1)\left\{ s_w + s_p m - (m+1)\frac{\partial I}{\partial Y} - m\frac{\partial I}{\partial P} \right\}}^{(1)} \qquad (3.3)$$

At high mark-up with low national income, the numerator of the equation (3.3) is negative because $\frac{I}{m}$ and $\frac{I}{P}$ is smaller, and the denominator is positive because $\frac{I}{P}$ and $\frac{I}{Y}$ is smaller. The reduction in mark-up would change the signs of the numerator and the denominator. When the sign of the numerator changes at first, the reduction in mark-up raises national income at high mark-up, but reduces at low mark-up. On the other hand, when the sign of the denominator changes at first, the reduction in mark-up raises national income at low national income, but reduces at high national income. Figure 1.1 shows the first case and Figure 1.2 shows the latter. Labourers prefer higher wages and high employment. Real wages are in inverse proportion to mark-up and employment is in proportion to national income. As a result, labourers prefer lower mark-up and higher national income.
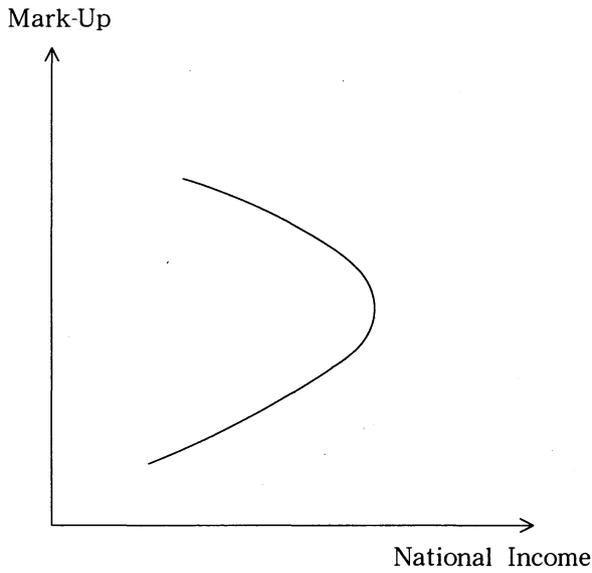
---

(1) See also equation (3.4).

Mark-Up

National Income

Figure1.1　Relationship between Mark-Up
and National Income: Reverse
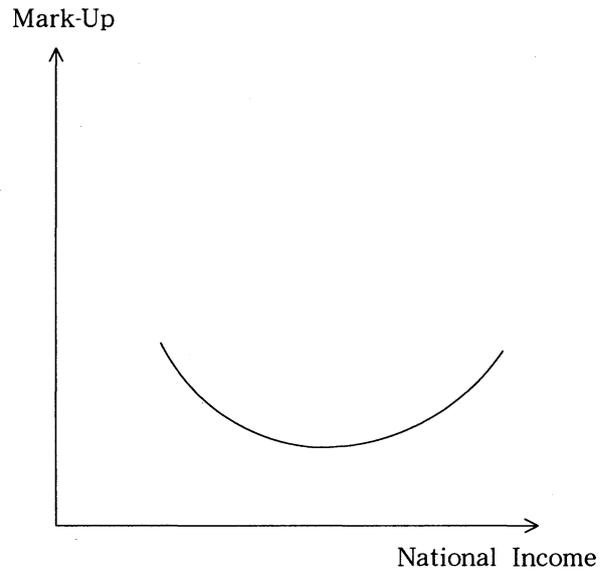"C"-Shaped Curve

Mark-Up

National Income

Figure1.2　Relationship between Mark-Up and
National Income: "C"-Shaped Curve

Also, the following equation shows the relation between mark-up and profit;

$$\frac{\partial p}{\partial m} = \frac{m\left\{(s_w - s_p)\,Y + Y\frac{\partial I}{\partial p} + (m+1)^2\frac{\partial I}{\partial m}\right\}}{(m+1)^2\left\{s_w + s_p m - (m+1)\frac{\partial I}{\partial Y} - m\frac{\partial I}{\partial p}\right\}} + \frac{Y}{(m+1)^2}$$
(3.4)

