

**TOWARDS BETTER REGULATION?
ASSESSING THE IMPACT OF REGULATORY
REFORM IN DEVELOPING COUNTRIES**

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1. Introduction

The role of regulation in the development process continues to generate much interest and debate among development researchers and practitioners. While definitions of regulation can differ, it is most often understood to refer to ‘any government measure or intervention that seeks to change the behaviour of individuals or groups’ (UK Better Regulation Task Force, 1998). The form of the intervention and the type of behaviour that the intervention seeks to change can vary, however, and the particular meaning attached to regulation and its translation into public policy has altered over time. This is particularly evident in development policy, where understanding of the role of regulation and the form that regulation policy has taken have shifted significantly during the past two decades.

As a reaction to the failure of state-led economic planning in developing countries, the role of state regulation in the 1980s was defined narrowly in terms of ensuring a “level playing field” and an “undistorted” policy environment in which markets could operate. Deregulation was widely adopted, often as part of structural adjustment programmes, with the aim of reducing the “regulatory burden” on the market economy and supporting the process of privatisation and market liberalisation.

Privatisation and the more general process of economic liberalisation in developing countries, however, produced their own problems and failures (Parker and Kirkpatrick, 2005). General dissatisfaction with the experience of privatisation encouraged a renewed interest in the use of economic regulation as a tool of correcting market failures, particularly in the infrastructure field, where externalities, information asymmetries and imperfectly competitive markets, can often prevent the emergence of competitive markets (Parker, 2002). This led to the establishment of dedicated regulatory offices for a number of infrastructure industries notably telecommunications and power, often promoted by donor agencies. By regulating prices and outputs in monopoly or near-monopoly markets, regulatory bodies are intended to bring about a more economically efficient outcome.

More generally, the results of economic liberalisation programmes in developing countries were also disappointing, with economic performance at the macro and sectoral levels often failing to show a significant and sustained improvement. This encouraged a general shift away from the de-regulation, state-reduction model, to a focus on the regulatory state. The regulatory state model implies leaving production to the private sector where competitive markets work well and using government regulation where significant market failure exists.

Recognising that ‘less regulation is not necessarily better regulation’ (World Bank, 2001) implies that the case for regulation needs to be assessed on a case by case basis where the potential or actual impact of each regulatory intervention is judged on its own merits. At the same time, the rehabilitation of regulation policy as a legitimate part of the development policy tool kit has focused attention on issues of regulatory policy design and implementation and the critical importance of regulatory institutional capacity in ensuring ‘good’ regulatory outcomes. Building effective regulatory structures in developing countries is not simply an issue of the technical design of the regulatory instruments, it is also concerned with the of the institutions that support markets are publicly provided, and the effectiveness of these regulatory institutions will be an important determinant of the quality of supporting regulatory institutions and capacity (World Bank, 2002).

It appears therefore, that regulation has indeed ‘come in from the cold’, and regulation reform now represents one of the main pillars of the Post Washington Consensus (Onis and Senses, 2005). Regulatory reform figures prominently in the policy advocacy of the multilateral and bilateral donors and in their assistance programmes with developing countries. Donor support for the design and implementation of regulatory improvements now accounts for about 26 per cent of all development assistance. According to estimates provided by the World Bank, policy – based assistance provided by major bilateral and multilateral donors for ‘investment improvement changes’ averaged \$7 billion per year between 1998 and 2002(World Bank, 2004a:190).

Arguably, however, the performance of the new regulatory state in general, and of regulation reform measures in particular, remains under researched, especially in the

context of developing countries with their own peculiar economic and social problems and institutional characteristics. In this paper, therefore, we set out some preliminary proposals for developing a research agenda for evaluating the experience with regulatory reform in developing countries. Given the focus of the Workshop for which the paper has been written, at this stage we restrict our discussion mainly to the Centre on Regulation and Competition's (CRC) work on regulatory reform. We first review the CRC's research contribution to the existing stock of empirical evidence on the impact of regulation on economic performance in developing countries. Second, we outline the direction in which the CRC's research work on regulation is being extended to include an evaluation of the impact of regulatory reform in developing and transitional economies. This will involve investigating whether reform has resulted in 'better regulation', and more importantly, whether better regulation has contributed to economic outcomes which are consistent with pro-poor growth and development. There are three further sections to the paper. The next section examines the empirical evidence which lends support to the argument that the quality of regulation can make a significant difference to economic performance. The third section focuses on our future research which will investigate the the impact of the regulatory reforms that have been adopted in developing countries in recent years. We find that there is a paucity of information on which to base such an assessment, and we therefore propose a methodological framework for undertaking a systematic monitoring and evaluation of the impact of regulatory reforms in developing countries. The final section provides a brief summary and conclusion to the paper.

2. Better Regulation and Economic Performance

It is widely believed that the quality of regulation has an important effect on economic performance at the macro and micro levels. Government policies and behaviour play a key role in shaping investment decisions through the opportunities and incentives that are provided for firms – small and large, domestic and foreign – to undertake productive investments that create employment opportunities and growth. Equally, poorly designed regulation can inhibit investment, encourage the growth of the informal sector, and provide increased opportunities for rent seeking and corruption.

While these arguments in favour of 'good' regulation have a solid theoretical foundation, supporting empirical evidence is much less robust, at least in the context

of developing countries. The evidence that has been cited has consisted mainly of cross-country correlations between various proxies for the quality of regulation and indicators of economic performance. The World Bank's Doing Business Indicators, in particular, have been compared to productivity growth, employment, informality and corruption to show that better regulation is correlated with better performance (World Bank, 2004b). While these correlations are consistent with a priori expectations, they do not demonstrate a causal relationship between the quality of regulation and outcomes. The CRC research has sought to move beyond simple correlation analysis by undertaking an econometric analysis which allows the separate influence of various determinants of outcomes, including regulation, to be assessed.

Better Regulation and Economic Growth

The concept of the regulatory state suggests that the capacity of the state to provide strong regulatory institutions will be an important determinant of how well markets perform. An economy with a developed institutional capacity is more likely to be able to design and implement effective regulation, which should contribute to improved economic growth. Good governance is "epitomized by predictable, open and enlightened policy making; a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; a strong civil society participating in public affairs, and all behaving under the rule of law" (World Bank, 1997). Weaknesses in institutional capacity to deliver "good governance" may be predicted to affect adversely economic development (World Bank, 2002).

In Jalilian, Kirkpatrick and Parker (2004) we investigate the impact of regulation on economic growth performance. The major variable of interest in our research is the quality of regulatory governance. To operationalise the empirical analysis we use the set of governance variables developed by the World Bank and drawn from 194 different measures (Kaufmann and Kraay, 2002). These indicators are based on several different sources (including international organisations, political and business risk rating agencies, think tanks and non-governmental bodies) and a linear unobserved components model is used to aggregate these various sources into one aggregate indicator. The indicators are normalised with higher values denoting better governance. The six indicators provide a subjective assessment of the following aspects of a country's quality of governance:

- Voice and accountability: respect for political rights and civil liberties, public participation in the process of electing policy makers, independence of media, accountability and transparency of government decisions.
- Political instability: political and social tension and unrest, instability of government.
- Government effectiveness: perceptions of the quality of public provision, quality of bureaucracy, competence of civil servants and their independence from political pressure, and the credibility of government decisions.
- Regulatory quality: burden on business via quantitative regulations, price controls and other interventions in the economy.
- Rule of law: respect for law and order, predictability and effectiveness of the judiciary system, enforceability of contracts.
- Control of corruption: perceptions of the exercise of public power for private gain.

