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# Structural Transformation in South Asia

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**ABSTRACT**

This paper models the evolution and determinants of the shares of agriculture, manufacturing and services to GDP for 4 South Asian countries (Bangladesh, India, Sri Lanka and Pakistan) for 55 years: 1960-2014. Determinants of these shares were classified into three broad categories "country fundamentals", "policy" and "regional and reform dummies". Several models including pooled OLS, GLS, panel and quantile regression are estimated. In general, the estimated models fit the data well. Policy conclusions regarding structural transformation are derived from the viewpoint of increasing the shares of the services and, particularly, the manufacturing sectors to GDP . We find that enhanced availability of electrical power and higher capital investment are central to the enhancement of the share of the manufacturing sector. The relationships of the shares with GDP per capita are fragile and, sometimes, counter-intuitive. It is a matter of concern that the impacts of key policy variables such as secondary school enrolment, FDI inflow and trade openness, are not robust across the models and in, some instances, have the "wrong" sign even when significant. It seems that South Asia has undergone a period of arrested industrial development. There is urgent need for policy intervention if this condition is to be redressed.

Keywords: South Asia, Structural Transformation, Pooled OLS, Quantile regression, Panel

JEL Classification Code: C22, C23, O11

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## I. Introduction and review of the literature

There are two school of thoughts in the literature on the links between economic growth and structural composition of output and/or employment. On the one hand the neoclassical school of economic growth would argue that the structure of output hardly matters for economic growth. On the other hand several economists, most famously Simon Kuznets and others, have argued that economic growth has been involved with a change in the composition of gross domestic product (GDP) and/or employment. Indeed this change is essential for sustained economic growth and rising incomes.

There is widespread consensus now that these two schools of thought are not mutually contradictory. In this context Echeveria (1997) builds a dynamic general equilibrium model to show that growth affects sectoral composition of output and vice versa. Thus, there is a mutual cause and effect relation between economic growth and composition of aggregate output.

The empirical evidence on structural transformation of an economy during the process of economic development is quite convincing. Historical data on the most of the developed countries of today show that they went from being primarily agricultural economies to primarily manufacturing and, then, primarily services. At early stages of development when a country is heavily specialized in agriculture, labour productivity is low and the economy is largely stagnant. With increasing labour productivity there is economic growth and higher wages. However, the prospects for rapid productivity growth in agriculture are limited so that labour migrates to the manufacturing sector where there is greater scope for higher productivity and economic growth. This enhanced productivity and wages, in due course of time, lead to a shift of labour to services where there is greater scope for productivity growth. Thus, rising GDP per capita is associated with a decreasing share of agriculture, and increasing share of value added, first in manufacturing, and then services. Similar trend applies to sectoral shares of employment to total employment for these three sectors. Empirical evidence in support of this transition has been well explored in a number of contributions starting with the pioneering work of Simon Kuznets.[1]

[1] For a review of this literature and the evidence see Kuznets (1973) and Kuznets (1966).

Other notable contributors to this literature include Hollis Chenery (1960), Arthur Lewis, Syrquin and Baumol.

In more recent times Timmer et al. (2012) take the work of Echeveria (1997) as a point of departure and underscore the fact that structural transformation is both the cause and effect of economic growth. They define structural transformation as a process by which (a) the shares of agriculture in GDP and employment fall over time, (b) there is increased migration as people move from rural to urban areas, (c) an agriculture and rural sector based economy is replaced by an industrial and urban sector based economy, and (d) a demographic transformation whereby high birth and death rates are replaced by low birth and death rates. Any existing dualism between the agricultural and the non-agricultural sectors gradually disappears over time.

This view of structural transformation argues that economic growth is a process that changes the composition of output as well as the pattern and distribution of employment across different sectors of the economy. Traditional agriculture is thought of as the base for less developed countries (LDCs). In such societies land and labour productivity are low and not much surplus is saved for investment. With the improvement of labour productivity, however, some labour is freed up for employment in the manufacturing sector which has higher labour productivity and, hence, higher wages. Higher incomes lead to increased savings and, hence, investment. This then further spurs up economic growth and the accompanying rise in labour productivity facilitates movement of labour from manufacturing to services. A key characteristic of this narrative is that economic growth is viewed as a long-term phenomenon which engineers structural change in the economy and is, in turn, affected by these changes. This is to be differentiated from annual or even quarterly growth figures which are widely reported in media and other outlets. Figure 1 provides a visual representation of the structural transformation visualized by the above arguments.

**Figure 1 about here.**

The x-axis in Figure 1 measures time and GDP per capita in the long run. The y-axis indicates sectoral shares in output/employment. Over time as GDP per capita rises the share of agriculture declines and those of services and manufactures rise. After reaching a threshold level of GDP per capita, the share of manufactures starts to plateau out (indicating industrial stagnation) and could even decline (indicating de-industrialization). The share of the services sector, however, continues to rise.

Many developed countries have followed this pattern of structural change. Even the Newly Industrialized Countries of Asia (including China) have experienced structural changes along these lines. All these countries raised their per capita incomes manyfold during short periods of time and are now in or close to being post-industrial societies.

However, this pattern of sectoral transformation has not been followed in a number of developing countries. Particularly in South Asia, the relative decline of the share of agriculture in GDP has been accompanied by a huge rise in the share of the services sector whereas the manufacturing sector has more or less stagnated. It would be desirable to alter the sectoral share pattern towards greater share of manufacturing, given unrealised higher productivity in manufacturing and the prospects of higher employment growth in the manufacturing sector compared to both agriculture and services, not to mention the fact that the current state of the South Asian economies represents arrested or incomplete industrialization.

The role of what may be called fundamentals of the economy (such as GDP, population, land etc.) and policy measures (such as trade openness) in facilitating this structural transformation can be best understood in a formal model of the determinants of the shares of the value added of various sectors in total value added. Taking a cue from Dabla-Norris et al. (2013) the present paper examines the determinants of the sectoral share of value added in four countries of South Asia (Bangladesh, India, Sri Lanka and Pakistan). The sectors considered are agriculture, manufacturing and services. the determinants of structural transformation are analysed based on sectoral value added to total GDP only. We introduce a number of additional policy variables on the right hand side of the regression equations in order to better understand possible policy levers that affect transitions in sectoral shares in the continent as well as country dummies. The use of quantile regression helps us understand how structural transformation is occurring at various levels of sectoral contributions to GDP and which variables are important at these levels in these countries.[2] Kochhar et al. (2002) conduct an analysis for structural transformation in the various states of India.

The plan of this paper is as follows. Section II discusses data and methodology whereas section III presents all the results. Section IV concludes.

## II. Data and Methodology

Table 1 provides descriptive statistics for the variables used in the analysis. The data are from World Development Indicators of the World Bank.

**Table 1 about here.**

Notation for the variables used in the analysis is as follows.

The variables used in the analysis are: $cid$ =country code (1 for Bangladesh, 2 for India, 3 for Sri Lanka and 4 for Pakistan); Time (year); $agri$ = share of agriculture in total value added; $manuf$=share of manufacturing in total value added; $service$=share of services in total value added; $lland$ = log of land area in square kilometers; $lpop$ = log of total population; $arable$ = arable land as percentage of total land; $age$ = age dependency ratio, overall; $lgdp$= log of GDP per capita (GDP is measured in constant 2005 USD); $lgdpsq$=square (log of GDP per capita); $edus$ = secondary enrolment ratio; $lpower$ = log of electricity consumption per capita in Kwh; $fdi$=FDI inflows as percentage of GDP; $trade$ = trade as percentage of GDP; $capital$ = gross capital formation as percentage of GDP; $dum\ 92$ = dummy for the period 1992 (assuming reforms started in 1992).

These variables are grouped into three different categories: (a) Fundamentals ($lland, lpop, arable, age,\ lgdp\ and\ lgdps$); (b) Policy variables ($educs, lpower, trade,$ $fdi\ and\ capital$); and (c) A reform period dummy ($dum92$) and country dummies for the chosen countries of South Asia. We use data from 1960 to 2014 which yields 55 data points giving a potential total of $220\ (55 * 4)$ observations for each variable. However, for Bangladesh

[2] We would have liked to conduct this analysis with shares in employment as well. But the data on this variable was too scant to conduct regression modelling.

the series begin in 1971 giving us 44 data points (176 observations for each variable) for that country. Hence, we have an unbalanced panel.

Panel variation in the variables is described in Table 1.

**Table 1 about here.**

"Overall", "between" and "within" variations for each variable are depicted in Table 1. In this Table $N$ refers to the total number of observations across countries and across time, *n* refers to the number of countries for which observations are available and T refers to time period for which the data are available. Clearly, N = n*T. For those variables for which data is not available for all time periods and/or all counties N=n*T-bar where T-bar again refers to the time period for which data are available. Table 1 summarizes the data gaps in the variables. Thus, for the variable "$agri$" a total of 209 data points are available for the four countries.

Table 2 depicts basic statistics for each of the four countries: Bangladesh, India, Sri Lanka and Pakistan.

**Table 2 about here.**

In this paper we estimate several different versions of the model in order to check for the robustness of the results and establish the role of policy variables.

The panel data representation of the model to be estimated in its general form is,

$$y_{it} = x_{it}'\beta + z_i'\alpha + \varepsilon_{it} = x_{it}'\beta + c_i + \varepsilon_{it}$$

$$\mathbf{y_{it} = x_{it}'\beta + z_i'\alpha + \varepsilon_{it} = x_{it}'\beta + c_i + \varepsilon_{it}} \qquad \mathbf{(1)}$$

where $y_{it}$ is share of value added of sector *i* (i=agriculture, manufacturing, services) in total value added. There are *k* regressors in $x_{it}$ but this does not include a constant term (Greene, 2008). $z_{it}$ consists of a constant term and other individual (i) specific variables.

If all the $z_i$ are observable then (1) becomes a standard regression model. In this case we are justified in running a pooled OLS regression. This will be the case if

$$\mathrm{E}(x_{it}'\varepsilon_{it}) = E(x_{it}'c_i) = 0 \text{ for } t = 1,2, \dots\dots .T$$

$$E(x_{it}'\,\varepsilon_{it}) = E(x_{it}'c_i) = 0 \text{ for } t = 1,2,\ldots T \qquad (2)$$

According to Greene (2008) this yields consistent estimates.

However, this assumption is difficult to satisfy for many samples. Several reasons for this can be cited. Thus, McManus (2011) suggests that this may be because of (i) hierarchical data sampling methods, (ii) multistage probability samples that incorporate cluster based sampling designs which have errors that are correlated within clusters, (iii) time series data can exhibit serial correlation and (iv) panel data can be correlated within the unit of observation, in this case countries.

Hence, the pooled OLS estimates may not be efficient. Efficiency can be improved by combining pooled OLS with cluster-consistent standard errors. We pursue this route in this paper. Further, we also estimate pooled OLS assuming cross-equation error term correlation which necessitates the use of Generalized Least Squares (GLS) methods. We further estimate fixed effects and random effects models and use the Hausman test to choose the right estimation technique.

Furthermore, given the vast spatial differences within South Asia as evident from Table 2 we use quantile methods on the pooled model to distinguish threshold effects. The OLS estimator minimizes the sum of squared residuals and, thus, gives large weightage to large deviations from the mean. If the sample size is small then the results can be very sensitive to a small number of outlier observations. To tackle this minimizing absolute deviations from the mean has been suggested and is referred to in the literature as Least Absolute Deviation (LAD). The idea is to minimize the absolute deviations from the median. This is a special case of the quantile regression

$$\boldsymbol{Prob}[\boldsymbol{y_{it}} \leq \boldsymbol{x'_{it}}\boldsymbol{\beta}] = \boldsymbol{q}.$$

where $q$ = 50 % in the case of LAD.

The method of qreg2 (available in the STATA program) was followed in this paper (Machado et al., 2011). Quantiles are differentiated by shares of different sector in GDP. We ran each equation one at a time for the different quantiles and did not run all the regressions simultaneously. In contrast to qreg, qreg2 produces standard errors and t-statistics that are asymptotically valid under heteroskedasticity and intra-cluster correlation. Machado et. al.

(2011) test for intra-cluster correlation and show that qreg can produce robust standard errors but not clustered-robust standard errors. Qreg2 can produce this.

To check for the validity of the quantile regressions, we can compare the estimated coefficients at different quantiles with the pooled OLS coefficients If we want to justify the use of quantile regression, then the difference between the estimated coefficients at mean, which is the OLS estimates and the estimated coefficients at various quantiles, should be statistically significant. If the quantile coefficient is outside the OLS 95 per cent confidence interval, then we have significant differences between the quantile and the OLS coefficients**.** If the coefficients for the quantile regression lie within the 95 per cent confidence intervals around the respective OLS estimates then there is not much advantage of opting for the quantile regression.

A similar way to examine is to graph the results. The coefficients for every regressor is plotted against the respective quantiles. This graph also has the OLS estimate along with the 95 per cent confidence interval associated with this OLS estimate which are horizontal lines as they are fixed across quantiles. If quantile coefficients remain within these 95 per cent confidence intervals band then no significant traction is obtained from the quantile regression and the OLS results are adequate.

Finally, some recent literature suggest quantile regression on panel data but this issue is far from settled and there is not consensus on the relative performance of those estimators. However, there is consensus on the efficacy of the qreg2 method. Hence, we adopt this method along with clustered standard errors for pooled data.

## III. Results and Discussion

Figure 2 provides scatter plots of sectoral value added (in percent in y-axis) against log of GDP per capita (x-axis) for South Asia and each of the four countries for all years.

**Figure 2 here.**

For South Asia and each of the countries the share of agriculture value added to total GDP falls steadily with the growth of GDP per capita. The share of manufacturing rises and then reaches a plateau of about 20 per cent in the case of South Asia. A similar pattern is observed for India and Bangladesh but not for Pakistan and Sri Lanka. The share of services rises with per capita GDP growth in South Asia as a whole and in each constituent country.

Thus, evidence for a Kuznets-type structural transformation, even in the raw data, in South Asia is weak. This pattern is being followed for the agricultural and services sectors but not for manufacturing. The latter is particularly true for Pakistan and Sri Lanka. The South Asian regional transformation patterns for agriculture and services sectors are same as those in developing Asia and advanced economies groups (see Dabla-Norris et al. 2013 for more) during same period. However, manufacturing share for advanced economies appear with a gradual declining trend while that of developing Asia is in rising trend, similar to South Asia. An important issue to address here is whether the patterns observed in Figure 2 persist when control variables in the form of country fundamentals, policy variables and country dummies are introduced. We now investigate this.

**Pooled OLS Regression Results**

In all the regression results we differentiate between fundamental determinants of sectoral shares (e.g. land area, GDP etc.) and policy determinants of these shares (e.g. enrolment in secondary education, FDI, trade openness, etc.). Table 3 reports results on pooled OLS regression for South Asia with regional and time dummies for the case where only fundamental determinants of sectoral shares are considered.

**Table 3 about here.**

The share of agriculture rises significantly with land, arable land and age and falls with population. The country dummies and time dummy are insignificant. The share of manufacture rises with population and falls with age and arable land. Other variables are insignificant. The share of the service sector rises with population and falls with land and arable. It has a U shaped relation with GDP, i.e., the share of services in aggregate value added falls and then rises. An important conclusion from this table is, rises in population has led to shift in labor to the manufacturing and services sectors and only the services sector has any significant relation with GDP.

We also estimated the pooled OLS model with clustered standard errors. The results are reported in Table 4. However, since we do not get meaningful F-statistics for any of the regressions we do not discuss the results here.[3]

**Table 4 here.**

In Table 5 we report on pooled OLS estimation for the extended model with policy variables. Among the "fundamentals" the share of agriculture rises with land. Among the policy variables the share of agriculture falls with power and capital and rises with trade. No other variable is significant. Among the fundamentals the share of manufacturing falls with land and arable. There is a U-shaped relation with GDP per capita. Among the policy variables the share of manufactures falls with FDI and rises with capital. The coefficient of dum92 is positive but insignificant. The dummy for India is positive and significant and that for Sri Lanka is negative and significant. None of the fundamentals significantly affect the share of the services sector. Among the policy variables the share of the services sector falls with trade openess and rises with capital.

**Table 5 here.**

Table 6 reports results on Zellner's Seemingly Unrelated Regression (SUR) with some cross equation restrictions (since these were not rejected by the unrestricted SUR regression). The SUR model is constructed with the fundamentals and the policy variables. None of the fundamentals is a significant determinant of the share of agriculture in this model. Share of agriculture rises with $trade$ but falls with $power$ and $capital$. $Dum92$ is positive and significant. Although GDP has positive sign it is insignificant. Policy variables are important. The share of manufactures falls with $land$ and $pop$ and rises with $age$. It has a U-shaped relation with GDP per capita – share of manufactures first falls and then rises as GDP per capita rises. The share of manufactures rises with $power$. The coefficient of $dum92$ is positive and insignificant. The coefficient of the dummy for India is positive and significant and negative and significant for Sri Lanka. In the case of services both country fundamentals and policy variables are important. The share of the services sector has an inverted U-relation with GDP. This share

[3] STATA does not report the F stat because, number of cluster is not sufficient. If number of regressors is greater than the number of clusters, then the cluster-robust variance-covariance matrix is not full rank. This is why F test fails. Because, we have only 4 countries, hence 4 clusters, the F test fails here.

rises with power, FDI and capital falls with trade. The coefficient of dum92 is positive and significant. The country dummies are insignificant.

**Table 6 here.**

In Table 7 we report results on panel fixed effects regression for the model with country fundamentals only. In this model the share of agriculture rises with arable land and age dependency and falls with population. There is no significant relation with GDP. The share of manufacturing rises with population and falls with arable land and age dependancy. The share of services rises with pop and falls with arable. This share has a U-shaped relation with GDP. Dum92 is positive and significant.

**Table 7 here.**

For the sake of completeness results for the random effects model are shown in Table 8 but are not discussed since the fixed effects model is preferred.

**Table 8 here.**

Panel regressions with policy variables are shown in Tables 9 and 10. The results do not favor fixed or random effects uniformly and are, therefore, not discussed further.

**Tables 9 and 10 here.**

**Quantile Regression Results**

In Figure 3 we plot the dependent variable (sectoral shares) across the quantiles and the fractions of the data that are associated with each quantile considered. Particularly noticeable about this diagram is the fact that a very large part of the manufacturing sector data hover around the 12$^{th}$ to 15$^{th}$ quantiles indicating stagnant share of manufacturing in South Asia.

**Figure 3 here.**

Regression results for quantile regressions for 0.1, 0.25, 0.5, 0.75 and 0.9 quantiles using only the country fundamentals alone for the agricultural sector are presented in Table 11. For the manufacturing sector these are presented in Table 12 and for the services sector in Table 13.

Tables 14, 15 and 16 present the corresponding results for agriculture, manufacturing and services when policy variables are included in the analysis.

**Tables 11 to 16 here.**

Table 11 indicates that no variable is significant in the 0.1 and 0.25 quantiles regressions for the agricultural sector. For the median and 0.75 quantile regressions only arable land has a positive and significant effect on the share of agriculture. However, for the 0.9 quantile the share of agriculture has a significant U-shaped relation with GDP. Thus, at primary stages of development when agriculture has high share to GDP (such as in 0.9 qunatile) then country fundamentals play an important role in the structural transformation.

Table 12 indicates that for the 0.1, 0.25 and 0.5 quantiles of the manufacturing sector shares only arable land has a significant (and negative) impact. All other coefficients are insignificant except for dum92 which is negative and significant for the 0.5 and 0.9 quantiles. For the 0.75 and 0.9 quantile regressions no variable is significant.

Table 13 indicates results for the share of the services sector. In the 0.1 quantile regression land and arable have negative and significant coefficients whereas dum92 has a positive and significant coefficient. Thus, the structural reform policy adopted by most of the countries in the region during the 1990s was successful in boosting service sector growth. No variable is significant in the 0.25 quantile regression. In the median regression pop has a positive and significant coefficient and land has a negative and significant coefficient. In the 0.75 quantile regression both land and arable have negative and significant coefficients. All other coefficients are insignificant. In the 0.9 quantile regression pop and dum92 have positive and significant coefficients whereas land and arable have negative and significant coefficients.

These quantile regression results change substantially when policy variables are introduced. In particular, several more variables become significant. Table 14 indicates that for the 0.1 quantile for agriculture, among the fundamentals pop and arable are positive and significant whereas land and age are negative and significant. The share of agriculture has a significant U-shaped relation with GDP for this quantile. Among the policy variables trade has a positive and significant impact whereas power, FDI and capital have negative and significant impacts. Dum92 has a negative and significant coefficient whereas the dummy variables for Sri Lanka and Pakistan are positive and significant. For the 0.25 quantile regression among the fundamentals pop and arable have positive and significant impacts. Age has a negative impact and there is a significant U-shaped relation with GDP. Secondary education, FDI and trade openness have positive and significant impacts whereas capital has a negative impact. Dum92 has a negative and significant impact whereas the dummies for Sri Lanka and Pakistan are each positive and significant. For the median regression among the fundamentals only land has a significant (and positive) impact. For the 0.75 quantile among the fundamentals only arable has a significant (and negative) impact. Among the policy variables power and capital have significant (and negative) impacts. For the 0.9 quantile among the fundamentals only land has a significant (and positive) impact. Among the policy variables edus, has a positive impact and power and capital each have negative and significant impacts.