Figure 2.1 and 2.2 show the relationship between mark-up and profits. In the reverse "C"-shape case, mark-up which maximises profit is higher than the rate which
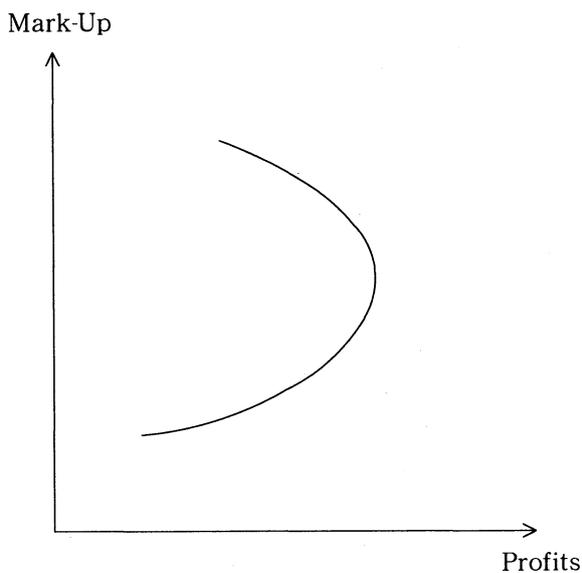
Mark-Up

Profits

Figure2.1　Relationship between Mark-Up and
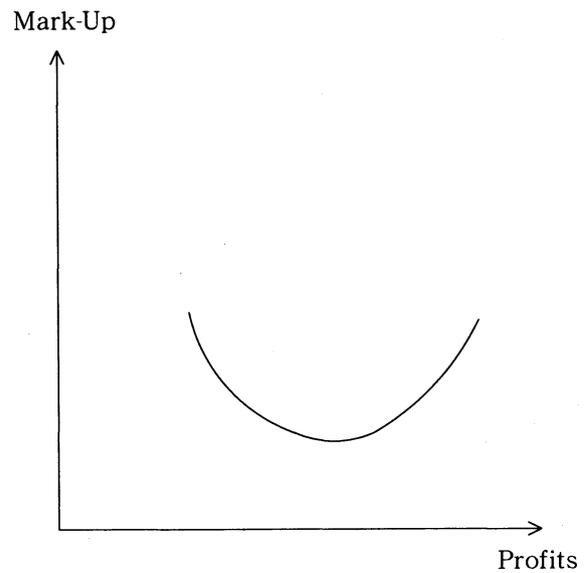Profit: Reverse "C"-Shaped Curve

Mark-Up

Profits

Figure2.2　Relationship between Mark-Up
and Profit: "U"-shaped Curve

maximises national income, because higher mark-up raises the profit share. In the "U"-shape case, national income and profits are maximised at the same mark-up.[2]

Now we define the stagnationist regime, the exhilationist regime and the mixed regime, after Marglin and Bhaduri (1991), but with little changes. The stagnationist regime is the economy where higher mark-up raises aggregate demand and profits. The exhilationist regime is the economy where higher mark-up reduces aggregate demand and profits. The mixed regime is the economy where higher mark-up raises aggregate demand but reduces profit[3](see, Marglin and Bhaduri, 1991, pp.141-3).

4. Technical Progress and Aggregate Demand

The 1960s, the golden age of capitalism, was also the age of the technical progress. This chapter analyses the effects of technical progress on mark-up and aggregate demand. When national income does not change, technical progress might reduce investment. But when technical progress is capital embodied in some senses, the firms with new capitals are more competitive than those with old capitals. In such cases, technical progress induces investment.

For simplicity, we assume here that technical progress increases investment in a given amount. This raises national income at the given mark-up. The rise in profits reduces $\frac{\partial I}{\partial p}$. The numerator of equation (3.3) is zero at the lower mark-up. The rise in $\frac{\partial I}{\partial Y}$ raise the mark-up at which the denominator is zero. At the very low investment, the curve of mark-up and national income is reverse "C"-shaped. As exogeneous investment is larger, the curve turns at the lower mark-up. The region of the stagnationist regime becomes wider. But more rise in investment changes the curve to "U"-shaped, because investment rises national income and rise in national income induces more investment.

