Has Poverty Reduction Slowed Down in the Developing World? Evidence Based on New Poverty Estimates

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Abstract
New estimates of poverty constructed by Chen and Ravallion (2008), based on updated purchasing power parity estimates, show that poverty was much higher than estimated earlier. It is, however, asserted that there was no slowing down of poverty reduction during 1981-2005. It is further asserted that if the annual reduction of 1% point per year continues, the MDG of halving poverty (MDG1) by 2015 will be achieved. The present analysis examines these claims. Our analysis suggests a slowing down of poverty reduction in more recent years, largely as a consequence of reduction in the elasticity of poverty rate to income growth; a much larger elasticity of poverty to income inequality; and (in a few cases) a dilution of the role of institutions. Some points of departure of the present analysis are a critical scrutiny of the inter-relationships between finance, institutions, trade liberalisation and growth, and their implications for poverty reduction. Simulations for different regions and 10 selected countries examine the prospects of achieving MDG1 through growth acceleration, reduction in income inequality and improvement in institutional quality. As historic growth rates are lower in some regions and countries, reduction of income inequality and improvement in institutional quality have important roles in halving poverty.

Key Words: Millennium Development Goals (MDG), Poverty, Institution, Governance, Finance, Economic Development
 JEL Code: C23, C31, C33, E44, I32, O15, O43

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I. Introduction

At the Millennium Summit in September, 2000, world leaders committed the global community to halve by 2015 the proportions of poor and hungry. They also pledged in the United Nations Millennium Declaration to achieve other Millennium Development Goals (MDGs) encompassing education, gender equality, and women's empowerment, health and communicable diseases such as HIV/AIDS and malaria, and environmental sustainability. In brief, these goals aim for a broader and more inclusive process of human development.

The MDGs are ambitious, as they represent clear and direct challenges both to individual countries and to the global community. Achievement of these goals in Asia and the Pacific Region –especially in South Asia- is of considerable importance because of the pervasiveness of different forms of deprivation.

While the progress achieved in meeting the MDGs-especially MDG-is laudable, new estimates of poverty in the developing world produced by Chen and Ravallion (2008) raise concerns as the incidence of poverty is considerably higher than in their previous estimate. These estimates are based on the new purchasing power parity estimates for 2005. A review of progress achieved towards MDG1 is thus necessary. This is the motivation for the present study.

Chen and Ravallion (2008) justify their new estimates on the following grounds. First, the use of the 2005 ICP. This is a large advance on the 1993 estimates as the number of countries included is much larger (China, for example, participated in the 2005 ICP for the first time) and the quality of price data is considerably better.

Secondly, an updated poverty line is used and its robustness is confirmed. The new poverty line of $1.25 per day in 2005 is deliberately lower than the 2005 value in US dollars of the previous poverty line. The new line is the mean of the national poverty lines for the poorest 15 countries in terms of consumption per capita. New poverty estimates correspond to a range of of poverty lines spanning $1.00 to $2.50 per day in 2005 prices.

The coverage of household surveys is also much larger, altogether 675 surveys, spanning 1979-2006 and 116 countries. The incidence of global poverty is higher than past estimates, mainly because the 2005 ICP data suggest that past PPPs had implicitly underestimated the cost of living in most developing countries. It is claimed that poverty profile across regions of the developing world and the overall progress against absolute poverty are similar to past estimates. Our analysis raises serious doubts about this claim, as also the assessment that developing countries are on track towards MDG1. 1.4 billion people are found to live below the $1.25 line. About 26 % of the developing world's population in 2005 is poor versus 17 % using the old line at 1993 PPP-an extra 400 million people living in poverty. Over the period 1981-2005, the percentage of poor almost halved, falling from 52 % to 26 % (Expressed as a proportion of the population of the world, the decline is from 42 % to 22%) . The number of poor fell by about 500 million, from 1.9 billion to 1.4 billion over this period. The trend rate of decline was 1 % point per year, and it is slightly higher than the trend decline obtained from the 1993 PPPs (-0.83 % per year). Further, the 1 % per year rate of decline in poverty also holds in the period since 1990. There is, however, much less progress in getting above the $2 per day line. The poverty rate fell from 70 % in 1981 to 48 % in 2005. the trend reduction is 0.8 % per year. Excluding China, the trend reduction is only 0.3 % point per year. Chen and Ravallion

(2008) offer an optimistic assessment: "While the new data suggest that the developing world is poorer than we thought, it has been no less successful in reducing the incidence of absolute poverty since the early 1980s. …….The developing world as a whole is clearly on still on track to attaining the first Millennium Development Goal of halving the 1990s "extreme poverty" rate by 2015" (p.25). We subject these claims to a careful re-examination as any optimism about the prospects of achieving the MDG must be tempered by the convulsions caused by the simmering but far from over food and energy crisis and the rampaging financial crisis responsible for a global slowdown and recession in some developed countries (Thapa et al. 2009). So at the very least there is a strong case for deepening of our understanding of the complex inter-relationships between finance, trade, institutions, economic growth and poverty before arriving at a definitive assessment of the prospects of achieving the MDG (Imai et al. 2008).

While there is a huge literature on the prospects of achieving the first goal of MDGs using the cross-country data, almost entirely the assessments are based on the international poverty estimates obtained from the cut-off point of $1.08 a day measured in terms of 1993 PPP (e.g., Besley and Burgess, 2003, Demery and Walton, 1999, Gaiha et al., 2009, UN Millennium Project, 2005, United Nations, 2003, 2008). So a review of the new evidence in a broader analytical framework is called for.

The main points of departure of the present study are: (i) analysis of the roles of trade openness, finance and capital liberalisation, drawing upon a recent important contribution (Baltagi et al. 2008); (iii) role of institutional quality in income growth, openness, and poverty reduction and in achieving the MDG as an extension of Gaiha and Imai (2008) and Gaiha et al. (2009).

As an extension of Gaiha and Imai (2008), we estimate the following simultaneous equations, drawing upon cross-sectional data pooled over 1990-1999 and 2000-2006, and 1990-2006 as a combination of the two cross- sections.[2] Because none of the key explanatory variables of poverty is exogenous, 3SLS (3 stage least squares) is employed where GDP per capita, trade openness, institutional qualities, inequality in income, finance or private credit are treated endogenous in the system equations. In particular, European settler's mortality rate in 1500 is used as an instrument, drawing upon Acemoglu, Johnson, and Robinson (2001, 2002, and 2005).

The rest of the paper is organised as follows. The next section briefly discusses the analytical framework with an extended role of institutions (e.g., Gaiha and Imai (2009). Section III describes salient features of the data used. Section IV discusses the econometric specifications used, followed by discussion of the results in Section V and simulation results in Section VI. The final section offers concluding remarks.

II. Analytical Framework

Our analytical framework extends Gaiha and Imai (2008), by incorporating the role of finance in economic growth. Figure 1 provides a schematic description of the integrated framework. There are three sets of relationships (see Gaiha and Imai, 2008 for details). First, a set of exogenous/predetermined factors is identified that impact on a subset of endogenous factors. Geography is captured through regional effects, and the share of coastal population; and historical factors associated with European

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[2] Use of annual panel data would be better but we have pooled the data for these periods as international poverty estimates are available only for a few or more years for each country and the estimation of highly unbalanced panel data tends to produce biased estimates.

settlers' mortality rate in 1500, and indigenous population density in the same year shape institutional evolution (e.g., rule of law). Acemoglu et al. (2001, 2002), for example, emphasise that European settlers' mortality rates influenced their settlement patterns and the latter resulted in the transplantation of effective European institutions constraining the executive. When they did not settle, they instituted systems of arbitrary rule and expropriation of local populations. What also influenced their decision to settle was the indigenous population density (i.e. a preference for low density areas). Glaeser et al. (2004), however, offer a different perspective on European settlement patterns, which rests on the primacy of human and social capital in the growth process, and a second order effect, through the latter, on institutional changes.[3]

(Figure 1 to be inserted around here)

Integration is defined as trade liberalization (measured as ratio of trade to GDP) which is linked to share of coastal population and the size of the country. Rodrik et al. (2002) report a significant effect of institutional quality (measured in terms of property rights and rule of law) on integration as well as a positive effect of integration on institutional quality. We also consider the effects of 'financial openness' as a determinant of finance which is likely to affect economic growth, while economic growth in turn shapes financial development. Finance is thus treated as endogenous in the income equation and is instrumented by financial openness and trade openness, following Baltagi et al. (2008). They used two measures of financial

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[3] See Gaiha and Imai (2008) for more details.

openness: the Chinn and Ito (2006) index of capital account liberalisation[4] and the Lane and Milesi-Ferretti (2007) index of financial globalization (i.e. the ratio of a country's foreign assets and liabilities to GDP). While the former may suffer from measurement error in that some of the variation in the underlying economic variables may not be accounted for (Baltagi et al., 2008), we mainly use it because of the larger coverage of countries. Also, the results of Chinn and Ito (2006) are important in our context because they showed that a higher level of financial openness spurs equity market development only if a threshold level of legal development has been attained (i.e, in many LDCs with underdeveloped legal institutions, financial openness does not contribute to equity market development). This study also incorporates the interrelationship between finance and economic development, both of which are treated endogenous in the system of equations.

The third endogenous variable is income inequality, postulated as determined by inequality in land. Income inequality is a major determinant of poverty. While it could affect income level through higher savings or indirectly as a measure of distribution of economic power.

III. Data

Our poverty data are based on the new World Bank head-count estimates prepared by Chen and Ravallion (2008), with US $1.25 per day in 2005 PPP (purchasing power

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[4] This measure is constructed from four binary dummy variables that codify restrictions on cross-border financial transactions that are reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions. Chinn and Ito reverse these binary variables—so that they are equal to unity when capital account restrictions are non-existent—and derive the first principal component, which is their summary measure (Baltagi et al., 2008, p.4).

parity) as the poverty line. Although the benchmark for the MDG has been the old version of World Bank poverty estimates with US$ 1.08 per day in 1993 PPP, it is likely that the considerably higher new poverty estimates will trigger a debate on the feasibility of this goal. The number of countries initially included is 115, but due to the limited coverage of key explanatory variables, the number of countries used for estimation vary with the specification. Another difficulty is that the new poverty estimates are highly unbalanced in the sense that the number of years for which estimates are available varies across countries. So we take two different approaches. First, we aggregate the poverty and other data and for three periods, 1980-1989, 1990-1999, and 2000-2006 and apply the system equation estimator (namely, 3SLS). Our key variables include institutional quality, trade share, and finance –each is treated as endogenous. As some of the variables (e.g. agricultural value added per capita or financial openness) are lagged, we use only two sets of the cross sectional data for 1990-1999 and 2000-2006 for which the lags are the data pooled for 1980-1989 and 1990-1999, respectively. As an extension, these two rounds are pooled as a panel to take account of time series changes of the variables over the decades. Secondly, we construct annual panel data set. While caution is required in interpreting the results from the unbalanced panel, the advantages are a larger data set and a probe into the time-series dimension of poverty.

Other relevant data (e.g. income per capita, the Gini coefficient of income distribution, agricultural value added, country size estimates) were obtained from the World Development Indicator (WDI) 2008 (World Bank, 2008); and estimates of the Gini of land distribution (for different years during the 1970s and 1980s) were taken from Deininger and Squire (1998). Most of the variables taken from WDI 2008 cover

the period from 1980 to 2006. The land Gini is a cross sectional data for a small number of countries.

Institutional data were taken from the World Bank's World Governance Indicators . Out of the six indicators available for 1998-2007, we use 'Voice and Accountability', 'Political Stability and Absence of Violence', 'Rule of Law' and ' Control of Corruption'. To match the WDI data, we do not use the variable in 2007- so the data cover 1998, 2000, 2002, 2003, 2004, 2005 and 2006. The methodologies used for constructing the institutional indicators are discussed in Kaufmann et al. (2008).[5]

As a proxy for the country's financial development, we use (logarithm of) the share of private credit as a share of GDP, an updated version of Beck et al. (2000). Financial openness comprises two sets of measures, following Baltagi et al. (2008)- specifically, Chinn and Ito (2006) index of capital account openness and Lane and Milesi-Ferretti's (2007) index of financial globalisation, defined as share of a country's foreign assets and liabilities in GDP.[6]

IV.   Econometric Specifications

The specifications we use are extensions of Gaiha and Imai (2008).

3SLS for cross sectional data and pooled data

For cross sectional data for 1990-1999 (or 2000-2006), 3SLS is applied. First, the income equation is specified as:

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[5] The full data are available from http://info.worldbank.org/governance/wgi/index.asp.

[6] See Baltagi et al. (2008) for a detailed discussion of the pros and cons of financial openness indices. The Chinn and Ito (2006) index is available from Menzie Chinn's website http://www.ssc.wisc.edu/~mchinn/research.html.

$$Y_i = \beta_{10} + \beta_{11} Y_{a\,i,t-1} + \beta_{12} O_i + \beta_{13} G_i + \beta_{14} F_i + \beta_{15} I_i + \beta_{16} D_i + e_{1i} \qquad (1)$$

where β_{10} is a constant term, Y_i is log of GDP per capita in t, 1990-99 (or 2000-2006) for the i^{-th} country. $Y_{a\,i,t-1}$ is log of agricultural value added in the precious period, t-1, 1980-89 (or 1990-1999), posited to capture its long-term role in determining overall income. O_i is a measure of openness in terms of log of share of imports and exports in GDP. G_i is log of Gini coefficient of income distribution. F_i is log of ratio of private credit to GDP as a measure of financial development. I_i represents institutional development, designed to capture the influence of political stability, voice and accountability, control of corruption, the rule of law, or average of these four indicators (i.e. an aggregate institutional measure) in determining cross-country differences in income.[7] D_i is a vector of five regional-level dummy variables for six regional categories, East Asia, South Asia, Sub Saharan Africa, Latin America and Caribbean, East Europe & Central Asia, and Middle East & North Africa. e_{1i} is an error term that is assumed to be independent and identically distributed (*i.i.d.*).

As emphasised earlier, O_i, F_i and I_i are likely to be endogenous. Further, it is posited that O_i also depends on the quality of institutions and some exogenous factors.

$$O_i = \beta_{20} + \beta_{21} I_i + \beta_{22} S_i + \beta_{23} A_i + e_{2i} \qquad (2)$$

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[7] An important issue here is whether the same specification is justified for different institutional quality indicators. This is contentious as it could be argued that voice and accountability may have little to do with investment decisions and openness while the remaining indicators (e.g. rule of law, control of corruption, political stability) may be closely linked to them and consequently to income levels. But, given the limited knowledge of how institutions evolve and interact with growth and distribution of gains, we have opted for the same specification as a first approximation.

Accordingly, in equation (2), the log of trade share (O_i) is estimated by an institutional measure, I_i and two instruments (or exogenous factors) *viz.* a measure of physical isolation, S_i, and country size (i.e. surface area), A_i.[8] β_{20} is a constant term and e_{2i} is an *i.i.d* error term.

The institution equation is specified as

$$I_i = \beta_{30} + \beta_{31}M_i + e_{3i} \qquad\qquad (3)$$

where the institutional measure is instrumented by the log of European settlers' mortality rate, M_i, β_{30} is a constant term and e_{3i} is an *i.i.d* error term. As institutional indices are available only for 1996-2006, we use the average of 1996 and 1998 values as a proxy for the institutional quality in *t, 1990-1999*. For *t+1, 2000-2006*, we average of 2000, 2002, 2003, 2004, 2005, and 2006 values.

The poverty equation is specified as given below:

$$P_i = \beta_{40} + \beta_{41}Y_i + \beta_{42}G_i + \beta_{43}D_i + \beta_{44}I_i + \beta_{45}F_i + e_{4i} \qquad\qquad (4)$$

where P_i is the poverty head count ratio, based on the new estimates by Chen and Ravallion (2008) at US$1.25-a-day poverty line adjusted by PPP in 2005[9]. G_i is log of Gini coefficient of income distribution. F_i is log of the ratio of private credit to GDP. We examine the direct effect of finance on poverty by this equation as well as the indirect effect of finance on poverty through income using both equations (1) and (4) in line with Beck et al. (2007) and Claessens and Feijen, (2006). β_{40} and e_{4i} are the constant and error terms, respectively.

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[8] The physical isolation index is based on the proportion of a country's population that lives less than 100 km from a coast (McArthur and Sachs, 2002). So the higher the proportion of coastal population in a country, the less isolated it is.

[9] We have computed results with the poverty gap ratio as well. As similar results were obtained, these are not discussed here to avoid making the present paper unwieldy.

Positing that the income Gini, G_i, is endogenous to inequality of land, we have also estimated the following equation:

$$G_i = \beta_{50} + \beta_{51} G_{Li} + e_{5i} \tag{5}$$

where G_{Li} is the Gini coefficient of land distribution. β_{50} and e_{5i} are the constant and error terms, respectively.

The finance equation is specified as:

$$F_i = \beta_{60} + \beta_{61} Y_{i,t-1} + \beta_{62} O_{i,t-1} + \beta_{63} K_{i,t-1} + \beta_{64} O_{i,t-1} * K_{i,t-1} + \beta_{65} I_i + e_{6i} \tag{6}$$

in line with the idea that financial development is affected by economic growth, trade openness, $O_{i,t-1}$, capital account openness or financial globalisation $K_{i,t-1}$, their interaction, $O_{i,t-1} * K_{i,t-1}$, and institutional quality such as the rule of law. As some of the variables- in particular, European settler's mortality rate and Gini coefficient of land distribution cover only a limited number of countries- it was not feasible to estimate the six equations by 3SLS.

As shown in Table 1, we have tried seven different specifications by dropping one to four equations from the above six equations and have compared the results based on different specifications. Estimating fewer equations has the advantage of covering more countries while some of the potentially endogenous variables are treated as exogenous variables. Experiments with different specifications is useful given the sensitivity of 3SLS to the specification, for example, the choice of instruments or explanatory variables for each equation,

(Table 1 to be inserted around here)

As an extension, the cross sectional data in 1990-1999 and those in 2000-2006 are pooled into a panel to take account of the long term changes of variables over time.

To make comparisons with cross- sectional regression results by 3SLS, we apply 3SLS by using the same specifications for the pooled data by inserting a time dummy for 2000-2006 in each equation. County fixed effects are not considered; only regional dummy variables are used to incorporate the regional effects.

Panel Data Models

Next, to analyse the time-series changes of variables more closely, we use the annual panel data to estimate the above equations separately, using random or fixed effects model, between estimator, random effects IV model, and dynamic panel model, depending on the characteristics of the data needed to estimate each equation. The summary of specifications is given by Table 1. For reasons stated earlier, the results of log of poverty head count ratio estimated by EC2SLS have to be interpreted cautiously.

First, we estimate random effects IV model for panel data, based on G2SLS (Generalised 2 Stage Least Squares), Balestra and Varadharajan-Krishnakumar's (1987) estimator to estimate log of poverty headcount. In the first stage, log of GDP per capita is estimated by instruments (e.g. lag of agricultural value added in the previous year and trade openness) as well as the unobservable individual effect specific to each country and year dummies (i.e. by one-way error component model). In the second stage, log of poverty head count ratio is estimated with the individual effect and year dummies by 2SLS where log of GDP per capita is treated as an endogenous variable.[10] The choice between fixed effects 2SLS model and random

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[10] We also tried Baltagi (1981)'s EC (Error Correction) 2SLS random-effects estimator and obtained similar coefficient estimates. See Chapter 7 of Baltagi (2005) for technical details of 2SLS and its variants applied to panel data.

effects 2SLS model is based on the Hausman test that compares the coefficient estimates of these models.

