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**Osaka University of Economics**  
**Makoto KUROSAKA**  
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# **Communist Dictatorship and the Gift Exchange**

Makoto KUROSAKA

## **Abstract**

This paper analyzes the gift exchange phenomenon in a communist dictatorship from the standpoint of resource allocation efficiency. As is well-known, those who live in a communist dictatorship are required to praise their dictator as the supreme excellent leader of the world revolutionary movement. According to the communist theory, the leader of the communist party knows the law for the development of human society, and it indicates that it is an honourable deed for people to praise their excellent leader of the communist party and to obey his orders. Then, the leader of the communist party becomes the dictator. The dictator, who has the power to allocate many types of resources, remunerates the people who praise him in many ways. We interpret this behaviour as the gift exchange, because the people who have praised the dictator to a great extent are given a higher wage or higher social position by the dictator. This phenomenon is particularly evident in North Korea. In North Korea, the policy of giving presents to the cadre by the dictator had long been performed by Kim Jong Il. The analysis shows that the equilibrium level of production labour by the cadre increases with the dictator's minimum level of consumption, labour endowment of the cadre, the real wage of the people, and consumption preferences of the dictator. Further, the equilibrium level of production labour by the cadre decreases with the productivity of the people, the share of production of the dictator, and labor endowment of the people. As for social welfare, an increase in productivity of the cadre has an ambiguous effect on social welfare in a communist dictatorship, as it decreases production labour by the cadre. A communist dictatorship is essentially inefficient because it allocates some labour of the cadre to adoration of the dictator. Such labour does not contribute to production of goods.

**Key words:** Dictatorship, Gift Exchange, Adoration Labour, North Korea

**JEL Classification:** P29, P51

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# Communist Dictatorship and the Gift Exchange

## 1. Introduction

The purpose of this paper is to analyze the phenomenon of the gift exchange in a communist dictatorship from the standpoint of efficiency of resource allocation.

As is widely known, Those who live in a communist dictatorship are required to praise their dictator as the supreme excellent leader of the world revolutionary movement, the sun of a nation, and the great marshal. According to the theory of communism, the leader of the communist party knows the law of the development of human society. The theory of communism indicates that it is an honourable deed of the people to praise their excellent leader of the communist party and to obey orders given by him. Then, the leader of the communist party becomes the dictator. The dictator, who has the power to allocate many types of resources, remunerates those who praise him in many ways. We interpret this behaviour as the gift exchange as the people who praise the dictator to a great extent are given a higher wage or higher social position by the dictator. This phenomenon is particularly evident in North Korea. In North Korea, the policy of giving presents to the cadre by the dictator had long been performed by Kim Jong Il. We shall explain this policy in the next section.

The analysis shows that the equilibrium level of production labour by the cadre increases with the dictator's minimum level of consumption, labour endowment of the cadre, the real wage of the people and the consumption preference of the dictator. It also shows that the equilibrium level of production labour by the cadre decreases with the productivity of the people, the production share of the dictator, and labor endowment of the people. As for social welfare, an increase in productivity by the cadre has an ambiguous effect on social welfare in a communist dictatorship as it leads to a decrease in labour for production. It is generally thought that an increase in productivity leads to an increase in social welfare in the market economy, as technical progress contributes to economic growth. However, in a communist dictatorship, an increase in productivity by the cadre incentivizes the dictator to decrease production labor by the cadre, and thus the effect on social welfare becomes ambiguous. This can be interpreted as one of the inefficiencies of a communist dictatorship.

Section 2 explains the historical background of the paper. Section 3 provides the model and derives some propositions. Section 4 summarizes the main results.

## 2. Background

A dictatorship is a political and social system. As is well known, economic theory has treated political and social systems as given. However, some theorists have tried to analyze political and social systems using methods of economic models. Acemoglu and Robinson (2006) considered how both dictatorships and democracies were founded. They also considered the possibility of revolution and policy to avoid revolution through redistribution. Kurosaka (2013) proposed a model that analyzed world revolution strategy by a communist dictatorship in light of the efficiency of resource allocation. Compared with the model of Kurosaka (2013), we presented a model with no constraints on participation of the cadre. As explained later, this means that the dictator does not have enough power to confine the income level of the cadre. Our model is, in essence, not drastically different from the one that was presented by Kurosaka (2014) in Japanese. The difference is that, in this paper, there are three protagonists, the dictator, the cadre, and the people whereas in the former paper, there are two protagonists, namely, the dictator and the people. Akerlof (1982) presented a model in which wages higher than the equilibrium level signified the gift exchange, as workers made more efforts in return for higher wages. According to Kranton (1996), in an economy in which many people engage in reciprocal exchange, the market is thin and it is difficult to locate trading partners in the market. Kranton insisted that if there were initially many people engaged in reciprocal exchange, the market