Table 15 reports on the quantile regression results for the manufacturing sector when policy variables are also considered. Broadly speaking, except land area most of the country fundamentals have significant impacts for manufacturing sector transition from low to high quantiles. Among policy variables, electric power consumption has positive and significant impacts across quantiles whereas FDI has negative and trade policy has positive and significant impacts in upper quantiles only. For the 0.1 quantile among the fundamentals age has a positive and significant impact whereas pop and arable have negative and significant impacts. There is a significant U-shaped relation with GDP across the quantiles. The dummies for Sri Lanka and Pakistan have negative and significant coefficients. In the 0.25 quantile regression among the fundamentals age has a positive and significant impact and arable has a negative and significant impact. Among the policy variables, power has a positive and significant coefficient. Dummies for Pakistan and Sri Lanka are negative and significant. In the median regression, . among the policy variables power has a positive and significant coefficient and FDI has a negative and significant coefficient. Dummies for Sri Lanka and Pakistan are negative and significant. For the 0.75 quantile regression among the fundamentals age has a positive and significant impact whereas pop and arable have negative and significant impacts. Among the policy variables power has a significant and positive impact whereas FDI has a negative impact. Dum92 has a positive and significant coefficient whereas the dummies for Sri Lanka and Pakistan are negative and significant. For the 0.9 quantile regression among the fundamentals age has a positive and significant impact whereas pop and arable have negative and significant impacts. Among the policy variables power and trade have significant positive impacts whereas FDI has a negative impact. The coefficient on Dum92 is positive and significant whereas the dummies for Sri Lanka and Pakistan are negative and significant.

Finally, Table 16 reports on the quantile regressions for the services sector when policy variables are included. For the 0.1 quantile among the fundamentals arable has a positive and significant coefficient whereas land and age have negative and significant coefficients. Among the policy variables edus and power have positive and significant impacts. The dummy variables for Sri Lanka and Pakistan have positive and significant coefficients. For the 0.25 quantile among the fundamentals arable has a significant and positive coefficient whereas land has a negative and significant coefficient. Among the policy variables edus has a positive and significant coefficient. Dummy variables for Sri Lanka and Pakistan are significant and positive. In the median regression no variable has a significant coefficient. In the regression for the 0.75 quantile among the fundamentals land has a negative coefficient and there is an inverted-U relation with per capita GDP. The impact of GDP on services is significant only in the upper quantiles ($75^{th}$ and $90^{th}$). Among the policy variables trade has a negative and significant coefficient and capital has a positive and significant coefficient. The coefficient on dum92 is positive and significant. In the 0.9 quantile regression for the fundamentals coefficients on arable and age have positive signs and there is a significant inverse U-shaped relation with GDP. Among the policy variables FDI and capital have significant positive impacts whereas trade has a negative impact. The coefficient on dum92 is positive and significant whereas the dummies for Sri Lanka and Pakistan are negative and significant.

Summary results for the Tables are reported in Tables 17A (for the share of agriculture); 17 B (for the manufacturing sector) and 17 C (for the services sector). Comparison of regression output across different estimation techniques points towards the robustness (or otherwise) of the results. In many cases quantile regressions give substantial traction. Hence, we report estimates on them.

**Tables 17 A, B, C here.**

Table 17 A indicates that among the fundamental determinants land and arable tend to increase the share of agricultural value added in the pooled OLS model. Other estimation techniques including the quantile methods give somewhat ambiguous results. The impact of lpop is negative and significant only in the pooled OLS and Panel Fixed effects model and positive and significant for the lower quantiles (0.1 and 0.25) in the quantile regression. The larger the age dependency the greater the share of agriculture in value added in most regressions except for the 0.1 and 0.25 quantiles in the quantile regression case. The respective signs of lgdp and lgdpsq, where significant indicate a U-shaped relation between the share of agriculture in value added and GDP per capita.

Among the policy variables greater availability of electrical power is associated with lower share of agriculture in value added. The effect of secondary school enrolment is largely insignificant. Greater trade openness is associated with higher share of agriculture whereas FDI has an insignificant effect except in the quantile regression for the 0.25 quantile where it has a positive impact. Higher capital investment is associated with a lower share of agriculture in value added. The dummy variable for the reforms beginning 1992 has a positive and significant effect in the SUR model. It has a negative and significant sign in the random effects panel model (which is not preferred) and is negative and significant for the quantile regression for the 0.1, 0.25 and 0.25 quantiles only. The dummy variable for India is insignificant whereas the dummy for Sri Lanka has a positive and significant sign for the pooled OLS model and quantiles lower than the median for Sri Lanka. The dummy for Pakistan is largely insignificant except for the lower quantiles in the quantile regression.

For the manufacturing sector lland has a negative and significant coefficient in most regressions as does arable. Higher supply of land and arable land lower the share of manufacturing in value added. Lpop Population has a positive sign in the pooled OLS and panel fixed effects models whereas it has a negative and significant sign in the SUR model and for some quantiles in the quantile regression. Except for the panel fixed effects model age dependency has a positive and significant impact on the share of manufacturing including in all quantiles in the quantile regression. Except for pooled OLS and the panel fixed effects models per capita GDP and share of manufacturing have a U-shaped relation in all models including the quantile effects models. Among the policy variables edus has an insignificant impact whereas the availability of electrical power has a significant and positive impact. By and large FDI has a negative and significant impact indicating that not much FDI is going into the manufacturing sector. Wherever significant the impact of capital investment is positive and significant. The reform dummy dum92 is positive and significant indicating that the reforms have had a positive impact on the share of manufacturing. The India dummy is positive and significant in two equations whereas the dummy for Sri Lanka is negative and significant for two equations.

The summary results for the services sector in Table 17 C show that lland and arable negatively affect the share of the services sector whereas lpop positively affects the share of services except for three quantiles in the quantile regression with fundamental variables only. The dependency ratio has a largely insignificant impact whereas the relation between GDP per capita and the share of services is not robust across estimation techniques. In the SUR model and for higher quantiles in the quantile regression model with policy variables the relation has an inverse U-shape whereas it is U-shaped in the panel fixed effects model. Among the policy variables the impact of edus is largely insignificant whereas greater openness seems to adversely affect the share of services in output. FDI and, to a greater extent, capital have significant positive impacts on the share of services. The reform dummy dum92 is always positive and significant whereas the country dummies are largely insignificant.

A key take away from Table 17 is the fragile relation between GDP per capita and the shares of various sectors in aggregate output. For agriculture this relation is largely U-shaped whereas it should have been monotonically declining. This U-shaped relation also obtains in the case of the manufacturing sector whereas it should have been monotonically rising or, at least, and inverted U-shaped relation. Among the policy variables whereas greater openness increases the share of agriculture it reduces that of the services sector and largely has no effect on manufacturing. FDI has an insignificant effect on the share of agriculture whereas it reduces the share of the manufacturing sector, at least in some models. FDI has a weakly positive effect on the share of services. Capital investment, on the other hand, positively affects the share of manufacturing and services and reduces that of agriculture. The impact of educs is largely insignificant. The reforms beginning 1992 have positively affected the share of manufacturing and services, at least in some estimated equations.

## IV. Concluding remarks

This paper models the evolution and determinants of the shares of agricultural, manufacturing and services sectors' value added for 4 South Asian countries for 55 years: 1960-2014. A number of alternative estimation techniques were used. These included pooled OLS without and with clustered standard errors, SUR estimates, quantile regressions and panel data techniques.

Determinants of these shares were classified into three broad categories "fundamentals", "policy" and "regional dummies". In general the estimated models fit the data well. In most cases quantile regressions unmasks facts that are not apparent in the OLS regression. estimates.

Policy conclusions are derived from the viewpoint of increasing the shares of the services and, particularly, the manufacturing sector in value added. We find that enhanced availability of electrical power and higher capital investment are central to the enhancement of the share of the manufacturing sector in value added. The relationships of the shares with GDP per capita are fragile and, sometimes, counter-intuitive.

It is a matter of concern that the impacts of key policy variables such as educs, fdi and open are not robust across the models and in, some instances, have the "wrong" sign even when significant. This calls for policy reform in these areas. For instance, Jha (2014) reports that secondary school enrolment and attainment in India lag behind several countries. There is substantial evidence to suggest that the quality of education needs to be improved. The impact of FDI reveals that the form and direction of FDI need to be thought through. The sign of "open" reveals that the engagement of India's international trade sector (exports and imports) need to be better integrated with industrial and services sector growth policies. Similar comments might apply to the other South Asian countries studied in this paper.

It seems that South Asia has undergone a period of arrested industrial development. There is urgent need for policy intervention if this condition is to be redressed.

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Figure 1: Sectoral Share of Output and GDP growth

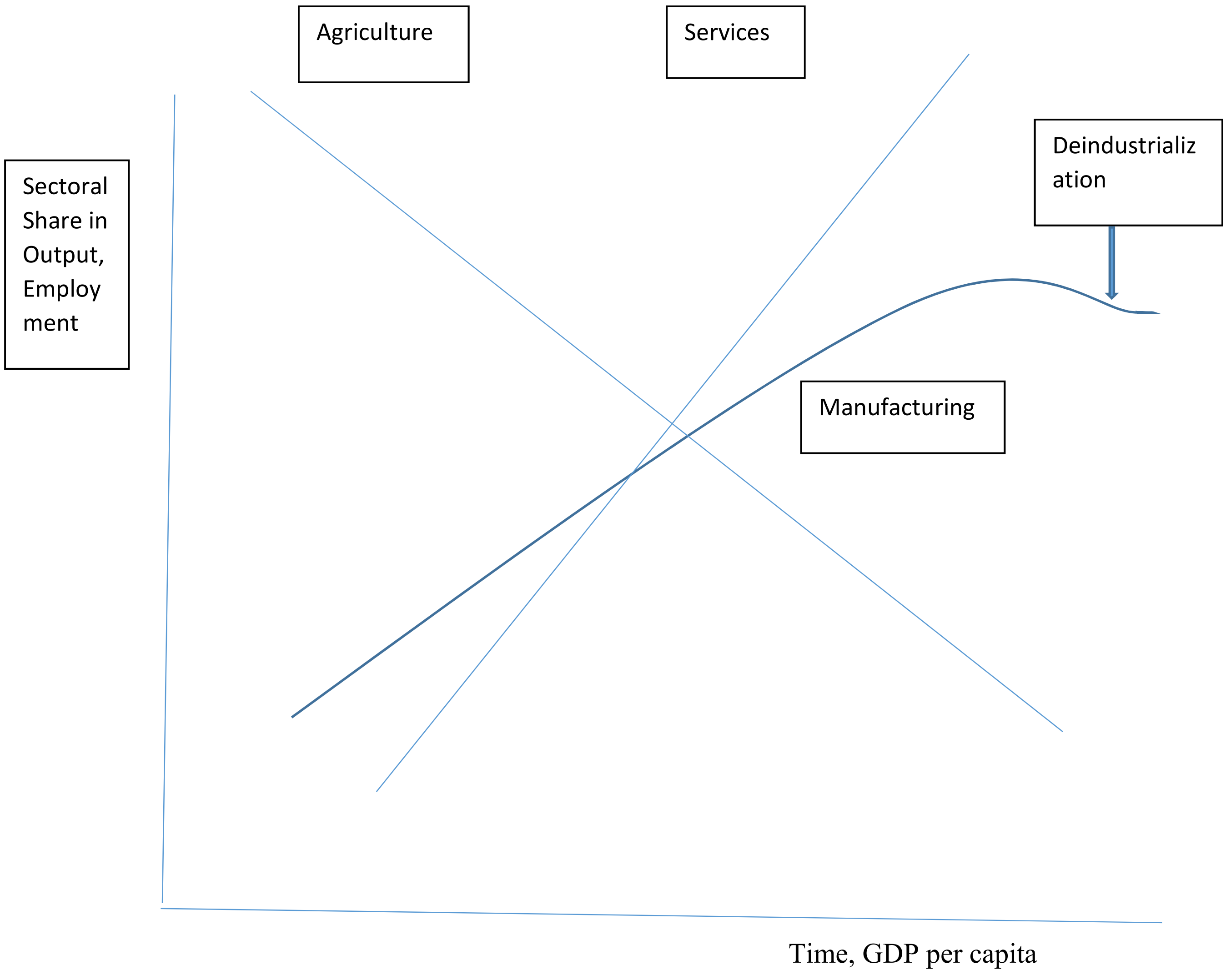
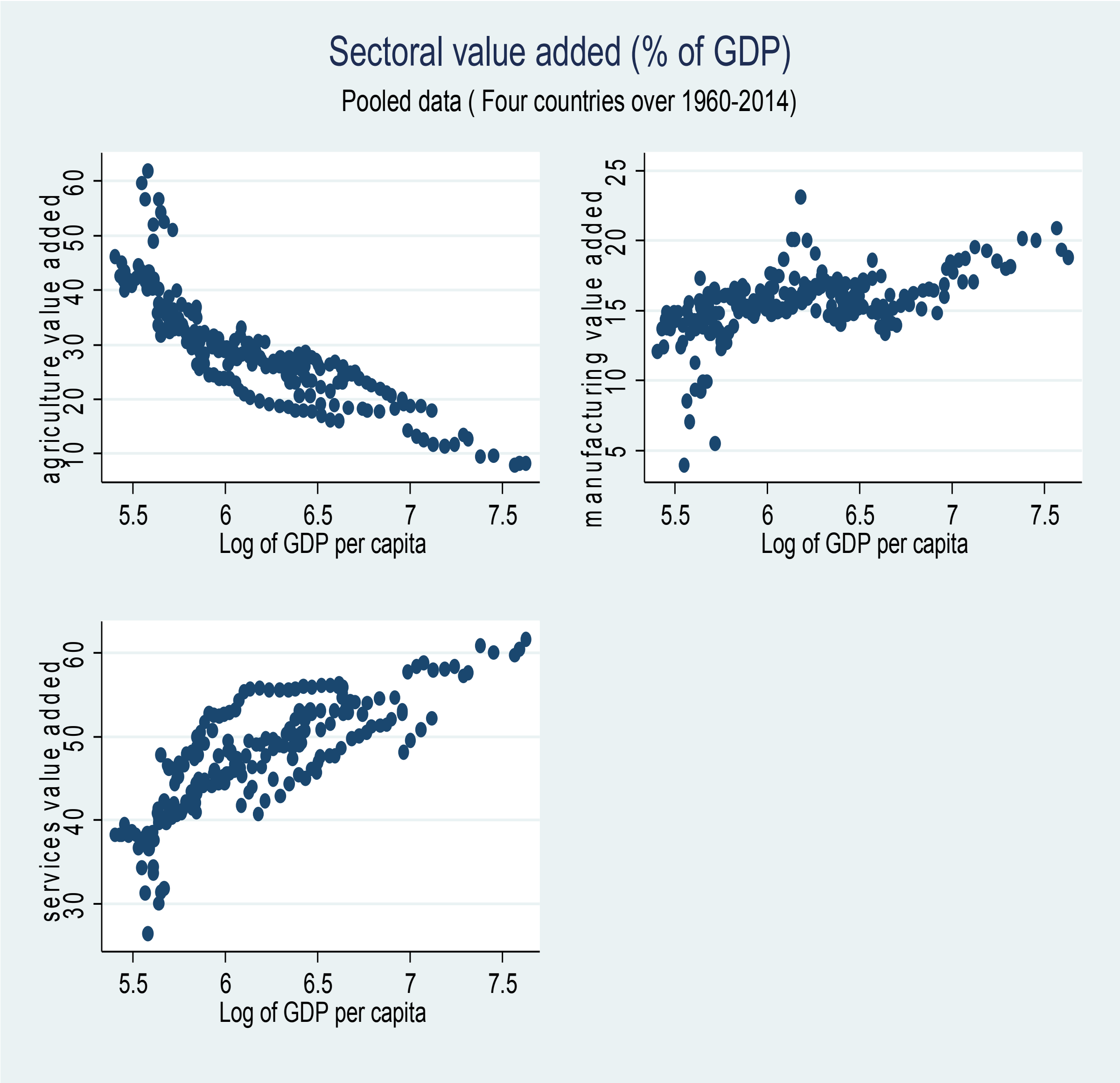


**Figure 2: Links between sectoral shares of output and GDP per capita: South Asia and individual countries**



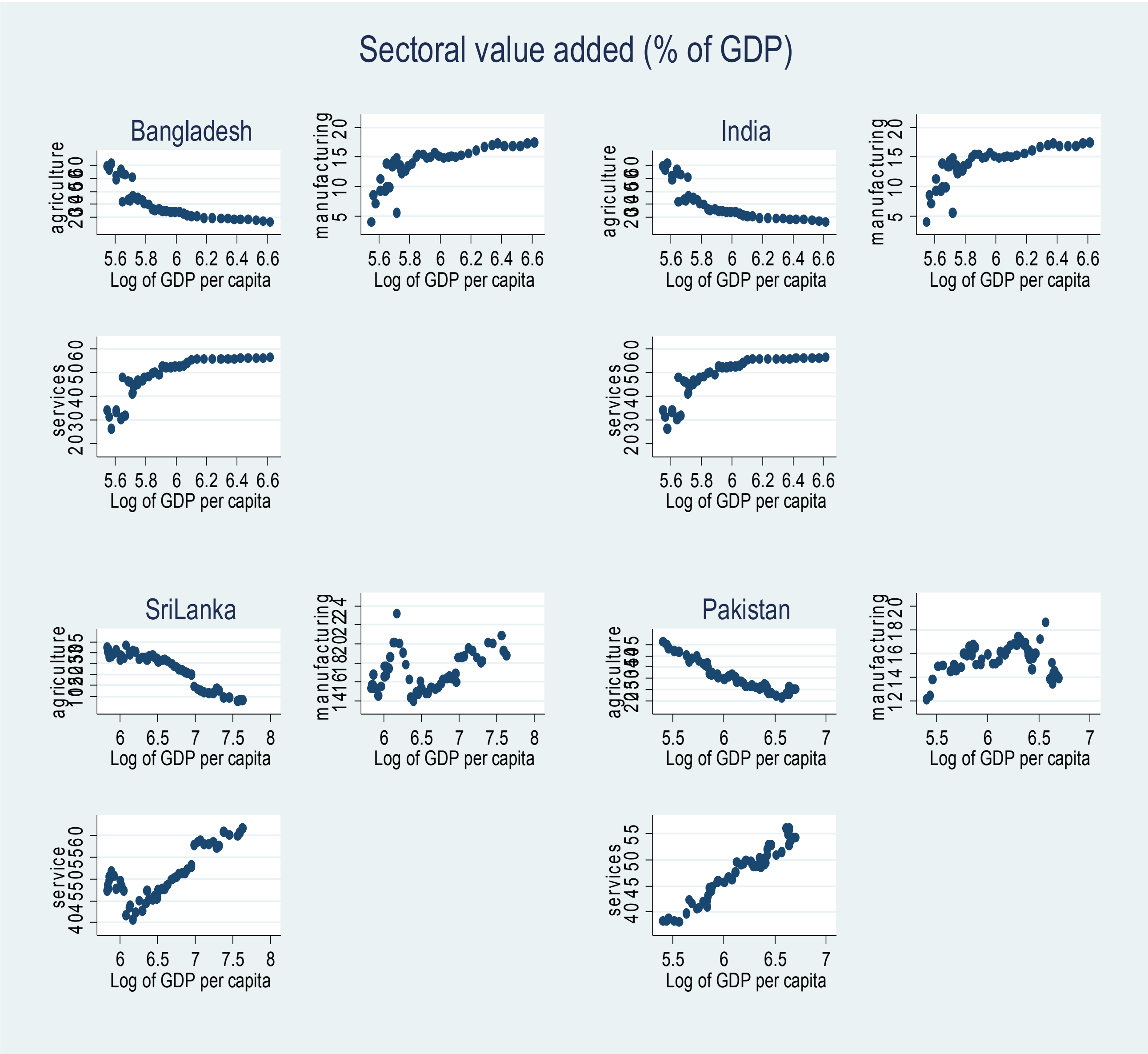
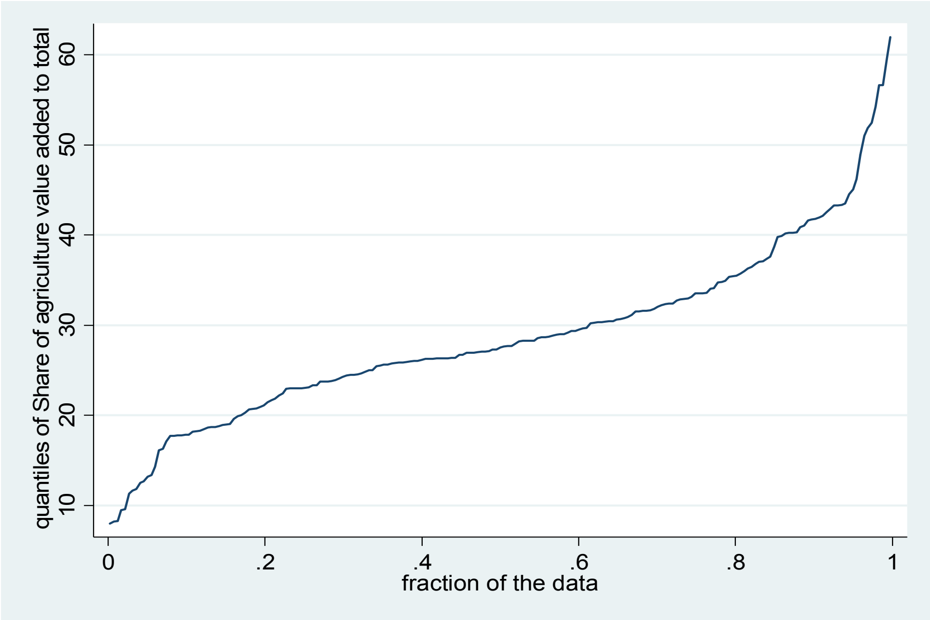
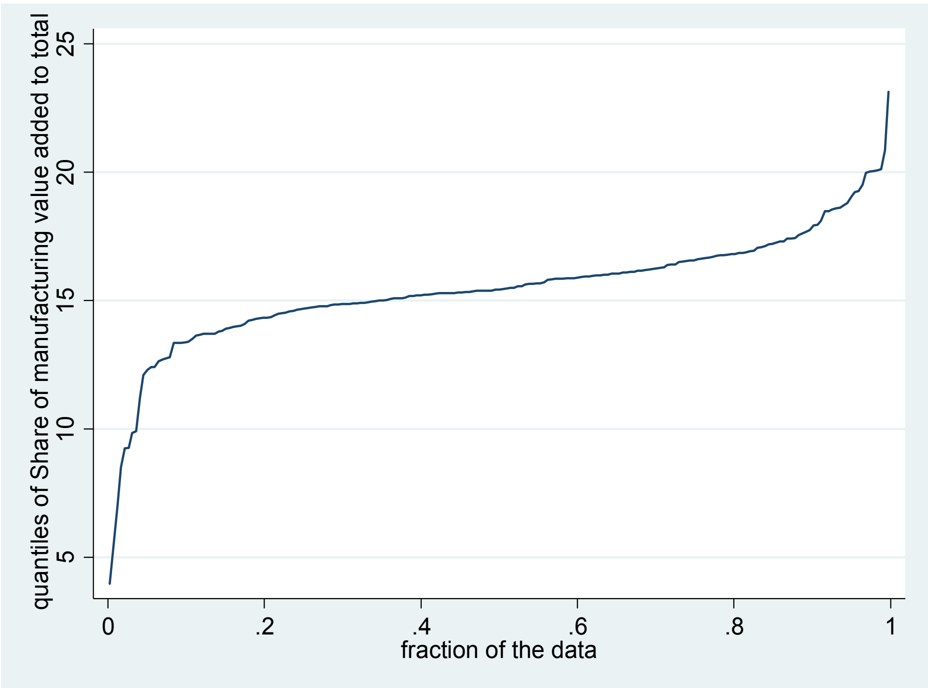

