

NOTTINGHAM
TRENT UNIVERSITY



**DISCUSSION PAPERS
IN
ECONOMICS**

No. 2008/11 ISSN 1478-9396

**CORRUPTION, PRIVATISATION AND THE DISTRIBUTION OF
INCOME IN LATIN AMERICA**

**Antonio RODRIGUEZ ANDRES and
Carlyn RAMLOGAN-DOBSON**

July 2008

DISCUSSION PAPERS IN ECONOMICS

The economic research undertaken at Nottingham Trent University covers various fields of economics. But, a large part of it was grouped into two categories, *Applied Economics and Policy* and *Political Economy*.

This paper is part of the new series, *Discussion Papers in Economics*.

Earlier papers in all series can be found at:

http://www.ntu.ac.uk/research/school_research/nbs/overview/working_papers/index.html

Enquiries concerning this or any of our other Discussion Papers should be addressed to the Editor:

Dr Juan Carlos Cuestas
Division of Economics
Nottingham Trent University
Burton Street
Nottingham, NG1 4BU
UNITED KINGDOM
Email: juan.cuestas@ntu.ac.uk

Corruption, privatisation and the distribution of income in Latin America

Antonio Rodriguez Andres
Universidad de Castilla la Mancha, Spain

Carlyn Ramlogan-Dobson
Nottingham Trent University, UK

Abstract

This paper presents new evidence on income inequality in Latin America over the period 1981-2000. Using a panel data methodology, we find that a reduction in corruption is associated with a rise in inequality. This counterintuitive result can be explained by privatisation. Privatisation removes industries from government influence (and corruption) and worsens income inequality as new owners strive for efficiency and profits. The paper argues that structural reform policies aimed primarily at achieving positive and increasing growth rates do not adequately address the income distribution problem.

Key words: corruption, Latin America, income inequality, instrumental variables, panel data, privatisation.

JEL classifications: O15, O54

Corruption, privatisation and the distribution of income in Latin America

1. Introduction

Surveys of public opinion in Latin America highlight corruption and inequality as major problems facing the region, along with unemployment and crime (Lagos, 2003). Though corruption is perceived to be a problem throughout the region, the International Country Risk Guide (ICRG)¹ reports that during the period 1980-2000, several countries, including Bolivia, Ecuador, Guatemala and El Salvador, showed evidence of declining corruption. In 2001, 90 per cent of the population considered the distribution of income in the region to be unfair or very unfair (see Lopez and Perry, 2008).

The origins of corruption and income inequality in Latin America go back to the early post colonial period and the development of key institutions (Engerman and Sokoloff, 2002; Acemoglu et al, 2002). At this time, a privileged few controlled the profitable activities and to protect their interests, institutions were structured in such a way that most of the population were denied access to land, education and political power. The pattern of non-representative and exclusionary institutions survived the move to independence across the region as the Creole elite gained control of key institutions and shaped them to their advantage. This elite group was able to wield significant influence on the formation and implementation of government policies. For example, the failure to expand public education helped to protect the vested interests of the elite group.² This neglect continued into the 20th century with education being of low quality³ and patterns of social exclusion and discrimination persisting (Lopez and Perry, 2008).

The opening up of the international economy exacerbated rather than reduced income disparities because the gains accrued to landholders (the elite). These gains were exaggerated by the fact that Latin America is rich in natural resources, the abundant productive factor in the region. Natural resources (rather than labour⁴) were more intensively used in the

production of exportable goods. Consequently, returns to land grew relative to those of labour. Since the majority of the population were excluded from owning property, the income distribution problem worsened as the wealth of landowners increased. The natural outcome was that inequality increased over the early period of globalisation (Williamson, 1999)⁵.

While the above sheds light on the roots of inequality in Latin America, it also illustrates the close link between corrupt practices, institutions and inequality. It seems reasonable to conclude that if there had been less preferential treatment towards the few in the early colonial period, the outcome with respect to inequality may well have been different. The discussion also highlights the fact that corruption is entrenched in the political and economic operations of the region.

Bourguignon and Morrisson (2002) suggest that the distribution of income did not change from the time of independence to the mid 20th century, while Morley (2000) argues that since World War 2 the situation has worsened. Londono and Szekeley (2000) argue that inequality levels in the 1990s were similar to those in the 1930s. De Ferranti et al (2004) note that, as in the 19th century, authoritarianism, may be the primary reason for the persistence of inequality in the 20th century. Although democratisation has taken place, the process is unconsolidated and the authors conclude that correcting institutional failures along with direct policies are essential to reduce inequality. Perry et al (2006) confirm the findings of De Ferranti et al and after examining the evidence conclude that Latin America entered the 20th century with high levels of inequality which persisted for the rest of the century. This conclusion is highlighted in a study of Argentina; Calvo et al (2002) indicate that inequality levels changed little during the 20th century.

According to economic theory, corruption is expected to worsen income inequality (Mauro, 1997; Jain, 2001; Gupta et al, 2002). Corruption, in the form of tax evasions and exemptions, reduces tax revenues and funds for social programmes, including education and

health. Furthermore, since the beneficiaries of tax evasion and exemptions are more likely to be the relatively wealthy, the tax burden falls almost exclusively on the poor, making the effective tax system regressive. The impact on social programmes can be more direct as funds may be siphoned out of poverty alleviation programmes in order to extend benefits to relatively wealthy population groups. Even when social programmes are not reduced, corruption may change the composition of social spending in a manner that benefits the rich at the expense of the poor; for example, expenditure on tertiary rather than primary education. In a corrupt system, the allocation of public procurement contracts may lead to inferior public infrastructure, which also has implications for inequality and welfare. In sum, corruption in a government allows for policies which favour the higher income groups and hence promotes greater inequality.

The empirical literature on corruption and income inequality finds that higher levels of corruption increase income inequality. In a few studies a number of Latin American countries have been included as part of a larger sample of both developing and developed countries (e.g. Li et al, 2000; Gupta et al, 2002; Gyimah-Brempong and Muñoz de Camacho, 2006). However, no study has yet examined inequality and corruption across Latin America. The region has seen financial crises, periods of positive and negative growth, huge external borrowing, closed market policies and pro-market reforms, yet high inequality persists and our understanding of income inequality remains limited. In this study, we present new evidence on income inequality in Latin America, focusing in particular on the relationship between inequality and corruption. In contrast to other work and a priori expectation, we find that *lower levels of corruption are associated with higher levels of inequality*. This surprising finding is explained by the privatisation process in the region (see Section 3).

The structure of the paper is as follows. In Section 2 the model specification and data are described. The empirical results are presented and discussed in Section 3. Section 4 reports some robustness tests and Section 5 concludes.

2. Model Specification and Data

Econometric estimation is conducted using four-year panel data over the period 1981-2000 for 19 Latin American countries,⁶ with each observation of the dependent variable being the relevant four year average value. Panel data provides more degrees of freedom than cross-section and time series data. Furthermore, panel data analysis controls for omitted variable bias, thus improving the accuracy of parameter estimates. This approach also has the advantage of capturing possible idiosyncratic differences in income inequality by means of the time invariant individual effects. A priori, a fixed effects model is preferred to a random effects model since we expect the explanatory variables to be correlated with the unobserved individual effects. All the countries of the region for which data is available are included in the study. There are some missing observations in the data so the panel is unbalanced.

The empirical specification is similar to that in previous empirical research (see Li et al, 1998; Barro, 2000; Lundberg and Squire, 2003):

$$I_{it} = X_{it}\beta + A_i + \varepsilon_{it} \quad (i = 1, \dots, n; t = 1, \dots, T) \quad (1)$$

where I is a measure of income inequality for country i at time t . X_{it} is a vector of explanatory variables which vary across time and countries. It includes a corruption variable (*corrupt*) among other explanatory variables. The parameter A_i contains a constant and individual-specific variables that are invariant over time (for example, geographical factors), and ε_{it} is the classical error term.

The dependent variable is a standard measure of income inequality, the Gini coefficient. The data on inequality is drawn from the United Nations World Income Inequality

Database (WIID) (UNU-WIDER, 2005).⁷ We use the new quality label provided in Version 2a of the WIID, which combines and improves the quality ratings in Deininger and Squire (1996) with older versions of the WIID. Data classified as the lowest quality is excluded. Furthermore, only data which covers the entire population is employed. Gini coefficients are based on income rather than on consumption because of data limitations. For each country, we have formed the longest possible series of observations.

