# INEQUALITY AND SEQUENCE OF ECONOMIC LIBERALIZATION AND DEMOCRATIZATION

Nobuhiro Mizuno[*]

*Kyoto University*

Some recent empirical studies found positive effects of economic liberalization on democratization. Based on these findings, this paper explains why the sequence of economic liberalization and democratization is related to the effects of the two reforms on economic performance. Since economic liberalization increases the probability of democratization and democratization leads to income redistribution, in an economy with large inequality between the elite and the poor, the elite do not implement economic liberalization, and democratization occurs first. In such an economy, the effects of economic liberalization and democratization are lower because of distortions caused by large-scale income redistribution.

## 1.   INTRODUCTION

This paper attempts to provide an explanation for the empirical facts found by Giavazzi and Tabellini (2005) concerning the relationship between the sequence of economic liberalization and democratization and the effects on economic performance. They found that the effects of the two reforms on economic performance[1] (growth and investment) depend on the sequence of economic liberalization and democratization and that countries where economic liberalization occurs before democratization improve economic performance more greatly through the two reforms. In countries where democratization occurs first, the positive effects of economic liberalization are smaller than those in countries where economic liberalization occurs first, and the sum of the

---

[1] Although they also studied the effects on macroeconomic policy and the quality of institutions, this paper focuses exclusively on the effects on economic performance.

effects of the two reforms is also smaller. Economic liberalization defined in Giavazzi and Tabellini (2005) includes trade liberalization as an important element.

In this paper, we consider an economy in which there are two types of individuals, the elite and the poor. The elite are those who control the economy before democratization and earn higher incomes, and the poor are those who earn lower incomes. We will show that if the income inequality between the elite and the poor is sufficiently large, democratization occurs before economic liberalization and that in such an economy, distortions caused by large-scale income redistribution harm economic performance and the effects of economic liberalization.

In a nondemocratic economy, the elite rule the government and make a decision whether to implement economic liberalization. The elite will implement economic liberalization if the benefit of economic liberalization exceeds its cost. Economic liberalization increases the income of the elite as well as the aggregate income in the economy. This is the benefit for the elite of implementing economic liberalization.

Some recent empirical studies found positive effects of economic liberalization on democracy. Lopez-Cordova and Meissner (2005) found that trade openness has a positive effect on the degree of democracy. Rudra (2005) found that trade openness has a positive impact on democratization if social welfare spending is high or increasing enough. Eichengreen and Leblang (2008) found that trade openness positively affects democracy and vice versa.[2] In this paper, we assume that opening an economy to international trade by implementing economic liberalization makes the probability of democratization higher. After democratization, policies preferred by the poor are selected by majority voting, and the poor try to redistribute the elite's wealth among themselves. This is the cost to the elite of implementing economic liberalization.

If the income inequality between the elite and the poor is large, the income redistribution after democratization becomes large, and the cost of economic liberalization to the elite is large. Therefore, in an economy in which the income inequality between the elite and the poor is large, the elite do not implement economic liberalization, and democratization occurs before economic liberalization since democratization occurs with some exogenous probability in each time period. The poor prefer implementing economic liberalization because it increases their income as well as the aggregate income in the economy. Economic liberalization, therefore, will happen after democratization. If the income inequality between the elite and the poor is small, the cost of economic liberalization to the elite is small, and the elite will implement economic liberalization on their own, and democratization will occur after economic liberalization.

In the economy in which democratization occurs before economic liberalization, large income inequality leads to large-scale income redistribution after democratization.

---

[2] Contrary to these studies, Li and Reuveny (2003) and Rigobon and Rodrik (2005) found that trade openness negatively affects democracy.

