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Public Enterprises in Mixed Economies: Their Impact on Social Equity

Andong Zhu

Abstract

The underlying theoretical argument of Privatization, as a crucial component of the neoliberal policies, is that state-owned enterprises (SOEs) are inherently inefficient, and therefore bad for social equity, besides hindering economic growth. However, the existing literature falls short of providing a solid theoretical basis for this argument. This study improves upon the existing literature through utilization of a panel data set of more than 40 mixed economies for the period 1960s to the 1990s. By applying the fixed effects techniques, this study empirically explores the impact of SOEs on income equality. The conclusion arrived at, is that SOEs contribute significantly and positively to income equality. The results of this study raise serious doubts about the desirability of indiscriminate privatization from the equity perspective.

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Introduction

Between 1930s and 1970s, public enterprises played a crucial role in the economic development of many countries, including former socialist countries, many developing countries and some developed countries. Since the introduction of the privatization program by the Thatcher government in Britain in the early 1980s, the past two and a half decades have seen a phenomenal privatization wave around the world. During the same period economic growth slowed globally and inequality increased globally as well as domestically. The average annual growth rate of the world's real GDP fell from 4.5 per cent during 1950–1980 to 2.9 per cent during 1980–1998, while the corresponding rate for per capita GDP fell from 2.6 per cent to 1.3 per cent.[2] In the past 25 years, the divergence in economic performance in different parts of the world has increased sharply. According to Pollin (2003, p. 133), the gap of per capita GDP growth rates between the OECD countries and developing countries excluding China increased to 1.3 percentage points during 1980–1999 from 0.3 percentage points during 1960–1980.[3]

More notable is the collapse of the economies of the former Soviet Union and Eastern European countries following massive privatization and liberalization (including substitution of a market system for the planned system) during the 1990s. While the average consecutive years of output decline for the four advanced countries during the Great Depression was 3 years, the simple average of the same indicator was 3.8 years for the Central and Southeastern Europe and Baltics (CSB) and 6.5 years for the Commonwealth of Independent States (CIS). While the cumulative output decline for the four advanced countries during the Great Depression averaged 15 per cent,

it was 22.6 per cent for the CSB and 50.5 per cent for the CIS (World Bank, 2002:5). In 2000, only 5 of these countries' real GDP surpassed the 1990 level, while for that of 4 countries the real GDP is still lower than half the 1990 level.

As the economy collapsed inequality surged. With privatization, most of the state's assets fell into the hands of the political and economic elites, and the majority of the people were reduced to poverty. Table 1 shows the changes in inequality during the 1990s in these transition countries. It is apparent that the gini coefficient of income in all these countries, except Croatia, increased during the transition, although in a few of them the increase was modest. Before the transition, most of the countries' gini coefficient of income per capita was lower than 0.3, and were thus among the most equal of countries in the world. However, after the transition, about half of these countries fell into the most unequal countrie's category in the world, with the Gini coefficient higher than 0.4.

As the economy collapsed and inequality increased, the population of poor surged and life expectancy in more than half of these countries decreased. Among them, Belarus, Kazakhstan, Russia and Ukraine saw their life expectancy decrease by more than 2 years, while the (unweighted) average life expectancy for the whole world increased by about 1.3 years from 1990 to 1997.[4]

Given these adverse consequences following transition to capitalism—of which privatization is an important part—doubts about privatization are growing, despite the assessment by investment bankers that privatization's "success has been indisputable"[5] (Morse 1998:6). For instance, Godoy and Stiglitz (2004) demonstrated that, given the initial conditions and institutional environment, rapid privatization was not good for growth in the transition countries. Goldman (2003) criticizes the way the Russians carried out privatization in the 1990s. Nellis (1999, p. 3) noted, "Indeed, suspicions and concerns about privatization, driven under by the liberalizing pressures of the 1980s and early 1990s, are resurfacing, to the point where one can say that there is a multifaceted spirit of 'revisionism' in the air."

How does the World Bank, which is one of the main institutions advocating privatization, respond to this experience? Guy Pfeffermann, the Director of International Finance Corporation's Economics Department and Economic Adviser to the corporation, a branch of the World Bank, had the following comments:

It is now universally acknowledged that ownership matters; that private ownership in and of itself is a major determinant of good performance in firms. But as the more careful students of the subject have long admitted, ownership is not the only thing that matters. Decent economic policy and well-functioning legal and administrative institutions, especially those that create and enforce property rights, and regulate both capital markets and the network and natural monopoly elements of infrastructure firms, matter greatly as well.

The conclusion is that privatization in Central Europe and the Baltic States has generally proven its utility.[6] But a fair amount has gone wrong, mainly (but not exclusively) in the countries emerging from the former Soviet Union. … Still, it concludes that the solution is not to halt or retreat from privatization, but to find ways to carry it out correctly. While it may be time to rethink the concept a bit, it is not time to discard it. (Nellis, 1999)

The underlying premise of this argument is that public enterprise is inherently inefficient and has adverse impact on economic performance. This is a critical premise with far-reaching theoretical and policy implications. If it is established, privatization itself is justified and we should only investigate the institutional environment and the specific approaches of privatization to find out the reasons for the unsatisfactory consequences of privatization. At the same time, we should continue privatizing the remaining public enterprises, in an improved institutional environment. However, if this premise is questionable, the story will be different. It may become necessary to rethink privatization itself. Further, if it is found that public enterprise is not inherently inefficient and has positive contribution to economic performance, it may be reasonable to stop or even reverse indiscriminate privatization.

The major objective of SOEs is to redistribute income, achieve rapid industrialization and offer necessities at low cost to the poor. First, the subsidized public utility firms can offer franchised access to the common people, especially the poor. Using public enterprise pricing policy to achieve distributional objectives may, as Chang and Singh (1992, p. 50) argues, "save the high information-gathering and monitoring costs involved in running the equivalent tax/subsidy schemes"

Furthermore, public enterprises may lead to income equality. They may do so through investment-unemployment-inequality channel. Investment growth can decrease unemployment, which, in turn can

decrease income inequality. At the same time, public enterprises have a direct impact on the labour market. As is well-known, they always offer higher pay, better working condition and protection, and thus exert pressure on the private firms to follow suit. Public enterprises can reduce inequality through other channels, such as pricing. Further, public ownership of productive capital, by itself, alleviates the wealth inequality problem and since the returns from the capital do not fall into the hands of only a few people, it also alleviates the income inequality problem.

Therefore, theoretically, public ownership is not inferior to private ownership. On the contrary the former may be superior to the latter, in terms of the impact on social equity. This arguable superiority of public enterprises, however, should not be taken as absolute. It is more proper to regard it as a potential. Whether public enterprises can realize this potential is subject to many other factors. Therefore, empirical studies are needed to answer the question as to whether this potential had been realized.

There exists substantial literature on the effects of privatization on equity and most of these are case studies. Many of these studies conclude that privatization would lead to more inequality. But, so far, there are no cross-countries studies about the impact of public enterprises on equity. This paper will try to fill this gap and evaluate the impact of public enterprise sector on income inequality.[7]

This paper is an empirical study based on a panel data set constructed by combining three data sets and covers more than 40 mixed economies over the period from the 1960s to the 1990s. Arguably it is the most comprehensive data set containing aggregate indicators of the public enterprise sector in the mixed economies.

In this study, following the definition of the World Bank (1995), public enterprises refer to state owned or state controlled economic entities that generate the bulk of their revenues from selling goods and services. The terms state-owned enterprises (SOEs) and public enterprises are used interchangeably throughout this paper.

Section II will briefly review the existing relevant literature and then develop an econometric model and apply it to the data set to estimate the impact of public enterprises on income inequality, measured as the ratio of the income share of the top quintile of the population to that of the bottom quintile. Public enterprises are found to be negatively and significantly correlated with income inequality. When we use the ratio of the

income share of the top two quintiles population to that of the bottom two quintiles population to measure income inequality, the same conclusion is reached. Again, exclusion of outliers identified by different methods does not change the conclusion.

Some may argue that, admittedly, public enterprises may be good for social equity, but at quite high a cost, such as increasing the government's deficit and inflation. Section III will show that, as a sector, public enterprises in many countries are not loss-making, nor are they burdens on the government budget. Rather, in about half of the sample countries, the net financial flow is from public enterprises to the government, rather than in the other direction, as is widely believed. Section IV will conclude the paper.

The Impact of Public Enterprises on Income Inequality: Evidence from Mixed Economies

A. The regression model

In recent years, there has been a revival of interest in the determinants of income and earnings inequality. For example, Atkinso (1996; 1997) and Gottschalk and Smeeding (1997) studied the evolution of inequality over time within a country; Bouguignon and Morrisson (1998), Li, Squire and Zou (1998), and Breen and Garcia-Penalosa (1999) discussed the cross-national variation in income inequality; Barro (2000) analyzed determinants of inequality with a panel data set.

In this literature, the main theoretical approach involves some version of the Kuznets (1955) curve. The Kuznets curve is an inverted U-shape curve between income inequality and development level. Robinson (1976) developed Kuznets's idea further and argued, income inequality will increase when the society begin to transform from an agricultural one to an industrial one and when most of the rural population was drawn to the industry, the income inequality will decrease. Later, with similar reasoning, some scholars used the shift from a underdeveloped financial environment to one with modern financial system (Greenwood and Jovanovic, 1990) or from a sector with old technology to another sector with advanced techniques (Helpman, 1997; and Aghion and Howitt, 1997) to explain the inverted U-shape curve between inequality and development level. No matter which explanation is closer to reality, development level should be an important factor determining inequality. Therefore, I include the log value of initial per capita GDP level at each period and its square as two independent variables in my model.

As one can imagine, there are many other determinants of income inequality. For example, Barro (2000) examined the impact of education levels, besides other variables, on income inequality; Milanovic (1994) found that the size of social transfers and state sector employment reduce inequality; Breen and Garcia-Penalosa (1999) found macroeconomic volatility (measured as the standard deviation of the growth rate of real per capita GDP) increases inequality. Clearly, it is impossible to include all these factors into a model. Depending of the researcher's concerns, different variables are included in their respective models. In my case, I will examine 7 other variables as determinants of inequality, besides the initial development level variable.

My major concern is the impact of public enterprises on inequality. I suggest that they should reduce inequality.

As one can imagine, government policies should have an impact on income inequality. Therefore I include government consumption into the model.

As many studies show, the international economic environment also influences domestic income distribution. I use the weighted change of terms of trade to represent this factor. Again, it may have dual effects on inequality, one through increasing employment and another through increasing the profit for the upper class. The overall impact will be determined by these effects.

Natural disasters and wars can also influence income inequality. Both of these may lead to a more equal society, though the society as a whole may end up becoming poorer than it was before these occurrences.