The measure of corruption adopted is the International Country Risk Guide (ICRG) corruption index which is collected and published annually by Political Risk Services (PRS). This measure focuses on corruption in government and has been used in the development economics literature (e.g. Fisman and Gatti, 2002). The corruption variable is intended to capture the likelihood that high level government officials will demand special payments, and the extent to which illegal payments are expected throughout lower levels of government (Knack and Keefer, 1995). Compared to the Corruption Perception Index (CPI), this measure has the advantage of having the broadest coverage for Latin American countries for the study period and it is appropriate here because we are interested in examining the role of corruption in government. The ICRG measure takes values from zero (most corrupt) to six (least corrupt), so a priori, a rise in the corruption index (less corruption) is expected to lead to a fall in the Gini coefficient (a negative sign on the variable *corrupt*). The privatisation variable (*priv*) is taken from Lora (2001) and is defined as cumulative privatisation as a percentage of GDP.

The natural logarithm of real output per capita (*lgdp*) and real output per capita squared (*lgdp*²) are included to test the classical Kuznets hypothesis (Kuznets, 1955; Lewis, 1954). According to this hypothesis, inequality rises with income at low levels but falls once income reaches a critical level. In line with other studies (e.g. Bourguignon and Morrison, 1998; Li et al, 1998; De Janvry and Sadoulet, 2000; Morley, 2000; Reuveny and Li, 2003;

Breen and García-Peñalosa, 2005), the model also includes the following variables: primary (*primary*) and secondary (*secondary*) gross school enrolment rates, the share of agriculture in total output (*aggdp*), the ratio of broad money to output (*m2gdp*) and a variable to represent the distribution of land resources (*land*). Both land and education represent investment in assets (physical and human) and should contribute to lowering inequality. Because of its labour intensive nature, an expansion of the agriculture sector is expected to increase employment levels and contribute to reducing inequality. Finally, *m2gdp* is included as an indicator of financial development. Greater financial development is expected to lower inequality by alleviating credit constraints and by making investment opportunities more available to low income households. Data for all these variables is taken from the Penn World Table, Version 6.1 (Heston, Summers, and Aten, 2002), World Bank's World Development Indicators (2003) and Frankema (2005).

An important potential issue in estimating equation (1) is the endogeneity of the control variables. Incorporating time invariant fixed effects into the model addresses this issue to some extent, but the inclusion of time varying factors means omitted variable bias is still a potential problem. Furthermore, if there is correlation between at least one explanatory variable and the error term, OLS estimates will suffer from simultaneity bias.⁸ In order to deal with both potential problems, an instrumental variable (IV) methodology is adopted. It should be noted, however, that because of data limitations we only instrument for the corruption variable.

A valid instrument for the corruption variable must be correlated with it and be uncorrelated with the error term. Three instruments are used – democracy, ethnicity⁹ and the quality of bureaucracy. The first two of these have been discussed elsewhere as instruments for corruption (see Gupta et al, 2002; Treisman, 2000). Bureaucracy measures the degree to which there is an established mechanism for recruitment and training, autonomy from

political pressure, and strength and expertise to govern without drastic changes in policy or interruptions in government services when governments change. Given this definition, it is likely that countries with higher a level of bureaucracy are more vulnerable to corrupt practises since the government plays a larger role in the decision making processes of non-governmental organisations. The bureaucracy index¹⁰ can be interpreted as an indicator of the independence of appointments of key personnel in non-governmental organisations, for example, the central bank, judiciary and media houses. It seems likely that interference in such appointments by government can facilitate corruption as there are fewer avenues for checks and balances. It also seems likely that such appointments have little direct impact on inequality except via income, which is already included in the model. The relationship between the corruption index and the bureaucracy index is shown in Figure 1.

A potential issue in using bureaucracy as an instrument is that it may be correlated with the error term. The main source for such correlation comes via the region's historical legacies and in particular, its socio-political culture. However, since these factors will already have been captured to a large extent by the fixed effects, we can be confident that bureaucracy is an appropriate instrument for corruption.

Table 1 shows the four-year average values for the Gini coefficient. Inequality increased steadily over the period for the region as a whole. There is evidence of variation across individual countries and variation over different time periods. For example, while countries like Panama and Paraguay saw marked increases in the Gini index over the period, others like Costa Rica and Uruguay saw much more modest increases. No country experienced a large reduction in inequality over the period as a whole. Table 2 presents four year averages for the corruption index. The average value of the index for Latin America as a whole has increased over the study period (corruption levels have fallen), though there is some variation to this pattern across countries. Figure 2 describes the relationship between the

Gini index and the corruption index. As expected, a rise in the corruption index is associated with a lower level of inequality, *ceteris paribus*.

3. Empirical results and analysis

The results of estimating (1) are shown in Table 3. Columns (1) and (2) show the ordinary least squares (OLS) results and columns (3) and (4) show the results of the instrumental variable (IV) analysis (which corrects for the possible endogeneity of the corruption variable). For the OLS estimates, a Hausman test rejects the random effects model in favour of the fixed effects model. Along with the fixed effects, the explanatory variables capture at least 85 per cent of the variation in income inequality across countries. Table 3 also reports statistical information on the validity of the instruments. The *F-1st* statistic reports the F test statistic from the first stage regression and captures the relevance of the instruments. The high F-test statistic indicates that the instruments are not weak in the sense discussed in the econometric literature on instrumental variables methods (Bound et al, 1995; Staiger and Stock, 1997). Thus, the standard methods for statistical inference using the estimated coefficients and standard errors are reliable. Furthermore, based on the test for overidentifying restrictions, the null hypothesis that the instruments are exogenous cannot be rejected. We therefore conclude that the IV regression is based on valid instruments.

The sign on the coefficient *corrupt* in columns (1) and (3) of Table 3 is positive and under IV estimation the coefficient doubles in size. This result is particularly interesting as it indicates that a rise in the corruption index is associated with a rise in the Gini coefficient, and so contradicts our a priori expectation that lower corruption leads to a fall in inequality. The finding that inequality increases with falling levels of corruption is in contrast to other studies (e.g., Hindriks et al, 1998; Johnston, 1989; Gupta et al, 2002; Gyimah-Brempong, 2002).

Why is less corruption associated with higher levels of inequality in Latin America? To appreciate this finding, one has to consider the role of government policy in the economic development of the region. The experiences of the 1930s and World War 2 pushed Latin American countries towards a policy of self reliance based on import substitution. Import substitution industrialisation (ISI) was an economy-wide-strategy with government playing an active and visible role.

The main instruments of ISI were quotas, import licences, tariffs, an overvalued exchange rate, foreign currency rationing, subsidies for inputs and transportation, tax breaks, and preferential interest rates. These instruments helped to create an environment suitable for corrupt activities. For example, restrictions on imports make import licenses very valuable since importers are willing to bribe officials in order to obtain them.¹¹ The availability of credit at preferential rates and foreign exchange allocation schemes also create incentives for rent seeking. Managers of state owned banks allocate credit and foreign exchange based on personal preferences and businessmen are willing to bribe managers in order to obtain the necessary credit and foreign exchange (Cardoso and Helwege, 1995). The provision of tax breaks and other benefits by the government have a similar impact. In sum, ISI promotes the growth of the government sector relative to the private sector and creates an environment which is conducive to corruption.

By the 1970s it was clear that inward looking policies were not sustainable and a reliance on the state had not produced the expected results. However, the availability of external borrowing allowed many Latin American countries to continue with this development strategy. Rising interest rates in the early 1980s prompted a rethink and a new development strategy emerged. The market based approach to development resulted in the removal of preferential treatment by the state which had existed under ISI. The natural implication is that the potential for earning rents and, by extension, the need to bribe

government officials becomes a non-issue. Moreover, the liberalisation of the exchange rate and the privatisation of the financial sectors also reduced the potential to earn rents. In short, the implementation of an economic policy based on liberalisation and a reduced role for the state created less room for rent-seeking activities and, to this extent, reduced activities that are associated with a high degree of government intervention in the production process. This view is shared by Rose-Ackerman (1999) who notes that the most obvious way to reduce rent-earning activities is to eliminate corrupt programmes.