Equations (2), (3) and (5), and those for trade openness, institutions, and income Gini are estimated separately by static panel data models to make the results comparable with those obtained from cross-sectional estimation.[11] Trade openness is estimated by random effects model by adding individual effects and year dummies to equation (2). Between- estimator by which cross-country variation is estimated without time effects is applied in institution or inequality equation, as the key explanatory variable (namely European settler's mortality rate or land Gini) is time-invariant.

For finance, we have used a static panel data model (or fixed effects model) as well as a dynamic model along the lines of Blundell-Bond (1998), taking account of Baltagi's (2008) specification. For the static model, we have added regional dummies to capture geographical differences in financial development. As fixed effects model involving the first differencing cannot include time-invariant variables, we opted for the random effects model.

$$F_{it} = \beta_{70} + \beta_{71} Y_{it-1} + \beta_{72} O_{it-1} + \beta_{73} K_{it-1} + \beta_{74} O_{it-1} * K_{it-1} + \beta_{75} D_i + \beta_{76} T_t + \mu_i + e_{7it}$$
(7)

where T_t is a set of year dummies, μ_i is an individual effect e_{7it} is an error term.

Given the possible persistence of finance, a dynamic model can be specified by including the first lag of the dependent variable.

$$F_{it} = \beta_{80} + \beta_{81} F_{it-1} + \beta_{82} Y_{it-1} + \beta_{83} O_{it-1} + \beta_{84} K_{it-1} + \beta_{85} O_{it-1} * K_{it-1} + \beta_{85} D_i + \beta_{87} T_t + \mu_i + e_{7it}$$
(8)

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[11] Income equation could be estimated by dynamic panel data models, for example, as in Guariglia and Poncet (2008). We have applied the dynamic panel data model only for finance.

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The key variables in equation (7) or (8) are lagged trade openness, O_{it-1}, lagged financial openness, K_{it-1}, and their interaction, $O_{it-1} * K_{it-1}$. By including the interaction, Baltagi et al. (2008) tested Rajan and Zingales's (2003) openness hypothesis (2003) that the simultaneous opening of both trade and capital accounts is necessary for financial development. This is examined by testing whether the coefficients of O_{it-1}, K_{it-1}, and $O_{it-1} * K_{it-1}$ are all positive. However, if, for example, an economy is not open to trade as in many developing countries, the coefficient of financial openness, K_{it-1} is expected to be negative or zero.

Assuming that e_{7it} is not serially correlated and that the regressors are weakly exogenous, the GMM first difference estimator (e.g. Arellano and Bond, 1991) can be used. Alternatively, we could use the lagged differences of all explanatory variables as instruments for the level equation and combine difference and level equations in a system. The panel estimators use instrument variables based on previous realisations of the explanatory variables as the internal instruments as in the Blundell-Bond (1998) system GMM estimator requiring additional moment conditions. Such a system gives consistent results under the assumptions that there is no second order serial correlation and the instruments are uncorrelated with the error terms. Validity of instruments is tested by the Sargan J test and the second order serial correlation of the residuals. The Blundell-Bond (1998) system GMM estimator is used in the present study.

V. Econometric Results

Tables 2 to 8 give the results of 3SLS applied to cross-sectional and pooled data for 1990-1999, 2000-2006 and 1990-2006, and Tables 9 to 12 give those based on panel

data models. For each table, five different measures of institutional index are used separately in each specification. Key variables we are interested in are shown in bold figures. Because there are many cases to be reported, we will highlight and comment on the results selectively.

Table 2 shows the results based on 3SLS applied to all six equations except the inequality equation. We call it the baseline specification with which other cases will be compared. In all fifteen cases (five cases for 1990-1999, 2000-2006 and 1990-2006), the effect of institutions on income is positive and significant. However, some caution is necessary as European settlers' mortality rate has a positive and significant effect only on the rule of law in 2000-2006 (Case D), voice and accountability (Case B) and the rule of law (Case D) in 1990-2006. The coefficient of agricultural value added in the previous decade is positive and mostly significant for 1990-1999, positive and significant only for Case C for 2000-2006, and positive and significant for Case B and Case C for 1990-2006. This is consistent with the role of agricultural sector in promoting economic growth in the long run. Trade openness, which is instrumented by the physical isolation index and the country size, is either 'negative and significant' or non-significant. It should be noted that the positive and significant coefficient estimate is *not* observed with trade share in the income equation in any of the cases considered in Tables 2 to 8 with the cross-sectional data.

Log of trade share is positive and significant at the 5 or 10 % level in Case A and Case B of Table 9 where we use annual panel data in 1980-2006 and 1980-1999 and institution is omitted. In each specification based on cross-sectional data, regional dummies are included in the estimation, but are not shown in the tables to avoid cluttering the results.

(Table 2 to be inserted around here)

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Our results suggest that political stability, among the four institutional variables, is the most important determinant of trade openness as suggested. The positive and highly significant coefficient suggests that the higher the political stability the greater is trade openness. The rule and law is important only for 1990-1999 as its coefficient is positive and significant at the 10% level, while it is non-significant for 2000-6. Physical isolation index has an (expected) positive sign only for Cases D and E for 2000-2006.[12] Log of surface area has a negative and significant coefficient at the 5 % level except in Case C.

In the poverty equation, log of Gini coefficient of income distribution or the income Gini that is not instrumented has a positive and significant coefficient at the 5 % level in most cases. The coefficient estimate of log of GDP per capita measures the elasticity of poverty with respect to GDP per capita (i.e. percentage change of poverty headcount ratio corresponding to 1 % change of GDP per capita). Comparison of the coefficients for 1990-1999 and 2000-2006 brings out the change of the elasticity before and after 2000. Table 2 shows that the elasticity of poverty head count ratio with respect to GDP per capita was larger (in absolute terms) after 2000. Similar changes are found in Table 3, Table 4, Table 5 and Table 6. However, the change of elasticity is sensitive to both the specification and sample of countries included. As shown in Tables 7 and 8, the elasticity of poverty head count ratio with respect to GDP per capita is smaller (in absolute values) after 2000. We are inclined to prefer this finding mainly the sample is larger. Besides, if we compare the corresponding coefficients for 1980-99 and 2000-2006 based on annual panel data in Table 9 (in the second panel of Case B and Case C), there was a marked reduction in

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[12] As noted earlier, the higher the proportion of coastal population, the greater is trade openness..

the poverty elasticity- from -1.51 for 1980-1990 to -1.16 for 2000-2006. This further corroborates the finding in Tables 7 and 8.

The coefficient estimate of private credit is either *positive* and significant for 2000-2006 or non-significant for 1990-1999 in the poverty equation, while that of log of GDP per capita is negative and significant. The overall impact of private credit on poverty is the combination of the indirect effect through income and the direct effect through consumption smoothing. If we derive the indirect effect as a multiplication of income elasticity with respect to finance and poverty elasticity with respect to income, this is either larger or smaller than the direct effect.

The finance equation also has different results depending on the period or on which institutional variable is used. The coefficient of institution is either positive and significant or negative and significant depending on the index. Interestingly, the rule of law and corruption have the right (or positive) sign with significant coefficients for 1990-2006. Trade openness affects private credit positively with one-period lag as the coefficient in question is positive and significant in Cases A and B for 1990-2006. Lagged log of GDP per capita has mostly a positive and significant effect. Capital account liberalisation with one period lag has a negative but mostly non-significant effect. However, the interaction of trade and financial openness affects finance positively in Cases B and D for 1990-2006.

Table 3 is same as Table 2 except that financial liberalisation is used as a proxy for financial openness in the finance equation. The number of countries decreases from 44 (or 43) to 29 (or 31). Several results in Table 3 are similar to those in Table 2. **(Table 3 to be inserted around here)**

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Below, we mainly use capital account openness as it covers more periods and countries. The logarithm of Gini coefficient of land distribution (or the Land Gini) is used as an instrument of Income Gini in Table 4. However, there is a sharp reduction in the number of countries (18). Subject to this caveat, the land Gini has a positive and significant effect at the 1 % level in all cases for 2000-2006 and 1990-2006 and a positive and significant effect at the 5% level in Cases B, D and E and at the 10% level in Cases A and C for 1990-1999. An important change in the results, however, is that the income Gini ceases to be significant in most cases in the poverty equation. That this change is a consequence of the small number of countries cannot be ruled out. We observe a broadly similar pattern of the results to the previous cases, but a few changes are noted: the physical isolation index has an (expected) positive and significant coefficient; trade openness has a positive and significant effect (but at the 10 % level) only for 2000-2006 in the finance equation; and institutions have mostly positive and significant effects in the finance equation for 1990-1999.

(Table 4 to be inserted around here)

Table 5 is same as Table 4 except that the income Gini is not instrumented. 54 (or 65) countries are included for 1990-1999 (or 2000-2006). It should be noted that unlike Table 2 or 3 institution is not instrumented. While most of the results are consistent with those, for example, in Table 2, a few changes are observed. First, in the income equation, institution does not have a significant coefficient in any of the five cases for 1990-1999. But it is *negative* and significant in Case D (the rule of law) for 2000-2006 and 1990-2006. The reason is not clear except that its endogeneity needs to be taken into account. Private credit, instrumented by lagged capital account liberalisation, among others, has a positive and highly significant coefficient in all

cases. Trade openness tends to be positively associated with political stability (Case C) at the 1 % significance level for all three periods, and with the rule of law (Case D) at the 10% level for 1990-1999 and for 2000-2006 (or 1990-2006) at the 5 % (or 1 %) level. Country size has a negative and significant role in trade openness in all cases.

(Table 5 to be inserted around here)

Table 5 signifies the direct effect of institutional qualities on poverty, as suggested by negative and significant coefficient estimates of institution in the poverty equation. Subject to the caveat that institutions are endogenous, the direct effect of better institutions on poverty reduction dominates their indirect effect through higher income in these cases. In the finance equation, lagged trade share does not have a significant role; the rule of law (Case D) and control of corruption (Case E) have positive and significant effects in 2000-2006; lagged GDP per capita also has a highly significant and positive effect; and the interaction of trade and financial openness does not have a significant effect.

Table 6 is same as Table 2 but private credit is not instrumented (and institutions are instrumented). 44 or 43 countries are covered in each round of the data. Somewhat surprisingly, private credit is no longer significant in any of the five cases for 1990-1999, 2000-2006 or 1990-2006. The coefficient estimate of institution is positive in the income equation except for political stability (Case C). The coefficient estimates for the trade openness equation are similar to those in Table 2 where institutional quality has a positive and significant coefficient in all cases except voice and accountability. Institutions are significantly affected by the European settlers' mortality rate only in Case B (voice & accountability). Poverty is negatively and significantly associated with institution with the exception of Case D (the rule of law).

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(Table 6 to be inserted around here)

Table 7 presents the results based on 3SLS where only income, trade openness, and poverty are estimated, that is, institution or finance is not instrumented. The results are similar to those in Table 2, the base line case. Institution has a positive and significant effect in the income equation, as also private credit at the 1 % level in all cases. Trade openness is positively associated with institution in all cases except Cases B & E for 1990-1999. Country size has a negative and significant effect in all cases. In the poverty equation, the direct effect of institutional quality is negative and significant at the 10% level in Case D (the rule and law) and Case E (control of corruption) for 2000-2006 and in Case A (aggregate institution), Case C (political stability), and Case D (the rule and law) for 1990-2006. Private credit is unrelated to poverty.

(Table 7 to be inserted around here)

The results presented in Table 8 are based on the simplest specification whereby income and poverty are estimated by 3SLS. 72 (or 83) countries are covered for 1990-1999 (or 2000-2006). In the first panel for the income equation, the coefficient estimate of (uninstrumented) institutions is positive and significant at the 1 % level for all cases. The second panel for the poverty equation shows that the coefficient estimate of institution is not significant except in Case D (the rule of law) and Case E (control of corruption), with negative and significant coefficients at the 10 % level for 2000-2006 and Case D for 1990-2006. Private credit is non-significant in any of fifteen cases. Log of GDP per capita has a highly significant negative effect that weakens over 2000-2006. The effect of the Gini is positive but stronger in 2000-2006.

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Also, there is a dilution of the indirect effect of institutional quality through income in the more recent period.

(Table 8 to be inserted around here)

Table 9 presents the results based on G2SLS applied for panel data where log of GDP per capita is estimated in the first stage and log of poverty head count ratio is estimated in the second stage. First, we have carried out three regressions for 1980-2006, 1980-1999, and 2000-2006 without institutions to have a larger number of observations (because institutional indicators are only available in 1996-2007), the results of which are shown in the first three columns, Cases A, B and C. The number of countries is 83 or 93. Then, five measures of institutional variables are inserted without being instrumented in Cases D to H. In this analysis, 83 countries are included.

Most of the results are expected and are broadly consistent with those in Table 8, based on the cross-sectional data with the simplest specification, but with a few differences. Log of trade share has a positive and significant effect on log GDP per capita at the 5 % level in Case A (full period) and at the 10 % in Case B (1980-89), but it is not significant in other cases. Institutions, however, have positive and significant effects- significant at the 1 % level in Cases D, F, G and H and at the 10 % level in Case E. Private credit has a positive and highly significant effect, as in Table 8. Regional dummies (with East Europe and Central Asia as the benchmark case) shows geographical differences in income.

(Table 9 to be inserted around here)

As we have already noted, we observe in the second panel of Table 9 that elasticity of poverty with respect to GDP per capita declined in absolute valuesi.e., from -1.51 for 1980-1999 to -1.16 for 2000-2006. For the full period, the elasticity is -1.22. While income Gini is positive and significant, the elasticity is higher in the more recent period. However, private credit does not have a significant effect on poverty. In other words, the indirect effect of credit though income is dominant and the direct effect is negligible. Better institution in terms of the rule of law (Case G) and control of corruption (Case H) tend to significantly reduce poverty at the 5 % level. So the total effect of institutions through income and directly on poverty is substantial indeed.

Table 10 reports the results of static panel data estimation for trade openness, institution and income inequality. The coefficient estimate of institution is positive in the the trade openness equation, but it is significant (at the 10 % level) only in Case E (the rule of law). Physical isolation index is not significant. The surface area of the country has a negative and significant effect on trade share in all cases. The European settlers' mortality rate has a negative and significant effect on institutional quality (the rule of law, and corruption) at the 5 % level.

The last panel for the income inequality equation confirms the positive and significant effect of the land Gini.

(Table 10 to be inserted around here)

The results based on static panel data model for finance are given in Table 11. We use two different measures of financial openness: capital account liberalisation and financial globalisation. Six cases have been tried – the case without institution (Case A and Case G) and cases with five different measures of institutions (Cases B to F and

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H to L). Table 12 gives the results of dynamic panel data model based on Blundell-Bond system for the corresponding cases.

(Table 11 and Table 12 to be inserted around here)

In Case A for the entire period of 1980-2006 in Table 11, the coefficient estimates of trade openness and financial openness in the private credit equation are both positive and significant, but in Case G the interaction is negative and significant . This is similar to the pattern in Baltagi et al. (2008) who used a dynamic panel data model for the sample of both developed and developing countries. However, in all other cases with institutions for 1998-2006, trade openness has a negative and significant, effect, while financial openness or its interaction with trade openness are not significant. Institutional quality and lag of log GDP per capita are positive and significant.

When we use the dynamic panel data model and apply the Blundell-Bond GMM estimator in Table 12, we obtain results broadly similar to those in Table 11 but with a few changes. First, trade openness has a negative and significant effect in all the cases, that is, the more open the country is to the rest of the world, financial development is hindered. This may be because when an economy opens up to trade with its capital account closed, Rajan and Zingales (2003) suggest that there will be calls for additional financial repression to protect industrial incumbents, which would prevent financial development from taking off' (Baltagi et al., 2008, p.3). Institutions, however, have a positive and significant effect in all cases except Case I (voice and accountability) with a non-significant coefficient, and Case K (the rule of law) with a negative and significant coefficient. Capital account liberalisation has a positive and highly significant effect while the interaction term has a negative and significan

coefficientt. Only in Case J (political stability) does financial globalisation promote financial development. The interaction term is, however, negative and significant in this case. Financial globalisation index and its interaction are non-significant in other cases. These results by and large suggest that capital account liberalisation supported by economic growth and institutional development are key to financial development.

VI.   Simulation Results

As in Gaiha and Imai (2008) we have computed required rate of economic growth given various elasticities, for example, elasticity of poverty with respect to GDP per capita. It was shown by Besley and Burgess (2003) that the growth rates of overall income per capita required to halve the poverty index (g_{half}) in 25 years (i.e. over the period 1990-2015) can be computed as

$$g_{half} = \frac{log\left(\frac{1}{2}\right)}{25\eta} \qquad (9)$$

In the Besley-Burgess simulations, based on their poverty-income elasticity, η = -0.76, estimated by static panel data estimation for the old international poverty data based on US$1.08 with 1933 PPP, the overall growth rate required to halve the head-count ratio works out to be 3.6 per cent, as against the historical growth rate of 1.7 per cent (over the period 1961-90). As an extension, we have computed required agricultural growth rate and required reduction in the income Gini (given a particular GDP per capita growth rate for the latter), for halving the head -count ratio.

   As shown in Table 13, the elasticity of poverty head-count ratio with respect to per capita GDP ranges from -0.81 derived by the estimate in Case A of Table 2 (the

baseline case), which is not much different from the Besley and Burgess's estimate, to -1.51, obtained from the panel data model (Case B of Table 9). Required rate of growth rate of GDP per capita for halving poverty ranges from 1.8% to 3.4%. Whilst the average historical economic growth is only 0.99%,   East Asia or South East Asia's growth rate of GDP per capita averaged for 1980-2006 is enough for, or well above the level of halving the poverty head count ratio. If we suppose that agricultural growth is the only source for development, we need much higher levels of required growth rate of agricultural value added per capita. Also, if we assume that historical economic growth rate of all developing countries is 0.99 % on average for 25 years, the income Gini will have to be reduced by 7% to 18.6%. If the average growth rate is rises to 1.7%, the Gini will have to be reduced by 0.3% to 9.7% for achieving the MDG..

(Table 13 to be inserted around here)

Table 14 reports detailed simulation results, based on G2SLS model for panel data whereby log of GDP per capita and log of poverty headcount ratio are estimated in Case D to Case H in Table 9. The purpose is to examine whether change of institutional qualitiy would affect poverty or the prospect of halving poverty. This is a simple linear prediction of the future value of log of poverty head count ratio (that will be converted to poverty head count ratio) in 2015, obtained from the static linear panel data regression results during 1998-2006, under these assumptions: (i) annual growth rates of GDP per capita and agricultural value added per capita will be same in 2007-2015 as their historical averages of 1980-2006; (ii) the income Gini and trade share will remain same as the levels in 2006 till 2015; (iii) private credit will remain same as the minimum level in 2000-2006 and (to reflect the recent contraction of

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finance). Three institutional scenarios are combined with the preceding assumptions: (i) institutional qualities continue to be same as the level in 2006; (ii) they improve to the average of top 30 countries by 2015; (iii) and they rise to the average of top 10 countries by 2015. Simulations have been carried out for 10 selected countries, six regions and total of developing countries. We have computed the aggregated estimates with and without China, given its recent setbacks in growth and poverty reduction.