The education level may also influence inequality. If the education level of a society is higher, we may observe less inequality. However, this causality is undetermined. It is quite possible that higher level of education is the outcome, rather than the causal factor. Since this is not the most important variable in this research, I will not explore it further.

Besides, black market premium is found to be a strong and significant determinant of income inequality (Sylwester, 2003). I therefore include it in my model.

Therefore, our econometric model is,

$$dnsq_{it} = con + B_o soe_{it} + B_1 y_{bit} + B_2 y^2_{bit} + B_3 bmp_{it} + B_4 gov_{it}$$
$$+ B_5 tot_{it} + + B_6 edu_{it} + + B_7 dis_{it} + B_8 war_{it} + u_i + v_t + E_{it}$$

(4.1)

where, $dnsq_{it}$ is an index of income inequality in a country i at period t. bmp_{it} is the black market premium in a country i at period t. All other variables are the same as in the growth model.

B. Explanation of the Variables and Sample Description Statistics[8]

Income Inequality: I will use two indices to measure income inequality, both of which are ratios of the income share of upper class to that of lower class. The first one, *dnsq51*, is the ratio of the top quintile's income share to the bottom quintile's income share. One may wonder whether this index overstates inequality and produces spurious regression results. To deal with this problem, I adopt another measure, the ratio of the top 40 per cent population's income share to that of the bottom 40 per cent, *dnsq42*.[9]

The relative size of public enterprises sector, *soe*, is the share of SOEs' value added in GDP, which measures the relative size of public enterprise sector. Though all three sources of the SOEs data (Short, 1984, World Bank, 1995, 1999) offer other indices about the relative size of public enterprises sector, such as the investment share of SOE in the gross investment and the employment share, in my understanding, the value-added share is the best one. The investment share is more transitory than the value-added share, and the employment share data may not reflect the importance of the SOEs sector due to the fact that SOEs are more capital-intensive. The employment data is sparser than the value-added data, and needless to add, the reported share of employment is more incomparable than the value-added data. If public enterprises are good for social equity, the sign of the coefficient should be negative.

Initial Output Level: According to the new classical growth models and the endogenous growth models, conditional convergence among countries may exist. Even within a given country, the growth rate should be correlated with the absolute value of the difference of the development level now and its steady state, given all other factors fixed or controlled. Therefore, we should find a negative sign of its coefficient. y_b is the log value of the initial per capita GDP, which reflects the development level at the beginning of the period under examination.

Black Market Premium: It is the 5-year average of the black market premium from WDI 2003.

Fiscal Policy: There are different measures of fiscal policy, such as the revenue of government, the total government expenditure (including both consumption and investment), and the government consumption. The share of general government consumption in GDP, *gov*, is adopted here because it can give us more observations.

Education: edu is the average years of secondary schooling in the total population over age 25, which reflects the mental quality of the labour force.

International Economic Environment: The international condition is an important factor for determining a country's economic performance, especially for those materially integrated into the global economy. Here, I only adopt, *tot,* the change of terms of trade weighted by the foreign trade dependence ratio for my model[10].

Other Exogenous Shocks: A country's economy may be substantially impacted by exogenous shocks, such as natural disasters and wars. These two factors are included in my model. *dis* is an index of natural disasters, measured by the share of those affected by the disaster in the total population. *war* is an index of wars.[11] It has three values: 1 for those countries when there is a war on their territory; –1 for those countries that participated in a war that took place in another country; and 0 for other cases.

Due to the limited availability of inequality data, there are only 87 observations and 39 countries in the sample. The time period covers 1961 to 1995.

Table 2 gives the descriptive summary of the variables. It not only describes the overall/normal summary statistics, but also shows the between and within statistics. The variance of inequality is quite large, the minimum and maximum are 3.50 and 29.90, respectively, for *dnsq51*. The corresponding figures for *dnsq42* are 2.53 and 9.94. The ranges for other variables are also quite large and this increases our confidence in the regression results.

Table 3 shows the correlations of the variables in the model. As expected, the correlation between the two inequality indices is quite high (0.98) and significant (the p-value is less than 0.01). The correlation between

inequality and public enterprises is negative, though not significant. This may give us some broad ideas about the relation between them.

Table 4 lists the countries entering regression. The sample contains 39 countries, at different levels of development and located in different continents. This wide coverage of countries increases our confidence about the applicability of the results.

C. Regression Results

Table 5 and 6 show the regression results with *dnsq51* as the dependent variable. Column 8 of Table 5 shows the fixed effects results of the full model. The coefficient of *soe* is -0.425 and the p-value of it is 0.002. That means the size of the public enterprises sector is significantly and negatively correlated with income inequality. The magnitude of the coefficient is quite large. When the size of a country's SOE sector increases by a standard deviation (2.05 percentage points), the ratio of the top quintile's income share to the bottom quintile's income share will decrease 0.87 (more than 40 per cent of *dnsq51*'s standard deviation), ceteris paribus. Therefore, the results reveal that public enterprise is an important as it contributes to a more equal society.

Public enterprises can contribute towards reduction of income inequality in many ways.

As we have demonstrated in another paper (Zhu, 2006), public enterprises are supportive of economic growth as well as investment growth. The negative relation between the growth rate of GDP and unemployment rate is well known. This is the reason why the recent jobless recovery of the US attracted so much attention According to the data I have, the correlation coefficient between unemployment and per capita GDP growth is –0.12 and it is significant (the P value is 0.024). There exists almost exactly the same correlation between investment growth and unemployment. At the same time the correlation between unemployment rate and income inequality indices are always positive and significant.

What is more important is the role that public enterprises may play with the capital-labour relation. First, the public enterprises themselves employ a certain portion of the labour force, all in formal sector. According to the World Bank (1995, Table A.5, p. 288), the unweighted average share of SOE in employment during 1978–1991 for the developing economies was 10.2 per cent. These jobs, especially in the

developing world, are typically more secure, with better working conditions, better protection and higher pay than most of the private jobs. This fact, in itself, can pressurise private firms into offering better jobs. Second, public enterprises may play a crucial role in the triangular relationship among the state, the capitalist class and the working class. Though in a capitalist country, the state, in most cases, represents the interest of the capitalist class, after years of struggle, the working class have secured a certain amount of democratic space and do have some influence on government policies. With a large SOE sector, the government would be less dependent on taxes from the capitalist class making it easier for the government to meet workers' demands. In the event of the capitalists undertaking an "investment strike", the government will be able to fill the gap with the public enterprises. This may decrease unemployment and strengthen the bargaining power of the workers vis-à-vis the capitalists.

Besides the coefficient of *soe* in table 5, three results merit our attention. The first one is that, our results do not show the inverted U-shape curve between inequality and development level. The signs of the coefficients of y_b and y^2_b are different from those in theory and the coefficients are not significant. At the same time, we find that the between effects, random effects and pooled OLS results all demonstrated the Kuznets curve. These results are consistent with the findings of Li, Squire and Zou (1998) that the Kuznets curve works better for a cross-section of countries than the evolution of inequality over time within countries. The second one is the positive and significant correlation between the government's consumption and income inequality. This result may be explained by the fact that most of the officials and public employment are from among the upper or upper-middle income groups. When the government's consumption increases, the lower classes may benefit less from it than the upper classes. The third one is that the coefficients for natural disasters and wars are negative and significant. It may be quite different than we thought and may be ignored by most studies. But it still makes sense. Natural disasters and wars may lower the income of the poor. But it may lower the income of the rich even more.

All the coefficients of other variables, except for black market premium, are insignificant and reveal that there is no clear relation between them and income inequality.

Columns A, B and C are for reference. The magnitude of the coefficients of *soe* is a little smaller than the fixed effects results and they all carry negative signs. Interestingly, the between effect, the random effects

and pooled OLS regressions all show significant and negative correlation between public enterprise and income inequality.

In order to check the robustness of these results, I used two methods to rerun the regression. First, I only included *soe* in the model and then kept adding one more variable into it each time, until the pool of variables was exhausted. Columns 1 to 7 of Table 5 show these results. The results are quite supportive. The coefficient signs of *soe* are straight negative. Besides, I also tried to include the standard deviation of GDP growth rate over each period, corruption index, M2/GDP, I/GDP and the relative size of government transfer into the model and the results are not substantially altered. All these demonstrate that the results are quite robust to the specification of the model.

Second, the robustness of the results is checked by excluding outliers identified by various techniques. The issue of potential outliers may be important in this case, because the full sample in the data set is not a complete set of all countries for all years. I adopt eight methods to deal with this issue[12]. The methods include:

Six methods discussed by Belsley et al (1980) for identifying single-row leverage points: dfbeta, dfits, covratio, levg, rstandard, rstudent;

A method offered by Cook (1977); and

A method by Hadi (StataCorp, 2002) that excludes outliers identified through a multivariate method.

Table 6 shows the results of these techniques to identify outliers. Column 1 reproduces the full sample fixed effects result with heteroscedasticity corrected standard errors. Columns 2 to 7 are the results of the single-observation-deletion techniques.[13] It passed most of the tests. The exception is the *covratio* method. However, the results of *covratio* method may be misleading. The *covratio* method identifies more than 25 per cent of the observations as outliers. Apparently the criterion is too strict. I adopt a subjective criterion to identify the 5 per cent observations with extreme *covratio* levels as outliers. Column 5a of Table 6 shows the results. We see that, if we exclude these outliers, the coefficient of *soe* is significant. Therefore, these results demonstrate that the negative and significant relation between inequality and public enterprises is robust.

Table 7 and 8 show the results for *dnsq42*. The main results remain unchanged. Public enterprises contribute to making societies more equal. The magnitudes of the coefficients are smaller than those for *dnsq51*. That just reflects the fact that the former ratio itself, by definition, is smaller than the latter. Another interesting point is that the coefficients of government consumption are less significant.

Overall, these results reveal that public enterprises can reduce income inequality. However, given the widely held opinion that public enterprises are inherently inefficient and adversely influence government's deficit and macroeconomic stability, the question remains as to whether public enterprises achieve the equity goal at a high cost. This issue will be addressed in the next section.

III. The Performance of Public Enterprises

It is widely held that public enterprises are inherently inefficient and loss-making. A related, but different claim is that the aggregate losses of public enterprises have worsened the government's budget balance, increased inflation pressure, absorbed resources which could have been used for other social services and private investment, and therefore dampened economic growth. If this is true, public enterprise, as a tool to achieve social equity, is costly. Therefore, it is necessary to have a closer look at the related data to see if this allegation is justified.