Sectoral value added (% of GDP)
Bangladesh
India
SriLanka
Pakistan
agriculture
manufacturing
services
service
Log of GDP per capita

**Figure 3 Quantiles of shares of agriculture, manufacturing and services**



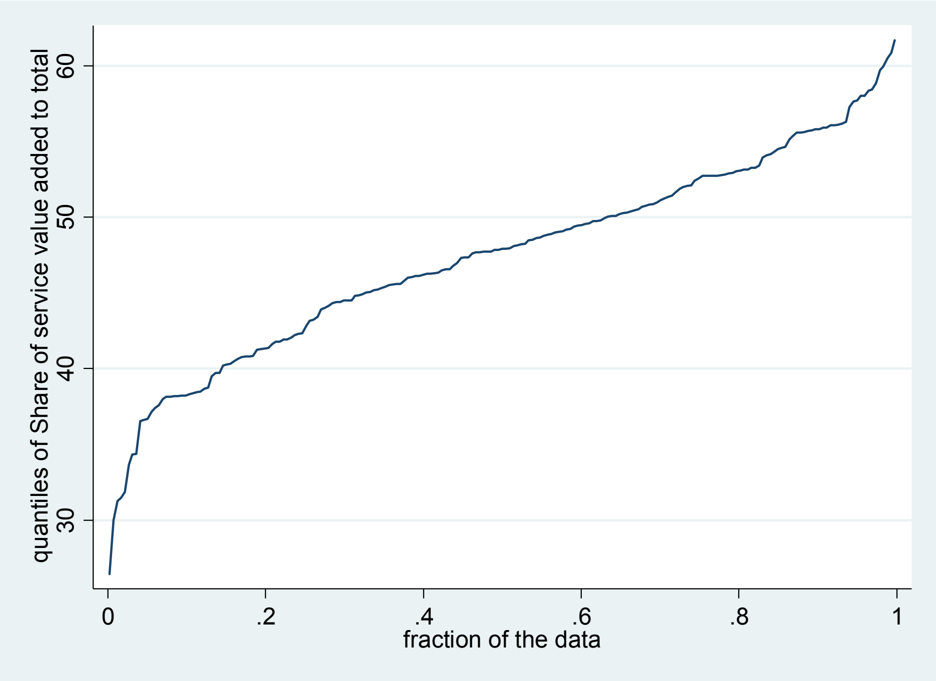
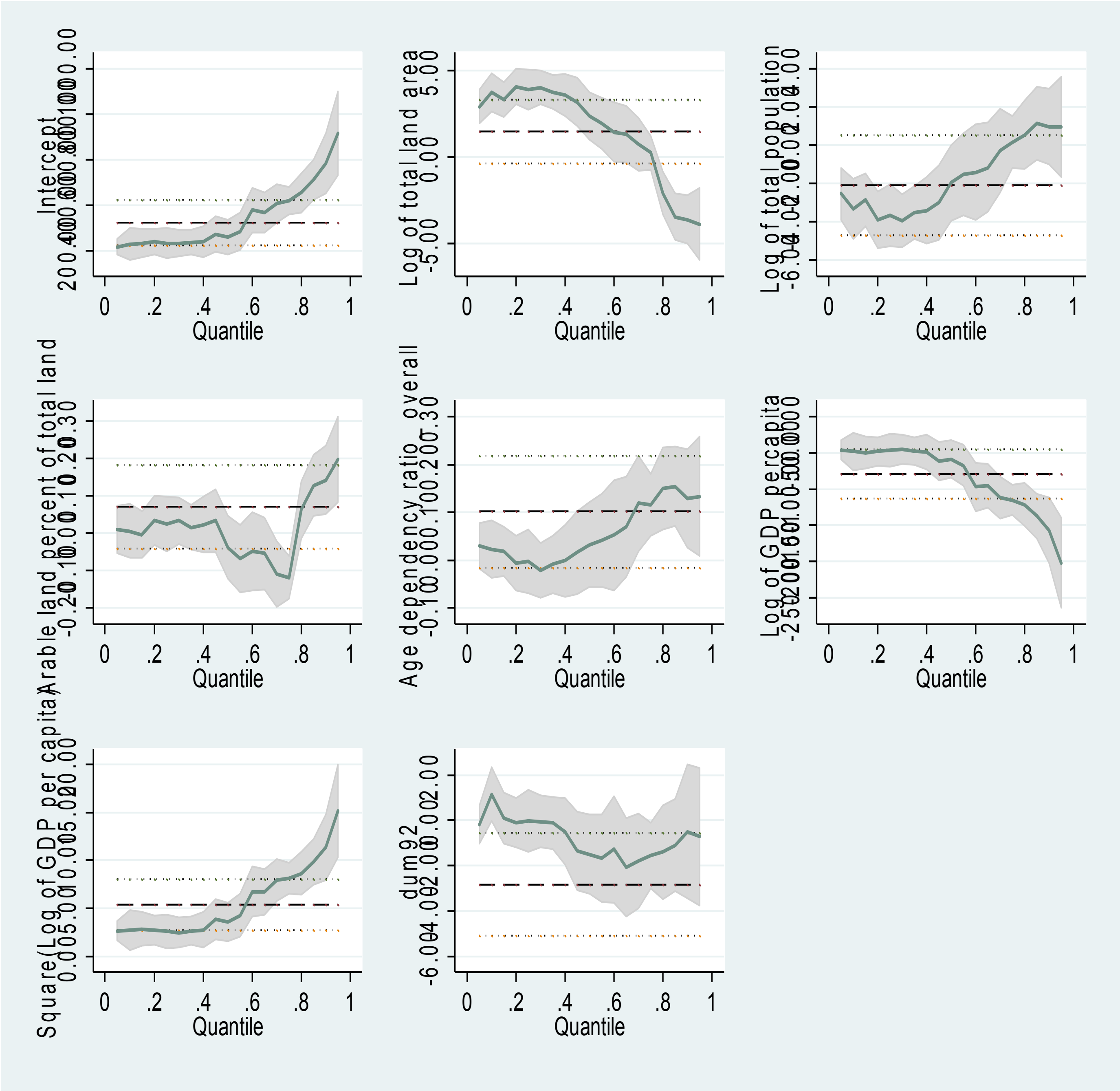
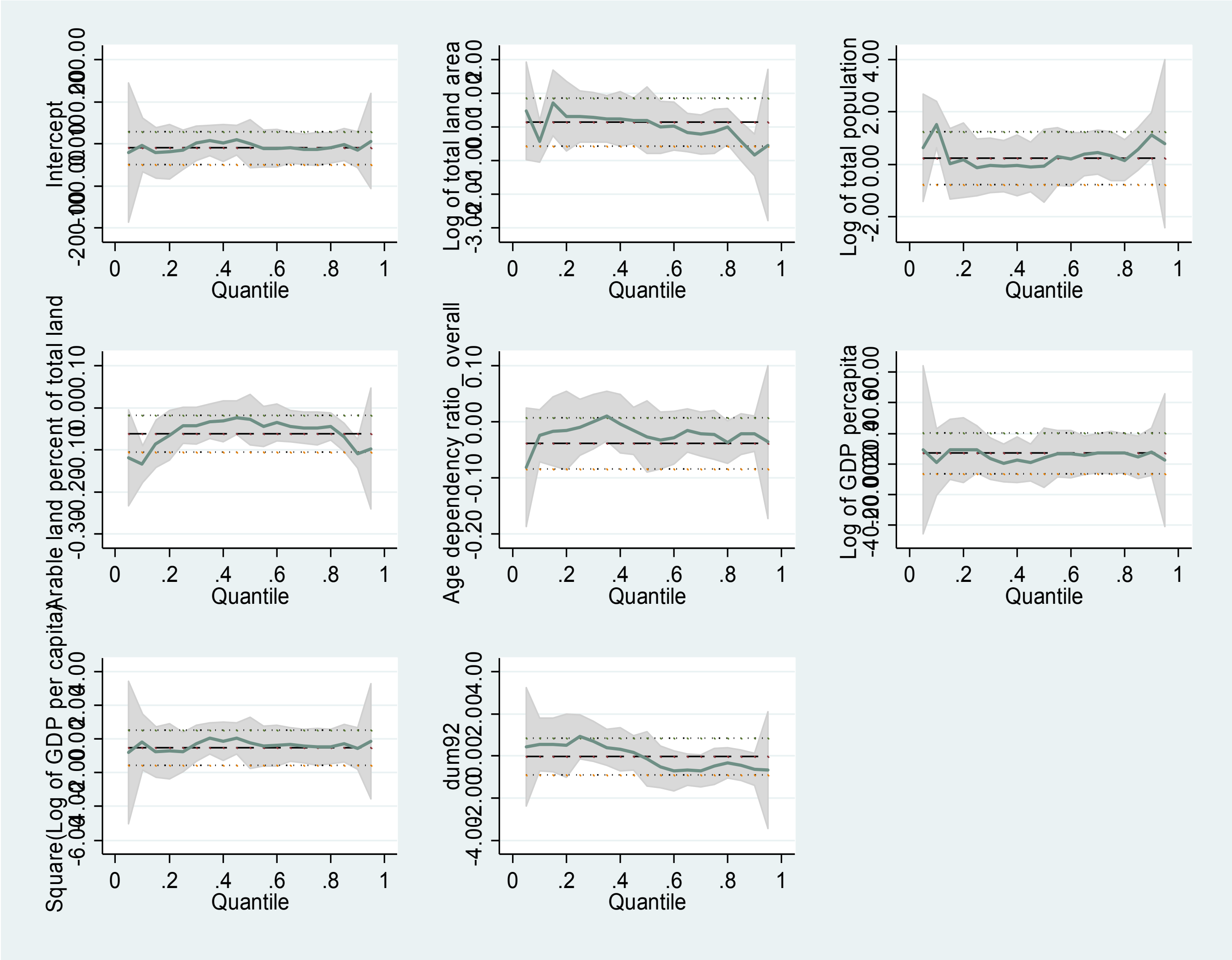

quantiles of Share of service value added to total
30
40
50
60
0
.2
.4
.6
.8
1
fraction of the data

**Figure 4: Plots of Quantile regression coefficients for the share of agriculture**



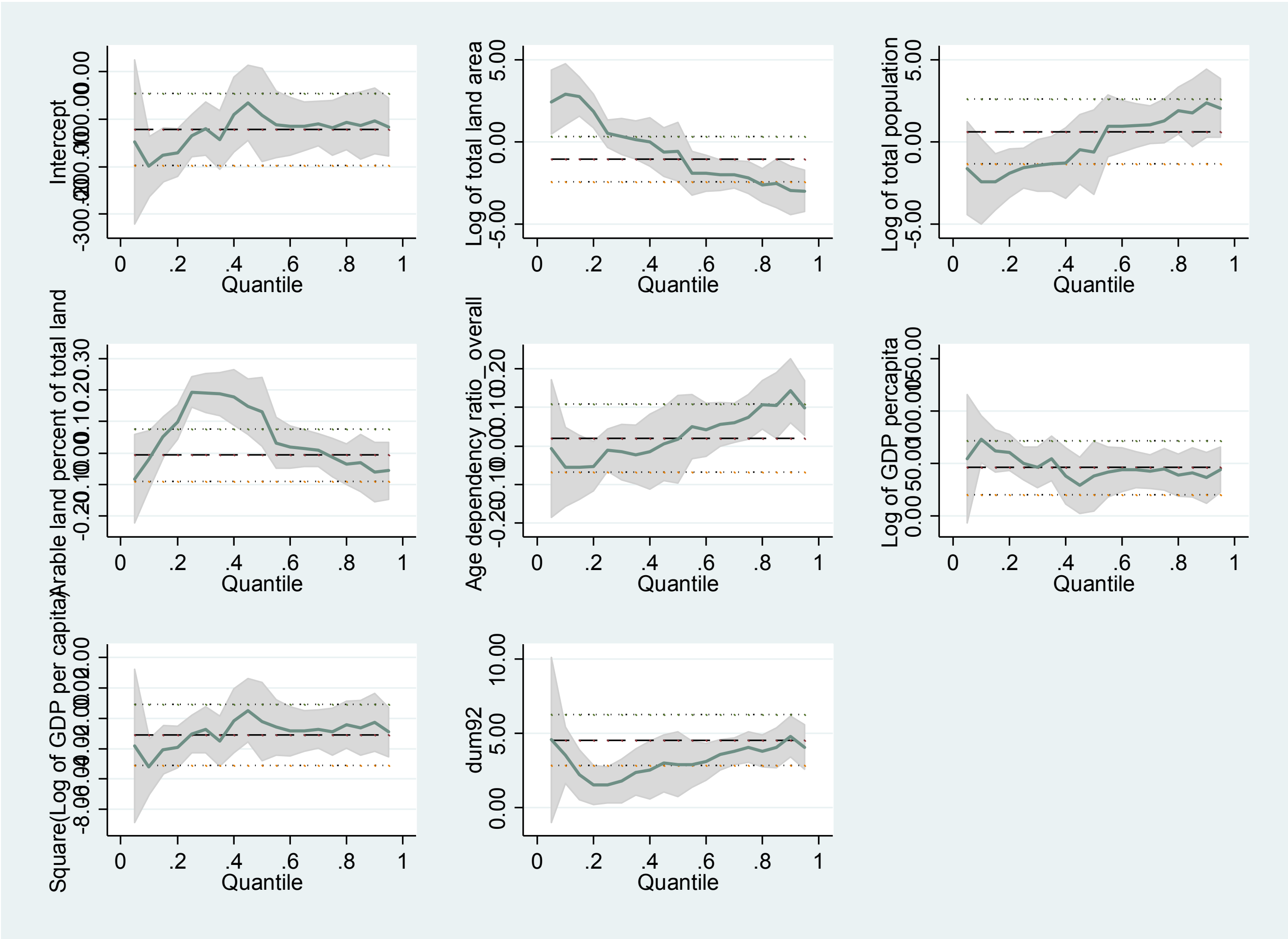

Agri equation: OLS coefficients and plot of coefficients across quantiles

Figure 4: Plots of Quantile regression coefficients for the share of manufactures



Manufacturing equation: OLS coefficients and plot of coefficients across quantiles

Figure 5: Plots of Quantile regression coefficients for the share of services




Service equation: OLS coefficients and plot of coefficients across quantiles

## Table 1: Summary Statistics of Variables

| Variable | | Mean | Std. Dev. | Min | Max | Observations | |
|---|---|---|---|---|---|---|---|
| cid | overall | 2.578947 | 1.094012 | 1 | 4 | N = | 209 |
| | between | | 1.290994 | 1 | 4 | n = | 4 |
| | within | | 0 | 2.578947 | 2.578947 | T-bar = | 52.25 |
| Time | overall | 1988.158 | 15.46177 | 1960 | 2014 | N = | 209 |
| | between | | 2.75 | 1987 | 1992.5 | n = | 4 |
| | within | | 15.29753 | 1961.158 | 2015.158 | T-bar = | 52.25 |
| agri | overall | 28.77806 | 9.712542 | 7.99197 | 61.95414 | N = | 209 |
| | between | | 3.733862 | 23.38173 | 31.49922 | n = | 4 |
| | within | | 9.145816 | 13.38783 | 59.23297 | T-bar = | 52.25 |
| manuf | overall | 15.46577 | 2.307962 | 3.983848 | 23.1317 | N = | 209 |
| | between | | 1.416196 | 13.58574 | 17.05054 | n = | 4 |
| | within | | 1.9782 | 5.863875 | 21.54693 | T-bar = | 52.25 |
| service | overall | 47.41743 | 6.634936 | 26.43481 | 61.6563 | N = | 209 |
| | between | | 2.386212 | 44.51427 | 50.35775 | n = | 4 |
| | within | | 6.285369 | 26.52024 | 58.71597 | T-bar = | 52.25 |
| lland | overall | 12.87152 | 1.532132 | 11.04628 | 14.90515 | N = | 206 |
| | between | | 1.743872 | 11.04628 | 14.90515 | n = | 4 |
| | within | | 0 | 12.87152 | 12.87152 | T-bar = | 51.5 |
| lpop | overall | 18.47975 | 1.466722 | 16.10764 | 20.982 | N = | 209 |
| | between | | 1.605428 | 16.5663 | 20.49403 | n = | 4 |
| | within | | .3266766 | 17.73541 | 19.1513 | T-bar = | 52.25 |
| arable | overall | 42.61197 | 19.27306 | 9.201084 | 73.38865 | N = | 202 |
| | between | | 22.26838 | 14.54464 | 66.43173 | n = | 4 |
| | within | | 2.466456 | 35.10319 | 49.56889 | T = | 50.5 |
| age | overall | 73.24309 | 12.84571 | 48.0156 | 93.28597 | N = | 209 |
| | between | | 8.126297 | 63.57941 | 82.12686 | n = | 4 |
| | within | | 10.65695 | 49.35309 | 97.17642 | T-bar = | 52.25 |
| lgdp | overall | 6.180747 | .5002599 | 5.404655 | 7.629951 | N = | 208 |
| | between | | .2811167 | 5.931473 | 6.568963 | n = | 4 |
| | within | | .4372369 | 5.431594 | 7.272775 | T-bar = | 52 |
| lgdpsq | overall | 38.45069 | 6.355676 | 29.21029 | 58.21615 | N = | 208 |
| | between | | 3.584423 | 35.27247 | 43.42318 | n = | 4 |
| | within | | 5.548862 | 29.05773 | 53.24366 | T-bar = | 52 |
| educs | overall | 40.53971 | 20.58214 | 15.84216 | 99.33851 | N = | 123 |
| | between | | 18.9284 | 22.80935 | 67.31642 | n = | 4 |
| | within | | 13.18538 | 19.13425 | 72.5618 | T = | 30.75 |
| lpower | overall | 5.074122 | .9460251 | 2.351975 | 6.611693 | N = | 168 |
| | between | | .7250417 | 4.022136 | 5.584971 | n = | 4 |
| | within | | .705931 | 3.403961 | 6.681747 | T = | 42 |
| fdi | overall | .6736017 | .7364278 | -.0632423 | 3.668323 | N = | 173 |
| | between | | .2420359 | .3300278 | .8977417 | n = | 4 |
| | within | | .7054958 | -.2538285 | 3.584911 | T-bar = | 43.25 |
| trade | overall | 36.48305 | 20.70416 | 7.529721 | 88.63646 | N = | 198 |
| | between | | 19.78956 | 21.43615 | 65.27342 | n = | 4 |
| | within | | 11.1273 | 14.21946 | 70.5919 | T-bar = | 49.5 |

| Variable | | Mean | Std. Dev. | Min | Max | Observations | |
|---|---|---|---|---|---|---|---|
| capital | overall | 20.55465 | 6.025352 | 4.697696 | 38.15775 | N = | 200 |
| | between | | 2.853515 | 17.49749 | 23.29203 | n = | 4 |
| | within | | 5.470728 | 6.487326 | 35.42036 | T-bar = | 50 |
| educt | overall | 6.27905 | 5.034185 | 1.01294 | 24.80476 | N = | 110 |
| | between | | 2.350552 | 3.816714 | 9.32676 | n = | 4 |
| | within | | 4.538021 | 1.77998 | 21.75705 | T = | 27.5 |
| dum92 | overall | .4401914 | .4976019 | 0 | 1 | N = | 209 |
| | between | | .0522727 | .4181818 | .5227273 | n = | 4 |
| | within | | .4957644 | -.0825359 | 1.02201 | T-bar = | 52.25 |