Large-scale income redistribution leads to large-scale taxation, and economic performance after democratization and economic liberalization is bad because of distortions caused by large-scale taxation.[3]

The logic used in the analysis of the elite's decision about economic liberalization is essentially the same as that of Bourguignon and Verdier (2000). In their model, the poor cannot access education because of capital market imperfections, and the elite determine the proportion of poor agents who can access education, and subsidize their education. Education increases not only the income of those who access education but also the income of all individuals. This external effect of education allows the elite to increase their own income by subsidizing the education of poor agents. Although political participation is limited to the elite at first, education makes poor agents politically active. Therefore, if the number of the poor who have received education exceeds the number of the elite, political decisions are made by the poor who have received education. In such a situation, the elite's wealth can be redistributed among the poor. Therefore, in an economy in which the income inequality between the elite and the poor is large, the elite fear income redistribution, and the number of the poor who can access education is small.[4]

The model of this paper is based on the model of Bourguignon and Verdier (2000). However, the model of this paper has some differences from their model. In the model of Bourguignon and Verdier (2000), individuals live for two periods, and the model is solved by backward induction. On the other hand, in the model of this paper, individuals live forever, and the equilibrium concept of this model is Markov Perfect Equilibrium. While the elite determine the proportion of poor agents who can access education in the model of Bourguignon and Verdier (2000), in the model of this paper, the elite make a decision whether to implement economic liberalization. On the one hand both of these policies benefit the elite; on the other hand these policies threaten the control of the elite. While political participation is endogenously determined in the model of Bourguignon and Verdier (2000), in the model of this paper, democratization occurs with some exogenous probability in each period, and the key assumption of the model is that economic liberalization increases the probability of democratization. The contribution of this paper is to show that the empirical facts of Giavazzi and Tabellini (2005) regarding the relationship between the sequence of economic liberalization and democratization and the effects on economic performance can be explained by the income inequality between the elite and the poor and the distortions caused by income redistribution.

The rest of this paper is organized as follows. Section 2 explains the setting of the model. In section 3, the model is analyzed, and the main result is derived. Section 4 is the conclusion.

---

[3] This argument is related to studies of inequality and growth, such as those of Bertola (1993), Persson and Tabellini (1994), and Alesina and Rodrik (1994).

[4] Bourguignon and Verdier (2000) noted that their argument is reasonable in any context of economic policies that benefit the elite but also threaten the control of the elite.

## 2.  THE SETUP OF THE MODEL

In this section, we modify the model of Bourguignon and Verdier (2000) to analyze the manner in which the sequence of economic liberalization and democratization and its effects on the aggregate output are determined. For modeling redistributive politics, we also follow Acemoglu and Robinson (2006).

There are two types of individuals, the elite and the poor. We normalize the size of the population to unity. The fraction $\alpha$ of the population is the elite, the fraction $1-\alpha$ is the poor, and $0 < \alpha < 1/2$. Let $Y^r$ and $Y^p$ denote the income of the elite and the poor, respectively. The aggregate income in the economy is given by $\overline{Y} = \alpha Y^r + (1-\alpha)Y^p$. This equals the average income as the size of the population is normalized to unity.

At the beginning, neither economic liberalization nor democratization has occurred in this economy. Economic liberalization in this paper means liberalization of international trade. However, this model does not explicitly deal with international trade. Before democratization, the decision whether to implement economic liberalization is made by the elite. After democratization, political decisions are made by majority voting. Since the poor make up a majority of the population in this economy, the policies preferred by the poor are selected in majority rule.

The income of each agent before economic liberalization is $Y^r = y^r$, $Y^p = y^p$, and $y^r \geq y^p$. Before economic liberalization, the aggregate income in the economy is given by

$$\alpha y^r + (1-\alpha) y^p \equiv \overline{y}. \tag{1}$$

Since $y^r \geq y^p$, $y^r \geq \overline{y} \geq y^p$.