As many scholars have pointed out, public enterprises' profit is subject to constraints, such as price regulations, non-profit objectives etc. In order to have a clearer picture of the whole issue, we will first briefly describe the sectoral distribution of public enterprises and its impact on the financial performance of public enterprises, which is seldom mentioned in the conventional literature. Then, we will describe the financial performance of public enterprises from different perspectives.

A. The Sectoral Distribution of Public Enterprises and its Impact on Profit

As has been mentioned earlier, in the first decade after World War II, public enterprises were mainly confined to a limited number of natural monopoly industries (such as public utilities), small-scale monopoly producers of sumptuary products (liquor, beer, tobacco), and basic necessities (salt, matches), non-road transportation (railroads, airlines), and banking in some cases (Indonesia, Mexico) (Gillis, 1980). In the

two decades that followed, public enterprises had expanded to virtually all types of economic activity. However, even then, they were heavily concentrated in several industries.

Table 9 shows the share of SOEs in GDP by sector for some developed and developing countries. It is obvious that public enterprises are mainly concentrated in public utilities (electricity, gas and water), mining, transport and communication. They also played important roles in manufacturing, construction, and commerce and personal services. Their role, measured by the value-added, is of least importance in the agriculture sector.

There are many reasons for the concentration of public enterprises in public utilities, mining, transport, and communication industries. One of these is that private investors are unwilling (due to low returns) or unable (due to large amount of investment needed) to invest in these sectors. Nevertheless, they are very important for the development of economy and society. Therefore the state has to assume the responsibility, through the public enterprises, in those sectors.

These industries (mining, transportation and public utilities) can be termed as highly capital-intensive industries. These sectors have several characteristics. The first is the high capital-labour ratio. Table 10 shows the capital–labour ratio of different sectors in the non-financial-capitalist business in the United States during 1948–2000. The capital employed per worker in the highly capital intensive industries is higher than $180,000 (it is more than $800,000 per worker in the public utilities sector), while it is less than $60,000 in other industries. This, at least partially, explains why public enterprises in most countries are capital intensive. It may not be the result of a mistake made in the technology-choosing process, as some scholars claimed; rather, it may only be a reflection of the requirements of the industries that public enterprises entered into.

The second characteristic of these industries is their high share in the total fixed capital stock and low share in employment and net product among the non-financial capitalist business. From Table 11 we can see that the net product, labour employed and fixed capital stock share of different industries in the United States' non-financial capitalist business during 1948–2000. During this period, the highly capital-intensive industries produced only 18.5 per cent of the net product using 56.2 per cent of the total fixed capital stock and 11.2 per cent of labour. This characteristic is even more obvious for public utilities, ie, electric, gas and water

services, which only produced 4.0 per cent of net product using 17.5 per cent of fixed capital. However, the most extreme case may be the railroad transportation, whose net product represents 1.8 per cent of the net product of the NF-Capitalist Business but utilizes 14.2 per cent of the stock of fixed capital. This explains why in many countries, public enterprises produce a smaller share of net output compared to their share in total assets.

The third characteristic is the low profit rate of these sectors. According to Duménil and Lévy (2004), in the United States during the period 1952–2000, the after tax but before interest profit rate of the extremely capital-intensive industries[14] was always lower than 5 per cent, except for the several years in the early 1980s, while that of the rest of the non-financial corporate sector was usually much higher, averaging 8.5 per cent during 1958-2000.

It is not true that these industries had low returns in all countries during the period. For instance, the oil industry and some mining industries did have high returns during certain periods. However, it is still true that the average returns of these industries were lower than that of the rest of the economy.

Therefore, the profits from the public enterprise sector remained low because they were concentrated in these industries. It would have been ideal if we could examine data about the capital stock and returns of both private and public enterprises in each industry. Then we could have evaluated the impact of the sectoral distribution of public enterprises on their financial performance. Unfortunately, these data are not available for most countries. However, qualitatively, it is reasonable to believe that the concentration of public enterprises in these highly capital-intensive industries did have a negative impact on the financial performance of public enterprises.

B. The Measures of Macroeconomic Impact of Public Enterprises

It is quite well known that there exist significant constraints on the profit rates of public enterprises. Therefore, financial indicators are usually biased against public enterprises if they are used as efficiency measures. In this section, we will put these considerations aside, and only look at the several measures of macroeconomic impact of public enterprises.

a) SOE Saving-Investment Deficit

A widely used indicator for the supposed inefficiency and the macroeconomic impact of public enterprise is the saving-investment deficit (S-I deficit), or overall balance, of public enterprises. According to the World Bank (1995), large SOE S-I deficits have a negative effect on growth, mainly in two specific ways. "At the simplest level, money spent to support a money-losing enterprise is then unavailable for growth-promoting social services, such as education and health. In a somewhat more complex way, SOE deficits undermine fiscal stability and contribute to inflation, making it more difficult for governments to provide a macroeconomic environment conducive to rapid, sustained growth." (World Bank, 1995, p.47) Several questions could be raised with this kind of reasoning, such as the impact of fiscal deficit on inflation and inflation on growth. But here, their reasoning is hinged on the idea of the "large SOE S-I deficit". Therefore, it is important to see how large this deficit is.

Table 12 shows SOE's overall balance before transfers as share of GDP for all of the mixed economies with data available from 1978 to 1996. SOE's overall balance or S-I deficit is measured as the difference between SOE savings (or current account balance) and SOE net capital expenditure. SOE savings, in turn, are obtained as the sum of net operating and net non-operating revenues. Net operating revenue refers to gross operating profits, which is equal to operating revenue minus the costs of intermediate inputs, wages, factor rentals and depreciation. All transfers, including such items on the revenue side as subsidies and such items on the expenditure side as dividends, are excluded.

In table 12 we see that during the period under consideration, the SOE S-I deficits were not very large. For the countries with data available, the weighted average of SOE S-I deficits is only 1.1 per cent of GDP and the unweighted average is only a little bit higher, at 1.25 per cent of GDP. In figure 1 we see there are wide variances of SOE overall balance among countries and over the years. Some countries such as Seychelles, Nepal and Guyana did have large SOE S-I deficits. The average S-I deficits for these three countries are higher than 5 per cent of GDP and for Seychelles, the number is around 15 per cent over 1981-1990. However, there are good performers during the same period too. Of the total 688 observations, one third are positive. The SOE's overall surpluses in Bolivia, Chile and Venezuela over the whole period were 6.27 per cent, 6.45 per cent and 9.28 per cent, respectively. From both figure 1 and table 12, we can see that the situation was improving over this period. The weighted average for all the countries in the sample improved from 3.7 per cent deficit during 1978-1980, to 0.56 per cent surplus

during 1991-1996. This improvement mainly came from two groups of countries; Latin America and the Caribbean, and Asia. The former group's average improved from 3.11 per cent of deficit in the first period to 2.93 per cent of surplus in the last period. These countries are mainly middle-income countries. Therefore, the averages of the middle-income country group also increased substantially, by more than 4.5 per cent. The performance of low-income countries, mainly from Africa and Asia, is not as good as other countries, with continuous deficits.

However, the fact that SOEs incur deficits does not necessarily represent bad performance. It may only be a reflection of the decision by the state and public enterprises to invest more than the savings of public enterprises due to various considerations. If these investments are justified from the perspective of social welfare, the deficit may be a necessary cost that society has to bear. As Short pointed out, "[I]n particular, overall deficits for public enterprises are not undesirable per se and even a low deficit is not necessarily an appropriate aim. Public enterprises produce marketable outputs and, just like private enterprises, it may well be desirable for them to run deficits to finance the investment needed to expand output." (Short, 1984, pp.145–146) Therefore it is necessary to examine the factors contributing to these deficits and the ways these deficits are financed.

b) SOE Savings

It is a widely-held belief that public enterprises are inherently inefficient. Their inefficiency causes them to be loss-making; and their losses are the main contributors to the S-I deficits. But the SOE savings data do not support this contention.

Table 13 shows the SOE savings for the countries with available data over 1978–1996. SOE savings are obtained by adding SOE S-I deficit and SOE investment, both of which are measured as percentage of GDP. The weighted average of the countries over the whole period is 3.88 per cent of GDP. There is no single group of countries running a current deficit over any period. This does not, however, mean there is no country experiencing SOE current deficit. There are big variances among countries over the years. Figure 2 shows these variances. Of the 614 observations, 115 are negative, which means those countries had SOE current deficits during the years in question. The worst performers were Guyana (1981–85: -7.36%) and Dominica (1978–80: -3.6%). However, their performances were not consistently bad. Guyana had SOE savings averaged at 10.87 per cent of GDP during 1978–80 and Dominica had SOE current

surpluses, rather than deficits, after 1985. Furthermore, some countries had very high SOE savings. For instance, Venezuela continuously had enormous SOE savings, which averaged 18.54 per cent of GDP over the whole period, and Mauritania's SOE savings averaged 18.5 per cent of GDP during the period 1978–1985. Though, without the data of aggregate public enterprises' assets, we cannot know how good the returns to total assets are, we can definitely refute the allegation that SOEs are generally loss-making.

Contrary to their relative performance measured by SOE S-I deficits, the low income countries, as a group, outperformed the middle income countries for all the four periods. As a weighted average, the SOE current surplus of the former was 5.28 per cent of GDP over the whole period, while that of the latter was 3.69 per cent. This is mainly because of African countries. During 1978–1990, their SOEs were running a current surplus higher than 6 per cent of GDP, much higher than the other two regions. This leads us to the conclusion that, for African countries, their relatively high SOE S-I deficits mainly came from their high SOE investment. This is supported by the data shown in Table 14. Table 14 shows the share of SOE investment in GDP. We can see, over the whole period from 1978 to 1996, that among the three regions, Africa has the highest SOE investment share in GDP (7.02%).

Though the SOE savings of individual countries may vary considerably over time, the averages for income groups and regions are relatively stable. This implies that the improvement of SOE overall balance over time mainly comes from the decline of SOE investment in the latter periods. Again, this is confirmed by the data in Table 14. The weighted average share of SOE investment in GDP for the sample countries decreased from 3.03 per cent during the period of 1978–1980 to 1.69 per cent in the period of 1991–1996.

Now we turn to the issue of how the SOE S-I deficit have been financed. There are basically 3 financial sources, ie, government transfers, domestic borrowing and foreign borrowing. We will only examine the first one here and briefly mention the other two in the concluding part.

c) Net Financial Flows from Government to SOEs

It is widely believed that SOE deficits absorb financial resources from the government, and worsen the government's budget balance, and produce inflationary pressures. However, these claims are one-sided. They only tell us about the financial flows transferred from government to SOEs, but ignore financial flows in the other direction. In fact, in many countries, SOEs transfer considerable sums of money to the

government in the form of taxes, dividends and interests. A more balanced approach to examining the issue is to look at the net financial flows from government to SOEs. Table 15 shows this indicator as percentage of GDP over the period of 1978–1996.[15]

In table 15, for the net financial flow from government to SOEs, the numbers are shown as positive; but for the net financial flow in the opposite direction, the sign is shown as negative. In table 15 we see that the cross-country average net financial flow is not from the government to the SOEs, but from the SOEs to the government. This is true both for the period as a whole, and for each of the 4 sub-periods. The weighted average financial flow from SOEs to government for the countries in the sample over the whole period is 1.05 per cent of GDP.