In our study we focus on the regulatory quality and government effectiveness variables in the World Bank data set. These two variables are the closest to capturing the nature of the aspects of regulatory governance discussed above, which can be summarised under the headings of regulatory quality and process. Regulatory quality is taken as a proxy for the quality of the outcomes of applying regulatory instruments. Government effectiveness proxies the process dimensions (consistency, accountability, transparency) of regulatory governance.

The objective of the empirical analysis is to test for a causal link between regulation and economic performance. The approach is to adopt a growth accounting framework, where economic growth is used as the measure of economic performance and regulation is entered as an input in the production function. The importance of institutional capacity to design and implement effective economic policy has been demonstrated in various empirical studies of cross-country growth. A similar approach is adopted in this study, to examine the role of regulatory institutional capacity in accounting for cross-country variations in economic growth.

An issue that needed to be addressed at the outset is causality. It could be argued that instead of regulatory quality determining economic growth, regulatory quality could be determined by the economy's growth rate. Economies that grow faster are able to generate higher levels of income and are therefore able to support the development of better institutions. Or, alternatively, there may be a level of simultaneity, in the sense that institutional quality generates more sustained economic growth, which in turn supports more and better regulatory institutions. Kaufmann and Kraay (2002) implement an empirical procedure for testing for causation, which leads to the identification of strong positive causal effects running from better governance to higher per capita incomes, but weak and even negative causation in the opposite direction from per capita incomes to governance. The latter result, they argue, may be the consequence of elites with rising incomes using laws and regulations for their own rather than the social benefit. We proceed, therefore, on the assumption that the causation is from regulatory quality to economic performance.

The additional determinants broadly follow the growth empirics literature. Amongst the control variables included in most empirical research are initial conditions, both in terms of the level of development (as proxied by GDP per capita) as well as human capital and institutions. Most also include proxies for the macroeconomic environment such as inflation, trade openness and the government's involvement in economic activities. Qualitative variables can also be added to account for specific events in a country, as well as data heterogeneity when panel data are used. In our analysis, depending on the nature of data set constructed, we make use of all or some of these variables with the aim of ensuring that our regressions are appropriately specified.

We make the additional assumption, drawing on the literature relating to regulation in developing countries reviewed earlier, that the rate of efficiency growth directly varies with the quality of regulatory institutions in the country. Those countries with good institutions in place can design and implement policies that allow them to continue with their future growth. If instead the country in question lacks or has a weak institutional structure, its growth potential is likely to be diminished because the design and implementation of appropriate policies are then adversely affected. In the case of developing countries, in particular, to be able to benefit from being a

latecomer in terms of industrialisation and grow at a high speed to “catch up”, it is important that institutional supports are present to realise the potential for income convergence. In the absence of better information about the initial institutional quality, we adopted educational attainment as a proxy variable. At first blush this may seem an unusual choice, but our proxy, secondary school enrolment, is highly correlated with the regulatory governance variables we are using and it has been successfully used as a proxy in other studies.

We apply two methods of estimation to the model. One is based on cross-section analysis, in which we attempt to measure *directly* any possible impact that regulation has on economic growth. The second is based on panel data, in which we *indirectly* estimate the growth contribution of regulation. The reason for applying different estimation procedures is due to our data on the indexes of regulation; we have only one observation per country. Therefore, for the cross-section regression we average the relevant data over the period 1980-1999 and combine the result with the regulation data. This allows a direct measure of the possible role that regulation plays in growth. In the second method we adopt a variant of the one applied by Olson et al. (1998) and apply the fixed effects technique to the panel data constructed. This data set combines cross-section and time-series data for the countries included in the first data set. This procedure, which essentially involves including a dummy for every country in the estimated equation, produces consistent estimates even where data are not available for some time-invariant factors that affect growth. The fixed effects estimator does require, however, that each included variable varies significantly within countries. Clearly, even if available, the regulatory variables may not satisfy this requirement since institutions usually change slowly. The estimation procedure, therefore, involves two stages. We first regress GDP per capita growth in each country per period, g_{it} on $\ln(s_{it}/(n_{it} + \delta_{it} + \gamma_{it}))$ plus a set of country dummies. The coefficient on the country dummies reflects the effect on growth of all the time-invariant variables, including regulatory institutions. In the second stage we use the coefficients of the country dummy as the dependent variable and regress them on the measures of regulatory quality and control variables. The coefficients on the measures of regulatory quality in the second stage regression reflect the impact of

regulation on GDP per capita growth after controlling for capital accumulation and certain other variables.

The data set used in the analysis covers 117 countries for the cross-section regression and 96 for the panel version of the regression. Although the main focus of the study is the impact of “good” regulation on economic performance in developing countries, a heterogeneous data set was used including some transitional and advanced countries as well as developing ones. The reason for including some non-developing countries was to improve the statistical reliability of the results by including more countries, with regional dummies used to capture the differing levels of economic development. As information on regulatory governance is only available for one period, as referred to earlier, in the cross-section model all other variables were converted into one period by averaging for 1980-2000. Initial effect variables relate to 1980. For the panel version, the data cover the period 1980-2000. However, the time series dimension is not complete for a number of the countries in the data set and therefore the panel data are unbalanced, containing 432 observations.

Tables 1 to 2 report results based on the formal analysis of the data. The results reported in Table 1 are based using OLS and cross-country data, as detailed above. Table 1 reports eight regressions, each containing different combinations of the independent variables in our data set. The economic variables in the full set of regressions tested included the variables derived from the model and measures for general inflation, trade, government expenditure, as well as the regional dummies.

Table 1: Cross-country analysis of determinants of growth
Dependent variable is average growth of GDP per capita
Over the period (1980-2000)

Variables	Reg 9	Reg 10	Reg 11	Reg 12	Reg 13	Reg 14	Reg 15
C	-8.45 (4.15)*	-8.47 (4.14)*	-8.07 (4.04)*	-8.80 (4.66)*	-7.76 (4.16)*	-6.80 (3.35)*	-6.89 (3.72)*
LGFC	2.95 (4.47)*	3.03 (4.58)*	2.86 (4.42)*	3.83 (5.69)*	3.49 (5.26)*	3.07 (4.51)*	3.07 (4.59)*
RQ	1.50 (5.97)*						

GE			1.12 (5.81)*					
RQGE			0.75 (6.50)*	0.87 (7.12)*	0.59 (3.78)*	0.63 (3.98)*	0.64 (4.16)*	
LSSE				0.89 (1.33)	0.91 (1.39)	0.88 (1.37)	0.89 (1.40)	
LGDPD					-0.33 (2.88)*	-0.28 (2.42)*	-0.28 (2.53)*	
LISSE				-1.57 (2.95)*	-1.31 (2.50)*	-1.27 (2.39)*	-1.25 (2.45)*	
Africa						-0.06 (0.11)		
Asia						1.08 (2.03)*	1.12 (2.56)*	
Latin America						-0.06 (0.13)		
No. observations	of	117	117	117	117	117	117	117
Adjusted R²		0.37	0.37	0.40	0.48	0.54	0.53	0.54

Note:

* (**) = significant at 5% (10%) level.