After economic liberalization, the income of each agent becomes $Y^r = y^r + \eta\overline{y}$, $Y^p = y^p + \eta\overline{y}$, and $\eta > 0$. $\eta\overline{y}$ represents the benefit of economic liberalization. After economic liberalization, the aggregate income is $(1+\eta)\overline{y}$. Sachs and Werner (1995), Wacziarg and Welch (2003), and Giavazzi and Tabellini (2005) found that economic liberalization positively affects economic growth. Frankel and Romer (1999) and Alcala and Ciccone (2004) also found that trade openness has a positive effect on income per capita. Therefore, the assumption that economic liberalization increases the aggregate income in the economy appears to be plausible. In addition, we assume that both the elite and the poor enjoy the benefit of economic liberalization. In practice, there would be some losers by economic liberalization, and they would attempt to block economic liberalization. However, this paper neglects losers by economic liberalization. We also assume that the size of the benefit of economic liberalization is common to all individuals. These assumptions are made for simplicity but are not essential for deriving the main result.

Following Acemoglu and Robinson (2006), we introduce $x \equiv \alpha y^r / \overline{y}$ as a measure

of inequality between the elite and the poor.[5] The variable $x$ represents the elite's share of total income before economic liberalization. Since $1 - x = (1 - \alpha) y^p / \bar{y}$, $y^r$ and $y^p$ can be written as

$$y^r = \frac{x\bar{y}}{\alpha}, \quad y^p = \frac{(1 - x)\bar{y}}{1 - \alpha},$$  (2)

and $x \geq \alpha$, as $y^r \geq y^p$. The larger $x$ is, the larger the degree of inequality between the elite and the poor before economic liberalization will be.

As stated in the Introduction, positive effect of economic liberalization on democracy is found by recent empirical studies such as Lopez-Cordova and Meissner (2005), Rudra (2005), and Eichengreen and Leblang (2008). In addition, higher income induced by economic liberalization may promote democratization. The link between high income and democracy is empirically supported by Barro (1999) and Papaioannou and Siourounis (2008). Based on these studies, we assume that democratization occurs with some probability in each period and that economic liberalization increases the probability of democratization. Let $p$ be the probability of democratization before economic liberalization and $\hat{p}$ the probability of democratization after economic liberalization and assume that $\hat{p} > p$. The probability of democratization is exogenously given in this paper.

After democratization, the poor can redistribute the elite's income by linear income tax and lump-sum transfer. We denote the tax rate by $\tau \in [0,1]$. Taxation is costly; following Acemoglu and Robinson (2006), we represent the cost of taxation by $C(\tau)\bar{Y}$ and assume that the function $C(\cdot)$ satisfies the following conditions:

$$C'(\cdot) > 0, \quad C''(\cdot) > 0, \quad C'(0) = 0, \quad C'(1) = 1, \quad C(0) = 0.$$

The cost of taxation represents distortions caused by taxation. Let $T$ denote the amounts of the lump-sum transfer; then, the government budget constraint is given by

$$T = \tau(\alpha Y^r + (1 - \alpha)Y^p) - C(\tau)\bar{Y} \equiv \tau\bar{Y} - C(\tau)\bar{Y},$$  (3)

and the post-tax income for each individual is given by

$$(1 - \tau)Y^i + T = Y^i + \tau(\bar{Y} - Y^i) - C(\tau)\bar{Y}, \quad i = r, p.$$  (4)

---

[5] Alternatively, we can describe inequality by the difference between the income level of the elite and that of the poor as in Bourguignon and Verdier (2000) and derive almost the same result.

Each individual lives forever, and their preferences are given by

$$U^i = E_0 \sum_{t=0}^{\infty} \beta^t c_t^i, \quad i = r, p, \tag{5}$$

where $U^r$ and $U^p$ denote the utility of the elite and the poor and $c_t^r$ and $c_t^p$ denote the level of consumption of the elite and the poor at time period $t$ respectively. Consumption equals the post-tax income because there is no savings. The parameter $\beta \in (0,1)$ denotes the discount rate.

The timing of events in period $t$ is as follows. If democratization has not occurred until period $t-1$, then:

1) If economic liberalization has not occurred, the elite make a decision whether to implement economic liberalization;

2) If economic liberalization has occurred, democratization occurs with probability $\hat{p}$.