Our calculation shows that MDG1 for all developing countries based on the new poverty data is 17.3% without China and 21.2% with China, taking the average weighted by population of each country. If the historical growth rate is kept for each country, the estimated poverty head count ratio is 13.7% without China (or 10.6 % with China), which is lower than the MDG of 17.3% without China (or 21.2 % with China). So it would be possible to achieve the MDG if the historical annual economic growth rate is maintained at the country levels. An exception is Sub-Saharan Africa. Sub-Saharan Africa's initial level of poverty head count ratio is high at 50.6% in 1990 and it reduces to barely 47% in the basic scenario, much higher than the target of 23.3%.

All other regions will meet MDG1 in the sense that predicted poverty head count ratio is less than half of that in 1990. In the scenario where all the countries improve their institutional qualities to the average of top 30 countries, all developing countries and all the regions will meet the MDG1 because of the dramatic effect of the improvement of institutional qualities of the country on poverty reduction (through both indirect and direct channels). Of particular interest is the case where control of corruption improves. In that case, the predicted poverty head count ratio will reduce from 13.2% to 7.8%. For Sub-Saharan Africa, the improvements in the rule of law

and control of corruption have the potential of reducing poverty drastically. Assuming the average of top 30 performers, Sub-Saharan Africa will halve poverty by 2015. Simulations at regional levels show that improvement in institutional quality is crucial to poverty reduction. The country level simulations also show that i) all the 10 countries selected can achieve the MDG1 under the baseline scenario, and ii) improvement in institutional quality will reduce poverty significantly.

VII. Concluding Remarks

The present study has examined the prospect of achieving the Millennium Development Goal (MDG) of income poverty using Chen and Ravallion's (2008) new international poverty estimates with a particular focus on the role of institutions, such as voice and accountability or rule of law, income growth and agricultural income growth, change in income inequality and finance. Our main findings are summarised below.

First, better institutions are associated with i) higher income levels of the country (irrespective of the definition of institution); ii) higher levels of trade openness (in particular, when institutions are defined as the rule of law and political stability); iii) lower level of poverty (for the cases of better rule of law, and control of corruption); and iv) higher level of financial development (for the cases of better rule of law or control of corruption as well as where capital account liberalisation is greater). These results are important as institutions are treated as an endogenous variable in some of the specifications. The indirect effect of improvements in institution on poverty reduction through finance, trade openness and income matters is thus important.

Second, there are strong interrelationships between financial development and economic development. What is important, though, is that for developing countries, trade openness alone may not help developing finance; lagged capital account openness and better institutional quality have more important roles in financial development.

Third, our simulations show that, if the historical economic growth rate is maintained, MDG1 will be feasible. However, disaggregation of the simulation results by region shows that Sub-Saharan Africa will be unable to meet this goal without a substantial improvement in its institutional quality, for example, without better rule of laws or control of corruption. In general, improvement in institutional quality or reduction in income inequality are crucial to achieving MDG1.

Taking the inter-relationships between finance and growth, as well as these and poverty, careful attention must be given to promoting MFIs to help the rural poor cope and manage risks, and to ease credit constraint-especially in the present context of the unabated financial crisis.

Some other valuable insights that emerge from the present analysis that raise doubts about the emphatic claims made by the World Bank researchers that poverty reduction has not slowed down. The first important insight is that the elasticity of poverty with respect to income has reduced (in absolute terms) in recent years. Another insight is that the positive effect on poverty of a higher income inequality has also become stronger. These results are robust to different specifications and samples. Finally, there are a few cases of the weakening of the effect of institutional quality on poverty indirectly through income, finance and trade openness as well as directly via smoothing of consumption. If there is a hard core of poverty in some regions that is impervious to growth, inequality reduction and institutional improvement, the claim

that poverty reduction has not slowed down in recent years is unwarranted and somewhat misleading.

References

Acemoglu, D., S. Johnson, and J. A. Robinson (2001) 'The Colonial Origins of Comparative Development: An Empirical Investigation', *American Economic Review*, 91(5), 1369-1401.

Acemoglu, D., S. Johnson, and J. A. Robinson (2002) 'Reversal of Fortune: Geography and Development in the Making of the Modern World Income Distribution', *Quarterly Journal of Economics*, 117(4), 1231-1294.

Acemoglu, D., S. Johnson, and J. A. Robinson (2005). A Response to Albouy's A Reexamination Based on Improved Settler Mortality Data, Draft, March, 2005.

Arellano, M., and S. Bond (1991) "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations', *Review of Economic Studies*, 58, 277-297.

Baltagi, B. H. (1981) 'Simultaneous equations with error components', *Journal of Econometrics,* 17,189–200.

Baltagi, B. H. (2005) *Econometric Analysis of Panel Data,* Third Edition, John Wiley & Sons Ltd., Chichester:

Baltagi, B.H., P. O. Demetriades, and S. H. Law (2008) 'Financial development and openness: Evidence from panel data', Journal of Development Economics, in press, doi:10.1016/j.jdeveco.2008.06.006.

Balestra P, and J. Varadharajan-Krishnakumar (1987) 'Full information estimations of a system of simultaneous equations with error components structure', *Econometric Theory* 3:223–246.

Bardhan, P. (2004) *Scarcity, Conflicts, and Cooperation: Essays in the Political and Institutional Economics of Development,* MIT Press, Cambridge.

Beck, T., A. Demirgüç-Kunt and R. Levine (2000) 'A New Database on Financial Development and Structure', *World Bank Economic Review* 14, 597-605.

Beck, T., A. Demirguck-Kunt, and R. Levine (2007) 'Finance, Inequality and the Poor', *Journal of Economic Growth*, 12, 27-49.

Besley, T., and R. Burgess (2003). 'Halving Global Poverty', *Journal of Economic Perspectives*, 17(3), 3-22.

Blundell, R., and S. Bond (1998) 'Initial conditions and moment restrictions in dynamic panel-data models,' *Journal of Econometrics* 87, 115-143.

Chen, S., and M. Ravallion (2008) 'The Developing World Is Poorer Than We Thought, But No Less Successful in the Fight against Poverty' Policy Research Working Paper WPS 4703, World Bank, Washington D.C..

Chinn, M.D. and H. Ito (2006) 'What matters for financial development? Capital controls, institutions and interactions', Journal of Development Economics, 81, 163–192.

Claessens, S. and E. Feijen (2006) 'Finance and Hunger: Empirical Evidence of the Agricultural Productivity Channel', World Bank Policy Research Working Paper 4080, December 2006, Washington D.C.: World Bank.

Deininger, K., and L. Squire (1998) 'New ways of looking at old issues: inequality and growth', *Journal of Development Economics*, 57, 259-287.

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Demery, L., and M. Walton (1999). Are Poverty and Social Goals for the 21st

Century Attainable*? IDS Bulletin*, 30(2).

Gaiha, R., K. Imai, and M A Nandhi (2009) 'Millennium Development Goal of

Halving Poverty in Asia and the Pacific Region: Progress, Prospects and Priorities,

Journal of Asian and African Studies, 44(2), 215-237.

Gaiha, R., and K. Imai (2008) 'Do Institutions Matter in Poverty Reduction?

Prospects of Achieving the MDG of Poverty Reduction in Asia', *Statistica &*

Applicazioni, IV(2), 29-160.

Guariglia, A. and S. Poncet (2008) 'Could Financial Distortions be no Impediment to

Economic Growth After All? Evidence from China', *Journal of Comparative*

Economics (forthcoming).

Hoff, K. (2003) 'Paths of Institutional Development: A View from Economic History',

World Bank Economic Review, 18(2), 2205-226.

Imai, K., R. Gaiha, and G. Thapa (2008) 'Financial crisis in Asia and the Pacific

Region: Its genesis, severity and impact on poverty and hunger', Economics

Discussion Paper, 0810, University of Manchester, Manchester.

Lane, P. R, and G. M. Milesi-Ferretti (2007) 'The external wealth of nations mark II:

Revised and extended estimates of foreign assets and liabilities, 1970–2004',

*Journal of International Economics, 7*3 (2), 223-250.

McArthur, J., and J. W. Sachs (2002) 'A Millennium Development Strategy for

Achieving Poverty Alleviation and Economic Growth', Draft.

Rajan, R.G., and L. Zingales (2003) 'The great reversals: the politics of financial

development in the twentieth century', *Journal of Financial Economics*, 69, 5–50.

Rodrik, D., A. Subramanian, and F. Trebbi (2004) 'Institutions Rule: The Primacy of Institutions over Integration and Geography in Development', *Journal of Economic Growth*, 9, 131-165.

Thapa, G., R. Gaiha, K. Imai, and V. Kulkarni (2009) 'Soaring Food Prices: A Threat or Opportunity in Asia?', BWPI working paper 69/2009, University of Manchester, Manchester.

United Nations. (2003).*Promoting the Millennium Development Goals in Asia and the Pacific,* United Nations, New York.

United Nations (2008) *The Millennium Development Goals Report 2008,* United Nations, New York.

World Bank (2008) *World Development Indicators*, Oxford University Press, Washington D.C..

Table 1 Specifications and Sample Sizes

		Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9	Table 10			Table 11	Table 12
		I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII	XIII
Model [1]		3SLS for cross-sectional data							Static Panel G2SLS	Static Panel random-effects or between estimator			Static Panel random effects	Dynamic Panel GMM
		Data aggregated for 1990-9 or 2000-7 & Data pooled for both							Annual Panel Data for 1980 (or 98)- 2007 [2]					
Equation (1)	Income	X	X	X	X	X	X	X	X					
	Trade Openness	X	X	X	X	X	X			X				
	Institution	X	X			X					X			
	Poverty	X	X	X	X	X	X	X	X					
	Inequality			X								X		
	Private Credit	X	X	X	X								X	X
		C-H	L-M	C-H	C-H	C-H	C-H	C-H	-	-	-	-	C-H & L-M	C-H & L-M
	1980-2006	-	-	-	-	-	-	-	93	62	48	-	101 (or 72)	99 (or 71)
Countries	1980-1999	-	-	-	-	-	-	-	83	-	-	-	-	-
Included	1990-99	44	29	18	54	44	61	72	-	-	-	-	-	-
	1998-2006	-	-	-	-	-	-	-	83	62	48	-	100 (or 72)	99 (or 71)
	2000-2006	43	31	18	65	43	65	83	80	-	-	42	-	

[1]. As poverty data are highly unbalanced, variables on institutions are available after 1998, and land Gini or European settler's mortality rate

[2]. For table 10, Estimated each equation is estimated separately.

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Table 2 3SLS estimations for poverty headcount ratio in 1990-2006(Specification I)

	1990-1999 3SLS					2000-2006 3SLS					1990-2006 3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C Political Stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of Law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.48 (2.25)*	0.626 (2.49)*	0.353 (1.64)	0.514 (2.15)*	0.445 (2.13)*	0.337 (1.44)	0.322 (1.58)	0.652 (2.61)**	0.184 (0.59)	0.109 (0.38)	0.287 (1.81)	0.749 (2.79)**	0.313 (2.40)*	0.17 (0.92)	0.241 (1.48)
log(Trade Share)	-1.305 (5.26)**	-0.246 (1.05)	-2.18 (4.85)**	-0.707 (3.12)**	-0.47 (2.46)*	-0.6 (2.29)*	0.022 (0.12)	-1.506 (4.53)**	-0.028 (0.10)	0.35 (1.31)	-1.164 (6.14)**	-0.047 (0.25)	-2.194 (8.04)**	-0.564 (3.14)**	-0.164 (1.04)
log(Income Gini)	-0.116 (0.18)	-0.728 (0.97)	-0.263 (0.41)	-0.63 (0.87)	0.213 (0.33)	0.83 (1.29)	0.209 (0.37)	0.747 (1.00)	2.577 (2.89)**	0.635 (0.95)	0.35 (0.74)	0.143 (0.18)	-0.015 (0.04)	0.958 (1.75)	0.398 (0.85)
Institution	**4.154** (8.04)**	**2.136** (4.33)**	**3.73** (6.04)**	**3.759** (7.20)**	**3.257** (9.56)**	**3.767** (8.11)**	**2.696** (8.06)**	**2.538** (6.34)**	**5.184** (7.96)**	**2.847** (6.73)**	**4.676** (11.75)**	**4.648** (7.07)**	**3.928** (10.40)**	**5.372** (11.72)**	**3.037** (11.70)**
Private Credit	**0.663** (2.48)*	**0.681** (2.34)*	**1.385** (5.52)**	**-0.045** (0.15)	**-0.184** (0.64)	**0.4** (1.23)	**0.561** (2.16)*	**1.29** (4.64)**	**-1.178** (2.47)*	**0.038** (0.11)	**0.497** (2.13)*	**-0.288** (0.70)	**1.329** (9.17)**	**-0.849** (2.92)**	**-0.032** (0.14)
Dummy for 2000-7	-	-	-	-	-	-	-	-	-	-	0.467 (1.96)	0.207 (0.71)	0.508 (1.95)	0.696 (2.82)**	0.351 (2.03)*
Constant	12.94 (5.28)**	9.5 (3.37)**	18.64 (6.38)**	10.29 (3.83)**	6.79 (2.83)**	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)	3.332 (0.98)	18.85 (10.49)**	5.851 (2.68)**	5.045 (2.45)*
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87
Trade Openness															
Institution	**0.83** (2.67)**	**-0.231** (1.46)	**1.499** (6.68)**	**0.55** (1.93)	**0.384** (1.45)	**0.142** (0.66)	**0.048** (0.34)	**0.508** (3.79)**	**-0.294** (1.24)	**-0.396** (2.17)*	**0.496** (2.53)*	**-0.092** (0.83)	**1.132** (7.98)**	**0.219** (1.04)	**-0.044** (0.26)
log(physical isolation index)	0.008 (0.26)	0.033 (1.10)	0.033 (1.18)	-0.016 (0.52)	0.013 (0.39)	0.041 (1.69)	0.041 (1.75)	0.032 (1.57)	0.057 (2.23)*	0.062 (2.64)**	0.023 (1.14)	0.041 (2.17)*	0.02 (1.21)	0.014 (0.68)	0.038 (1.78)
log(country's size)	-0.115 (2.16)*	-0.178 (3.72)**	0.013 (0.23)	-0.2 (4.25)**	-0.18 (4.00)**	-0.101 (3.06)**	-0.107 (3.14)**	-0.068 (1.93)	-0.111 (3.41)**	-0.099 (3.04)**	-0.121 (4.06)**	-0.135 (4.74)**	-0.043 (1.33)	-0.174 (6.19)**	-0.149 (5.36)**
Dummy for 2000-7	-	-	-	-	-	-	-	-	-	-	0.108 (1.22)	0.069 (0.81)	0.177 (1.60)	0.092 (1.04)	0.067 (0.77)
Constant	5.805 (9.27)**	6.303 (10.68)**	4.621 (7.29)**	6.761 (11.92)**	6.472 (11.64)**	5.519 (13.33)**	5.542 (12.84)**	5.299 (12.58)**	5.469 (13.13)**	5.303 (12.68)**	5.783 (15.99)**	5.792 (16.19)**	5.14 (13.38)**	6.344 (18.31)**	5.975 (17.01)**
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87