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would not function well. Gains from reciprocal exchange increase and reciprocity persists. Lazarev and Gregory (2003) investigated the data from the Soviet Union in the 1930s. They concluded that the dictator favored the gift exchange in place of market exchange in order to obtain the loyalty of the people. As the gift exchange was an inefficient means of resource allocations, it deteriorated the basis of communist dictatorship in the Soviet Union. Being given some hints by these results, we can say that, in a communist dictatorship, there have been many types of reciprocal exchange, (i.e., the gift exchange).

We can see a typical example of the gift exchange in North Korea.<sup>1</sup> According to the Korean Institute of Military Problem (2013), all political organizations in North Korea are said to be part of the political community governed by the Korean Workers Party (KWP). The main objective of this political community is to establish a one-ideology system of the KWP leader, namely, Kim Il Sung and Kim Jong Il. According to the KWP, Kim Il Sung originated the Juche idea. Taking over this idea, Kim Jong Il proposed the theory of socio-political organism, which explains the revolutionary line of the KWP. According to Kim Jong Il (1995), by uniting around the leader into one organization with a single ideology, under the guidance of the party, the masses form a socio-political organism that is as immortal as an independent being. Kim Jong Il insists that just as a man's brain is the center of his life, so the leader, the top brain in a socio-political community, is the center of life in this community. Kim Jong Il insists that when individuals are united organizationally and ideologically with the leader, the center of the socio-political organism, through party organizations, sharing the same destiny as the party, they will acquire an immortal socio-political integrity. According to Kim Jong Il, the Juche idea indicates that if one's life is aimed at satisfying only his/her physical needs, then it is no different from that of an animal. Further, if one's life is isolated from the leader, the party, and the masses, it is worthless and contrary to our social nature. Kim Jong Il claims that communist revolutionaries of the Juche type find that life is worthwhile and happy in fighting devotedly for the common cause of the independence of the masses, firmly united through revolutionary duty and comradeship, under the guidance of the party and the leader. In short, people are obliged to fulfill all the orders by the dictator as their lives become worthless if they do not obey the orders. Next, we examine how people's daily lives operate in North Korea. According to the Korean Institute of Military Problem (2013), people's daily life in North Korea can be depicted as follows. All the people in North Korea must participate in some kinds of political association under the guidance of the KWP. All political associations have different meeting arrangements. Here, they must engage in self-examination activity once a week, which is called *saeng hwal chong hwa* in Korean. In self-examination activity, they have to check their behavior and their conversation in light of the KWP and the orders of Kim Il Sung and Kim Jong Il. There is a system called the social classification system, (*Songbun* in Korean). According to Collins (2012), each North Korean citizen is assigned a heredity-based class and socio-political rank, over which the individual exercises no control, but which determines all aspects of his or her life. Under this classification system, all citizens in North Korea become part of one of three designated classes: the core or loyal class, the wavering class, or the hostile class. *Songbun* provides extensive privileges to those deemed loyal and metes out pervasive disadvantages to those deemed disloyal. According to Collins (2012), the core class is assessed by the regime to be loyal to the Kim regime, and therefore, they receive significant privileges in all aspects of life. The wavering class is made up of those whose loyalty to the party is deemed questionable but who can serve the regime well through proper economic and political performance. The lowest level, the hostile class, is prejudged as being disloyal to the KWP. They are discriminated against in terms of employment, military service, education, food, housing, medical care, and especially opportunity.

In North Korea, those who belong to the high level of the social classification system are given many presents from the KWP. These are named as presents from Kim Jong Il. Kim Jong Il had

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<sup>1</sup> As for the oppression mechanism in North Korea, see Kurosaka (2015).

given many types of presents to the cadres of the KWP, the government, People's army, and public security police in the days of the national festival. The cadres who are considered to have contributed or been loyal to the KWP and Kim Jong Il are given many presents periodically. In sum, in North Korea people are classified into social classes and discriminated against based on loyalty level. Those who are thought to have insufficient loyalty to the KWP are classified into lower levels of social position. Those who are loyal to the dictator receive advantages in terms of material possessions, housing, education, and social position. Then, the people make considerable efforts to express loyalty to the dictator. The people who have praised the dictator more are given a higher wage or higher social position by the dictator. This can be interpreted as the gift exchange. Developmental dictatorship states such as South Korea and Taiwan did not have a basic idea which have supported their system. Thus, the gift exchange phenomenon had not been so common in Developmental dictatorship states.