Values in brackets are absolute values of 't' ratios.

C = Intercept term

LGFC = Logarithm of gross capital formation as a % of GDP;

RQ = Regulatory quality;

GE = Government effectiveness;

RQGE = RQ+GE;

LSSE = logarithm of secondary school enrolment (%)

LGDPD = logarithm of inflation using country GDP deflators;

LISSE = logarithm of Initial (1980) secondary school enrolment (%)

Africa, Asia, Latin America: respective regional dummies

The regulatory variables are correctly signed and statistically significant in all cases.

The sign and level of significance of the parameter estimates for these regulatory proxies indicate that they have a statistically significant and positive effect on economic growth. Based on the estimates for the combined regulatory variable (RQGE), a unit change in the quality and effectiveness of regulation is, on average, associated with approximately a 0.6 to 0.7% increase in economic growth, everything else remaining equal.

Table 2: Cross-country analysis of determinants of growth
Dependent variable is estimate of country dummies

Variables	Reg 16	Reg 17	Reg 18	Reg 19	Reg 20	Reg 21
C	-0.048 (2.89)*	-0.019 (1.62)**	-0.040 (3.30)*	0.086 (3.04)*	0.033 (1.35)	0.032 (1.26)
RQ	0.226 (9.96)*			0.168 (7.02)*		
GE		0.195 (15.3)*			0.169 (10.9)*	
RQGE			0.121 (15.4)*			0.101 (10.5)*
Africa				-0.194 (4.81)*	-0.120 (3.45)*	-0.119 (3.34)*
Asia				-0.148 (3.48)*	-0.059 (1.58)*	0.078 (2.09)*
Latin America				-0.172 (4.64)*	-0.015 (0.42)	-0.070 (2.10)*
No. of observations	96	96	96	96	96	96
Adjusted R²	0.51	0.71	0.71	0.62	0.75	0.74

Note:

* (**) = significant at 5% (10%) level.

C = Intercept term

GE = Government effectiveness;

RQ = Regulatory quality;

RQGE = RQ+GE;

Africa, Asia, Latin America: respective regional dummies

Table 2 reports results based on the second method of estimation. Our main interest in the regression results reported in Table 2 is with the role that the regulatory proxies are playing in explaining the variation in the country dummies. The results are consistent with those reported in Table 1. Even though the parameter estimates for the regulatory variable are lower, the finding is that regulatory governance still affects the growth performance of an economy. The regional dummies in this case are all negative and statistically significant, relative to the control group which is advanced countries. These changes in the results were investigated and seem to reflect the

differences in the modelling methods adopted, suggesting that in this type of research the modelling can affect the results. Nevertheless, the overall picture that emerges is that the quality and effectiveness of regulation has a positive effect on growth using both models.

The results from both sets of modelling suggest a strong causal link between regulatory quality and economic growth and confirm that the form of regulation matters for economic performance. As we highlighted earlier, the proxies we use for regulatory governance are correlated with a number of other institutional proxies. One could argue, therefore, that what we have established could equally hold for the link between institutional capacity in general and economic performance. However, the literature reviewed earlier is consistent with institutional capacity playing a strong and complementary role to regulatory governance. Also, the ability to model separately institutions in general and regulatory institutions or governance in particular remains problematic because of their complementarity. Hence, our results are best interpreted as demonstrating the importance of regulatory quality for economic growth in the context of wider institutional capacity building. Finally, we acknowledge that the direction of causation between economic growth and regulatory quality deserves further investigation. We believe that there are good a priori grounds for assuming that better regulation leads to faster economic growth, but recognise that there could be some feedback from economic performance to regulatory quality. Nevertheless, despite these caveats, our results are consistent with the view that “good” regulation is associated with higher economic growth in lower-income economies.

Better Regulation and Foreign Direct Investment

Our research on the quality of regulation in affecting economic outcomes has also examined the impact of dedicated utility regulatory bodies on foreign direct investment in infrastructure in developing countries (Kirkpatrick, Parker and Zhang, 2005). Direct foreign investment has expanded steadily over the past three decades. A significant part of the increase in foreign investment has been the growth in private capital flows for infrastructure, in response to the general trend towards privatisation of infrastructure in developing countries. Private sector participation in

infrastructure projects in developing countries has risen dramatically since 1990 and annual investment commitments reached a peak of \$128 billion in 1997. In the 1990s, 132 low- and middle- income countries pursued private participation in infrastructure (transport, energy, telecommunications, and water and sewerage). In 1990-2001 developing countries transferred to the private sector the operating risk for almost 2,500 infrastructure projects, attracting investment commitments of more than \$750billion.

There is an long established and extensive literature on the determinants of foreign investments flows to developing countries. The focus of many of the early contributions to this literature was on the economic determinants of FDI inflows and showed that multinational enterprises are attracted to invest in locations that allow the enterprise to exploit its ownership specific advantages. More recent contributions have examined the influence of institutional factors in explaining cross-country differences in foreign investment flows. Building on the insights of the new institutional economics which argues that economic development is not simply the result of amassing economic resources in the form of physical and human capital, but is also a matter of ‘institutional building’ so as to reduce information imperfections, maximise economic incentives and reduce transaction costs, it is increasingly recognised that differences across countries in economic conditions provide only a partial explanation of the location choices of multinational enterprises and that the quality of a country’s institutional framework can have a significant impact on the perceived investment environment.

The widespread privatisation of state owned enterprises (SOEs) in developing countries has focused attention on the need for an effective regulatory framework. In the case of infrastructure industries simply moving a monopoly from the public to the private sphere will not result in competitive behaviour. A key requirement for privatisation success then becomes the effectiveness of the regulatory regime in promoting competition or in controlling the anti-competitive behaviour of the dominant firms. As a result, a growing number of developing countries have introduced new, dedicated regulatory offices to supervise the activities of their privatised utilities. Most of these regulatory offices are expected to have some degree of independence from day-to-day political control, although in practice political

intervention seems to occur in a number of countries. Evidence on the impact of utilities regulation in developing countries is still limited, but our research on the electricity sector confirms that privatisation brings greater benefits when it is accompanied by an effective regulatory regime (Zhang et al 2005).