Again, there are wide inter-country and inter-period variances which are captured in figure 5.3. It shows the good performers and bad performers. Thanks to its state-owned oil companies, the government of Venezuela continuously received enormous net transfers from its SOE sectors. On average, the net transfer is more than 10 per cent of GDP. Another good performer is Bolivia. The net financial flow from the SOEs to the government averaged 7.8 per cent of GDP during the period 1981–1995. There are bad performers too. For example, the Tunisian government transferred 6.9 per cent of GDP to its SOE sector during the period of 1981–1990.

The net financial flow from the SOEs to the government averaged about 2.5 per cent of GDP over the whole period in Latin America and the Caribbean. For the 4 sub-periods, the direction of net financial flow was from SOEs to government in this region. Average net financial flow from the government to SOEs over the whole period was 0.25 per cent of GDP in Asia. This can also explain the relative performance of the middle income country group, which contains many Latin American countries, relative to the low income country group, which consists of many African and Asian countries.

From table 15 and figure 3, it is easy to see that the performance of SOEs was changing over this period. For Africa and Asia, the direction of net financial flow was from the government to SOEs during the first period, while in the last period, the direction was reversed. For Latin America and the Caribbean, the direction of net financial flow was always from the SOEs to government, but the volume of this flow almost doubled in the last period relative to the first period.

Therefore, it is reasonable to reject the claim that on an average, SOE worsens government budget deficits and contribute to inflation. This, however, does not mean that the claim cannot be true for certain countries. However, for most countries, this is not true for the period studied.

Admittedly, one may argue that if SOEs are privatized, the net financial flow from the privatized firms to the government may be increased. But this needs several assumptions. First, the privatized firms should operate more efficiently and make more profits. Second, the privatized firms should have the same incentives to pay taxes as public enterprises. Even if the first assumption can be met, the second one is hardly true. The private owners always have more than enough reasons to evade taxes, legally or otherwise. Therefore, the impact of privatization on government deficit is at best, unclear.

In many cases, SOE S-I deficits are not financed by government resources. So the SOEs turn to credit markets. As the S-I deficits of SOEs are modest, we can assert that the burden of public enterprises on both domestic and international credit market would also be modest. This is supported by data. The overall weighted average share of SOEs in gross domestic credit from 1970 to 1996 is only 3.58 per cent, while the overall weighted average share of SOEs in total external debt over the period of 1978–1991 was about 15 per cent.

Based on these data, we can refute the general claim that public enterprises are too costly for achieving the social equity goal. The data demonstrate that, public enterprises, in many cases, were making profits and positively contributing to public finance and economic stability.

IV. Conclusion

Though it is widely held that public enterprises are inherently inefficient, and their potential to improve social equity is limited, this study found that they contribute significantly and positively to income equality. Moreover, we find that public enterprises, as a sector, in many countries and during most years are profit-making and thus are not a burden on the budget.

The findings of this study are consistent with our observation of the post-WWII economic trend, in terms of the relationship between public enterprises and social equity. If our observation and the results of this study are correct, it is not difficult to imagine how privatization would generally increase social inequality and make the rich richer and the poor poorer. It may be time to think about stopping and even reversing the privatization process now.

Table 1: **Changes in Inequality during the Transition, Various Years**			
Countries	Gini coefficient of income per capita		
	1987–90	1993–94	1996–98
CSB	**0.23**	**0.29**	**0.33**
Bulgaria	0.23	0.38	0.41
Croatia	0.36	—	0.35
Czech Republic	0.19	0.23	0.25
Estonia	0.24	0.35	0.37
Hungary	0.21	0.23	0.25
Latvia	0.24	0.31	0.32
Lithuania	0.23	0.37	0.34
Poland	0.28	0.28	0.33
Romania	0.23	0.29	0.30
Slovenia	0.22	0.25	0.30
CIS	**0.28**	**0.36**	**0.46**
Armenia	0.27	—	0.61
Belarus	0.23	0.28	0.26
Georgia	0.29	—	0.43
Kazakhstan	0.30	0.33	0.35
Kyrgyz Republic	0.31	0.55	0.47
Moldova	0.27	—	0.42
Russian Federation	0.26	0.48	0.47
Tajikistan	0.28	—	0.47
Turkmenistan	0.28	0.36	0.45
Ukraine	0.24	—	0.47

Source: World Bank (2002)

Table 2: Public Enterprises and Income Distribution: Summary Descriptive Statistics of Regression Variables (Total observations: 87. Number of countries: 39. Time period: 1961–1995)					
Variable		Mean	Std. Dev.	Min	Max
dnsq51	overall	9.36	5.61	3.50	29.90
	between		5.64	4.25	29.90
	within		1.89	1.06	17.66
dnsq42	overall	4.57	1.90	2.53	9.94
	between		1.89	2.62	9.65
	within		0.47	2.98	6.16
soe	overall	8.67	8.09	0.91	58.60
	between		10.56	1.34	58.60
	within		2.05	-0.95	13.86
y_b	overall	8.46	0.96	6.71	10.16
	between		0.94	6.78	10.02
	within		0.14	7.82	9.07
$y_b 2$	overall	72.40	16.12	45.08	103.28
	between		15.77	45.93	100.51
	within		2.39	62.04	82.81
gov	overall	17.08	5.97	5.01	29.14
	between		5.68	5.01	27.69
	within		1.79	11.42	22.42
bmp	overall	5.76	41.63	-16.05	340.19
	between		56.75	-11.37	340.19
	within		11.10	-47.26	56.84
edu	overall	1.30	1.01	0.09	5.09
	between		0.92	0.09	4.57
	within		0.28	0.32	2.33
tot	overall	-0.09	1.76	-6.02	6.78
	between		1.17	-4.64	2.34
	within		1.46	-5.53	4.70
dis	overall	0.43	0.99	0.00	4.42
	between		0.79	0.00	3.81
	within		0.45	-1.75	2.61
war	overall	0.04	0.33	-1.00	1.00
	between		0.25	-0.70	0.70
	within		0.20	-0.56	0.54

<table>
<tr><td colspan="11">Table 3: Public Enterprises and Income Distribution:
Correlation of Regression Variables
(Total observations: 87. Number of countries: 39. Time period: 1961–1995)</td></tr>
</table>

dnsq	51	dnsq42	soe	yb	yb2	gov	bmp	edu	tot	dis
dnsq	42	0.98								
	(0.00)									
soe	-0.07	-0.06								
	(0.50)	(0.58)								
y_b	0.08	0.06	-0.03							
	(0.44)	(0.61)	(0.80)							
y_b2	0.05	0.02	-0.05	1.00						
	(0.62)	(0.82)	(0.67)	(0.00)						
gov	0.14	0.13	0.13	-0.40	-0.40					
	(0.20)	(0.21)	(0.24)	(0.00)	(0.00)					
bmp	-0.06	-0.06	0.54	-0.16	-0.16	0.05				
	(0.57)	(0.56)	(0.00)	(0.14)	(0.14)	(0.67)				
edu	-0.09	-0.13	-0.19	0.70	0.72	-0.32	-0.14			
	(0.41)	(0.23)	(0.07)	(0.00)	(0.00)	(0.00)	(0.18)			
tot	0.00	-0.01	-0.07	0.05	0.05	-0.11	-0.31	0.05		
	(0.97)	(0.94)	(0.54)	(0.64)	(0.62)	(0.32)	(0.00)	(0.66)		
dis	-0.18	-0.13	-0.12	-0.49	-0.48	0.11	-0.01	-0.32	-0.02	
	(0.09)	(0.23)	(0.28)	(0.00)	(0.00)	(0.29)	(0.92)	(0.00)	(0.86)	
war	0.05	0.11	-0.04	-0.10	-0.11	0.21	-0.03	-0.11	0.06	0.24
	(0.66)	(0.32)	(0.71)	(0.36)	(0.33)	(0.06)	(0.80)	(0.33)	(0.58)	(0.02)

<table>
<tr><td colspan="6">Table 4: Public Enterprises and Income Distribution:
Countries and Their Number of Periods Entering the Full Model</td></tr>
</table>

Country	No. of Periods	Country	No. of Periods	Country	No. of Periods
Algeria	1	Ghana	2	Panama	1
Australia	2	Greece	2	Peru	3
Bangladesh	2	Guatemala	2	Philippines	3
Belgium	3	India	6	Portugal	2
Brazil	3	Indonesia	3	Spain	1
Chile	3	Italy	3	Sri Lanka	3
Colombia	2	Korea	5	Thailand	2
Costa Rica	3	Malaysia	1	Tunisia	1
Denmark	1	Mexico	4	Turkey	1
Dominican Rep.	1	Nepal	1	United Kingdom	4
Ecuador	1	Netherlands	1	United States	4
Egypt	1	Niger	1	Venezuela	4
France	1	Pakistan	2	Zimbabwe	1

Table 5: Public Enterprises and Income Distribution: Regression Results.
Dependent Variable – the Ratio of the Top Quintile's Income Share to the Bottom Quintile's Income Share. Time period: 1961–1995

(Standard errors in parentheses with $p<0.05 = \sim$, $p<0.01 = *$)