### 3. The Model

We assume the economy that is composed of the dictator, the cadre, and the people. Though there are  $n$  numbers of homogenous people, we can treat them as one without losing generality. The same is true of the cadre. The people produce goods such as agricultural products. Labor endowment of the people is denoted as  $N$ . The production function of the people is assumed to take the following form, where  $Q$  denotes product and  $h$  productivity.

$$Q = hN \quad h > 0 \quad (1)$$

The dictator pays the real wage  $\omega$  for each unit labor. Assume that the following inequality holds.

$$h > \omega \quad (2)$$

The revenue of the dictator from exploiting the people is given by  $(h - \omega)N$ . We assume that the people do not have the freedom to optimize the allocation of their labor. The cadre produces goods higher in quality than those that are produced by the people. Labor, denoted by  $L$ , is required to produce these goods. The production function of the cadre is assumed to take the following form, where  $X$  denotes output, and  $A$  productivity of the cadre:

$$X = AL^\gamma \quad A > 0 \quad 0 < \gamma < 1 \quad (3)$$

The labor endowment of the cadre is denoted by  $\bar{L}$ , and the labor dedicated to adoration of the dictator (termed, adoration labor hereafter), is denoted by  $\bar{L} - L$ . The dictator permits the cadre to obtain a certain amount of goods in the economy. Suppose that  $\alpha$  is the share of production that a dictator receives, and the rest,  $1 - \alpha$ , goes to the cadre. The dictator pays the real wage  $w$  for each unit of adoration labor. Thus, the income of the cadre,  $Y$ , is obtained as follows:

$$Y = (1 - \alpha)X + w(\bar{L} - L) \quad (4)$$

According to the Korean Central News Agency (March 20, 2002), the people of the DPRK are the first in the world to be free from all taxes.<sup>2</sup> KCNA maintains that taxation began to gradually lose its meaning in socialist construction as the foundation of the independent national economy grows stronger and the level of the working people's ideological consciousness rises. In reality, this statement means that all the agricultural products in the state and cooperative firms are dedicated to the dictator. The farmers are paid a certain level of wage that is unrelated to

<sup>2</sup> See Kim Il Sung (1987).

harvesting. The people are allowed to cultivate the small fields near their houses and receive products there. We can interpret this as indicating that the share of production received by the people is very close to zero in North Korea. The share of production received by the cadre can be higher than that of the people.

We assume that the people and the cadre consume all the income they obtain. We assume that the cadre derive disutility by performing adoration labor and derive utility from consumption. We assume that the utility function of the cadre, denoted by  $U^C$ , is of the following logarithmic type.

$$U^C = a \ln C^C - b \ln(\bar{L} - L) \quad a > b > 0 \quad (5)$$

Consumption of the cadre is equal to their level of income,  $Y$ . The parameter  $a$  denotes the consumption preference of the cadre, while the parameter  $b$  denotes the non-preference of adoration labor by the people, that is, the level of dislike of adoration labor by the cadre. We can assume that  $a$  is larger than  $b$  since adoration labor is commonplace in dictatorship. Substituting equations (3) and (4) into (5), we obtain the following:

$$U^C = a \ln\{(1 - \alpha)AL^\gamma + w(\bar{L} - L)\} - b \ln(\bar{L} - L) \quad (6)$$

The cadre allocates their labor to maximize their utility. The first-order condition for optimization by the cadre is given by the following:

$$a \frac{(1 - \alpha)\gamma AL^{\gamma-1}}{(1 - \alpha)AL^\gamma + w(\bar{L} - L)} = a \frac{w}{(1 - \alpha)AL^\gamma + w(\bar{L} - L)} - \frac{b}{\bar{L} - L} \quad (7)$$

The left-hand side of equation (7) signifies the marginal utility of consumption for the cadre when they allocate their one unit of labor to production. The cadre is given real wage when they allocate their one unit of labor to adoration, and they can consume goods by using the real wage. The first term of the right-hand side of equation (7) signifies the marginal utility for the cadre by obtaining real wage for adoration labor. The second term of the right-hand side of equation (7) signifies the marginal disutility of the cadre when they allocate their one unit of labor to adoration. For efficient allocation of labor, both sides need to be equated.<sup>3</sup> Arranging equation (7), we obtain the following.

$$w = \frac{(1 - \alpha)A}{a - b} (a\gamma L^{\gamma-1} + \frac{bL^\gamma}{\bar{L} - L}) \quad (8)$$

Equation (8) shows the relation between the real wage for adoration labor and the labor for production. Note that the real wage for adoration labor can be interpreted as the gift from the dictator to the people. The net product of the dictator received from the people and the cadre is obtained as follows:

$$Y^D = (h - \omega)N + \alpha X - w(\bar{L} - L) \quad (9)$$

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<sup>3</sup> Efficiency of resource allocation means that in equilibrium the economic agents maximize their utility or their revenue. In our model, both the dictator and the cadre maximize their utility in equilibrium. Efficient allocation of labor in our paper means that marginal utility of labor by the cadre is equalized as noted above.

