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Benchmarking telecoms regulation – The Telecommunications Regulatory Governance Index (TRGI)

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ABSTRACT

In this study an index of the effectiveness of the institutional design of telecommunication regulators for 142 countries that belong to the International Telecommunications Union is produced. This index – the Telecommunications Regulatory Governance Index (TRGI) – ranks these countries regionally (The Americas, The EU27, Other Europe, Asia Pacific, Middle East and Northern Africa and Africa) as well as globally. Data from Transparency International are used to measure general political governance for these same 142 countries and show the correspondence or lack thereof between the TRGI and political transparency. Strong empirical evidence is found that countries with better institutions have telecommunication regulators that consistently score higher in the TRGI.

1. Introduction

The liberalization of network infrastructures such as electricity, gas and telecommunications and the global trend toward privatization of traditional monopolies have shaped these markets during the last decade. National regulators have been created to establish a level-playing field between incumbents and entrants. The purpose of the present study is to provide a global index measuring regulatory governance in the telecoms sector based on information provided by individual countries and assembled in the International Telecommunications Union annual telecommunications regulatory survey. The ITU provided some additional data; however these data are publicly available.

The Telecommunications Regulatory Governance Index (TRGI hereafter) builds on a number of previous studies in a systematic attempt toward effective and objective benchmarking of the quality of telecommunications regulatory governance in each country where a minimum level of competition exists.[1,2]

A crucial element of the study is the attempt to highlight the importance of the country's "social infrastructure" – the general quality of institutions in each country – and to relate the TRGI to that. In particular an assessment is made as to whether the existence of "good" institutions coincides with a high score in telecommunications regulatory governance. While it might be expected that a high level of institutions generally works to the benefit of regulatory agencies it is shown that there are systematic outliers and discrepancies.

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[1] Competition in fixed line communications and mobile communications is a sine qua non for TRGI benchmarks to have meaning. The existence of a regulatory body was considered a prerequisite.

[2] The regions for this TRGI are EU27, Other Europe, Asia Pacific, Middle East and Northern Africa, Americas and Africa.

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The study is organized as follows: first is a review of the literature on telecommunications regulatory governance as well as of a more general political institutional theory. Then, the model is introduced, the various elements and the subcomponents behind the TRGI. Next, are the Index and rankings and then the concept of general political transparency is introduced. Two-by-two quadrant diagrams are used to highlight the correspondence and differences between rankings based on the TRGI and rankings based on general political governance. Some simple econometric analyses are provided and some comments and some points for future research conclude the paper.

2. Literature review

Interest in cross-national institutional analysis, particularly the effects of alternative institutional environments on the performance of capital intensive regulated industries such as telecommunications, has boomed over the last decade following Levy and Spiller's (1994, 1996) seminal work in new institutional economics. Building on work by North and Thomas (1973) and North (1990) on the importance of political institutions for economic performance, Levy and Spiller surveyed the performance of regulated telecommunications industries in different political and social environments. They argued that a country's institutional endowment at the macro-political level determines the scope for arbitrary administrative discretion, the confidence of investors that their assets will not be arbitrarily appropriated and, through this, the performance of regulated industries. The institutions that Levy and Spiller emphasized included the existence of a strong and independent judiciary; whether governments are unified (as in parliamentary systems) or divided (as in many presidential systems); whether parties alternate in government; and the quality of the regulatory bureaucracy. Subsequent systematic empirical tests of this hypothesis, including Henisz (2000, 2002) and Henisz and Zelner (2001),[3] have presented evidence in support of the proposition that investment will flourish and industries and economies will perform better where policy stability is assured by a large number of robust checks and balances constraining opportunistic behavior by governments.

While the institutional structure at the macro-political level is clearly important, more micro-level institutions are also important, which bear directly on the quality of regulatory governance of individual utility industries drawing heavily on an already well-developed literature on central bank independence,[4] discussions on desirable institutional arrangements for effective regulation of utility industries are now numerous and include Melody (1997), Smith (1997a, 1997b, 1997c, 2000), Green (2000), Estache (1997), Kerf, Schiffler, and Torres (2001), Mustafa (2002), Smith and Wellenius (1999), Stern (1997) and Stern and Holder (1999). These authors recommend a variety of institutional arrangements to enhance the quality of regulatory governance and confidence in the regulatory system, including clarity of roles and objectives of the regulator, independence (autonomy) of the regulator, participation in the regulatory process by interested parties, transparency of regulatory decisions and accountability of the regulator for its decisions.

Most of what has been written has concerned the telecommunications industry. In this context, several authors have made efforts to estimate the effect of the quality of regulatory governance on measures of industry performance (investment and efficiency). While these studies typically report positive effects of improving regulatory governance (either by itself or when coupled with privatization) they vary substantially in their approach to measuring the quality of regulatory governance. Each of Fink, Mattoo, and Rathindran (2002), Wallsten (2001, 2002),[5] Bortolotti, D'Souza, Fantini, and Megginson (2001), Gutierrez and Berg (2000)[6] and Ros (1999, 2003) employs a simple dummy variable – such as whether a country has a separate regulatory agency not directly under the control of the ministry – to attempt to capture regulatory independence. Guttierez (2003a, 2003b) and Gual and Trillas (2004) employ more detailed indexes of regulatory governance elements and regulatory independence elements, respectively.

Many of these studies recognize the potential endogeneity of regulatory governance measures. There is a strong likelihood that these measures are correlated with unobserved variables that are also correlated with industry

[3] Henisz and Zelner (2001) explored how political institutions, measured by an index of checks and balances, affect the long-run level of penetration of telecommunications infrastructure in 147 countries from 1960 to 1994. Their variable indications of political constraint showed a strong and positive relationship with growth of main lines per 100 inhabitants. Their study highlights the importance of the macro-polity for promoting steady and strong incentives to private investors in a sector where behavior may be expected.

[4] There is a substantial body of theoretical and empirical work in macroeconomic policy concerning the effect of central bank independence from the executive branch of government on inflation outcomes. For example, see Alesina (1988, 1989), Grilli, Masciandaro, and Tabellini (1991), Cukierman, Webb, and Neyapti (1992) and Berument (1998).

[5] Walsten (2001) analyzed the telecommunications reform for a sample of countries in Africa and Latin America, testing how and to what extent variables like privatization, competition and regulation affected network expansion from 1984 to 1997. His main results were that competition impacts mainline penetration positively, but that privatization is negatively associated (although not statistically significant). Regulation alone is negatively and significantly associated with network expansion. In his model, competition and, privatization were interacted with the regulatory variable, and both of them affected the level of mainline penetration positively. Although Wallsten's research is a good contribution to the study of telecommunications reform, it compares countries in very dissimilar areas. There is a lot of different institutional and cultural development that one needs to control for even within Latin America. Also Wallsten assumes that all telecommunications reform variables are exogenous, which is an unrealistic assumption.

[6] Gutierrez and Berg (2000) studied the effects of telecommunications regulation and political variables on network expansion in 20 Latin American countries, but the study was limited to a short sample (1986, 1990 and 1995) and to the effects of the overall polity on telecommunications performance. Using a two-stage least squares (2SLS), they found that political and institutional variables help explain the level of network expansion. Moreover, they constructed and tested the first index of regulatory framework in telecommunications for the Latin America. The index was found to be positively associated with networked deployment, which means that a better, specific regulatory environment leads to greater investment in telecommunications.