Model	1	2	3	4	5	6	7	8	A	B	C
# obs	95	95	95	95	91	87	87	87	87	87	87
# ctry	42	42	42	42	39	39	39	39	39	39	
Con	11.915	-4.3	2.144	12.02	4.266	28.195	85.728	59.288	-361.389	-160.906	-303.023
	(1.915)*	-107.076	-109.291	-106.098	-109.237	-109.279	-82.318	-76.533	(83.152)*	(56.757)*	(46.934)*
Soe	**-0.119**	**-0.123**	**-0.147**	**-0.195**	**-0.237**	**-0.4**	**-0.425**	**-0.425**	**-0.384**	**-0.355**	**-0.379**
	(0.161)	**(0.172)**	**(0.184)**	**(0.180)**	**(0.195)**	**(0.188)~**	**(0.141)***	**(0.126)***	**(0.145)~**	**(0.088)***	**(0.088)***
y_b		3.754	1.781	-0.532	1.957	-4.642	-16.689	-13.247	87.432	41.207	73.993
		(26.020)	(26.725)	(25.942)	(26.811)	(26.398)	(19.843)	(18.342)	(19.349)*	(13.730)*	(11.223)*
y_b2		-0.21	-0.08	-0.064	-0.27	0.181	0.812	0.741	-5.177	-2.476	-4.372
		(1.555)	(1.603)	(1.555)	(1.620)	(1.584)	(1.189)	(1.095)	(1.159)*	(0.830)*	(0.689)*
gov			0.074	0.194	0.249	0.432	0.403	0.432	0.308	0.236	0.274
			(0.183)	(0.188)	(0.207)	(0.218)	(0.163)~	(0.145)*	(0.160)	(0.108)~	(0.106)~
bmp				0.086	0.086	0.076	0.058	0.067	0.047	0.043	0.043
				(0.044)	(0.046)	(0.045)	(0.034)	(0.023)*	(0.029)	(0.017)~	(0.014)*
edu					1.506	0.116	0.998	1.217	1.09	0.254	0.234
					(2.177)	(2.040)	(1.532)	(1.410)	(1.692)	(1.037)	(0.887)
tot						0.313	0.233	0.235	1.224	0.373	0.4
						(0.255)	(0.191)	(0.176)	(1.003)	(0.186)~	(0.271)
dis							-2.623	-2.523	1.553	-1.909	0.024
							(0.489)*	(0.452)*	(1.254)	(0.467)*	(0.386)
war								-3.4	-3.108	-3.009	-2.871
								(1.377)~	(3.857)	(1.286)~	(1.646)
R-sq	0.07	0.07	0.07	0.15	0.16	0.28	0.61	0.67	0.62	-	0.48
P-value -soe	**0.465**	**0.480**	**0.428**	**0.285**	**0.230**	**0.041**	**0.005**	**0.002**	**0.015**	**0.000**	**0.000**

Note: Model 1~8: Fixed effects.

Model A: random effects

Model B: between effects

Model C: Pooled OLS

Table 6: Public Enterprises and Income Distribution
Regression Results after Excluding Outliers: Dependent Variable, dnsq51, 1961–1995
(Heteroscedasticity – corrected standard errors in parentheses with p<0.05 = ~, p<0.01 = *)

Model l	1	2	3	4	5	5a	6	7
No. of obs	87	79	72	74	64	83	75	85
Con	60.059	20.920	29.128	57.340	104.949	67.455	90.766	64.294
	(51.641)	(49.910)	(54.042)	(55.494)	(159.554)	(54.352)	(64.849)	(53.542)
soe	**-0.417**	**-0.386**	**-0.341**	**-0.319**	**-0.172**	**-0.327**	**-0.261**	**-0.400**
	(0.096)*	**(0.080)***	**(0.081)***	**(0.093)***	**(0.143)**	**(0.141)~**	**(0.153)**	**(0.095)***
y_b	-13.290	-2.601	-6.328	-12.483	-23.185	-13.910	-21.261	-14.141
	(12.243)	(11.913)	(12.633)	(13.104)	(36.231)	(12.768)	(14.573)	(12.800)
y_b2	0.751	0.054	0.394	0.717	1.279	0.760	1.276	0.776
	(0.744)	(0.724)	(0.749)	(0.782)	(2.025)	(0.771)	(0.834)	(0.775)
gov	0.421	0.354	0.349	0.328	0.253	0.353	0.299	0.431
	(0.112)*	(0.098)*	(0.092)*	(0.096)*	(0.121)~	(0.134)~	(0.128)~	(0.100)*
bmp	0.061	0.055	0.053	0.057	0.065	0.052	0.039	0.065
	(0.017)*	(0.015)*	(0.015)*	(0.017)*	(0.031)~	(0.021)~	(0.020)	(0.017)*
edu	1.186	1.734	1.552	1.425	1.252	1.151	2.106	1.171
	(1.116)	(0.821)~	(0.835)	(0.741)	(1.336)	(1.114)	(1.182)	(1.029)
tot	0.238	0.304	0.225	0.155	0.301	0.251	0.134	0.117
	(0.164)	(0.124)~	(0.111)~	(0.119)	(0.175)	(0.177)	(0.216)	(0.145)
dis	-2.526	-2.456	-2.748	-2.748	-3.588	-2.596	-1.827	-2.721
	(0.444)*	(0.442)*	(0.700)*	(0.762)*	(0.257)*	(0.442)*	(0.810)~	(0.369)*
war	-3.397	-3.661	-3.557	-3.096	-2.335	-3.443	-1.732	-3.507
	(1.100)*	(1.050)*	(0.871)*	(0.973)*	(1.329)	(1.109)*	(1.094)	(1.059)*
R-sq	0.670	0.740	0.690	0.620	0.830	0.640	0.420	0.700
P-value-soe	**0.000**	**0.000**	**0.000**	**0.001**	**0.234**	**0.023**	**0.093**	**0.000**

Note: Model 1: Full sample

   Model 2: excluds outliers (dfbeta): CHL(1971), CRI(1976), MEX(1991), PER(1981,1986), USA(1991), VEN(1971,1976)

   Model 3: Excludes outliers (dfits): CHL(1971), CRI(1976), GTM(1976,1986), IND(1966,1971,1991), KOR(1966,1971), MEX(1991), VEN(1971,1976,1986)

   Model 4: Excludes outliers (cook): CHL(1971,1991), CRI(1976), GTM(1976,1986), IND(1966,1971,1986,1991), KOR(1966,1971), MEX(1991), PER(1981,1986), PHL(1971), USA(1991), VEN(1971,1976,1986)

   Model 5: Excludes outliers (covratio): AUS(1966,1976), BGD(1971,1981), CRI(1976), IDN(1976,1986), IND(1966,1971,1976,1991), KOR(1966,1971,1986), LKA(1961,1966,1971), MEX(1981,1991), USA(1976,1981), VEN(1971,1976)

   Model 5a: Excludes outliers (covratio): LKA(1961,1966,1971), VEN(1971)

   Model 6: Excludes outliers (levg): CHL(1971), GTM(1976,1986), IDN(1976), IND(1966,1991), KOR(1966,1986), LKA(1961,1966,1971), VEN(1971)

   Model 7: Excludes outliers (rstudent): CRI(1976), IND(1971)

**Table 7: Public Enterprises and Income Distribution: Regression Results.
Dependent Variable – the Ratio of the Top Two Quintiles' Income Share to the Two Bottom
Quintiles' Income Share, dnsq42; Time period: 1961–1995**

(Standard errors in parentheses with $p<0.05 = \sim$, $p<0.01 = *$)

model	1	2	3	4	5	6	7	8	A	B	C
No. of obs	95	95	95	95	91	87	87	87	87	87	87
No. of ctry	42	42	42	42	39	39	39	39	39	39	
Con	5.116	9.694	9.151	12.122	9.995	22.003	33.534	28.178	-121.179	-43.486	-106.954
	(0.498)*	(27.853)	(28.477)	(27.233)	(28.061)	(26.260)	(22.182)	(21.583)	(26.577)*	(17.280)~	(14.925)*
Soe	**-0.021**	**-0.018**	**-0.016**	**-0.03**	**-0.04**	**-0.083**	**-0.088**	**-0.091**	**-0.123**	**-0.093**	**-0.124**
	(0.042)	**(0.045)**	**(0.048)**	**(0.046)**	**(0.050)**	**(0.045)**	**(0.038)~**	**(0.036)~**	**(0.046)~**	**(0.027)***	**(0.028)***
y_b		-1.205	-1.038	-1.734	-1.065	-4.039	-6.453	-5.778	29.638	11.719	26.471
		(6.768)	(6.964)	(6.659)	(6.887)	(6.344)	(5.347)	(5.173)	(6.184)*	(4.181)*	(3.559)*
y_b2		0.077	0.066	0.071	0.017	0.208	0.335	0.318	-1.752	-0.704	-1.563
		(0.405)	(0.418)	(0.399)	(0.416)	(0.381)	(0.320)	(0.309)	(0.371)*	(0.253)*	(0.217)*
gov			-0.006	0.03	0.043	0.092	0.086	0.095	0.094	0.058	0.084
			(0.048)	(0.048)	(0.053)	(0.052)	(0.044)	(0.041)~	(0.051)	(0.033)	(0.036)~
bmp				0.026	0.026	0.021	0.017	0.021	0.013	0.011	0.014
				(0.011)~	(0.012)~	(0.011)	(0.009)	(0.006)*	(0.009)	(0.005)~	(0.005)*
edu					0.367	-0.083	0.094	0.147	0.211	-0.023	0.029
					(0.559)	(0.490)	(0.413)	(0.398)	(0.541)	(0.316)	(0.294)
tot						0.081	0.065	0.064	0.259	0.111	0.105
						(0.061)	(0.051)	(0.050)	(0.321)	(0.054)~	(0.091)
dis							-0.526	-0.505	0.556	-0.379	0.117
							(0.132)*	(0.128)*	(0.401)	(0.136)*	(0.134)
war								-0.653	-0.666	-0.625	-0.658
								(0.388)	(1.233)	(0.374)	(0.528)
R-sq	0.06	0.06	0.06	0.16	0.17	0.34	0.55	0.58	0.65		0.5
P-value-soe	**0.625**	**0.692**	**0.744**	**0.518**	**0.434**	**0.076**	**0.027**	**0.015**	**0.014**	**0.000**	**0.000**

Note: Model 1~8: Fixed effects

       Model A: Random effects

       Model B: Between effects

       Model C: Pooled OLS

Table 8: Public Enterprises and Income Distribution
Regression Results after Excluding Outliers: Dependent Variable~ the Ratio of the Top Two Quintiles' Income Share to the Two Bottom Quintiles' Income Share, *dnsq42*, 1961–1995

