

**TELECOMMUNICATIONS REFORM IN SUB-SAHARAN AFRICA:  
POLITICS, INSTITUTIONS AND PERFORMANCE**

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Nearly all of Sub-Saharan Africa is extremely poor. While a few countries in Asia, Latin America and Oceania are comparably poor, no other region has as many poor people and undeveloped countries. Not surprisingly, in no part of the world is the penetration of telecommunications technology so low. Thus, Africa would not seem to be an area where substantial improvements in telephone service would be likely until more fundamental economic problems are solved. Yet, beginning in 1995, a few African countries began to reform the telecommunications industry, leading to seemingly miraculous results. The purpose of this paper is to explore how and why these changes took place.

The paper documents the path of reform, its political sources, and its consequences for six African countries: Cote D'Ivoire, Ghana, Malawi, Senegal, Tanzania and Uganda. These countries are diverse in institutional structure, political stability, cultural heritage, and the nature and success of their reform, although all have improved, especially in radio telephony.

This essay is based on detailed case studies undertaken by a team of economists that were assembled by the World Bank, and is intended to fill a gap between analytic narratives of a specific case and regression analyses that seek to explain performance or reform (few seek to explain both simultaneously) across a large sample of countries based on relatively crude measures of the institutional environment. Our approach, also an analytic narrative, is complementary to the others in that it allows cross-country comparisons while emphasizing the nuances of the political and institutional factors surrounding reform.

## **BACKGROUND**

This section performs three tasks. First, it describes the state of economic and political development and the performance of the telecommunications sector in Sub-Saharan Africa. Second, it explains why studying African telecommunications is interesting, not only in its own right but because of its connections to larger questions about the political economy of development. Third, it discusses some of the insights of the relevant literature about the role of institutions in development in general and telecommunications in particular.

### ***African Development***

Sub-Saharan Africa (SSA) is the world's most underdeveloped region, and since the mid-1980s has been further decimated by the AIDS epidemic. Here we document the very low standard of living in nearly all of SSA, including the penetration of telephones.

CIA estimates of per capita gross domestic product (GDP) at purchasing power parity in 1998 and 2000 for 223 nations<sup>i</sup> list no Sub-Saharan African country in the top fifty. In 1998, for which information is a little more extensive, the SSA nations with the highest income were two small island nations in the Indian Ocean, Mauritius (60<sup>th</sup> at \$10,000) and Seychelles (77<sup>th</sup> at \$7,000), plus South Africa (79<sup>th</sup> at \$6,800), all of which are atypical of continental SSA because of their large European populations. These nations were the only SSA countries above 1998 world per capita GDP of \$6,600. Ignoring two nations with strong ties to South Africa (Namibia and Swaziland), the most developed continental SSA countries are Gabon (87<sup>th</sup> at \$6,400) and Botswana (114<sup>th</sup> at \$3,600).

No other SSA nation tops \$2,000. Among the poorest nations, SSA accounts for nine of the bottom ten (the tenth is Cambodia), fifteen of the bottom twenty (the other four are two tiny Oceanic nations, Kiribati and Tuvalu, plus Afghanistan and Yemen), and 25 of the bottom 35 (the other five are another tiny Oceanic nation, Tokelau, plus North Korea, Tajikistan, the Palestinian territory, and Bhutan), all of which are at or below \$1020 per capita GDP.

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<sup>i</sup> The income data are from estimates by the CIA. The 1998 data were collected from the web site [www.photius.com](http://www.photius.com), and the 2000 data were collected from the CIA's web site, [www.cia.gov/cia/publications/factbook](http://www.cia.gov/cia/publications/factbook), which lists only the most recent data. [www.cia.gov](http://www.cia.gov).

GDP estimates as of May 2002 are for 2000, and they reveal essentially the same pattern. In two years, nominal world per capita GDP had increased by nine percent to \$7,200, implying a real growth rate of between one and two percent per annum. Again, no continental SSA country exceeded the world average other than South Africa, and many African nations suffered negative growth since 1998. In 2000, 44 nations experienced per capita GDP of \$1,500 or less, and thirty of these were in Africa. Of the seventeen nations with per capita GDP of \$1,000 or less in 2000, fifteen were in Africa.

The six countries in our study all have very low incomes. The CIA estimates for per capita GDP for these countries in 1998 and 2000 are shown in Table 1.

**Table 1: Per Capita GDP in Sample Nations**

<i>Country</i>	<i>GDP/Cap 1998</i>	<i>GDP/Cap 2000</i>
Cote D'Ivoire	\$1,680	\$1,600
Ghana	1,800	1,900
Malawi	940	900
Senegal <sup>ii</sup>	1,600	1,600
Tanzania	730	710
Uganda	1,020	1,100

As apparent from this list, these countries (like most of SSA) collectively experienced virtually no economic growth between 1998 and 2000.

For our six nations, the core population statistics for 2001 are shown in Table 2. Low income is usually associated with high mortality, low life expectancy, and high fertility, and SSA exhibits all of these characteristics. As the data show, all of these countries, like nearly all of

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<sup>ii</sup>Whereas the CIA estimates show no growth in Senegal between 1998 and 2000, other sources show growth of about two percent.

Africa, have lower life expectancy and higher population growth rates than the world average, and only Senegal among these six is near the world average in both life expectancy and mortality.

<b>Table 2: Demographic Data</b>			
<i>Country</i>	<i>Life Span</i>	<i>Mortality</i>	<i>Growth</i>
	(years)	(per 1,000)	(% per year)
Cote D'Ivoire	44.93	16.65	2.51
Ghana	57.24	10.26	1.79
Malawi	37.08	22.81	1.50
Senegal	62.56	8.35	2.93
Tanzania	51.98	12.95	2.61
Uganda	43.37	17.97	2.93
World	63.79	8.93	1.25

Among low and middle income countries, the demand for telephone service has a fairly high income-elasticity of demand. Thus, one would expect telecommunications usage to be extremely low in Africa. In advanced, industrialized economies, the number of “main lines in use” (wire connections to the network) per 100 people (the conventional industry measure) ranges from 50 to 80, with the Scandinavian countries usually topping the list.<sup>iii</sup> These countries achieved this level of penetration decades ago, and wireline penetration has grown only slightly in the past twenty years. Since the mid-1980s, radio telephony in these nations has grown from virtually nothing to between one-third and one-hundred percent of wireline penetration, causing the number of telephones in use roughly to equal the population and, in some countries, to exceed it.

In most of Latin America, wireline telephone penetration in the mid-1980s typically ranged between ten and twenty per 100, and has almost doubled since then. Wireless telephony

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<sup>iii</sup>. Telephone penetration data are available from the International Telecommunications Union for a fee or from the CIA web site for free.

has grown from nothing to between fifty and one-hundred percent of wireline penetration. Thus, as measured by total telephones in use, penetration in much of Latin American today is comparable to the level achieved by the advanced industrialized nations in 1980.

By contrast, wireline telephone penetration in SSA was stable at about 0.35 between 1985 and 1985, and then grew to about 0.7 in 2000. Until the late 1990s, wireless penetration in all but a handful of countries was far below wireline penetration, and in many nations wireless either did not exist or was available only in the capital city, with but a few hundred and a few thousand users. Although wireless has grown substantially in some African nations in the last few years, the total number of telephones in use in SSA was under one per 100 in the year 2000 – about one percent of penetration in advanced industrialized countries, and only a few percent of penetration in most of Latin America.

Because penetration is so low, the absolute number of wireline telephones in even fairly large SSA countries is remarkably small. Africa's largest nation, Nigeria, had a population of about 127 million in 2001, but only 500,000 wireline telephones (a penetration rate of about .4). The next two most populous SSA countries, Ethiopia (66 million) and Congo (formerly Zaire, 54 million), had 157,000 and 22,000 wireline telephones, respectively (penetration rates of 0.2 and 0.04). Congo had about 9,000 wireless telephones, and Ethiopia about 4,000, adding almost nothing to the total penetration rate. For more typical SSA countries, with a population of a few million, the number of wireline telephones frequently is like Congo, in the range of 10,000 to 50,000.

To put these figures in perspective, an urban switching center in the United States typically will provide service for tens of thousands of lines – as many telephones as exist in many SSA nations. U.S. cities with populations under 100,000, like Palo Alto (California), Cambridge (Massachusetts) and Fargo (North Dakota), will have roughly this many wireline telephones spread over a few square miles, not an entire nation. Medium sized metropolitan areas with populations in the range of 500,000 to 650,000, like Bakersfield (California), Baton Rouge

(Louisiana), Scranton (Pennsylvania) and Springfield (Massachusetts), all have more telephones than any SSA nation except South Africa.

An important implication of these comparisons is that if the telecommunications industry has significant economies of scale, SSA nations are doubly cursed: their incomes are too low for nearly all people to afford a telephone at U.S. cost, but cost (and hence a reasonable price) is substantially higher, thereby worsening the affordability problem. As a result, as recently as the mid-1990s, experts on telecommunications virtually unanimously agreed that significant improvement in telephone service in SSA was a distant hope.

### ***Importance of Research on Telecommunications Reform***

Research on the political economy of telecommunications in Africa is potentially interesting for several reasons. Most obviously, the sector is important, usually accounting for two to three percent of gross domestic product and serving as an essential input in a variety of industries that can serve as further engines of economic growth, especially in an open economy that seeks trade-driven growth. Thus, improvements in knowledge about the effect of institutions on the performance of the telecommunications sector can be valuable to a country that seeks to improve its economy.

From a broader perspective, the sector serves as an excellent arena for testing theories of the effect of institutions on economic growth. Of huge benefit to researchers is the fact that the industry is extensively and carefully measured just about everywhere. One reason is that telephone carriers bill partly on the basis of usage, and so extensively meter what their customers do. In addition, even in the poorest nations, international calling is financially important to carriers and the division of the revenues from international calls is based on extensive measurement. The industry even has a trade association (the International Telecommunications Union) that collects and publishes extensive data on telecommunications carriers in most of the world.

Two kinds of institutional issues arise in the context of telecommunications. At the macro level, much recent research emphasizes the importance of legal and political institutions governing contracts, property rights and dispute resolution (including stable democracy) as

essential preconditions for extensive private investment. Whereas macro tests of these theories are difficult because of the problems associated with overcoming the endogeneity of institutional change to economic performance, at the level of even a very large industry like telecommunications it is safer to assume that, say, whether a nation has a good system for enforcing contract is exogenous to performance in that industry. Concern that nations change their fundamental legal and political institutions on the basis of macroeconomic performance is more plausible than concern that they undertake fundamental institutional reform because the telephones do not work very well.

Telecommunications policy also offers an opportunity for testing the political causes and economic effects of institutional reforms that are specific to the sector. In no country does telecommunications completely escapes industry-specific policies. As of 1980, in virtually every country (the U.S. and Canada were among the exceptions) telecommunications services were provided by a monopoly state-owned enterprise (SOE), frequently by the postal service. Price and investment decisions were decided by some combination of a minister and the legislature. By 2000, most nations, including many in Africa, had abandoned this structure.

Reforms have taken many shapes. One dimension is ownership. The choices of ownership structure include: corporatizing an SOE while retaining government ownership (an American example is TVA); corporatizing with public ownership but contracting with a private operator; corporatizing and selling a minority of the company to private interests but retaining government operation; selling part (minority or majority) of the company to a private operator; or full privatization. Likewise, reforms embrace a variety of governance institutions: supervising pricing in a ministry; creating an independent regulator to negotiate privately with carriers; creating an American-style public utility regulator; or deregulating with supervision by competition policy authorities. Other dimensions of institutional variation are the form of price regulation (price cap, benchmark, cost of service), the role and standards of judicial review of regulatory decisions, the authority of the regulator to compel information and compliance with its

rules, the role of competition and antitrust agencies, and the content of the laws that establish policy and governance institutions in the industry.

Research on the relationships between performance and institutional arrangements that are specific to telecommunications is more difficult than research on the effects of broader institutions because of the potential importance of the endogeneity of institutional change. Clearly nations reform their telecommunications sector for a reason, and a likely cause is the sector's poor performance. If so, cross-sectional OLS regressions of performance on institutions for a sample of nations are likely to produce biased and inefficient estimators. Likewise, the general legal and political environment plausibly will shape the nature of institutional reform, which increases the difficulty of separating the effects of general and sector-specific institutions on performance. Finally, the sectoral institutional arrangements tend to come in clusters, and so clearly are jointly determined, causing still more estimation headaches. For these reasons, econometric models to measure the effects of institutions on performance present challenging specification and estimation problems.

