

SECTION A

The Purpose and Experience of Regulation

Telecom regulation may be new to many countries, but there has been considerable experience with it over the last century in others. Moreover telecom traditionally has been part of a larger class of industries, public utilities, with similar technological, economic and public service characteristics. These industries have been regulated under similar laws, traditions and regulatory principles and practices. This Section examines the broader issues that are shaping the framework of telecom regulation that is now being established, or reformed.

William Melody draws on the experience and traditions of telecom and public utility regulation to identify the primary policy objectives and models of regulation. The policy objectives have not really changed, but there are lessons to be learned from the different models of regulation. Harry Trebing assesses the emerging patterns of industry development and market structures in telecom and the other public utilities industries and considers options for the reform of traditional regulation. He finds that the scope and limitations of real world competition, in contrast to the theoretical ideal, require a continuing strong role for regulation.

Pekka Tarjanne considers the implications of rapidly expanding international telecom markets for national policy and regulation. International telecom is rapidly growing beyond the traditional controls of national governments and PTOs. This raises important issues for the future governance of international telecom as it becomes more significant in the global economy. As he does not see global regulation as a realistic or effective solution, this puts pressure on policy and regulation at the national level to address this important development.

Chapter 2

Policy Objectives and Models of Regulation

William H. Melody

1.0 Introduction

Governments regulate industries in a variety of ways in an attempt to achieve a number of different objectives. A few industries have been selected for special treatment because of their unique importance to society. Some countries have called these industries “business affected with a public interest.” Telecom always has been considered an industry of special interest, at least to national governments, if not to the public interest as well. The history of governments’ relations with telecom (i.e., telegraph and telephone) industry development in different countries shows they have followed a diversity of paths leading up to the establishment, in most countries, of national PTTs. In some countries, telegraph and telephone were viewed initially as especially important to security and defence. In others it was a natural extension of the government’s social service traditions. In still others, it seemed most appropriate to append telecom to the established postal system, or simply to copy what neighbouring countries already had done. But these were all countries in which the governments made a policy choice as to how telegraph and telephone should be treated when these new services were introduced. Most governments viewed the new telecom service possibilities primarily as government social services, not services to be supplied by private businesses in normal markets.

This was not the case in the US, where the telegraph and telephone were invented, in 1844 and 1876 respectively. Patents were obtained and capital was attracted to build businesses, although in the early days they were seen primarily as providing services for business and government use, not for the general public. Yet they were recognised as special businesses affected with a public interest fairly early in their development and subjected to government regulation, particularly during the early years of the 20th century. Because of its immediate proximity to the US, Canada was pulled toward the business model of development in its most populated areas and the social model in its more rural areas where private capital was less interested. At the turn of the century, the Canadian government almost opted for public ownership and in several provinces the government developed the telephone system.

Telecom is now being recognised as an important industry for the future in most countries, but one which will require significant private sector investment if their development goals are to be met. Yet it remains a special business affected with a public interest. Indeed most observers consider it will be more important to the public interest

than it has been in the past and will require government regulation. If this regulation is to be effective, it must identify clear objectives and develop a model of regulation that serves these objectives. This chapter examines some historic reference points and recent developments that will guide the specification of objectives and models of telecom regulation.

2.0 Heritage of the Public Utility Principle

Public utilities in many countries have been recognised as a special category of “business affected with a public interest” for well over a century. The term describes certain industries that have been classified apart from industry in general and, at the same time, distinguished from government services. “Public utility status is a sort of halfway house between”¹ strictly governmental functions on the one hand and private functions on the other with the recognition that there are twilight zones between. The most common industries classified as public utilities include telephone, electricity, gas, and water services, although public transport services are also sometimes included.

The special public utility classification is based primarily on economic and technological characteristics, although the precise meaning in any country must be derived from the law. Where the demand for a good or service is considered a common necessity for the public at large, and the supply conditions are such that the public may not be provided with reasonable service at reasonable prices, the government may regulate to ensure that they are. The status of being required to deal reasonably with the public generally is referred to as “public utility status” and industries so classified have been called public utilities. The most common example of a public utility is a monopoly supplier of a public necessity. Although the supply conditions need not necessarily be a monopoly, historically it has been the abuses of monopoly power that have prompted governments to regulate.