## Table 2: Basic Statistics for selected countries

**Bangladesh**

| Variable | | Mean | Std. Dev. | Min | Max | Observations | |
|---|---|---|---|---|---|---|---|
| cid | overall | 1 | 0 | 1 | 1 | N = | 44 |
| | between | | . | 1 | 1 | n = | 1 |
| | within | | 0 | 1 | 1 | T = | 44 |
| Time | overall | 1992.5 | 12.84523 | 1971 | 2014 | N = | 44 |
| | between | | . | 1992.5 | 1992.5 | n = | 1 |
| | within | | 12.84523 | 1971 | 2014 | T = | 44 |
| agri | overall | 31.49922 | 13.42887 | 16.109 | 61.95414 | N = | 44 |
| | between | | . | 31.49922 | 31.49922 | n = | 1 |
| | within | | 13.42887 | 16.109 | 61.95414 | T = | 44 |
| manuf | overall | 13.58574 | 3.179707 | 3.983848 | 17.4323 | N = | 44 |
| | between | | . | 13.58574 | 13.58574 | n = | 1 |
| | within | | 3.179707 | 3.983848 | 17.4323 | T = | 44 |
| service | overall | 47.33201 | 8.642414 | 26.43481 | 56.28189 | N = | 44 |
| | between | | . | 47.33201 | 47.33201 | n = | 1 |
| | within | | 8.642414 | 26.43481 | 56.28189 | T = | 44 |
| lland | overall | 11.7766 | 0 | 11.7766 | 11.7766 | N = | 44 |
| | between | | . | 11.7766 | 11.7766 | n = | 1 |
| | within | | 0 | 11.7766 | 11.7766 | T = | 44 |
| lpop | overall | 18.49773 | .2790554 | 18.01147 | 18.8849 | N = | 44 |
| | between | | . | 18.49773 | 18.49773 | n = | 1 |
| | within | | .2790554 | 18.01147 | 18.8849 | T = | 44 |
| arable | overall | 66.43173 | 4.545709 | 58.92295 | 73.38865 | N = | 43 |
| | between | | . | 66.43173 | 66.43173 | n = | 1 |
| | within | | 4.545709 | 58.92295 | 73.38865 | T = | 43 |
| age | overall | 77.5759 | 13.47132 | 53.6859 | 93.28597 | N = | 44 |
| | between | | . | 77.5759 | 77.5759 | n = | 1 |
| | within | | 13.47132 | 53.6859 | 93.28597 | T = | 44 |
| lgdp | overall | 5.931473 | .3036338 | 5.549173 | 6.616561 | N = | 44 |
| | between | | . | 5.931473 | 5.931473 | n = | 1 |
| | within | | .3036338 | 5.549173 | 6.616561 | T = | 44 |
| lgdpsq | overall | 35.27247 | 3.674323 | 30.79333 | 43.77888 | N = | 44 |
| | between | | . | 35.27247 | 35.27247 | n = | 1 |
| | within | | 3.674323 | 30.79333 | 43.77888 | T = | 44 |

| Variable | | Mean | Std. Dev. | Min | Max | Observations | |
|---|---|---|---|---|---|---|---|
| educs | overall | 33.92309 | 14.77522 | 16.52508 | 53.64889 | N = | 29 |
| | between | | . | 33.92309 | 33.92309 | n = | 1 |
| | within | | 14.77522 | 16.52508 | 53.64889 | T = | 29 |
| lpower | overall | 4.022136 | .961919 | 2.351975 | 5.629761 | N = | 42 |
| | between | | . | 4.022136 | 4.022136 | n = | 1 |
| | within | | .961919 | 2.351975 | 5.629761 | T = | 42 |
| fdi | overall | .3300278 | .463974 | -.05146 | 1.449748 | N = | 43 |
| | between | | . | .3300278 | .3300278 | n = | 1 |
| | within | | .463974 | -.05146 | 1.449748 | T = | 43 |
| trade | overall | 26.31314 | 9.830576 | 10.99563 | 48.11092 | N = | 44 |
| | between | | . | 26.31314 | 26.31314 | n = | 1 |
| | within | | 9.830576 | 10.99563 | 48.11092 | T = | 44 |
| capital | overall | 18.76502 | 6.658072 | 4.697696 | 28.57788 | N = | 44 |
| | between | | . | 18.76502 | 18.76502 | n = | 1 |
| | within | | 6.658072 | 4.697696 | 28.57788 | T = | 44 |
| educs | overall | 5.315625 | 2.86996 | 2.22872 | 13.22793 | N = | 31 |
| | between | | . | 5.315625 | 5.315625 | n = | 1 |
| | within | | 2.86996 | 2.22872 | 13.22793 | T = | 31 |
| dum92 | overall | .5227273 | .5052578 | 0 | 1 | N = | 44 |
| | between | | . | .5227273 | .5227273 | n = | 1 |
| | within | | .5052578 | 0 | 1 | T = | 44 |

**India**

| Variable | | Mean | Std. Dev. | Min | Max | Observations | |
|---|---|---|---|---|---|---|---|
| cid | overall | 2 | 0 | 2 | 2 | N = | 55 |
| | between | | . | 2 | 2 | n = | 1 |
| | within | | 0 | 2 | 2 | T = | 55 |
| Time | overall | 1987 | 16.02082 | 1960 | 2014 | N = | 55 |
| | between | | . | 1987 | 1987 | n = | 1 |
| | within | | 16.02082 | 1960 | 2014 | T = | 55 |
| agri | overall | 30.69747 | 8.856152 | 17.73664 | 44.5262 | N = | 55 |
| | between | | . | 30.69747 | 30.69747 | n = | 1 |
| | within | | 8.856152 | 17.73664 | 44.5262 | T = | 55 |
| manuf | overall | 15.38724 | 1.175347 | 12.42885 | 17.92443 | N = | 55 |
| | between | | . | 15.38724 | 15.38724 | n = | 1 |
| | within | | 1.175347 | 12.42885 | 17.92443 | T = | 55 |
| service | overall | 44.51427 | 5.832834 | 36.53333 | 54.63926 | N = | 55 |
| | between | | . | 44.51427 | 44.51427 | n = | 1 |
| | within | | 5.832834 | 36.53333 | 54.63926 | T = | 55 |
| lland | overall | 14.90515 | 0 | 14.90515 | 14.90515 | N = | 54 |
| | between | | . | 14.90515 | 14.90515 | n = | 1 |
| | within | | 0 | 14.90515 | 14.90515 | T = | 54 |
| lpop | overall | 20.49403 | .3271328 | 19.92401 | 20.982 | N = | 55 |
| | between | | . | 20.49403 | 20.49403 | n = | 1 |
| | within | | .3271328 | 19.92401 | 20.982 | T = | 55 |
| arable | overall | 54.03008 | .7680275 | 52.40365 | 55.03113 | N = | 53 |
| | between | | . | 54.03008 | 54.03008 | n = | 1 |
| | within | | .7680275 | 52.40365 | 55.03113 | T = | 53 |

| | | | | | | |
|---|---|---|---|---|---|---|
| age | overall | 70.55674 | 8.415411 | 53.14194 | 81.09547 | N = 55 |
| | between | | . | 70.55674 | 70.55674 | n = 1 |
| | within | | 8.415411 | 53.14194 | 81.09547 | T = 55 |
| lgdp | overall | 6.025947 | .4970145 | 5.43068 | 7.117975 | N = 55 |
| | between | | . | 6.025947 | 6.025947 | n = 1 |
| | within | | .4970145 | 5.43068 | 7.117975 | T = 55 |
| lgdpsq | overall | 36.55456 | 6.170069 | 29.49229 | 50.66557 | N = 55 |
| | between | | . | 36.55456 | 36.55456 | n = 1 |
| | within | | 6.170069 | 29.49229 | 50.66557 | T = 55 |
| educs | overall | 42.84797 | 13.79746 | 23.85831 | 71.47016 | N = 35 |
| | between | | . | 42.84797 | 42.84797 | n = 1 |
| | within | | 13.79746 | 23.85831 | 71.47016 | T = 35 |
| lpower | overall | 5.584971 | .6055362 | 4.584871 | 6.611693 | N = 42 |
| | between | | . | 5.584971 | 5.584971 | n = 1 |
| | within | | .6055362 | 4.584871 | 6.611693 | T = 42 |
| fdi | overall | .6969481 | .8595184 | -.0291705 | 3.545983 | N = 40 |
| | between | | . | .6969481 | .6969481 | n = 1 |
| | within | | .8595184 | -.0291705 | 3.545983 | T = 40 |
| trade | overall | 21.43615 | 14.64891 | 7.529721 | 55.54501 | N = 55 |
| | between | | . | 21.43615 | 21.43615 | n = 1 |
| | within | | 14.64891 | 7.529721 | 55.54501 | T = 55 |
| capital | overall | 23.29203 | 7.02893 | 14.23682 | 38.15775 | N = 55 |
| | between | | . | 23.29203 | 23.29203 | n = 1 |
| | within | | 7.02893 | 14.23682 | 38.15775 | T = 55 |
| educt | overall | 9.32676 | 5.898108 | 4.82769 | 24.80476 | N = 35 |
| | between | | . | 9.32676 | 9.32676 | n = 1 |
| | within | | 5.898108 | 4.82769 | 24.80476 | T = 35 |
| dum92 | overall | .4181818 | .4978066 | 0 | 1 | N = 55 |
| | between | | . | .4181818 | .4181818 | n = 1 |
| | within | | .4978066 | 0 | 1 | T = 55 |

**Sri Lanka**

| Variable | | Mean | Std. Dev. | Min | Max | Observations |
|---|---|---|---|---|---|---|
| cid | overall | 3 | 0 | 3 | 3 | N = 55 |
| | between | | . | 3 | 3 | n = 1 |
| | within | | 0 | 3 | 3 | T = 55 |
| Time | overall | 1987 | 16.02082 | 1960 | 2014 | N = 55 |
| | between | | . | 1987 | 1987 | n = 1 |
| | within | | 16.02082 | 1960 | 2014 | T = 55 |
| agri | overall | 23.38173 | 7.563865 | 7.99197 | 33.16453 | N = 55 |
| | between | | . | 23.38173 | 23.38173 | n = 1 |
| | within | | 7.563865 | 7.99197 | 33.16453 | T = 55 |
| manuf | overall | 17.05054 | 2.022371 | 14.01324 | 23.1317 | N = 55 |
| | between | | . | 17.05054 | 17.05054 | n = 1 |
| | within | | 2.022371 | 14.01324 | 23.1317 | T = 55 |
| service | overall | 50.35775 | 5.571179 | 40.63833 | 61.6563 | N = 55 |
| | between | | . | 50.35775 | 50.35775 | n = 1 |
| | within | | 5.571179 | 40.63833 | 61.6563 | T = 55 |

| Variable | | Mean | Std. Dev. | Min | Max | Observations |
|---|---|---|---|---|---|---|
| lland | overall | 11.04628 | 0 | 11.04628 | 11.04628 | N = 54 |
| | between | | . | 11.04628 | 11.04628 | n = 1 |
| | within | | 0 | 11.04628 | 11.04628 | T = 54 |
| lpop | overall | 16.5663 | .2211298 | 16.10764 | 16.85378 | N = 55 |
| | between | | . | 16.5663 | 16.5663 | n = 1 |
| | within | | .2211298 | 16.10764 | 16.85378 | T = 55 |
| arable | overall | 14.54464 | 2.275205 | 9.201084 | 20.73035 | N = 53 |
| | between | | . | 14.54464 | 14.54464 | n = 1 |
| | within | | 2.275205 | 9.201084 | 20.73035 | T = 53 |
| age | overall | 63.57941 | 13.02516 | 48.0156 | 87.51274 | N = 55 |
| | between | | . | 63.57941 | 63.57941 | n = 1 |
| | within | | 13.02516 | 48.0156 | 87.51274 | T = 55 |
| lgdp | overall | 6.568963 | .5263414 | 5.833542 | 7.629951 | N = 54 |
| | between | | . | 6.568963 | 6.568963 | n = 1 |
| | within | | .5263414 | 5.833542 | 7.629951 | T = 54 |
| lgdpsq | overall | 43.42318 | 7.016064 | 34.03022 | 58.21615 | N = 54 |
| | between | | . | 43.42318 | 43.42318 | n = 1 |
| | within | | 7.016064 | 34.03022 | 58.21615 | T = 54 |
| educs | overall | 67.31642 | 16.65485 | 45.91096 | 99.33851 | N = 26 |
| | between | | . | 67.31642 | 67.31642 | n = 1 |
| | within | | 16.65485 | 45.91096 | 99.33851 | T = 26 |
| lpower | overall | 5.167207 | .6548636 | 4.059056 | 6.26684 | N = 42 |
| | between | | . | 5.167207 | 5.167207 | n = 1 |
| | within | | .6548636 | 4.059056 | 6.26684 | T = 42 |
| fdi | overall | .8977417 | .6393539 | -.0296885 | 2.849577 | N = 45 |
| | between | | . | .8977417 | .8977417 | n = 1 |
| | within | | .6393539 | -.0296885 | 2.849577 | T = 45 |
| trade | overall | 65.27342 | 12.4904 | 43.00983 | 88.63646 | N = 51 |
| | between | | . | 65.27342 | 65.27342 | n = 1 |
| | within | | 12.4904 | 43.00983 | 88.63646 | T = 51 |
| capital | overall | 22.64879 | 5.038668 | 12.53093 | 33.76824 | N = 46 |
| | between | | . | 22.64879 | 22.64879 | n = 1 |
| | within | | 5.038668 | 12.53093 | 33.76824 | T = 46 |
| educs | overall | 5.476669 | 6.118138 | 1.01294 | 18.7629 | N = 19 |
| | between | | . | 5.476669 | 5.476669 | n = 1 |
| | within | | 6.118138 | 1.01294 | 18.7629 | T = 19 |
| dum92 | overall | .4181818 | .4978066 | 0 | 1 | N = 55 |
| | between | | . | .4181818 | .4181818 | n = 1 |
| | within | | .4978066 | 0 | 1 | T = 55 |

**Pakistan**

| Variable | | Mean | Std. Dev. | Min | Max | Observations |
|---|---|---|---|---|---|---|
| cid | overall | 4 | 0 | 4 | 4 | N = 55 |
| | between | | . | 4 | 4 | n = 1 |
| | within | | 0 | 4 | 4 | T = 55 |
| Time | overall | 1987 | 16.02082 | 1960 | 2014 | N = 55 |
| | between | | . | 1987 | 1987 | n = 1 |
| | within | | 16.02082 | 1960 | 2014 | T = 55 |

| | | | | | | |
|---|---|---|---|---|---|---|
| agri | overall | 30.07803 | 6.553518 | 21.4654 | 46.22065 | N = 55 |
| | between | | . | 30.07803 | 30.07803 | n = 1 |
| | within | | 6.553518 | 21.4654 | 46.22065 | T = 55 |
| manuf | overall | 15.46354 | 1.245372 | 12.09614 | 18.56466 | N = 55 |
| | between | | . | 15.46354 | 15.46354 | n = 1 |
| | within | | 1.245372 | 12.09614 | 18.56466 | T = 55 |
| service | overall | 47.4486 | 5.256837 | 37.97568 | 56.04457 | N = 55 |
| | between | | . | 47.4486 | 47.4486 | n = 1 |
| | within | | 5.256837 | 37.97568 | 56.04457 | T = 55 |
| lland | overall | 13.55529 | 0 | 13.55529 | 13.55529 | N = 54 |
| | between | | . | 13.55529 | 13.55529 | n = 1 |
| | within | | 0 | 13.55529 | 13.55529 | T = 54 |
| lpop | overall | 18.36455 | .4394737 | 17.62021 | 19.03611 | N = 55 |
| | between | | . | 18.36455 | 18.36455 | n = 1 |
| | within | | .4394737 | 17.62021 | 19.03611 | T = 55 |
| arable | overall | 39.93574 | 1.028854 | 38.12526 | 42.98983 | N = 53 |
| | between | | . | 39.93574 | 39.93574 | n = 1 |
| | within | | 1.028854 | 38.12526 | 42.98983 | T = 53 |
| age | overall | 82.12686 | 7.243912 | 65.7821 | 88.91287 | N = 55 |
| | between | | . | 82.12686 | 82.12686 | n = 1 |
| | within | | 7.243912 | 65.7821 | 88.91287 | T = 55 |
| lgdp | overall | 6.153808 | .3748332 | 5.404655 | 6.7016 | N = 55 |
| | between | | . | 6.153808 | 6.153808 | n = 1 |
| | within | | .3748332 | 5.404655 | 6.7016 | T = 55 |
| lgdpsq | overall | 38.0073 | 4.570993 | 29.21029 | 44.91144 | N = 55 |
| | between | | . | 38.0073 | 38.0073 | n = 1 |
| | within | | 4.570993 | 29.21029 | 44.91144 | T = 55 |
| educs | overall | 22.80935 | 7.26814 | 15.84216 | 38.31741 | N = 33 |
| | between | | . | 22.80935 | 22.80935 | n = 1 |
| | within | | 7.26814 | 15.84216 | 38.31741 | T = 33 |
| lpower | overall | 5.522174 | .5558861 | 4.511208 | 6.191469 | N = 42 |
| | between | | . | 5.522174 | 5.522174 | n = 1 |
| | within | | .5558861 | 4.511208 | 6.191469 | T = 42 |
| fdi | overall | .7570133 | .8225381 | -.0632423 | 3.668323 | N = 45 |
| | between | | . | .7570133 | .7570133 | n = 1 |
| | within | | .8225381 | -.0632423 | 3.668323 | T = 45 |
| trade | overall | 32.45692 | 4.247638 | 19.93229 | 38.90949 | N = 48 |
| | between | | . | 32.45692 | 32.45692 | n = 1 |
| | within | | 4.247638 | 19.93229 | 38.90949 | T = 48 |
| capital | overall | 17.49749 | 2.104991 | 11.55614 | 21.46808 | N = 55 |
| | between | | . | 17.49749 | 17.49749 | n = 1 |
| | within | | 2.104991 | 11.55614 | 21.46808 | T = 55 |
| educt | overall | 3.816714 | 2.424325 | 1.95725 | 9.81827 | N = 25 |
| | between | | . | 3.816714 | 3.816714 | n = 1 |
| | within | | 2.424325 | 1.95725 | 9.81827 | T = 25 |
| dum92 | overall | .4181818 | .4978066 | 0 | 1 | N = 55 |
| | between | | . | .4181818 | .4181818 | n = 1 |

```
within  |              .4978066          0           1 |      T =      55
```

## Table 3: structural transformation base model: Role of country fundamentals

Pooled OLS including country dummies

| Source | SS | df | MS | | | |
|---|---|---|---|---|---|---|
| | | | | Number of obs | = | 202 |
| | | | | F(9, 192) | = | 87.22 |
| Model | 14786.9085 | 9 | 1642.98984 | Prob > F | = | 0.0000 |
| Residual | 3616.70351 | 192 | 18.8369974 | R-squared | = | 0.8035 |
| | | | | Adj R-squared | = | 0.7943 |
| Total | 18403.612 | 201 | 91.5602588 | Root MSE | = | 4.3402 |

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 6.794498 | 2.705158 | 2.51 | 0.013 | 1.458855 | 12.13014 |
| lpop | -12.64859 | 3.301863 | -3.83 | 0.000 | -19.16117 | -6.136009 |
| arable | .5562064 | .1687979 | 3.30 | 0.001 | .2232701 | .8891427 |
| age | .1324889 | .0614096 | 2.16 | 0.032 | .0113649 | .2536129 |
| lgdp | 4.386034 | 25.29953 | 0.17 | 0.863 | -45.51466 | 54.28673 |
| lgdpsq | -.8511334 | 1.902163 | -0.45 | 0.655 | -4.602952 | 2.900685 |
| dum92 | .0837132 | 1.274175 | 0.07 | 0.948 | -2.429464 | 2.596891 |
| cid | | | | | | |
| IND | 11.57041 | 9.889066 | 1.17 | 0.243 | -7.934748 | 31.07557 |
| LKA | 7.25701 | 12.5815 | 0.58 | 0.565 | -17.55869 | 32.07271 |
| PAK | 0 | (omitted) | | | | |
| _cons | 142.2607 | 79.17822 | 1.80 | 0.074 | -13.91017 | 298.4315 |

| Source | SS | df | MS | | | |
|---|---|---|---|---|---|---|
| | | | | Number of obs | = | 202 |
| | | | | F(9, 192) | = | 17.47 |
| Model | 483.354232 | 9 | 53.7060258 | Prob > F | = | 0.0000 |
| Residual | 590.359748 | 192 | 3.07479035 | R-squared | = | 0.4502 |
| | | | | Adj R-squared | = | 0.4244 |
| Total | 1073.71398 | 201 | 5.3418606 | Root MSE | = | 1.7535 |

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -1.335502 | 1.092935 | -1.22 | 0.223 | -3.491204 | .8202 |
| lpop | 2.702834 | 1.334016 | 2.03 | 0.044 | .0716267 | 5.334042 |
| arable | -.1903421 | .0681976 | -2.79 | 0.006 | -.3248547 | -.0558295 |
| age | -.0432537 | .0248106 | -1.74 | 0.083 | -.0921901 | .0056827 |
| lgdp | -13.23041 | 10.22149 | -1.29 | 0.197 | -33.39124 | 6.930427 |
| lgdpsq | 1.025538 | .76851 | 1.33 | 0.184 | -.4902684 | 2.541345 |
| dum92 | -.7493526 | .5147909 | -1.46 | 0.147 | -1.764724 | .266019 |
| cid | | | | | | |
| IND | -2.150647 | 3.995372 | -0.54 | 0.591 | -10.0311 | 5.72981 |
| LKA | -2.718554 | 5.083166 | -0.53 | 0.593 | -12.74457 | 7.307465 |
| PAK | 0 | (omitted) | | | | |
| _cons | 37.95426 | 31.98951 | 1.19 | 0.237 | -25.14175 | 101.0503 |

| Source | SS | df | MS | | | |
|---|---|---|---|---|---|---|
| | | | | Number of obs | = | 202 |
| | | | | F(9, 192) | = | 77.97 |
| Model | 6781.14019 | 9 | 753.460021 | Prob > F | = | 0.0000 |

```
    Residual |   1855.2799       192  9.66291613   R-squared       =    0.7852
-------------+----------------------------------   Adj R-squared   =    0.7751
       Total |  8636.42008       201  42.9672641   Root MSE        =    3.1085

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |  -6.974211   1.937496    -3.60   0.000    -10.79572   -3.152701
        lpop |   11.28734    2.36487     4.77   0.000     6.622881     15.9518
      arable |  -.5303133   .1208969    -4.39   0.000    -.7687699   -.2918566
         age |  -.0075045   .0439829    -0.17   0.865    -.0942563    .0792473
        lgdp |  -39.61428    18.1201    -2.19   0.030    -75.35431   -3.874251
      lgdpsq |   3.329859   1.362373     2.44   0.015     .6427205    6.016998
       dum92 |   1.527305   .9125931     1.67   0.096    -.2726909      3.3273
             |
         cid |
        IND  |  -10.43212   7.082776    -1.47   0.142    -24.40217    3.537919
        LKA  |  -9.624941   9.011159    -1.07   0.287    -27.39852    8.148636
        PAK  |          0  (omitted)
             |
       _cons |    73.1486   56.70926     1.29   0.199    -38.70455    185.0017
------------------------------------------------------------------------------
```