### ***Prior Research***

A great deal of recent research has focused on both the macro relationships between institutions and economic performance, and the relationship between sector-specific reforms and performance in telecommunications. This work provides a reasonable theoretical basis for structuring the comparative analysis of the six case studies. This section does not attempt to provide a comprehensive survey of this research, since several are available. For the relationship between growth and institutions, see Aron (2000); for privatisation generally, see Megginson and Netter (2001); and for telecommunications, see Noll (2000). Instead, this section seeks to identify the issues that should be considered in comparative case studies.

*Institutions and Growth.* At the macro level, researchers have focused on a variety of institutions to explain variation in indicators of macroeconomic performance among nations, most notably GDP per capita, but also economic stability and inflation. This research is relevant to studies of the relationship between institutions and sectoral performance because, theoretically, factors that have important effects at the macro level also should be detectable in most sectors of



the economy (and, for reasons examined shortly, in telecommunications), and, empirically, research on telecommunications and other infrastructure industries has included these institutional background conditions as factors explaining performance.

Probably the most commonly used general institutional indicator is some measure of the security of investors from expropriation of their wealth by government. The theoretical basis for using such a measure is that long-term economic growth requires the institutions of capitalism. The chain of argument is as follows: investments in assets with a long useful life are necessary for long-run growth; private investors are likely to be far more efficient than government in allocating investments across alternative assets; investors need assurance that they will be permitted to keep the returns on these assets in order to induce investments; and certain legal and political institutions are needed to provide this assurance.

While the precise nature of the essential institutions is not clear, nearly all of the literature focuses on a few obvious candidates: the rule of law (so that agents have clear understanding and expectations about their obligations and rights under the law), and, among the details of law, strong protection of property rights, respect for and rational enforcement of contracts, and an efficient system of dispute resolution, which is usually taken to mean an independent and professionalized judiciary. Other candidates for inclusion, but more controversial, are the presence of democratic institutions, personal liberty, multiple political “veto players” (examples are federalism, a bicameral legislature, and separation of powers) to increase political stability, a free press, and a public ideology that supports classically liberal government in that it is restrained in its intervention in the economy. More controversial still are measures of the cultural milieu, such as religion, ethnicity, and cultural diversity.

Research on sectoral performance also has emphasized some of these variables. Levy and Spiller, for example, emphasize the importance of an independent judiciary for success in telecommunications reform, as well as property rights, the stability of the regime, and the number of veto players.

Although issues surrounding the proper econometric specification of models linking institutions to growth are not directly relevant to case studies, nevertheless the approaches that researchers have taken to deal with the possible endogeneity of institutions to performance have interesting (and depressing) implications for studying the effect of background political and legal conditions on the performance of a sector. The key issue in the growth literature is to find identifiers for institutions. Clear statements of this issue are found in Hall and Jones (1999), Acemoglu, Johnson and Robinson (AJR, 2001), and Roll and Talbott (2001). For example, the AJR model posits the following system of equations:

- (1) Growth =  $f(\text{Institutions}, X)$
- (2) Institutions =  $g(\text{Europeans}, \text{Growth}, X)$
- (3) Europeans =  $h(\text{Environment}, X)$ ,

where  $X$  are common causal variables. Thus, a crucial variable is the number of Europeans who migrated to a developing area when a European power made the country part of its colonial domain, and the crucial factor influencing the extent of migration from Europe was whether the environment was attractive to them, which in this paper is measured by early mortality rates of European military personnel that were assigned to the area. Other identifiers that researchers have used (and that AJR include in their model) are distance from the equator, the ethnic and/or religious composition of the indigenous population, the specific European country or legal system that was transplanted to the country, and the extent of violent conflict in the area (such as between competing ethnic groups).

The relevance of this work to sectoral studies is its inherent pessimism about institutional change. In these empirical models, the historical determinants of institutions are not controls. Countries are poor because they inherited the wrong institutions from colonial masters one to four centuries ago, because their indigenous population has the wrong cultural background, and/or because they are too close to the equator. The researchers who undertake this work recognize that sometimes institutions change, but how and why they do so are not part of the model, and change must be rare for these variables work as identifiers.

This research implies that once a nation has bad institutions, change is possible only through very costly violent revolutions. Indeed, a working paper by AJR (2000) sets forth a theoretical model in which institutional innovations to promote growth are possible only if one of three conditions is present: (a) A country can change governments very easily and so leaders have little discretionary power; (b) A despot is so firmly entrenched that successful revolution is unlikely and so leaders have great discretionary authority; or (c) A despot of middling security who resists change faces is deposed in a violent, costly manner, which will happen only if potential revolutionaries perceive a very high value from institutional change. Applying this work to Africa, improvements in sectoral performance cannot occur until the fundamental institutions of these countries are changed, and change requires not just the overthrow of governments but the rise to power of new leaders who will create an entirely new system of legal and political institutions.<sup>iv</sup>

Empirical work to implement theories of institutional determinants of growth faces two other problems. The first is to decide which measures of institutions to include in the analysis from among a very long list that plausibly could affect economic growth. The second, which offers a Faustian escape from the first, is to cope with multicollinearity among these variables by converting large numbers of them to an index. Many institutional decisions apparently are highly correlated – for a trenchant account, see Sala-i-Martin (1997). While this creates problems for measuring the contribution of any one, at least it offers hope that almost all of the influence of institutions on growth can be captured by a reasonably short list of measures.

Researchers have encountered considerable success in using seemingly arbitrary indexes that assign a score within a limited range (one to three, one to ten, minus five to plus five, etc.) to some general conceptual measure of institutions, such as democratization or security from expropriation. Some of these indexes reflect judgments by their creators, and are provided

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<sup>iv</sup>. AJR's theoretical model predicts that revolutions will always lead to rulers who adopt optimal institutions, which indicates that more work is needed on the theoretical front.

commercially to businesses contemplating foreign investments or are published by academics, while others are the result of factor analyses or other statistical procedures.<sup>v</sup>

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<sup>v</sup> Many of these indexes are available on [www.worldbank.org/research/bios/pkeffer.htm](http://www.worldbank.org/research/bios/pkeffer.htm) in the Database of Political Institutions. Also available on this site is Beck, Clarke, Groff, Keefer and Walsh (2001), which describes the data.

Despite arbitrariness in both the scale of the aggregate measure and the weights of components, and problems in interpreting the meaning of these variables, empirical work shows that, whatever these indexes measure, they usually explain an important fraction of aggregate economic performance. For example, in econometric studies Keefer and Stasavage (2000) use indicators of political stability, social polarization, and the degree of decentralization of decision-making, as well as central bank independence, to explain variation in inflation rates. AJR (2001) use an index of expropriation risk to explain variation in growth rates. Roll and Talbott (2001) find that indexes of the strength of property rights, political rights, civil liberties and freedom of the press are positively associated with income, and that an event study of democratic and anti-democratic changes in developing countries supports the notion that democracy leads to faster growth. Sachs and Warner (1995) find that measures of civil liberties, democracy, political stability and property rights, as well as trade openness, explain growth. Doppelhofer, Miller and Sala-i-Martin (2000) find that 32 measures of political and legal institutions, out of a list of over 100 candidates, seem to be stable predictors of economic growth. Finally, La Porta, Lopez-de-Silanes, Schleifer and Vishny (1998) find that cultural factors and legal institutions affect economic performance. Many more studies are summarized in Aron (2000).

A few studies focus specifically on Africa. Using evidence that ranges from anecdotes to full econometrics models, authors have reached essentially the same conclusions for Africa as for the rest of the world. For example, Easterly and Levine (1997) attribute Africa's low level of development to cultural factors, the lack of democracy and weak political institutions. Hassan and Sarna (1996) find significant effects on growth from variables measuring the strength of property rights and political institutions, and Oladeji and Oshikoya (1994) reach similar conclusions concerning the effects of political institutions. Sachs and Warner (1997) conclude that Africa is not exceptional – its low level of development is explained by the same factors that they analysed in their earlier research for the entire world.

As observed in recent papers by Rodrik (2001) and Roll and Talbott (2001), the literature on institutions, culture and growth, despite econometric success, is intellectually unsatisfying. Rodrik puts it well: researchers seem to have proven conclusively that institutions matter, but have made little progress locating “deep” explanations that identify the true causal variables with precision in the avalanche of statistically significant variables.

The case studies that are summarized here follow the lead of this literature by describing the nature and stability of the political regime, and the evolution of political institutions during the period just before and during reform. The cases assess some of the specific institutions, such as the judiciary and the formal structure of the government, and commonly used measures of institutional performance, such as expropriation risk.

### ***Institutions Pertaining to Telecommunications***

A great deal of research provides theoretical and empirical reasons to believe that the performance of the telecommunications sector is strongly influenced by its organization and governance. At center stage is the issue of ownership and control of the service provider. When telephones were introduced in the late 19<sup>th</sup> Century, the innovators were private firms. Reflecting the fact that the telephone was invented in the U.S., in many nations, including much of Europe, the first telephone companies were affiliates of the Bell System. By the last decade of the 19<sup>th</sup> Century, private telephone service also was offered in large cities in developing nations, although mostly for the purpose of providing service to foreigners.

When telephones began to be used extensively by national governments and domestic businesses and residents, political pressures developed to prevent foreign ownership and control. In some case, governments nationalized the industry, but in many cases they simply insisted that the firms be sold to domestic companies. As the 20<sup>th</sup> Century proceeded, first Europe and then the developing nations (the latter mostly in the 1950s and 1960s) nationalized these companies. By the 1970s, virtually all telephone companies were nationalized throughout the world, with the only important exceptions being Canada and the United States.

As a theoretical matter, the preponderant belief among economists is that private firms are more efficient than public ones. Theory predicts that private firms minimize costs,

while public firms, to the extent that operations are politicized, may depart from optimal organization and factor inputs to serve political objectives. Empirical work usually, but not always, confirms this belief.

One problem with this theoretical argument as applied to telephony was that until the 1970s private telephone companies were regulated monopolies. American economists also had developed an extensive theoretical and empirical literature about the inefficiencies that arose from this structure. The most prominent sources of inefficiency were, first, attenuated incentives to minimize cost when average price was based on cost, and, second, distortions arising from individual prices that did not reflect relative service-specific costs, but instead were used for internal tax-subsidy schemes to favor some customers over others. Hence, the practical question was whether the inefficiencies of political interference were larger under public ownership than under regulated private ownership.

Economists have reason to believe that regulated private telephone firms were more efficient than state-owned enterprises. Even under regulation, stockholders, managers and employees face financial incentives to provide efficient service. However these incentives might be distorted by regulatory rules, private firms retain some independence from the government that permitted discretionary behavior, especially with respect to investment and employment decisions. Moreover, to some degree political intervention was blunted by the fact that regulatory rules had to satisfy constitutional and legal constraints on the power of the regulator, and by the fact that, in the end, the firm faced a hard budget constraint – unlike the case with public firms, revenue shortfalls did not automatically become a claim on the government.

Empirical research on the effects of public versus private ownership has a long history, but until very recently very little of it focused on telecommunications for the obvious reason of so little variation in its structure. Whereas Canada and the United States had very high quality and relatively low cost systems compared to most advanced, industrialized democracies, a

few nationalized companies also performed well, notably the systems in Scandinavia, so that clear evidence about the superiority of one form over the other was not present.

The research that was most relevant probably was the literature that dealt with public versus private ownership of other utilities, especially electricity and water, primarily because public ownership of both was common in some parts of the U.S., while some private power companies could be found elsewhere in the world. This research concluded that private power companies were more efficient, but that the differences were small, amounting to a few percent of costs. While these results confirmed the qualitative predictions of theory, and in absolute terms amounted to a great deal of money because the sector is so large, they were disappointing to those who expected that the effects would be substantially greater.

In the early 1980s, several countries added useful variance by privatizing their telephone companies. By the early 1990s, enough experience had been gained so that researchers could measure the effects of privatization by conducting before-after studies, as well as cross-sectional analyses to compare countries that had privatized with countries that had not. But with the gain in variance came an increase in the dimensionality of the problem. Nations that privatized did so in different ways.

1. Some nations did not really privatize. Instead, they sought to gain the advantage of a hard budget constraint and more independent management by creating a corporation in which the government owns all of the shares.
2. Even under privatization, the share of ownership that was sold varied from a minority to one hundred percent. Moreover, some nations reserved ownership shares for specific domestic interests, such as employees, domestic companies, and small domestic shareholders.
3. Some countries changed ownership structure in one big step, while others proceeded through a series of stages, usually beginning with selling a large proportion (but often less than a majority) to a company to operate the company, then fewer shares



to others later. Still others reserved some shares that could be sold later to the operator if the government were satisfied with the success of the change in ownership.