(Heteroscedasticity – corrected standard errors in parentheses with $p<0.05 = \sim$, $p<0.01 = *$)

modl	1	2	3	4	5	5a	6	6a	7
No. of obs	87	78	74	76	62	83	75	83	83
Con	28.613	26.480	29.241	31.445	24.725	23.111	44.886	36.234	26.228
	(12.091)~	(10.522)~	(10.485)*	(10.367)*	(30.923)	(14.062)	(18.920)~	(15.270)~	(11.452)~
soe	**-0.086**	**-0.087**	**-0.092**	**-0.098**	**-0.035**	**-0.072**	**-0.052**	**-0.078**	**-0.103**
	(0.028)*	**(0.023)***	**(0.015)***	**(0.016)***	**(0.035)**	**(0.038)**	**(0.043)**	**(0.038)~**	**(0.025)***
y_b	-5.802	-5.541	-5.864	-6.612	-7.016	-4.498	-9.866	-7.452	-5.355
	(2.897)~	(2.512)~	(2.488)~	(2.463)*	(7.090)	(3.337)	(4.247)~	(3.718)~	(2.716)
y_b2	0.323	0.325	0.327	0.379	0.533	0.247	0.572	0.415	0.307
	(0.180)	(0.155)~	(0.150)~	(0.150)~	(0.396)	(0.204)	(0.243)~	(-0.231)	(0.167)
gov	0.089	0.104	0.089	0.105	0.043	0.081	0.072	0.073	0.091
	(0.030)*	(0.025)*	(0.020)*	(0.022)*	(0.035)	(0.034)~	(0.037)	(0.033)~	(0.029)*
bmp	0.018	0.014	0.015	0.016	0.009	0.018	0.009	0.017	0.017
	(0.005)*	(0.004)*	(0.003)*	(0.003)*	(0.009)	(0.005)*	(0.005)	(0.005)*	(0.004)*
edu	0.129	0.263	0.160	0.293	-0.411	0.147	0.449	0.145	0.059
	(0.330)	(0.206)	(0.176)	(0.203)	(0.342)	(0.326)	(0.303)	(-0.33)	(0.312)
tot	0.066	0.066	0.050	0.060	0.099	0.072	0.022	0.062	0.082
	(0.050)	(0.035)	(0.031)	(0.033)	(0.053)	(0.053)	(0.060)	(-0.054)	(0.050)
dis	-0.507	-0.492	-0.601	-0.606	-0.245	-0.529	-0.597	-0.592	-0.496
	(0.079)*	(0.079)*	(0.046)*	(0.047)*	(0.134)	(0.082)*	(0.226)~	(0.073)*	(0.081)*
war	-0.651	-0.780	-0.679	-0.745	-0.910	-0.649	-0.301	-0.527	-0.677
	(0.295)~	(0.237)*	(0.191)*	(0.194)*	(0.350)~	(0.303)~	(0.333)	(-0.31)	(0.255)*
R-sq	0.580	0.740	0.820	0.800	0.600	0.550	0.360	0.57	0.670
P-value-soe	**0.003**	**0.000**	**0.000**	**0.000**	**0.326**	**0.066**	**0.235**	**0.044**	**0.000**

Note: Model 1: Full sample

Model 2: Excludes outliers (dfbeta): CHL(1971,1991), CRI(1976), MEX(1991), PER(1981,1986),
VEN(1971,1976,1986)

Model 3: Excludes outliers (dfits): CHL(1971,1991), IND(1966,1971), KOR(1971), MEX(1991),
PER(1981,1986), PHL(1971), VEN(1976,1986)

Model 4: Excludes outliers (cook): CHL(1971,1991), CRI(1976,1986), IND(1966,1971), KOR(1971),
MEX(1991), PER(1981,1986), PHL(1971), USA(1976), VEN(1971,1976,1986)

Model 5: Excludes outliers (covratio): AUS(1966,1976), BGD(1971,1981), CHL(1971), GTM(1976,1986),
IDN(1976,1986,1976,1991), KOR(1966,1986), LKA(1961,1966,1971), MEX(1981),
PER(1981,1986,1991), USA(1976,1981), VEN(1971,1976,1986)

Model 5a: Excludes outliers (covratio): IND(1991), KOR(1966), LKA(1961), VEN(1971)

Model 6: Excludes outliers (levg): CHL(1971), GTM(1976,1986), IDN(1976,1966,1991), KOR(1966,1986),
LKA(1961,1966,1971), VEN(1971)

Model 6a: Excludes outliers (levg): IND(1966, 1991), LKA(1961), VEN(1971)

Model 7: Excludes outliers (rstudent): MEX(1986), PER(1981), PHL(1971), VEN(1986)

Table 9: Public Enterprises' Share of GDP by Sector						
	Agriculture	Commerce Personal Services	Construction	Manufacturing	Mining	Transport Communication	Electricity, Gas and Water
Austria (1970-75)	O	O	O	ã	ã	•	•
France (1971)	O	O	◑	◑	◑	◎	•
Italy (1975)	O	O	O	ã	◑	◑	•
United Kingdom (1975)	O	O	O	O	•	◑	•
Congo (1980)	O	O	ã	ã	O	◑	•
Ivory Coast (1979)	O	O	ã	O	ã	◑	•
Kenya (1980)	O	O	O	O	O	◎	•
Senegal (1980)	O	ã	O	O	•	O	•
Sierra Leone (1979)	O	O	O	O	ã	◎	•
Tanzania (1980-81)	O	◑	ã	◑	•	O	◑
Bangladesh (1980)	O	ã	O	◑	•	O	•
Burma (1980)	O	◑	•	◎	•	◑	•
India (1978)	O	O	ã	O	•	◑	•
Republic of Korea (1974-77)	O	O	O	O	ã	◑	•
Nepal (1978-79)	O	ã		ã	O	O	ã
Pakistan (1980)	O	ã	O	ã	ã	◑	•
Sri Lanka (1974)	O	ã	ã	◑	O	◑	•
Greece (1979)	O			O	•	◑	◑
Portugal (1976)	O	O	O	ã	O	◑	◑
Tunisia (1976)	O	O		◑	◑	◎	•
Argentina (1980)	O	O	ã	ã	◑	◑	◑
Mexico (1980)	O	ã	O	ã	•	◎	•
Nicaragua (1980)	ã	ã	◎	ã	•	◎	•
Uruguay(1979)	O	O	O	O	O	O	•

Note: < 5% O; 5%~25% ã; 25%~50% ◑ ; 50%~75% ◎ ; >75% •.

Source: UNIDO; World Bank (1983); Peter Short (1984). Adapted from Yair Aharoni (1986, figure 1.2)

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Table 10: Capital–Labour Ratio: The Components of Non-Financial-Capitalist Business in the US during 1948–2000

	K/L (000 $ per worker)	
	Retail Trade	19.2
	Wholesale Trade	21.0
Non-Financial-Core-Industries	Capitalist Services	23.9
	Durable Goods	40.6
	Nondurable Goods	56.2
	Communications	186.9
Highly Capital	Transportation	216.5
Intensive industries	Mining	419.9
	Electric, Gas, and Sanitary Services	837.6

Note: The numbers in the table are the geometric average of the variable over the period 1948–2000). The figures for the two component of Trade provide a low estimate of the capital invested in these industries, since inventories are not included.

Source: adapted from Duménil and Lévy (2002, table 1).

Table 11: Net product (NP), Employment (L), and Fixed Capital (K): Shares of Mining, and Transportation and Public Utilities and Their Components in the NF-Capitalist Business (Average 1948–2000) in the US

	NP	L	K
NF-Capitalist Business	100.0	100.0	100.0
NF-Core	81.5	88.8	43.8
Mining, and Transportation and Public Utilities	18.5	11.2	56.2
Mining	4.2	1.5	9.3
Transportation and Public Utilities	14.3	9.7	46.9
Transportation	6.6	6.2	21.2
Communications	3.7	2.1	8.2
Electric, Gas, and Sanitary Services	4.0	1.4	17.5

Source: Adapted from Duménil and Lévy (2002, table 2).

Table 12: **State-Owned Enterprise Overall Balance before Transfers (% of GDP), 1978-1996**

		1978-80	1981-85	1986-90	1991-96	1978-96
All countries	Weighted	-3.70	-1.42	0.15	0.56	-1.10
	Unweighted	-2.74	-1.96	-0.72	0.40	-1.25
Middle Income Countries	Weighted	-3.91	-1.38	0.78	0.77	-0.93
	Unweighted	-2.94	-1.99	-0.19	0.65	-1.12
Low Income Countries	Weighted	1.12	-1.58	-2.31	-1.06	-0.96
	Unweighted	-1.74	-1.84	-1.81	-1.69	-1.77
Latin America and the Caribbean	Weighted	-3.11	-0.42	1.81	2.93	0.30
	Unweighted	-1.81	-1.33	0.98	2.08	-0.02
Africa (including Middle East)	Weighted	-0.68	-0.60	-1.51	-1.19	-1.00
	Unweighted	-3.09	-2.04	-2.33	-2.04	-2.37
Asia (excluding Middle East)	Weighted	-3.67	-2.68	-1.10	-1.39	-2.21
	Unweighted	-4.57	-3.03	-1.81	-1.96	-2.84
The 2 Best Performers	Venezuela	8.97	8.98	8.94	13.4	9.28
	Chile	6.27	6.83	8.71	4.34	6.45
The 2 Worst Performers	Nepal	-7.40	-6.90	-9.90		-7.57
	Seychelles	-8.30	-14.10	-15.97		-13.50

Note: The figures indicated as "weighted" are averages weighted by GDP in current U.S. dollars.
Source: World Bank (1995) and WDI CD 1999.

### Table 13: **State-Owned Enterprise Saving (as % of GDP), 1978-1996**

		1978-80	1981-85	1986-90	1991-96	1978-96
All countries	Weighted**	3.15	4.00	4.43	3.94	3.88
	Unweighted	2.91	3.10	3.18	3.46	3.16
Middle Income Countries	Weighted**	3.03	3.68	4.35	3.71	3.69
	Unweighted	2.11	2.90	3.64	3.50	3.04
Low Income Countries	Weighted**	5.75	5.20	4.75	5.41	5.28
	Unweighted	4.64	3.14	1.90	2.87	3.14
Latin America and the Caribbean	Weighted**	3.84	3.91	4.70	4.86	4.33
	Unweighted	2.52	2.19	3.64	4.38	3.18
Africa (including Middle East)	Weighted**	6.64	5.97	6.20	0.58*	4.85
	Unweighted	5.13	4.35	2.45	0.55*	3.12
Asia (excluding Middle East)	Weighted**	2.14	3.95	4.14	3.85	3.52
	Unweighted	2.45	3.12	3.03	2.68	2.82
The 2 Best Performers	Venezuela	19.2	18.04	17.8	22.7	18.54
	Mauritania	15.1	21.9			18.50
The 2 Worst Performers	Philippines	0.82	-1.17	-1.05	-2.56	-1.37
	Mali	-1.4				-1.40

Note: * Only Botswana and Namibia are covered due to data availability.
      **The figures indicated as "weighted" are averages weighted by GDP in current U.S. dollars.
Source: World Bank (1995) and WDI CD 1999.