**Table 4: Pooled OLS with clustered (by cid) standard error**

Agriculture
Linear regression

| | | |
|---|---|---|
| Number of obs | = | 202 |
| F(2, 3) | = | . |
| Prob > F | = | . |
| R-squared | = | 0.8035 |
| Root MSE | = | 4.3402 |

(Std. Err. adjusted for 4 clusters in cid)

| agri | Coef. | Robust Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 6.794498 | 6.103042 | 1.11 | 0.347 | -12.6281 | 26.2171 |
| lpop | -12.64859 | 18.00877 | -0.70 | 0.533 | -69.96055 | 44.66337 |
| arable | .5562064 | .3473994 | 1.60 | 0.208 | -.5493735 | 1.661786 |
| age | .1324889 | .2290631 | 0.58 | 0.604 | -.5964922 | .86147 |
| lgdp | 4.386034 | 121.0653 | 0.04 | 0.973 | -380.8976 | 389.6697 |
| lgdpsq | -.8511334 | 8.936961 | -0.10 | 0.930 | -29.29253 | 27.59027 |
| dum92 | .0837132 | .7934638 | 0.11 | 0.923 | -2.441443 | 2.608869 |
| cid | | | | | | |
| IND | 11.57041 | 46.96008 | 0.25 | 0.821 | -137.8775 | 161.0183 |
| LKA | 7.25701 | 44.09507 | 0.16 | 0.880 | -133.0732 | 147.5872 |
| PAK | 0 | (omitted) | | | | |
| _cons | 142.2607 | 283.5184 | 0.50 | 0.650 | -760.0215 | 1044.543 |

Manufacturing
Linear regression

| | | |
|---|---|---|
| Number of obs | = | 202 |
| F(2, 3) | = | . |
| Prob > F | = | . |
| R-squared | = | 0.4502 |
| Root MSE | = | 1.7535 |

(Std. Err. adjusted for 4 clusters in cid)

| manuf | Coef. | Robust Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -1.335502 | 1.679486 | -0.80 | 0.485 | -6.680374 | 4.009371 |
| lpop | 2.702834 | 6.448793 | 0.42 | 0.703 | -17.8201 | 23.22577 |
| arable | -.1903421 | .0891223 | -2.14 | 0.122 | -.473969 | .0932848 |
| age | -.0432537 | .0694496 | -0.62 | 0.578 | -.2642732 | .1777658 |
| lgdp | -13.23041 | 39.06544 | -0.34 | 0.757 | -137.5541 | 111.0932 |
| lgdpsq | 1.025538 | 2.756846 | 0.37 | 0.735 | -7.747976 | 9.799052 |
| dum92 | -.7493526 | .4124789 | -1.82 | 0.167 | -2.062044 | .5633392 |
| cid | | | | | | |
| IND | -2.150647 | 17.01882 | -0.13 | 0.907 | -56.31214 | 52.01084 |
| LKA | -2.718554 | 15.2834 | -0.18 | 0.870 | -51.35714 | 45.92003 |
| PAK | 0 | (omitted) | | | | |
| _cons | 37.95426 | 38.95657 | 0.97 | 0.402 | -86.02293 | 161.9314 |

Service sector
Linear regression

| | | |
|---|---|---|
| Number of obs | = | 202 |

| | | |
|---|---|---|
| F(2, 3) | = | . |
| Prob > F | = | . |
| R-squared | = | 0.7852 |
| Root MSE | = | 3.1085 |

(Std. Err. adjusted for 4 clusters in cid)

| service | Coef. | Robust Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -6.974211 | 5.525791 | -1.26 | 0.296 | -24.55974 | 10.61132 |
| lpop | 11.28734 | 8.813389 | 1.28 | 0.290 | -16.7608 | 39.33548 |
| arable | -.5303133 | .3549692 | -1.49 | 0.232 | -1.659984 | .599357 |
| age | -.0075045 | .1783633 | -0.04 | 0.969 | -.5751362 | .5601272 |
| lgdp | -39.61428 | 79.60703 | -0.50 | 0.653 | -292.9594 | 213.7308 |
| lgdpsq | 3.329859 | 6.100402 | 0.55 | 0.623 | -16.08434 | 22.74406 |
| dum92 | 1.527305 | 1.677395 | 0.91 | 0.430 | -3.810915 | 6.865524 |
| cid | | | | | | |
| IND | -10.43212 | 23.86401 | -0.44 | 0.692 | -86.37806 | 65.51381 |
| LKA | -9.624941 | 26.18088 | -0.37 | 0.738 | -92.94418 | 73.6943 |
| PAK | 0 | (omitted) | | | | |
| _cons | 73.1486 | 248.2769 | 0.29 | 0.787 | -716.9794 | 863.2766 |

**Table 5: Extended Structural Transformation Model: role of policy variables.**

(including country dummies)

Agriculture

| Source | SS | df | MS |
|---|---|---|---|
| Model | 5456.68345 | 14 | 389.763104 |
| Residual | 772.592284 | 100 | 7.72592284 |
| Total | 6229.27573 | 114 | 54.6427696 |

| | | |
|---|---|---|
| Number of obs | = | 115 |
| F(14, 100) | = | 50.45 |
| Prob > F | = | 0.0000 |
| R-squared | = | 0.8760 |
| Adj R-squared | = | 0.8586 |
| Root MSE | = | 2.7796 |

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 5.909269 | 3.303102 | 1.79 | 0.077 | -.6439908 | 12.46253 |
| lpop | -.7544093 | 4.159365 | -0.18 | 0.856 | -9.006471 | 7.497652 |
| arable | .2325813 | .2004617 | 1.16 | 0.249 | -.165129 | .6302915 |
| age | -.0831305 | .1104993 | -0.75 | 0.454 | -.3023578 | .1360969 |
| lgdp | -10.93971 | 37.30254 | -0.29 | 0.770 | -84.94689 | 63.06747 |
| lgdpsq | .635455 | 2.779386 | 0.23 | 0.820 | -4.878767 | 6.149677 |
| educs | .0257689 | .0819482 | 0.31 | 0.754 | -.1368139 | .1883517 |
| lpower | -6.569593 | 2.138456 | -3.07 | 0.003 | -10.81223 | -2.326958 |
| fdi | .7533719 | .5997245 | 1.26 | 0.212 | -.4364645 | 1.943208 |
| trade | .2386375 | .064668 | 3.69 | 0.000 | .110338 | .3669369 |
| capital | -.7548667 | .1289532 | -5.85 | 0.000 | -1.010706 | -.4990274 |
| dum92 | -1.841158 | 1.281356 | -1.44 | 0.154 | -4.383332 | .7010164 |
| cid | | | | | | |
| IND | -2.635849 | 12.54274 | -0.21 | 0.834 | -27.52028 | 22.24858 |
| LKA | 8.125417 | 13.18713 | 0.62 | 0.539 | -18.03747 | 34.28831 |
| PAK | 0 | (omitted) | | | | |
| _cons | 43.39417 | 123.3355 | 0.35 | 0.726 | -201.2999 | 288.0883 |

Manufacturing

| Source | SS | df | MS |
|---|---|---|---|
| Model | 220.226469 | 14 | 15.7304621 |
| Residual | 127.765836 | 100 | 1.27765836 |
| Total | 347.992305 | 114 | 3.05256408 |

| | | |
|---|---|---|
| Number of obs | = | 115 |
| F(14, 100) | = | 12.31 |
| Prob > F | = | 0.0000 |
| R-squared | = | 0.6328 |
| Adj R-squared | = | 0.5814 |
| Root MSE | = | 1.1303 |

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -7.147127 | 1.343242 | -5.32 | 0.000 | -9.81208 | -4.482174 |
| lpop | -2.224222 | 1.69145 | -1.31 | 0.192 | -5.580011 | 1.131567 |
| arable | -.3299028 | .0815199 | -4.05 | 0.000 | -.491636 | -.1681697 |
| age | .1537796 | .0449357 | 3.42 | 0.001 | .0646284 | .2429307 |
| lgdp | -59.11997 | 15.16948 | -3.90 | 0.000 | -89.21578 | -29.02416 |
| lgdpsq | 4.473583 | 1.130267 | 3.96 | 0.000 | 2.231166 | 6.716 |
| educs | -.0483125 | .0333251 | -1.45 | 0.150 | -.1144285 | .0178036 |
| lpower | 4.747621 | .8696259 | 5.46 | 0.000 | 3.022308 | 6.472934 |
| fdi | -.5280442 | .2438844 | -2.17 | 0.033 | -1.011904 | -.0441845 |
| trade | -.0050532 | .0262979 | -0.19 | 0.848 | -.0572275 | .0471212 |
| capital | .099073 | .0524402 | 1.89 | 0.062 | -.0049668 | .2031129 |

```
       dum92 |   .7827184   .5210772     1.50   0.136     -.251084    1.816521
             |
         cid |
        IND  |   19.73534   5.100638     3.87   0.000     9.615818    29.85486
        LKA  |  -22.30123   5.362687    -4.16   0.000    -32.94065   -11.66181
        PAK  |          0  (omitted)
             |
       _cons |    322.282   50.15569     6.43   0.000     222.7746    421.7895
------------------------------------------------------------------------------
Service

      Source |       SS           df       MS      Number of obs   =       115
-------------+----------------------------------   F(14, 100)      =     39.05
       Model |  2944.93879        14  210.352771   Prob > F        =    0.0000
    Residual |  538.719628       100  5.38719628   R-squared       =    0.8454
-------------+----------------------------------   Adj R-squared   =    0.8237
       Total |  3483.65842       114  30.5584072   Root MSE        =     2.321

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |  -2.019986   2.758215    -0.73   0.466    -7.492207    3.452234
        lpop |   2.564847   3.473228     0.74   0.462    -4.325938    9.455631
      arable |  -.1176352   .1673931    -0.70   0.484    -.4497384     .214468
         age |  -.0285935   .0922711    -0.31   0.757    -.2116567    .1544697
        lgdp |   43.06215   31.14904     1.38   0.170    -18.73666     104.861
      lgdpsq |  -3.004639   2.320893    -1.29   0.198    -7.609224    1.599946
       educs |   .0005509   .0684298     0.01   0.994    -.1352119    .1363138
      lpower |   1.819299   1.785692     1.02   0.311    -1.723462    5.362061
         fdi |   .0054925   .5007927     0.01   0.991     -.988066     .999051
       trade |   -.247066   .0540002    -4.58   0.000    -.3542009   -.1399311
     capital |   .4392498   .1076808     4.08   0.000     .2256142    .6528853
       dum92 |   1.870225   1.069981     1.75   0.084    -.2525869    3.993037
             |
         cid |
        IND  |  -9.408826   10.47366    -0.90   0.371    -30.18827    11.37062
        LKA  |   .4403177   11.01175     0.04   0.968    -21.40669    22.28732
        PAK  |          0  (omitted)
             |
       _cons |   -125.555   102.9898    -1.22   0.226    -329.8838    78.77388
------------------------------------------------------------------------------


.
       _cons |    322.282   51.27662     6.29   0.008     159.0969    485.4671
------------------------------------------------------------------------------
```

**Table 6: SUR regression with Cross-equation regression**

| | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| agri | | | | | | |
| lland | .1727678 | 2.583483 | 0.07 | 0.947 | -4.890766 | 5.236302 |
| lpop | 1.950858 | 3.484749 | 0.56 | 0.576 | -4.879125 | 8.78084 |
| arable | -.2330569 | .1516397 | -1.54 | 0.124 | -.5302653 | .0641514 |
| age | .0392116 | .0910558 | 0.43 | 0.667 | -.1392546 | .2176777 |
| lgdp | -40.13721 | 34.578 | -1.16 | 0.246 | -107.9088 | 27.63443 |
| lgdpsq | 3.153104 | 2.55419 | 1.23 | 0.217 | -1.853017 | 8.159224 |
| educs | -.0073501 | .0075073 | -0.98 | 0.328 | -.0220641 | .007364 |
| lpower | -8.515107* | 1.920897 | -4.43 | 0.000 | -12.28 | -4.750217 |
| trade | .199425* | .0592863 | 3.36 | 0.001 | .083226 | .315624 |
| capital | -.6376303* | .1138609 | -5.60 | 0.000 | -.8607935 | -.414467 |
| dum92 | .2511995* | .1174119 | 2.14 | 0.032 | .0210765 | .4813225 |
| cid | | | | | | |
| IND | 7.043676 | 10.11202 | 0.70 | 0.486 | -12.77552 | 26.86287 |
| LKA | -10.40793 | 10.97092 | -0.95 | 0.343 | -31.91054 | 11.09468 |
| PAK | -5.00e-15 | (omitted) | | | | |
| _cons | 173.954 | 105.6641 | 1.65 | 0.100 | -33.14396 | 381.0519 |
| manuf | | | | | | |
| lland | -2.587093* | .7108647 | -3.64 | 0.000 | -3.980362 | -1.193824 |
| lpop | -3.604119* | 1.532398 | -2.35 | 0.019 | -6.607565 | -.6006736 |
| age | .0993158* | .0371074 | 2.68 | 0.007 | .0265867 | .1720449 |
| lgdp | -44.08816* | 14.79255 | -2.98 | 0.003 | -73.08102 | -15.0953 |
| lgdpsq | 3.075399* | 1.086186 | 2.83 | 0.005 | .9465134 | 5.204284 |
| educs | -.0073501 | .0075073 | -0.98 | 0.328 | -.0220641 | .007364 |
| lpower | 5.891787* | .8145995 | 7.23 | 0.000 | 4.295202 | 7.488373 |
| fdi | -.232241 | .1897768 | -1.22 | 0.221 | -.6041966 | .1397147 |
| trade | .0250555 | .0251978 | 0.99 | 0.320 | -.0243314 | .0744423 |
| capital | .0459727 | .0494358 | 0.93 | 0.352 | -.0509197 | .1428651 |
| dum92 | .2511995* | .1174119 | 2.14 | 0.032 | .0210765 | .4813225 |
| cid | | | | | | |
| IND | 10.65767 | 4.252681 | 2.51 | 0.012 | 2.322571 | 18.99277 |
| LKA | -7.17467 | 3.728158 | -1.92 | 0.054 | -14.48173 | .1323851 |
| PAK | 9.96e-17 | (omitted) | | | | |
| _cons | 230.8496 | 43.62233 | 5.29 | 0.000 | 145.3514 | 316.3478 |
| service | | | | | | |
| lland | -.2458308 | 2.415006 | -0.10 | 0.919 | -4.979155 | 4.487493 |
| lpop | .9968217 | 2.96687 | 0.34 | 0.737 | -4.818136 | 6.81178 |
| arable | .0641094 | .1510121 | 0.42 | 0.671 | -.2318688 | .3600877 |
| age | -.1077193 | .0777434 | -1.39 | 0.166 | -.2600936 | .044655 |
| lgdp | 59.22202* | 28.90537 | 2.05 | 0.040 | 2.568534 | 115.8755 |
| lgdpsq | -4.300478* | 2.142517 | -2.01 | 0.045 | -8.499735 | -.1012224 |
| educs | -.0073501 | .0075073 | -0.98 | 0.328 | -.0220641 | .007364 |
| lpower | 2.784959* | 1.631284 | 1.71 | 0.088 | -.4122979 | 5.982216 |
| fdi | .4769737* | .2114863 | 2.26 | 0.024 | .0624681 | .8914792 |
| trade | -.2339569* | .049829 | -4.70 | 0.000 | -.3316199 | -.136294 |
| capital | .3695969* | .0950922 | 3.89 | 0.000 | .1832196 | .5559741 |
| dum92 | .2511995* | .1174119 | 2.14 | 0.032 | .0210765 | .4813225 |
| cid | | | | | | |
| IND | -11.0634 | 8.697991 | -1.27 | 0.203 | -28.11115 | 5.984349 |
| LKA | 5.906839 | 9.907324 | 0.60 | 0.551 | -13.51116 | 25.32484 |
| PAK | 0 | (omitted) | | | | |

```
_cons |  -175.6837    89.8231    -1.96   0.050    -351.7337     .366358
```

Table 7: Fixed effect models: Country fundamentals only
Agriculture sector:

```
Fixed-effects (within) regression               Number of obs     =        202
Group variable: cid                             Number of groups  =          4

R-sq:                                           Obs per group:
     within  = 0.7776                                         min =         43
     between = 0.0065                                         avg =       50.5
     overall = 0.1702                                         max =         53

                                                F(6,192)          =     111.90
corr(u_i, Xb)  = -0.8116                        Prob > F          =     0.0000

------------------------------------------------------------------------------
        agri |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |  -12.64859   3.301863    -3.83   0.000    -19.16117   -6.136009
      arable |   .5562064   .1687979     3.30   0.001     .2232701    .8891427
         age |   .1324889   .0614096     2.16   0.032     .0113649    .2536129
        lgdp |   4.386034   25.29953     0.17   0.863    -45.51466    54.28673
      lgdpsq |  -.8511334   1.902163    -0.45   0.655    -4.602952    2.900685
       dum92 |   .0837132   1.274175     0.07   0.948    -2.429464    2.596891
       _cons |   234.6629   56.22637     4.17   0.000     123.7621    345.5636
-------------+----------------------------------------------------------------
     sigma_u |  14.964601
     sigma_e |   4.340161
         rho |  .92241006   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 192) = 7.78                      Prob > F = 0.0001
```

Manufacturing sector

```
Fixed-effects (within) regression               Number of obs     =        202
Group variable: cid                             Number of groups  =          4

R-sq:                                           Obs per group:
     within  = 0.2366                                         min =         43
     between = 0.4364                                         avg =       50.5
     overall = 0.1945                                         max =         53

                                                F(6,192)          =       9.92
corr(u_i, Xb)  = -0.8615                        Prob > F          =     0.0000

------------------------------------------------------------------------------
       manuf |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |   2.702834   1.334016     2.03   0.044     .0716267    5.334042
      arable |  -.1903421   .0681976    -2.79   0.006    -.3248547   -.0558295
         age |  -.0432537   .0248106    -1.74   0.083    -.0921901    .0056827
        lgdp |  -13.23041   10.22149    -1.29   0.197    -33.39124    6.930427
      lgdpsq |   1.025538     .76851     1.33   0.184    -.4902684    2.541345
       dum92 |  -.7493526   .5147909    -1.46   0.147    -1.764724     .266019
       _cons |   19.48542   22.71653     0.86   0.392    -25.32059    64.29142
-------------+----------------------------------------------------------------
     sigma_u |  2.6738314
```

```
     sigma_e |   1.753508
         rho |  .69926244   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 192) = 2.64                      Prob > F = 0.0507
```

Service sector

```
Fixed-effects (within) regression               Number of obs      =       202
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.7613                                         min =         43
     between = 0.4661                                         avg =       50.5
     overall = 0.0290                                         max =         53

                                                F(6,192)           =    102.06
corr(u_i, Xb)  = -0.8874                        Prob > F           =    0.0000

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |   11.28734    2.36487     4.77   0.000     6.622881     15.9518
      arable |  -.5303133   .1208969    -4.39   0.000    -.7687699   -.2918566
         age |  -.0075045   .0439829    -0.17   0.865    -.0942563    .0792473
        lgdp |  -39.61428    18.1201    -2.19   0.030    -75.35431   -3.874251
      lgdpsq |   3.329859   1.362373     2.44   0.015     .6427205    6.016998
       dum92 |   1.527305   .9125931     1.67   0.096    -.2726909      3.3273
       _cons |  -21.88958   40.27062    -0.54   0.587    -101.3192    57.54005
-------------+----------------------------------------------------------------
     sigma_u |  14.256037
     sigma_e |  3.1085231
         rho |  .95461236   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 192) = 15.41                     Prob > F = 0.0000
```

## Table 8: Random effect model: Country fundamentals only

Agriculture sector

```
Random-effects GLS regression                   Number of obs      =       202
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.7561                                         min =         43
     between = 0.9873                                         avg =       50.5
     overall = 0.7824                                         max =         53

                                                Wald chi2(7)       =    697.43
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
```

| agri | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 1.463081 | .9275451 | 1.58 | 0.115 | -.3548743 | 3.281036 |
| lpop | -2.084087 | 1.322731 | -1.58 | 0.115 | -4.676592 | .5084174 |
| arable | .0711578 | .0562765 | 1.26 | 0.206 | -.039142 | .1814576 |
| age | .1022596 | .0591882 | 1.73 | 0.084 | -.0137471 | .2182662 |
| lgdp | -79.15088 | 17.36836 | -4.56 | 0.000 | -113.1922 | -45.10951 |
| lgdpsq | 5.364503 | 1.354937 | 3.96 | 0.000 | 2.708875 | 8.020131 |
| dum92 | -2.831387 | 1.151714 | -2.46 | 0.014 | -5.088706 | -.5740694 |
| _cons | 322.1225 | 50.99406 | 6.32 | 0.000 | 222.176 | 422.069 |
| sigma_u | 0 | | | | | |
| sigma_e | 4.340161 | | | | | |
| rho | 0 | (fraction of variance due to u_i) | | | | |