Institution															
log(Europeansettlers' mortality rate)	**0.05**	**-0.103**	**0.073**	**-0.083**	**-0.076**	**-0.02**	**-0.07**	**0.14**	**-0.17**	**-0.12**	**0.04**	**-0.099**	**0.083**	**-0.088**	**-0.076**
	(0.86)	**(1.35)**	**(1.16)**	**(1.60)**	**(1.28)**	**(0.28)**	**(1.02)**	**(1.60)**	**(2.96)****	**(1.89)**	**(1.01)**	**(1.97)***	**(1.80)**	**(2.48)***	**(1.74)**
Dummy for 2000-7	-	-	-	-	-	-	-	-	-	-	-0.085	-0.017	-0.107	-0.104	-0.092
	-	-	-	-	-	-	-	-	-	-	(0.78)	(0.13)	(0.71)	(0.95)	(0.82)
Constant	-0.59	0.274	-0.815	0.01	0.027	-0.356	0.109	-1.247	0.318	0.129	-0.552	0.256	-0.863	0.031	0.024
	(2.11)*	(0.73)	(2.56)*	(0.04)	(0.09)	(1.14)	(0.30)	(2.83)**	(1.10)	(0.42)	(2.69)**	(1.00)	(3.53)**	(0.16)	(0.11)
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87
Poverty															
log(Income Gini)	1.402	1.533	1.465	1.522	1.497	2.347	3.102	2.444	1.312	2.648	1.612	2.422	1.802	1.249	1.748
	(1.92)	(2.00)*	(1.99)*	(2.18)*	(1.97)*	(1.84)	(2.42)*	(1.97)*	(0.88)	(2.38)*	(2.33)*	(2.53)*	(2.71)**	(1.82)	(2.64)**
Institution	**-0.41**	**0.186**	**-0.334**	**-0.784**	**0.264**	**-0.324**	**5.464**	**-0.276**	**-3.509**	**-0.569**	**-1.11**	**3.815**	**-0.595**	**-3.439**	**-0.595**
	(0.70)	**(0.31)**	**(1.12)**	**(1.28)**	**(0.35)**	**(0.22)**	**(4.29)****	**(0.49)**	**(2.05)***	**(0.54)**	**(1.49)**	**(2.77)****	**(1.91)**	**(4.18)****	**(0.79)**
Private Credit	-0.106	-0.087	-0.157	0.025	-0.246	1.237	1.68	1.273	1.915	1.246	0.343	-0.137	0.256	1.103	0.322
	(0.37)	(0.28)	(0.56)	(0.08)	(0.83)	(2.64)**	(3.08)**	(2.72)**	(3.42)**	(2.80)**	(1.20)	(0.30)	(0.96)	(3.34)**	(1.21)
log(GDP per capita)	**-0.65**	**-0.82**	**-0.68**	**-0.63**	**-0.71**	**-1.39**	**-3.31**	**-1.58**	**-0.85**	**-1.27**	**-0.81**	**-1.65**	**-1.01**	**-0.55**	**-0.79**
	(2.97)**	**(3.77)****	**(3.63)****	**(2.92)****	**(2.06)***	**(2.58)****	**(6.05)****	**(5.24)****	**(1.55)**	**(2.60)****	**(3.26)****	**(4.03)****	**(5.91)****	**(2.23)***	**(2.32)***
Dummy for 2000-7	-	-	-	-	-	-	-	-	-	-	-0.251	0.029	-0.208	-0.577	-0.22
	-	-	-	-	-	-	-	-	-	-	(1.48)	(0.09)	(1.30)	(2.74)**	(1.26)
Constant	0	2.179	1.543	1.206	0	6.173	19	0	4.937	4.104	1.407	0	3.175	1.177	1.183
	(.)	(0.61)	(0.50)	(0.40)	(.)	(1.17)	(2.85)**	(.)	(1.01)	(0.75)	(0.49)	(.)	(1.06)	(0.41)	(0.38)
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87
Private Credit															
log(Trade Share)(-1)	**0.69**	**0.261**	**1.295**	**0.072**	**0.195**	**0.273**	**-0.04**	**0.439**	**0.048**	**0.067**	**0.555**	**0.181**	**1.149**	**-0.035**	**0.156**
	(2.73)**	**(1.23)**	**(5.05)****	**(0.35)**	**(0.91)**	**(1.23)**	**(0.22)**	**(1.94)**	**(0.29)**	**(0.37)**	**(3.04)****	**(1.23)**	**(5.92)****	**(0.26)**	**(1.14)**
Institution	**-1.46**	**-0.38**	**-2.32**	**1.81**	**0.88**	**-1.65**	**-1.66**	**-0.94**	**1.35**	**-0.05**	**-1.885**	**-0.695**	**-2.5**	**2.293**	**0.671**
	(2.56)*	**(1.53)**	**(6.92)****	**(4.14)****	**(2.25)***	**(2.38)***	**(4.24)****	**(3.25)****	**(3.33)****	**(0.12)**	**(3.45)****	**(2.85)****	**(8.84)****	**(6.67)****	**(2.19)***
log(GDP per capita)(-1)	**0.495**	**0.473**	**0.422**	**0.127**	**0.196**	**0.588**	**0.742**	**0.459**	**0.193**	**0.407**	**0.546**	**0.491**	**0.526**	**0.072**	**0.239**
	(3.67)**	**(4.39)****	**(5.38)****	**(1.27)**	**(1.78)**	**(3.17)****	**(5.05)****	**(4.51)****	**(1.93)**	**(3.00)****	**(4.23)****	**(5.16)****	**(7.84)****	**(0.97)**	**(2.74)****
capital account liberalisation(-1)	**-0.59**	**-0.47**	**-0.66**	**-0.44**	**-0.45**	**-0.8**	**-0.71**	**-0.35**	**-0.73**	**-1.02**	-0.598	-0.805	-0.302	-0.42	-0.699
	(1.14)	**(0.92)**	**(1.70)**	**(0.86)**	**(0.83)**	**(1.47)**	**(1.51)**	**(0.78)**	**(1.51)**	**(2.10)***	(1.60)	(2.03)*	(1.17)	(1.25)	(1.95)
trade openness(-1) * capital account liberalisation(-1)	**0.15**	**0.12**	**0.16**	**0.11**	**0.13**	**0.16**	**0.16**	**0.06**	**0.17**	**0.23**	**0.136**	**0.195**	**0.047**	**0.105**	**0.181**
	(1.27)	**(1.04)**	**(1.82)**	**(0.95)**	**(1.06)**	**(1.29)**	**(1.43)**	**(0.52)**	**(1.50)**	**(2.00)***	**(1.55)**	**(2.09)***	**(0.78)**	**(1.34)**	**(2.16)***
Dummy for 2000-7	-	-	-	-	-	-	-	-	-	-	-0.09	0.052	-0.202	0.299	0.095
	-	-	-	-	-	-	-	-	-	-	(0.53)	(0.38)	(0.93)	(1.95)	(0.79)
Constant	-8.089	-5.823	-10.52	-1.963	-3.268	-7.31	-6.772	-6.878	-2.337	-4.578	-8.124	-5.771	-10.8	-0.996	-3.536
	(4.78)**	(5.48)**	(8.29)**	(1.56)	(2.44)*	(3.77)**	(5.43)**	(5.10)**	(2.06)*	(3.63)**	(5.41)**	(6.61)**	(10.10)*	(1.09)	(3.80)**
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 3 3SLS estimation for poverty headcount ratio in 1990-2006 (Specification II)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of Law	Case E Corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.873	0.894	0.983	0.791	0.648	0.608	0.612	0.806	0.351	0.453	0.183	0.788	0.576	0.063	0.227
	(3.31)**	(3.26)**	(3.51)**	(2.49)*	(2.23)*	(1.83)	(2.38)*	(2.39)*	(0.57)	(1.05)	(0.68)	(3.88)**	(2.24)*	(0.16)	(0.75)
log(Trade Share)	-0.496	-0.106	-0.634	-0.102	-0.219	0.313	0.037	-0.027	0.756	0.837	-0.319	-0.026	-1.054	0.089	0.286
	(2.01)*	(0.43)	(2.21)*	(0.39)	(0.88)	(1.08)	(0.15)	(0.10)	(1.61)	(2.07)*	(1.32)	(0.14)	(3.53)**	(0.31)	(1.15)
log(Income Gini)	-0.599	-0.528	-0.037	-1.116	-1.236	0.436	-0.008	0.113	1.317	0.126	-0.42	-0.239	-0.595	0.412	-0.608
	(0.76)	(0.68)	(0.05)	(1.25)	(1.51)	(0.42)	(0.01)	(0.10)	(1.12)	(0.13)	(0.60)	(0.42)	(0.86)	(0.53)	(0.86)
Institution	**2.423**	**1.469**	**1.178**	**2.407**	**2.173**	**4.077**	**2.263**	**2.885**	**4.14**	**2.434**	**4.564**	**2.647**	**3.745**	**5.859**	**2.911**
	(5.58)	**(4.55)**	**(2.94)**	**(4.37)**	**(6.21)**	**(6.35)**	**(6.47)**	**(5.52)**	**(3.91)**	**(4.53)**	**(8.75)**	**(8.46)**	**(7.19)**	**(6.34)**	**(7.53)**
Private Credit	**0.68**	**0.751**	**0.909**	**0.134**	**0.493**	**0.667**	**0.833**	**1.717**	**-0.149**	**0.629**	**0.65**	**0.685**	**1.759**	**-0.947**	**0.241**
	(3.16)	**(3.53)**	**(3.86)**	**(0.49)**	**(2.11)***	**(1.38)**	**(2.88)**	**(4.13)**	**(0.26)**	**(1.54)**	**(2.13)***	**(3.05)**	**(6.73)**	**(2.28)***	**(0.85)**
Dummy for	-	-	-	-	-	-	-	-	-	-	0.556	0.193	0.871	0.626	0.242
2000-7	-	-	-	-	-	-	-	-	-	-	(1.82)	(0.90)	(2.40)*	(1.82)	(1.05)
Constant	8.165	6.269	0	0	0	0	6.291	5.548	-1.82	3.44	11.076	6.294	15.454	5.164	0
	(2.58)**	(1.99)*	(.)	(.)	(.)	(.)	(2.07)*	(1.21)	(0.37)	(0.83)	(3.65)**	(2.63)**	(5.11)**	(1.57)	(.)
Observations	29	29	29	29	29	31	31	31	31	31	60	60	60	60	60
Trade Openness															
Institution	**0.644**	**-0.195**	**0.773**	**0.557**	**0.474**	**-0.248**	**0.009**	**0.221**	**-0.749**	**-0.504**	**0.187**	**-0.147**	**0.56**	**-0.026**	**-0.065**
	(2.18)*	**(1.04)**	**(3.82)**	**(2.09)***	**(1.88)**	**(1.00)**	**(0.05)**	**(1.47)**	**(2.88)**	**(2.73)**	**(0.85)**	**(1.04)**	**(3.80)**	**(0.12)**	**(0.37)**
log(physical isolation index)	0.016	0.03	0.033	-0.015	0.019	0.044	0.034	0.035	0.059	0.054	0.029	0.039	0.032	0.029	0.039
	(0.49)	(0.89)	(1.04)	(0.47)	(0.57)	(1.62)	(1.24)	(1.44)	(2.28)*	(2.13)*	(1.32)	(1.81)	(1.61)	(1.32)	(1.76)
log(country's size)	-0.142	-0.185	-0.108	-0.22	-0.181	-0.105	-0.103	-0.089	-0.085	-0.085	-0.131	-0.128	-0.102	-0.143	-0.136
	(2.29)*	(2.97)**	(1.74)	(3.78)**	(2.98)**	(2.41)*	(2.24)*	(2.05)*	(2.07)*	(2.02)*	(3.54)**	(3.40)**	(2.74)**	(4.01)**	(3.72)**
Dummy for	-	-	-	-	-	-	-	-	-	-	0.12	0.099	0.196	0.099	0.099
2000-7	-	-	-	-	-	-	-	-	-	-	(1.17)	(0.98)	(1.81)	(0.96)	(0.98)

Constant	6.049	6.365	5.811	6.987	6.509	5.372	5.441	5.421	4.886	5.027	5.76	5.651	5.615	5.84	5.752
	(7.60)**	(7.92)**	(7.45)**	(9.17)**	(8.21)**	(9.15)**	(8.97)**	(9.49)**	(8.78)**	(9.03)**	(11.80)**	(11.36)**	(11.75)**	(12.24)**	(11.92)**
Observations	29	29	29	29	29	31	31	31	31	31	60	60	60	60	60
Institution															
log(European settlers' mortality rate)	0.022	-0.039	0.102	-0.134	-0.035	-0.029	-0.026	0.114	-0.115	-0.107	0.015	-0.027	0.142	-0.078	-0.081
	(0.37)	(0.50)	(1.28)	(2.39)*	(0.48)	(0.43)	(0.31)	(1.19)	(1.99)*	(1.46)	(0.34)	(0.49)	(2.52)*	(2.12)*	(1.59)
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.096	-0.03	-0.176	-0.105	-0.066
	-	-	-	-	-	-	-	-	-	-	(0.74)	(0.20)	(1.01)	(0.81)	(0.46)
Constant	-0.476	0.007	-1.018	0.236	-0.206	-0.327	-0.089	-1.246	0.044	0.077	-0.441	-0.052	-1.209	-0.027	0.013
	(1.61)	(0.02)	(2.58)**	(0.84)	(0.57)	(0.96)	(0.21)	(2.59)**	(0.15)	(0.21)	(1.94)	(0.18)	(4.07)**	(0.13)	(0.05)
Observations	29	29	29	29	29	31	31	31	31	31	60	60	60	60	60
Poverty															
log(Income Gini)	2.043	1.686	1.721	2.71	2.144	3.187	2.969	3.423	2.505	3.214	2.653	2.085	2.567	1.67	2.653
	(2.03)*	(1.45)	(1.81)	(2.55)*	(2.02)*	(1.60)	(1.93)	(1.63)	(1.62)	(2.28)*	(2.79)**	(2.05)*	(2.79)**	(1.69)	(2.94)**
Institution	-1.522	-0.181	-1.08	-2.673	-0.857	3.3	3.035	4.19	-1.526	-0.168	-5.02	1.877	-2.215	-7.269	-1.518
	(2.31)*	(0.34)	(2.41)*	(3.40)**	(1.26)	(1.02)	(2.78)**	(2.98)**	(1.03)	(0.19)	(3.47)**	(2.46)*	(2.51)*	(5.81)**	(1.99)*
Private Credit	-0.134	0.017	-0.241	0.447	-0.249	1.548	1.599	2.912	1.506	1.281	0.042	0.631	-0.56	2.036	0.327
	(0.45)	(0.05)	(0.72)	(1.34)	(0.82)	(1.99)*	(2.61)**	(3.46)**	(2.54)*	(2.27)*	(0.11)	(1.63)	(1.29)	(4.42)**	(0.99)
log(GDP per capita)	-0.667	-0.952	-0.813	-0.603	-0.586	-1.883	-2.476	-2.507	-1.238	-1.398	0.001	-1.666	-0.694	-0.193	-0.636
	(2.66)**	(3.62)**	(4.00)**	(2.39)*	(1.75)	(1.70)	(5.03)**	(4.58)**	(2.63)**	(3.25)**	(0.00)	(5.59)**	(2.43)*	(0.63)	(1.85)
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.69	-0.018	-0.557	-0.885	-0.27
	-	-	-	-	-	-	-	-	-	-	(2.33)*	(0.07)	(1.94)	(2.58)*	(1.32)
Constant	-0.947	0	0	0	0	0	12.256	0	0	0	0	0	0	0	0
	(0.19)	(.)	(.)	(.)	(.)	(.)	(1.66)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Observations	29	29	29	29	29	31	31	31	31	31	60	60	60	60	60
Private Credit															
log(Trade Share)(-1)	1.317	0.955	1.365	0.62	1.227	-0.248	-0.473	-0.354	-0.16	-0.022	0.143	-0.155	0.029	-0.144	0.429
	(2.04)*	(1.92)	(2.59)**	(1.24)	(2.46)*	(0.51)	(1.03)	(0.82)	(0.37)	(0.04)	(0.44)	(0.46)	(0.10)	(0.56)	(1.35)
Institution	-2.193	-1.008	-1.471	1.897	-0.04	-0.758	-1.364	-0.779	1.204	0.144	-0.546	-1.296	-1.523	2.93	0.851
	(2.91)**	(3.10)**	(4.70)**	(3.97)**	(0.10)	(1.02)	(3.00)**	(2.49)*	(2.83)**	(0.33)	(0.77)	(3.52)**	(5.14)**	(7.99)**	(2.77)**
log(GDP per capita)(-1)	0.562	0.547	0.391	0.091	0.316	0.363	0.552	0.304	0.181	0.31	0.375	0.55	0.325	-0.014	0.22
	(3.18)**	(4.05)**	(3.98)**	(0.81)	(2.78)**	(2.09)*	(3.33)**	(2.43)*	(1.67)	(2.62)**	(2.44)*	(4.11)**	(3.55)**	(0.17)	(2.52)*
Log(Financial Globalisation)(-1)	-1.156	-1.147	-1.092	-0.644	-1.291	-0.014	0.289	0.253	0.047	-0.383	-0.06	0.027	0.481	0.095	-0.57

Trade openness(-1)*Financial Globalisation(-1)	(1.44)	(1.81)	(1.71)	(1.01)	(2.07)*	(0.02)	(0.40)	(0.36)	(0.07)	(0.51)	(0.14)	(0.06)	(1.27)	(0.27)	(1.37)
	0.363	**0.327**	**0.355**	**0.166**	**0.372**	**-0.001**	**-0.068**	**-0.05**	**-0.018**	**0.079**	**0.019**	**-0.002**	**-0.089**	**-0.028**	**0.13**
	(1.69)	**(2.02)***	**(2.11)***	**(0.97)**	**(2.24)***	**(0.00)**	**(0.42)**	**(0.33)**	**(0.13)**	**(0.48)**	**(0.19)**	**(0.02)**	**(1.03)**	**(0.36)**	**(1.38)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.132	-0.099	-0.453	0.294	0.051
	-	-	-	-	-	-	-	-	-	-	(0.72)	(0.51)	(2.04)*	(1.33)	(0.33)
Constant	-10.514	-8.766	-9.438	-3.744	-8.028	-3.367	-3.596	-2.599	-1.537	-3.611	-4.683	-4.735	-4.121	0.31	-4.488
	(3.04)**	(3.61)**	(3.96)**	(1.53)	(3.42)**	(1.33)	(1.40)	(1.08)	(0.69)	(1.51)	(2.31)*	(2.37)*	(2.49)*	(0.23)	(2.91)**
Observations	29	29	29	29	29	31	31	31	31	31	60	60	60	60	60

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 4 3SLS estimation for poverty headcount ratio in 1990-2006(Specification III)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.592	0.541	0.672	0.521	0.652	0.947	0.793	1.182	0.566	0.717	0.721	0.537	0.939	0.548	0.716
	(2.08)*	(1.97)*	(1.84)	(2.04)*	(2.39)*	(3.83)**	(2.70)**	(4.59)**	(2.01)*	(2.49)*	(3.43)**	(2.50)*	(4.18)**	(2.69)**	(3.15)**
log(Trade Share)	-0.171	-0.158	-0.232	-0.15	-0.054	-0.089	-0.131	-0.306	0.013	0.414	-0.171	-0.193	-0.334	-0.115	0.048
	(1.18)	(1.08)	(1.27)	(1.11)	(0.37)	(0.59)	(0.70)	(1.84)	(0.08)	(1.92)	(1.41)	(1.48)	(2.64)**	(0.94)	(0.31)
log(Income Gini)	0.87	1.109	0.953	0.754	0.147	-0.304	0.273	0.183	-0.366	-1.079	0.572	1.187	0.758	0.556	-0.101
	(1.20)	(1.64)	(1.25)	(1.15)	(0.19)	(0.64)	(0.50)	(0.40)	(0.65)	(1.55)	(1.11)	(2.35)*	(1.61)	(1.05)	(0.14)
Institution	**0.302**	**0.022**	**0.225**	**0.532**	**0.748**	**1.21**	**0.667**	**0.675**	**1.445**	**1.803**	**0.707**	**0.282**	**0.52**	**0.802**	**0.962**
	(0.95)	**(0.09)**	**(0.74)**	**(1.82)**	**(2.10)***	**(5.66)****	**(3.77)****	**(5.43)****	**(4.69)****	**(4.16)****	**(3.30)****	**(1.81)**	**(3.71)****	**(3.27)****	**(2.85)****
Private Credit	**0.339**	**0.423**	**0.326**	**0.268**	**0.352**	**-0.422**	**0.095**	**-0.369**	**-0.517**	**-0.541**	**0.082**	**0.427**	**0.02**	**0.026**	**0.066**
	(1.96)*	**(2.49)***	**(1.64)**	**(1.64)**	**(2.22)***	**(2.02)***	**(0.43)**	**(1.82)**	**(2.04)***	**(1.99)***	**(0.46)**	**(2.51)***	**(0.11)**	**(0.14)**	**(0.32)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	0.215	0.12	0.281	0.264	0.174
	-	-	-	-	-	-	-	-	-	-	(2.03)*	(1.06)	(2.49)*	(2.42)*	(1.63)
Constant	2.269	1.7	1.795	2.828	4.154	3.481	2.927	1.35	5.121	5.415	2.271	1.577	0.979	2.828	3.827
	(0.79)	(0.59)	(0.64)	(1.06)	(1.48)	(1.82)	(1.29)	(0.71)	(2.24)*	(2.25)*	(1.25)	(0.82)	(0.58)	(1.49)	(1.76)
Observations	18	18	18	18	18	18	18	18	18	18	36	36	36	36	36
Trade Openness															
Institution	**0.316**	**-0.03**	**0.325**	**0.414**	**0.182**	**0.251**	**0.157**	**0.057**	**0.437**	**0.229**	**0.28**	**0.08**	**0.134**	**0.419**	**0.208**
	(1.50)	**(0.19)**	**(2.51)***	**(2.48)***	**(0.77)**	**(1.30)**	**(1.04)**	**(0.52)**	**(2.35)***	**(0.83)**	**(1.93)**	**(0.71)**	**(1.54)**	**(3.27)****	**(1.14)**
log(physical isolation index)	0.084	0.096	0.085	0.088	0.094	0.087	0.082	0.096	0.093	0.097	0.085	0.09	0.089	0.091	0.095
	(3.32)**	(3.56)**	(3.70)**	(3.82)**	(3.63)**	(3.14)**	(2.74)**	(3.40)**	(3.77)**	(3.53)**	(4.41)**	(4.31)**	(4.62)**	(5.18)**	(4.91)**
log(country's size)	-0.394	-0.414	-0.352	-0.4	-0.414	-0.298	-0.304	-0.308	-0.294	-0.311	-0.351	-0.355	-0.346	-0.351	-0.365
	(8.37)**	(8.41)**	(7.34)**	(9.64)**	(8.88)**	(6.00)**	(6.06)**	(5.75)**	(6.63)**	(6.23)**	(9.91)**	(9.75)**	(8.95)**	(11.09)**	(10.37)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	0.204	0.183	0.206	0.234	0.193
	-	-	-	-	-	-	-	-	-	-	(2.11)*	(1.82)	(2.11)*	(2.57)*	(1.93)