If economic liberalization has not occurred, democratization occurs with probability $p$;

3) If democratization has occurred, the poor choose the tax rate;

4) If democratization has occurred and economic liberalization has not occurred, the poor make a decision whether to implement economic liberalization.

If democratization has occurred until period $t-1$, then:

1) The poor choose the tax rate;

2) If economic liberalization has not occurred, the poor make a decision whether to implement economic liberalization.

We assume that free trade and democracy last forever once economic liberalization and democratization have occurred. We derive Markov Perfect Equilibrium, where the action of each agent at each point depends only on the payoff-relevant state of the economy at the point.

The state of the economy in this model consists of the state of the political regime (democracy or nondemocracy) and the state of the trade regime (whether economic liberalization is implemented or not). We denote the state of the political regime by D and ND, where D and ND represent democracy and nondemocracy respectively. We also denote the state of the trade regime by L and NL. If economic liberalization has occurred, the state of the trade regime is L, and if not, the state of the trade regime is NL.

## 3.  ANALYSIS

First, we consider the decision of the poor about economic liberalization in the state (D, NL). The post-tax income of the poor before economic liberalization is $y^p + \tau(\bar{y} - y^p) - C(\tau)\bar{y}$, and the post-tax income of the poor after economic liberalization

is $y^p + \eta \bar{y} + \tau(\bar{y} - y^p) - C(\tau)(1+\eta)\bar{y}$. By the assumptions on the function $C(\cdot)$, it can be easily derived that $1 - C(\tau) > 0$ for any $\tau \in [0,1]$. Therefore, for any $\tau \in [0,1]$, the post-tax income of the poor after economic liberalization is larger than the post-tax income of the poor before economic liberalization, and the poor liberalize the economy in the state (D, NL).

Next, we consider the choice of the tax rate of the poor in the state (D, NL) and (D, L). Since the poor liberalize the economy in the state (D, NL), in both cases, the poor choose the tax rate that solves the following maximization problem:

$$\max_{\tau} y^p + \eta \bar{y} + \tau(\bar{y} - y^p) - C(\tau)(1+\eta)\bar{y}.$$

Let $\tau^*$ be the tax rate that solves the above problem. Then, by the first-order condition, it satisfies

$$C'(\tau^*)(1+\eta) = \frac{x - \alpha}{1 - \alpha}. \tag{6}$$

Equation (6) implies that

$$\frac{\partial \tau^*}{\partial x} = \frac{1}{(1-\alpha)(1+\eta)C''(\tau^*)} > 0. \tag{7}$$

Therefore, the larger the inequality between the elite and the poor is, the higher tax rate the poor prefer.

Finally, we consider the decision of the elite about economic liberalization in the state (ND, NL). Let $V_1$ denote the payoff that the elite receive when they implement economic liberalization, and let $V_0$ denote the payoff that the elite receive when they do not implement economic liberalization.

If the elite open the economy to international trade, democratization occurs with probability $\hat{p}$. If the elite open the economy and democratization occurs in this period, the payoff to the elite is given by

$$\frac{1}{1-\beta}(y^r + \eta \bar{y} + \tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y}).$$

If the elite open the economy and democratization does not occur in this period, the payoff to the elite can be written as $y^r + \eta \bar{y} + \beta V_1$. Therefore, we have

$$V_1 = \hat{p}\left(\frac{1}{1-\beta}(y^r + \eta\bar{y} + \tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y})\right) + (1-\hat{p})(y^r + \eta\bar{y} + \beta V_1). \tag{8}$$

From Equation (8), we obtain

$$V_1 = \frac{1}{1-\beta}(y^r + \eta\bar{y}) + \frac{\hat{p}}{(1-(1-\hat{p})\beta)(1-\beta)}(\tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y}). \tag{9}$$

If the elite do not implement economic liberalization, democratization occurs with probability $p$. Since economic liberalization is implemented by the poor after democratization, the payoff that the elite receive when they do not implement economic liberalization and democratization occurs in this period is

$$\frac{1}{1-\beta}(y^r + \eta\bar{y} + \tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y}).$$