Privatisation was/is a key element in the reform strategy in Latin America. Since nationalised firms were generally inefficient, privatisation involved the restructuring of industries in an attempt to improve efficiency and profitability (there are a few examples where industries were restructured before privatisation). This usually included laying-off workers as many companies had a bloated labour at the time of privatisation. Unless these workers were absorbed by other industries or given some form of severance payment which lasted until alternative employment was obtained, income inequality increased. Hence, to the extent that corruption coexists with state-owned enterprises and a high degree of protection, privatisation, and the opening up of markets, brings an end to such practices. However, the need for efficiency in newly privatised industries means a loss of jobs.

While privatisation removes industries from direct government influence and hence government corruption, it worsens income inequality through several channels. First of all, the increase in unemployment which follows privatisation hurts the lower class directly.¹² For example, LaPorta and Silanes (1999) examined pre and post privatisation performance of 218 Mexican firms which were privatised between 1983 and 1993. They find a labour retrenchment figure of 33 per cent. Several other studies in Latin America have found similar results (e.g., Galiani et al 2005; Capra et al 2005; Pombo and Ramirez, 2005). According to a review by Chong and Lopez-de-Silanes (2005), privatised firms reduced a substantial

percentage of their workforce in all countries of the region, Chile being the exception. Furthermore, as privatisation often results in increased prices for previously public goods, the lower classes are the most affected as they are the principal beneficiaries of these goods. Beyond its effect on prices, consumer welfare may be adversely affected through decreased access and a lower quality of goods and services. Privatisation may also result in the elimination of subsidies to public services which are sometimes genuinely redistributive (Chong and López-de-Silanes, 2003; Bayliss, 2002; Birdsall and Nellis, 2003).

The relationship between privatisation and corruption is shown informally in Figures 3 and 4. Data on privatisation is taken from the World Bank's Bureaucrats in Business (1995) and the variable is defined as the share of state owned enterprises (SOEs) in economic activity. As privatisation increases the share of SOEs in economic activity falls. This data is available up to 1991.¹³ The data on corruption is from the original source (for consistency we use annual data up to 1991 where available). Figure 3 shows an inverse correlation between the share of state owned activity in GDP and the corruption index – higher participation by the state in economic activity is associated with a lower corruption index (a higher corruption level). Figure 4 shows the relationship between privatisation and inequality. As the share of SOEs in economic activity falls, inequality rises. Since one reason for a falling share of SOEs in economic activity is privatisation, it is reasonable to conclude that privatisation is positively associated with inequality.

Given this rationale, the inclusion of a privatisation variable in the empirical model should lessen the impact of the corruption variable. The coefficient on *priv* is correctly signed and significant in both columns (2) and (4) in Table 3, while *corrupt* is statistically insignificant. Once we control for privatisation, the importance of corruption in explaining inequality is reduced. This finding indicates that privatisation has had a regressive impact on the income distribution and is consistent with the assertions of Berry (1998) and Bulmer-

Thomas (1996). However, this does not mean that privatisation is necessarily a problem. The policy of ISI exacerbated inequality so that by the late 1970s the region had the most unequal income distribution in the world. Given this, it would require a huge effort over a lengthy period to overcome inequality.

The privatisation process in many Latin American countries did not gain momentum until the 1990s. The move from a regulated to a non-regulated environment has been a learning experience and adjustment costs were inevitable. In fact, in the early years of the reform process little was known about the privatisation process both at the academic and managerial levels. The implication was/is that authorities must improvise and learn on the job. Generally, privatisation failures can be traced to substantial state participation in less than transparent processes, poor contract design, inadequate re-regulation, insufficient de-regulation, deficient corporate governance institutions, and a lack of competition (Chong and López-de-Silanes, 2003). It was especially important to define a clear regulatory framework before firms are put up for sale. Unfortunately, in many countries it was difficult to do this because of the limited experience with the implementation of modern regulatory legislation and the absence of skilled personnel to carry out such an undertaking. In this situation, the input of international institutions is important and essential. The World Bank, for example, has taken an active stance on this issue by providing financial and technical support to countries engaged in the design of new regulations. In addition to skilled personnel and legislation, regulatory institutions need to maintain a certain degree of independence and not operate as mere agents of government.

Even when authorities are convinced of the benefits of a well-designed regulatory framework, new legislation is likely to become operational slowly. Chong and López-de-Silanes (2003, p. 41) note that “.....perfection in developing the regulatory framework may require a lot of time and this should not be used as an excuse for postponing the privatisation

of money losing entities.” A natural implication of this is the need for sound institutions and good governance. It takes time to build institutions that are credible and able to fulfil their role. The problem is exacerbated in regions like Latin America which has a history of coerced labour and one in which institutions played an important role in protecting the interests of the elite. Moreover, it must be noted that privatisation and the reduction of corrupt practices cannot be seen as isolated ventures but rather as part of an overall programme of reform.

If privatisation is properly undertaken as part of a wider programme of reform, it can produce efficiency gains, higher growth and an expansion in jobs. In addition, given that reform encourages competition, private firms will work towards enhancing efficiency, the gains of which can be passed on to consumers in the form of lower prices¹⁴ and increased access. It has been argued that privatisation also results in infrastructure developments (McKenzie and Mookherjee, 2005) and has a dynamism of its own, which in turn serves to create a demand for better institutions so as to achieve increased transparency, better regulation and more protection for minority holders (Boubakri et al, 2005). There are also fiscal gains as privatisation impacts on the government budget by reducing subsidies to previously state-owned enterprises, obtaining revenue from their sales¹⁵ and higher taxes. Chong and López-de-Silanes (2003) argue that the gains from a well managed privatisation programme could be substantial not only for the privatised firm but for the society in general, while Kikeri and Nellis (2004) argues that privatisation should neither be abandoned nor reversed.

Turning to other results in Table 3, there is no support for the Kuznets hypothesis as the coefficients are statistically insignificant and have incorrect signs. This finding is in line with the findings of others, including Ravallion (1995); Deininger and Squire (1988), Odekokun and Round (2004), and Angeles (2007). Indeed, Fields and Jakubson (1994) show

that the estimated curve can go from an inverted U to U shaped when allowing for fixed effects.

The coefficients on *primary* reflect the widely accepted view that a rise in education serves to reduce income inequality (see for instance, Tinbergen, 1975; Sylwester, 2002; Chu, 2000). The positive coefficients on *secondary* suggest that a higher level of education increases skill differentials and worsens inequality. This finding is a reflection of the fact that education above the primary school level remains largely a privilege for the more wealthy. A natural solution is the introduction of an education strategy which achieves a significant leap in both participation rates and quality across the school system, and in particular at the secondary school level.

The result for the agriculture variable is not surprising as one would expect that growth in the labour intensive sector would contribute to higher levels of employment among lower income households and falling inequality (Franko, 2003). The variable *m2gdp* is an indicator of financial development; however, it can also be interpreted as a proxy for financial reform or an indicator of macroeconomic policy. The coefficient is statistically significant and positive, which means that as the financial sector develops inequality rises. Similar results were found by Morley (2000), who noted that while the positive sign does not concur with the theory, it does support the assertion that inequality in the region widened after the implementation of reforms (Berry, 1998; Bulmer-Thomas, 1996). In line with the findings of Odekun and Round (2004) and Angeles (2007), our results suggest that the concentration of land resources exacerbates the income inequality problem in the region. Similar conclusions were made by De Ferranti et al. (2004), who state that the unequal distribution of land matters as a source of inequality in Latin America and suggest that there is scope for land reform. If, however, land reform is to be successful at alleviating poverty and reducing inequality it must be part of a package which embraces complementary agricultural policies.

4. Robustness tests

The results in columns (1)-(4) of Table 3 indicate consistency across OLS and IV estimation. However, it is important to carry out other checks for robustness, which is done in this section. Tables 4-6 report the results for different measures of privatisation, a different model specification, and a transformation of the dependent variable, respectively.

Two alternative measures of privatisation are used - a privatisation index taken from Morley (1999) and a dummy variable, which assumes a value of 1 in the starting year of significant privatisation activity and continuing thereafter, zero otherwise. The results are presented in Table 4. The privatisation coefficient is statistically significant and the inclusion of privatisation renders the corruption variable insignificant (as before). There are no significant changes with respect to the other variables. The signs on the income and income squared variables are consistent with the Kuznets' hypothesis (Model 2) but the coefficients are statistically insignificant.