Table 14: **Share of State-Owned Enterprises Investment in Gross Domestic Product (%), 1978-1996**		1978-80	1981-85	1986-90	1991-96	1978-96
All countries	Weighted	3.03	2.66	2.00	1.69	2.16
	Unweighted	5.11	4.72	3.74	3.44	4.32
High Income Countries	Weighted	2.10	1.71	1.34	1.01	1.40
	Unweighted	3.60	3.93	2.71	1.98	3.23
Middle Income Countries	Weighted	7.49	5.58	3.76	2.73	4.30
	Unweighted	5.39	4.84	3.49	3.10	4.25
Low Income Countries	Weighted	7.29	7.55	8.56	8.13	8.06
	Unweighted	5.97	4.99	4.89	5.52	5.26
Latin America and the Caribbean	Weighted	6.78	4.52	2.90	1.92	3.43
	Unweighted	4.25	3.51	3.11	2.29	3.34
Africa (including Middle East)	Weighted	11.32	7.70	6.28	3.98	7.02
	Unweighted	6.96	5.81	4.34	5.58	5.64
Asia (excluding Middle East)	Weighted	4.39	4.53	3.19	3.12	3.49
	Unweighted	6.53	5.95	4.76	4.54	5.43
The Bottom 2 Countries	United States	0.83	0.49	0.39	0.31	0.48
	Sierra Leone	2.60	0.17			0.78
The Top 2 Countries	Congo, Rep.		15.30			15.30
	Algeria	30.49	14.73	9.80		19.44

Note: The figures indicated as "weighted" are averages weighted by GDP in current U.S. dollars.
Source: World Bank (1995) and WDI CD 1999.

Table 15: **Net Financial Flows from Government to State-Owned Enterprises (As % of GDP), 1978-1996**		1978-80	1981-85	1986-90	1991-96	1978-96
All countries	Weighted	-0.65	-0.75	-0.62	-1.61	-1.05
	Unweighted	-0.12	0.23	-0.26	-1.43	-0.28
Middle Income Countries	Weighted	-0.76	-0.76	-0.71	-1.74	-1.16
	Unweighted	-0.09	0.41	-0.62	-1.67	-0.44
Low Income Countries	Weighted	1.74	-0.73	-0.26	-0.80	-0.52
	Unweighted	-0.17	-0.03	0.39	-0.42	0.02
Latin America and the Caribbean	Weighted	-1.85	-2.76	-1.51	-3.31	-2.49
	Unweighted	-0.89	-0.53	-1.69	-2.53	-1.36
Africa (including Middle East)	Weighted	1.28	-1.65	1.27	-0.44	-0.18
	Unweighted	-0.13	0.34	0.98	-0.17	0.38
Asia (excluding Middle East)	Weighted	0.78	1.28	-0.06	-0.04	0.25
	Unweighted	2.08	1.92	0.21	0.21	1.03
The 2 Best Performers	Venezuela	-11.00	-13.06	-11.00	-16.40	-12.12
	Bolivia		-2.90	-8.58	-8.05	-7.83
The 2 Worst Performers	Sri Lanka	9.84	4.94	2.39	1.48	3.95
	Tunisia		6.56	7.47		6.90

Note: Negative signs indicate that the direction of net financial flow is from public enterprises to government. The figures indicated as "weighted" are averages weighted by GDP in current U.S. dollars, excluding those data from Nair and Fillippides (1989), which fails to consider taxes paid by SOEs.

Source: World Bank (1995) and WDI CD 1999.

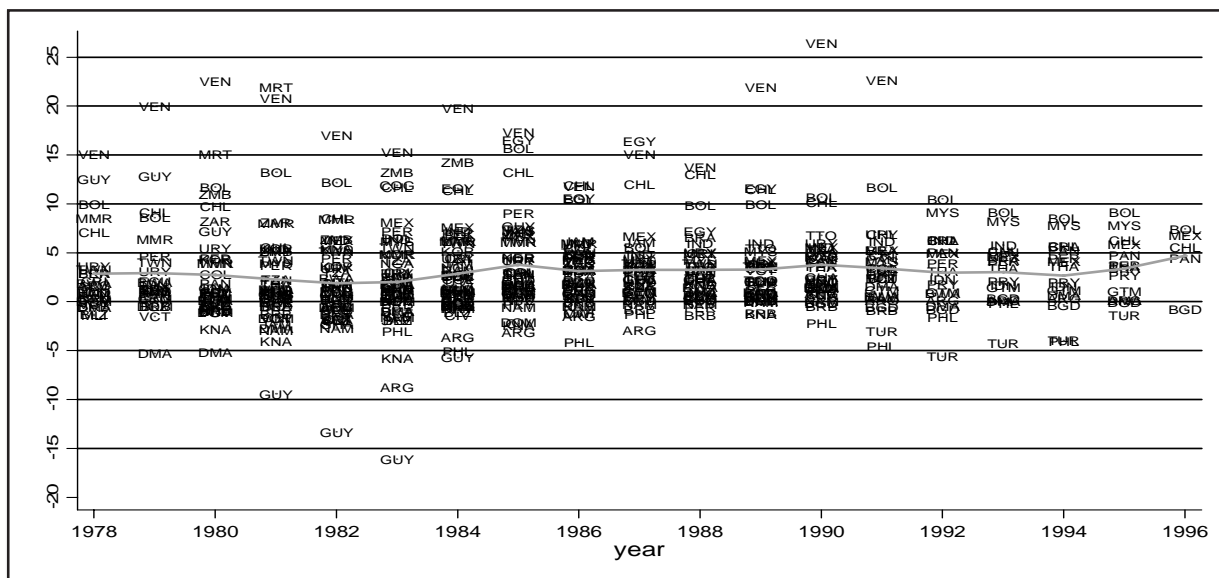## Figure 1: SOE Overall Balances before Transfers (% GDP), 1978-1996
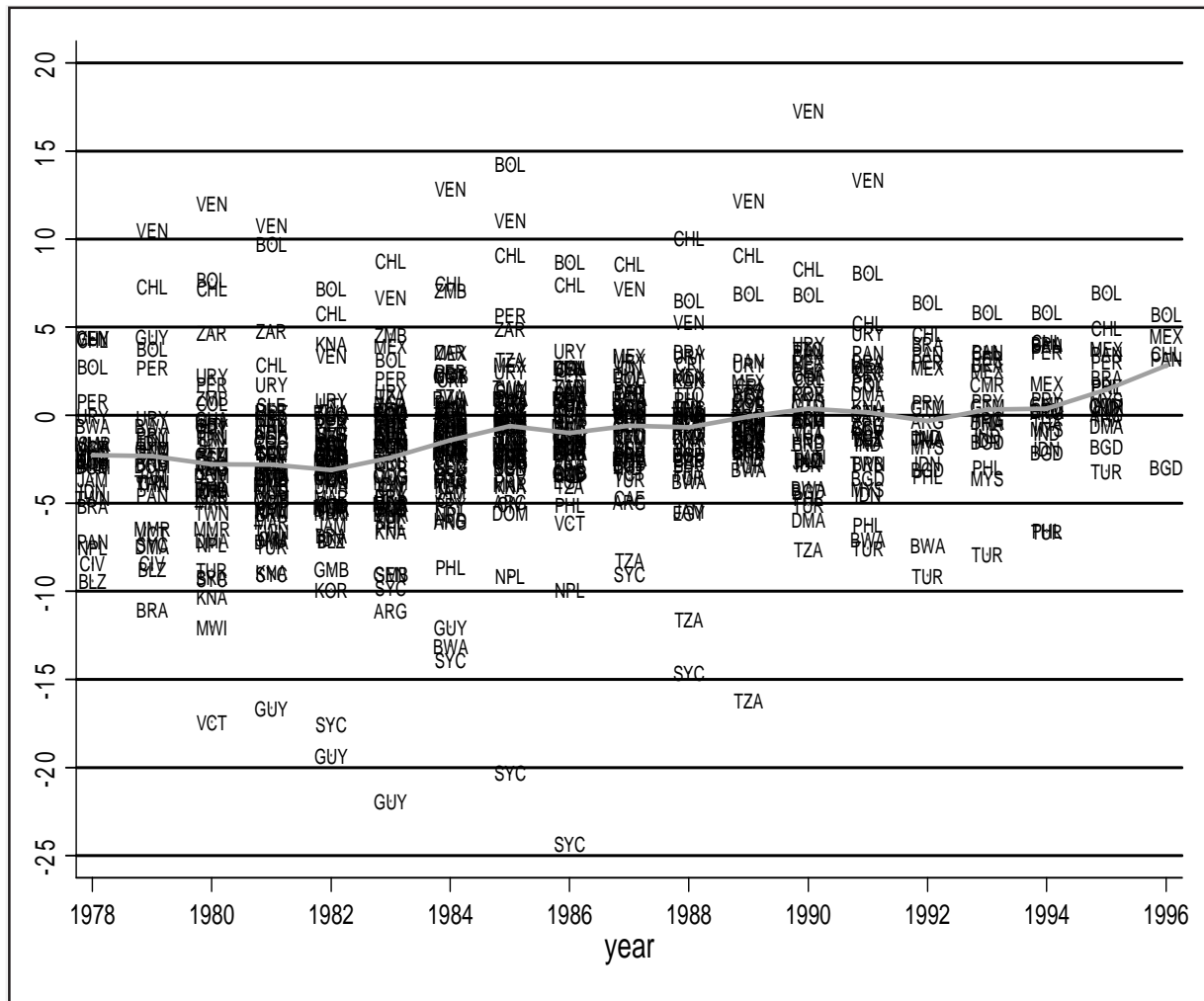
Note: The line refers to the unweighted average value.

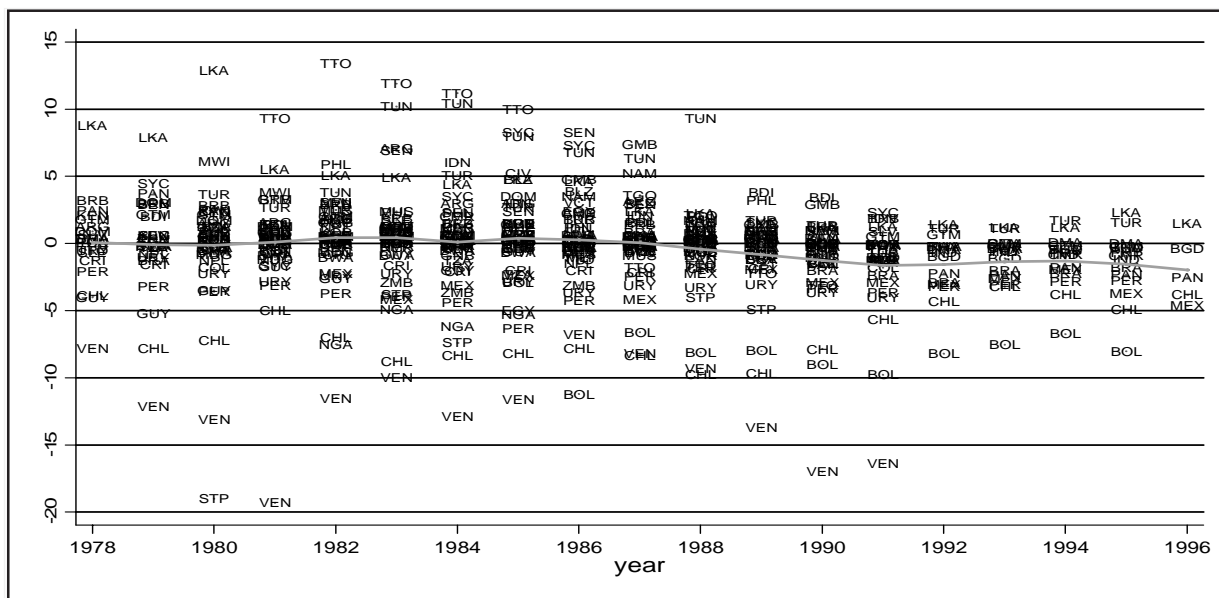Source: World Bank (1995) and WDI CD 1999.