If the elite do not implement economic liberalization and democratization does not occur in this period, the payoff to the elite can be written as $y^r + \beta V_0$. Therefore, the expected value of not implementing economic liberalization for the elite is given by

$$V_0 = p\left(\frac{1}{1-\beta}(y^r + \eta\bar{y} + \tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y})\right) + (1-p)(y^r + \beta V_0). \tag{10}$$

From Equation (10), we obtain

$$V_0 = \frac{y^r}{1-\beta} + \frac{p}{(1-(1-p)\beta)(1-\beta)}(\eta\bar{y} + \tau^*(\bar{y} - y^r) - C(\tau^*)(1+\eta)\bar{y}). \tag{11}$$

We define $V$ as

$$V \equiv V_1 - V_0. \tag{12}$$

If $V > 0$, the elite implement economic liberalization at $t = 0$, and democratization occurs with probability $\hat{p}$ in each period. If $V < 0$, the elite do not implement economic liberalization, democratization occurs with probability $p$ in each period, and economic liberalization is implemented by the poor after democratization. By (9) and (11), $V$ is given by

$$V = \frac{1-p}{1-(1-p)\beta}\eta\bar{y} + \left(\frac{\hat{p}}{(1-(1-\hat{p})\beta)(1-\beta)} - \frac{p}{(1-(1-p)\beta)(1-\beta)}\right)$$
$$\times (\tau^*(\bar{y}-y^r) - C(\tau^*)(1+\eta)\bar{y}). \tag{13}$$

Differentiating (13) with respect to $x$, we get

$$\frac{\partial V}{\partial x} = \left(\frac{\hat{p}}{(1-(1-\hat{p})\beta)(1-\beta)} - \frac{p}{(1-(1-p)\beta)(1-\beta)}\right)$$
$$\times \left(\frac{\partial \tau^*}{\partial x}\left(1-\frac{x}{\alpha}\right) - \frac{\tau^*}{\alpha} - C'(\tau^*)(1+\eta)\frac{\partial \tau^*}{\partial x}\right)\bar{y} < 0. \tag{14}$$

Therefore, the incentive for the elite to implement economic liberalization decreases as the inequality represented by $x$ increases. Large inequality leads to large income redistribution after democratization and makes the elite avoid implementing economic liberalization, which increases the probability of democratization.

Since $y^r \geq y^p$, the range that $x$ can take is $[\alpha, 1]$. When $x = \alpha$, $\tau^* = 0$, and the value of $V$ equals $\frac{1-p}{1-(1-p)\beta}\eta\bar{y} > 0$. When $x = 1$, $\tau^* = C'^{-1}\left(\frac{1}{1+\eta}\right) \equiv \tilde{\tau}$, and the value of $V$ equals

$$\frac{1-p}{1-(1-p)\beta}\eta\bar{y} + \left(\frac{\hat{p}}{(1-(1-\hat{p})\beta)(1-\beta)} - \frac{p}{(1-(1-p)\beta)(1-\beta)}\right)$$
$$\times \left(\tilde{\tau}\frac{\alpha-1}{\alpha} - C(\tilde{\tau})(1+\eta)\right)\bar{y}. \tag{15}$$

We make the following assumption to derive interesting results.

**Assumption 1.** *We assume that the value of (15) is negative.*

This assumption follows when the benefit of economic liberalization is not too large or $\alpha$ is sufficiently small or $C(\tilde{\tau})$ is sufficiently large. With Assumption 1 and the fact that $V$ is decreasing in $x$, we can derive the following proposition.