4. Countries varied enormously in the extent to which the details of reform were spelled out in legislation. Some nations passed laws before reform began that established clear policies for the industry and set forth rules and procedures for privatizing the company and, subsequently, regulating it. Other privatizations were the result of a simple executive decision to transfer assets to a corporation and, perhaps, sell it, with no change in the underlying legislation from that which had governed the state-owned enterprise.

5. In setting up regulatory institutions, some created regulatory bodies that were “independent” in the sense that they were patterned after the regulatory agencies in the United States and the United Kingdom, which were largely professional bureaucracies that are insulated from day-to-day political interference in their decisions. Others designated the ministry that had once owned and operated the company as its primary regulator. Others adopted no regulatory system before privatization, either promising to deal with the issue later or relying on competition authorities to protect customers and competitors against monopoly abuses. Still others divided responsibility among all of the above.

6. Among nations that did set up regulatory agencies, the procedures for making decisions differed. One approach was to set prices and resolve disputes in evidentiary hearings, but a more common practice was to rely on bilateral negotiations between firms

and regulators that were conducted in secret. And, some countries adopted price-cap regulation, while others relied on cost of service, although in either case whether negotiations led to prices that were based on these procedures was anyone's guess.

7. Countries differed in the extent to which the incumbent retained its monopoly. Some allowed no competition indefinitely or for many years in either wireline, wireless or long-distance service. Others allowed competition in one (usually wireless) but not the rest. Still others protected only wireline local access against competition. A few immediately or within a few years opened all services to competition.

8. If competition was allowed, nations took different approaches to dealing with the very important issue of interconnection rules. If a nation has more than one telephone company, they must develop technical and financial arrangements for connecting networks. Obviously, telecommunications service is far more valuable to all customers if everyone can originate and terminate communications with everyone. But when competition is introduced, incumbent service providers enjoy enormous market power, and to have the incentive to disadvantage entrants by imposing unfavorable interconnection arrangements. Some countries foresaw this problem and established clear rules and procedures for interconnection, while others either delegated resolution of the issue to the incumbent and entrants to work out through negotiation, or simply failed to establish any procedures at all. With respect to pricing, intense competition requires that the price for terminating a call on a local access line be close to cost. High termination charges prevent mobile telephony from having significant competitive overlap with wireline access,

and negotiated mutual termination charges among competing carriers invite collusion. Hence, a key indicator of whether policy is genuinely pro-competitive is not just whether multiple firms are allowed into the market, but also whether regulatory policy and practice insists that interconnection prices be based on cost.

9. Finally, nations differed with respect to the status of the decisions by regulators once they were issued. In some cases, the only appeal from a decision of the regulator is to induce the parliament to repeal it with a change in the law. In other nations, the decisions can be appealed to a ministry – typically the ministry that used to operate telephone services and, after reform, usually still runs the post office. In still other cases, decisions can be appealed to the courts. Who has standing to appeal to either also varies from only the incumbent operator, to any operator (incumbent or entrant), to anyone with a financial interest (including customers). In some cases, the ministry or the competition authority has standing to sue.

Based largely on theoretical considerations and casual observation, research on organizing the sector has generated recommendations about all of these choices. Regarding ownership, the standard prescription is to sell all of the company and not to limit the ownership arrangement in order to let capital markets decide which division of ownership is most effective. Economists generally agree that permitting competition in all parts of the industry early in the reform is desirable, although there is an as-yet unresolved debate about whether privatization of the incumbent should come before or after competition is introduced. Delaying privatization is said to have the advantage that it eases the interconnection problem and avoids giving a privatized incumbent a first-in advantage and the incentives to disadvantage competitors. The presumption behind this argument is that government is genuinely interested in promoting

competition, not in protecting the incumbent. This proposition is debatable. The concern is that politicized management of state-owned enterprises generated the problems that gave rise to liberalization, so that continued public ownership while introducing competition perpetuates the problem. Delay also increases the risk that the government will be excessively sensitive to the interests of the incumbent because its budget shortfalls are claims on the government. The alternative argument is that once governments are committed to reform, the political battle against state-owned enterprise has been won, and so political reformers are less likely to make anticompetitive use of the market power of the incumbent than a profit-maximizing operator after privatization. Because there are arguments on both sides, resolution of this debate rests on the data.

With respect to regulatory systems, economists almost uniformly recommend price cap regulation, except interconnection prices. Economists generally favor cost-based prices for interconnection between long-distance and local access carriers, and either cost-based prices or “bill and keep” (that is, the originating carrier keeps all of the revenue) among horizontal competitors for calls that originate in one network and terminate on another. The basis for these recommendations is to promote efficiency by creating sharp incentives to reduce cost and by minimizing distortions in relative prices, which lead to the wrong composition of services.

Research on privatization also recommends resolving institutional issues in advance by passing clear legislation to establish policy and to create regulatory institutions in order to reduce the uncertainties facing potential investors. As part of this legislation, conventional wisdom favors creating independent regulatory agencies and review of regulatory decisions by an independent, professional judiciary, in which reviews are based on conformance with the law and adequacy of the evidentiary basis for the decision. The rationale for these recommendations is mainly political: day-to-day political involvement in regulating an industry is likely to be unduly influenced by distributive politics and the incentive for elected officials to provide personal services to constituents to enhance their personal vote. Professionalized regulation requires a regulatory process in which economic and engineering information is submitted and evaluated in a transparent investigation in which anyone can review and evaluate the evidence. Because small

countries may lack the technical capability to undertake such regulation, some have recommended the use of benchmark regulation (that is, copying the decisions of others), or even the delegation of regulation to multinational (perhaps regional) joint regulators.

As this list makes clear, those who seek to undertake econometric tests of the effects of the institutions put in place through reform face similar estimation problems as those that plague research on the relationships between institutions and growth. The number of institutional variables is large, they tend to be highly but imperfectly correlated, they are difficult to measure and to aggregate into “deep” institutional determinants of performance, and institutional choices in telecommunications reform probably are endogenous to performance. Typically, these problems are ignored or simplified. Researchers estimate single-equation models of a performance measure (penetration, prices, profits) on variables that measure underlying cost and demand conditions plus simple measures of reforms. For example, privatization is usually measured by a dichotomous variable indicating whether a private operator owns part of the company (or perhaps a majority), and one or two indicator variables are used to measure regulation.

Work of this sort has produced interesting, though not definitive, results. For example, privatization usually improves penetration, as shown in Megginson, Nash and van Randenborgh (1994), Ros (1999) and Ros and Banerjee (2000); however, Wallsten (2001) finds that in developing countries this effect is conditional upon creating at least one competitive wireless carrier. Wallsten (2002) also finds that investment in and penetration of both wireless and wireline service is higher if an independent regulatory institution is created before privatization occurs, and that nations that design their regulatory institutions before selling their state-owned telephone company tend to receive a higher price for it. Gutierrez and Berg (2000) test the effects of both general political conditions and telecommunications regulation in Latin America, and find that index of democracy, economic freedom, and regulatory quality have a significantly positive effect on telephone penetration.

The only studies of which I am aware that deal with Africa are Berg and Hamilton (1999) and Hamilton (2001). The first is an informal review of telecommunications performance and political circumstances, and provides evidence that political instability is a source of the region's poor performance. The second regresses penetration on some cost and demand measures plus indicators of institutions, and finds that an index of investment risk and two of its components, the quality of contract law and adherence to the rule of law, have the expected sign and are statistically significant, but finds no effects or effects having the wrong sign on indicators of corruption, quality of the civil service, and democratization. This research does not attempt to measure the effect of either privatization, regulatory institutions, or the judicial system.

Most of the research on the effects of regulatory institutions consists of case studies of the progress of the industry before and after reform.<sup>vi</sup> The standard complaint about case studies is that they try to explain a single example of a change in performance with too many independent variables, and can not possibly ascertain objectively which variables mattered and which did not. But as the number of cases studies mounts, this problem becomes less significant, as one eventually can imagine undertaking an econometric meta-analysis in which the cases are combined to enable statistical testing.

The more challenging problem is that researchers quite naturally select nations to study because they embarked on an interesting reform. As a result, the evidence that is accumulating from case studies contains virtually no information about countries that have not initiated a reform. Thus, case studies undoubtedly suffer from sample-selection bias of two forms. First, some countries have improved without triggering a case study by corporatizing. Second, corporatization happens in nations that previously have ignored telecommunications, or even kept it undeveloped due to fear of making unmonitored communication easier, but that have changed their minds. If this change of heart occurred between 1985 and the present, and if the country sought technical assistance from the World Bank or similar institutions to carry out reform, the

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<sup>vi</sup> In addition to the African cases reported here, see Levy and Spiller (1996), Ramamurti (1996), Galal, Jones, Tandon and Vogelsang (1994), and Wellenius and Stern (1994). In addition, frequently *Telecommunications Policy* contains briefer, less complete case studies.

advice it received was the conventional wisdom of the era: corporatize. Thus, improvements attributed to the institutional reform *du jour* may have arisen more because the government decided to make the system work better than because of any decision it made with respect to institutions. Thus, some caution is called for in interpreting a set of case studies.

## **TELECOMMUNICATIONS REFORM IN SIX AFRICAN COUNTRIES**

This section provides a summary of the economic, political and institutional conditions in six African nations before, during and after their reforms. The narrative is not chronological, but topical. To assist in connecting the information about the general environment and the reform that took place, this section begins by recounting the political and economic conditions surrounding the reform, then describes the details of the reform.

### ***Political and Economic Background***

The larger conditions surrounding reform, including the state of political institutions, arguably affect the success of reform. Here we briefly review the economic and political environment surrounding reform for each country. Needless to say, all of these countries are regarded as having relatively weak political institutions, but there are differences among them.

One common factor across all of these countries is that after independence, they adopted some version of the “African Socialism” model. The key features of this model are extensive ownership and control of industries, a one-party state, and a strong national leader who endures for decades and for whom elections are a formality. Differences among these nations arise in the nature of the leaders. Some were bloody dictators, some were simply corrupt, and others were well-meaning, if misguided, champions of growth. Some leaders struggled valiantly to hang on to power, at the cost of individual rights and stable political institutions, while others worked for as long as a decade to make certain that they left a legacy of stable political institutions.

Another important commonality among them is the economic events prior to reform. SSA Africa had serious economic problems in the late 1980s, and most countries confronted recessions and debt crises that required negotiating financial assistance from the World Bank and the International Monetary Fund. In every case, reform was partly a response to pressure from these organizations.

The significance of this fact is political. If reforms were forced upon these nations at a time of economic weakness, the commitment of these countries to reform could be very shallow. If so, a hostile political backlash is plausible, regardless of the success of the reform. If the reform does not improve performance or creates scandals, the re-nationalization has an easy rationale. If the reform succeeds, but liberalization remains a foreign ideology, sector is even more valuable to those who would reclaim it for the people!

A final commonality is that all of these countries, as is the case with nearly all of SSA, suffer from extensive political corruption, which includes rigged elections as well as bribery to obtain services from government, including telephones and business licenses. Here corruption is measured by the scores calculated by the Transparency Institute (TI), based on surveys of business leaders, risk analysts, and the general public about their perceptions of corruption.

Corruption has a direct effect on development in that, by raising the cost of doing business, it lowers the performance of industries affected by it, including telecommunications. But corruption is also an indicator of poorly functioning legal and political institutions. Democratic nations with a strong, independent judiciary do not long tolerate extensive corruption.

In 2001, the highest score in SSA was Botswana with 6.0, and most SSA nations scored between 2.0 and 3.5. Although almost all SSA countries score below average on this index, the six countries differ in the extent of corruption, with some near the top for SSA for relative cleanliness, while others vie for the title of most corrupt nation on the planet, an honor currently claimed by Bangladesh with a score of 0.4 (Nigeria is in second place with 1.0). To establish a baseline, the United States had a TI index of 7.6 in 2001. The highest possible score



is 10.0, and Finland finished at the top with 9.9. In 2001, Greece had a score of 4.2, Mexico stood at 3.7, Argentina and China had scores of 3.5, Thailand was at 3.2, the Philippines scored 2.9, India was at 2.7, Russia had a score of 2.3, and Indonesia scored 1.9. Thus, a score over 3.0 indicates that corruption is a problem, but not so great as to stifle development, whereas scores below 2.5 begin to indicate that development is very difficult if not impossible.