A change to the model specification is made by introducing two new independent variables - the trade ratio (export + imports/GDP) as a measure of the openness of the economy (*open*) and domestic credit to the private sector (*dcps*) as an alternative measure of financial development. Research has shown that greater trade openness leads to higher inequality (see Goldberg and Pavcnik, 2007 for a review of the channels through which openness affects inequality). There is much debate on the best way to capture openness (see Spilimbergo et al, 1999) and we opt for the trade ratio due to data availability. The results are presented in Table 5 and are similar to before. The sign on *open* is as expected and the sign on the credit variable is consistent with that on *m2gdp* in Tables 3 and 4. Other explanatory variables were included in the model as were various interaction terms (not reported) but these proved to be insignificant.

As the Gini coefficient is bounded between 0 and 100, OLS may be problematic since it assumes that the dependent variable is unbounded. In order to overcome this potential problem, the dependent variable is transformed using the formula $\log[\text{gini}/(100-\text{gini})]$ to become unbounded. The results in Table 6 reveal no marked difference to our earlier results. Perhaps this can be explained by the fact that Gini values for no country are very close to 0 or 100.

5. Conclusion

This paper has examined income inequality in Latin America with particular reference given to the relationship between inequality, corruption and privatisation. In contrast to previous empirical work, falling levels of corruption in Latin America are associated with higher levels of inequality. A lower level of corruption per se does not worsen inequality. Rather it is a development strategy focused around privatisation that serves as the conduit for the impact of corruption. With privatisation, industries are removed from direct state control and associated corrupt practices. However, as private investors focus on efficiency and profitability, firms are restructured and inequality worsens.

The paper has argued that inequality is the outcome of historical legacies and has persisted over time because little or nothing has been done to increase or enhance the assets of those affected. To reduce inequality policies need to target directly the distribution of income. In other words, structural reform programmes which enhance growth must be accompanied by policies that promote human and physical capital development so that the productivity of the poorest groups can be increased. Suitable measures include the effective use of taxes and transfers to augment incomes and provide the opportunity for asset accumulation by those in the lowest income groups; direct investment in education (better trained teachers and

complementary schooling resources); and investment in physical infrastructure, especially in rural areas.

The income distribution problem cannot be dismissed as a temporary and inevitable cost as economies strive towards positive and increasing economic growth. Rather, governments must design and implement privatisation (and reform) programmes that can achieve gains both in terms of distribution and efficiency (growth). The initial regressive impact of the reforms highlights the fact that relying primarily on markets to reduce inequality is insufficient and must be complemented with state intervention. In other words, Latin America requires “good governance” from the state sector.

References

- Acemoglu, D., Johnson, S. and Robinson, J.A. (2002). "Reversal of fortune: geography and institutions in the making of modern world income distribution." *Quarterly Journal of Economics* 117, 4, 1231-1294.
- Angeles, L. (2007). "Income inequality and colonialism." *European Economic Review*, 51 1155–1176.
- Barro, R.J. (2000) "Inequality and growth in a panel of countries." *Journal of Economic Growth*, 5, 1, 5-32.
- Bayliss, K. (2002). "Privatization and poverty: the distributional impact of utility privatization." *Annals of Public and Cooperative Economics* 73, 4, 603-625.
- Berry, A. (1998). *Poverty, economic reform and income distribution in Latin America*. London: Lynne Rienner Publishers Inc.
- Birdsall, N. and Nellis, J. (2003). "Winners and losers: assessing the distributional impact of privatization." *World Development* 31, 1617-1633.
- Boubakri, N. Cosset, J.C., and Smaoui, H. (2005). "Does privatisation lead to institutional change?" Unpublished manuscript.
- Bound J.D., Jaeger, D.A., and Baker, R. (1995). "Problems with instrumental variables estimation when the correlation between the instruments and the endogenous explanatory variable is weak." *Journal of American Statistical Association* 90, 443-450.
- Bourguignon, F. and Morrison, C. (1998). "Inequality and development: the role of dualism." *Journal of Development Economics* 57, 2, 233-257.
- Bourguignon, F. and Morrison, C. (2002). "Inequality among world citizens: 1820-1992." *American Economic Review* 92, 4, 727-744.
- Bowen, H., Leamer, E. and Sveikauskas, L. (1987). "Multicountry, multifactor tests of factor abundance theory." *American Economic Review* 77, 5 791-809.

- Breen, R. and García-Peñalosa, C. (2005). "Income inequality and macroeconomic volatility: an empirical investigation." *Review of Development Economics* 9, 3, 380-398.
- Bulmer-Thomas, V. (1996). "Introduction", in V. Bulmer-Thomas (ed.) *The new Economic Model in Latin America and its Impact on Income Distribution and Poverty*, pp. 7–26. New York: St Martin's Press.
- Cabelková, I. (2001). "Perceptions of corruption in Ukraine: are they correct?" *Cerge-EI Working Papers* 176, Economic Institute, Prague.
- Calvo, E., Torre, J.C. and Szwarberg, M. (2002). "The new welfare alliance." Buenos Aires: Universidad di Tella, Department of Political Science.
- Capra, C., Chong A., Garron M., Lopez-de-Salines F. and Machiado C. (2005) privatisation and Firm Performance in Bolivia, in *Privatisation in Latin America*. A Chong and F Lopez-de-Salines (eds). Stanford University Press and the World Bank.
- Cardoso, E., and Helwege, A. (1995). *Latin America's economy: diversity, trends and conflicts*. Cambridge, Massachusetts: MIT.
- Chong, A. and López de Silanes, F. (2003). "The truth about privatization in Latin America: myths and reality." *IADB Working Paper*, No.R-486.
- Chu, H.J. (2000). "The impacts of educational expansion and schooling on income distribution." *Quarterly Journal of Business and Economics* 39, 39-49.
- De Ferranti, D., Perry, G., Ferreira, F. and Walton, M. (2004). *Inequality in Latin America- Breaking with History?* Washington DC: World Bank.
- De Janvry, A. and Sadoulet, E. (2000). "Growth, poverty and inequality in Latin America: a causal analysis." *Review of Income and Wealth* 46, 3, 267-87.
- Deininger, K. and Squire, L. (1996). "A new dataset measuring income inequality." *World Bank Economic Review* 10, 3, 565-591.

- Deininger, K. and Squire, L. (1998). "New ways of looking at old issues: inequality and growth." *Journal of Development Economics* 57, 2, 259-287.
- Engerman, S.L. and Sokoloff, K.L. (2002). "Factor endowments, inequality and paths of development among new world economies." *NBER Working Paper* 9259.
- Estache, A., Gómez-Lobo, A. and Leipziger, D. (2001). "Utilities privatisation and the poor: lesson and evidence from Latin America." *World Development* 29, 7, 1179-1198.
- Fields, G.S. and Jakubson, G. H. (1994). "New evidence on the Kuznets curve." Mimeo. Department of Economics, Cornell University.
- Fisman, R. and Gatti, R. (2002). "Decentralization and corruption: evidence across countries." *Journal of Public Economics* 83, 3, 325-345.
- Frankema, E. (2005). "The colonial origins of inequality: a global investigation of land distribution." Presented at a symposium on poverty, inequality in Latin America, *Ibero-American Institute for Economic Research*.
- Franko, P. (2003). *The puzzle of Latin American development*. Oxford, Rowman and Littlefield Publishers, Inc.
- Galiani S., Gertler P., Schargrodsy E. and Sturzenegger F. (2005) The benefits and costs of privatisation in Argentina, in *Privatisation in Latin America*. A Chong and F Lopez-de-Salines (eds). Stanford University Press and the World Bank.
- Goldberg, P. and N Pacvnik (2007) "Distributional effects of globalisation in developing countries", National Bureau of Economic Research Working Papers No. 12885
- Gupta, S., Davoodi, H. and Alonso-Terme, R. (2002). "Does corruption affect income inequality and poverty?" *Economics of Governance* 3, 1, 23-45.
- Gyimah-Brempong, K. (2002). "Corruption, economic growth and income inequality in Africa." *Economics of Governance* 3, 3, 183-209.