Manufacturing sector

```
Random-effects GLS regression                   Number of obs      =       202
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.2100                                         min =         43
     between = 0.9946                                         avg =       50.5
     overall = 0.4280                                         max =         53

                                                Wald chi2(7)       =    145.15
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------- theta --------------------
  min      5%       median        95%      max
0.0000   0.0000     0.0000     0.0000   0.0000
```

| manuf | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | .1502604 | .3632236 | 0.41 | 0.679 | -.5616447 | .8621656 |
| lpop | .2385889 | .517977 | 0.46 | 0.645 | -.7766274 | 1.253805 |
| arable | -.06165 | .0220377 | -2.80 | 0.005 | -.1048431 | -.018457 |
| age | -.0374915 | .0231779 | -1.62 | 0.106 | -.0829193 | .0079364 |
| lgdp | 7.030908 | 6.801393 | 1.03 | 0.301 | -6.299578 | 20.36139 |
| lgdpsq | -.4908083 | .530589 | -0.93 | 0.355 | -1.530744 | .549127 |
| dum92 | -.0264758 | .4510074 | -0.06 | 0.953 | -.9104341 | .8574825 |
| _cons | -10.06802 | 19.96911 | -0.50 | 0.614 | -49.20675 | 29.07071 |

```
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |   1.753508
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Service sector

```
Random-effects GLS regression                   Number of obs      =       202
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.7124                                         min =         43
     between = 0.9544                                         avg =       50.5
     overall = 0.7365                                         max =         53

                                                Wald chi2(7)       =    542.32
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |  -1.053975   .6991345    -1.51   0.132    -2.424253    .3163036
        lpop |   .6358297   .9970047     0.64   0.524    -1.318264    2.589923
      arable |  -.0062784   .0424182    -0.15   0.882    -.0894166    .0768598
         age |   .0200736   .0446129     0.45   0.653    -.0673662    .1075133
        lgdp |   46.35613   13.09135     3.54   0.000     20.69754    72.01471
      lgdpsq |  -3.086611    1.02128    -3.02   0.003    -5.088284   -1.084939
       dum92 |   4.562963   .8681013     5.26   0.000     2.861516     6.26441
       _cons |  -121.8487   38.43663    -3.17   0.002    -197.1831   -46.51427
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  3.1085231
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

## Table 9: Structural transformation extended model: Role of policy variables

### Agriculture sector

```
Fixed-effects (within) regression               Number of obs      =       115
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.8722                                         min =         22
     between = 0.3999                                         avg =       28.8
     overall = 0.5250                                         max =         32

                                                F(11,100)          =     62.04
corr(u_i, Xb)  = -0.7106                        Prob > F           =    0.0000

------------------------------------------------------------------------------
        agri |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |  -.7544093   4.159365    -0.18   0.856    -9.006471    7.497652
      arable |   .2325813   .2004617     1.16   0.249     -.165129    .6302915
         age |  -.0831305   .1104993    -0.75   0.454    -.3023578    .1360969
        lgdp |  -10.93971   37.30254    -0.29   0.770    -84.94689    63.06747
      lgdpsq |    .635455   2.779386     0.23   0.820    -4.878767    6.149677
       educs |   .0257689   .0819482     0.31   0.754    -.1368139    .1883517
      lpower |  -6.569593   2.138456    -3.07   0.003    -10.81223   -2.326958
         fdi |   .7533719   .5997245     1.26   0.212    -.4364645    1.943208
       trade |   .2386375    .064668     3.69   0.000      .110338    .3669369
     capital |  -.7548667   .1289532    -5.85   0.000    -1.010706   -.4990274
       dum92 |  -1.841158   1.281356    -1.44   0.154    -4.383332    .7010164
       _cons |   121.0497   104.2948     1.16   0.249    -85.86829    327.9677
-------------+----------------------------------------------------------------
     sigma_u |  7.0397489
     sigma_e |  2.7795544
         rho |  .86512945   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 100) = 2.30                      Prob > F = 0.0817
```

### Manufacturing sector

```
Fixed-effects (within) regression               Number of obs      =       115
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.5463                                         min =         22
     between = 0.6309                                         avg =       28.8
     overall = 0.1890                                         max =         32

                                                F(11,100)          =     10.95
corr(u_i, Xb)  = -0.9853                        Prob > F           =    0.0000

------------------------------------------------------------------------------
       manuf |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |  -2.224222    1.69145    -1.31   0.192    -5.580011    1.131567
      arable |  -.3299028   .0815199    -4.05   0.000     -.491636   -.1681697
         age |   .1537796   .0449357     3.42   0.001     .0646284    .2429307
        lgdp |  -59.11997   15.16948    -3.90   0.000    -89.21578   -29.02416
```

```
      lgdpsq |   4.473583   1.130267     3.96   0.000     2.231166       6.716
       educs |  -.0483125   .0333251    -1.45   0.150    -.1144285    .0178036
      lpower |   4.747621   .8696259     5.46   0.000     3.022308    6.472934
         fdi |  -.5280442   .2438844    -2.17   0.033    -1.011904   -.0441845
       trade |  -.0050532   .0262979    -0.19   0.848    -.0572275    .0471212
     capital |    .099073   .0524402     1.89   0.062    -.0049668    .2031129
       dum92 |   .7827184   .5210772     1.50   0.136     -.251084    1.816521
       _cons |   230.5777   42.41261     5.44   0.000     146.4323    314.7231
-------------+----------------------------------------------------------------
     sigma_u |  8.1144139
     sigma_e |  1.1303355
         rho |  .98096495   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 100) = 9.78                      Prob > F = 0.0000
```

**Service sector**

```
Fixed-effects (within) regression               Number of obs      =       115
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.8426                                         min =         22
     between = 0.1533                                         avg =       28.8
     overall = 0.2517                                         max =         32

                                                F(11,100)          =     48.68
corr(u_i, Xb)  = -0.7909                        Prob > F           =    0.0000

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |          0  (omitted)
        lpop |   2.564847   3.473228     0.74   0.462    -4.325938    9.455631
      arable |  -.1176352   .1673931    -0.70   0.484    -.4497384     .214468
         age |  -.0285935   .0922711    -0.31   0.757    -.2116567    .1544697
        lgdp |   43.06215   31.14904     1.38   0.170    -18.73666     104.861
      lgdpsq |  -3.004639   2.320893    -1.29   0.198    -7.609224    1.599946
       educs |   .0005509   .0684298     0.01   0.994    -.1352119    .1363138
      lpower |   1.819299   1.785692     1.02   0.311    -1.723462    5.362061
         fdi |   .0054925   .5007927     0.01   0.991     -.988066     .999051
       trade |   -.247066   .0540002    -4.58   0.000    -.3542009   -.1399311
     capital |   .4392498   .1076808     4.08   0.000     .2256142    .6528853
       dum92 |   1.870225   1.069981     1.75   0.084    -.2525869    3.993037
       _cons |  -154.3535   87.09014    -1.77   0.079    -327.1378    18.43089
-------------+----------------------------------------------------------------
     sigma_u |  7.9209003
     sigma_e |  2.3210335
         rho |  .92092521   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3, 100) = 1.90                      Prob > F = 0.1341

.
```

# Table 10 Extended Random effect model

**Agriculture sector**

```
Random-effects GLS regression                   Number of obs     =        115
Group variable: cid                             Number of groups  =          4

R-sq:                                           Obs per group:
     within  = 0.8722                                         min =         22
     between = 1.0000                                         avg =       28.8
     overall = 0.8760                                         max =         32

                                                Wald chi2(14)     =     706.28
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000

------------------- theta --------------------
  min      5%       median        95%      max
0.0000   0.0000     0.0000     0.0000   0.0000

------------------------------------------------------------------------------
        agri |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |   5.909269   3.303102     1.79   0.074    -.5646915    12.38323
        lpop |  -.7544093   4.159365    -0.18   0.856    -8.906615    7.397796
      arable |   .2325813   .2004617     1.16   0.246    -.1603164    .6254789
         age |  -.0831305   .1104993    -0.75   0.452     -.299705    .1334441
        lgdp |  -10.93971   37.30254    -0.29   0.769    -84.05135    62.17192
      lgdpsq |    .635455   2.779386     0.23   0.819    -4.812041    6.082951
       educs |   .0257689   .0819482     0.31   0.753    -.1348465    .1863844
      lpower |  -6.569593   2.138456    -3.07   0.002    -10.76089   -2.378297
         fdi |   .7533719   .5997245     1.26   0.209    -.4220666     1.92881
       trade |   .2386375    .064668     3.69   0.000     .1118906    .3653844
     capital |  -.7548667   .1289532    -5.85   0.000     -1.00761   -.5021232
       dum92 |  -1.841158   1.281356    -1.44   0.151     -4.35257    .6702542
             |
         cid |
        IND  |  -2.635849   12.54274    -0.21   0.834    -27.21916    21.94746
        LKA  |   8.125417   13.18713     0.62   0.538    -17.72088    33.97172
        PAK  |          0  (omitted)
             |
       _cons |   43.39417   123.3355     0.35   0.725    -198.3389    285.1273
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  2.7795544
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

**Manufacturing sector**

```
Random-effects GLS regression                   Number of obs     =        115
Group variable: cid                             Number of groups  =          4

R-sq:                                           Obs per group:
     within  = 0.5463                                         min =         22
     between = 1.0000                                         avg =       28.8
     overall = 0.6328                                         max =         32

                                                Wald chi2(14)     =     172.37
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000

------------------- theta --------------------
```

```
  min      5%       median        95%      max
0.0000   0.0000     0.0000     0.0000   0.0000

------------------------------------------------------------------------------
       manuf |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |  -7.147127   1.343242    -5.32   0.000    -9.779832   -4.514422
        lpop |  -2.224222    1.69145    -1.31   0.189    -5.539403     1.09096
      arable |  -.3299028   .0815199    -4.05   0.000    -.4896789   -.1701268
         age |   .1537796   .0449357     3.42   0.001     .0657072    .2418519
        lgdp |  -59.11997   15.16948    -3.90   0.000     -88.8516   -29.38834
      lgdpsq |   4.473583   1.130267     3.96   0.000       2.2583    6.688865
       educs |  -.0483125   .0333251    -1.45   0.147    -.1136285    .0170035
      lpower |   4.747621   .8696259     5.46   0.000     3.043185    6.452056
         fdi |  -.5280442   .2438844    -2.17   0.030    -1.006049   -.0500395
       trade |  -.0050532   .0262979    -0.19   0.848    -.0565962    .0464898
     capital |    .099073   .0524402     1.89   0.059    -.0037078    .2018539
       dum92 |   .7827184   .5210772     1.50   0.133    -.2385743    1.804011
             |
         cid |
        IND  |   19.73534   5.100638     3.87   0.000     9.738272    29.73241
        LKA  |  -22.30123   5.362687    -4.16   0.000     -32.8119   -11.79055
        PAK  |          0  (omitted)
             |
       _cons |    322.282   50.15569     6.43   0.000     223.9787    420.5854
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  1.1303355
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
----
```

**Service sector**

```
Random-effects GLS regression                   Number of obs      =       115
Group variable: cid                             Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.8426                                         min =         22
     between = 1.0000                                         avg =       28.8
     overall = 0.8454                                         max =         32

                                                Wald chi2(14)      =    546.66
                                           Prob > chi2       =     0.0000

------------------------------------------------------------------------------
     service |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lland |  -2.019986   2.758215    -0.73   0.464    -7.425989    3.386016
        lpop |   2.564847   3.473228     0.74   0.460    -4.242555    9.372248
      arable |  -.1176352   .1673931    -0.70   0.482    -.4457197    .2104493
         age |  -.0285935   .0922711    -0.31   0.757    -.2094415    .1522545
        lgdp |   43.06215   31.14904     1.38   0.167    -17.98884    104.1131
      lgdpsq |  -3.004639   2.320893    -1.29   0.195    -7.553505    1.544227
       educs |   .0005509   .0684298     0.01   0.994    -.1335691    .1346709
      lpower |   1.819299   1.785692     1.02   0.308    -1.680592    5.319191
         fdi |   .0054925   .5007927     0.01   0.991    -.9760432    .9870282
       trade |   -.247066   .0540002    -4.58   0.000    -.3529045   -.1412275
     capital |   .4392498   .1076808     4.08   0.000     .2281993    .6503002
       dum92 |   1.870225   1.069981     1.75   0.080    -.2268993     3.96735
             |
         cid |
        IND  |  -9.408826   10.47366    -0.90   0.369    -29.93683    11.11917
```

```
         LKA  |   .4403177   11.01175     0.04   0.968    -21.14232    22.02296
         PAK  |          0  (omitted)
              |
       _cons  |   -125.555   102.9898    -1.22   0.223    -327.4113    76.30135
-------------+----------------------------------------------------------------
     sigma_u  |          0
     sigma_e  |  2.3210335
         rho  |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

**Table 11: Quantile regression (for Agriculture)**

.1 Quantile regression
R-squared = .75589987
Number of obs = 202
Objective function = .41782967

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 6.025917 | 12.54942 | 0.48 | 0.632 | -18.72652 | 30.77835 |
| lpop | -6.807895 | 19.79165 | -0.34 | 0.731 | -45.84487 | 32.22908 |
| arable | .1420112 | .4005109 | 0.35 | 0.723 | -.6479552 | .9319776 |
| age | .0212917 | .0733599 | 0.29 | 0.772 | -.1234032 | .1659866 |
| lgdp | -23.34161 | 114.1539 | -0.20 | 0.838 | -248.4984 | 201.8152 |
| lgdpsq | .978101 | 8.102675 | 0.12 | 0.904 | -15.00359 | 16.95979 |
| dum92 | .1062744 | 3.671621 | 0.03 | 0.977 | -7.135618 | 7.348167 |
| _Icid_3 | -.6196967 | 30.35794 | -0.02 | 0.984 | -60.49758 | 59.25819 |
| _Icid_4 | -3.777239 | 28.24165 | -0.13 | 0.894 | -59.48098 | 51.9265 |
| _cons | 173.3518 | 236.8789 | 0.73 | 0.465 | -293.8674 | 640.5709 |

.25 Quantile regression
R-squared = .76190883
Number of obs = 202
Objective function = .89714797

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 6.744334 | 10.65058 | 0.63 | 0.527 | -14.26283 | 27.75149 |
| lpop | -6.923892 | 17.76122 | -0.39 | 0.697 | -41.95605 | 28.10827 |
| arable | .2800104 | .2776827 | 1.01 | 0.315 | -.26769 | .8277109 |
| age | .0088574 | .1207196 | 0.07 | 0.942 | -.2292495 | .2469643 |
| lgdp | -19.06185 | 98.46906 | -0.19 | 0.847 | -213.2819 | 175.1582 |
| lgdpsq | .542049 | 6.888738 | 0.08 | 0.937 | -13.04527 | 14.12937 |
| dum92 | -.0305667 | 2.646877 | -0.01 | 0.991 | -5.251258 | 5.190125 |
| _Icid_3 | 7.743882 | 39.32235 | 0.20 | 0.844 | -69.81538 | 85.30315 |
| _Icid_4 | -.9186883 | 30.64249 | -0.03 | 0.976 | -61.35784 | 59.52046 |
| _cons | 149.8168 | 188.3917 | 0.80 | 0.427 | -221.7662 | 521.3999 |

.5 or Median regression
R-squared = .76458857
Number of obs = 202
Objective function = 1.3699545

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 5.905965 | 7.108777 | 0.83 | 0.407 | -8.115362 | 19.92729 |
| lpop | -5.307194 | 10.94885 | -0.48 | 0.628 | -26.90267 | 16.28828 |
| arable | .4055244 | .2297789 | 1.76 | 0.079 | -.0476908 | .8587396 |
| age | -.0334106 | .2464923 | -0.14 | 0.892 | -.5195911 | .4527699 |
| lgdp | -30.2418 | 278.9408 | -0.11 | 0.914 | -580.4236 | 519.94 |

| | | | | | | |
|---|---|---|---|---|---|---|
| lgdpsq | 1.365709 | 22.74852 | 0.06 | 0.952 | -43.5034 | 46.23482 |
| dum92 | -.0933303 | 1.435009 | -0.07 | 0.948 | -2.923736 | 2.737076 |
| _Icid_3 | 18.40118 | 22.63244 | 0.81 | 0.417 | -26.23896 | 63.04132 |
| _Icid_4 | 4.423845 | 17.53445 | 0.25 | 0.801 | -30.16104 | 39.00873 |
| _cons | 163.416 | 810.3996 | 0.20 | 0.840 | -1435.013 | 1761.845 |

.75 Quantile regression
R-squared = .68862521
Number of obs = 202
Objective function = 1.2833906

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 4.365565 | 9.131733 | 0.48 | 0.633 | -13.64583 | 22.37696 |
| lpop | -2.266261 | 14.33167 | -0.16 | 0.875 | -30.53399 | 26.00147 |
| arable | 1.012394 | .3274361 | 3.09 | 0.002 | .3665603 | 1.658228 |
| age | .1440377 | .2618373 | 0.55 | 0.583 | -.3724091 | .6604846 |
| lgdp | -113.9742 | 104.8523 | -1.09 | 0.278 | -320.7845 | 92.83616 |
| lgdpsq | 8.304377 | 7.878269 | 1.05 | 0.293 | -7.234693 | 23.84345 |
| dum92 | -1.357392 | 2.480159 | -0.55 | 0.585 | -6.24925 | 3.534466 |
| _Icid_3 | 50.1936 | 31.7721 | 1.58 | 0.116 | -12.47358 | 112.8608 |
| _Icid_4 | 15.28253 | 24.6089 | 0.62 | 0.535 | -33.25596 | 63.82103 |
| _cons | 332.1833 | 264.3258 | 1.26 | 0.210 | -189.1719 | 853.5385 |

.9 Quantile regression
R-squared = .56555208
Number of obs = 202
Objective function = .64608283

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -.1605114 | 3.253766 | -0.05 | 0.961 | -6.578228 | 6.257205 |
| lpop | 5.806666 | 6.108648 | 0.95 | 0.343 | -6.24201 | 17.85534 |
| arable | 1.499243 | .9790836 | 1.53 | 0.127 | -.4318976 | 3.430385 |
| age | .2182591 | .5676169 | 0.38 | 0.701 | -.9013064 | 1.337825 |
| lgdp | -199.8664 | 76.81825 | -2.60 | 0.010 | -351.3825 | -48.35039 |
| lgdpsq | 14.73628 | 5.679058 | 2.59 | 0.010 | 3.534923 | 25.93763 |
| dum92 | -1.144978 | 2.55572 | -0.45 | 0.655 | -6.185872 | 3.895916 |
| _Icid_3 | 87.66523 | 53.10208 | 1.65 | 0.100 | -17.07313 | 192.4036 |
| _Icid_4 | 34.72099 | 27.80061 | 1.25 | 0.213 | -20.11283 | 89.55481 |
| _cons | 486.7768 | 197.8019 | 2.46 | 0.015 | 96.63311 | 876.9205 |

Parente-Santos Silva test for intra-cluster correlation
Ho: No intra-cluster correlation

T = -1.331
P>|T| = 0.183

Table 12: Quantile regression (for manufacturing) .