*Cote d'Ivoire.* The instigating event for reform in Cote d'Ivoire was a depression that began in 1986. Cote d'Ivoire's economy depends heavily on exports of cocoa, coffee and palm oil. In late 1986, coffee prices began to fall, followed by other export prices. Between 1986 and 1991, Cote d'Ivoire's terms of trade fell over 40 percent, and per capita GDP fell by over five percent per year. The government did not cut expenditures by as much as tax revenues fell, so high inflation and growing debt ensued. By 1990, international creditors forced an austerity program, which is roughly when telecommunications restructuring began to be considered. Circumstances improved, and economic growth was restored in 1994 – until a downturn in 2000 that still persists.

At the time of the collapse Cote d'Ivoire was a one-party state. The political leader since independence had been Houphouet Boigny. Under Boigny the nation was relatively free of violence and corruption, and economically was one of the most successful African nations. But Boigny's political position was weakened by the depression of the late 1980s.

In 1990, Boigny announced that he was adopting fiscal austerity and liberalization. Moreover, because this change in policy was so important, he announced that to facilitate a national debate on the issue, he was legalizing opposition parties for the elections later in the year. Thus, liberalization and democratization were to occur simultaneously. Boigny easily won the October 1990 elections and embarked upon his reform. But before the reform was completed, Boigny died in 1993.

Since Boigny's death, the nation has been engulfed in ethnic violence and political instability. In December 1999 conditions hit bottom with a military coup that elevated retired

general Robert Guei to the presidency. Guei declared an election for the fall of 2000, but ruled that his most popular opponents, Alasanne Outtara and Henry Konan Bedie, the person he deposed, were ineligible to run. Bedie has since been rehabilitated, but debate about Outtarra's status still rages. Because two of the nation's most popular leaders could not run, and because of many charges of fraud and other irregularities, the 2000 election was marred by violence. After the election, Guei declared himself the winner. But protests led to his removal from office, and subsequent vote counts indicated that he received only about a third of the votes. The person who received the most votes was Laurent Gdagbo, the candidate of the Popular Front (PF), who was made President; however, because two of the three most popular parties did not field candidates, turnout was only 37 percent, and many citizens do not regard his election as legitimate.

In December 2000, elections for the national legislature were scheduled, and again many opposition candidates were declared ineligible. Outtara's party, Rally of Republicans (RDR) boycotted the election, and the government responded by arresting 100 of its leaders. Once again, the election was accompanied by violence, and the sitting legislature is not regarded as legitimate by the opposition. Then in March 2001, elections for mayors took place. RDR participated – and won the most positions, capturing 67 of 197. The Democratic Party, led by Bedie and the successor to Boigny, finished second with 56. Only 33 seats were captured by Gdagbo's PF.

In 2002, three major leaders vie for power: Gdagbo, Outtara, and Bedie. The legislature is regarded as weak and ineffective, and, as discussed with respect to telecommunications, the executive regard adherence to its laws as voluntary. President Gdagbo has appointed a National Reconciliation Commission to investigate what went wrong and to propose solutions. Meanwhile, the violence continues. In 2002, attacks on foreigners caused 300,000 migrants from Burkina-Faso to flee home. As a result much of the 2002 cocoa crop, which depends on migrant labor, was not harvested.

Since the death of Boigny, Cote d'Ivoire has suffered from growing corruption. In 1998 it ranked in the middle of African nations with a TI index of 3.1, which placed the country above

average for SSA; however, by 2001, the index had slipped to 2.4, and Cote d'Ivoire had fallen below average for SSA.

The primary institutional pre-requisites for growth are said to include political stability, democracy, and legal and political institutions that favor capitalism. Clearly Cote d'Ivoire still lacks all three. The presidency is a dominant locus of decisions, and is not constrained by law. Cote d'Ivoire illustrates an important downside of even a benign and enlightened form of single-party systems with a strong, permanent national leader: when the leader goes, the institutions often are not in place to permit a smooth transition to effective governance. The reform period seems to have transformed Cote d'Ivoire from a nation in which private investment might have been attractive but was not encouraged, to a nation in which it is encouraged but not attractive.

*Ghana.* When Ghana was granted independence in 1957, it was among the more democratic African nations, but this was soon to change.<sup>vii</sup> Kwame Nkrumah and his socialist Convention People's Party had controlled the government since the colony became self-governing in 1951, but they were subject to electoral competition from a strong opposition, the conservative United Party. But in 1960, Nkrumah succeeded in a referendum to convert the government to a one-party state, and democracy all but ended for thirty years.

During the 1950s, Ghana experienced strong economic growth, but its economy was (and remains) heavily dependent on a single export crop, cocoa. Nkrumah sought diversification, but through state-led development and state-owned enterprise. By the mid 1960s, the economy was in decline, and Nkrumah was overthrown in a military coup in 1966. Except for a brief period of parliamentary democracy between 1969 and 1972 under the conservative Progress Party led by Kofi Abrefa Busia, the military ruled until 1979. During this period economic decline continued.

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<sup>vii</sup> Abdel-Fatau Musah, "Ghana – A Transition of Hope and Trepidation," Centre for Democracy and Development, December 4, 2000 ([www.cdd.org.uk/wadnetold/wadwindow](http://www.cdd.org.uk/wadnetold/wadwindow)).

Military rule ended when a group of junior officers, led by Air Force Lieutenant Jerry Rawlings, led a successful but extremely violent coup, after which the top political and military leaders were summarily executed in public. The junior officers then installed an American-style democracy, and Hilla Limann was elected president and his National Party (a descendant of Nkrumah's group) took control of the parliament. This government, too, failed to reverse the economic decline, and so Rawlings led another military coup to overthrow Limann. This time Rawlings retained control.

Rawlings' new government, the Provisional National Defense Council (PNDC), sought to rid the country of imperialist and capitalist influence. The government set up tribunals to investigate capitalists, and instituted wage and price controls. By 1983, Ghana was in a deep economic crisis, which was made worse by a drought and the forced repatriation of over one million Ghanaians from Nigeria. The harsh authoritarian regime and the economic collapse led to several attempted coups and political violence, and the regime was regarded as unstable.

Although the rhetoric of the Rawlings regime remained strident, its policies were dramatically changed by 1984. Price controls were lifted, a policy of prices to recover costs was adopted for state-owned enterprises, and, by the late 1980s, the government began to plan for privatization. As a result, political violence and instability were reduced substantially. The economy also rebounded in 1984, despite depressed cocoa prices, and pre capita GDP has consistently grown between two and four percent per year since then. Despite Rawlings' inauspicious beginning, he must be credited with turning the nation's economy around. Ghana is now the wealthiest nation among out six country sample, and one of the wealthiest in SSA.

In 1988, Rawlings began the process of restoring democracy by creating popularly elected District Assemblies (Ghana has 10 regional governments that are organized into 110 districts.) These elections revealed that the PNDC was sufficiently popular to retain control after democratization. Rawlings then proposed a new constitution with democratically elected president and unicameral legislature and separation of power that gave the legislature independent authority. The constitution was adopted through a referendum in April 1992. The PNDC changed its name to the National Democratic Congress (NDC), and in the 1992 elections

Rawlings was elected President and the NDC won control of the legislature. Nevertheless, a serious opposition group, the New Patriotic Party (NPP), won in one region and carried several cities.

Rawlings and the NDC won reelection in 1996, but the elections were closely contested and the NPP contends that they were fraudulent in that about 1.5 million “voters” were either dead or nonexistent. The government denied the charges, but responded by reforming the election process to assure that it was more fair. In 2000, Rawlings abided by constitutional term limits and did not stand for reelection, although he remains politically active. The 2000 nominee of the NDC, Professor John Atta Mills, lost the election to the NPP nominee, John Agyekum Kufuor. The NPP also won exactly half of the seats in the legislature, and the NDC won most of the rest. A few small parties won seats, including Nkrumah’s old CPP. The transition was smooth and peaceful, with the loser congratulating the winner. The NPP is a strong proponent of privatization, so that nearly all legislators continue to support liberalization.

Other than the bloody period after the first Rawlings coup, Ghana has been relatively peaceful. Some ethnic violence has occurred in the Volta River Region, which is one of the poorest areas in the country, but ethnic conflict is not regarded as a significant threat to the stability of the country. Ghana also ranks relatively highly among SSA nations in terms of political corruption, with TI scores of 3.3 in 1998 and 3.4 in 2001. Although far below Botswana, Ghana had a better corruption score in 2001 than the other tropical SSA countries.

After the bloody 1979 coup and the repeat performance in 1981, Ghana was not a strong candidate for either political stability or economic revival. Nevertheless, after three increasingly democratic elections and a peaceful transition of power, Ghana has enjoyed a decade of democracy and political stability, and has created a legal environment that is favorable to private investment. As a result, the economy is booming, with real economic growth exceeding five percent per year for the last decade.

Rawlings represents an interesting and perhaps unique case of an African strong-man. Despite his harsh and violent acts to overthrow the government and later to gain power, he spent more than a decade building good political institutions to sustain the nation's gain since his revolution. Nevertheless, models of growth that emphasize historical determinism imply that the changes that have taken place since 1988 are likely to be transient. Ghana's present circumstances appear favorable, but its history is not propitious.

*Malawi.* Malawi gained partial self-rule in 1961, full self-rule in 1963, and independence in 1964 under the leadership of Dr. Hastings Banda, a physician who had been the leader of the independence movement and had been incarcerated by the British for several years.<sup>viii</sup> Banda was the leader of the Malawi Congress Party (MCP), which won control of parliament in 1961. In 1966, a new constitution created a one-party state, and in 1971 Banda was made President for life. No political opposition or dissent was tolerated, and Malawi was constantly criticized by international human rights organizations for its oppressive rule.

In 1992, Malawi's Catholic bishops openly criticized the regime, and unrest ensued in several cities demanding political reforms. Legislative elections took place in June, with only MCP candidates allowed to run, but protests continued. In October Banda agreed to a referendum on whether to abandon one-party rule. In June 1993, despite disruptions by the government, multi-party democracy won with almost two-thirds of the vote. Several opposition parties were then legalized, and in the election of May 1994 the United Democratic Front (UDF) won 84 of the 177 seats in the legislature, with Banda's MCP winning 55 and a third party, Alliance for Democracy (AFORD), capturing 36. These results were almost exclusively regional and ethnic, with each major party winning nearly all the seats in a single region. UDF's Elson Bakili Muzuli was elected president with 47 percent of the vote, compared to Banda's 34 percent. The UDF gained control of the legislature in a coalition with minor parties that also were given posts in Muzuli's administration, leaving AFORD and MCP out of the government; however, in 1995, AFORD became a coalition partner.

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<sup>viii</sup>For a good summary of Malawi's political history, see "Malawi History," *newafrica.com*, at [www.newafrica.com/history](http://www.newafrica.com/history).

After the election, Banda retired from politics, but in January 1995 he was placed under house arrest. Banda and several members of his administration were tried and acquitted for political murders. Charges of political corruption against UDF and Muzuli ensued, leading to the withdrawal of AFORD from the coalition in June 1996. Muzuli brought corruption charges against Banda in 1997, but before the trial began, Banda died in November.

Elections were scheduled for early 1999, but were postponed several times until they finally took place in June. MCP and AFORD ran a joint ticket for president and vice-president, although they retained separate candidates in the legislative elections. Muluzi was re-elected but with only 51 percent of the vote. UDF won 93 of the 193 legislative seats, with UDF winning 66 and AFORD 29, again along regional and ethnic lines. UDF gained a bare majority in August when four independent legislators agreed to join the party. The opposition claimed electoral fraud, and violence erupted against Muslims (Muzuli is Islamic) and against businesses owned by UDF supporters; however, Muzuli retained power.

Since the election, sporadic political violence has taken place, including raids on opposition newspapers by a youth group associated with UDF. The opposition and Catholic bishops fear that Muzuli will not adhere to the term-limit on the presidency, and are pressing him to disavow movements by UDF legislators to pass a law suspending the term limit.

Meanwhile, the performance of the Malawi economy has been modest. Malawi is one of the poorest nations in the world, and it is heavily agricultural. Ninety percent of its exports are agricultural, and 75 percent of agricultural exports are accounted for by tobacco. The rate of growth in real per capita GDP has been about two percent real since democratization. Since 2001, the economy has experienced a severe food shortage and massive starvation.<sup>ix</sup> Economic policy has been poor and has been blamed for the country's current economic problems. International financial organizations have suspended credit and aid, citing

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<sup>ix</sup>Hilary Anderson, "Spectre of Starvation in Malawi," *BBC News*, March 6, 2002 (at [news.bbc.co.uk/1/hi/english/world/africa/newsid\\_1858000/1858427.stm](http://news.bbc.co.uk/1/hi/english/world/africa/newsid_1858000/1858427.stm)).

noncompliance with restructuring agreements, political intolerance, poor governance, and corruption.<sup>x</sup>

Malawi is similar to Ghana in terms of its corruption score. In 1998, Malawi had a TI index of 4.1, placing it quite high among SSA nations; however, by 2001, its score had fallen to 3.2, which is still above average for the region.