- Gyimah-Brempong, K. and Muñoz de Camacho, S. (2006). "Corruption, growth, and income distribution: are there regional differences?" *Economics of Governance* 7, 3, 245-269.
- Heston, A., Summers, R. and Aten, B. (2002). Penn World Table 6.1. Center for International Comparisons at the University of Pennsylvania, October.
- Hindriks, J., Keen, M. and Muthoo, A. (1998). "Corruption, extortion and evasion." *Journal of Public Economics* 74, 3, 395-430.
- Jain, A.K. (2001). "Corruption: a review." *Journal of Economic Surveys* 15, 1, 71-121.
- Johnston, M. (1989). "Corruption, inequality and change" in: *Corruption, development and inequality: soft touch or hard graft*, ed: Peter M. Ward. London: Routledge.
- Jong-Sung, Y. and Khagram, S. (2005). "A comparative study of inequality and corruption." *American Sociological Review* 70, 1, 136-157.
- Kikeri, S., and Nellis, J. (2004). "An assessment of privatization." *World Bank Research Observer* 19, 1, 87-118.
- Kuznets, S. (1955). "Economic growth and income inequality." *American Economic Review* 45, 1, 1-28.
- Lagos, M. (2003). "Public opinion of corruption in Latin America" in *Global Corruption Report*, Transparency International 2003, 282-284.
- La Porta, R. and López de Silanes, F. (1997). "The benefits of privatisation: evidence from Mexico." *NBER Working Paper* 6215.
- Leamer, E. (1984). *Sources of international comparative advantage*. Cambridge, MA: MIT Press.
- Leite, C. and Weidman, J. (1999). Does Mother Nature corrupt? Natural resources, corruption and economic growth. *International Monetary Fund Working Paper* No. 99/85.
- Lewis, W.A (1954). "Economic development with unlimited supplies of labour." *Manchester School* 22, 139-191.

- Li, H., Squire, L. and Zou, H.F. (1998). "Explaining international and intertemporal variations in income inequality." *Economic Journal* 108, 1, 26-43.
- Li, H., Xu, L.C., and Zou, H.F. (2000). "Corruption, income distribution, and growth." *Economics and Politics* 12, 2, 155-181.
- Londono, J.L. and Szekely, M. (2000). "Persistent poverty and excess inequality: Latin America 1970-95" *Journal of Applied Economics* 3, 1, 93-134
- Lopez, J.H. and Perry, G. (2008) "Inequality in Latin America: determinants and consequences", *World Bank Policy Research Working Paper*, # 4505.
- Lora, E. (2001) "Structural reforms in Latin America: what has been done and how to measure it", Inter American Development Bank, Working paper # 466.
- Lundberg, M. and Squire L. (2003) "The simultaneous evolution of growth and equality", *Economic Journal*, 113, 326-344.
- Mauro, P. (1997). "The effects of corruption on growth, investment, and government expenditure" in *A cross-country analysis in Corruption and the Global Economy*, ed: K. A. Elliot. Washington: Institute for International Economics.
- McKenzie, D. and Mookherjee, D. (2005). "Paradox and Perception: evidence from four Latin American Countries" in *Reality Check: the distributional impact of privatisation in developing countries*. Eds: J. Nellis and N. Birdsall. Washington DC: Centre for Global development.
- Morley, S. (2000). "The effects of growth and economic reform on income distribution in Latin America." *CEPAL Review* 71, August, 23-40.
- Morley, S., Lora, E. and Pettinato, C. (1999) "Indexes of structural reform in Latin America." *Serie Reformas Economicas*. Santiago, Chile: Economic Commission for Latin America.

- Ocampo, J.A. (1998). "Income distribution, poverty and social expenditure in Latin America." *CEPAL Review* 65, August, 7-14.
- Odekun, M.O. and Round, J.I. (2004). "Determinants of income inequality and its effects on economic growth: evidence from African countries." *African Development Review* 16, 2, 287-327
- Perry, G., Arias O., Lopez, J., Maloney S. and Serven, L. (2006). *Poverty reduction and growth: virtuous and vicious circles*. Washington DC: World Bank
- Pombo, C. and Ramirez, M. (2005) privatisation in Columbia, in *Privatisation in Latin America*. Chong, A. and Lopez-de-Salines, F. (eds). Stanford University Press and the World Bank.
- Ravallion, M. (1995). "Growth and poverty: evidence for developing countries in the 1980s." *Economics Letters* 48, 3-4, 411-417.
- Reuveny, R. and Li, Q. (2003). "Economic openness, democracy and income inequality an empirical analysis." *Comparative Political Studies* 36, 5, 575-601.
- Rose-Ackerman, S. (1999). *Corruption and Government- Causes, Consequences and Reform*. Cambridge: Cambridge University Press.
- Spilimbergo, A., Londono, J. and Szekeley, M. (1999). "Income distribution, factor endowments and trade openness" *Journal of development Economics*, 59, 77-101.
- Staiger, D. and Stock, J.H. (1997). "Instrumental variables regressions with weak instruments." *Econometrica* 65, 557-586.
- Sylwester, K. (2002). "Can education expenditures reduce income inequality?" *Economics of Education Review* 21, 1, 43-52.
- Tinbergen, J. (1975). *Income Distribution*. North-Holland, Amsterdam.
- Treisman, D. (2000). "The causes of corruption: a cross national study". *Journal of Public Economics* 76, 3, 399-457.

United Nations. (2005). World Income Inequality Database, Version 2.a, WIDER, Helsinki, Finland; <http://www.wider.unu.edu/wiid/wiid.htm>.

Williamson, J.G. (1999). "Real wage inequality and globalization in Latin America before 1940." *Revista de Historia Económica* XVII (special issue), 101-142.

World Bank. (1995). *Bureaucrats in Business*. Washington, D.C.: Oxford University Press.

World Bank (2003). World Development Indicators CD-ROM. The World Bank, Washington, D.C.

Table 1: Inequality in Latin America (average Gini coefficient)

| Country | 1981-84 | 1985-88 | 1989-92 | 1993-96 | 1996-2000 |
|--------------------|---------|---------|---------|---------|-----------|
| Argentina | 40.98 | 41.55 | 45.60 | 45.83 | 47.90 |
| Bolivia | | 51.50 | 53.50 | 51.41 | 60.10 |
| Brazil | 57.23 | 58.75 | 61.83 | 59.03 | 60.30 |
| Chile | 54.53 | 55.11 | 55.65 | 53.00 | 56.50 |
| Columbia | 55.75 | | 55.05 | 58.29 | 57.40 |
| Costa Rica | 46.90 | | 48.13 | 48.15 | 48.68 |
| Dominican Republic | | 45.20 | 51.50 | 51.60 | 48.90 |
| Ecuador | | 44.40 | | 56.07 | 56.97 |
| Guatemala | | 56.00 | 55.30 | | 54.90 |
| Honduras | | 54.80 | 55.33 | 55.05 | 53.90 |
| Jamaica | | | 54.45 | 59.40 | 56.75 |
| Mexico | | 50.60 | 53.10 | 54.55 | 54.90 |
| Nicaragua | | | | 53.90 | 54.30 |
| Panama | 47.60 | | 57.75 | 56.80 | 57.20 |
| Peru | | | 50.90 | 54.70 | 50.12 |
| Paraguay | 45.10 | | 39.80 | 55.85 | 55.40 |
| El Salvador | | | 47.10 | 50.15 | 53.60 |
| Uruguay | 42.10 | 40.13 | 41.14 | 43.17 | 43.79 |
| Venezuela | 45.40 | 46.23 | 44.29 | 44.01 | 47.91 |
| Latin America (19) | 48.40 | 49.48 | 51.20 | 52.83 | 53.66 |

Source: UNU-WIDER (2005)

Table 2: Corruption in Latin America

| Country | 1981-84 | 1985-88 | 1989-92 | 1993-96 | 1996-2000 |
|--------------------|---------|---------|---------|---------|-----------|
| Argentina | 4 | 4 | 4 | 3.25 | 2.5 |
| Bolivia | 1 | 1.5 | 2 | 2.5 | 3 |
| Brazil | 4 | 4 | 4 | 3.5 | 3 |
| Bolivia | 1 | 1.5 | 2 | 2.5 | 3 |
| Chile | 3 | 3 | 3 | 3 | 4 |
| Colombia | 3 | 3 | 3 | 3 | 1.75 |
| Costa Rica | 5 | 5 | 5 | 5 | 5 |
| Dominican Republic | 3 | 3 | 3 | 3 | 4 |
| Ecuador | 3 | 3 | 3 | 3 | 3.25 |
| Guatemala | 2 | 2 | 2 | 2 | 4 |
| Honduras | 2 | 2 | 2 | 2 | 2 |
| Jamaica | 2 | 2 | 2 | 2.75 | 3 |
| Mexico | 3 | 3 | 3 | 3 | 2.5 |
| Nicaragua | 3 | 5 | 5 | 5 | 4 |
| Panama | 2 | 2 | 2 | 2 | 2 |
| Peru | 3 | 3 | 3 | 3 | 3 |
| Paraguay | 1 | 0.25 | 1.5 | 2.25 | 2 |
| El Salvador | 2 | 2 | 2.25 | 3 | 3.75 |
| Uruguay | 3 | 3 | 3 | 3 | 3 |
| Venezuela | 3 | 3 | 3 | 3 | 3 |
| Latin America (19) | 2.74 | 2.83 | 2.93 | 3.01 | 3.09 |