The basic question we seek to address is whether regulation has influenced the flow of foreign direct investment to the infrastructure sector in developing countries. More precisely, we examine whether the perceived quality of the regulation framework has an impact on the locational choice of multinational enterprises when investing in infrastructure projects in developing countries. These difficulties in designing an effective and efficient regulatory framework acquire an additional degree of complexity in the context of developing countries where significant capacity and resource constraints often arise. The impact of infrastructure regulation on market incentives, and on investment behaviour in particular, is therefore uncertain and difficult to predict *a priori*. Where the regulatory regime is successful in establishing credibility with investors, we might expect regulation to have a benign influence on investment commitments. But where the regulatory institutions are perceived to lack independence of government and to be vulnerable to political interference, investors may be deterred from committing to large-scale, sunk cost capital investments. Our basic hypothesis, therefore, is that the quality of regulation matters for investment, and we would expect to find a positive relationship, other things being equal, between the quality of infrastructure regulation and the inflow of FDI to the infrastructure sector

The empirical framework employed in the analysis involves the use of a single equation model for testing the relationship between FDI in infrastructure and regulation. The model regresses the FDI data for each country on a measure of regulatory institutional quality, and a set of control variables. Data on foreign (private) direct investment were obtained from the database on Private Participation in Infrastructure (PPI), made available recently by the World Bank.

A large number of variables have been considered in the literature as possible determinants of inward FDI, although surprisingly few are consistently significant across the broad set of empirical studies that have been reported. Real gross domestic

product per capita is commonly included in FDI studies as a measure of the level of income and demand in the economy. In addition, the literature suggests that macroeconomic stability has a significant impact on foreign investment inflows. Here we consider three macroeconomic policy measures as determinants of foreign investment inflows to infrastructure: inflation, exchange rate and openness of the economy. The annual change in the rate of inflation is included to capture the consistency of monetary policy. The annual change in the real effective exchange rate was also included as an economic stability measure, with the expectation that greater volatility in the exchange rate acts as a disincentive to risk-averse inward investment. The third economic policy variable included in our analysis is the average tax burden, which we expect, *ceteris paribus*, to have a negative impact on FDI.

A second set of control variables is intended to capture those structural characteristics of the host economy which may attract FDI. Trade openness, measured as the ratio of imports and exports to GDP, has been used extensively in empirical research on economic development, where it is typically found to be positively related to economic growth. The relationship between FDI and openness, however, is more complex. To the extent that trade openness reflects the economy's commitment to the freer international movement of goods and services, it can be expected to encourage foreign investment. On the other hand, trade protection has been widely used to provide foreign (and domestic) investors with protection from international competition, and to the extent that the trade openness variable reflects a policy of market liberalisation, may have a negative impact, at the margin, on the FDI location decision. A country's level of financial development has also been shown to have a significant influence on the rate and pattern of economic development (Jalilain and Kirkpatrick, 2005). Where the domestic financial and capital markets are relatively underdeveloped the capacity for local financing of large scale private investments will be constrained. We might expect, therefore, to find a relatively greater use of foreign investment, other things being equal, in economies where the financial infrastructure is at an early stage of development. Labour force characteristics have been widely used as explanatory variables in empirical studies of FDI, with a range of different measures have been used in the literature, including, wage rates, skills level, and educational achievement. The hypotheses tested have varied, and on occasion, been competing. In the earlier literature, low wage, unskilled labour was seen as being

attractive to FDI, particularly to export-oriented, labour intensive assembly activities. More recent literature has stressed the importance of a skilled and educated labour force for employment in technologically advanced and flexible production processes. Not surprisingly, the labour force variable is often either statistically insignificant or appears with the ‘wrong’ sign in regression equations. Two measure of human capital are used in the present study, namely, life expectancy and secondary school enrolment.

The final control variable used in our analysis relates to the quality of the infrastructure stock in the sample countries. The investment decision is expected to be influenced by the need for additional infrastructure provision if the Millennium Developemnt Goal of poverty reduction are to be achieved. We expect, therefore, that countries with greater infrastructure needs will be more attractive to foreign investment in infrastructure. We use two measures of the level of infrastructure provision: telephone lines per 1000 population and electricity generation per capita.

The focus of our research is on the effect that a regulation institutional framework may have on foreign investors’ decision to commit resources to infrastructure projects in developing countries. Two variables are used as measures of the quality of the regulatory environment for the infrastructure sector. The first is taken from the set of governance-related estimated by Kaufmann, Kraay and Mastruzzi (2003). These indices (which we refer to as Kaufmann’s indices in the rest of the paper), describe six aspects of the governance structures for a broad cross-section of countries: voice and accountability, political instability, regulatory quality, rule of law, control of corruption and government effectiveness. These indicators are estimated based on several hundred individual variables measuring perceptions of governance, drawn from 25 separate data sources constructed by 18 different organizations. The indicators are normalised, with higher values denoting better governance. Of the six measures, the index of government effectiveness is used in our analysis as a proxy of the regulatory environment of the infrastructure sector. This index is described by Kaufmann, Kraay and Mastruzzi (2003) as being based on ‘perceptions of the quality of public provision, quality of bureaucracy, competence of civil servants and their independence from political pressure, and the credibility of government

decisions. A limitation of this measure is that it relates to regulatory effectiveness at the level of the economy as a whole, rather than the infrastructure sector.

In the light of this limitation of the Kaufmann measure of regulation quality, we constructed a second measure in the form of a dummy variable to indicate whether independent regulators were established in the telecommunications and electric power sectors. According to the PPI database, almost three-quarters of the private investment in infrastructure in developing countries during the 1990s was undertaken in these two sectors. This dummy allows us therefore, to examine whether the existence of independent regulators has affected private investors' confidence and decision to invest in the infrastructure sector. Information on the existence of independent regulators in the electric power sector came from World Energy Council and Energy Information Administration, and that on the telecom sector was obtained from International Telecommunications Union (ITU). The dummy takes a value of 1 if there are independent regulators in both of the sectors. While this dummy has the advantage of relating directly to the institutional structure for utility regulation in the sample countries, the data are based on the organisational independence of the regulatory bodies, rather than their actual autonomy from government interference. In addition to regulatory quality, other broader aspects of governance and institutional development can affect the level of FDI in infrastructure. We constructed, therefore, the first principal component of Kaufmann's indices to capture the quality of governance infrastructure in general.

The model is specified such that PPI is measured in logarithms, with the GDP coefficient measuring the elasticity of private investment in infrastructure. The life expectancy variable also takes the logarithms form and the other controls are in the form of percentage. Although the wealth of a country is an important factor in determining the location of FDI, there is argument that countries with high income are more attractive to FDI. The income variable was lagged for one year, therefore, to reduce the potential for bias and also to allow for adjustment lags. By the same token, the variables of openness, inflation, life expectancy, education, and the real exchange rate were all lagged.