Malawi is a poor nation with relatively weak political institutions. Although it has had only two presidents in forty years of independence, this seeming stability has been accomplished through intimidation of political opponents. To the extent that democracy is in place, the electorate remains largely divided along ethnic, religious and regional lines. For these reasons, one would not expect much success from the Malawi telecommunications reform.

*Senegal.* Upon gaining independence in 1960, Senegal was part of the Mali Federation, but within two months frictions between the two regions caused division into present Mali and Senegal. The dominant political party was the Senegalese Progressive Union (UPS), led by the successful novelist Leopold Senghor, who became president. His prime minister, Mamadou Dia, attempted to create a socialist state, but Senghor reversed the policy. After Dia was arrested and convicted of plotting a coup, Senghor also became prime minister in 1962. In 1963, UPS and Senghor won an election decisively, and in 1966 Senegal became a one-party state with UPS the only legal party.

Senghor revived a separate position of prime minister in 1970, and appointed Abdou Diouf to the post. After the election of 1973, unrest erupted over one-party rule, and in 1976 Senghor permitted two opposition parties to form: the Senegal Democratic Party (PDS) and the United Party (PU). The UPS was renamed the Socialist Party (PS). In 1978, the first multi-party elections took place, and PS won 83 percent of the legislative seats and Senghor was overwhelmingly re-elected against the PDS leader, Abdoulaye Wade.

In December 1980, amidst pressures for further political and economic reform, Senghor resigned and was replaced a month later by Diouf. To secure his position, Diouf sought

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<sup>x</sup>Brian Ligomeka, "US Withholds US \$47m from Lilongwe," *African Eye News Service*, April 30, 2002 ([allafrica.com/stories/printable/20020430043.html](http://allafrica.com/stories/printable/20020430043.html)).



to democratize the country and to reform the economy. Restrictions on the number of parties were lifted. In 1983, Diouf won the presidential election against Wade with 84 percent of the vote, and the PS won 80 percent of the votes for the national legislature. Diouf then recreated the old position of prime minister that he had held, and used the change to bring reform-minded younger members of the party into office.

In 1988, after Diouf and the PS appeared to win a similar lopsided victory, Wade and other opposition leaders alleged widespread election fraud, and rioting erupted in Dakar. Diouf declared a state of emergency, banned public gatherings, closed educational institutions, and arrested opposition leaders, including Wade, his only presidential challenger. Wade was convicted of incitement to violence and attacking internal security, and was sentenced to a year in prison. Other PDS leaders received similar terms. But Diouf terminated the state of emergency and granted amnesty to those who were convicted.

After two brief exiles in France, Wade returned to negotiate political reforms with Diouf. Legislation in 1989 and constitutional amendments in 1991 significantly changed the political system to make elections more fair and to give minority parties a greater role in governance. The first post-reform elections took place in February 1993, and after many protests and investigations results were released in March, declaring that Diouf had won with 58 percent of the vote on a turnout of 51 percent. Legislative elections followed in May, and PS won 84 of 120 seats.

Shortly thereafter, the vice-president of the constitutional council, the body to certify the elections, was assassinated. Arrests of opposition leaders and months of violent protests followed, and in 1994 charges again were filed against opposition leaders for inciting violence. But 1994 seems to have been a turning point in Diouf's rule. First, the charges against his political opponents were dismissed. Then, Diouf initiated a process of reforming commercial law, including creating a new court for resolving commercial disputes. One purpose was to make

Senegal more attractive for business. In addition, the government adopted macroeconomic stabilization policies to reduce the deficit and inflation, and committed to extensive privatization.

A few months later, in February 1995, Wade and PDS leaders were invited into the government, where they remained until 1998. Meanwhile, in November 1996, local and regional elections were held, with the same result – an overwhelming victory for PS, claims of fraud by the opposition, riots, and charges against opposition parties, this time for defamation. But no one was put in jail, and the PDS remained in the coalition.

In 1998, the PDS dropped out of the government to contest the national legislative elections. Again, the elections were accompanied by political violence, and produced a large majority for PS and more claims of fraud. The new assembly voted to remove the term limits on the president and the requirement that a president gain at least a vote of 25 percent of all registered voters to be elected. In 1999, a newly created Senate produced similar results – virtually all seats went to the PS. Opponents feared that Diouf was backsliding into the revival of an authoritarian one-party state.

Another presidential election took place in March 2000. Once again, Wade led the opposition against Diouf, but this time there was no attempt to intimidate the opposition or to manipulate the results, and the outcome was different: Wade won with over 60 percent of the vote. A peaceful transition to power ensued. The outgoing President, upon conceding defeat, remarked that being the president “is a difficult mission and I wish you all the luck in the world.” Then, after briefly leading his party in the National Assembly, Diouf moved to France. A year later, in April 2001, Wade’s party won 89 of the 120 seats in the Assembly, and the PS was reduced to ten. For the first time since the end of the one-party state, elections were regarded as fair, were not contested, and were not followed by violence.

In addition to periodic political violence, Senegal has been fighting an internal revolution in a southern region, Casamance. The rebels are ethnically closer to Guinea-Bissau than to Senegal, and have declared their desire to form an independent state. Because Casamance is in a region that is separated from the main part of Senegal by Gambia, the rebellion does not

threaten the rest of Senegal; however, it is an economic drain and yet another source of political division.

The Senegal economy is primarily agricultural. Almost all exports are accounted for by two products, fish and peanuts. Per capita real GDP declined between 1960 and 1994, but since then has been growing at between two and three percent per year. Senegal is about average for SSA in terms of the corruption index, with a score of 3.3 in 1998 and 2.9 in 2001.

Senegal achieved democratization only gradually, and realistically the reforms can not be regarded as secure, given the history of political repression and violence in the country. Because the reforms are new, Senegal would appear to be a risky place for investment until democratization and liberalization prove to be stable.

*Tanzania.* At the time of independence, the present Tanzania was two separate nations, Tanganyika and Zanzibar. Tanganyika gained independence in 1962, and the dominant political party was the Tanganyika African National Union (TANU), led by Julius Nyerere.<sup>xi</sup> The government originally was parliamentary, and Nyerere was prime minister; however, in late 1963 the constitution was changed to create a presidency, and Nyerere, after resigning as prime minister, was elected President. Zanzibar was given independence in 1963 as a sultanate, but the sultan was overthrown a month later, and the Afro-Shirazi Party (ASP) took control. Three months later the two nations merged, and the following October the nation's name became Tanzania.

A new constitution took force in 1965, and while it called for a one-party state, in practice the single legal party was TANU in the former Tanganyika and ASP in Zanzibar, which remained largely self-governing. The former Tanganyika and Zanzibar had separate legislatures, and while most of Tanganyika's legislature was elective (without opposition parties, but with multiple candidates from within TANU), Zanzibar's was appointed by ASP leaders. Nyerere was elected President in September 1965, and every five years thereafter until 1985.

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<sup>xi</sup>For early Tanzanian political history, see [www.newafrica.com/history](http://www.newafrica.com/history).

Zanzibar was primarily governed by a Revolutionary Council, whose chair automatically was Vice President of Tanzania.

The official policy of TANU was African socialism, which included nationalization of major industries and a goal of collectivized agriculture. The commitment to socialism was put in the constitution in 1975.

The first sign of political reform came in 1972, when the position of prime minister was revived, assuming some of the powers of the President. In 1977, ASP and TANU merged to form Chama Cha Mapinduzi (CCM), and another constitution was adopted creating a new national legislature in which Zanzibar had representation. In 1979, Zanzibar adopted a new constitution that called for the election of the president of the Revolutionary Council and a regional legislature to be appointed by the CCM.

In 1980, half of Tanzania's national assembly members lost their seats to challengers within the CCM. In 1984 the constitution was revised again to impose a two-term limit on the President and to give the legislature more power. Meanwhile, Ali Hassan Mwinyi was elected President of Zanzibar (and hence Vice President of Tanzania) in 1984. In 1985, the Zanzibar constitution was revised to make the legislature elective. The new constitution also created a British Commonwealth legal system.

Nyerere did not run for President in 1985. Mwinyi was elected with 96 percent of the vote, although Nyerere remained as chair of CCM. Mwinyi initiated changes in economic policy that included macroeconomic stabilization, agricultural reform, and encouragement of private investment. Nyerere opposed these reforms, and was reelected chair of CCM in 1987, but over the next three years Mwinyi dismissed several ministers who opposed aspects of his reforms. Finally, in 1990, Nyerere resigned as party chair and was replaced by Mwinyi, who then was re-elected President, again with 96 percent of the vote.

In 1991, Mwinyi appointed a commission to propose electoral reforms, and in 1992 a new constitution was adopted that legalized additional parties, so long as they were national in scope and were not tribal or religious. The first nation-wide multi-party elections took place in October, 1995. Although CCM won 186 of the 232 seats in the national assembly and

the opposition charged that the election was fraudulent, four other parties succeeded in gaining representation. In Zanzibar, the CCM won only 26 of 50 seats, and the CCM candidate won the presidency with only 50.2 percent of the vote. The national presidency was won by the CCM candidate, Benjamin Mkapa, but his vote share was 62 percent – a significant fall from the near-unanimity enjoyed by his two predecessors.

The main opposition party was and is the Civic United Front (CUF), which is strong on Zanzibar. The CUF is largely Islamic and advocates greater autonomy for Zanzibar. No significant opposition party with other than ethno-religious appeal has emerged on the mainland, and the CUF has been constantly harassed by the government for its Islamic militancy.

In 2000, Mkapa was re-elected with 72 percent of the vote, and the CCM won nearly all seats in the national assembly, 244 of 269. While the election on the mainland was regarded as relatively free of difficulties, on Zanzibar allegations of fraud led to extensive demonstrations and violence. The CUF boycotted the elections.<sup>xii</sup>

Tanzania suffers from divisions along religious and ethnic lines, and these erupted into violence in the early 1990s. Islamic fundamentalists attacking butcher shops that sold pork, and an anti-Asian speech by a black Christian political leader incited attacks on Asians. In early 1998, two major riots in which three people were killed took place at a Dar es Salaam mosque, and in August a bomb destroyed the American embassy, killing eleven people. Recently Human Rights Watch accused the Tanzania police of killing at least 35 people while suppressing demonstrations that were organized by the CUF.<sup>xiii</sup>

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<sup>xii</sup>Hugh McCullum, “Zanzibar Elections Chaos Mars Otherwise Smooth Tanzania Poll,” October 30, 2000, *Souther African Research and Documentation Center* (available at [www.sardc.net/sd/elections2000/tanzania/article15.html](http://www.sardc.net/sd/elections2000/tanzania/article15.html)) and Fernando Goncalves, “Tanzania Elections Not So Free and Fair in Zanzibar,” *Africa Review* (available at [www.sapem.co.zw](http://www.sapem.co.zw)).

<sup>xiii</sup>“Zanzibar Killings: Body Seeks Violence Perpetrators Justice,” *The East African*, May 13, 2002 (at [allafrica.com/stories/200205130838.html](http://allafrica.com/stories/200205130838.html)).

Tanzania is one of the poorest nations, with per capita GDP under \$800. Agriculture accounts for over half of the economy and about 85 percent of exports, with coffee, cotton, sisal spices and tea the most important export crops. From independence until the mid 1980s, the national economy shrank, but the economy has grown since economic reforms were initiated in the late 1980s. Nevertheless, growth has not been fast enough to outstrip population growth, so per capita GDP has stagnated.

One of Tanzania's most serious problems is extensive corruption. Transparency International ranks Tanzania among the world's most corrupt nations with a score of 2.2 in 2001 and 1.9 in 1998. President Mkapa has initiated several purges of his cabinet during his years in office that were the results of either investigations initiated by his office or by scandals uncovered by others, but the recurrence of these events indicates that one group of corrupt officials seems just to be replaced by another.

Tanzania ranks in all dimensions as one of the least propitious environments for effective structural reform. The government is stable in that it wins elections overwhelmingly, but the country continually suffers from political violence, and serious political competition has not developed. Although the nation on the surface has abandoned the African socialist model, this policy remains controversial within the ruling party, and in any case policies to encourage private investment are undermined by corruption.