At the very high technical progress periods, the rise in mark-up can raise national income and fulfil full employment. But mark-up should be very large and real wages very low. On the other hand, in the full or near full employment periods, power of labourers is stronger. Labourers may not admit low real wages. This resistance of

---

(2) In our model, risk is the decreasing function of mark-up. As a result, risk-averse firms would prefer higher mark-up than the rate which maximises profit.

(3) Figure 1.1 and 2.1 are reverse "C"-shaped, while those of Marglin and Bhaduri would be "C"-shaped. This difference is due that Marglin and Bhaduri only think profit motive and exclude the accelerator (See, Marglin and Bhaduri, 1991, pp.136-43).
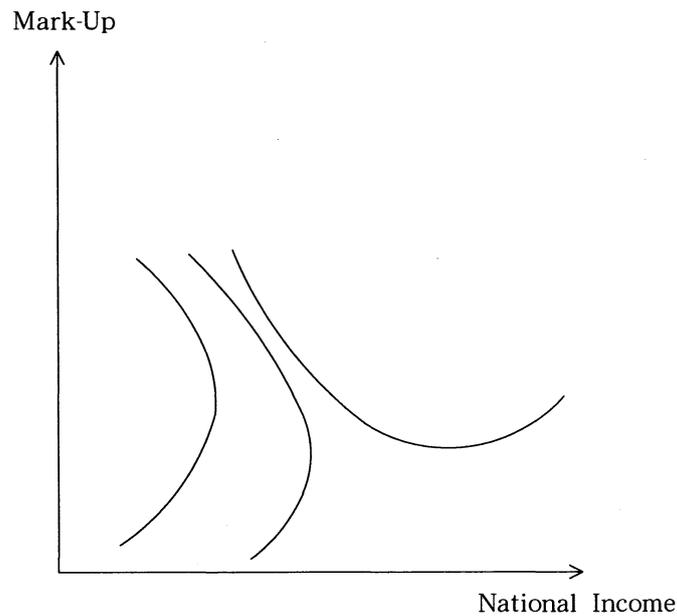
Mark-Up

National Income

Figure 3 Technical Progress and Shift of Curve

labourers may not fulfil the full employment even in the periods of the rapid technical progress.

5. Flexibility of Labour markets and Mark-Up: The United States and Europe

Since the 1980s, the unemployment rate in the United States has been lower than those in many countries in Europe. But, in the United States, real wages of manual labours have been decreasing. In this chapter, we analyse the relationship between real wages and unemployment in the profit squeeze age.

In the age of the rapid technical progress, aggregate demand may be high enough to achieve full employment. But, in the age of the slow technical progress, because of weak investment motive of firms, economic growth with full employment is difficult. Labourers' choice between high real wage and employment is very severe. But, also in this age, labourers' choice has some influences on macroeconomic performances.

In Europe, social insurance systems are advanced and trade unions are strong. Labourers prefer unemployment to lower real wages in these situations. This causes high unemployment. On the contrary, in the United States, real wages are more flexible to unemployment, because of backward social insurance systems and weak trade unions. This flexibility reduces unemployment.

The age of the slow technical progress is also the age of the class conflicts. The lower mark-up raises real wage, but reduces profits. In this age, labourers should
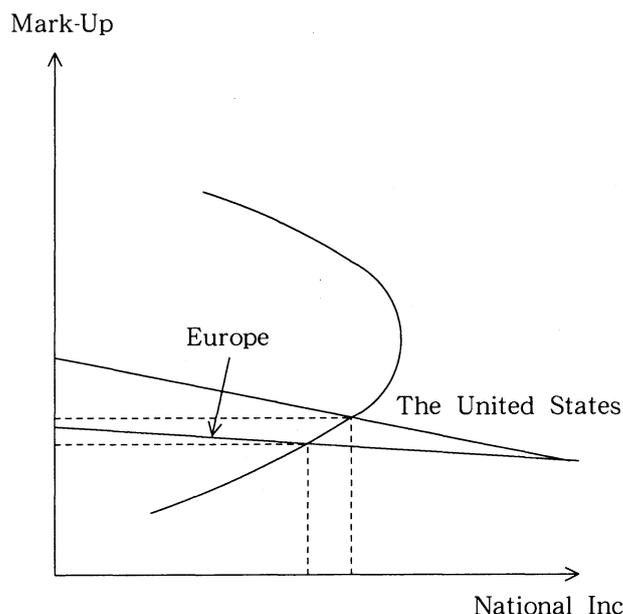
Mark-Up