**Proposition 1.** *When Assumption 1 holds, there exists some $x^* \in (\alpha, 1)$, and $V < 0$ if $x > x^*$ and $V > 0$ if $x < x^*$. Therefore, if $x > x^*$, the elite do not implement economic liberalization; the elite implement economic liberalization only when $x < x^*$.*

In an economy in which inequality is sufficiently small ($x < x^*$), economic liberalization occurs before democratization. The effect of economic liberalization on the aggregate income is given by $\eta \bar{y}$, and the effect of democratization on the aggregate income is given by $-C(\tau^*)(1+\eta)\bar{y}$. After democratization, the aggregate income is given by

$$(1 - C(\tau^*))(1 + \eta)\bar{y}. \tag{16}$$

On the other hand, in an economy in which $x$ is larger than $x^*$, democratization occurs before economic liberalization, and democratization decreases the aggregate income by $-C(\tau^*)\bar{y}$.[6] Although economic liberalization is implemented by the poor after democratization, its effect on the aggregate income is $(1 - C(\tau^*))\eta\bar{y}$ and smaller than $\eta\bar{y}$ (the effect of economic liberalization in an economy with $x < x^*$).

The total effect of the two reforms is given by

$$(\eta - C(\tau^*)(1 + \eta))\bar{y}.$$

The total effect is larger in an economy with $x < x^*$ than in an economy with $x > x^*$ (recall that $\tau^*$ is increasing in $x$, and $C(\cdot)$ is increasing in $\tau$).

**Proposition 2.** *The total effect of the two reforms is larger in an economy in which economic liberalization occurs before democratization.*

The above analysis argues that the sequence of economic liberalization and democratization is determined by the degree of inequality. The model predicts that countries with high level of inequality will experience democratization first. Table 1 classifies the countries that experienced both economic liberalization and democratization permanently during 1960-2000 and reports the Gini coefficient of each country. The countries in the first group implemented economic liberalization first, and the countries in the second group experienced democratization first. The sample of countries and the years of reforms are built on Giavazzi and Tabellini (2005). The Gini coefficients are derived from Deininger and Squire (1996). Among the countries reported in Giavazzi and Tabellini (2005) to have experienced both reforms during the period, some countries are eliminated from Table 1. Since the data of Gini coefficient is not available, the

---

[6] Although democratization may have a positive effect on the aggregate output, it merely causes income redistribution and has no positive effect on the output in this model. However, the model can be modified to include the positive effect of democratization and derive almost the same result.

countries such as Albania, Argentina, Benin, Cyprus, Ethiopia, Ivory Coast, Mali, Mozambique, Paraguay, and Uruguay are not listed in the table. Furthermore, Bulgaria, Hungary, Poland, and Romania are also eliminated from the table because the timing of reforms in these countries would be largely affected by the collapse of the Soviet Union. The average and median values of Gini coefficients are lower among the countries that experienced economic liberalization first. This is consistent with the result of the model presented above. Although more rigorous and detailed empirical analysis is needed, it is beyond the scope of this paper and is left for future work.

**Table 1.** The Gini coefficients of countries that experienced both economic liberalization and democratization during 1960-2000

| Countries that Experienced Economic Liberalization First | | Countries that Experienced Democratization First | |
|---|---|---|---|
| Chile | 51.84 | Panama | 52.43 |
| Guyana | 48.19 | Bolivia | 42.04 |
| Peru | 47.99 | Brazil | 57.32 |
| Mexico | 53.85 | Dominican Republic | 46.94 |
| Ghana | 35.13 | Ecuador | 43.00 |
| Taiwan | 29.62 | El Salvador | 48.40 |
| South Korea | 34.19 | Nicaragua | 50.32 |
| Armenia | 39.39 | Guatemala | 55.68 |
| Guinea=Bissau | 56.12 | Honduras | 54.49 |
| Indonesia | 33.49 | Turkey | 50.36 |
| Niger | 36.10 | Nepal | 30.06 |
| | | Bangladesh | 34.51 |
| | | Philippines | 47.62 |
| | | Zambia | 47.26 |
| | | Madagascar | 43.44 |
| Average | 42.36 | Average | 46.92 |
| Median | 39.39 | Median | 47.62 |

## 4. CONCLUSION

In this paper, we modified the model of Bourguignon and Verdier (2000) and analyzed how the sequence of economic liberalization and democratization and its effects on economic performance are determined. In an economy in which inequality between the elite and the poor is sufficiently large, the elite do not implement economic liberalization, and democratization occurs before economic liberalization. In such an economy, economic liberalization is implemented under large-scale taxation; thus, its effect on the aggregate income is relatively small. Moreover, the total effect of

democratization and economic liberalization is higher in an economy in which economic liberalization occurs first than that of an economy in which democratization occurs first. These results are consistent with the evidence obtained by Giavazzi and Tabellini (2005).