*Uganda.* At independence in 1963, Uganda was a multi-party federalist state, with five main regions based on historical tribal kingdoms. The government was parliamentary, although a ceremonial presidency was given to the king of the largest tribe. The Uganda People's Congress (UPC) managed to win a majority of seats in the first election for the national legislature, and their leader, Milton Obote, became prime minister. In 1966, a scandal erupted concerning gold smuggling, in which Obote and the second in command of the army, Idi Amin Dada, were implicated. Obote then led a coup, deposed the ceremonial tribal president, arrested several government officials, suspended the constitution, and proclaimed himself the head of state. In April, an interim constitution ended regional autonomy and introduced an executive president, a position assumed by Obote. In 1967, a permanent constitution abolished the old

kingdoms that had formed the basis of the autonomous states. National elections were scheduled for 1971.

After solidifying power, Obote began nationalizing major industries. By 1969, dissension developed among the ruling elite, and Obote was wounded in an assassination attempt. After a series of assassination attempts against other leaders, Obote's government was deposed in 1971 by Amin, who dissolved the legislature and suspended the elections but promised democratic rule in five years. Amin launched a bloody purge of officials who opposed him. Violence persisted through 1977, with sporadic uprisings followed by violent counter-measures.

In an attempt to unify the country, Amin invaded Tanzania in 1978, provoking Tanzania to create a coalition against him that included Obote and his followers. In 1979, Tanzania invaded Uganda and Amin fled the country. A series of heads of state and ruling commissions followed, each overturned shortly after taking office, until a military commission held power long enough to organize an election in December 1980. Four parties ran candidates, including the UPC. Amidst claims of fraud and oppression, UPC won and Obote again was declared President. Opposing parties, including a faction still loyal to Amin, launched guerilla warfare. Obote responded by arresting members of the opposition, including members of the legislature from other parties. A campaign of violence ensued, with widespread reports of torture by all sides of the conflict.

In 1985, Obote was overthrown, and once again the nation was ruled by a military council. Rather than continue the violence, the military council began negotiating with each opposition faction, adding their representatives to the council as they reached agreements to end their revolution, but the largest, best organized group, the National Resistance Army, led by Yoweri Museveni, after a brief period in the coalition, resumed its offensive and overthrew the military council in January 1986. Museveni was installed as the new President.

Museveni announced a policy of national reconciliation and appointed a commission to investigate breaches of human rights by Amin, but these actions did not stem the

violence. Supporters of Obote continued their battle against the government, and Museveni retaliated by arresting opposition leaders. Literally thousands of rebels were killed in the ensuing two years, as well as several members of Museveni's cabinet. Museveni also introduced press censorship.

Until 1989, the legislature was appointed by the President, but elections for 210 of the 278 seats were called in February 1989. As a result, several cabinet ministers lost their seats. In response, the government passed a law extending the term of the Museveni regime for five years without an election, using as an excuse the need to undertake still more political reforms and to draft a new constitution. Guerilla warfare intensified, and thousands more died.

In early 1993, another constitution was introduced calling for "non-party democracy" led by a strong president, with a seven-year ban on political parties. In reality, "non-party" means one party – the National Resistance Movement. In some ways, however, 1993 was a modest turning point for restoration of political and economic rights. In July 1993, new legislation re-established the historical tribal kingdoms, and over the next year a series of coronations were held in the five regions. While largely ceremonial, the kings represent a potential form of political opposition to the ruling party by virtue of their popularity with some constituents. The government also passed legislation allowing Asians who had been driven from the nation during the period of violent revolutions to return and to reclaim their property, which continued through 1994.

In March of 1994, elections were held for the national legislature. While foreign observers declared the elections to be free, candidates were required to abide by strict laws restricting campaign activities and party organization. Of the 214 elected seats in the 288 member legislature, the government won 150 and the opposition 64. Museveni and several other leaders of the ruling party did not stand for reelection, although Museveni retained the presidency, thereby creating some political separation between the executive and the legislature.

The presidential elections were postponed several times, but eventually took place in March 1996. Museveni won with 74 percent of the votes against a single challenger.



The election was regarded as relative fair, but still with restrictions on campaigning. Opponents claimed that these restrictions amount to harassment of the opposition. In June, legislative elections were held for 214 of 276 seats in the new assembly, with Museveni supporters winning most of the seats.

Elections took place again in March 2001. The legislature now contained 2292 members, 214 of which were directly elected, and the rest appointed as representatives of special groups, such as the army, women, the disabled, trade unions, and youth. Museveni won the presidency with 69 percent of the vote, and his followers captured nearly all of the seats in the legislature. A group of independent election watchdogs reported that perhaps five to fifteen percent of the vote was fraudulent – a large fraction, but not enough to determine the outcome.

In setting the stage for the next election in 2006, in 2002 the legislature passed a new law that allows parties to form – but not to have offices anywhere except the capital city and not to engage in campaigning. No similar restrictions apply to Museveni's NRM. Thus, the *de facto* one-party state is expected to continue.

The Ugandan economy has grown rapidly since Museveni gained firm control of the government, with per capita GDP increasing by two to four percent per year. Museveni has maintained macroeconomic stability with low inflation. The economy remains heavily agricultural, although less so than in the past. Cotton and coffee account for most export earnings, causing the economy to be sensitive to the rise and fall of commodity prices. In recent years, coffee and cotton prices have tumbled due to large increases in production. These unfavorable price trends have cut the growth rate in half, but it remains about two percent per year in per capita GDP.

Uganda now ranks among the most corrupt African nations. In 1998, the Transparency Institute gave Uganda a score of 2.6, placing it in the middle of SSA, but by 2001, its TI score was 1.9, tying with Indonesia for the third most corrupt nation in the world.

Among the six cases, Uganda ranks at the bottom in terms of satisfying the institutional prerequisites for economic success. Governed throughout its history by an authoritarian ruling elite, the country lacks basic political rights. Although the current government has allowed a glimmer of organized political opposition and does not engage in the kind of bloody suppression of Obote and Amin, the nation remains undemocratic and authoritarian.

### ***Reforms***

During the 1990s, all six countries initiated a reform, although the details differ dramatically. This section describes the reforms that took place, the next recounts the underlying political and economic circumstances before and after reform.

*Cote d'Ivoire*<sup>xiv</sup>. Cote d'Ivoire has had state-owned telecommunications since independence, although the international carrier was partly owned by France Radio et Cable, a subsidiary of France Telecom, until 1981. The latest reforms began in 1991, when the government created a committee to plan for privatizing about fifty industries, including the telephone company. In late 1991, the nation took the first step by corporatizing the carrier (a small ownership share, under two percent, was given to its employees) and establishing a bureau in the Ministry of Post and Telecommunications to regulate the new entity.

In 1995, the government adopted a strategy for privatizing the company, and in July two important steps were taken.

First, a new telecommunications law was passed. The law allowed the government to grant concessions to private entities to operate wireline access, long-distance and international carriers, and to license radio services, private networks, and value-added services. Concessions differ from licenses in that the former apply to where the government has the ultimate exclusive right to control the industry, whereas licenses are given in areas where the government does not hold an exclusive right to operate but legally has the authority to regulate. Finally, the law essentially deregulated everything else, including internal networks and terminal equipment.

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<sup>xiv</sup>. This section is based on Laffont and N'Guessan (2001).

Second, the government established two regulatory agencies, Telecommunications Agency for Cote d'Ivoire (ATCI) and Telecommunications Council of Cote d'Ivoire (CTCI). Both are quasi-independent commissions, headed by nine (ACTI) and seven (CTCI) commissioners who must be appointed on the basis of expertise and who are prohibited from being owners of a telecommunications firm. The roles of the two commissions are overlapping. ACTI, the first stage entity, undertakes studies and investigations and promulgates rules. CTCI is a quasi-judicial body to which entities can appeal a rule. In addition, once CTCI has made its decision, further appeal is available to the courts.

In February 1997, Cote d'Ivoire Telecommunications (CI-Telecom), the state-owned monopoly carrier for wireline access, long distance and international service, was partially privatized. After a tortuous process in which two erstwhile winning bidders were unable to deliver on capitalization promises, 51 percent was sold to FRC, two percent was given to the employees, and the remainder was retained by the government. Initially, the plan was to sell some of the government's holdings to local companies and on the Abidjan stock exchange, but as of 2002 this has not happened.

The concession contract gives CI-Telecom a monopoly in main telephone services (wire access, long distance, international) for seven years (expiring in 2004). The company may enter competitive services according to the same rules affecting other entrants. The most important dispute about the scope of the monopoly concessions is whether it includes pay telephones. CI-Telecom believes that it did, but ATCI and CTCI disagree and permitted others to enter. CI-Telecom first refused interconnection, then provided inferior interconnection at a price only eight percent below its retail price. Eventually the regulators forced a larger gap between wholesale and retail, but interconnection disputes with competitors remain common.

CI-Telecom is subject to regulation of its core monopoly services. The regulators adopted a price-cap system that was implemented in three increasingly rigorous steps.

The last step, implemented in 1999 with periodic review, limits price changes to the rate of inflation minus seven percent.

Regulators have licensed three carriers to provide mobile wireless service. One, Ivoiris, is wholly owned by France Telecom, and so is a *de facto* affiliate of CI-Telecom. The two competitors, Comstar and Telcel, were licensed in March 1995, before CI-Telecom was privatized and before Ivoiris was licensed in October 1996. These licenses were not the result of competitive bidding; instead, the government licensed all three of the companies that sought to enter. Retail cellular prices are unregulated except for interconnection services.

By licensing competitors first, the government created an environment in which interconnection arrangements were established with the competitors before the CI-Telecom affiliate. When Ivoiris entered, it was required to abide by the same agreement in terms of both prices and technical arrangements. This minimized self-interested distortions in interconnection arrangements.

In theory, inter-carrier interconnection prices are supposed to be based on cost; however, because local access prices are not yet “balanced” – that is, usage charges still pay for some fixed costs – the pricing procedure is based on an arbitrary allocation of costs, not economic cost. The interconnection charge for terminating a local call over a wire access line is about three cents per minute, and the charge for long distance is about 17 cents per minute, both of which are substantially above economic cost and above international best-practice standards, although not unusual in developing countries.

On most accounts, Cote d’Ivoire seems to have followed the recommendations of the first-rate regulation scholars at Toulouse, the intellectual gurus of reform in Francophone nations. The only questionable elements of the reform are: (1) a two-step regulatory process, which can cause delay and waste resources; (2) the seven-year exclusive monopoly that is enjoyed by CI Telecom; and (3) the government’s continued large minority stake in the monopoly carrier, which gives it a financial interest in disputes between CI Telecom and its competitors. Thus, if the formal processes of privatization and regulation matter, their effect on post-reform performance should be positive, although limited by the three dubious elements.

*Ghana*<sup>xv</sup>. Telecommunication in Ghana was initiated as a public works telegraph project for British colonialists in 1881, but in 1886 was turned over to the post office to develop both telegraph and telephone service (Allotey and Akorli, no date). Although the post and telephone operation periodically was reorganized, until 1992 telecommunications services were provided by Ghana Post and Telecommunications (GP&T), which enjoyed a monopoly on all facilities other than a few private networks. GP&T was part of the government, so that its financial losses constituted a claim on the budget, but it was also separate from several agencies that had regulatory authority over it: the Ministry of Transportation and Communications, the Ministry of Finance, the Frequency Regulation and Control Board, and the cabinet, which had final authority over prices.

The privatization process began in 1992, when the government announced that entry into cellular telephones would be permitted with minimal regulatory supervision. Four firms have entered to date: Mobiltel (owned by Millicom) in 1992, Celltel (partly owned initially by AT&T, but since 1997 eighty percent owned by Hutchinson Whampoa of Honk Kong) in 1995, Spacefon (owned by Investcom Holdings of Luxembourg, which also owns ScanCom, a British mobile telecommunications hardware company) in 1996, and, lastly, Ghana Telecommunications (GT), the incumbent wireline operator, in 2000. Mobile service is unregulated except for interconnection prices and spectrum management.

Also in 1992 the government initiated a period of study and consultation to consider additional reforms, which led to a 1994 report that recommended both privatization and competition in all aspects of the industry. In 1995, Ghana corporatized the communications portion of GP&T as Ghana Telecommunications, and announced that it would offer *two* licenses for sale: one for the incumbent, and one for a competitor that would be permitted to enter wire access, long distance and international services. At the same time, Ghana also opened entry for

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<sup>xv</sup>. This section is based on Haggart and Shirley (1999) and Wallsten (2002).

value added services. In 1996, legislation was passed to establish the policy framework and an agency to regulate the two companies.