The model is specified as follows.

$$\ln(PPI) = \beta_0 + X_{it}\beta_i + REG_{it}(GOV_{it})\beta_r + e_{it},$$

where *REG (GOV)* refers to the regulation and governance variables, and *X* represents the control variables. Data from 67 low- and middle-income countries for the period 1990-2002 were used in the estimation of PPI. Panel data estimation methods were employed and models of both fixed and random effects were tested. However, in all the cases the Hausman statistics supported the fixed-effect specification. This means that the error term in the model can be decomposed into the unit-specific residual that differs between units but remains constant for any particular unit and the remainder of the disturbance.

Tables 3 and 4 present the results. In Table 3 we report the results separately for each of the three measures of regulation quality, namely, the Kaufmann principal components index, the Kaufmann government effectiveness index, and the utility regulation dummy variable, combined with the same set of control variables (equations 1-3). We also tested for the combined effect of utility regulation and broader governance, by combining the Kaufmann principal component variable and the utility regulation variable in the same equation (equation 4). Table 4 reports the same set of equations, with the addition of the quality of physical infrastructure variables included in the regressions.

Table 3 Estimation Results for FDI in Infrastructure

	(1)	(2)	(3)	(4)
Ln GDP per capita (lagged)	2.290 (2.490)**	2.453 (2.661)***	2.715 (2.938)***	2.426 (2.622)***
Annual change of inflation (lagged)	0.0002 (1.207)	0.0002 (1.004)	0.0003 (1.280)	0.0003 (1.267)
Tax burden (lagged)	-0.031 (0.726)	-0.031 (0.712)	-0.014 (0.338)	-0.030 (0.698)
Export and import/GDP (lagged)	-0.014 (1.194)	-0.012 (0.973)	-0.012 (0.969)	-0.013 (1.084)
Ln (life expectancy) lagged	-5.133 (2.064)**	-5.196 (2.076)**	-5.260 (2.110)**	-5.096 (2.051)**
Annual change of real effect exchange rate (lagged)	-0.002 (2.491)**	-0.002 (2.664)***	-0.002 (2.606)***	-0.002 (2.402)**
Domestic credit to private sector/GDP	-0.017 (2.212)**	-0.017 (2.144)**	-0.017 (2.129)**	-0.017 (2.236)**
First principal component of Kaufmann	1.082 (2.730)***			1.014 (2.539)**
Government effectiveness		0.736		

index		(1.735)*		
Regulation dummy			0.494 (1.759)*	0.359 (1.254)
Constant	12.149 (1.043)	11.123 (0.950)	8.996 (0.768)	10.862 (0.930)
D-W d Statistics	1.9122	1.9109	1.909	1.9122
Adjusted R SQ	0.5078	0.5018	0.4992	0.5085
No. of Obs.	453	453	458	453

For the key to the independent variables see Table 1

t-statistics in parentheses.

*, **, *** indicate that the coefficient is significant at the 10%, 5% and 15 levels, respectively

Table 4 Estimation Results with the Infrastructure Quality Variables

	(5)	(6)	(7)	(8)
Ln GDP per capita (lagged)	3.244 (3.411)***	3.421 (3.594)***	3.636 (3.808)***	3.365 (3.521)***
Annual change of inflation (lagged)	0.0003 (1.467)	0.0003 (1.272)	0.0003 (1.561)	0.0003 (1.522)
Tax burden (lagged)	-0.025 (0.591)	-0.023 (0.536)	0.006 (0.139)	-0.024 (0.565)
Export and import/GDP (lagged)	-0.011 (0.957)	-0.009 (0.727)	-0.009 (0.762)	-0.010 (0.854)
Ln (life expectancy) lagged	-4.520 (1.822)*	-4.593 (1.842)*	-4.785 (1.926)*	-4.491 (1.811)*
Annual change of real effect exchange rate (lagged)	-0.002 (2.527)**	-0.002 (2.690)***	-0.002 (2.637)***	-0.002 (2.441)**
Domestic credit to private sector/GDP	-0.018 (2.290)**	-0.018 (2.253)**	-0.017 (2.224)**	-0.018 (2.3129)**
First principal component of Kaufmann	1.054 (2.660)***			0.990 (2.478)**
Government effectiveness index		0.797 (1.888)*		
Regulation dummy			0.464 (1.671)*	0.339 (1.201)
Telephone lines per 1000 people	-0.224 (0.713)	-0.175 (0.557)	-0.096 (0.309)	-0.221 (0.705)
Electricity gene. Per capita	-0.093 (3.025)***	-0.099 (3.241)***	-0.100 (3.259)***	-0.092 (3.006)***
Constant	4.205 (0.356)	3.160 (0.266)	1.829 (0.154)	3.052 (0.257)
D-W d Statistics	1.91463	1.9136	1.9124	1.9146
Adjusted R SQ	0.5206	0.516	0.513	0.521
No. of Obs.	453	453	458	453

Turning first to the results for the control variables, we note that in most cases the variables display the correct sign. FDI in infrastructure is positively related to the

economy's level of development as proxied by income per capita and is always statistically significant. The attractiveness of an economy to FDI varies inversely with the level of taxation and with instability in the real exchange, although only the latter variable achieves statistical significance. The proxy for human capital is negatively related to FDI, and is statistically significant. The negative sign is difficult to interpret and contrary to expectations, although as noted earlier, it is not uncommon for the labour force variable to display the 'wrong' sign or to be insignificant in other studies of the determinants of FDI. The openness variable is always negatively signed, lending support to the hypothesis that FDI is attracted to markets which offer protection from competition. The level of financial sector development as measured by the ratio of private sector credit to GDP is negative and statistically significant, confirming the hypothesis that foreign investment will be greater where the capacity of the private sector to finance its investment is constrained by an underdeveloped domestic financial sector. Finally, the physical infrastructure variables (table 4) are negatively signed (and in the case of electricity supply statistically significant), confirming that FDI in infrastructure is attracted, other things being equal, to countries where the need for additional infrastructure provision is greater.

We can now consider the results for the regulation variables. Each of the three regulation measures is correctly signed, confirming that FDI in infrastructure is positively influenced by the quality of the regulatory framework. The general measure of regulatory quality, proxied by the principal components measure of the Kaufmann indices is statistically significant, and confirms that the overall quality of the governance environment attracts inward FDI in infrastructure. The Kaufmann index of government effectiveness is also positive and statistically significant. The specific measure of infrastructure regulation based on the existence of an independent regulatory agency in the telecommunications and electricity sectors is also statistically significant. However, when the independent utility regulation variable and the measure for overall governance are both included in the same equation, the former becomes insignificant, although correctly signed. We are unable therefore, to detect a strong influence for independent utility regulation, independent of the quality of overall governance, which may indicate that investors in infrastructure are more likely to be influenced in their location decision by the overall governance environment than the existence of an independent utility regulatory authority.

. We interpret these results as confirmation of the basic hypothesis that foreign investment in infrastructure responds positively to the existence of an effective regulatory framework which provides regulatory creditability to the private sector. By implication, where regulatory institutions are weak and vulnerable to ‘capture’ by the government (or the private sector), foreign investors may be more reluctant to make a major commitment to large scale infrastructure projects in developing countries.