Government regulation of private industry can be traced to earliest times. Most attempts at regulation reflect the ancient ideal of social justice applied to economic life as reflected, for example, in the doctrine of “justum pretium” or “just price” as propounded by St. Thomas Aquinas in the Middle Ages. The common law of England and other countries recognised “common callings” as acquiring special responsibilities if suppliers held themselves open to serve the public. In his treatises, *De Portibus Maris* and *De Jure Maris*, circa 1670, Lord Matthew Hale described the law of business “affected with a public interest”. He pointed out that when facilities such as ferryboats, wharves, cranes, common carriers, and inns held themselves out to serve the public, whether or not it be by a charter grant from the government, they became affected with a public interest and ceased to be “juris privati” only. In the *Wealth of Nations*, Adam Smith recognised that many of the “common callings” constituted a class of business apart and his laissez-faire proposals could not be expected to protect the public interest.

In the US, during the 19th century, a number of states regulated privately operated canals, bridges, turnpikes and later, railroads. The right of governments to regulate was tested in the Supreme Court in the famous case of *Munn v. Illinois*, 1877. Munn was one of nine owners of fourteen grain elevators in Chicago. He did not have or need a franchise or charter from the state in order to operate. Midwestern farmers transporting their grain to Chicago for shipment to more distant markets had to use the elevators in Chicago. By agreement the elevator owners set very high prices. The state government

intervened and established lower maximum prices by statute. Munn challenged the state's right to regulate. In its decision the Court noted that Munn stood in the very gateway of commerce and took a toll from all who passed. It referred to English common law, quoted Lord Hale and established what has come to be recognised as the public utility principle,

When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created.²

The Court noted that the right to regulate "may not be made so by the Constitution of Illinois or this statute, but it is by the facts."³

The public utility principle has provided the foundation for comprehensive regulation of monopoly and quasi-monopoly telephone, electricity, gas, water and other public utilities in the US and other countries. As the telecom industry world-wide is being liberalised during the 1990s, the nature and scope of regulation that is established will need to be designed to fit the characteristics of the industry. How this regulation develops and is applied must be determined by the facts, the actual market circumstances.

3.0 Policy Objectives

In one sense, the most fundamental objective of regulation under the public utility principle is straightforward: to ensure that everyone has access to reasonable service at reasonable prices. However, implementing this objective has never been easy. After nearly a century of telecom development, in only a relatively few countries has the public utility principle been implemented effectively.

Given the experience of telecom development, the basic objective of regulation can be broken down into two components, one economic and one social. From an economic perspective the services should satisfy the full range of consumer demand and be supplied under conditions of optimal efficiency. From a social perspective, the service should be made available to everyone on reasonable terms, whether or not it is profitable to do so. The telecom network should be extended not just to the limit of economic efficiency, but to the limit of social need.

The telecom reforms now underway are being driven by a renewed emphasis on both the economic and social objectives. Attempts to achieve economic efficiency are requiring a liberalisation of entry into telecom markets and the stimulation of competitive market forces. At the same time, the modernised telecom networks and services are being established to extend the network to people who were previously unserved and to provide a foundation for participation in future information societies where government policies are committed to including everyone. Access to the telecom network is becoming more important for everyone in order to participate in the economy and society. Thus, the social policy consideration must include a specification of the minimum level of service necessary for people to be able to participate in the future information society.

The Canadian regulator, CRTC, reviewed its objectives in 1992, concluding,

...any changes to be made to the current framework in order to enhance the efficiency and effectiveness of regulation must at the same time be conducive to the attainment of the following objectives:

- (1) universal accessibility to basic telephone service at affordable prices;
- (2) opportunity for telephone company shareholders to earn a reasonable return on their investment;
- (3) equitable treatment of subscribers in terms of service and price;
- (4) assurance that telephone companies do not unfairly take advantage of their monopoly dealings with competitors; and
- (5) encouragement of the development and widespread availability of new technology and innovative services to respond to the needs of business and residence customers.

However, the most difficult challenge is not specifying the policy and regulatory objectives in the new environment, but rather implementing them effectively. These objectives are not static objectives to be achieved once, but objectives that must be maintained in a very dynamic environment. The structure of government/industry relations may be the most important factor influencing future success, and that will depend significantly on the effectiveness of the model of regulation that is adopted.