Source: International Country Risk Guide (ICRG); Published by the PRS Group (2003)
Corruption index is from 0 (high) to 6 (low)

Table 3: Estimation results

| Dependent variable: Gini index | (1) OLS | (2) OLS [^] | (3) IV | (4) IV [^] |
|---------------------------------------|------------------------|------------------------|------------------------|------------------------|
| lgdp | -46.7849 [0.4253] | -28.0325 [0.2563] | -21.0859 [0.2091] | -28.1419 [0.2924] |
| lgdp ² | 22.2923 [0.4053] | 13.2250 [0.2420] | 8.8934 [0.1767] | 15.1327 [0.3156] |
| primary | -0.1044** [2.3227] | -0.0980** [2.2225] | -0.1238** [2.4235] | -0.1440*** [3.9941] |
| secondary | 0.0788** [2.3072] | 0.0535* [1.8103] | 0.1099** [2.5766] | 0.0366** [1.9700] |
| aggdp | -0.4844*** [4.4663] | -0.4261*** [3.7990] | -0.4261*** [4.3792] | -0.5385*** [4.8526] |
| m2gdp | 0.1050*** [2.6283] | 0.0892** [2.2503] | 0.1172*** [3.1632] | 0.1200*** [2.9350] |
| land | 30.1783* [1.7924] | 32.8518** [1.9872] | 29.6487* [1.75411] | 31.5868* [1.8670] |
| corrupt | 0.9375* [1.8391] | 0.4932 [1.1071] | 1.8081** [2.2437] | 0.2043 [0.6477] |
| priv | | 0.3750** [2.1090] | | 0.3607** [1.9950] |
| Constant | 53.5781** [2.1978] | 46.1158* [1.9027] | 60.0527*** [2.7677] | 80.7542*** [3.7006] |
| F- test | 33.3657 | 34.1032 | | |
| (p-value) | (0.000) | [0.000] | | |
| Hausman test | 15.8026 | 17.588 | | |
| (p-value) | (0.0453) | (0.0403) | | |
| <i>F-Ist</i> F-statistic | | | 12.512*** | 22.479*** |
| Test for overidentifying restrictions | | | 0.010 | 0.021 |
| Adjusted R ² | 0.85 | 0.90 | 0.85 | 0.89 |
| Number of Observations | 70 | 72 | 70 | 72 |

Robust t ratios in square brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%

[^] priv = cumulative % of GDP

Fixed effects not reported

Table 4: Estimation results - alternative measures of privatisation

| Dependent variable: Gini index | (1) OLS [^] | (2) OLS ⁺ | (3) IV [^] | (4) IV ⁺ |
|---------------------------------------|------------------------|------------------------|------------------------|------------------------|
| lgdp | -53.6396 [0.4780] | 34.4702 [0.1779] | -54.1105 [0.4693] | -12.2076 [0.1018] |
| lgdp ² | 25.6610 [0.4591] | -15.6440 [0.1632] | 28.9350 [0.4503] | 5.0762 [0.0849] |
| primary | -0.1017** [2.2612] | -0.1041** [1.9987] | -0.1057** [2.1462] | -0.1299*** [3.3055] |
| secondary | 0.0683* [1.8567] | 0.0629* [1.7801] | 0.07115* [1.8169] | 0.0610* [1.7520] |
| aggdp | -0.3923*** [3.6735] | -0.6306*** [3.3062] | -0.3561*** [3.5332] | 0.5740*** [5.0203] |
| m2gdp | 0.0798** [2.0879] | 0.1366*** [4.1745] | 0.0860** [2.2361] | 0.11678** [2.4612] |
| land | 35.8260** [2.4305] | -56.7600* [1.7709] | 36.1692** [2.5841] | 27.1462* [1.7366] |
| corupt | 0.5665 [1.0456] | 0.6746 [1.1816] | 0.4305 [0.6077] | 0.4272 [0.7252] |
| priv | 1.5875** [2.0696] | -3.2245*** [3.6625] | 1.5305** [2.3216] | 6.9971** [2.0136] |
| Constant | 50.7565** [2.3522] | 79.2240* [1.9080] | 47.1309** [2.0636] | 98.4790*** [2.9743] |
| F- test | 23.4264 | 25.0750 | | |
| (p-value) | (0.000) | [0.000] | | |
| Hausman test | 20.1731 | 20.9634 | | |
| (p-value) | (0.0136) | (0.0128) | | |
| <i>F-Ist</i> F-statistic | | | 11.625*** | 27.625 |
| Test for overidentifying restrictions | | | 0.111 | 0.119 |
| Adjusted R ² | 0.86 | 0.88 | 0.86 | 0.87 |
| Number of Observations | 70 | 68 | 70 | 68 |

Robust t ratios in brackets.

*significant at 10%; ** significant at 5%; *** significant at 1%

[^] priv = index

⁺ priv = dummy

Fixed effects not reported

Table 5: Estimation results - alternative model specification

| Dependent variable: Gini index | (1) OLS | (2) OLS [^] | (3) IV | (4) IV [^] |
|--|------------------------|------------------------|------------------------|-----------------------|
| lgdp | -46.7849 [0.4253] | -53.6396 [0.4780] | 34.8602 [0.3275] | 13.4814 [0.1148] |
| lgdp ² | 22.2923 [0.4053] | 25.6610 [0.4591] | -18.6644 [0.3502] | -7.6890 [0.1309] |
| primary | -0.1044** [2.3227] | -0.1017** [2.2612] | -0.0865** [1.9884] | -0.0901** [1.9898] |
| secondary | 0.0788** [2.3072] | 0.0683* [1.8567] | 0.1215*** [2.949] | 0.1049*** [2.5597] |
| open | -0.0564*** [2.7949] | -0.0623*** [3.5390] | -0.0578*** [2.6840] | -0.46662** 2.0474 |
| dcps | 0.1050*** [2.6283] | 0.0798** [2.0879] | 0.0687*** [3.5427] | 0.0807*** [3.1924] |
| land | 30.1783* [1.7924] | 35.8260** [2.4305] | 32.4934* [1.8177] | 26.3494* [1.9387] |
| corupt | 0.9375* [1.8391] | 0.2740 [0.6221] | 1.3337** [2.2205] | 0.3407 [0.6889] |
| priv | | 0.4480** [2.535] | | 0.4638** [2.4676] |
| constant | 53.5781** [2.1978] | 50.7565** [2.3522] | 44.5458* [2.0950] | 50.3972** [2.3755] |
| F- test (p-value) | 33.3657 (0.000) | 23.4264 (0.000) | | |
| Hausman test (p-value) | 15.8026 (0.0253) | 20.1731 (0.000) | | |
| <i>F-Ist</i> F-statistic | | | 22.1210*** | 29.3528*** |
| Test for overidentifying restrictions | | | 0.202 | 0.210 |
| Adjusted R ² | 0.85 | 0.86 | 0.88 | 0.86 |
| Number of Observations | 74 | 74 | 72 | 72 |

Robust t ratios in square brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%