Better Regulation and Regulatory Impact Assessment (RIA)

The third strand in our research on the quality of regulation in developing countries has sought to gather evidence on the adoption of regulatory impact assessment in developing countries. While this approach does not provide for direct testing of the link between the quality of regulation and economic outcomes, it does provide detailed context specific insight into the practices being followed in individual countries. Regulatory impact assessment, which we define as the systematic examination of the potential or actual impacts of regulatory measures, is designed to improve the quality of regulatory decision-making. By inference, therefore, we can expect the effective use of RIA to contribute to an improvement in regulatory performance.

The principles surrounding the introduction and operation of RIAs in developing countries led to the formulation of a number of questions that were included in a questionnaire sent to 311 departments with regulatory responsibilities in 99 countries (Kirkpatrick, Parker and Zhang, 2004). The questionnaires completed and returned came from 40 countries – a country response rate of 40% - with more than one official in some departments replying. In total 68 useable questionnaires were returned, giving an overall response rate from government officials of 17%. Where multiple responses were received for a country (for example, four responses were received from Mexico), these were compared but no important inconsistencies were noted.

The questionnaire had three main parts, covering RIA as an assessment method, RIA as a process, and RIA as part of a more general strategy for regulatory reform. The

main questions, drawing from the above discussion of the principles of RIA, related to:

- existing familiarity with RIA as a concept and the OECD guidelines;
- the existing use of RIA within the country;
- legal requirements to adopt RIAs and the existence of published RIA guidance within government;
- the form RIAs take when used;
- the processes used within government when undertaking RIAs;
- RIA transparency, in terms of published documentation;
- public consultation and participation in RIA exercises;
- RIA and wider regulatory reforms.

The questionnaire answers confirmed that there is some understanding of RIA and its principles amongst regulators in a number of developing and transition economies. At the same time, this understanding does not seem deep or widespread, with sometimes variations in knowledge between different agencies and government departments within the same country. However, respondents in a larger number of countries, 30 out of the 40, claimed that RIA was used in some form even though in most of these it was not a legal requirement, even though the coverage and formal status of regulatory assessment was found to vary considerably between countries.

Table 5 summarises the results according to the different regions surveyed. Taking Asia first, RIA is applied in eight of the nine countries that responded, while in Africa, RIA seems to be used to some degree in 11 of the 16 countries for which replies were received.. By contrast, in Latin America and the Caribbean the results suggested that RIA is being used to assess some or all new regulation proposals in six of the nine countries for which questionnaires were returned. Finally, for five of the six transitional economies that took part in our survey, respondents claimed that RIA is being applied in some measure to assess the potential impact of new regulation proposals.

Table 5: The Use of RIA in Developing and Transition Countries

Region	RIA Applied to All or Most New Regulations	RIA Never Applied	Do Not Know	Not
Asia (no. of countries)	8	0	1	
Africa (no. of countries)	11	3	2	
Latin America (no. of countries)	6	3	0	
Transition Economies (no. of countries)	5	1	0	

While the survey suggests that some form of regulatory assessment is being applied in the majority of countries that returned completed questionnaires, there appeared to be marked regional differences in local familiarity with RIA principles. Three fifths of the replies from Africa reported little or no awareness; whereas the majority of respondents from Asia were fully aware of the concept, though only six of the respondents were familiar with the OECD guidelines. In four countries respondents reported that guidance on how RIA should be undertaken had been prepared within their government. However, these countries included Mexico and Korea, both of whom are members of the OECD. None of the respondents from Africa claimed that their country had developed guidelines for the conduct of RIA.

RIA is a method for assessing the actual impact of existing regulations as well as the potential impact of proposed new regulatory measures. The questionnaire, therefore, sought to elicit information on the extent to which ex post assessment methods are being applied. Returns from nineteen countries reported using RIA to evaluate existing regulations. It seems that where RIA is being applied, it is mostly being used for ex ante appraisal, rather than for monitoring or ex post evaluation purposes. This may reflect a lack of resources within governments to undertake such appraisal or, alternatively, there may be reluctance on the part of governments to dwell on whether previously introduced regulatory measures have achieved their desired results.

The questionnaire also attempted to gather information on the extent to which RIA is applied to economic regulation, social regulation, and environmental regulation proposals. Table 6 focuses on the 30 countries that reported that RIA was being applied to all or some of the new regulations. It shows the application of RIA across the three main forms of regulation but with a heavy concentration in terms of monitoring economic regulation. Twenty eight of the 30 countries in which respondents reported the use of RIA recorded its application to economic regulations. Respondents in only 14 of the 30 countries claimed that RIA was used in all three areas of regulation and even then only for some decisions. Overall, the results suggested that no country is applying RIA consistently to *all* major economic, social and environmental regulation proposals.

Table 6: Application of RIA to Economic, Social and Environmental Regulation in Developing and Transition Countries

Region	Economic Regulation	Social Regulation	Environmental Regulation
Asia (no. of countries)	8	8	5
Africa (no. of countries)	10	5	7
Latin America (no. of countries)	5	3	5
Transitional Economies (no. of countries)	5	5	4

The concentration of RIA activity on economic regulation probably reflects the traditional focus of government regulatory activity in areas of market failure and natural monopoly, particularly in utilities services. It also reflects that fact that the majority of the completed questionnaires came from regulators of utilities.

The responses to our questionnaire indicated that in the majority of those developing and transition countries where RIA has been adopted, the assessments include both potential costs and benefits of the regulatory proposal (see Table 7). Of the 30 countries that reported using RIA, 18 countries claimed that both benefits and costs were estimated. Another two countries indicated that only benefits were assessed and replies from ten suggested uncertainty about the coverage. In five cases respondents replied ‘don’t know’ and in another five countries inconsistent answers were received from different respondents, suggesting that practice varies across different regulated activities within the same country. None of the last five countries had adopted uniform guidelines for undertaking RIAs.

Table 7: The Analysis of Costs and Benefits in RIAs in Developing and Transition Economies

	Number of Countries
Applying RIA	30
Assessing costs only	
Assessing benefits only	2
Assessing benefits and costs	18
Inconsistent responses	5
Don’t know	5

The replies to the questionnaire also revealed that a variety of practices exist for the quantification of costs and benefits. Of the countries that assessed both benefits and costs, only a minority quantified the estimated impacts in both physical and value terms; although in the four countries where guidelines are in place, quantification of benefits and costs is carried out using both measures. This finding is perhaps not surprising given the difficulties associated with the economic and social valuation of benefits and costs in the practice of impact assessment. The problems associated with valuation are reflected in the responses received from the countries where RIA is being applied. When asked if, in their judgement, the application of RIA in their

country had provided a “high level of detailed analysis of costs and benefits”, respondents in only eight of the 30 countries replied in the affirmative.

The second part of the questionnaire was concerned with the process aspects of RIA in contributing to the principles of “good governance”. The responses received indicated that in the majority of countries where RIA is applied to new regulations, public consultation does occur with a main emphasis on the use of public notices and invitations to comment on proposals. Consultation involves outside experts, government bodies and the private business sector. But consumer groups and other bodies representing civil society are less commonly included. In most cases (34 countries) consultation occurs before or after the government prepares detailed regulations. However, fewer countries (15) make the views of participants in the consultation exercise public, suggesting scope for improved regulatory transparency.