To choose the two licensees, the government initiated a bidding process that eventually ended in February 1997. The government sold thirty percent plus operating control of the incumbent, GT, to a consortium led by Telekom Malaysia, plus a second license to Western Telesystem Ghana (Westel), a consortium of African Telecommunications Group with 54 percent ownership (U.S.), Ghana National Petroleum Company with 36 percent ownership (a state-owned enterprise), and others. Thus, although both companies are operated and partially owned by different private companies, both also are partly owned by the government.<sup>xvi</sup>

Each company was granted a concession that prohibited additional entry for five years. The exclusivity period expired in March 2002, and the government has announced that it will not renew the concession of Telekom Malaysia, which expired on May 19, 2002. Even before the exclusive license expired, two more companies entered. Capital Telecom, a Ghanian company, provides fixed wireless access and long distance to a small number of customers in an area not served by GT and Westel.<sup>xvii</sup> Volta Telecommunications Company, a subsidiary of the state-owned electric company, the Volta River Authority, initially was a private network for the latter, but is now authorized to support private networks and to provide wholesale long distance service for Internet Service Providers, other private networks, GT and Capital. Entry by Volta River into the general long distance market is expected shortly.

Alert readers may well wonder whether the last few paragraphs are fictional. In most nations, telecommunications is a highly concentrated industry. Yet in Ghana, among the poorest

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<sup>xvi</sup> Despite its ownership stake in both, the companies probably are independently operated. One indicator is that in June 2001, the government announced that it was not going to renew its telecommunications contracts with either carrier because their prices were too high, and would work to “break the duopoly” by inducing yet another entrant (Okini, 2001).

<sup>xvii</sup> Capital originally was intended to be a parastatal for providing service in under-served areas, but during construction was converted to another licensed, private access provider (see [www.tradepartners.gov.uk/telecom/ghana/profile/overview.shtml](http://www.tradepartners.gov.uk/telecom/ghana/profile/overview.shtml)).

nations in the world, seven carriers (under five ownership groups) provide access, with three fixed wire access carriers among them, three provide long distance service, and the government plans to introduce more! Surely extensive competition in an industry that many still believe to be a natural monopoly cannot be feasible in a country in which poverty must severely limit demand! Ghana is among the most open and competitive telecommunications markets on the planet, in some ways more so than the U.S.

The 1996 legislation also created the National Communications Authority (NCA), which is responsible for granting licenses, allocating the electromagnetic spectrum, setting technical standards, issuing tariff regulations, regulating interconnection (with the authority to impose default requirements if necessary), and advising the Minister of Telecommunications.

NCA is not independent. Although its members theoretically have four year terms, they are appointed and can be removed by the President at any time for any reason (although the President must issue a public statement giving the reasons). NCA also is not independent of the Minister, who has the power to “give the Authority such directions of a general character as appear to him to be required in the public interest...” And, the path of appeal to a decision of NCA is through the Minister, and then to the High (Supreme) Court.

The proof of non-independence is stark: the chair of the agency board has been the Minister of Telecommunications since it was created. Moreover, as of May 2002, the other positions on the board of NCA have never been filled. The Minister is a political appointee who serves as both rule-maker and court of appeals for his own rules. Those dissatisfied by a rule can appeal to the court, but this opportunity is not particularly important. Although Ghanaians regard their courts as fair, resort to litigation is uncommon and in practice has not been practiced in communications. Hence, as a practical matter, the decisions of the Minister are final, and can be influenced only by appeals to other leading political figures. As a result, in Ghana telecommunications regulation is highly politicized.

The weakness of the regulatory system has left most core regulatory issues unresolved. No rules have been promulgated regarding interconnection, and Ghana Telecommunications has been charging mobile carriers \$.25 per minute for local call termination. Westel is in a stronger position than the mobile carriers because its concession spells out default interconnection rules if, within six months, it cannot negotiate a deal with GT.

Ghana represents two extremes. On the plus side is a good underlying policy statute, privatization process, and entry policy. On the negative side is a regulatory system this is as poorly designed as one could imagine. Ghana raises the interesting question whether a duopoly in wire access, a three-firm long-distance segment, and a five-firm mobile telephone segment can operate successfully and perform well in a very low-income country with a poorly designed regulatory system.

*Malawi*<sup>xviii</sup>. Until 1995, Malawai Posts and Telecommunications (MPTC) was a state-owned enterprise that was part of the Ministry of Information, Broadcasting, Posts and Telecommunications. In 1995, MPTC was corporatized, creating a board of government-appointed officials with two-year terms but subject to removal by the Minister. MPTC was unregulated, although the Minister controlled it through controlling board membership.

Among MPTC's tasks was licensing other carriers, and, not surprisingly, no other service providers were ever found to be adequate to the task. In the year it was created, MPTC licensed the first mobile telephone carrier, Telekom Malawi, forty percent of which is owned by MPTC and 60 percent by Telekom Malaysia. MPTC avoided the risk of competition by giving Telekom all of the spectrum that had been allocated to mobile telephone service. MPTC also owned half of MalawiNet, the only Internet Service Provider (ISP). Among the upstarts denied entry were CompuServ and AOL as ISPs. MPTC also refused to allow the entry of two applicants for paging service (which MPTC did not provide), denying a license to one and granting a license but allocating no spectrum to the other.

In 1998, the government issued the *1998 Telecommunications Policy Statement*, and new legislation was passed. These events dramatically changed telecommunications policy in

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<sup>xviii</sup> This section summarizes Clarke, Gebreab and Mgombelo (2002).



Malawi. The policy statement committed the government to opening non-basic services to competition, and to retaining a monopoly but privatising basic services. In 1998 the government split the post and telecommunication divisions of MPTC, creating a new government-owned company, Malawi Telecommunications Limited (MTL), which was stripped of its regulatory functions, was then corporatized in 2000. Although MTL initially was given a five-year exclusivity period as the monopoly supplier of wire access, long distance, and international telecommunications, the government (as owner) announced in 2001 that this promise would not be kept, and MACRA's Director General stated that a second carrier would be licensed as soon as MTL was privatized.<sup>xix</sup> The plan also anticipated privatizing MTL, but this step has been delayed.

In 1998, the government decided to license a second mobile carrier, which it made feasible by taking back some of the spectrum that MPTC had given to Telekom. In December 1998, Celtel won a six-firm competitive auction for the second license. Eighty percent of Celtel is owned by Mobile Systems International, a British company, and the rest is divided between two Malawi parastatals, an investment holding company and a bank. The government also reserved one-third of the mobile telephone spectrum for a possible third entrant in the future. Celtel claims that the government agreed not to add a third carrier for five years, but the claim is controversial and is not part of its license agreement.

In 1999, the government created the Malawi Telecommunications Regulatory Authority (MACRA), which allocates the spectrum and regulates prices and entry. The agency can regulate both MTL and Telkom Malawi's cellular prices, but not the prices of Celtel. Among its powers is the authority to order dominant carriers to refrain from anticompetitive actions and to revoke or to amend unilaterally licenses of misbehaving carriers. MACRA can void interconnection agreements, and can impose its own interconnection arrangements if the parties fail to negotiate a satisfactory one.

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<sup>xix</sup>. See MTL's web site, [www.mtlonline.net](http://www.mtlonline.net), for its statement of the issues.

MACRA is designed to be a highly independent regulatory agency, being outside the Ministry and having its own source of revenues through license fees and fines as well as government appropriations. A seven-member board is in charge of the agency, the members of which serve four-year terms. The Board recommends, but the Minister appoints, the agency's Director General and Deputy Director General. The members are proposed by the Public Appointments Committee and are appointed by the President. According to the law, members can be removed only for cause (such as corruption, failure to perform duties, death, etc.); however, in May 1999, the outgoing President appointed the first board, but in August the newly elected President removed them and appointed his own replacements. Whether this establishes a precedent is unclear, because the agency was not functioning when these events took place, and did not start to operate until May 2000.

The most important controversy to date had been, predictably, over interconnection rates. The problem arises because the negotiations involve MTL, its affiliated mobile carrier Telekom, and its mobile competitor Celtel. Initially the three negotiated interconnection arrangements, but in 2000 MACRA voided the first round of negotiations on the grounds that the agreements were a form of price-fixing between the mobile carriers. In 2001, after prolonged and unsuccessful negotiations, MACRA imposed bill and keep combined with "calling party pays" – that is, in Malawi, cellular customers are not charged when they receive a call. Because the cost of the wire portion of a connection is so much lower than the cost of wireless connection, this arrangement seriously damaged Celtel, which then appealed the decision to the courts. Eventually the courts ruled in favor of Celtel. One plausible interpretation of this episode is that structural independence cannot overcome the pressure for one branch of government to advantage another.

Malawi's reform to date is modest. The market is highly concentrated, with heavy state ownership still in place. The best feature of the reform is clear legislation and a strong regulator. Thus, the question raised by Malawi's reform is whether a strong regulator can overcome a concentrated market that is dominated by a government-owned operator.

*Senegal*<sup>xx</sup>. Like most of Africa, before the reform process began domestic telecommunications services were provided by the Office of Posts and Telecommunications, while another entity, Telesenegal, provided international service. In 1985, after studying the issue, the government decided to merge domestic and international telecommunications into a new state-owned corporation, Sonatel. The new entity was given considerably more autonomy in its management, along with a renewable three-year contract to be the monopoly telecommunications provider in the nation. A policy statement that accompanied the action committed the government and the company to improve service quality and extent service to more of the country.

In the 1990s, the government began to consider privatizing Sonatel and reforming its telecommunications policies, and this process culminated in the passage of a new telecommunications legislation in February 1995 (the date that opposition leader Wade joined the government). The act permitted competition in value-added services and mobile telephony, but allowed the monopoly to continue for Sonatel in other facilities-based services. Parliament passed a separate bill that allowed Sonatel to be privatized, and a committee of cabinet ministries was formed to orchestrate the process. In 1996, Sonatel finally was partially sold to France Telecom, which was granted an exclusive monopoly in Sonatel's services until 2005. Ultimately, France Telecom acquired 42.5 percent of the company, the government retained 34 percent, the employees were sold ten percent at a 45 percent discount (partly financed by a government loan at zero interest), and the rest was to be sold to small domestic investors. While France Telecom was the operator, it did not control the board. The board consists of four members appointed by France Telecom, four by the government, and one by the company's labor union.

Just before Sonatel was privatized, it created a cellular affiliate, Alizee. During the privatisation process, the government decided to award a second license, and eventually sold it to Sentel, which is owned by Millicom (U.S.). This license was sold two years before

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<sup>xx</sup>. This section is based on Azam, Dia and N'Guessan (2000).

interconnection policies and rules were adopted. In addition, three paging services were licensed, and ISP service is open to free entry.

Since privatization planning began, Senegal discussed creating an independent regulatory agency; however, the agency – on paper, named Telecoms Regulatory Authority (ART) – has never been created. The Ministry of Commerce has functioned as the regulator. The proposed structure for ART would involve a three-member commission, composed of a technical expert and judges, with the former selected from among Sonatel employees. Members would serve three-year or six-year terms, and could not be dismissed. The budget of the agency would come from fees and fines. Thus, except for the provision regarding Sonatel employees, ART has the trapping of independence.

Meanwhile, the Ministry has been regulating. Price cap regulation was adopted for Sonatel. The biggest regulatory controversy arose when the Minister announced in October 2000 that the Sentel license would be cancelled. Apparently, the threat was empty, for the license has never been pulled, and meanwhile Sentel has continued to invest and to grow.

Senegal, like Malawi, represents minimalist reform, although at least the incumbent carrier has been partially privatized. But the regulatory system is still not in place, long after privatization. Competition has not been pursued vigorously, with a monopoly in basic services and a duopoly in mobile telephones.

*Tanzania*<sup>xxi</sup>. Until 1977, Tanzanian telecommunications services were provided by the East African Telecommunication Corporation, which provided service in Kenya, Tanzania and Uganda. In 1977, this enterprise was dissolved and each nation formed its own state-owned company. Tanzania created the Tanzania Post and Telecommunications Corporation (TPTC), and was the monopoly provider of all services until 1994. TPTC was not really a corporation because the cabinet controlled prices and investment and the Ministry of Finance controlled the budget. For other activities, TPTC was self-regulated. Among the responsibilities of TPTC was licensing other carriers, which were not prohibited but did not emerge.

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<sup>xxi</sup>. This section is based upon Haggarty, Semboja, Gebreab, Mgombelo and Kazungu.