4.0 Models of Regulation

4.1 The Inherited Models

Historically the most commonly applied model for providing public utility services was by a government protected monopoly, as an instrument of government policy. It was generally believed that a monopoly could achieve maximum economic efficiency by exploiting economies of scale and avoiding duplication of facilities in what was a “natural monopoly” industry. In addition, a monopoly supplier provides a single focal point for effective implementation of government policy objectives. In most countries the seemingly obvious way to implement this model was through government ownership (e.g., PTT). In others, particularly the US, government regulation of private monopolies was seen as a means of both avoiding the need for government to provide the substantial amount of investment capital needed to supply the service, and of limiting the growth of government bureaucracy.

Although the PTT monopoly model worked quite well in a few countries – principally the Nordic countries, Australia and the rural provinces of Canada – in most countries it did not work well at all, for a variety of reasons. Most PTTs never came remotely close to providing a universal service. Their levels of economic efficiency and their responsiveness to customer needs was poor by almost any standard and many got worse over time, not better. They did not keep up with technological change and some turned into runaway bureaucracies. An idealistic theory of public service failed dramatically in practice.

The US experienced a period of extremely vigorous competition for nearly a quarter century following the expiration of the Bell patents in 1893. It was ended only when the AT&T chairman of the time, Theodore Vail, convinced state governments that a regulated monopoly with a universal service obligation was a better model to adopt. Most states established quasi-independent public utility commissions to regulate telephone,

electricity, gas, water and sometimes railways. Under this model, profitable areas in the US were fully developed, but most rural areas were not. Universal service was developed later by more than 20,000 small “independent” companies, co-operatives and municipal operators which established service in the areas that AT&T and the Bell System companies did not cover, often with the assistance of low cost government loans. Federal regulation was established later to regulate interstate communication.

Under this system of government regulation of private monopoly, AT&T was able to attract all the capital it needed for growth and modernisation, and was the primary source of new technologies in the field through the Bell Labs. However, as the industry continued to expand, it too fell behind in terms of certain lines of technology, operational efficiency and responsiveness to new customer demands, and resorted increasingly to preventing others from filling the gaps. In an industry with diversifying technologies and consumer demands, it was becoming more and more difficult for AT&T to be all things to all people. The US model of government regulation of a private monopoly seems to have worked reasonably well in achieving the economic objectives of industry development for a period. However, the US was not successful in achieving its social objective of universal service through regulated private monopoly. Unlike most PTT countries, the US permitted and supported other suppliers so as to achieve a near universal service. Yet this model too has been superseded by rapid and continuing changes in technology, an expanding diversity of demands by subscribers, and the increasingly central role of telecom in both the national and global economies.

It is now evident that neither public nor regulated private monopoly PTOs can fulfil the requirements of the telecom sector today and for the future. Liberalisation and competition have been seen by some people as a substitute for regulated monopoly, if not for regulation in its entirety in enforcing efficiency, and reasonable prices in a dynamic marketplace. However, the telecom industry is not now starting *de novo*. The beginning condition for the telecom reform process is a well-entrenched monopoly industry structure in almost all countries. Under a program of market liberalisation, competition becomes a tool of regulation that can help achieve the fundamental policy objectives for the sector, both economic and social. Nevertheless the industry will be characterised by dominant monopolies in most countries for the foreseeable future. In a new model of regulation, an important question is, how can competition best be incorporated into the model?

4.2 *The Role of Competition in the New Model of Regulation*

One of the principal failures of past policy and regulation in telecom can be summarised in the term “regulatory capture”. The regulator or operators lost (or never had) the independence to make professional decisions on their merits because of undue influence either from politicians or the regulated monopolies. For most PTTs, the management was subject to continuous political interference for a variety of reasons that prevented it from operating efficiently or achieving its objectives. The successes in the Nordic countries can be explained largely by the fact that the politicians let the PTT managers get on with the job, and even supported them in achieving their public service objectives.

In the US and Canada it has been more a case of the private monopoly telecom overwhelming the regulators and frequently preventing them from applying effective standards of consumer protection or economic efficiency. The FCC admitted its inability

to regulate AT&T at the time of the AT&T divestiture. Many former regulators in the US and Canada have spoken of the inability of regulatory agencies to resist the power of the regulated monopolies. A significant theme in the regulatory literature in North America addresses the implications of regulatory capture.