The final section of the questionnaire was designed to gather information on the role of RIA as part of a government-wide strategy for regulatory reform. The impact of regulatory impact assessment is likely to be enhanced where RIA is adopted as part of an overall strategy for regulatory governance reform and institutional capacity building (Parker and Kirkpatrick, 2003). Of the 40 countries for which replies were received, 22 were reported to have a strategy in place for promoting government-wide regulatory reform. The countries having a government-wide strategy in place were cross-checked with the 30 countries applying RIA. This confirmed that in many of these countries, 10 out of the 22, RIA is being applied as part of a broader programme of regulatory governance reform. An interesting area for further investigation will be to assess the results of RIA where a wider programme of regulatory reform is underway against the results in countries where such reform is yet to occur.

Overall, the findings from the questionnaire survey suggest that the level of awareness and application of RIA in developing and transition countries is perhaps higher than what might have been expected, based on the limited information previously available. This conclusion should be qualified, however, by acknowledging the possibility of sample bias. The questionnaire returns may be mainly from countries where regulatory practices are well established. The heavy concentration of responses from the utilities sector may be indirect confirmation of this potential bias. The

relatively high number of countries (59) from which no return was received may reflect the absence of any form of RIA in these countries.

The survey findings suggest that RIA is already being applied in a number of lower-income economies, but it is still at an early stage of development. The results from the questionnaire provide a useful “snapshot” of the current status of RIA in developing and transition countries, although as noted, there are a number of qualifications and caveats to be attached to the findings and to any policy conclusions that might be drawn. The coverage of RIA, both in terms of types of regulation and number of regulation proposals appears, however, to vary widely between countries, and few countries appear to be applying RIA consistently to regulatory proposals affecting economic, social and environmental policies. While there is a general recognition of the desirability of including benefits as well as costs in an RIA, methods of quantification are generally underdeveloped.

Our research findings lead to the conclusion that there is a need to improve understanding and practice of RIA in lower income economies, including many which already claim to use the practice. In this context, while the OECD “best practice” guidelines provide some pointers to how a RIA framework for lower-income countries might be developed, they are unlikely to be a complete template or model for transfer and adoption in countries with very different institutions and objectives. The OECD guidelines need translating to reflect the particular issues that arise when regulating in developing and transition countries, including issues to do with regulatory capacity, poverty reduction and development goals. This forms an important part of the CRC’s collaborative work with its partners in Ghana, India and Sri Lanka, where RIA is being developed to reflect the individual needs and capacities of each country.

Detailed information on the use of ‘good’ regulatory practices in Ghana, India and Sri Lanka has been analysed by the CRC’s partners. Here again, a variety of practices has been found. In Sri Lanka, the policies governing the regulatory process are judged to have been *ad hoc* and based on short-term political interests, with deficiencies apparent at each stage of the process: ‘regulatory failure, stemming from

systemic weaknesses in policy formulation and implementation and in the institutional and legal structures governing competition and regulation, is rampant, and opportunities for political capture are abundant' (Knight-John, 2004:292). In Ghana, a number of new independent regulatory institutions have been created and authorised to carry out regulatory functions in order to protect the public interest and promote fair competition. However, these new institutions have faced major difficulties in attracting key professional staff, as a result of the limited funding they have received. There is a major information gap between the providers and users of the services subject to regulation, which is engendered by the poverty of the users of services and the 'inappropriateness' of the technology used by the service providers (Aryeetey, 2004:318). In India, regulatory reforms have been introduced in the power and water sectors in a number of states, but the pace of reform has been slow, with little evidence of a sustained improvement in the quality of the regulatory environment (Garg and Gutaly, 2004).

3. Towards Better Regulation? Assessing the Impact of Regulatory Reform

Regulatory reform takes a wide variety of forms. For the purposes of this paper, we restrict the discussion to the set of regulatory measures that have a direct or indirect impact on the operations of enterprises. 'Regulatory reform' refers to changes in these regulatory measures, with the objective of improving the environment within which firms operate.

The aim of the next phase of our research will be to address the question, 'is regulatory reform working?' In other words, what has been the impact of the regulatory reforms that have been implemented in developing countries, in terms of improving the quality of regulation and thereby enhancing economic performance? We propose to investigate these questions at two levels, which correspond to the completed research that was discussed in the previous section, on the regulatory environment in general, and on RIA in particular.

Assessing the Impact of Regulatory Reform Programmes

We are concerned here with the programmes that governments undertake, typically with the support of donors, to change the regulatory framework within which business

operates so that it encourages economic growth and investment, and contributes to sustainable development. Assessing regulatory reform (RR) programmes is complex because they are usually part of a web of development interventions. This is particularly the case in recent years with changes in aid modalities towards greater use of sector wide approaches (Pinder, Kirkpatrick and Mosedale,2005).

Assessment of EE programmes can take place at various levels:

- Activities and processes
- Outcomes
- Impacts

Assessment work to date has tended to be at the activities and process level, that is, attempting to answer the questions "what did we do?" and "how did we do it?" Very little work has been undertaken to assess the outcomes and impacts of RR programmes, that is, attempting to answer such questions as "what has been the effects on economic performance and sustainable development as a result of the programme? Were there any unforeseen or unintended impacts?"

Assessing RR programmes is complex because they are usually part of a web of development interventions. The challenges that assessment of the outcomes and impacts of EE programmes present, and how they can be addressed, can be grouped into two interrelated categories:

- assessment of outcomes and impacts

There are two major challenges of going beyond measuring programme activities and processes to assessing outcomes and impacts of RR programmes. The first relates to the timescale of the assessment. Assessing outcomes entails looking at changes in behaviour as a result of the programme; assessing impacts entails looking at how those changes in business behaviour have affected the wider socio-economic goals of pro-poor growth and sustainable development. Both outcomes and impacts take time to emerge, often beyond the programme's duration, and this is particularly the case with impacts. The second challenge relates to the scale of the assessment. Most RR programmes deal with a web of policies and regulations. It is therefore necessary to establish boundaries for the assessment: which linked policies and regulations are going to be taken into account?

- demonstrating causality

The complexity of RR and the range of factors that can intervene and affect the outcome of a programme make it difficult to precisely attribute causation of a change (outcome) in business behaviour, or in economic performance (impact) to a particular intervention. Rather it is often better to understand ‘attribution’ as ‘influence’ or ‘contribution’: to what extent has the RR programme ‘influenced’ or ‘contributed’ to change at outcome and impact levels?

Given the above challenges it is important to have a realistic expectation of the results of ex post evaluations assessments of RR programmes. As one progresses up the path to pro-poor development the bounds of uncertainty necessarily increase. The prime objective of conducting an ex post assessment is to facilitate learning and improvement based on experience. It will not give complete answers but it can help develop a strong evidence base for informing future policy-making and implementation.