Beginning in 1991, the government began a long process of consultation and study to develop a new plan for telecommunications. One aim of the government was to make planning the liberalization a transparent process, and to decide upon the details of policy first. In 1993, the process ended when Tanzania and the World Bank agreed to the Telecommunications Recovery Program, which envisioned a leisurely pace of reform that would eventually lead to privatisation. The stages were: (1) separate posts and telecommunications; (2) corporatize telecommunications; (3) create a separate regulator; (4) allow entry into non-basic services and place growing emphasis on competition; and (5) privatise basic services. Soon after the program was adopted, legislation was passed to allow the program to proceed and to establish the Tanzania Communications Commission (TCC) to regulate the industry. In January 1994, Tanzania Telecommunications Company, Limited (TTCL) was created from the telecommunications operations of TPTC. TTCL was given a monopoly on basic services (fixed access, long distance and international) until 2004.

The TTCL monopoly was partially terminated in August 1999, when a second basic services carrier, Zantel, began to operate on the island of Zanzibar. Zantel is partly owned by the local government on the island of Zanzibar and some private investors, and has the right to provide basic service on Zanzibar (including to provide an international gateway) and to provide mobile service throughout the country. Thus far, it has provided mobile service only on Zanzibar.

The government announced that it would accept bids for TTCL in 1999, and in June 2000, 35 percent was sold to a consortium of Detecon (an affiliate of Deutsche Telecom) and MSI (a Netherlands communications company). The employees of the company were given five percent of the company. The government planned to sell 24 percent to international and domestic financial institutions, reserving 36 percent for itself as purely a “golden share” (non-participating) investor; however, as of 2002, no further transactions have taken place.

Meanwhile, before corporatization, TPTC licensed Mobiltel to provide radio telephone service. Mobiltel not really a competitor: TTCL owned 25 percent, with the rest owned by Millicom (51 percent), Ultimate (14 percent), and the International Finance Corporation (ten percent). Mobiltel initiated service in 1994. After TCC became operational, it licensed a second mobile carrier, Tritel, which began service in 1995. Eventually, Zantel entered in 1999, and Vodacom began offering service in 2000. TTCL eventually launched its own mobile carrier as a joint venture with its partial owner, MSI, in 2001.

TCC began operation in 1994, long before TTCL was privatised and before cellular entrants had commenced operations. TCC has the structural appearance of independence in that the law states that the agency will be led by a commission consisting of a chair and four to six members serving three-year terms. The President appoints the chair and the Minister of Communications and Transport appoints the rest. In addition, TCC's day-to-day operations are managed by a Director General who is appointed by the President (not the Commission). Commissioners and the Director General can be removed for "cause" but the law does not specify what "cause" means. The Minister has the authority to issue directives to TCC on licenses, prices, competition, and other matters, although these must be published.

In practice, the TCC has proved to be too weak to be independent. Until 1997, no commissioners were appointed and the Minister served as the regulator. In 1998, soon after some commissioners were appointed, they were dismissed by the Minister after a dispute about which company was given a new mobile telephone license. The Minister remains the regulator. TCC is further weakened by the fact that it has almost no staff, no procedure for dealing with complaints or petitions from anyone other than the firms it regulates, and no capacity or procedure for gathering data.

Perhaps the most important event in the history of TCC was a failure. In 1996, TCC tried to shut down Mobiltel's radio telephone operations. The purpose of this action was to reclaim Mobiltel's spectrum so that it could be re-issued as regional licenses. Mobiltel appealed the decision, and won an injunction against TCC. Soon thereafter the Director General of TCC (recall that there were no Commissioners) was fired by the President. The significance of this

case is that it provides evidence that judicial review prevents unilateral cancellation of licenses by a politicized regulator. In 2001, TCC and Mobitel reached agreement on a new 15-year license. The announcement of the deal reports that TCC and Mobitel are still negotiating a program to return some spectrum to be reissued to other carriers.<sup>xxii</sup>

TCC has not been active in dealing with price issues, and has only recently begun to deal with interconnection. As a result, interconnection prices are high in all directions, including the price paid by TTCL to terminate calls on mobile telephones (25 cents). TTCL recently announced that it was reducing interconnection tariffs for two mobile carriers, Celtel and Zantel. Immediately Mobitel filed a complaint with the TCC, which promises to lower interconnection rates in 2002.<sup>xxiii</sup>

To summarize, Tanzania has established a highly competitive mobile telecommunications sector, and facilities-based basic service competition on the island of Zanzibar. The incumbent has been partially privatised. The underlying process, leading to comprehensive legislation, was well thought out and transparent. The biggest problem seems to be the regulatory process, which is weak and politicized.

*Uganda*<sup>xxiv</sup>. Like Tanzania, Uganda was part of the East African Telecommunication Company until 1977. Uganda folded telecommunications into the postal service, and then in 1983 passed legislation that created the Uganda Posts and Telecommunications Corporation (UPTC) as a largely self-regulating monopoly carrier. The Minister of Works, Transport and Communications was required to approve changes in tariffs, but no formal process was in place for reviewing these proposals, and the effect of this process was primarily that it imposed lengthy delays. Legally, the Minister could license other carriers, but no licenses ever were issued.

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<sup>xxii</sup>. [www.tcc.go.tz/press\\_release0608.htm](http://www.tcc.go.tz/press_release0608.htm), June 8, 2001.

<sup>xxiii</sup>. "Friction Starts as Competition Bites Telecommunications Sector," *allAfrica.com*, March 6, 2002 ([www.allafrica.com/stories/200203060633.html](http://www.allafrica.com/stories/200203060633.html)).

<sup>xxiv</sup>. This section is based on Shirley and Tusubira (2001).

Discussion about reforming telecommunications began in 1992, and led to the appointment of a Commission of Inquiry on Investment in Telecommunications. After the Commission finished its report in 1993, the government issued a 1994 white paper that proposed dividing telecommunications and posts, corporatize both, and privatise 51 percent of the former. The division took place later that year with the formation of the Uganda Telecommunications Company (UTC). Also in 1994 the government licensed the nation's first cellular operators, Celtel and StarCom, private companies that were allowed to launch service before UPTC was in the market. Both began service in 1995. In 1994, two paging services also were licensed, and both came on-line by the end of the year.

Further planning led to legislative proposals to reform the sector, leading to the passage of the Uganda Communications Act in 1996. The Act established the policy of reducing government's role in the sector, privatizing carriers, and promoting competition. The Act created the Uganda Communications Commission (UCC) as the regulator. The Act restricts licensing and entry control to public facilities-based networks in basic and mobile service. In value-added services, entry is open.

The Act instructed the government to sell two licenses for basic telecommunications services simultaneously, one that would privatize the incumbent UTC and the other for a second network operator. Because problems emerged in attracting bidders for UTC, the "second" license was awarded more than two years earlier than the incumbent was privatized.

To prepare for privatization, UTC was corporatized in February 1998 as Uganda Telecommunications Limited (UTL), and bids were solicited for both licenses. The process for the second license concluded quickly, with the winner being a consortium led by MTN of South Africa and including Telia (Sweden), Invesco (Uganda) and Tristar (Rwanda). The sale of UTL quickly hit snags as only one firm was found to be qualified, and in April 1998 Parliament suspended the process on the ground that they bids and requirements were inadequate. Fresh bids were sought in October 1998, but this process collapsed when all of the initial proposals were deemed to be inadequate. In May 1999 a third round of bidding was opened, and this time multiple players made attractive proposals. In June 2000, the government sold 51 percent of



UTL to a consortium of Detecon (a division of Deutsche Telecom) and Telecel (Swiss). UCC also granted Telecel a mobile license, and in 2001 Telecel's mobile service was launched as an affiliate of UTL.

Uganda, partly by plan and partly by fortune, therefore backed into what many believe is the optimal strategy for restructuring the sector. The last act was to privatize the incumbent and let it offer mobile services, six years after other mobile carriers were established and two years after a competitive basic service provider was in operation.

Uganda went beyond conventional wisdom in the way it set up the regulatory authority for both post and telecommunications. UCC is structurally even more independent than an American-style regulatory commission. Seven commissions sit at the top of the agency. All are appointed by the Minister, but three must be nominated by professional organizations: The Institute of Professional Engineers, the Uganda Law Society, and the Broadcasting Council. One of the commissioners is the Executive Director, a full-time position, while the other six are part time. The Minister has the authority to issue "major" license (that is, new facilities-based carriers), after consultation with the UCC. The law also allows the Minister to issue "guidelines" (not "directives" as in some other African nations) to the UCC about policy issues.

The UCC is also financially independent. The UCC generates its own funds for operations from license fees and fines, and thus far this revenue has been sufficient to finance the agency and thereby give it complete budgetary independence. The UCC also can tax up to 2.5% of gross revenues of all telecommunications firms to finance universal service activities. At present, the tax is one percent. Among the powers granted to the agency are the authority to compel information and to fine carriers that do not comply with its regulations.

But we are not done. Sitting above the UCC is the Uganda Communications Tribunal (UCT), a three-member body that is the first Court of Appeal from decisions by the UCC on both telecommunications and postal matters. (The UCT also can be appealed to the courts.) Members of the UCC are appointed by the President, but are selected from nominations by the Judicial

Service Commission. At least one member must be a judge. And, the UTC is empowered to hire four technical experts to assist in evaluating its cases.

As a practical matter, the UCT has never been appointed because no decision of the UCC has yet been appealed. Because such an organization is expensive and infrequently used, the government has interpreted the Act to enable it to appoint an *ad hoc* tribunal when and if the need arises. In any case, the most ardent advocate of independence would probably have some misgivings about the necessity for this extra layer of review.

On interconnection issues, Uganda has had basically the same controversies as other nations. Rates are negotiated by carriers, with supervision by UCC, which in September 2001 issued regulations pertaining to interconnection that run over 30 pages. The stated purpose of the regulations is to promote competition and interconnectivity; however, they “give priority to commercial negotiations and industry co-operation,” which is suspiciously cartel-like.<sup>xxv</sup> But the regulations go on to require that every carrier is obliged to interconnect with every other, to provide interconnection if it is requested at any technically feasible location, and to set cost-based, non-discriminatory interconnection charges. If parties do not conclude negotiations in 90 days, one can bring in the UCC to resolve the dispute. Prices are subject to review on a retroactive basis for conformance with the cost principle.

Whereas the preceding policy is as clear and pro-competitive as any found elsewhere in the world, the implementation has not been smooth. In 2002 UTL was sued by Celtel and MTN for non-payment of interconnection fees. The basis of the dispute is a disagreement over the meaning and propriety of prior interconnection agreements, as well as the claim that UTL is being discriminatory. This dispute probably is the test of whether UCC will be an effective regulator.

Notwithstanding the controversy over interconnection, the Ugandan policy seems impeccably designed. The industry has several strong players, with duopoly in basic services and three firms in mobile service. The regulator apparently is strong, independent, and competent.

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<sup>xxv</sup>. *Telecommunications Interconnection Regulations, 2001*, Uganda Communications Commission (available on [www.ucc.go.ug](http://www.ucc.go.ug)).

Moreover, Uganda let the competitors establish themselves before the incumbent former monopolist was privatized. If regulatory institutions and procedures matter, Uganda should be advantaged.*Performance*

The countries in the sample have all improved the performance of the telecommunications sector during the reform period. Especially impressive is the performance of wireless communications.

**BOTTOM LINE: MALAWI HAS DONE PORRLY, TANZANIA AND COTE D'IVOIRE SOMEWHAT BETTER, SENEGAL BETTER THAN THAT, AND GHANA AND UGANDA THE BEST: THEORY WORKS EXCEPT THAT THE BACKGROUND POLITICS HAS NOT STOPPED TO BASKET CASE COUNTRIES WITH HORRIBLE HISTORIES FROM DOING WELL.**

## **FOOTNOTES**

\* Noll is Morris M. Doyle Professor of Public Policy, Department of Economics, and Senior Fellow, Stanford Institute for Economic Policy Research and Center for Research on Economic Growth and Development, all Stanford University. Shirley is President, Ronald Coase Institute. This project is based on case studies of six countries that was supported by the World Bank and undertaken by a team of researchers, including Jean-Paul Azam, George R. G. Clarke, Magueye Dia, Frew Gebreab, Luke Haggarty, K. M. N. Kazunga, Jean-Jacque Laffont, Henry Mgombelo, Tchetché N'Guessan, Hadji Semboja, F. F. Tusubira, and Scott Wallsten, all of whose contributions to the project are listed in the references.