Figure 2: SOE Overall Saving before Transfers (% GDP), 1978-1996

Note: The line refers to the unweighted average value.

Source: World Bank (1995) and WDI CD 1999.

Figure 5.3: Net Financial Flows from Government to SOEs (% GDP), 1978-1996

Note: The line refers to the unweighted average value.

Source: World Bank (1995) and WDI CD 1999.

APPENDIX A

Description of the Variables and Data Sources

Inequality, dnsq51/dnsq42: The ratio of the top two quintiles' income share to the bottom two quintiles' income share. (Source: the Deininger and Squire (1999) panel data set, data they regard as high quality. Available at http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/ 0,,contentMDK:20699070~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html)

Initial Output Level, y: The log value of per capita GDP (Constant price: Laspeyres) at the beginning year of each period. (Source: PWT6.1. http://pwt.econ.upenn.edu/)

Investment, i: The share of gross investment in GDP (current prices). (Source: PWT6.1. http:// pwt.econ.upenn.edu/)

Fiscal Policy, gov: The share of government consumption in GDP (current prices). (Source: PWT6.1. http://pwt.econ.upenn.edu/)

Monetary Policy, m2: The ratio of M2 to GDP. (Easterly, *et al* 2002, Global Development Network Growth Database)

Education Level, edu: Average years of secondary schooling in the of the total population aged 25 and over. (Source: Barro R. and J.W. Lee, 2000. http://www2.cid.harvard.edu/ciddata/barrolee/panel_data.xls)

International Economic Environment, tot: The change of terms of trade weighted by foreign trade dependence ratio (the sum of exports and imports divided by GDP). (Easterly, *et al* 2002, Global Development Network Growth Database)

Black Market Premium, bmp: the percentage differential between the black market and the official exchange rate against US dollar (%, 0 means zero). (Source: Global Development Dataset and Easterly and Levine (2001)

Natural Disaster, dis: The share of population affected by the natural disasters happened in the year weighted by the share of agricultural output in GDP. Unreported natural disasters, if any, are treated as 0. (Sources: The natural disaster data come from The Centre for Research on the Epidemiology of Disasters (CRED), The OFDA/CRED International Disaster Database. http://www.em-dat.net/. The agricultural data are from WDI 2003)

War: A war is defined as an armed conflict with more than 25 deaths. Value 1 is given to those countries that experienced war within its border, -1 to those countries involved in war in other countries. Other situations are given value 0. (Source: Gleditsch, et al., 2002, Armed Conflict 1946–2002 database. http:/ /www.prio.no/cwp/ArmedConflict/)

Public Enterprises, soe: The share of SOEs' value-added in GDP. There are three sources. Short (1984), World Bank (1995), and WDI CD-ROM (1999). The latest data will be taken for those overlapping years. Short (1984) showed the average share of SOEs' value-added in GDP over various short periods. Therefore, all the years covered will be given that number. Since in most cases, the periods are short, only covering two to three years, this treatment should not be a problem, especially given that we are using the five-year averages in our model. In order to make the data consistent at least within countries, I dropped those data with different coverage from others for the country. I also dropped the apparently incorrect data with references to other data sources.

These changes include:

Argentina, data for 1976 and 1977 from Short (1984) only contain major SOEs, but data for other years are from World Bank (1995) and contains all SOEs. Therefore, data for these two years are dropped.

Austria, data for 1978 and 1979 from BIB only contain major ones, I used those from Short (1984) to replace them.

Bangladesh, data after 1981 are dropped because the coverage keeps changing.

Bolivia, data before 1991 are dropped because the data before 1978 come from Short (1984), which cover 9 non-financial SOEs, while those after come from WDI 1999, and data to 1990 refer to selected major state-owned enterprises only.

Cameroon, the data after 1992 come from WDI 1999 but they are quite strange compared with the data before 1992, the data in 1993–1995 are 5.80, 6.11 and 4.24, while before 1992, SOEs' size stay at 18.0. So the data for these three years are dropped.

Congo, Rep., data after 1985 are dropped because, according the technical notes of World Bank (1995), the sharp increase of SOEs' relative size in 1986 (from 10.7 in 1985 to 17.7 in 1986) and after is due to deep recession.

France, data for 1978 and 1979 are dropped because they cover financial SOEs but data for other years do not.

Guinea, data for 1981 are dropped because, according to BIB, the sharp decrease of SOEs' share in GDP was due to the change of exchange rate.

Guyana, data before 1978 are dropped because the coverage for these data is different from that of later data.

Sri Lanka, data for 1987 and 1988 are dropped because the only include 30 SMEs.

Malta, data for 1962 to 1980 are all dropped because those data exclude the industrial enterprises.

Pakistan, data for years after 1977 are dropped because they cover financial firms but those data before, do not.

Portugal, data for 1983 and 1984 are dropped because they include financial firms but other data do not.

Senegal, data for 1970 and 1974 are dropped because the coverage of them are different from the data for other years.

Taiwan Province of China, China, data after 1977 are dropped because the data from World Bank (1995) are much lower than those from Short (1984) and the data from other sources, such as Schive, Chi, 1995, Experiences and issues of privatization in Taiwan, *Industry of Free China,* 83 (January):19-34.

Thailand, data for 1988 are dropped because they cover financial firms and other data do not.

United Kingdom, data before 1978 are dropped because the coverage of them is strange and different from other data.

Zambia, data after 1986 are dropped because, according to BIB, these data are estimated based on one company ZIMCO, though it accounted for more than 14% of GDP in 1978-1992.

APPENDIX B

Techniques to Identify Outliers

Because there are some extreme values and considerable variation for some of the regression variables as well as for the dependent variable, it is particularly important in this case to check the effect of influential observations on the estimation results. I adopt 9 methods to identify outliers. In the following paragraphs, n represents the number of observations and p represents number of independent variables.

Coefficient analysis, dfbetas, focus on one coefficient and measure the difference between the regression coefficient when the ith observation is included and excluded, the difference being scaled by the estimated standard error of the coefficient. Belsley, Kuh, and Welsch (1980, p.28) suggest observations with |dfbeta|>2/ as deserving special attention, but 1 is also commonly used (Bollen and Jackman, 1990, p.267), meaning that the observation shifted the estimate at least one standard error.

Fitted-Value analysis, dfits, is a scaled difference between predicted values for the ith case when the regression is estimated with and without the ith observation. (Welsch and Kuh, 1977) Belsley, Kuh, and

Welsch (1980, p.28) suggest that dfits values greater than $2\sqrt{p/n}$ deserve further investigation.

Variance-covariance matrix analysis, covratio, measures the influence of the ith observation by considering the effect on the variance-covariance of the estimates. covratio, is the ratio of the determinants of the covariance matrix, with and without the ith observation. Belsley, Kuh, and Welsch (1980, p.28) suggest that observations for which |covratio| ≥3k/n are worthy of further examination.

Leverage or hat matrix analysis, levg, is the diagonal elements of the hat matrix. Belsley, Kuh, and Welsch (1980, p.28) suggest 2p/n as the critical value.

Residual analysis, Rstudent, refers to "studentized" residuals, which can be interpreted as the t statistic for testing the significance of a dummy variable equal to 1 in the observation in question and 0 elsewhere. (Belsley, Kuh, and Welsch, 1980) Therefore, one can choose 1.96 as the critical value if one wants 5% level significance.

Cook's Distance, is another way to summarize the information about the leverage and residual offered by Cook (1977). The suggested critical value is 4/n.

Hadi method, is a method due to Hadi (StataCorp, 2002) that excludes outliers identified through a multivariate method. With this method, the dependent and independent variables are not distinguished for identifying observations that are "far" from the mass of data.

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Notes

1.   This paper was prepared for IDEAs' International Conference on 'Economic Openness and Income Inequality: Policy Options for Developing Countries in the New Millennium' held in Shanghai, China, 21-27 August 2006

2.   The growth rates are calculated from data in Maddison (2001), Table c6b and c6c.

3.   Pollin excludes China from the category of developing countries for the reason that China had resisted the neoliberal policies till the late 1990s. Further, according to Pollin (2003:222–223), inclusion of China into the developing countries category does not dramatically change the overall growth patern. For more information on the increase of inequality in the world, see Pollin (2003) and Sutcliffe (2003).

4.   Calculated by the author using data from William Easterly and Mirvat Sewadeh, available at (http://www.worldbank.org/research/growth/GDNdata.htm).

5.   Cited by Nellis (1999).

6.   The average annual real GDP growth rate for CSB countries during 1990-2000 was only 0.65 per cent. (see Table 1.1) But the average annual real GDP growth rate for United States during 1928-1940 was about 1 per cent. If the experience of CSB during 1990s has proven the privatization's "utility", one may also conclude that the experience of United States during 1930s has also proven the "utility" of the Great Depression.

7.   Based on data from more than 60 countries, including both developed and developing ones, over the period from 1960s to 1990s, I found that public enterprises contribute to economic growth positively and significantly. (See Zhu, 2006)

8.   For a detailed description of the variables and sources of data, see Appendix A.

9.   The most popular inequality data sets are from Deininger and Squire (1999) panel data and the UNU/WIDER-UNDP World Income Inequality Database (2000). I chose the first and only adopted those data they regarded as high quality.

10.   Foreign trade dependence ratio is the ratio of the sum of exports and imports to GDP.

11.   A war is defined as an armed conflict with more than 25 deaths.

12.   For detailed information about the techniques, see Appendix B.

13.   The Hadi method does not apply here due to some technical reasons.

14.   The coverage of the extremely capital-intensive industries is quite similar to the highly capital-intensive industries and includes oil and gas extraction; petroleum and coal products; pipelines except natural gas; railroad transportation; and electricity, gas, and sanitary seveices.

15.   I excluded those data inconsistent with the definition of net financial flows from government to SOEs mentioned earlier. All these excluded data fail to account for the taxes paid by SOEs.