.1 Quantile regression
R-squared = .25685134
Number of obs = 202
Objective function = .29942622

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -1.168531 | 9.924291 | -0.12 | 0.906 | -20.74317 | 18.40611 |
| lpop | .152779 | 15.79369 | 0.01 | 0.992 | -30.99865 | 31.30421 |
| arable | -.3951308 | .0466283 | -8.47 | 0.000 | -.4871003 | -.3031614 |
| age | -.0545451 | .0517142 | -1.05 | 0.293 | -.1565461 | .0474558 |
| lgdp | 18.81033 | 133.7647 | 0.14 | 0.888 | -245.0266 | 282.6473 |
| lgdpsq | -1.536015 | 9.95085 | -0.15 | 0.877 | -21.16304 | 18.09101 |
| dum92 | .5402922 | .863595 | 0.63 | 0.532 | -1.16306 | 2.243644 |
| _Icid_3 | -18.99373 | 30.00376 | -0.63 | 0.527 | -78.17303 | 40.18557 |
| _Icid_4 | -7.176829 | 19.23497 | -0.37 | 0.709 | -45.11582 | 30.76216 |
| _cons | -4.208472 | 273.3959 | -0.02 | 0.988 | -543.4535 | 535.0366 |

.25 Quantile regression
R-squared = .3262405
Number of obs = 202
Objective function = .52771589

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -.5078532 | 6.281012 | -0.08 | 0.936 | -12.8965 | 11.88079 |
| lpop | -.344177 | 9.868472 | -0.03 | 0.972 | -19.80872 | 19.12036 |
| arable | -.2080635 | .0608549 | -3.42 | 0.001 | -.3280933 | -.0880336 |
| age | -.008062 | .111621 | -0.07 | 0.942 | -.2282228 | .2120988 |
| lgdp | 1.34153 | 73.05133 | 0.02 | 0.985 | -142.7447 | 145.4277 |
| lgdpsq | .0096056 | 5.540269 | 0.00 | 0.999 | -10.918 | 10.93721 |
| dum92 | -.0275314 | 1.518227 | -0.02 | 0.986 | -3.022076 | 2.967014 |
| _Icid_3 | -11.54983 | 15.87924 | -0.73 | 0.468 | -42.86999 | 19.77034 |
| _Icid_4 | -3.626467 | 14.69006 | -0.25 | 0.805 | -32.6011 | 25.34816 |
| _cons | 32.53663 | 172.8241 | 0.19 | 0.851 | -308.341 | 373.4143 |

Median regression
R-squared = .40582817
Number of obs = 202
Objective function = .58728595

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -2.852337 | 4.396666 | -0.65 | 0.517 | -11.52431 | 5.819632 |
| lpop | 3.194549 | 7.059514 | 0.45 | 0.651 | -10.72961 | 17.11871 |
| arable | -.270242 | .0915574 | -2.95 | 0.004 | -.4508295 | -.0896546 |

| | | | | | | |
|---|---|---|---|---|---|---|
| age | -.009187 | .0680183 | -0.14 | 0.893 | -.143346 | .124972 |
| lgdp | -28.29474 | 36.91982 | -0.77 | 0.444 | -101.1153 | 44.52579 |
| lgdpsq | 2.279548 | 2.573322 | 0.89 | 0.377 | -2.796064 | 7.355159 |
| dum92 | -1.20546 | .6599022 | -1.83 | 0.069 | -2.507049 | .0961287 |
| _Icid_3 | -8.322717 | 14.75104 | -0.56 | 0.573 | -37.41761 | 20.77218 |
| _Icid_4 | .0094266 | 11.95787 | 0.00 | 0.999 | -23.57624 | 23.59509 |
| _cons | 95.5441 | 66.99955 | 1.43 | 0.155 | -36.60558 | 227.6938 |

.75 Quantile regression
R-squared = .43336599
Number of obs = 202
Objective function = .43210103

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -2.035974 | 3.499847 | -0.58 | 0.561 | -8.93906 | 4.867112 |
| lpop | 2.318803 | 5.869162 | 0.40 | 0.693 | -9.257511 | 13.89512 |
| arable | -.218818 | .1676865 | -1.30 | 0.193 | -.5495623 | .1119264 |
| age | -.0046107 | .0750171 | -0.06 | 0.951 | -.1525741 | .1433527 |
| lgdp | -14.77998 | 23.65768 | -0.62 | 0.533 | -61.4423 | 31.88234 |
| lgdpsq | 1.229976 | 1.582619 | 0.78 | 0.438 | -1.891576 | 4.351527 |
| dum92 | -.8745906 | .7596256 | -1.15 | 0.251 | -2.372873 | .6236921 |
| _Icid_3 | -5.855927 | 17.35959 | -0.34 | 0.736 | -40.09592 | 28.38407 |
| _Icid_4 | -.3768884 | 12.434 | -0.03 | 0.976 | -24.90166 | 24.14789 |
| _cons | 55.56805 | 34.43232 | 1.61 | 0.108 | -12.34615 | 123.4822 |

.9 Quantile regression
R-squared = .37350765
Number of obs = 202
Objective function = .22910984

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -.8657053 | .9459393 | -0.92 | 0.361 | -2.731473 | 1.000062 |
| lpop | 1.39237 | 1.658143 | 0.84 | 0.402 | -1.878146 | 4.662885 |
| arable | -.0710407 | .0784874 | -0.91 | 0.367 | -.2258489 | .0837675 |
| age | -.0340966 | .0221036 | -1.54 | 0.125 | -.0776937 | .0095005 |
| lgdp | 9.848798 | 8.052912 | 1.22 | 0.223 | -6.034737 | 25.73233 |
| lgdpsq | -.7317742 | .5742125 | -1.27 | 0.204 | -1.864349 | .4008006 |
| dum92 | -.638097 | .3014832 | -2.12 | 0.036 | -1.232741 | -.0434526 |
| _Icid_3 | 2.313061 | 5.738862 | 0.40 | 0.687 | -9.006251 | 13.63237 |
| _Icid_4 | 1.298766 | 3.884501 | 0.33 | 0.738 | -6.36301 | 8.960542 |
| _cons | -25.14824 | 16.91196 | -1.49 | 0.139 | -58.50532 | 8.208841 |

**Table 13: Quantile regression (services sector)**

.1 Quantile regression
R-squared = .612339
Number of obs = 202
Objective function = .46550434

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -7.605641 | 2.544395 | -2.99 | 0.003 | -12.6242 | -2.587087 |
| lpop | 6.04437 | 3.869712 | 1.56 | 0.120 | -1.588236 | 13.67698 |
| arable | -1.021504 | .0872755 | -11.70 | 0.000 | -1.193646 | -.8493617 |
| age | -.1088808 | .0841373 | -1.29 | 0.197 | -.2748328 | .0570713 |
| lgdp | 31.87294 | 63.39643 | 0.50 | 0.616 | -93.16997 | 156.9158 |
| lgdpsq | -2.415071 | 5.098539 | -0.47 | 0.636 | -12.47141 | 7.641269 |
| dum92 | 2.576956 | 1.44846 | 1.78 | 0.077 | -.2799824 | 5.433894 |
| _Icid_3 | -44.97956 | 9.801238 | -4.59 | 0.000 | -64.31149 | -25.64764 |
| _Icid_4 | -8.727169 | 7.193058 | -1.21 | 0.227 | -22.91473 | 5.460392 |
| _cons | -9.931121 | 192.224 | -0.05 | 0.959 | -389.073 | 369.2108 |

.25 Quantile regression
R-squared = .74168435
Number of obs = 202
Objective function = .89892714

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -6.303562 | 4.096537 | -1.54 | 0.126 | -14.38356 | 1.776432 |
| lpop | 6.486121 | 6.267548 | 1.03 | 0.302 | -5.875969 | 18.84821 |
| arable | -.245578 | .1893137 | -1.30 | 0.196 | -.6189797 | .1278237 |
| age | -.0939963 | .1944364 | -0.48 | 0.629 | -.4775019 | .2895093 |
| lgdp | 2.124242 | 90.15565 | 0.02 | 0.981 | -175.6985 | 179.9469 |
| lgdpsq | .2429127 | 7.325281 | 0.03 | 0.974 | -14.20545 | 14.69127 |
| dum92 | 1.074998 | 1.031605 | 1.04 | 0.299 | -.959736 | 3.109733 |
| _Icid_3 | -8.947933 | 14.18188 | -0.63 | 0.529 | -36.92023 | 19.02436 |
| _Icid_4 | 4.756574 | 11.00347 | 0.43 | 0.666 | -16.94664 | 26.45979 |
| _cons | 2.724578 | 267.4369 | 0.01 | 0.992 | -524.767 | 530.2162 |

Median regression
R-squared = .71401113
Number of obs = 202
Objective function = 1.0595148

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -7.175162 | 3.173641 | -2.26 | 0.025 | -13.43484 | -.9154844 |
| lpop | 7.370269 | 4.098625 | 1.80 | 0.074 | -.7138445 | 15.45438 |
| arable | -.2040444 | .2824643 | -0.72 | 0.471 | -.7611759 | .3530872 |
| age | .0044135 | .1435602 | 0.03 | 0.976 | -.2787442 | .2875712 |
| lgdp | -25.81364 | 43.76912 | -0.59 | 0.556 | -112.1437 | 60.51642 |

| | | | | | | |
|---|---|---|---|---|---|---|
| lgdpsq | 2.573284 | 3.334865 | 0.77 | 0.441 | -4.004391 | 9.150959 |
| dum92 | .7817091 | 1.071299 | 0.73 | 0.466 | -1.331317 | 2.894735 |
| _Icid_3 | -6.677984 | 11.80018 | -0.57 | 0.572 | -29.95261 | 16.59664 |
| _Icid_4 | 5.157844 | 6.849342 | 0.75 | 0.452 | -8.351775 | 18.66746 |
| _cons | 72.63889 | 129.9758 | 0.56 | 0.577 | -183.7249 | 329.0027 |

.75 Quantile regression
R-squared = .74452678
Number of obs = 202
Objective function = .74366382

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -5.827812 | 1.839412 | -3.17 | 0.002 | -9.455861 | -2.199762 |
| lpop | 5.49529 | 3.49408 | 1.57 | 0.117 | -1.396421 | 12.387 |
| arable | -.2126158 | .1092559 | -1.95 | 0.053 | -.4281118 | .0028801 |
| age | .0538823 | .1209315 | 0.45 | 0.656 | -.1846425 | .2924071 |
| lgdp | 13.242 | 32.32406 | 0.41 | 0.683 | -50.51386 | 76.99786 |
| lgdpsq | -.4922988 | 2.430033 | -0.20 | 0.840 | -5.285286 | 4.300689 |
| dum92 | 2.001757 | 2.806009 | 0.71 | 0.476 | -3.532805 | 7.536319 |
| _Icid_3 | -5.166455 | 10.67959 | -0.48 | 0.629 | -26.23085 | 15.89794 |
| _Icid_4 | 2.25563 | 6.467373 | 0.35 | 0.728 | -10.50059 | 15.01185 |
| _cons | -34.96516 | 77.11534 | -0.45 | 0.651 | -187.0672 | 117.1369 |

.9 Quantile regression
R-squared = .72429222
Number of obs = 202
Objective function = .3682329

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -5.01825 | 1.548751 | -3.24 | 0.001 | -8.073001 | -1.963499 |
| lpop | 4.584432 | 2.237721 | 2.05 | 0.042 | .1707593 | 8.998105 |
| arable | -.2114507 | .1246502 | -1.70 | 0.091 | -.4573103 | .0344089 |
| age | .1207066 | .0944724 | 1.28 | 0.203 | -.0656305 | .3070437 |
| lgdp | 23.30045 | 27.83825 | 0.84 | 0.404 | -31.60761 | 78.20851 |
| lgdpsq | -1.256011 | 2.133719 | -0.59 | 0.557 | -5.46455 | 2.952529 |
| dum92 | 2.994259 | 1.657387 | 1.81 | 0.072 | -.2747649 | 6.263283 |
| _Icid_3 | -5.001783 | 4.896227 | -1.02 | 0.308 | -14.65908 | 4.655518 |
| _Icid_4 | .34631 | 2.855699 | 0.12 | 0.904 | -5.286261 | 5.978881 |
| _cons | -65.3215 | 74.72835 | -0.87 | 0.383 | -212.7154 | 82.07244 |

**Table 14: Quantile regressions for model with policy variables (agriculture)**

.1 Quantile regression
R-squared = .77622549
Number of obs = 115
Objective function = .28539666

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -4.141815 | .9662556 | -4.29 | 0.000 | -6.058838 | -2.224791 |
| lpop | 11.83618 | 1.452403 | 8.15 | 0.000 | 8.954657 | 14.71771 |
| arable | .3110962 | .1845263 | 1.69 | 0.095 | -.0549986 | .677191 |
| age | -.2398981 | .1219739 | -1.97 | 0.052 | -.4818909 | .0020946 |
| lgdp | -90.70298 | 38.38289 | -2.36 | 0.020 | -166.8535 | -14.55243 |
| lgdpsq | 5.8737 | 3.086533 | 1.90 | 0.060 | -.2498934 | 11.99729 |
| educs | -.0181955 | .0498131 | -0.37 | 0.716 | -.1170232 | .0806323 |
| lpower | -3.724876 | 1.130781 | -3.29 | 0.001 | -5.968313 | -1.481439 |
| fdi | -.2766579 | .8090155 | -0.34 | 0.733 | -1.881722 | 1.328406 |
| trade | .2016202 | .0545145 | 3.70 | 0.000 | .093465 | .3097754 |
| capital | -.2470583 | .0578633 | -4.27 | 0.000 | -.3618575 | -.1322592 |
| dum92 | -4.541529 | 1.964011 | -2.31 | 0.023 | -8.438071 | -.6449878 |
| _Icid_3 | 34.23357 | 9.454922 | 3.62 | 0.000 | 15.47527 | 52.99187 |
| _Icid_4 | 25.6995 | 6.584665 | 3.90 | 0.000 | 12.63572 | 38.76329 |
| _cons | 202.7627 | 128.1487 | 1.58 | 0.117 | -51.48065 | 457.0061 |

.25 Quantile regression
R-squared = .81659369
Number of obs = 115
Objective function = .59513395

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -1.421887 | 1.369891 | -1.04 | 0.302 | -4.139713 | 1.295938 |
| lpop | 8.661935 | 1.708951 | 5.07 | 0.000 | 5.271425 | 12.05245 |
| arable | .4112284 | .1932703 | 2.13 | 0.036 | .0277856 | .7946712 |
| age | -.2471085 | .0893539 | -2.77 | 0.007 | -.424384 | -.0698329 |
| lgdp | -71.63204 | 23.05246 | -3.11 | 0.002 | -117.3675 | -25.89661 |
| lgdpsq | 4.392387 | 1.733067 | 2.53 | 0.013 | .9540314 | 7.830742 |
| educs | .0627616 | .0262715 | 2.39 | 0.019 | .0106397 | .1148836 |
| lpower | -3.98784 | 2.161949 | -1.84 | 0.068 | -8.277084 | .3014045 |
| fdi | .5522082 | .182261 | 3.03 | 0.003 | .1906075 | .9138089 |
| trade | .2749491 | .0386303 | 7.12 | 0.000 | .1983077 | .3515905 |
| capital | -.4863677 | .0470233 | -10.34 | 0.000 | -.5796606 | -.3930749 |
| dum92 | -5.05762 | .8524061 | -5.93 | 0.000 | -6.748769 | -3.366471 |
| _Icid_3 | 30.28629 | 7.847135 | 3.86 | 0.000 | 14.7178 | 45.85479 |
| _Icid_4 | 22.74133 | 4.575932 | 4.97 | 0.000 | 13.66281 | 31.81985 |
| _cons | 164.4334 | 64.14085 | 2.56 | 0.012 | 37.17979 | 291.687 |

Median regression
R-squared = .83744345
Number of obs = 115
Objective function = .78525874

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 3.88742 | 1.022643 | 3.80 | 0.000 | 1.858525 | 5.916314 |
| lpop | -.9368159 | 3.181726 | -0.29 | 0.769 | -7.24927 | 5.375638 |
| arable | .0652607 | .3786864 | 0.17 | 0.864 | -.6860424 | .8165637 |
| age | -.0787684 | .2636608 | -0.30 | 0.766 | -.6018638 | .4443271 |
| lgdp | -65.01347 | 103.4328 | -0.63 | 0.531 | -270.2212 | 140.1943 |
| lgdpsq | 5.011668 | 8.186092 | 0.61 | 0.542 | -11.22931 | 21.25264 |
| educs | -.0730103 | .047048 | -1.55 | 0.124 | -.1663522 | .0203317 |
| lpower | -5.185376 | 5.285588 | -0.98 | 0.329 | -15.67183 | 5.301081 |
| fdi | .1142514 | .7177595 | 0.16 | 0.874 | -1.309763 | 1.538266 |
| trade | .0539199 | .1165067 | 0.46 | 0.645 | -.177226 | .2850658 |
| capital | -.415313 | .1950939 | -2.13 | 0.036 | -.8023737 | -.0282524 |
| dum92 | -.230966 | 2.225796 | -0.10 | 0.918 | -4.646881 | 4.184949 |
| _Icid_3 | 8.730013 | 20.65672 | 0.42 | 0.673 | -32.25234 | 49.71237 |
| _Icid_4 | .2655349 | 14.08598 | 0.02 | 0.985 | -27.68065 | 28.21172 |
| _cons | 241.8648 | 360.498 | 0.67 | 0.504 | -473.3531 | 957.0826 |

.75 Quantile regression
R-squared = .83364746
Number of obs = 115
Objective function = .6209392

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 1.434363 | 3.189281 | 0.45 | 0.654 | -4.893079 | 7.761805 |
| lpop | 3.069457 | 5.797481 | 0.53 | 0.598 | -8.432581 | 14.5715 |
| arable | -.5477146 | .2544555 | -2.15 | 0.034 | -1.052547 | -.0428822 |
| age | .2063235 | .1857237 | 1.11 | 0.269 | -.1621471 | .574794 |
| lgdp | -12.46 | 124.5635 | -0.10 | 0.921 | -259.5904 | 234.6704 |
| lgdpsq | 1.673307 | 9.601186 | 0.17 | 0.862 | -17.37517 | 20.72179 |
| educs | -.0636468 | .0972144 | -0.65 | 0.514 | -.2565174 | .1292237 |
| lpower | -11.2084 | 5.718581 | -1.96 | 0.053 | -22.5539 | .1371014 |
| fdi | .3068639 | .3726872 | 0.82 | 0.412 | -.432537 | 1.046265 |
| trade | .0730374 | .108609 | 0.67 | 0.503 | -.1424398 | .2885145 |
| capital | -.6373978 | .2457385 | -2.59 | 0.011 | -1.124936 | -.1498596 |
| dum92 | .9338415 | 1.285608 | 0.73 | 0.469 | -1.616769 | 3.484452 |
| _Icid_3 | -17.00745 | 19.95498 | -0.85 | 0.396 | -56.59757 | 22.58266 |
| _Icid_4 | -12.05625 | 15.35997 | -0.78 | 0.434 | -42.53 | 18.41749 |
| _cons | 52.31541 | 432.6863 | 0.12 | 0.904 | -806.1218 | 910.7526 |

.9 Quantile regression
R-squared = .82547993
Number of obs = 115
Objective function = .30793009

Standard errors adjusted for 4 clusters in cid

| agri | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 5.103151 | 1.578251 | 3.23 | 0.002 | 1.971945 | 8.234356 |
| lpop | -.3540085 | 1.155137 | -0.31 | 0.760 | -2.645767 | 1.93775 |
| arable | -.0844894 | .5584849 | -0.15 | 0.880 | -1.192507 | 1.023529 |
| age | .1108671 | .1257561 | 0.88 | 0.380 | -.1386295 | .3603637 |
| lgdp | 45.79153 | 79.49341 | 0.58 | 0.566 | -111.9211 | 203.5042 |
| lgdpsq | -2.44253 | 5.93476 | -0.41 | 0.682 | -14.21692 | 9.331864 |
| educs | -.1847195 | .0716922 | -2.58 | 0.011 | -.3269548 | -.0424842 |
| lpower | -12.04436 | 5.351661 | -2.25 | 0.027 | -22.6619 | -1.426817 |
| fdi | .0126765 | .3278788 | 0.04 | 0.969 | -.6378257 | .6631787 |
| trade | .0815157 | .0833874 | 0.98 | 0.331 | -.0839225 | .2469539 |
| capital | -.636275 | .1981306 | -3.21 | 0.002 | -1.02936 | -.2431896 |
| dum92 | .981939 | 1.135388 | 0.86 | 0.389 | -1.270639 | 3.234517 |
| _Icid_3 | .1492683 | 28.93688 | 0.01 | 0.996 | -57.26067 | 57.55921 |
| _Icid_4 | -9.958968 | 10.29126 | -0.97 | 0.336 | -30.37653 | 10.45859 |
| _cons | -141.5602 | 224.844 | -0.63 | 0.530 | -587.6443 | 304.5239 |

**Table 15: Quantile regression with policy variables (manufacturing)**

.1 Quantile regression
R-squared = .54754991
Number of obs = 115
Objective function = .13050404

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 1.636975 | 1.586423 | 1.03 | 0.305 | -1.510442 | 4.784392 |
| lpop | -6.301022 | 3.325434 | -1.89 | 0.061 | -12.89859 | .296543 |
| arable | -.1294907 | .0552875 | -2.34 | 0.021 | -.2391794 | -.0198019 |
| age | .104957 | .0424596 | 2.47 | 0.015 | .0207182 | .1891957 |
| lgdp | -41.42907 | 13.71392 | -3.02 | 0.003 | -68.6371 | -14.22104 |
| lgdpsq | 2.887343 | 1.148756 | 2.51 | 0.014 | .6082433 | 5.166442 |
| educs | .0069844 | .0178879 | 0.39 | 0.697 | -.0285047 | .0424736 |
| lpower | 7.457638 | 1.153904 | 6.46 | 0.000 | 5.168326 | 9.74695 |
| fdi | -.4290239 | .3375772 | -1.27 | 0.207 | -1.098768 | .2407197 |
| trade | .0260975 | .0634675 | 0.41 | 0.682 | -.0998202 | .1520152 |
| capital | -.0023472 | .0343647 | -0.07 | 0.946 | -.0705258 | .0658315 |
| dum92 | -.5700105 | .3993248 | -1.43 | 0.157 | -1.362259 | .2222384 |
| _Icid_3 | -17.8847 | 5.523407 | -3.24 | 0.002 | -28.84298 | -6.926415 |
| _Icid_4 | -12.69051 | 4.644359 | -2.73 | 0.007 | -21.90479 | -3.476239 |
| _cons | 223.0335 | 67.73739 | 3.29 | 0.001 | 88.64444 | 357.4225 |

.25 Quantile regression
R-squared = .5095752
Number of obs = 115
Objective function = .27657024

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | 1.194164 | 1.494507 | 0.80 | 0.426 | -1.770894 | 4.159223 |
| lpop | -4.565446 | 3.196496 | -1.43 | 0.156 | -10.9072 | 1.776311 |
| arable | -.1798789 | .1019807 | -1.76 | 0.081 | -.3822057 | .0224479 |
| age | .1127833 | .0409382 | 2.75 | 0.007 | .031563 | .1940036 |
| lgdp | -23.47091 | 7.324634 | -3.20 | 0.002 | -38.00278 | -8.939048 |
| lgdpsq | 1.541291 | .7157741 | 2.15 | 0.034 | .1212153 | 2.961366 |
| educs | .0440608 | .0073349 | 6.01 | 0.000 | .0295086 | .058613 |
| lpower | 4.954442 | .8078131 | 6.13 | 0.000 | 3.351764 | 6.55712 |
| fdi | -.1992173 | .1405 | -1.42 | 0.159 | -.4779652 | .0795307 |
| trade | .0378498 | .073014 | 0.52 | 0.605 | -.1070079 | .1827075 |
| capital | -.0147198 | .072306 | -0.20 | 0.839 | -.1581729 | .1287334 |
| dum92 | -.2585254 | .3894292 | -0.66 | 0.508 | -1.031142 | .514091 |
| _Icid_3 | -18.50087 | 8.515248 | -2.17 | 0.032 | -35.39488 | -1.606864 |
| _Icid_4 | -10.97654 | 6.166659 | -1.78 | 0.078 | -23.21101 | 1.257939 |
| _cons | 149.5063 | 48.98227 | 3.05 | 0.003 | 52.32687 | 246.6857 |