In our future research we intend undertaking an evaluation of a sample of RR programmes in developing countries. This is likely to consist of a cross-country analysis coupled with a number of detailed country case studies. To implement this research agenda will depend, however, on having access to adequate data to allow us to address the various methodological challenges discussed above.

Assessing the Impact of RIA

As the scope and scale of RIA practice in developing countries grows, there is a need for *ex post* evaluation of the impact of RIA. Ex post evaluation can improve the quality of RIA, firstly, by contributing to the body of empirical evidence on which the design and implementation of future regulatory proposals can be assessed; and secondly, by placing evaluation results in the public domain, thereby making policy-makers more accountable for their regulatory decisions. The OECD defines regulatory quality as follows:

Regulatory quality refers to the extent to which a regulatory system pursues its underlying objectives. These objectives involve the specific policy objectives

which the regulatory tool is being employed to pursue and the efficiency with which these objectives are achieved, as well as governance based objectives including transparency and accountability (OECD, 2004, p.8).

So far, the RIA studies conducted in OECD countries have been confined mainly to the activities and process level of evaluation, with a limited amount of assessment of outcomes. Assessment at the process and activities level can be undertaken in at least two ways, which the OECD categorises into compliance tests and performance tests.(OECD, 2004):

- *Compliance tests* are inputs based, and evaluate formal compliance with the individual elements of the RIA procedures and process. Compliance testing typically involves a ‘scorecard’ assessment against the benchmark of the guidelines for good practice, such as the OECD checklist for regulatory decision-making shown in table 8

Table 8: OECD RIA Checklist

1. Is the problem correctly defined?
2. Is government action justified?
3. Is regulation the best form of government action?
4. Is there a legal basis for regulation?
5. What is the appropriate level (or levels) of government for this action?
6. Do the benefits of regulation justify the costs?
7. Is the distribution of effects across society transparent?
8. Is the regulation clear, consistent, comprehensible, and accessible to users?
9. Have all interested parties had the opportunity to present their views?
10. How will compliance be achieved?

Source: OECD (1995)

- *Performance tests* go beyond the question of formal compliance with procedural requirements, and measure the quality of the analysis undertaken. They link the inputs and the outcomes of the RIA process by assessing whether RIA is functioning adequately. Performance evaluation tests focus on

the quality of the various components of the process, rather than simply asking whether the required procedures were in place. A recent example of the performance testing approach to evaluation is provided by the UK National Audit Office reports on RIAs prepared by UK government departments and agencies. (NAO, 2001; NAO, 2004). Using a sample of 10 RIAs, the evaluation methodology involved asking six high –level questions, each of which was broken down into more detailed sub-questions (Table 9).

Table 9. National Audit Office, UK: framework of questions

1. Was the RIA process started early enough?

Did the department have clear objectives for the regulation?
Did the department allow a realistic timetable for the RIA process?
Did the department consider the risks?
Did the RIA consider a range of options?
Were alternatives to regulation considered?
Were alternative regulatory tools considered?

2. Was consultation effective?

Was effective consultation started early in the process?
Did the department use appropriate consultation techniques?
Did the department explain clearly the impact of the regulation?
Did the department consult all interested groups of stakeholders?
Did the department consider the impact on small businesses?
Were the results of the consultation used well in formulating the regulation?

3. Did the RIA assess the costs thoroughly?

Were the implementation and policy costs on all affected taken into account?
Did the department identify all parties on whom costs would fall?
Did the department consider the costs to small businesses?
Did the department identify all likely costs?
Did the department assess the costs of all options?

4. Did the RIA assess benefits realistically?

Did the department identify all parties who would benefit?
Were the benefits realistic and relevant to the regulation?
Was the methodology for quantifying/scoring the benefits robust?

5. Did the RIA realistically assess compliance?

Was possible non-compliance factored into the analysis?
Did the department assess the existing level of compliance?
Were ways of increasing compliance considered?

6. Will the regulation be effectively monitored and evaluated?

Did the RIA contain procedures for monitoring and evaluating the extent to which the regulation meets its objectives?

Source: Humpherson (2004).

Evaluation of RIA at the outcome level seeks to evaluate the actual effect of RIA on regulatory outcomes. The OECD(2004) describes these as function tests, which focus on the outcomes of the RIA, and attempt to demonstrate the difference that the RIA has made to the quality of the regulatory system. Methodologically, a function test is intended to measure impact against the counterfactual 'do nothing' situation. A number of different types of RIA function tests have been applied in practice (OECD, 2004, p.35). The most frequently used method of evaluating RIA outcomes is to assemble data on the frequency with which regulatory proposals are revised or abandoned as a result of the RIA. This type of functional test faces the standard methodological difficulty of determining whether the observed change is the direct result of the RIA, or whether other factors have influenced the outcome. Also, a part of the impact will be unobservable, if regulatory proposals are withdrawn in anticipation of an unfavourable RIA. A second method of evaluating outcomes is to conduct an audit trail in relation to the RIA process and focus on how suggested changes to the initial regulatory proposal have been dealt with. This approach has the advantage of reviewing the process of managing the consultation suggestions and the internal decision-making involved in the preparation of the RIA. It is likely, however, to be relatively resource intensive. It also requires access to the key actors within government, which external evaluators may have difficulty in obtaining, since it increases the pressure on the regulators to be transparent and to justify their decisions. A third evaluation approach extends the audit trail method, and tests the effect of the RIA on the organisational and regulatory culture; that is, 'how and whether RIAs are instrumental in instilling a greater appreciation and understanding of the benefits of the RIA process, and thereby encouraging a proactive rather than reactive use of the RIA as a policy development tool' (OECD, 2004, p.38). This type of evaluation is largely qualitative in nature, which can pose problems in the interpretation of the results.

To conclude this section, a common limitation of most RIA systems in OECD countries is the limited attention given to the monitoring and evaluation of results. This is a significant weakness, given that the systematic and transparent evaluation of *ex post* impacts can contribute to a better understanding of successes and failures, and thereby to improved performance of RIA and regulatory systems. This failure should be avoided in developing countries by adopting an evaluation process, as RIA becomes more widely implemented. The evaluation of RIA in practice, is a challenging exercise. But the discipline of so doing is almost certainly justified in terms of the indirect impact that learning from experience will have on the RIA process and the quality of the regulatory framework.

4. Conclusions

This paper has focused on the contribution of the CRC's Regulation Research Programme to 'better regulation' policy and practice in developing countries. The approach has been to take stock of the knowledge generated so far, and to outline a research agenda which aims to build on these research findings by undertaking an *ex post* evaluation of the results of the regulatory reform process which has been implemented by a significant number of low income countries in recent years. The formidable methodological and data problems that will need to be addressed have been identified. The challenge of resolving these issues should not be underestimated. Nevertheless, we believe that rigorous investigation of the research agenda that has been outlined in the paper will yield a rich return in terms of deepening our understanding of the process of regulatory reform in low income economies.

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