We do not assume that the cadre faces the participation constraints. In Kurosaka (2013), it was assumed that the dictator had the power to confine the income level of the people. In this paper, we need to analyze the case of three protagonists in dictatorships. In this paper, the dictator can decide the cadre's labor allocation by controlling the real wage for adoration labor, as the labor for production depends on the real wage for adoration labor. Our model is akin to the one in the Stackelberg competition, which supposed the dictator as the leader, and the cadre as the follower. We assume that the dictator consumes all the net income. The dictator has to show the level of real wage for adoration labor with consideration to the optimizing behavior by the cadre, which is denoted by equation (7). Substituting equations (3) and (8) into (9), we obtain the dictator's consumption  $C^D$  as follows:

$$C^D = (h - \omega)N + \left\{ \frac{(1 - \alpha)a\gamma + a\alpha - b}{a - b} \right\} AL^\gamma - \frac{1 - \alpha}{a - b} A\gamma L^{\gamma-1} \bar{L} \quad (10)$$

We must note that the level of dislike for adoration labor increases if the cadre obtains several types of information of other worlds. The people and the cadre in a communist dictatorship do not have enough information of the outside world, particularly with regard to human life with freedom of speech. If the information of the outside world diffused into the society of a communist dictatorship, the people and the cadre would know that there are many alternatives for the manner in which they should behave, and should live and the nature of the real world. Such a world is entirely different from the one shown to the cadre and the people by the dictator. This is the reason the dictator cuts off the flow of information into the society that he has governed.

Assume that the dictator has a minimum level of consumption,  $C^M$ , which guarantees that the dictator can show his dignity to the cadre and the people. The dictator derives utility from consumption and adoration labor from the cadre. We assume the utility function of the dictator as follows. The parameter  $\beta$  denotes the consumption preference of the dictator.

$$U^D = \beta \ln(C^D - C^M) + (1 - \beta) \ln(\bar{L} - L) \quad 0 < \beta < 1 \quad (11)$$

The dictator has to consider the optimization behavior of the people, which is shown by equation (7). Substituting equation (10) into equation (11), we obtain the following:

$$U^D = \beta \ln \left[ (h - \omega)N + \left\{ \frac{(1 - \alpha)a\gamma + a\alpha - b}{a - b} \right\} AL^\gamma - \frac{1 - \alpha}{a - b} Aa\gamma L^{\gamma-1} \bar{L} - C^M \right] + (1 - \beta) \ln(\bar{L} - L) \quad (12)$$

The dictator chooses the real wage for adoration labor to maximize his utility. The relation between the real wage for adoration labor and the labor for production is given by equation (8). That means that the labor for production is a function of real wage for adoration labor. Then, differentiating equation (12) by labor for production, we can obtain the labor for production that maximizes utility of the dictator.

To summarize the structure of the game, at the beginning, the dictator shows the cadre the real wage for adoration labor. On recognizing this, the cadre determines their labor allocation to maximize their utility. By using backward induction of the game, we obtain a sub-game perfect equilibrium. The equilibrium level of labor for production is given by the following first-order condition for optimization. For convenience in expression, we denote the following:

$$\theta = \frac{1}{a - b} > 0$$

$$\gamma\beta A\theta \frac{\{(1-\alpha)a\gamma + \alpha a - b\}L^{\gamma-1} - (1-\alpha)a(\gamma-1)L^{\gamma-2}\bar{L}}{\{(1-\alpha)a\gamma + \alpha a - b\}\theta AL^{\gamma} - (1-\alpha)aA\gamma\theta L^{\gamma-1}\bar{L} + (h-\omega)N - C^M} = \frac{1-\beta}{\bar{L}-L} \quad (13)$$

The left-hand side of equation (13) signifies the marginal utility of consumption for the dictator when the cadre allocates his/her one unit of labor to production. The right-hand side of equation (13) signifies the marginal utility of adoration labor for the dictator when the cadre allocates his/her one unit of labor to adoration. For efficient allocation of labor, both sides need to be equated.