Median regression
R-squared = .57397295
Number of obs = 115
Objective function = .36824198

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | .2713517 | 1.371385 | 0.20 | 0.844 | -2.449438 | 2.992141 |
| lpop | -3.880244 | 1.545533 | -2.51 | 0.014 | -6.946538 | -.8139505 |
| arable | -.3672767 | .2314123 | -1.59 | 0.116 | -.8263921 | .0918388 |
| age | .1442573 | .0888552 | 1.62 | 0.108 | -.0320289 | .3205436 |
| lgdp | -51.14589 | 11.62774 | -4.40 | 0.000 | -74.215 | -28.07678 |
| lgdpsq | 4.065777 | .8263223 | 4.92 | 0.000 | 2.426377 | 5.705177 |
| educs | -.0249396 | .0696259 | -0.36 | 0.721 | -.1630754 | .1131962 |
| lpower | 3.75237 | 1.071749 | 3.50 | 0.001 | 1.626051 | 5.878689 |
| fdi | -.5226214 | .2571387 | -2.03 | 0.045 | -1.032777 | -.0124654 |
| trade | -.0317069 | .057849 | -0.55 | 0.585 | -.1464776 | .0830638 |
| capital | .0648104 | .1135265 | 0.57 | 0.569 | -.1604231 | .2900438 |
| dum92 | .5332157 | .6041529 | 0.88 | 0.380 | -.6654064 | 1.731838 |
| _Icid_3 | -23.31639 | 8.521089 | -2.74 | 0.007 | -40.22199 | -6.41079 |
| _Icid_4 | -14.0989 | 3.656393 | -3.86 | 0.000 | -21.35308 | -6.844724 |
| _cons | 241.0748 | 26.24958 | 9.18 | 0.000 | 188.9964 | 293.1532 |

.75 Quantile regression
R-squared = .55311283
Number of obs = 115
Objective function = .27910677

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -.8273444 | .9792523 | -0.84 | 0.400 | -2.770153 | 1.115464 |
| lpop | -2.495379 | 1.083275 | -2.30 | 0.023 | -4.644566 | -.3461911 |
| arable | -.4118141 | .0862535 | -4.77 | 0.000 | -.5829385 | -.2406897 |
| age | .219991 | .0832058 | 2.64 | 0.010 | .0549131 | .3850689 |
| lgdp | -82.07316 | 9.214162 | -8.91 | 0.000 | -100.3538 | -63.79253 |
| lgdpsq | 6.301668 | .6798271 | 9.27 | 0.000 | 4.95291 | 7.650425 |
| educs | -.0574856 | .0330774 | -1.74 | 0.085 | -.1231102 | .008139 |
| lpower | 4.668371 | .759208 | 6.15 | 0.000 | 3.162124 | 6.174618 |
| fdi | -.3702704 | .0482955 | -7.67 | 0.000 | -.4660873 | -.2744535 |
| trade | .0296469 | .01849 | 1.60 | 0.112 | -.0070368 | .0663307 |
| capital | .0653075 | .0468353 | 1.39 | 0.166 | -.0276124 | .1582274 |
| dum92 | 1.845425 | .397905 | 4.64 | 0.000 | 1.055993 | 2.634857 |
| _Icid_3 | -22.0452 | 3.669967 | -6.01 | 0.000 | -29.32631 | -14.76409 |
| _Icid_4 | -13.99129 | .8105313 | -17.26 | 0.000 | -15.59936 | -12.38322 |
| _cons | 325.5048 | 20.62413 | 15.78 | 0.000 | 284.5871 | 366.4225 |

.9 Quantile regression
R-squared = .45136139
Number of obs = 115
Objective function = .15404724

Standard errors adjusted for 4 clusters in cid

| manuf | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| lland | -.2707902 | 1.286843 | -0.21 | 0.834 | -2.823851 | 2.28227 |
| lpop | -3.495653 | 1.305523 | -2.68 | 0.009 | -6.085773 | -.9055331 |
| arable | -.4925425 | .1371029 | -3.59 | 0.001 | -.7645508 | -.2205343 |
| age | .2741826 | .068689 | 3.99 | 0.000 | .1379056 | .4104596 |
| lgdp | -70.04828 | 12.67708 | -5.53 | 0.000 | -95.19925 | -44.89732 |
| lgdpsq | 5.583528 | .9155191 | 6.10 | 0.000 | 3.767165 | 7.399892 |
| educs | -.1021156 | .0351922 | -2.90 | 0.005 | -.1719359 | -.0322952 |
| lpower | 4.420255 | .8841061 | 5.00 | 0.000 | 2.666213 | 6.174296 |
| fdi | -.4845785 | .0696782 | -6.95 | 0.000 | -.6228181 | -.3463389 |
| trade | .0215878 | .0110098 | 1.96 | 0.053 | -.0002554 | .043431 |
| capital | .0385216 | .0323176 | 1.19 | 0.236 | -.0255956 | .1026388 |
| dum92 | 2.55487 | .7536005 | 3.39 | 0.001 | 1.059748 | 4.049992 |
| _Icid_3 | -26.46998 | 6.80481 | -3.89 | 0.000 | -39.97053 | -12.96943 |
| _Icid_4 | -18.69798 | 3.23105 | -5.79 | 0.000 | -25.10829 | -12.28767 |
| _cons | 296.1595 | 29.91387 | 9.90 | 0.000 | 236.8112 | 355.5078 |

**Table 16: Quantile regression with policy variables (services)**

.1 Quantile regression
R-squared = .73996665
Number of obs = 115
Objective function = .28079242

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -4.983072 | .6262019 | -7.96 | 0.000 | -6.225439 | -3.740706 |
| lpop | 1.425643 | 2.223982 | 0.64 | 0.523 | -2.986674 | 5.837959 |
| arable | .6214622 | .1650317 | 3.77 | 0.000 | .2940439 | .9488805 |
| age | -.1626288 | .0870438 | -1.87 | 0.065 | -.3353212 | .0100637 |
| lgdp | -37.89515 | 59.95158 | -0.63 | 0.529 | -156.8374 | 81.04708 |
| lgdpsq | 1.862241 | 4.974274 | 0.37 | 0.709 | -8.006577 | 11.73106 |
| educs | .1573743 | .0803795 | 1.96 | 0.053 | -.0020963 | .3168448 |
| lpower | 11.24456 | 1.967245 | 5.72 | 0.000 | 7.341598 | 15.14751 |
| fdi | -.5525917 | .788679 | -0.70 | 0.485 | -2.117308 | 1.012125 |
| trade | -.0424935 | .1235009 | -0.34 | 0.732 | -.2875157 | .2025287 |
| capital | .2055778 | .1642641 | 1.25 | 0.214 | -.1203174 | .5314731 |
| dum92 | -.6382305 | 1.775302 | -0.36 | 0.720 | -4.160379 | 2.883918 |
| _Icid_3 | 24.49117 | 7.331956 | 3.34 | 0.001 | 9.944773 | 39.03756 |
| _Icid_4 | 20.48721 | 6.526137 | 3.14 | 0.002 | 7.539537 | 33.43488 |
| _cons | 154.1781 | 217.3228 | 0.71 | 0.480 | -276.9841 | 585.3403 |

.25 Quantile regression
R-squared = .77083426
Number of obs = 115
Objective function = .56947656

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -4.957735 | 1.437324 | -3.45 | 0.001 | -7.809344 | -2.106125 |
| lpop | 3.498846 | 5.833027 | 0.60 | 0.550 | -8.073714 | 15.07141 |
| arable | .5540077 | .0715033 | 7.75 | 0.000 | .4121472 | .6958683 |
| age | -.2062081 | .1661826 | -1.24 | 0.218 | -.5359096 | .1234934 |
| lgdp | 34.49429 | 205.4493 | 0.17 | 0.867 | -373.1113 | 442.0999 |
| lgdpsq | -3.594778 | 15.71776 | -0.23 | 0.820 | -34.77837 | 27.58881 |
| educs | .129477 | .0754312 | 1.72 | 0.089 | -.0201763 | .2791303 |
| lpower | 7.050799 | 8.677725 | 0.81 | 0.418 | -10.16556 | 24.26716 |
| fdi | .7064548 | .4263562 | 1.66 | 0.101 | -.1394239 | 1.552333 |
| trade | -.0351944 | .048513 | -0.73 | 0.470 | -.1314429 | .061054 |
| capital | .2404653 | .2396196 | 1.00 | 0.318 | -.2349332 | .7158638 |
| dum92 | -1.272749 | 3.4318 | -0.37 | 0.712 | -8.081342 | 5.535843 |
| _Icid_3 | 23.88401 | 9.336195 | 2.56 | 0.012 | 5.361265 | 42.40676 |
| _Icid_4 | 21.9538 | 11.22311 | 1.96 | 0.053 | -.3125399 | 44.22013 |
| _cons | -95.35584 | 715.56 | -0.13 | 0.894 | -1515.006 | 1324.295 |

Median regression

R-squared = .82384994
Number of obs = 115
Objective function = .73076587

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -3.514151 | 2.398722 | -1.47 | 0.146 | -8.273147 | 1.244845 |
| lpop | 1.332206 | 6.769732 | 0.20 | 0.844 | -12.09875 | 14.76316 |
| arable | .1092798 | .4446383 | 0.25 | 0.806 | -.7728699 | .9914296 |
| age | -.0487033 | .2189907 | -0.22 | 0.824 | -.4831746 | .385768 |
| lgdp | 38.11783 | 73.74652 | 0.52 | 0.606 | -108.1932 | 184.4288 |
| lgdpsq | -2.730679 | 6.189739 | -0.44 | 0.660 | -15.01095 | 9.549587 |
| educs | .0225371 | .0492199 | 0.46 | 0.648 | -.0751138 | .120188 |
| lpower | 2.634242 | 4.733476 | 0.56 | 0.579 | -6.756839 | 12.02532 |
| fdi | .2174533 | .5433153 | 0.40 | 0.690 | -.8604687 | 1.295375 |
| trade | -.1270411 | .1932002 | -0.66 | 0.512 | -.5103448 | .2562626 |
| capital | .2983675 | .2556847 | 1.17 | 0.246 | -.2089036 | .8056387 |
| dum92 | 1.491898 | 2.129251 | 0.70 | 0.485 | -2.732475 | 5.716271 |
| _Icid_3 | 2.477888 | 27.73426 | 0.09 | 0.929 | -52.54609 | 57.50186 |
| _Icid_4 | 6.87329 | 18.36561 | 0.37 | 0.709 | -29.56356 | 43.31014 |
| _cons | -82.8377 | 289.5937 | -0.29 | 0.775 | -657.3834 | 491.708 |

.75 Quantile regression
R-squared = .79933391
Number of obs = 115
Objective function = .51643201

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -1.583726 | .881113 | -1.80 | 0.075 | -3.331829 | .1643767 |
| lpop | -2.188514 | 1.188236 | -1.84 | 0.068 | -4.54594 | .168912 |
| arable | -.187938 | .2375406 | -0.79 | 0.431 | -.6592118 | .2833357 |
| age | .1051716 | .1469059 | 0.72 | 0.476 | -.1862855 | .3966287 |
| lgdp | 59.95266 | 18.79327 | 3.19 | 0.002 | 22.66735 | 97.23797 |
| lgdpsq | -3.792283 | 1.232299 | -3.08 | 0.003 | -6.23713 | -1.347437 |
| educs | .0044928 | .0306611 | 0.15 | 0.884 | -.0563379 | .0653236 |
| lpower | .6719886 | 1.309349 | 0.51 | 0.609 | -1.925723 | 3.2697 |
| fdi | .3397026 | .3066944 | 1.11 | 0.271 | -.2687703 | .9481755 |
| trade | -.2289747 | .0394208 | -5.81 | 0.000 | -.3071843 | -.150765 |
| capital | .2410663 | .1136013 | 2.12 | 0.036 | .0156847 | .466448 |
| dum92 | 3.500662 | .9841392 | 3.56 | 0.001 | 1.548158 | 5.453166 |
| _Icid_3 | -14.12963 | 13.21281 | -1.07 | 0.287 | -40.34346 | 12.08421 |
| _Icid_4 | -5.71935 | 7.564772 | -0.76 | 0.451 | -20.72764 | 9.288943 |
| _cons | -111.6273 | 45.01057 | -2.48 | 0.015 | -200.927 | -22.32757 |

.9 Quantile regression

R-squared = .70772922
Number of obs = 115
Objective function = .24387024

Standard errors adjusted for 4 clusters in cid

| service | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| lland | -.74513 | 1.569082 | -0.47 | 0.636 | -3.858145 | 2.367885 |
| lpop | -3.56769 | 1.915115 | -1.86 | 0.065 | -7.367223 | .2318438 |
| arable | -.3350155 | .1171706 | -2.86 | 0.005 | -.5674786 | -.1025524 |
| age | .267875 | .104601 | 2.56 | 0.012 | .0603496 | .4754004 |
| lgdp | 89.71144 | 19.52305 | 4.60 | 0.000 | 50.97827 | 128.4446 |
| lgdpsq | -5.765277 | 1.498781 | -3.85 | 0.000 | -8.738815 | -2.791739 |
| educs | .0136984 | .0193979 | 0.71 | 0.482 | -.0247865 | .0521834 |
| lpower | -.5372067 | .4666933 | -1.15 | 0.252 | -1.463113 | .3886994 |
| fdi | .7279203 | .1630767 | 4.46 | 0.000 | .4043808 | 1.05146 |
| trade | -.263411 | .020394 | -12.92 | 0.000 | -.3038721 | -.2229499 |
| capital | .1531702 | .0209518 | 7.31 | 0.000 | .1116024 | .1947381 |
| dum92 | 4.870491 | .4123896 | 11.81 | 0.000 | 4.052322 | 5.68866 |
| _Icid_3 | -22.8081 | 3.285548 | -6.94 | 0.000 | -29.32654 | -16.28967 |
| _Icid_4 | -13.01297 | .7097609 | -18.33 | 0.000 | -14.42111 | -11.60482 |
| _cons | -197.7448 | 45.84539 | -4.31 | 0.000 | -288.7008 | -106.7889 |

Table 17A: Determinants of Share of Agricultural Sector: Sign and significance of coefficients

| Variables ►<br><br>Models ▼ | Fundamentals | | | | | | Policy Variables | | | | | Time dummy and Country dummies (base Bangladesh) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lland | lpop | arable | age | lgdp | lgdps | educs | lpower | open | fdi | capital | Dum 92 | India | Sri Lanka | Pakistan |
| Pooled OLS (Table3) (fundamentals only) | +,s | -,s | +,s | +,s | +,i | -,i | | | | | | +,i | +,i | +,i | |
| Pooled OLS (Table5) (fundamentals & policy variables) | +,s | -,i | +,i | -,i | -,i | +,i | +,i | -,s | +,s | +,i | -,s | -,i | -,i | -,i | |
| SUR with constraints (Table 6) | +,i | +,i | -,i | +,i | -,i | +,i | -,i | -,s | +,s | | -,s | +,s | +,i | +,i | |
| Fixed effects model with country fundamentals (Table 7) | | -,s | +,s | +,s | +,i | -,i | | | | | | +,i | | | |
| Random Effects model with country fundamentals (Table 8) | +,i | -,i | +,i | +,s | -,s | +,s | | | | | | -,s | | | |
| Fixed Effects model with policy variables (Table 9) | | -,i | +,i | -,i | -,i | +,i | +,i | -,s | +,s | +,i | -,s | -,i | | | |
| Random Effects model with policy variables (Table 10) | +,s | -,i | +,i | -,i | -,i | +,i | +,i | -,s | +,s | +,i | -,s | -,i | -,i | +,i | |
| Summary of Quantile regression results (Table 11) only significant results mentioned. | | | +, s (for 0.5 and 0.75) | | -s, (for 0.9) | +,s (for 0.9) | | | | | | | | | |
| Summary of quantile regressions (Table 14) | -,s for 0.1, +,s for 0.5 and 0.9 | +,s for 0.1, 0.25 | +,s for 0.1, 0.25, 0.75 | -,s for 0.1, 0.25 | -,s for 0.1, 0.25 | +,s for 0.1, 0.25 | +,s for 0.25, -,s for 0.9 | -,s for 0.1, 0.25, 0.75 and 0.9 | +,s for 0.1, 0.25 | +,s for 0.25 | -,s for 0.1, 0.25, 0.75, 0.9 | -,s for 0.1, 0.25 | | +,s for 0.1, 0.25 | +,s for 0.1,0.25 |

N.B. i= insignificant, s = significant, usually at 5 per cent or lower. Quantile regression results show significance for relevant quantiles only.

Table 17B: Determinants of Share of Manufacturing Sector: Sign and significance of coefficients

| Variables ► <br> Models ▼ | Fundamentals | | | | | | Policy Variables | | | | | Time dummy and Country dummies (base Bangladesh) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lland | lpop | arable | age | lgdp | lgdps | educs | lpower | open | fdi | capital | Dum 92 | India | Sri Lanka | Pakistan |
| Pooled OLS (Table3) (fundamentals only) | -,i | +,s | -,s | -,s | -,i | +,i | | | | | | -,i | -,i | -,i | |
| Pooled OLS (Table5) (fundamentals & policy variables) | -,s | -,i | -,s | +,s | -,s | +,s | -,i | +,s | -,i | -,s | +,s | +,i | +,s | -,s | |
| SUR with constraints (Table 6) | -,s | -,s | | +,s | -,s | +,s | -,i | +,s | +,i | -,i | +,i | +,s | +,s | -,s | |
| Fixed effects model with country fundamentals (Table 7) | | +,s | -s, | -,s | -,i | +,i | | | | | | -,i | | | |
| Random Effects model with country fundamentals (Table 8) | +,i | +,i | -,s | -,i | +,i | -,i | | | | | | -,i | | | |
| Fixed Effects model with policy variables (Table 9) | | -,i | -,s | +,s | -,s | +,s | -,i | +,s | -,i | -,s | +,i | +,i | | | |
| Random Effects model with policy variables (Table 10) | -,s | -,i | -,s | +,s | -,s | +,s | -,i | +,s | -,i | -,s | +,s | +,i | +,s | -,s | |
| Summary of Quantile regression results (Table 12) | | | -s, for 0.1, 0.25, and 0.5) | | | | | | | | | -,s for 0.5 and 0.9 | | | |
| Summary of Quantile regression results (Table 15) | | -,s for 0.1,0.75, 0.9 | -,s for 0.1, 0.25,0.75, 0.9 | +,s for 0.1, 0.25, 0.75, 0.9 | -,s for 0.1, 0.25, 0.5, 0.75, 0.9 | +,s for 0.1, 0.25, 0.5, 0.75, 0.9 | +,s for 0.25; -s for 0.75 and 0.9 | +,s for 0.1, 0.25, 0.5, 0.75, 0.9 | +,s for 0.9 | -,s for 0.5, 0.75 and 0.9 | | +,s for 0.75 and 0.9 | | -,s for 0.1, 0.25, 0.5, 0.75, 0.9 | -,s for 0.1, 0.25, 0.5, 0.75, 0.9 |

N.B. i= insignificant, s = significant, usually at 5 per cent or lower. Quantile regression results show significance for relevant quantiles only.

Table 17C: Determinants of Share of Services Sector: Sign and significance of coefficients

| Variables ► Models ▼ | Fundamentals | | | | | | Policy Variables | | | | | Time dummy and Country dummies (base Bangladesh) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lland | lpop | arable | age | lgdp | lgdps | educs | lpower | open | fdi | capital | Dum 92 | India | Sri Lanka | Pakistan |
| Pooled OLS (Table3) (fundamentals only) | -,s | +,s | -,s | -,i | -,s | +,s | | | | | | +,s | -,i | -,i | |
| Pooled OLS (Table5) (fundamentals & policy variables) | -,i | +,i | -,i | -,i | +,i | -,i | +,i | +,i | -,s | +,i | +,s | +,s | -,i | +,i | |
| SUR with constraints (Table 6) | -,i | +,i | +,i | -,i | +,s | -,s | -,i | +,s | -,s | +,s | +,s | +,s | -,i | +,i | |
| Fixed effects model with country fundamentals (Table 7) | | +,s | -,s | -,i | -,s | +,s | | | | | | +,s | | | |
| Random Effects model with country fundamentals (Table 8) | -,i | +,i | -,i | +,i | +,s | -,s | | | | | | +,s | | | |
| Fixed Effects model with policy variables (Table 9) | | +,i | -,i | -,i | +,i | -,i | +,i | +,i | -,s | +,i | +,s | +,s | | | |
| Random Effects model with policy variables (Table 10) | -,i | +,i | -,i | -,i | +,i | -,i | +,i | +,i | -,s | +,i | +,s | +,s | -,i | -,i | |
| Summary of Quantile regression results (Table 13) | -,s at 0.1 0.5, 0.75 and 0.9. | +,s for 0.5, 0.9 | -,s at 0.1, 0.75 and 0.9 | | | | | | | | | +,s 0.1 and 0.9 | | | |
| Summary of Quantile regression results (Table 16) | -,s for 0.1, 0.25, 0.75 | -,s for 0.9 | +,s for 0.1, 0.25, and-,s for 0.9 | -,s for 0.1, +,s for 0.9 | +,s for 0.75 and 0.9 | -,s for 0.75, 0.9 | +,s for 0.1, 0.25 | +,s for 0.1 | -,s for 0.75 and 0.9 | +,s for 0.9 | +,s for 0.75, 0.9 | +,s for 0.75, 0.9 | | +,s for 0.1, 0.25; -,s for 0.9 | +,s for 0.1,0.25 and -,s for 0.9 |

N.B. i= insignificant, s = significant, usually at 5 per cent or lower. Quantile regression results show significance for relevant quantiles only.