Constant	9.332	9.474	8.87	9.42	9.561	8.263	8.249	8.342	8.304	8.44	8.766	8.728	8.67	8.798	8.935
	(15.08)**	(14.43)**	(14.62)**	(16.72)**	(14.93)**	(12.60)**	(12.19)**	(11.99)**	(13.72)**	(12.03)**	(18.61)**	(17.75)**	(17.28)**	(20.31)**	(18.22)**
Observations	18	18	18	18	18	18	18	18	18	18	36	36	36	36	36
Poverty															
log(Income Gini)	0.584	0.172	0.386	0.403	0.526	1.071	0.77	1.128	0.944	1.01	0.259	-0.124	0.444	-0.234	-0.069
	(0.46)	(0.14)	(0.28)	(0.34)	(0.42)	(0.96)	(0.84)	(1.02)	(0.80)	(0.86)	(0.25)	(0.13)	(0.42)	(0.24)	(0.07)
Institution	-0.907	-0.549	-0.44	-0.945	-0.641	-0.277	0.634	-0.129	-1.722	-0.459	-0.437	0.052	-0.255	-0.658	-0.293
	(1.58)	(1.27)	(1.09)	(1.57)	(0.99)	(0.35)	(1.48)	(0.34)	(1.57)	(0.46)	(0.89)	(0.16)	(0.89)	(1.11)	(0.50)
Private Credit	0.668	0.64	0.729	0.577	0.514	0.235	-0.069	0.248	0.556	0.19	0.366	0.056	0.517	0.216	0.151
	(2.00)*	(1.89)	(1.96)*	(1.77)	(1.58)	(0.42)	(0.18)	(0.45)	(0.91)	(0.41)	(0.98)	(0.17)	(1.28)	(0.59)	(0.45)
log(GDP per capita)	-0.828	-0.799	-0.986	-0.686	-0.825	-0.925	-1.328	-1.02	-0.441	-0.923	-0.81	-0.871	-0.85	-0.687	-0.892
	(2.25)*	(2.13)*	(2.60)**	(1.79)	(2.18)*	(2.05)*	(3.89)**	(2.49)*	(0.87)	(2.30)*	(2.58)*	(2.84)**	(2.77)**	(2.10)*	(2.90)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.154	-0.069	-0.18	-0.198	-0.09
	-	-	-	-	-	-	-	-	-	-	(0.65)	(0.32)	(0.73)	(0.79)	(0.40)
Constant	5.628	7.078	7.591	5.433	5.958	4.202	8.26	4.748	1.349	4.38	6.54	8.116	6.328	7.382	8.223
	(1.07)	(1.41)	(1.48)	(1.07)	(1.09)	(0.75)	(1.97)*	(0.96)	(0.22)	(0.79)	(1.60)	(2.16)*	(1.62)	(1.83)	(1.97)*
Observations	18	18	18	18	18	18	18	18	18	18	36	36	36	36	36
Inequality															
Log(land gini)	0.419	0.434	0.402	0.448	0.427	0.603	0.587	0.638	0.621	0.616	0.495	0.51	0.517	0.516	0.492
	(1.94)	(2.04)*	(1.87)	(2.08)*	(1.98)*	(3.26)**	(3.14)**	(3.48)**	(3.38)**	(3.32)**	(3.47)**	(3.59)**	(3.64)**	(3.62)**	(3.44)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	0.01
	-	-	-	-	-	-	-	-	-	-	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Constant	2.049	1.985	2.116	1.928	2.014	1.307	1.373	1.164	1.232	1.255	1.738	1.675	1.647	1.652	1.748
	(2.32)*	(2.28)*	(2.41)*	(2.19)*	(2.28)*	(1.72)	(1.79)	(1.55)	(1.64)	(1.65)	(2.97)**	(2.88)**	(2.83)**	(2.83)**	(2.98)**
Observations	18	18	18	18	18	18	18	18	18	18	36	36	36	36	36
Private Credit															
log(Trade Share)(-1)	-0.113	-0.031	-0.358	-0.068	-0.006	0.371	0.364	0.397	0.355	0.349	0.172	0.192	0.123	0.194	0.235
	(0.41)	(0.11)	(1.13)	(0.26)	(0.02)	(1.78)	(1.84)	(1.85)	(1.75)	(1.71)	(0.94)	(1.07)	(0.62)	(1.13)	(1.29)
Institution	0.891	0.513	0.754	0.779	0.009	-0.024	-0.213	-0.055	0.335	0.039	0.425	0.123	0.206	0.613	0.054
	(2.22)*	(1.70)	(2.69)**	(2.38)*	(0.02)	(0.06)	(0.77)	(0.29)	(0.93)	(0.08)	(1.44)	(0.56)	(1.20)	(2.42)*	(0.14)
log(GDP per capita)(-1)	0.309	0.304	0.385	0.333	0.368	0.267	0.343	0.263	0.237	0.264	0.273	0.314	0.297	0.272	0.309
	(2.50)*	(2.40)*	(3.13)**	(2.76)**	(2.57)*	(2.10)*	(2.64)**	(2.22)*	(2.04)*	(2.10)*	(2.89)**	(3.22)**	(3.26)**	(3.13)**	(3.12)**
capital account liberalisation(-1)	0.383	0.58	0.395	0.288	0.176	-1.142	-1.119	-1.108	-1.048	-1.232	-0.347	-0.261	-0.324	-0.421	-0.565
	(0.55)	(0.81)	(0.58)	(0.42)	(0.24)	(2.13)*	(2.22)*	(2.07)*	(1.97)*	(2.35)*	(0.77)	(0.57)	(0.73)	(0.96)	(1.23)
trade	-0.063	-0.118	-0.064	-0.038	-0.022	0.28	0.276	0.273	0.256	0.303	0.103	0.078	0.101	0.121	0.15

openness(-1) * capital account liberalisation(-1)	(0.40)	(0.71)	(0.40)	(0.24)	(0.13)	(2.26)*	(2.36)*	(2.20)*	(2.08)*	(2.49)*	(0.98)	(0.73)	(0.98)	(1.18)	(1.40)
Dummy for	-	-	-	-	-	-	-	-	-	-	0.077	0.033	0.078	0.12	0.053
2000-6	-	-	-	-	-	-	-	-	-	-	(0.40)	(0.17)	(0.40)	(0.67)	(0.28)
Constant	-2.534	-3.017	-2	-2.994	-3.749	-4.673	-5.195	-4.78	-4.236	-4.547	-3.7	-4.181	-3.708	-3.766	-4.376
	(2.04)*	(2.58)*	(1.51)	(2.74)**	(2.74)**	(3.60)**	(4.46)**	(3.89)**	(3.78)**	(3.90)**	(3.88)**	(4.66)**	(3.89)**	(4.65)**	(4.66)**
Observations	18	18	18	18	18	18	18	18	18	18	36	36	36	36	36

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 5 3SLS estimation for poverty headcount ratio in 1990-2006(Specification IV)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.293 (1.81)	0.296 (1.77)	0.253 (1.46)	0.308 (1.95)	0.253 (1.65)	0.299 (1.59)	0.284 (1.53)	0.254 (1.39)	0.324 (1.75)	0.358 (1.86)	0.281 (2.30)*	0.263 (2.10)*	0.251 (2.03)*	0.285 (2.44)*	0.281 (2.31)*
log(Trade Share)	-0.344 (1.63)	-0.296 (1.37)	-0.422 (1.64)	-0.282 (1.39)	-0.26 (1.32)	0.016 (0.06)	0 (0.00)	0.004 (0.02)	0.037 (0.15)	-0.032 (0.12)	-0.192 (1.06)	-0.153 (0.83)	-0.239 (1.21)	-0.146 (0.82)	-0.157 (0.88)
log(Income Gini)	0.186 (0.36)	0.058 (0.11)	0.127 (0.23)	0.076 (0.15)	0.283 (0.57)	-0.57 (0.84)	-0.49 (0.76)	-0.573 (0.87)	-0.595 (0.93)	-0.536 (0.85)	-0.291 (0.70)	-0.323 (0.77)	-0.345 (0.82)	-0.267 (0.69)	-0.271 (0.67)
Institution	**0.158** (0.69)	**0.219** (1.14)	**0.111** (0.61)	**0.027** (0.13)	**0.201** (1.02)	**-0.278** (1.00)	**0.007** (0.03)	**-0.041** (0.25)	**-0.58** (2.12)*	**-0.487** (1.67)	**-0.176** (0.88)	**0.042** (0.25)	**0.014** (0.11)	**-0.401** (2.15)*	**-0.262** (1.35)
Private Credit	**1.333** (5.96)**	**1.361** (5.95)**	**1.556** (7.07)**	**1.337** (5.93)**	**1.219** (5.37)**	**1.894** (5.50)**	**1.756** (5.19)**	**1.844** (6.75)**	**2.029** (5.97)**	**1.967** (5.62)**	**1.86** (8.43)**	**1.853** (8.09)**	**1.917** (10.10)**	**1.894** (8.92)**	**1.845** (8.16)**
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.042 (0.27)	0.056 (0.35)	0.062 (0.38)	0.007 (0.04)	0.021 (0.14)
Constant	8.731 (3.78)**	9.055 (3.83)**	9.855 (3.86)**	8.652 (3.87)**	8.021 (3.58)**	10.893 (3.50)**	10.574 (3.45)**	11.158 (3.73)**	10.844 (3.63)**	10.713 (3.59)**	10.719 (5.51)**	10.766 (5.32)**	11.398 (5.85)**	10.397 (5.73)**	10.454 (5.50)**
Observations	54	54	54	54	54	65	65	65	65	65	119	119	119	119	119
Trade Openness															
Institution	**0.223** (1.76)	**0.025** (0.25)	**0.264** (2.85)**	**0.193** (1.72)	**0.118** (1.00)	**0.251** (2.84)**	**0.156** (2.01)*	**0.228** (3.84)**	**0.206** (2.33)*	**0.123** (1.27)	**0.245** (3.30)**	**0.103** (1.65)	**0.243** (4.74)**	**0.204** (2.89)**	**0.123** (1.62)
log(physical isolation index)	-0.003 (0.14)	0.002 (0.07)	0.012 (0.56)	-0.004 (0.19)	-0.003 (0.14)	-0.001 (0.04)	0 (0.02)	0.007 (0.39)	0.002 (0.13)	0.006 (0.30)	-0.002 (0.12)	0.002 (0.13)	0.008 (0.62)	0 (0.01)	0.001 (0.09)
log(country's size)	-0.163 (3.97)**	-0.178 (4.32)**	-0.134 (3.23)**	-0.171 (4.27)**	-0.177 (4.42)**	-0.105 (3.60)**	-0.112 (3.78)**	-0.094 (3.36)**	-0.108 (3.65)**	-0.112 (3.70)**	-0.131 (5.37)**	-0.14 (5.65)**	-0.114 (4.79)**	-0.136 (5.58)**	-0.142 (5.74)**
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.149 (2.04)*	0.136 (1.80)	0.152 (2.17)*	0.156 (2.10)*	0.147 (1.94)
Constant	6.214 (12.21)**	6.347 (12.26)**	5.906 (11.67)**	6.306 (12.61)**	6.356 (12.64)**	5.639 (15.53)**	5.672 (15.24)**	5.532 (15.87)**	5.683 (15.38)**	5.703 (15.06)**	5.812 (18.91)**	5.873 (18.66)**	5.638 (18.89)**	5.873 (19.04)**	5.917 (18.89)**
Observations	54	54	54	54	54	65	65	65	65	65	119	119	119	119	119
Poverty															
log(Income Gini)	1.361 (2.21)*	1.434 (2.22)*	1.332 (2.10)*	1.619 (2.71)**	1.195 (1.93)	1.218 (1.07)	1.48 (1.34)	1.049 (0.89)	1.42 (1.31)	1.671 (1.62)	1.222 (1.93)	1.248 (1.94)	1.149 (1.78)	1.495 (2.49)*	1.379 (2.26)*

Institution	**-0.627**	**-0.292**	**-0.316**	**-0.738**	**-0.632**	**-0.84**	**-0.407**	**-0.36**	**-1.003**	**-0.949**	**-0.842**	**-0.45**	**-0.396**	**-0.949**	**-0.857**
	(2.94)**	(1.56)	(2.27)*	(3.67)**	(3.11)**	(2.28)*	(1.34)	(1.62)	(2.76)**	(2.57)*	(3.69)**	(2.36)*	(2.91)**	(4.32)**	(3.83)**
Private Credit	0.352	0.269	0.369	0.435	0.329	1.93	1.688	2.12	1.728	1.499	1.473	1.614	1.552	1.362	1.275
	(1.17)	(0.86)	(1.20)	(1.46)	(1.11)	(2.67)**	(2.38)*	(2.91)**	(2.51)*	(2.36)*	(3.48)**	(3.60)**	(3.62)**	(3.37)**	(3.23)**
log(GDP per capita)	**-0.791**	**-0.836**	**-0.944**	**-0.772**	**-0.684**	**-2.003**	**-2.001**	**-2.286**	**-1.852**	**-1.723**	**-1.531**	**-1.676**	**-1.747**	**-1.437**	**-1.368**
	(4.53)**	(4.56)**	(5.23)**	(4.56)**	(3.78)**	(6.33)**	(6.11)**	(6.47)**	(6.19)**	(5.97)**	(8.05)**	(8.09)**	(8.32)**	(7.91)**	(7.45)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.277	-0.231	-0.24	-0.317	-0.302
	-	-	-	-	-	-	-	-	-	-	(1.67)	(1.36)	(1.42)	(1.95)	(1.88)
Constant	2.143	2.221	3.388	1.413	2.123	14.336	13.156	17.472	12.006	9.782	10.261	11.643	12.317	8.346	8.122
	(0.73)	(0.71)	(1.09)	(0.50)	(0.72)	(2.29)*	(2.12)*	(2.57)*	(2.04)*	(1.80)	(2.95)**	(3.15)**	(3.30)**	(2.58)**	(2.50)*
Observations	54	54	54	54	54	65	65	65	65	65	119	119	119	119	119
Private Credit															
log(Trade Share)(-1)	**0.101**	**0.138**	**0.166**	**0.053**	**0.072**	**-0.017**	**0**	**0.021**	**-0.048**	**-0.012**	**0.004**	**0.013**	**0.048**	**-0.038**	**-0.016**
	(0.51)	(0.71)	(0.80)	(0.28)	(0.37)	(0.10)	(0.00)	(0.12)	(0.31)	(0.08)	(0.03)	(0.11)	(0.38)	(0.32)	(0.14)
Institution	**0.163**	**-0.025**	**0.009**	**0.315**	**0.16**	**0.192**	**-0.017**	**-0.015**	**0.425**	**0.369**	**0.21**	**0.006**	**0.015**	**0.396**	**0.291**
	(0.87)	(0.17)	(0.07)	(1.92)	(0.93)	(1.18)	(0.12)	(0.13)	(2.93)**	(2.31)*	(1.68)	(0.05)	(0.17)	(3.60)**	(2.45)*
log(GDP per capita)(-1)	**0.45**	**0.475**	**0.465**	**0.428**	**0.445**	**0.404**	**0.455**	**0.447**	**0.363**	**0.361**	**0.409**	**0.437**	**0.434**	**0.386**	**0.393**
	(5.85)**	(5.90)**	(6.38)**	(5.80)**	(5.73)**	(5.03)**	(5.47)**	(6.01)**	(4.99)**	(4.62)**	(7.38)**	(7.49)**	(8.27)**	(7.59)**	(7.22)**
capital account liberalisation(-1)	**-0.092**	**-0.112**	**-0.129**	**-0.123**	**-0.044**	**-0.198**	**-0.277**	**-0.243**	**-0.048**	**-0.141**	**-0.044**	**-0.064**	**-0.069**	**-0.003**	**-0.031**
	(0.22)	(0.26)	(0.31)	(0.30)	(0.10)	(0.48)	(0.66)	(0.60)	(0.12)	(0.35)	(0.18)	(0.25)	(0.28)	(0.01)	(0.12)
trade openness(-1) * capital account liberalisation(-1)	**0.035**	**0.04**	**0.041**	**0.04**	**0.027**	**0.038**	**0.056**	**0.048**	**0.006**	**0.027**	**0.009**	**0.014**	**0.015**	**0**	**0.007**
	(0.35)	(0.40)	(0.42)	(0.42)	(0.27)	(0.41)	(0.59)	(0.52)	(0.06)	(0.30)	(0.15)	(0.24)	(0.25)	(0.01)	(0.12)
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.032	-0.046	-0.05	0.001	-0.016
	-	-	-	-	-	-	-	-	-	-	(0.28)	(0.40)	(0.43)	(0.01)	(0.14)
Constant	-4.862	-5.236	-5.286	-4.482	-4.704	-4.17	-4.66	-4.695	-3.637	-3.813	-4.235	-4.531	-4.642	-3.844	-4.017
	(5.14)**	(5.86)**	(5.77)**	(4.97)**	(5.01)**	(4.51)**	(5.27)**	(5.17)**	(4.29)**	(4.41)**	(6.62)**	(7.38)**	(7.39)**	(6.48)**	(6.54)**
Observations	54	54	54	54	54	65	65	65	65	65	119	119	119	119	119