Figure 4 Flexibility of Mark-Up and National Income:
Europe and the United States

choose high real wages or employment. In the countries where social insurance systems are advanced and trade unions are strong, real wages are sticky and there is high unemployment. On the other hand, in the countries which have flexible market mechanism, real wages will be low enough to absorb the unemployed. After all, flexibility of real wage or mark-up is the cause of the contrast macroeconomic performances between the United States and Europe.

6. Life-Time Employment System and Aggregate Demand: Japan

In Japan, wage is much flexible to employment as in the United States. But, at least in full-time labourers in large firms, the life-time employment system is usual in Japan. Lay-off is rare in Japan, while usual in the United States. From a different view, it can be assumed that labourers in Japan are content with cutting wages in the recession for insuring their employment.

Employment in Japan is not in proportion to outputs. For simplicity, we assume here that the employment function in Japan consists of the stable labours and the proportional part of national income. Since variable wage cost per output is one, the coefficient of the proportional part is $\frac{1}{w}$, where w is wage. Then,

$$L = \frac{1}{w} Y + L_0 \qquad (6.1)$$

where L is employment. Hence, profit is,

— 7 —

$$P = \frac{m}{m+1} Y - wL_0 \qquad (6.2)$$

In Europe where mark-up is rigid, the profit share would also be rigid. In the United States where the mark-up is the decreasing function of national income, the profit share is also the decreasing function of national income. But, in Japan, although the mark-up is the decreasing function of national income, the profit share is the increasing function, because of the rigidity of employments. Then the consumption function is;

$$C = \left\{ \frac{1-s_w}{m+1} + \frac{(1-s_p)m}{m+1} \right\} Y + (s_p - s_w) wL_0 \qquad (6.3)$$

In Japan, labourers are content with high mark-up. This certainly reduces consumption. But it is not very low compared with mark-up, since wages of stable labours sustain it. Besides, in Japan, flexibility of wages reduces risk of firms to invest, because, even if investment is in failure, firms can recover their profits partly by reducing wages. As a result, in Japan, aggregate demand at a given mark-up would be higher. [4] Figure 5 shows this relationship.
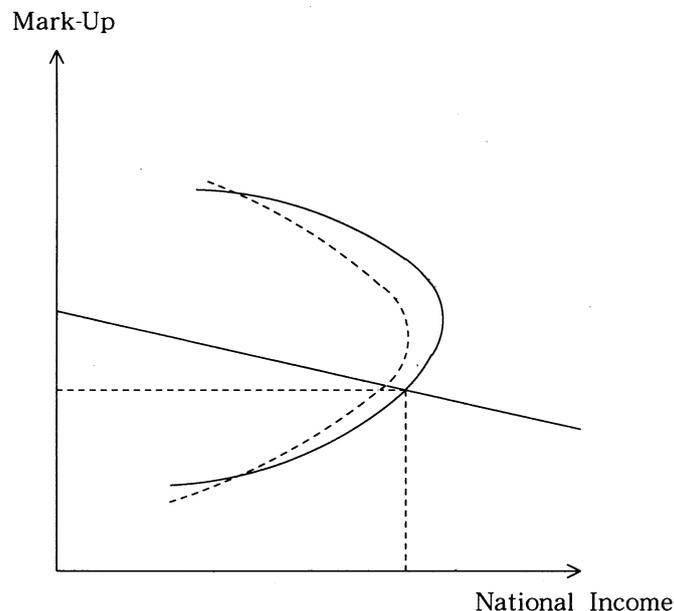
Mark-Up

National Income

Figure 5   Life-Time Emploment System and Aggregate
Demand: Japan

---

(4)   But in Japan, fixed labour costs will absorb profits, when national income is very low level. In such circumstances, investment is much lower in Japanese system than in other economic systems. Aggregate demand and profits are also much lower. However,

7. Labour Control and Aggregate Demand: North Europe

We assumed that investment is determined by firms only. But now, in many countries, trade unions take part in the conferences with firms on their managements. Through these conferences, labourers can have some influences on investment. North Europe, especially Sweden, are the typical countries.