[^] priv = cumulative %

Fixed effects not reported

Table 6: Estimation results - Gini index unbounded

| Dependent variable: Gini index | (1) OLS | (2) OLS [^] | (3) IV | (4) IV [^] |
|---------------------------------------|------------------------|------------------------|------------------------|-----------------------|
| lgdp | -1.7183 [0.3864] | -2.0736 [0.4590] | -1.2736 [0.2871] | -2.2106 [0.5264] |
| lgdp ² | 0.8149 [0.3665] | 0.9904 [0.4383] | 0.5759 [0.26024] | 1.0639 [0.5072] |
| primary | -0.0042** [2.2954] | -0.0041** [2.2449] | -0.0047** [2.2330] | -0.0044** [2.2046] |
| secondary | 0.0032** [2.3079] | 0.0023 [1.5548] | 0.0042** [2.3889] | 0.0029* [1.7022] |
| aggdp | -0.0196*** [4.4739] | -0.0158*** [3.6750] | -0.0173*** [4.4209] | -0.0144*** [3.474] |
| m2gdp | 0.0042*** [2.6316] | 0.0032** [2.0895] | 0.0047*** [3.0697] | 0.0033** [2.0907] |
| land | 1.2106*** [1.7787] | 1.4450** [2.5717] | 1.11894 [1.7462] | 1.4549** [2.5717] |
| corupt | 0.0381* [1.8847] | 0.0231 [1.0456] | 0.0677** [2.2304] | 0.0442 [1.2180] |
| priv | | 0.0648** [2.3657] | | 0.0601** [2.145] |
| constant | 0.1422 [0.9842] | 0.1409 [0.1533] | 0.3228 [0.3606] | -0.1408 [0.1539] |
| F- test | 32.9122 | 24.1352 | | |
| (p-value) | (0.000) | (0.000) | | |
| Hausman test | 15.7787 | 21.0262 | | |
| (p-value) | (0.0457) | (0.000) | | |
| <i>F-1st</i> F-statistic | | | 13.623*** | 16.527 |
| Test for overidentifying restrictions | | | 3.248 | 1.623 |
| Adjusted R ² | 0.93 | 0.94 | 0.92 | 0.92 |
| Number of Observations | 70 | 70 | 70 | 70 |

Robust t ratios in square brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%

[^] priv = cumulative %

Fixed effects not reported

Figure 1: Corruption and Bureaucracy

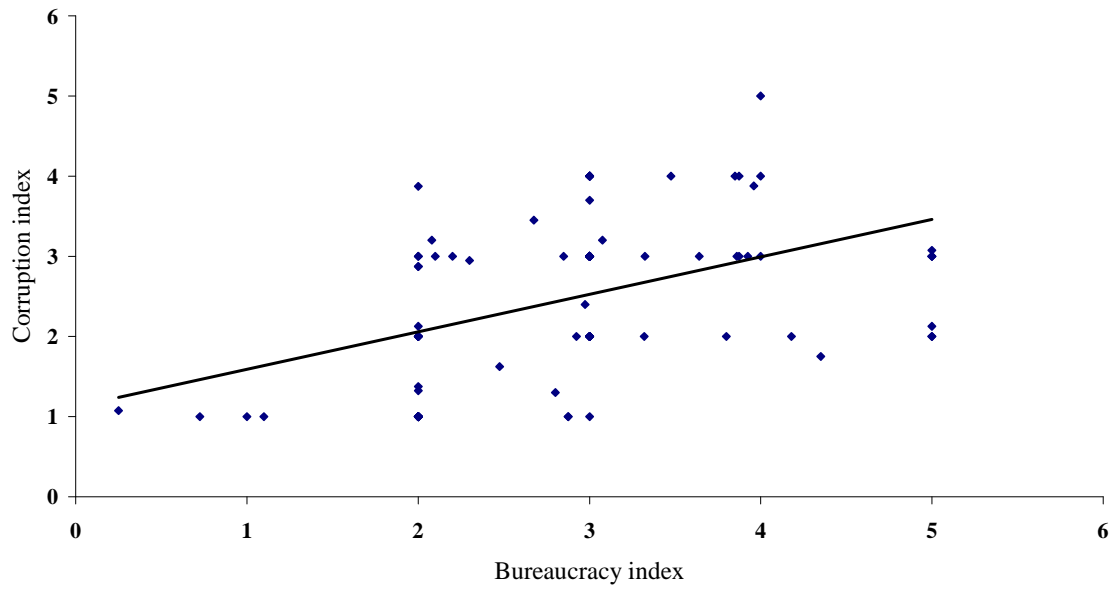


Figure 2: Inequality and Corruption

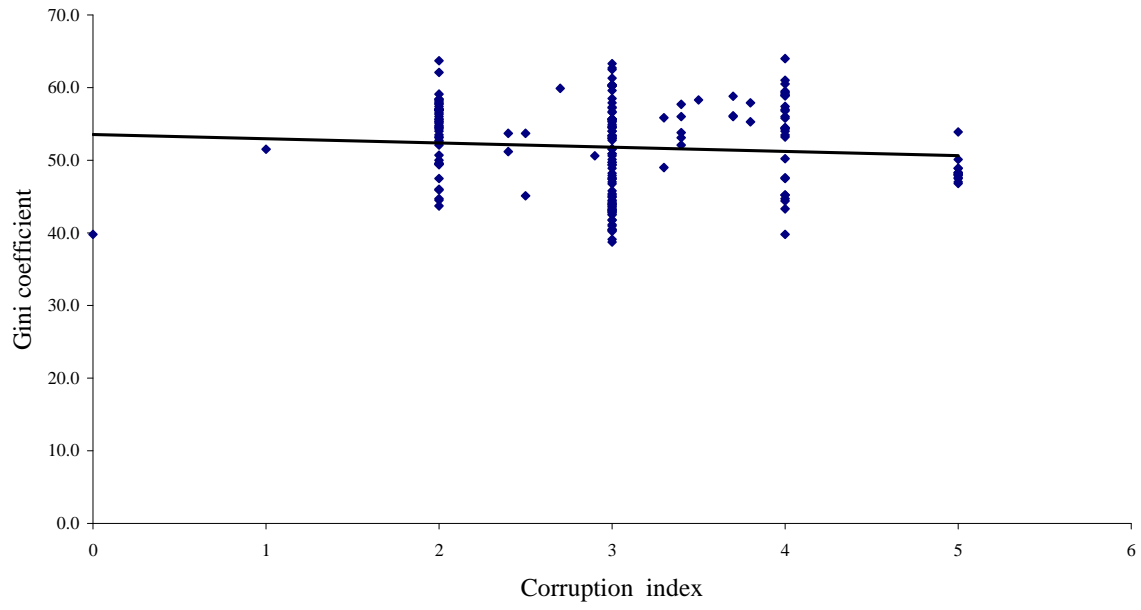


Figure 3: Corruption and Privatisation

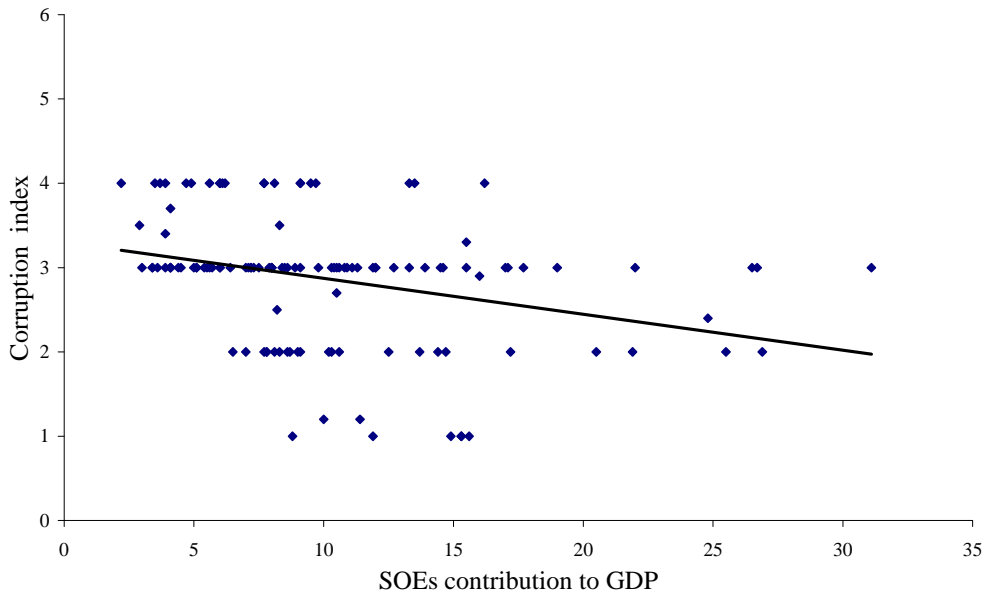
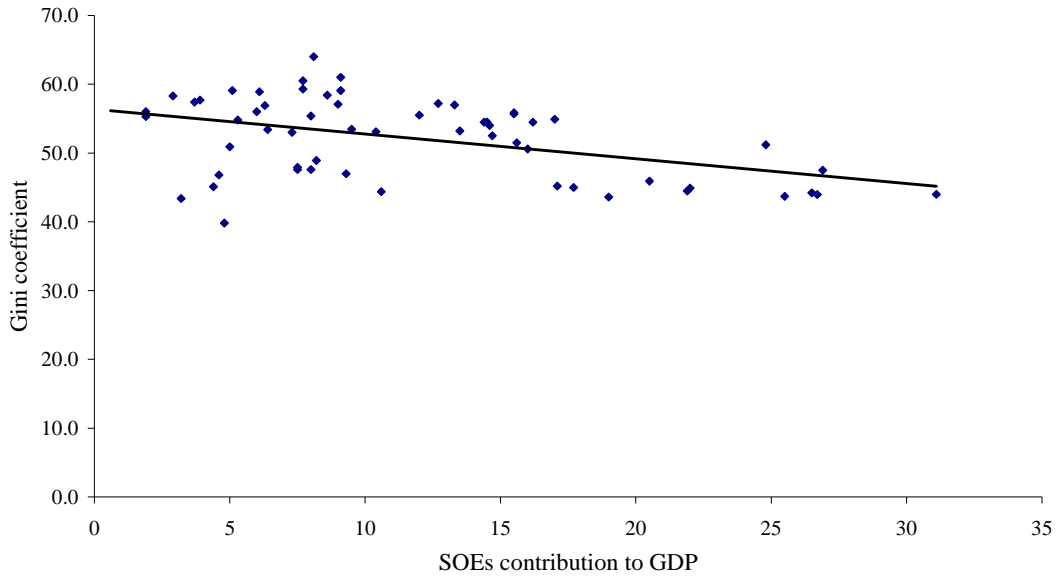