If liberalisation and competition policies are introduced in an environment of inherited monopoly and weak regulation, competitive market forces are likely to play an extremely modest role. The experience with competition in regulated industries generally shows a strong tendency for both politicians and regulators to prefer selecting and managing competitors than promoting an open competitive marketplace, thereby creating a comfortably closed market for the chosen “competitors”, not the open one intended by competition policies. This tends to lead to duopoly/oligopoly behaviour and the establishment of very high artificial barriers to entry for any new players.

Recognising the dynamic nature of telecom technology and service opportunities, it is probably more important that the barriers to entry be minimised and the door to competition be opened as wide as possible, than that the telecom industry be restructured from a collection of monopolies into duopolies or even oligopolies. Figure 1 illustrates why. The major driving forces for change in telecom have not come from the PTOs. They have come from the industries supplying them with equipment – primarily telecom equipment manufacturers, computer hardware and software producers and consumer electronics suppliers – pushing advances in the technologies of supply. And they have come from innovations in using the network being pulled primarily by the Internet and value added network service (VAS) suppliers. To be sure, the PTOs have innovated, have ambitious plans, and are engaged in a well-publicised search for a “killer application” that will be so publicly pervasive as to justify their massive investments in the information infrastructure. But for the primary drivers of technology and service innovation, the PTOs stand at the gateway of commerce and often represent a bottleneck that can slow down or even stop improvements especially in new network service development. The PTOs have a very powerful incentive to use their monopoly power at the gateway of the telecom value chain to capture as much as possible of the efficiency and value-added benefits being created in the supply and service sectors.

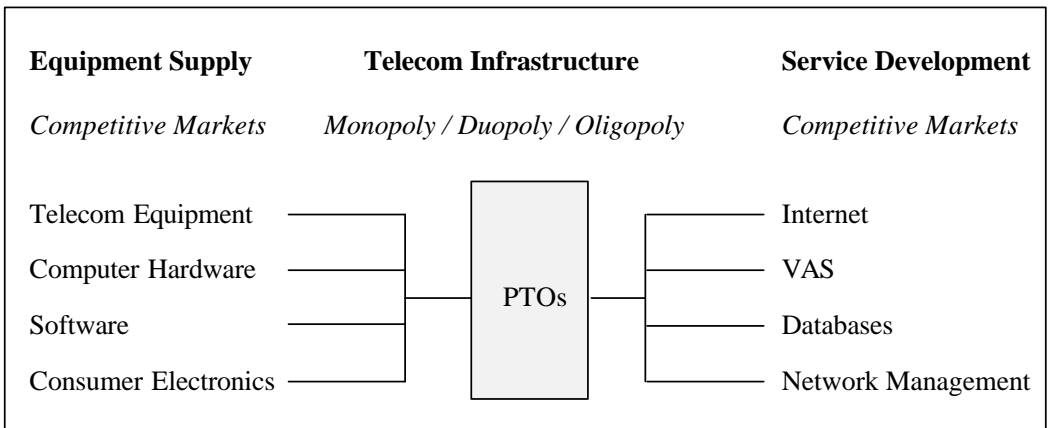


Figure 1 – The Telecom Sector Value Chain

If policymakers and regulators adopt a neutral, hands-off or laissez-faire position on the issue of competition, most telecom customers run a risk of being served in a marketplace with a competition policy but no real competitive options. If competition is going to be an effective tool of regulation that is used to help achieve both economic and social objectives, regulators will need to be proactive in ensuring that the entry doors to telecom markets remain open and competitive opportunities are maximised. In the new model of regulation, regulators will need to monitor the extent and significance of competition in telecom markets, and take positive steps to reduce barriers to entry wherever possible. The task must be not to create the artificial differentiation of oligopoly markets or to protect competitors, but rather to ensure that competitive opportunities are maximised and anti-competitive behaviour is prevented.

This reflects a dynamic rather than a static view of competition. New technologies and new demands open up new market opportunities. Dominant firms already in the market seek to position themselves to take advantage of the new opportunities, while preserving their market strength in their established services. They take steps to maximise their own opportunities, which may enhance competition, and to minimise the opportunities available to competitors, reducing competition. Thus, for example, it was not surprising that following the new 1996 US telecom legislation liberalising all telecom markets, the first mergers involved the regional Bell holding companies (RBHCs) in defensive moves to strengthen their monopoly positions in local telecom markets.