In the preceding analysis, we assumed that the probability of democratization does not depend on $x$. However, democratization may be related to inequality between the elite and the poor. In some models that explain the process of democratization endogenously, inequality is a key factor. In Bourguignon and Verdier (2000), if income inequality between the elite and the poor is sufficiently large, the elite block democratization. Furthermore, in the model of democratization of Acemoglu and Robinson (2006), the relationship between inequality and democratization is not monotonic, and too low or too high levels of inequality hinder democratization. If inequality is an important determinant of democratization, the model of this paper should be extended to endogenize the process of democratization and the effect of inequality on democratization.

## REFERENCES

Acemoglu, D., and J.A. Robinson (2006), *Economic Origins of Dictatorship and Democracy*, New York: Cambridge University Press.

Alcala, F., and A. Ciccone (2004), "Trade and Productivity," *Quarterly Journal of Economics*, 119(2), 613-646.

Alesina, A., and D. Rodrik (1994), "Distributive Politics and Economic Growth," *Quarterly Journal of Economics*, 109(2), 465-490.

Barro, R.J. (1999), "Determinants of Democracy," *Journal of Political Economy*, 107(6), S158-S183.

Bertola, G. (1993), "Factor Shares and Savings in Endogenous Growth," *American Economic Review*, 83(5), 1184-1198.

Bourguignon, F., and T. Verdier (2000), "Oligarchy, Democracy, Inequality and Growth," *Journal of Development Economics*, 62(2), 285-313.

Deininger, K., and L. Squire (1996), "A New Data Set Measuring Income Inequality," *The World Bank Economic Review*, 10(3), 565-591.

Eichengreen, B., and D. Leblang (2008), "Democracy and Globalization," *Economics and Politics*, 20(3), 289-334.

Frankel, J.A., and D. Romer (1999), "Does Trade Cause Growth?" *American Economic Reviw*, 89(3), 379-399.

Giavazzi, F., and G. Tabellini (2005), "Economic and Political Liberalizations," *Journal of Monetary Economics*, 52(7), 1297-1330.

Li, Q., and R. Reuveny (2003), "Economic Globalization and Democracy: An Empirical

Analysis," *British Journal of Political Science*, 33(1), 29-54.

Lopez-Cordova, J.E., and C.M. Meissner (2005), "The Globalization of Trade and Democracy, 1870-2000," NBER Working Paper, 11117.

Papaioannou, E., and G. Siourounis (2008), "Economic and Social Factors Driving the Third Wave of Democratization," *Journal of Comparative Economics*, 36(3), 365-387.

Persson, T., and G. Tabellini (1994), "Is Inequality Harmful for Growth?" *American Economic Review*, 84(3), 600-621.

Rigobon, R., and D. Rodrik (2005), "Rule of Law, Democracy, Openness and Income: Estimating the Interrelationships," *Economics of Transition*, 13(3), 533-564.

Rudra, N. (2005), "Globalization and the Strengthening of Democracy in the Developing World," *American Journal of Political Science*, 49(4), 704-730.

Sachs, J., and A. Warner (1995), "Economic Reform and the Process of Global Integration," *Brookings Papers on Economic Activity*, 1(1995), 1-118.

Wacziarg, R., and K.H. Welch (2008), "Trade Liberalization and Growth: New Evidence," *World Bank Economic Review*, 22(2), 187-231.

*Mailing Address: Graduate School of Economics, Kyoto University, Yoshida-Honmachi, Sakyo Ku, Kyoto, 606-8501, Japan. E-mail: n.mizuno@e01.mbox.media.kyoto-u.ac.jp.*