Figure 4: Inequality and Privatisation



¹ Corruption might be influenced by the perception of corruption. In some cases, corruption perceptions might reinforce or diminish corruption (see, Cabelková, 2001).

² They were generous for universities and other higher learning institutions which were geared towards providing education to the children of the elite.

³ Several other reasons are cited in De Ferranti et al. (2004, Chapter 4) for the neglect of education in the 20th century.

⁴ Leamer (1984) and Bowen et al (1987) show that the abundant factor in most countries of the region is not labour but some natural resource; furthermore, labour skills in the region are ranked at an intermediate level on a world scale.

⁵ Lewis (1954) provided a similar basis for rising inequality in his labour surplus model.

⁶ Countries included in the sample are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, El Salvador, Uruguay, and Venezuela.

⁷ Available on <http://www.wider.unu.edu/wiid/wiid.htm>.

⁸ Jong-Sung & Khagram (2005) provide a discussion of the channels through which inequality affects corruption.

⁹ Source: http://www.prsgroup.com/ICRG_Methodology.aspx.

¹⁰ Source: http://www.prsgroup.com/ICRG_Methodology.aspx. The index range in values from 0 to 6, with a higher value indicating a “better” rating.

¹¹ In general, the protection of domestic industries from international competition creates the potential for lucrative rents, which entrepreneurs are willing to pay for in the form of bribes (Mauro, 1997).

¹² This is so for several reasons: lower income workers are more likely to be laid off than the higher income ones; dismissed low income workers have more difficulty finding

employment; if they do obtain alternative employment it may be less remunerative; and if both unskilled and skilled labour have been laid off, there is a greater chance that alternative employment will be obtained by skilled individuals.

¹³ Because of the short time span for this variable it is not used in the econometric estimation.

¹⁴ It has been suggested that poor householders do not mind a reasonable price increase if it is associated with an improvement in the quality of the service. There are examples where, prior to privatisation, poor householders have an illegal connection to water but the quality is compromised; with privatisation there is a rise in cost though water quality is not compromised. In some instances households even end up paying less with privatisation (Estache et al, 2001) because of increased competition.

¹⁵ Based on their own calculations, La Porta & López -de-Silanes (1997) conclude that the additional revenues received by the government in Mexico as a result of privatisation was probably large enough to offset society's cost of job losses.

DISCUSSION PAPERS IN ECONOMICS

- 2008/10 Stephen Dobson and Carlyn Ramlogan, *Is there an openness Kuznets curve? Evidence from Latin America*
- 2008/9 Stephen Dobson, John Goddard and Frank Stähler, *Effort levels in contests: an empirical application of the Tullock model*
- 2008/8 Juan Carlos Cuestas and Estefania Mourelle, *Nonlinearities in real exchange rate determination: Do African exchange rates follow a random walk?*
- 2008/7 Stephen Dobson and John Goddard, *Strategic behaviour and risk taking in football*
- 2008/6 Joao Ricardo Faria, Juan Carlos Cuestas and Estefania Mourelle, *Entrepreneurship and unemployment: A nonlinear bidirectional causality?*
- 2008/5 Dan Wheatley, Irene Hardill and Bruce Philp, *"Managing" reductions in working hours: A study of work-time and leisure preferences in the UK industry*
- 2008/4 Adrian Kay and Robert Ackrill, *Institutional change in the international governance of agriculture: a revised account*
- 2008/3 Juan Carlos Cuestas and Paulo José Regis, *Testing for PPP in Australia: Evidence from unit root test against nonlinear trend stationarity alternatives*
- 2008/2 João Ricardo Faria, Juan Carlos Cuestas and Luis Gil-Alana, *Unemployment and entrepreneurship: A Cyclical Relation*
- 2008/1 Zhongmin Wu, Mark Baimbridge and Yu Zhu, *Multiple Job Holding in the United Kingdom: Evidence from the British Household Panel Survey*

DISCUSSION PAPERS IN POLITICAL ECONOMY

- 2006/3 Ioana Negru, *On Homogeneity and Pluralism within Economics Schools of Thought*
- 2006/2 David Harvie and Bruce Philp, *Learning and Assessment in a Reading Group Format or Reading Capital... For Marks*
- 2006/1 David Harvie, Bruce Philp and Gary Slater, *Regional Well-Being and 'Social Productivity' in Great Britain'*
- 2004/2 Massimo De Angelis and David Harvie, *Globalisation? No Question: Foreign Direct Investment and Labour Commanded*
- 2004/1 David Harvie, *Value-Production and Struggle in the Classroom, or, Educators Within, Against and Beyond Capital*

DISCUSSION PAPERS IN APPLIED ECONOMICS AND POLICY

- 2007/2 Juan Carlos Cuestas, *Purchasing Power Parity in Central and Eastern European Countries: An Analysis of Unit Roots and Non-linearities*
- 2007/1 Juan Carlos Cuestas and Javier Ordóñez, *Testing for Price Convergence among Mercosur Countries*
- 2006/2 Rahmi Cetin and Robert Ackrill, *Foreign Investment and the Export of Foreign and Local Firms: An Analysis of Turkish Manufacturing*
- 2006/1 Robert Ackrill and Adrian Kay, *The EU Financial Perspective 2007-2013 and the Forces that Shaped the Final Agreement*
- 2004/5 Michael A. Smith, David Paton and Leighton Vaughan-Williams, *Costs, Biases and Betting markets: New evidence*
- 2004/4 Chris Forde and Gary Slater, *Agency Working in Britain: Character, Consequences and Regulation*

- 2004/3 Barry Harrison and David Paton, *Do 'Fat Tails' Matter in GARCH Estimation? Stock market efficiency in Romania and the Czech Republic*
- 2004/2 Dean Garratt and Rebecca Taylor, *Issue-based Teaching in Economics*
- 2004/1 Michael McCann, *Motives for Acquisitions in the UK*
- 2003/6 Chris Forde and Gary Slater, *The Nature and Experience of Agency Working in Britain*
- 2003/5 Eugen Mihaita, *Generating Hypothetical Rates of Return for the Romanian Fully Funded Pension Funds*
- 2003/4 Eugen Mihaita, *The Romanian Pension Reform*
- 2003/3 Joshy Easaw and Dean Garratt, *Impact of the UK General Election on Total Government Expenditure Cycles: Theory and Evidence*
- 2003/2 Dean Garratt, *Rates of Return to Owner-Occupation in the UK Housing Market*
- 2003/1 Barry Harrison and David Paton, *The Evolution of Stock Market Efficiency in a Transition Economy: Evidence from Romania*