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 6 3SLS estimation for poverty headcount ratio in 1990-2006(Specification V)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.836 (2.75)**	0.713 (3.02)**	0.512 (1.53)	0.63 (3.16)**	0.504 (2.61)**	0.548 (0.94)	0.917 (4.07)**	3.989 (1.33)	-0.731 (0.66)	-0.339 (0.46)	0.345 (0.75)	0.767 (1.82)	0.873 (2.77)**	0.468 (2.53)*	0.285 (1.43)
log(Trade Share)	-2.123 (2.34)*	-0.127 (0.50)	0.843 (0.55)	-0.419 (1.37)	-0.573 (2.05)*	-2.212 (1.55)	-0.164 (0.61)	-7.805 (0.55)	-2.964 (1.67)	-0.536 (0.98)	-5.542 (2.07)*	0.241 (0.44)	0.433 (0.23)	-0.623 (1.60)	-0.657 (2.30)*
log(Income Gini)	0.598 (0.66)	-0.463 (0.72)	1.061 (0.83)	-0.381 (0.64)	0.083 (0.14)	2.27 (0.99)	0.404 (0.69)	18.076 (0.99)	6.977 (1.76)	1.491 (1.44)	4.601 (1.46)	-0.436 (0.42)	1.823 (1.15)	0.562 (0.96)	0.674 (1.28)
Institution	**5.53** (2.80)**	**1.07** (1.58)	**-1.773** (1.17)	**1.588** (2.09)*	**2.568** (4.04)**	**6.512** (1.76)	**1.152** (2.35)*	**6.642** (0.43)	**14.014** (2.41)*	**5.745** (3.12)**	**17.193** (2.52)*	**4.553** (1.89)	**-1.752** (0.90)	**3.012** (2.66)**	**3.734** (5.04)**
Private Credit	**-0.63** (1.10)	**0.245** (1.12)	**0.337** (1.23)	**0.144** (0.60)	**-0.053** (0.21)	**-0.811** (0.58)	**0.131** (0.58)	**-3.379** (0.80)	**-3.795** (1.59)	**-1.309** (1.58)	**-3.582** (1.62)	**-0.541** (0.71)	**0.089** (0.20)	**-0.274** (0.70)	**-0.478** (1.59)
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	1.996 (1.88)	0.172 (0.41)	-0.153 (0.29)	0.42 (1.80)	0.481 (2.19)*
Constant	11.357 (3.57)**	6.506 (2.60)**	-2.945 (0.70)	7.313 (3.08)**	7.218 (3.39)**	0 (.)	0 (.)	0 (.)	-0.987 (0.13)	0 (.)	16.452 (2.91)**	4.287 (1.04)	-5.28 (1.19)	5.789 (3.04)**	6.713 (3.44)**
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87
Trade Openness															
Institution	**1.059** (3.65)**	**-0.058** (0.35)	**1.041** (5.80)**	**0.923** (2.89)**	**1.306** (3.72)**	**0.789** (4.12)**	**0.332** (2.36)*	**0.623** (5.20)**	**0.398** (1.98)*	**0.515** (2.74)**	**0.819** (4.68)**	**0.049** (0.43)	**0.871** (7.83)**	**0.694** (3.61)**	**0.861** (4.54)**
log(physical isolation index)	-0.002 (0.06)	0.039 (1.30)	0.06 (2.29)*	-0.004 (0.12)	-0.011 (0.26)	0.008 (0.36)	0.025 (1.05)	0.037 (1.74)	0.036 (1.41)	0.032 (1.29)	0.021 (1.05)	0.04 (2.07)*	0.046 (2.76)**	0.003 (0.17)	0.014 (0.64)
log(country's size)	-0.107 (1.99)*	-0.158 (3.30)**	-0.04 (0.85)	-0.138 (2.70)**	-0.134 (2.75)**	-0.079 (2.29)*	-0.117 (3.36)**	-0.036 (1.26)	-0.095 (2.88)**	-0.097 (2.88)**	-0.099 (3.44)**	-0.131 (4.57)**	-0.041 (1.58)	-0.134 (4.49)**	-0.125 (4.34)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	0.133 (1.41)	0.073 (0.86)	0.157 (1.62)	0.144 (1.51)	0.154 (1.50)
Constant	5.762 (9.05)**	6.096 (10.33)**	5.128 (9.19)**	6.131 (10.06)**	6.15 (10.31)**	5.464 (12.57)**	5.714 (12.92)**	4.976 (14.07)**	5.576 (13.25)**	5.616 (13.06)**	5.621 (15.83)**	5.773 (16.00)**	5.039 (15.72)**	6.008 (16.25)**	5.933 (16.32)**
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87

Institution log(European settlers' mortality rate)	**-0.024**	**-0.174**	**0.095**	**-0.081**	**-0.025**	**-0.042**	**-0.116**	**0.075**	**-0.068**	**-0.055**	**-0.033**	**-0.133**	**0.081**	**-0.066**	**-0.033**
	(0.39)	**(2.16)***	**(1.24)**	**(1.29)**	**(0.42)**	**(0.70)**	**(1.48)**	**(0.85)**	**(1.14)**	**(0.87)**	**(0.77)**	**(2.71)****	**(1.39)**	**(1.45)**	**(0.78)**
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.076	-0.013	-0.107	-0.106	-0.097
	-	-	-	-	-	-	-	-	-	-	(0.69)	(0.10)	(0.71)	(0.97)	(0.87)
Constant	-0.244	0.614	-0.923	-0.001	-0.221	-0.231	0.324	-0.93	-0.168	-0.169	-0.202	0.418	-0.853	-0.072	-0.179
	(0.81)	(1.55)	(2.41)*	(0.00)	(0.75)	(0.75)	(0.82)	(2.08)*	(0.55)	(0.52)	(0.92)	(1.66)	(2.86)**	(0.31)	(0.81)
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87
Poverty log(Income Gini)	1.445	1.419	1.643	1.486	1.389	2.357	1.631	2.838	1.429	2.224	1.924	1.411	2.203	1.581	1.857
	(2.50)*	(2.30)*	(2.80)**	(2.70)**	(2.54)*	(2.63)**	(1.71)	(3.16)**	(1.50)	(2.63)**	(3.72)**	(2.48)*	(4.19)**	(3.15)**	(3.76)**
Institution	**-0.047**	**0.459**	**-0.336**	**-0.053**	**-0.295**	**-2.011**	**1.211**	**-1.533**	**-3.074**	**-1.582**	**-1.002**	**0.932**	**-0.901**	**-2.054**	**-1.637**
	(0.09)	**(1.44)**	**(1.35)**	**(0.08)**	**(0.50)**	**(2.55)***	**(2.33)***	**(4.18)****	**(2.70)****	**(2.00)***	**(2.06)***	**(2.79)****	**(3.88)****	**(2.60)****	**(2.96)****
Private Credit	0.139	0.143	0.163	0.169	0.165	0.49	0.016	0.368	0.93	0.513	0.316	0.055	0.255	0.637	0.495
	(0.63)	(0.71)	(0.85)	(0.62)	(0.64)	(1.40)	(0.06)	(1.32)	(1.73)	(1.38)	(1.55)	(0.31)	(1.52)	(1.98)*	(2.04)*
log(GDP per capita)	**-1.162**	**-1.288**	**-1.172**	**-1.193**	**-1.138**	**-1.23**	**-1.49**	**-1.353**	**-1.276**	**-1.275**	**-1.214**	**-1.377**	**-1.279**	**-1.221**	**-1.224**
	(7.73)**	**(7.68)****	**(8.26)****	**(7.98)****	**(7.78)****	**(5.91)****	**(6.59)****	**(6.63)****	**(5.85)****	**(6.28)****	**(9.53)****	**(9.40)****	**(10.36)****	**(9.47)****	**(9.72)****
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.214	-0.101	-0.225	-0.372	-0.303
	-	-	-	-	-	-	-	-	-	-	(1.24)	(0.54)	(1.32)	(1.79)	(1.63)
Constant	5.407	6.488	4.618	5.503	5.405	1.935	6.946	0.784	5.768	2.962	3.874	7.107	3.105	5.257	4.268
	(2.48)*	(2.62)**	(2.20)*	(2.78)**	(2.76)**	(0.64)	(2.03)*	(0.26)	(1.83)	(1.07)	(2.09)*	(3.23)**	(1.71)	(3.11)**	(2.55)*
Observations	44	44	44	44	44	43	43	43	43	43	87	87	87	87	87

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 7 3SLS estimation for poverty headcount ratio in 1990-2006(Specification VI)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.568 (3.53)**	0.598 (3.69)**	0.551 (3.08)**	0.546 (3.49)**	0.463 (2.98)**	0.615 (3.90)**	0.622 (4.06)**	0.704 (4.30)**	0.61 (3.78)**	0.567 (3.51)**	0.576 (5.18)**	0.609 (5.56)**	0.631 (5.25)**	0.555 (4.98)**	0.5 (4.51)**
log(Trade Share)	-0.228 (0.95)	-0.016 (0.08)	0.072 (0.24)	-0.19 (0.86)	-0.089 (0.43)	-0.687 (2.09)*	-0.51 (1.72)	-0.639 (1.72)	-0.651 (1.98)*	-0.589 (1.91)	-0.457 (2.22)*	-0.259 (1.39)	-0.315 (1.29)	-0.432 (2.16)*	-0.364 (1.95)
log(Income Gini)	0.387 (0.81)	0.291 (0.61)	0.384 (0.72)	0.106 (0.23)	0.35 (0.76)	0.707 (1.41)	0.54 (1.12)	0.766 (1.36)	0.618 (1.22)	0.478 (0.96)	0.53 (1.56)	0.426 (1.29)	0.475 (1.26)	0.38 (1.13)	0.395 (1.20)
Institution	**0.635 (3.76)****	**0.463 (3.55)****	**0.075 (0.47)**	**0.651 (4.35)****	**0.635 (4.69)****	**0.639 (4.38)****	**0.512 (4.46)****	**0.353 (2.89)****	**0.576 (3.98)****	**0.566 (3.97)****	**0.64 (5.76)****	**0.488 (5.69)****	**0.242 (2.48)***	**0.614 (5.91)****	**0.615 (6.26)****
Private Credit	**0.335 (3.17)****	**0.359 (3.43)****	**0.45 (3.98)****	**0.284 (2.68)****	**0.305 (2.97)****	**0.352 (3.05)****	**0.369 (3.26)****	**0.483 (4.19)****	**0.354 (2.94)****	**0.349 (2.78)****	**0.335 (4.34)****	**0.36 (4.75)****	**0.469 (5.85)****	**0.309 (3.92)****	**0.314 (3.98)****
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.121 (1.32)	0.069 (0.80)	0.059 (0.60)	0.133 (1.45)	0.106 (1.20)
Constant	4.711 (2.53)*	3.934 (2.14)*	3.723 (1.81)	5.562 (3.02)**	4.881 (2.75)**	5.54 (2.49)*	5.22 (2.42)*	4.842 (2.11)*	5.771 (2.53)*	6.209 (2.75)**	5.189 (3.69)**	4.481 (3.26)**	4.701 (3.09)**	5.706 (4.02)**	5.71 (4.13)**
Observations	61	61	61	61	61	65	65	65	65	65	126	126	126	126	126
Trade Openness															
Institution	**0.305 (2.62)****	**0.097 (1.05)**	**0.31 (3.62)****	**0.255 (2.39)***	**0.171 (1.49)**	**0.262 (2.97)****	**0.162 (2.09)***	**0.23 (3.87)****	**0.218 (2.47)***	**0.139 (1.44)**	**0.287 (4.01)****	**0.137 (2.28)***	**0.264 (5.31)****	**0.241 (3.48)****	**0.156 (2.08)***
log(physical isolation index)	-0.017 (0.77)	-0.011 (0.50)	0.008 (0.38)	-0.018 (0.85)	-0.018 (0.80)	-0.009 (0.54)	-0.005 (0.25)	0 (0.03)	-0.007 (0.40)	-0.004 (0.24)	-0.013 (0.93)	-0.007 (0.45)	0.003 (0.22)	-0.012 (0.90)	-0.011 (0.72)
log(country's size)	-0.146 (3.77)**	-0.166 (4.18)**	-0.118 (3.02)**	-0.157 (4.10)**	-0.169 (4.36)**	-0.104 (3.56)**	-0.112 (3.76)**	-0.095 (3.35)**	-0.107 (3.60)**	-0.112 (3.65)**	-0.124 (5.17)**	-0.135 (5.52)**	-0.108 (4.60)**	-0.129 (5.39)**	-0.136 (5.56)**
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.132 (1.87)	0.114 (1.55)	0.141 (2.08)*	0.135 (1.87)	0.121 (1.64)
Constant	6.012 (12.65)**	6.199 (12.58)**	5.724 (12.11)**	6.133 (13.02)**	6.254 (13.07)**	5.619 (15.36)**	5.664 (15.08)**	5.525 (15.70)**	5.658 (15.21)**	5.679 (14.87)**	5.727 (19.19)**	5.825 (18.91)**	5.564 (19.18)**	5.797 (19.28)**	5.862 (19.05)**
Observations	61	61	61	61	61	65	65	65	65	65	126	126	126	126	126
Poverty															
log(Income	2.189	2.253	2.335	2.331	2.163	2.179	2.314	2.172	2.218	2.322	2.242	2.321	2.271	2.335	2.281

Gini)															
	(3.28)**	(3.28)**	(3.32)**	(3.60)**	(3.15)**	(2.33)*	(2.47)*	(2.28)*	(2.40)*	(2.52)*	(3.97)**	(4.06)**	(3.99)**	(4.23)**	(4.06)**
Institution	**-0.27**	**-0.067**	**-0.211**	**-0.301**	**-0.222**	**-0.467**	**-0.307**	**-0.212**	**-0.52**	**-0.615**	**-0.36**	**-0.162**	**-0.22**	**-0.405**	**-0.393**
	(1.02)	**(0.30)**	**(1.39)**	**(1.11)**	**(0.67)**	**(1.53)**	**(1.05)**	**(1.18)**	**(1.73)**	**(1.77)**	**(1.72)**	**(0.86)**	**(1.86)**	**(1.94)**	**(1.59)**
Private Credit	-0.024	-0.014	0.043	0.013	-0.05	-0.202	-0.254	-0.27	-0.173	-0.188	-0.056	-0.081	-0.055	-0.028	-0.086
	(0.13)	(0.07)	(0.19)	(0.07)	(0.25)	(0.79)	(0.98)	(1.01)	(0.68)	(0.73)	(0.35)	(0.49)	(0.31)	(0.18)	(0.53)
log(GDP per capita)	**-1.05**	**-1.162**	**-1.266**	**-1.071**	**-1.002**	**-0.949**	**-0.966**	**-1.04**	**-0.932**	**-0.835**	**-1.085**	**-1.153**	**-1.21**	**-1.07**	**-0.983**
	(3.18)**	**(3.41)****	**(3.58)****	**(3.23)****	**(2.35)****	**(2.56)****	**(2.38)****	**(3.04)****	**(2.53)****	**(2.07)****	**(4.11)****	**(4.14)****	**(4.73)****	**(4.04)****	**(3.19)****
Dummy for 2000-6	-	-	-	-	-	-	-	-	-	-	-0.089	-0.058	-0.078	-0.108	-0.09
	-	-	-	-	-	-	-	-	-	-	(0.61)	(0.39)	(0.53)	(0.73)	(0.61)
Constant	-0.07	0.576	1.172	-0.346	-0.433	-0.545	-0.895	0.091	-0.818	-1.967	0.382	0.599	1.234	-0.029	-0.628
	(0.02)	(0.19)	(0.38)	(0.11)	(0.13)	(0.13)	(0.21)	(0.02)	(0.20)	(0.45)	(0.15)	(0.23)	(0.48)	(0.01)	(0.22)
Observations	61	61	61	61	61	65	65	65	65	65	126	126	126	126	126

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 8 3SLS estimation for poverty headcount ratio in 1990-2006(Specification VII)

	1990-1999					2000-2006					1990-2006				
	3SLS					3SLS					3SLS (pooled for 1990-9 & 2000-6)				
	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption	Case A Institution	Case B voice & accountability	Case C political stability	Case D rule of law	Case E corruption
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Income															
log(Agricultural VA per capita)(-1)	0.665 (4.70)**	0.699 (4.79)**	0.667 (4.31)**	0.645 (4.68)**	0.583 (4.22)**	0.85 (5.94)**	0.899 (6.41)**	0.891 (6.15)**	0.867 (6.01)**	0.845 (5.72)**	0.735 (7.28)**	0.785 (7.74)**	0.773 (7.31)**	0.728 (7.22)**	0.693 (6.79)**
log(Trade Share)	-0.167 (1.38)	-0.087 (0.72)	-0.105 (0.73)	-0.133 (1.16)	-0.093 (0.81)	0.035 (0.23)	0.133 (0.89)	0.004 (0.02)	0.056 (0.37)	0.098 (0.64)	-0.048 (0.50)	0.033 (0.34)	-0.029 (0.27)	-0.027 (0.28)	0.016 (0.17)
log(Income Gini)	0.498 (1.21)	0.434 (1.02)	0.566 (1.25)	0.292 (0.72)	0.471 (1.18)	1.19 (2.61)**	1.173 (2.57)*	1.28 (2.72)**	1.167 (2.53)*	1.018 (2.18)*	0.757 (2.54)*	0.734 (2.43)*	0.786 (2.49)*	0.668 (2.25)*	0.61 (2.05)*
Institution	**0.556** (4.09)**	**0.385** (3.44)**	**0.165** (1.51)	**0.578** (4.60)**	**0.584** (4.70)**	**0.403** (3.09)**	**0.328** (3.01)**	**0.206** (2.32)*	**0.371** (2.76)**	**0.363** (2.58)**	**0.466** (4.95)**	**0.347** (4.44)**	**0.181** (2.65)*	**0.466** (5.01)**	**0.479** (5.05)**
Private Credit	**0.35** (3.66)**	**0.379** (3.90)**	**0.458** (4.58)**	**0.289** (2.97)**	**0.323** (3.45)**	**0.203** (2.16)*	**0.213** (2.28)*	**0.286** (3.25)**	**0.201** (2.04)*	**0.223** (2.32)*	**0.256** (3.78)**	**0.278** (4.11)**	**0.356** (5.36)**	**0.227** (3.24)**	**0.247** (3.63)**
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.127 (1.51)	0.108 (1.27)	0.093 (1.05)	0.136 (1.61)	0.119 (1.42)
Constant	3.577 (2.32)*	3.253 (2.05)*	3.245 (1.92)	4.141 (2.73)**	3.863 (2.57)*	-0.878 (0.50)	-1.585 (0.92)	-1.166 (0.66)	-0.951 (0.54)	-0.448 (0.25)	1.596 (1.39)	1.021 (0.88)	1.371 (1.13)	1.825 (1.58)	2.118 (1.83)
Observations	72	72	72	72	72	83	83	83	83	83	155	155	155	155	155
Poverty															
log(Income Gini)	1.885 (2.83)**	1.872 (2.81)**	1.838 (2.70)**	1.958 (3.02)**	1.827 (2.71)**	2.178 (2.72)**	2.212 (2.75)**	2.219 (2.72)**	2.185 (2.76)**	2.306 (2.96)**	2.067 (4.08)**	2.076 (4.08)**	2.066 (4.03)**	2.113 (4.26)**	2.104 (4.21)**
Institution	**-0.195** (0.77)	**-0.123** (0.63)	**-0.084** (0.58)	**-0.242** (0.91)	**-0.119** (0.39)	**-0.375** (1.45)	**-0.267** (1.29)	**-0.079** (0.52)	**-0.461** (1.81)	**-0.53** (1.95)	**-0.283** (1.53)	**-0.184** (1.28)	**-0.087** (0.82)	**-0.354** (1.91)	**-0.301** (1.47)
Private Credit	0.086 (0.45)	0.064 (0.32)	0.042 (0.19)	0.11 (0.59)	0.044 (0.23)	-0.05 (0.31)	-0.054 (0.33)	-0.136 (0.81)	-0.007 (0.04)	-0.027 (0.17)	0.026 (0.21)	0.013 (0.10)	-0.03 (0.23)	0.06 (0.49)	0.015 (0.12)
log(GDP per capita)	**-1.043** (3.28)**	**-1.036** (3.32)**	**-1.032** (3.16)**	**-1.024** (3.12)**	**-0.993** (2.69)**	**-0.885** (3.22)**	**-0.958** (3.77)**	**-0.96** (3.66)**	**-0.872** (3.27)**	**-0.827** (2.97)**	**-1.002** (4.63)**	**-1.04** (5.11)**	**-1.033** (4.97)**	**-0.982** (4.51)**	**-0.965** (4.13)**
Dummy for 2000-6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-0.088 (0.66)	-0.077 (0.58)	-0.064 (0.48)	-0.107 (0.80)	-0.092 (0.68)
Constant	1.19 (0.42)	1.161 (0.42)	1.189 (0.42)	0.835 (0.28)	0.914 (0.30)	-0.775 (0.28)	-0.275 (0.10)	-0.452 (0.17)	-0.88 (0.32)	-1.721 (0.61)	0.529 (0.28)	0.799 (0.42)	0.679 (0.35)	0.256 (0.13)	0.053 (0.03)
Observations	72	72	72	72	72	83	83	83	83	83	155	155	155	155	155