Labourers choose high real wages in North Europe, where social insurance systems are much advanced and trade unions are very strong. Because of low mark-up, firms would not like to invest. But labourers would like to invest and they have power to do so. The investment function would be shifted rightwards, as the power of trade union is stronger. This raises aggregate demand. In consequences, in North Europe, it is easier to manage high employment and high real wages.[5]
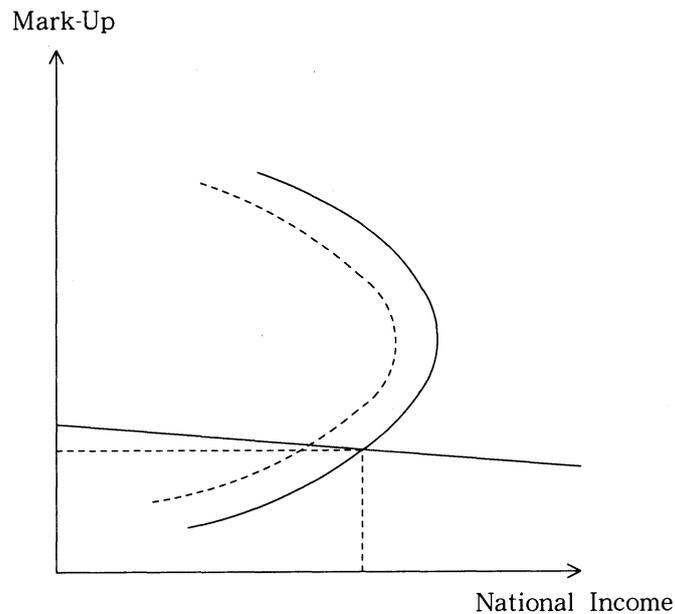
Mark-Up

National Income

Figure 6　Labour Control and Aggregate Demand:
North Europe

8. Conclusion

Since the oil crisis, the slow technical progress has weakened investment motive of

---

when such situations continue, firms do not sustain the life-time employment system. To be shortly, Japanese system can work, only when aggregate demand is sustained at the high level in the long run.

(5) In North Europe, mark-up is lower, but profits may not be lower, because of high investment and national income.

firms. In such an age, maintenance of high employment is very difficult. But, even in such an age, we have some choices: the roads of the capitalist countries are not one. Many countries in Europe choose high wages and the United States high employment. These differences may be due to the social insurance systems and the powers of trade unions. However, there are other factors to have some influences on macroeconomic performances. In Japan, the life-time employment system is prevailing. This sustains consumption and investment. On the other hand, in North Europe, trade unions are the partners of managements. Labourers can have some influences on investment, through conferences between firms and trade unions. This makes it possible to invest in low mark-up situations.

References

Kalecki, M. (1990), "Political Aspects of Full Employment," in Osiatyński, J. (ed.), *Collected Works of Michał Kalecki*, Vol. I: *Capitalism: Business Cycles and Full Employment*, Oxford, Oxford University Press.

Kalecki, M. (1991), *Theory of Economic Dynamics: An Essay on Cyclical and Long-Run Changes in Capitalist Economy,* in Osiatyński, J. (ed.), *Collected Works of Michał Kalecki*, Vol. II: *Capitalism: Economic Dynamics,* Oxford, Oxford University Press.

Marglin, S.A. and Bhaduri, A. (1991), "Profit Squeeze and Keynesian Theory," in Nell, E.J. and Semmler, W. (eds.), *Nicholas Kaldor and Mainstream Economics: Confrontation or Convergence?*, London, Macmillan.

Nell, E. (1989), "The Rate of Profit in Kalecki's Theory," in Sebastiani, M. (ed.), *Kalecki's Relevance Today*, London, Macmillan.