Suppose that the productivity of goods by the cadre increased, and other conditions remain unchanged. Marginal utility of consumption for the dictator decreases. Then, the dictator has to decrease his consumption in order to equate marginal utility of consumption with that of adoration labor. We can interpret the change of other main exogenous variables in the same way. We have modeled a communist dictatorship with the level of production, employment, and real wage for adoration labor as a solution of sub-game perfect equilibrium. In other words, we have interpreted the main economic variables as a solution of the gift exchange. From the results of comparative statics by main exogenous variables, we can obtain Table 1 and Proposition 1.

**Table 1 the Equilibrium Level of Labor  $L^*$  for Production by the Cadre and Main Exogenous Variables**

	$C^M$	$\bar{L}$	$\beta$	$\omega$	$h$	$\alpha$	$N$
$L^*$	+	+	+	+	−	−	−

	$A$	$a$	$b$
$L^*$	$\pm$	$\pm$	$\pm$

### Proposition 1

In a communist dictatorship with gift exchange between the dictator and the cadre, the equilibrium level of labor for production by the cadre increases with the minimum level of consumption of the dictator, labor endowment of the cadre, the real wage of the people, and the consumption preference of the dictator, but decreases with the productivity of the people, the share of production of the dictator, and labor endowment of the people.

From these results, we can say that an increase in productivity incentivizes a dictator to decrease labor for production by the cadre and increase adoration labor. A decrease in labor endowment of the cadre incentivizes a dictator to decrease labor for production by the cadre and increase adoration labor. In the case of severe famine of 1990s in North Korea, many cadre members died of hunger and the labor endowment of the cadre decreased. In response to this situation, we can think the dictator was incentivized to allocate more labor of the cadre towards adoration and less towards production labor. A decrease in production by the cadre exacerbated the famine.

The equilibrium level of real wage for adoration labor is determined by equation (8).

As for social welfare in a communist dictatorship, we ignore the dislike of adoration labor by the cadre and the preference of adoration labor by the dictator in order to compare with the market economy. We define social welfare in a communist dictatorship as the sum of consumption by the dictator, the cadre and the people. The sum of the consumption level equals



the level of production. <sup>4</sup>Thus, social welfare in a communist dictatorship depends on the productivity and the equilibrium level of labor for production by the cadre and the production by the people. Accordingly, we obtain Table 2.

**Table 2 Social Welfare and Main Exogenous Variables**

	$C^M$	$\bar{L}$	$\beta$	$\omega$	$\alpha$	$A$	$N$
<b>SW</b>	+	+	+	+	−	±	±

	<b>h</b>	<b>a</b>	<b>b</b>
<b>SW</b>	±	±	±

We obtain Proposition 2.

### Proposition 2

In a communist dictatorship with gift exchange between the dictator and the cadre, the social welfare increases with the minimum level of consumption by the dictator, labor endowment of the cadre, the consumption preference of the dictator and the real wage of the people, but decreases with the share of production of the dictator.

It is generally thought that an increase in productivity makes social welfare increase in the market economy. However in a communist dictatorship, an increase in productivity of the cadre incentivizes the dictator to decrease production labor by the cadre, and thus the effect on social welfare becomes ambiguous. This can be interpreted as one of inefficiencies of a communist dictatorship.

## 4. Concluding Remarks

This paper analyzed the gift exchange in a communist dictatorship from the standpoint of resource allocation efficiency. The analysis showed that the equilibrium level of production labour by the cadre increased with the dictator's minimum level of consumption, and consumption preference as well as with the people's labour endowment, real wage for the people. It showed that the equilibrium level of production labour by the cadre decreased with the productivity of the people, the share of production of the dictator, and labor endowment of the people. In the case of severe famine of 1990s in North Korea, many cadre members died of hunger and the labor endowment of the cadre decreased. In response to this situation, we can think that the dictator was incentivized to allocate more labor of the cadre towards adoration and less towards production labor. A decrease in production by the cadre exacerbates the famine. As for social welfare, an increase of productivity has an ambiguous effect on social welfare in a communist dictatorship because it decreases production labour by the cadre. It is generally thought that an increase in productivity increases social welfare in the market economy. However in a communist dictatorship, an increase in productivity by the cadre incentivizes the

<sup>4</sup> We assume that the social welfare is the sum of individual utilities. This is called the utilitarian social welfare function. According to Massimo (2014), this type of social welfare is associated with Jeremy Bentham (1789).

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dictator to decrease production labour by the cadre, and thus the effect on social welfare becomes ambiguous. This can be interpreted as one of inefficiencies of a communist dictatorship. A communist dictatorship is essentially inefficient as it allocates some labour of the cadre to adoration of the dictator. This form of labour does not contribute to production of goods.

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