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

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Table 9 G2SLS random-effects IV model for annual panel data (Dep. Variables: log poverty head count in the second stage, log GDP per capita in the first stage) Specification VIII

	Case A	Case B	Case C	Case D	Case E	Case F	Case G	Case H
Institution	No	No	No	governance	voice & accountability	political stability	rule of law	corruption
Period	1980 -2006	1980 -1999	2000 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006
Model	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
1st Stage Income								
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
log(Agricultural VA per capita)(-1)	0.425	0.401	0.428	0.512	0.508	0.513	0.518	0.515
	(8.11)**	(5.18)**	(5.08)**	(7.26)**	(6.85)**	(7.11)**	(7.49)**	(7.23)**
log(Trade Share)	**0.072**	**0.084**	**0.069**	**0.021**	**0.007**	**0.005**	**0.054**	**0.024**
	(2.05)*	**(1.73)**	**(1.06)**	**(0.45)**	**(0.14)**	**(0.10)**	**(1.17)**	**(0.50)**
log(Income Gini)	-0.003	-0.089	0.024	0.09	0.074	0.07	0.112	0.102
	(0.04)	(0.83)	(0.18)	(0.86)	(0.67)	(0.66)	(1.09)	(0.96)
Institution	-	-	-	0.185	0.064	0.061	0.21	0.161
	-	-	-	(4.68)**	(1.96)	(3.00)**	(5.36)**	(4.40)**
Private Credit	**0.152**	**0.16**	**0.12**	**0.154**	**0.174**	**0.16**	**0.145**	**0.161**
regional dummies	**(9.10)***	**(6.59)***	**(4.27)***	**(7.38)***	**(8.11)***	**(7.54)***	**(7.02)***	**(7.73)***
East Asia	-1.009	-0.892	-0.911	-0.875	-0.919	-0.925	-0.885	-0.903
	(4.20)**	(3.72)**	(3.25)**	(3.65)**	(3.72)**	(3.70)**	(3.73)**	(3.79)**
Middle East	-0.311	-0.258	-0.285	-0.299	-0.342	-0.346	-0.341	-0.38
	(1.18)	(1.02)	(0.85)	(1.07)	(1.18)	(1.19)	(1.24)	(1.37)
Sub Sahara Africa	-1.278	-1.274	-1.355	-1.222	-1.29	-1.299	-1.211	-1.266
	(7.22)**	(6.90)**	(6.45)**	(6.59)**	(6.73)**	(6.74)**	(6.60)**	(6.88)**
South Asia	-1.276	-1.332	-1.068	-1.035	-1.091	-1.078	-1.071	-1.086
	(4.55)**	(4.20)**	(3.18)**	(3.45)**	(3.52)**	(3.43)**	(3.61)**	(3.64)**
Latin America	0.095	0.195	0.083	-0.024	-0.071	-0.045	0.005	-0.048
	(0.51)	(1.07)	(0.37)	(0.12)	(0.35)	(0.22)	(0.03)	(0.24)
Constant	5.094	5.436	5.285	4.943	5.108	5.052	4.683	4.901
	(11.89)**	(9.05)**	(7.39)**	(8.04)**	(7.90)**	(8.01)**	(7.70)**	(7.87)**
2nd Stage Poverty								
log(GDP per capita)	**-1.224**	**-1.509**	**-1.163**	**-1.145**	**-1.237**	**-1.226**	**-1.157**	**-1.101**
	(4.94)*	**(4.47)***	**(4.76)***	**(4.06)***	**(4.62)***	**(4.69)***	**(4.24)***	**(3.87)***
log(Income Gini)	1.793	1.811	2.225	1.619	1.725	1.683	1.638	1.727
	(4.71)**	(4.19)**	(2.94)**	(2.67)**	(2.84)**	(2.77)**	(2.73)**	(2.95)**
Institution	-	-	-	-0.395	-0.17	-0.131	-0.417	-0.473
	-	-	-	(1.78)	(0.98)	(1.13)	(1.96)*	(2.13)*
Private Credit	**-0.043**	**0.052**	**-0.101**	**0.039**	**0.01**	**0.008**	**0.06**	**0.024**
regional dummies	**(0.40)**	**(0.34)**	**(0.69)**	**(0.32)**	**(0.08)**	**(0.06)**	**(0.49)**	**(0.19)**
East Asia	1.391	1.393	1.169	1.322	1.291	1.341	1.31	1.362
	(3.30)**	(2.85)**	(2.49)*	(3.08)**	(2.98)**	(3.02)**	(3.07)**	(3.19)**
Middle East	0.616	0.759	0.107	0.154	0.14	0.21	0.253	0.346
	(1.54)	(1.74)	(0.22)	(0.36)	(0.31)	(0.48)	(0.59)	(0.81)
Sub Sahara Africa	1.181	0.845	0.952	1.071	0.979	1.039	1.059	1.163
	(2.55)*	(1.40)	(1.85)	(2.14)*	(2.01)*	(2.07)*	(2.14)*	(2.27)*
South Asia	1.681	1.268	1.753	1.752	1.71	1.714	1.853	1.897

	(3.17)**	(1.78)	(3.33)**	(3.44)**	(3.33)**	(3.29)**	(3.55)**	(3.64)**
Latin America	1.41	1.697	0.903	1.245	1.301	1.268	1.187	1.223
	(4.56)**	(4.93)**	(2.24)*	(3.55)**	(3.63)**	(3.52)**	(3.37)**	(3.55)**
Constant	0	0	0	0	0	2.9	2.557	1.716
	(.)	(.)	(.)	(.)	(.)	(1.13)	(1.00)	(0.65)
Observations	370	224	146	193	193	193	193	193
Number of Countries	93	83	80	83	83	83	83	83
Joint Significant Test	Wald Chi^2 (27)=	Wald Chi^2 (25)=	Wald Chi^2 (14)=	Wald Chi^2 (16)=	Wald Chi^2 (16)=	Wald Chi^2 (16)=	Wald Chi^2 (16)=	Wald Chi^2 (16)=
	1171.5 **	986.44 **	880.75 **	1031.0 **	974.7 **	288.59 **	325.94 **	337.29 **
R^2	0.735	0.737	0.736	0.761	0.748	0.745	0.763	0.768
Hausman Test*	Chi^2 (27)=	Chi^2 (20)=	Chi^2 (9)=	Chi^2 (11)=	Chi^2 (11)=	Chi^2 (11)=	Chi^2 (11)=	Chi^2 (11)=
	5.18	5.5	6.07	4.83	6.58	5.05	5.18	5.38
Model chosen	Random effects	Random effects	Random effects	Random effects	Random effects	Random effects	Random effects	Random effects

1. Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

2. Hausman test is conducted for the coefficient estimates of the second stage of fixed effects 2SLS and random effects 2SLS models.

3. Year dummies are included in the model, but are not shown for simplicity.

Table 10 Panel Data Estimation for Trade Openness, Institutions, or Inequality

Trade Openness (Specification IX)

	Case A	Case B	Case C	Case D	Case E	Case F
Institution	No	governance	voice & accountability	political stability	rule of law	Corruption
Period	1980 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006
Model	Random effects	Random effects	Random effects	Random effects	Random effects	Random Effects
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Institution	- -	**0.049** **(1.49)**	**0.035** **(1.35)**	**0.021** **(1.16)**	**0.06** **(1.84)**	**0.005** **(0.17)**
log(physical isolation index)	-0.031 (0.53)	-0.031 (0.57)	-0.032 (0.57)	-0.028 (0.53)	-0.03 (0.55)	-0.029 (0.53)
log(country's size)	-0.165 (5.01)**	-0.138 (4.54)**	-0.14 (4.40)**	-0.14 (4.69)**	-0.139 (4.52)**	-0.143 (4.62)**
Constant	6.068 (15.28)**	5.879 (16.09)**	6.13 (16.07)**	6.14 (17.18)**	6.141 (16.66)**	6.176 (16.59)**
Observations	1534	488	489	489	489	488
Number of Countries	62	62	62	62	62	62
Joint Significant Test	Wald Chi^2 (28)= 717.74 **	Wald Chi^2 (10)= 259.42 **	Wald Chi^2 (10)= 263.62 **	Wald Chi^2 (10)= 261.20 **	Wald Chi^2 (10)= 261.20 **	Wald Chi^2 (10)= 265.29 **
R^2	0.306	0.304	0.287	0.304	0.296	0.308
Hausman Test *2*	Chi^2 (27)= 24.41	Chi^2 (9)= 3.91	Chi^2 (9)= 0.73	Chi^2 (9)= 3.91	Chi^2 (9)= 10.11	Chi^2 (9)= 2.79
Model Chosen	Random effects	Random effects	Random effects	Random effects	Random effects	Random effects

Institution (Specification X)

Dep. Variable	governance	voice & accountability	political stability	rule of law	corruption
Period	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006
Model	between estimator	between estimator	between estimator	between estimator	between estimator
	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
log(Europeansettlers' mortality rate)	**-0.108** **(1.63)**	**-0.127** **(1.65)**	**0** **(0.00)**	**-0.157** **(2.36)***	**-0.145** **(2.22)***
Constant	0.098 (0.30)	0.369 (0.96)	-0.546 (1.19)	0.28 (0.85)	0.282 (0.87)
Observations	429	432	432	432	429
Number of Countries	48	48	48	48	48
R^2	0.05	0.06	0	0.11	0.1
Joint Significant Test	$F_{(1,46)}$= 2.65	$F_{(1,46)}$= 2.73	$F_{(1,46)}$= 0	$F_{(1,46)}$= 5.57 *	$F_{(1,46)}$= 4.93 *

Inequality (Specification XI)

Dep. Variable	log of Income Gini
Period	2000 -2006
Model	between estimator
	Coef. (Z value)
log(land Gini)	**0.54** **(2.46)***
Constant	1.542 (1.72)
Observations	42
Number of Countries	19
R^2	0.26
Joint Significant Test	$F_{(1,17)}$= 6.07*

*1. Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%
*2. Hausman test is conducted for the coefficient estimates of fixed effects model and those of random effects model.

Table 11 Static Panel Model for Finance (Fixed effects model) (Specification XII)

Institution	Definition of Financial Openness: Capital account liberalisation Chinn & Ito(2006) Index						Definition of Financial Openness: Capital account liberalisation Lane and Milesi-Ferretti (2007) Index					
	Case A No	Case B governance	Case C voice & accountability	Case D political stability	Case E rule of law	Case F corruption	Case G No	Case H governance	Case I voice & accountability	Case J political stability	Case K rule of law	Case L corruption
	1980 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1980 -2006	1980 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006
	Fixed Effects Model						Fixed Effects Model					
Dep. Variable Private Credit	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
log(Trade Share)(-1)	0.129 (3.02)**	-0.178 (2.68)**	-0.18 (2.72)**	-0.185 (2.80)**	-0.174 (2.66)**	-0.165 (2.49)*	0.103 (1.68)	-0.24 (2.06)*	-0.272 (2.34)*	-0.265 (2.29)*	-0.238 (2.06)*	-0.23 (1.97)*
Institution	- -	0.242 (4.22)**	0.099 (2.28)*	0.077 (2.67)**	0.207 (4.32)**	0.174 (3.41)**	- -	0.293 (4.09)**	0.107 (1.91)	0.105 (2.98)**	0.252 (3.75)**	0.223 (3.48)**
log(GDP per capita)(-1)	0.811 (17.59)**	0.614 (9.22)**	0.677 (10.49)**	0.68 (10.33)**	0.6 (9.31)**	0.634 (9.60)**	0.781 (15.42)**	0.689 (8.43)**	0.799 (10.10)**	0.784 (9.78)**	0.695 (8.67)**	0.716 (8.96)**
capital account liberalisation(-1)	0.449 (5.91)**	0.04 (0.40)	0.033 (0.33)	0.025 (0.25)	-0.008 (0.08)	0.068 (0.67)	- -	- -	- -	- -	- -	- -
trade openness(-1) * capital account liberalisation(-1)	-0.093 (5.14)**	-0.005 (0.23)	-0.004 (0.15)	-0.002 (0.07)	0.006 (0.25)	-0.013 (0.53)	- -	- -	- -	- -	- -	- -
Log(Financial Globalisation)(-1)	- -	- -	- -	- -	- -	- -	0.278 (3.38)**	0.287 (1.41)	0.28 (1.38)	0.298 (1.48)	0.26 (1.28)	0.281 (1.38)
Trade openness(-1)*Financial Globalisation(-1)	- -	- -	- -	- -	- -	- -	-0.059 (3.15)**	-0.045 (0.98)	-0.043 (0.95)	-0.047 (1.04)	-0.039 (0.85)	-0.045 (0.99)
regional dummies	-	-	-	-	-	-						
East Asia	1.131 (4.97)**	1.05 (4.07)**	1.077 (4.14)**	1.041 (3.92)**	1.002 (4.05)**	1.025 (3.98)**	1.22 (5.19)**	1.323 (4.53)**	1.357 (4.50)**	1.3 (4.27)**	1.262 (4.43)**	1.278 (4.41)**
Middle East	0.9 (3.65)**	0.753 (2.72)**	0.754 (2.69)**	0.705 (2.48)*	0.669 (2.53)*	0.645 (2.34)*	1.136 (3.85)**	1.179 (3.32)**	1.212 (3.30)**	1.155 (3.13)**	1.099 (3.17)**	1.061 (3.01)**
Sub Sahara Africa	0.909 (5.24)**	0.567 (2.74)**	0.612 (2.93)**	0.582 (2.73)**	0.528 (2.65)**	0.535 (2.58)**	0.882 (4.91)**	0.768 (3.28)**	0.825 (3.43)**	0.789 (3.24)**	0.743 (3.24)**	0.726 (3.12)**
South Asia	1.467 (5.49)**	1.142 (3.73)**	1.179 (3.83)**	1.183 (3.75)**	1.034 (3.51)**	1.094 (3.57)**	1.841 (6.75)**	1.795 (5.21)**	1.81 (5.13)**	1.872 (5.22)**	1.675 (4.97)**	1.736 (5.08)**
Latin America	0.342 (2.03)*	0.299 (1.58)	0.252 (1.32)	0.264 (1.35)	0.32 (1.75)	0.275 (1.45)	0.439 (2.32)*	0.372 (1.56)	0.258 (1.06)	0.301 (1.22)	0.368 (1.58)	0.319 (1.35)
Constant	-8.38 (21.49)**	-5.687 (9.68)**	-5.991 (10.26)**	-6.021 (10.03)**	-5.412 (9.21)**	-5.86 (10.04)**	-8.067 (16.84)**	-5.846 (7.24)**	-6.6 (8.21)**	-6.497 (8.02)**	-5.89 (7.37)**	-6.066 (7.62)**
Observations	1993	755	766	766	765	755	1446	572	576	576	576	572
Number of Countries	101	100	100	100	100	100	72	72	72	72	72	72
Joint Significant Test	F(30,1862)= 20.41**	F(13,642)= 20.86**	F(13,653)= 20.61**	F(13,653)= 20.42**	F(13,652)= 20.86**	F(13,642)= 20.49**	F(30,1344)= 14.08**	F(13,487)= 21.33**	F(13,642)= 20.86**	F(13,491)= 21.22**	F(13,491)= 21.21**	F(13,487)= 21.24**

| | R^2 | 0.307 | 0.326 | 0.321 | 0.318 | 0.326 | 0.323 | 0.331 | 0.321 | 0.326 | 0.319 | 0.317 | 0.321 |

*1. Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

*2. Hausman test is conducted for the coefficient estimates of fixed effects model and those of random effects model.

*3. Year dummies are included in the model, but are not shown for simplicity.

Table 12 Dynamic Panel Model for Finance (Blundell-Bond System Dynamic Panel Data Model) (Specification XIII)

	Definition of Financial Openness: Capital account liberalisation Chinn & Ito(2006) Index						Definition of Financial Openness: Capital account liberalisation Lane and Milesi-Ferretti (2007) Index					
Institution	Case A No	Case B governance	Case C voice & accountability	Case D political stability	Case E rule of law	Case F corruption	Case G No	Case H governance	Case I voice & accountability	Case J political stability	Case K rule of law	Case L corruption
	1980 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006	1980 -2006	1980 -2006	1998 -2006	1998 -2006	1998 -2006	1998 -2006
	Blundell-Bond System Dynamic Panel Data Model						Blundell-Bond System Dynamic Panel Data Model					
Dep. Variable Private Credit	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)	Coef. (Z value)
Private Credit (-1)	0.84 (71.54)**	0.77 (122.75)**	0.779 (93.36)**	0.788 (96.51)**	0.784 (174.67)**	0.796 (150.19)**	0.823 (41.11)**	0.752 (74.25)**	0.759 (92.69)**	0.757 (94.17)**	0.773 (77.86)**	0.76 (61.36)**
log(Trade Share)(-1)	-0.112 (8.17)**	-0.128 (12.19)**	-0.162 (20.76)**	-0.134 (21.49)**	-0.137 (22.73)**	-0.123 (12.42)**	-0.054 (1.96)*	-0.181 (11.91)**	-0.191 (11.90)**	-0.198 (13.15)**	-0.214 (8.72)**	-0.147 (5.27)**
Institution	- -	0.211 (19.47)**	0.211 (29.31)**	0.051 (12.86)**	0.128 (20.67)**	0.131 (15.13)**	- -	0.024 (1.70)	-0.004 (0.51)	0.027 (3.65)**	-0.071 (5.79)**	0.047 (4.73)**
log(GDP per capita)(-1)	0.091 (4.46)**	-0.082 (5.74)**	-0.083 (3.16)**	-0.123 (7.09)**	-0.109 (8.59)**	-0.15 (5.77)**	0.157 (3.74)**	0.217 (6.75)**	0.206 (8.12)**	0.173 (8.54)**	0.192 (10.36)**	0.18 (8.19)**
capital account liberalisation(-1)	0.17 (4.88)**	0.083 (4.19)**	0.141 (10.61)**	0.085 (4.50)**	0.113 (8.25)**	0.1 (6.59)**	- -	- -	- -	- -	- -	- -
trade openness(-1) * capital account liberalisation(-1)	-0.035 (4.02)**	-0.005 (1.05)	-0.018 (5.69)**	-0.005 (1.25)	-0.011 (3.44)**	-0.01 (2.76)**	- -	- -	- -	- -	- -	- -
Log(Financial Globalisation)(-1)	- -	- -	- -	- -	- -	- -	0.011 (0.23)	0.079 (1.08)	0.119 (1.50)	0.228 (3.44)**	0.147 (1.00)	0.001 (0.00)
Trade openness(-1)*Financial Globalisation(-1)	- -	- -	- -	- -	- -	- -	-0.001 (0.09)	-0.012 (0.69)	-0.021 (1.16)	-0.046 (3.14)**	-0.027 (0.83)	0.007 (0.21)
regional dummies	-	-	-	-	-	-						
East Asia	0.625 (6.95)**	1.07 (3.38)**	0.935 (2.20)*	0.901 (3.05)**	0.531 (1.43)	0.446 (1.25)	0.289 (0.72)	-0.462 (2.20)*	-0.505 (2.51)*	-0.309 (2.08)*	-0.537 (3.53)**	-0.343 (1.73)
Middle East	-0.766 (7.56)**	2.743 (4.54)**	3.123 (3.88)**	2.41 (4.97)**	2.716 (4.18)**	2.84 (4.34)**	-0.377 (0.21)	-6.919 (2.44)*	-6.848 (2.42)*	-5.166 (1.94)	-5.578 (1.84)	-4.473 (1.64)
Sub Sahara Africa	-0.71 (13.71)**	-1.58 (8.69)**	-1.365 (5.22)**	-1.632 (11.68)**	-1.442 (5.31)**	-1.533 (5.09)**	-0.652 (3.29)**	-0.76 (3.40)**	-0.692 (2.68)**	-0.731 (2.59)**	-0.753 (4.03)**	-0.902 (4.24)**
South Asia	-0.261 (1.39)	-2.778 (3.78)**	-1.989 (1.94)	-2.501 (3.86)**	-1.377 (1.36)	-1.976 (2.24)*	0.412 (2.16)*	0.738 (1.01)	1.21 (1.62)	1.262 (1.63)	0.973 (1.06)	-0.218 (0.26)
Latin America	-0.447 (6.10)**	-0.525 (3.72)**	-0.607 (6.15)**	-0.511 (5.53)**	-0.438 (3.09)**	-0.591 (4.59)**	-0.389 (2.18)*	0.16 (0.84)	0.219 (1.05)	0.087 (0.44)	0.266 (1.12)	0.014 (0.08)
Constant	0.024	1.352	1.415	1.684	1.548	1.826	-0.771	-0.598	-0.521	-0.246	-0.294	-0.405

	(0.19)	(8.10)**	(8.00)**	(15.01)**	(9.82)**	(8.09)**	(2.01)*	(1.81)	(1.68)	(0.88)	(1.26)	(1.86)
Observations	1961	752	762	762	761	752	1412	567	570	570	570	567
Number of Countries	99	99	99	99	99	99	71	71	71	71	71	71
Sargan Test	95.29	91.52	91.63	89.36	86.62	86.79	65.04	59.36	60.73	60.62	60.72	57.26
(p value)	(1.00)	(0.98)	(0.98)	(0.99)	(0.99)	(0.99)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)
First order serial correlation test	-3.91**	-2.11	-1.92	-1.82	-1.9	-2.11*	-3.16**	-1.85	-1.78	-1.71	-1.72	-1.89
(p-value)	(0.0001)*	(0.04)*	(0.05)	(0.07)	(0.06)	(0.04)	(0.002)	(0.07)	(0.08)	(0.09)	(0.08)	(0.06)
First order serial correlation test	-4.29**	-1.67	-1.82	-1.76	-1.77	-1.76	-3.69**	-1.52	-1.55	-1.28	-1.56	-1.57
(p-value)	(0.000)**	(0.09)	(0.07)	(0.08)	(0.08)	(0.08)	(0.0002)*	(0.13)	(0.12)	(0.20)	(0.12)	(0.12)

*1. Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 13 Elasticity of Poverty Head Count with respect to (1) GDP per capita, (2) Agricultural Value Added per capita, and (3) Income Gini and Required Rate of Growth Rates (or Reduction of Gini) to achieve MDG in comparison with Actual Growth

Elasticity of Poverty Head Count Ratio with respect to:		Required Rate of economic growth for halving poverty in 25 years (%)	Actual Growth (%)		Disaggregation of Actual Growth				
					East Asia	South Asia	Middle East & North Africa	Sub-Saharan Africa	Latin America
GDP per capita									
Besley-Burges's study	-0.76	3.6	1.7	1961-90					
Table2 Case A (1990-2006)	-0.81	3.4							
Table 9 Case A (1980-2006)	-1.22	2.3	0.99	1980-2006	3.33	3.3	1.14	0.08	0.8
Table 9 Case B (1980-1999)	-1.51	1.8							
Table 9 Case C (2000-2006)	-1.16	2.4							
Agricultural Value Added per capita (-1)									
Table2 Case A (1990-2006)	-0.23	11.9							
Table 9 Case A (1980-2006)	-0.52	5.34	0.21	1980-2006	0.96	1.08	0.84	-0.31	0.5
Table 9 Case B (1980-1999)	-0.61	4.58							
Table 9 Case C (2000-2006)	-0.50	5.58							

Elasticity of Poverty Head Count Ratio with respect to:		Required Rate of reduction in Gini for halving poverty in 25 years (%) if economic growth is 0.99 % (or 1.7%) (%)	Income Gini (%)		Disaggregation of Income Gini (regional average over 2000-6) (%)				
					East Asia	South Asia	Middle East & North Africa	Sub-Saharan Africa	Latin America
Income Gini									
Table2 Case A (1990-2006)	1.61	18.6 or 9.7	42.8	2000-6	38.2	36.4	38.6	42.3	52.6
Table 9 Case A (1980-2006)	1.79	11.1 or 1.03							
Table 9 Case B (1980-1999)	1.81	7 or 7.8							
Table 9 Case C (2000-2006)	2.23	9.5 or 0.3							

Table 14 Simulation Results based on different assumptions of institutional development for selected countries and regions

	No. of countries	Aggregate Institutional Index		Voice & Accountability		Political Stability		Rule of Law		Corruption		Average Annual Growth of GDP per capita	Average Annual Growth of Agri-cultural VA per capita	Revised MDG (MDG1) *5	Aggregate Institutional Index		
															With Historical Growth Rate Continued to 2015 *1	Institution Improved Top 30 Performers *2	Institution Improved Top 30 Performers *2
		Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank						
China *3	-	-0.77	82	-1.7	111	-0.3	58	-0.48	42	-0.58	56	8.2	3.5	**30.1**	2.4	1.6	1.3
Vietnam	-	-0.61	65	-1.58	109	0.42	19	-0.51	46	-0.75	76	4.8	1.9	**31.9**	9	6	5.1
Thailand	-	-0.5	52	-0.6	73	-0.93	82	0	22	-0.28	40	4.5	1.5	**11.3**	2	1.4	1.2
India	-	-0.15	33	0.41	24	-0.94	84	0.16	19	-0.25	34	3.9	1.1	**25.7**	9.1	7.1	6
Bangladesh	-	-1.01	94	-0.5	69	-1.5	102	-0.82	77	-1.26	111	2.3	0.7	**31.0**	19.9	11.6	9.8
Sri Lanka	-	-0.49	56	-0.27	54	-1.62	103	0.08	21	-0.13	26	3.4	0.9	**7.5**	*7.6* *6	5.1	4.3
Indonesia	-	-0.75	78	-0.2	49	-1.25	92	-0.77	72	-0.78	81		1.2	**27.1**	4.1	2.7	2.3
Zambia	-	-0.35	45	-0.33	60	0.31	23	-0.67	68	-0.71	71	0.8	0.1	**31.4**	25.1	19	16.1
Ghana	-	0.14	20	0.46	22	0.26	25	-0.08	25	-0.1	24	0.9	-0.5	**25.3**	18	16.2	13.7
Brazil	-	-0.09	27	0.43	23	-0.14	47	-45	40	-0.2	30	0.5	1.4	**7.7**	2.3	1.9	1.6
Regional Aggregation *4																	
East Asia (without China)	10	-0.57	65	-0.56	66	-0.44	59	-0.57	59	-0.69	73	2.8	0.6	**22.4**	5.7	3.8	3.2
East Asia (with China)	11	-0.58	66	-0.66	70	-0.43	59	-0.56	57	-0.69	71	3.3	1	**26.7**	3.3	2.1	1.8
South Asia	6	-0.57	67	-0.54	68	-1.13	85	-0.24	44	-0.37	54	3.3	1.1	**26.0**	11.5	8	6.8
Sub Saharan Africa	39	-0.57	64	-0.47	64	-0.49	59	-0.7	66	-0.63	68	0.08	-0.3	**25.3**	*47* *6	25.5	21.6
Latin America and Caribbean	24	-0.23	46	0.15	36	-0.28	54	-0.48	56	-0.31	49	-0.28	61	**6.0**	4	2.7	2.3
East Europe & Central Asia	27	-0.2	48	-0.11	47	-0.1	46	-0.33	49.8	-0.28	47.4	1.1	-0.04	**2.6**	1	0.7	0.6
Middle East & North Africa	8	-0.6	66	-1	90	-0.68	57	-0.34	47	-0.35	44	0.11	0.8	**1.9**	1	0.7	0.6
Total (without China) *4	114	-0.42	57	-0.3	57	-0.4	57	-0.51	57	-0.45	57	0.9	0.2	**17.3**	13.7	8.2	7
Total (with China) *4	115	-0.42	57	-0.32	57	-0.4	57	-0.51	57	-0.45	57	0.9	0.2	**21.2**	10.6	6.4	5.4

*1. Assumptions for Simulations: Simulations are based on the linear predictions based on the panel data estimates in Table 9, Case D to Case H where (non-instrumented) institutional quality is used as one of the arguments. We assume that (1) annual growth rates of GDP per capita and agricultural value added per capita will be same as the historical averages in 1980-2006 for 2007-2015 each country; (2) Income Gini and private credit will be same as the average in 2000-2006 for each country; (3) private credit will be at the minimum level in 2000-2006; (4) trade share continues to be same at the level of 2006 in the baseline cases.

*2. To examine the effects of improvement of institutional qualities, two cases have been tried where the institutional quality is improved to the average of top 30 countries, and of top 10 countries.

*3. China is not included in the original regression in Table 9 because of the lack of private credit data. We estimate the same models without private credit to obtain the predictions for China.

*4. Regional aggregation is the simple average and does not take account of the country size or population for each country.

*5. This is based on the revised international poverty data of Chen and Ravallion (2008). MDG should be based on the poverty head count ratio in 1990, but there are only a limited number of the countries with the poverty estimate exactly in 1990. Hence, if the country has the poverty data in 1990, they are used as they are, but the average (weighted by the duration from 1990) is taken where poverty data are available before and after 1990 as long as they are in 1987-1993. If there is only one estimate in 1987-1993, it is used as it is.

*6. Bold italics show the cases where MDG of halving poverty is not achieved.

*7. Poverty head count ratios and their simulated values are aggregated for each region and all the countries by using each country's population weights.

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	No. of countries	Revised MDG (MDG1) [5]	Voice & Accountability			Political Stability			Rule of Law			Corruption		
			With Historical Growth Rate Continued to 2015 [1]	Institution Improved Top 30 Performers [2]	Institution Improved Top 30 Performers [2]	With Historical Growth Rate Continued to 2015	Institution Improved Top 30 Performers	Institution Improved Top 30 Performers	With Historical Growth Rate Continued to 2015	Institution Improved Top 30 Performers	Institution Improved Top 30 Performers	With Historical Growth Rate Continued to 2015	Institution Improved Top 30 Performers	Institution Improved Top 30 Performers
China [3]	-	**30.1**	1.5	1	0.9	1.1	1	0.9	1.6	1.2	1	4	2.5	2
Vietnam	-	**31.9**	10.5	7.2	6.8	7.8	7.6	7.3	8.2	5.7	4.8	8.9	5.5	4.4
Thailand	-	**11.3**	1.7	1.4	1.3	1.8	1.5	1.4	1.5	1.3	1.1	1.9	1.3	1.1
India	-	**25.7**	8.6	8.2	7.9	10.3	8.4	8.1	8.3	7.5	6.3	9.9	7.1	5.7
Bangladesh	-	**31.0**	17.5	14	13.3	18.6	14.3	13.3	19.7	12.2	10.3	21.4	11.2	9
Sri Lanka	-	**7.5**	6.9	5.8	5.4	8.2	5.9	5.6	6	5.4	4.5	6.5	5.3	4.3
Indonesia	-	**27.1**	3.5	3	2.9	4.1	3.3	3.1	3.8	2.5	2.1	4	2.5	1.9
Zambia	-	**31.4**	29.2	25	23.6	27.4	26.3	25.3	26.5	17.6	14.8	28.1	18.3	14.6
Ghana	-	**25.3**	21.2	20.65	19.5	22.9	21.9	21	18.1	15.2	12.8	19.1	15.2	12.2
Brazil	-	**7.7**	2.3	2.2	2.1	2.4	2.2	2.1	2.3	1.7	1.4	2.4	1.8	1.5
Regional Aggregation [4]														
East Asia (without China)	10	**22.4**	5.5	4.4	4.1	5.5	4.7	4.5	5.2	3.5	3	5.7	3.5	2.8
East Asia (with China)	11	**26.7**	2.6	1.9	1.8	2.3	2	1.9	2.6	1.8	1.5	4.4	2.7	2.2
South Asia	6	**26.0**	10.6	9.4	8.9	12.3	9..6	9.2	10.6	8.4	7.1	12	7.9	6.3
Sub Saharan Africa	39	**25.3**	*48*	*37*	*35*	*51*	*38*	*37*	*44*	23.5	19.8	*43*	23.6	18.9
Latin America and Caribbean	24	**6.0**	4	3.5	3.3	4	3.3	3.2	4	2.4	2	3.9	2.5	2
East Europe & Central Asia	27	**2.6**	1.1	0.9	0.8	1	0.9	0.9	1	0.6	0.5	1	0.6	0.5
Middle East & North Africa	8	**1.9**	1	0.7	0.7	1	0.8	0.8	1	0.7	0.6	1	0.7	0.6
Total (without China) [4]	114	**17.3**	13.5	10.8	10.2	14.5	11.2	10.7	12.7	8	6.7	13.2	7.8	6.3
Total (with China) [4]	115	**21.2**	10.2	8.1	7.7	10.8	8.4	8.1	9.7	6.1	5.2	10.6	6.4	5.1

[1]. Assumptions for Simulations: Simulations are based on the linear predictions based on the panel data estimates in Table 9, Case D to Case H where (non-instrumented) institutional quality is used as one of the arguments. We assume that (1) annual growth rates of GDP per capita and agricultural value added per capita will be same as the historical averages in 1980-2006 for 2007-2015 each country; (2) Income Gini and private credit will be same as the average in 2000-2006 for each country; (3) private credit will be at the minimum level in 2000-2006; (4) trade share continues to be same at the level of 2006 in the baseline cases.

[2]. To examine the effects of improvement of institutional qualities, two cases have been tried where the institutional quality is improved to the average of top 30 countries, and of top 10 countries.

[3]. China is not included in the original regression in Table 9 because of the lack of private credit data. We estimate the same models without private credit to obtain the predictions for China.
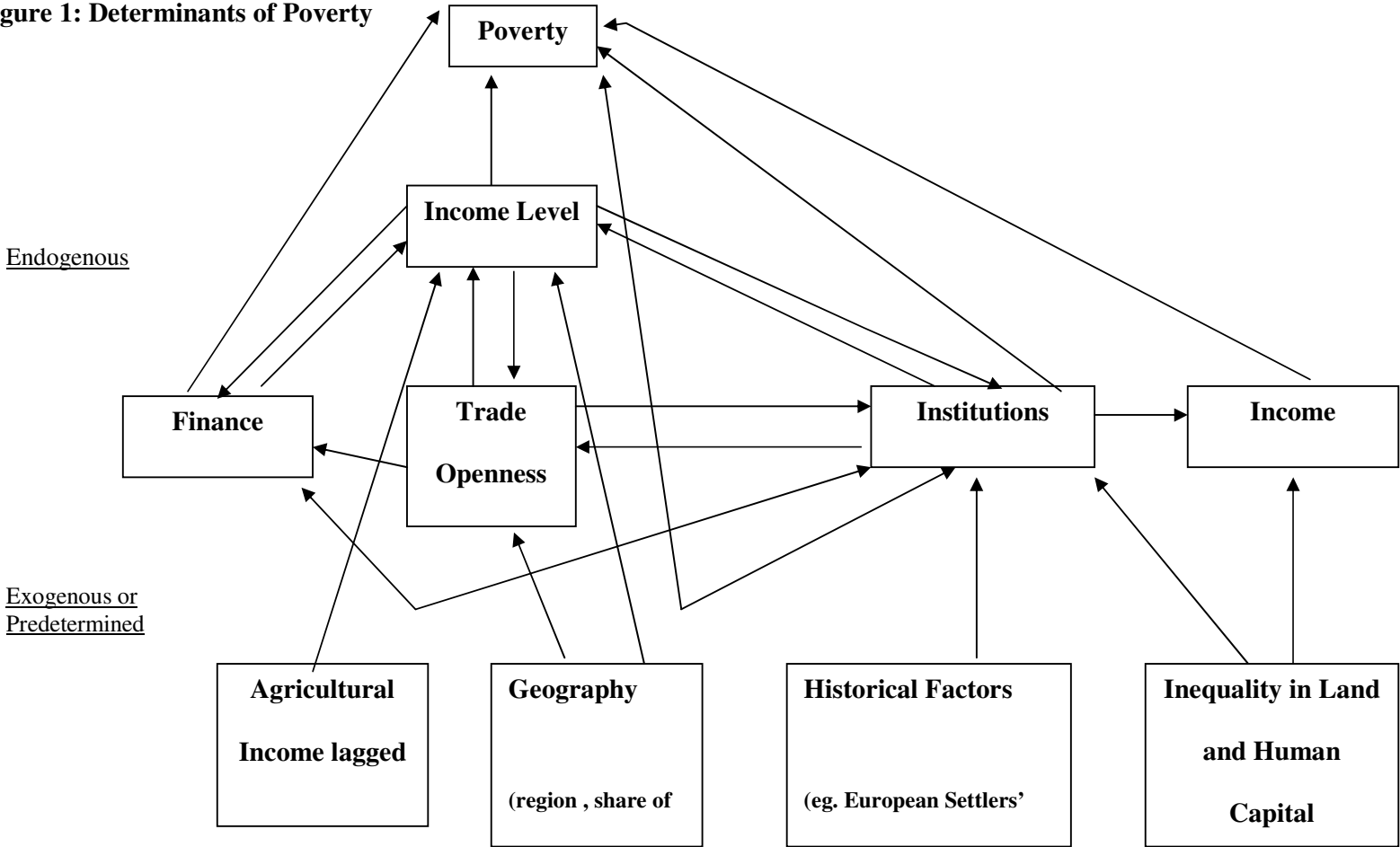
[4]. Regional aggregation is the simple average and does not take account of the country size or population for each country.

Figure 1: Determinants of Poverty

Endogenous

Exogenous or
Predetermined

Adapted from: Rodrik et al. (2004), Hoff (2003), Bardhan (2004), Gaiha et al. (2009), Baltagi et al. (2009), and Chinn and Ito (2006).