Moreover, even in dynamic competitive markets, the successful competitor often ends up with substantial monopoly power. The successful competitor wins the market. It is a natural development in many markets for dominant firms to create barriers to entry for other competitors and for open markets to begin to close. If real competition is to be developed in the telecom sector and to be maintained over time, telecom regulators will have to take the necessary steps to keep the market entry door open. If this approach to competition characterises the new model of telecom regulation, then competition may indeed be a major tool for achieving both the economic and social objectives of regulation. Competition will be effective because regulation prepares the ground for it and fosters it.

4.3 Developing Countries

It is perhaps a misnomer to consider telecom reform in developing countries as a process solely of reform. Whereas the PTOs of many developed countries may be providing poor service in comparison to international best practice, they already have developed national telecom systems. Reform is an appropriate description and the reform process is seen as a potentially beneficial activity for all participants. Most developing countries have telephone penetration rates well below ten percent of households (see Appendix 1). Their task surely involves reform, but the major objective is to build a national telecom system from the beginnings of the system that the PTOs now provide. The primary objective is system development and the reforms are directed particularly to achieving it. The key problem for developing countries is attracting hard currency capital, skills and technology on terms that are sustainable for the long-term, while retaining control over policy direction.

The task of establishing effective regulation is especially important, because that will be a key factor influencing the judgements of potential suppliers of hard currency

capital, skills and technology. Long-term commitments from developed country players are needed to see the telecom network development programs through to completion while building indigenous capability. This may require short-term exclusive licences in infrastructure development in some cases, but will still permit competition among development programs in different regions and across technologies (landline vs. radio), with a focus on directing competitive forces primarily to the extension and expansion of the national telecom systems.

5.0 Designing an Optimal Institutional Structure

It is apparent there are three distinct, but related sets of activities that are fundamental to telecom reform –policymaking, supplying services and regulation. The fundamental conditions required for the establishment of an institutional structure that clearly defines separate and distinct roles for policymaking, regulation and operator management are the following:

- *Policy Development* is directed to fundamental issues of long-term societal objectives and direction, rather than day-to-day implementation and problem-solving. It ensures attention to long run implications of developments and issues arising from them. To ensure policymakers are informed and capable of addressing the need for policy change when it is required, it is important to establish a specialised professional policy analysis unit in the appropriate ministry. The policy unit is an independent, expert information and analysis group for government policymakers. It also reduces the need and dampens the incentive for policymakers to intervene in the detailed affairs of operators or the regulator except on matters of compelling policy significance.
- *Operations Management* – to separate operations management of the PTO from the government so neither politicians nor government bureaucrats can interfere in day-to-day operational decisions. The management must be accountable to a Board that is insulated from day-to-day government interference. The Board may have political appointees, but for terms of significant duration and with mandates to act independently in achieving specified economic (e.g. efficiency) and social (e.g. universal service) objectives. Ways of achieving these objectives include corporatising or privatising the PTO and/or permitting diversified supply by allowing entry of additional players to create a more competitive market.
- *Regulation* – to establish a regulatory agency that is independent both from the PTO and from day-to-day government influence. The regulator’s task is to implement government policy, ensure performance accountability by the PTO and other players to economic and social policy objectives, resolve disputes between competitors and between consumers and operators, monitor changing industry conditions, and advise government on developments bearing on policy. The regulatory agency acts as a buffer between telecom operators and government, helping to ensure the separation of functions. Whereas the PTO and other operators, once separated from direct government influence, may focus too narrowly on economic objectives, the regulatory agency can ensure recognition of social and other policy objectives as well. Although regulation has been used primarily with

privately owned operators, it has been found increasingly beneficial with publicly owned operators as well in implementing the same policy objectives.

Figure 2 illustrates the essential relations among policymaking, regulation and operations management. The PTO is separated from government by an independent board of directors, and an independent regulator. The PTO is accountable to its board, the regulator and the marketplace to satisfy specified economic and social objectives.

The effectiveness by which this fundamental separation of basic functions is achieved will have a significant impact upon the growth of the sector. The more effective the separation, the better will be the climate to attract financing and undertake investment. If each function can be performed well, each will provide clarity and stability in an institutional framework conducive to rapid growth and effective achievement of economic and social objectives. This requires both that independence of the different activities be established and that it be understood by all the directly affected parties and the public.

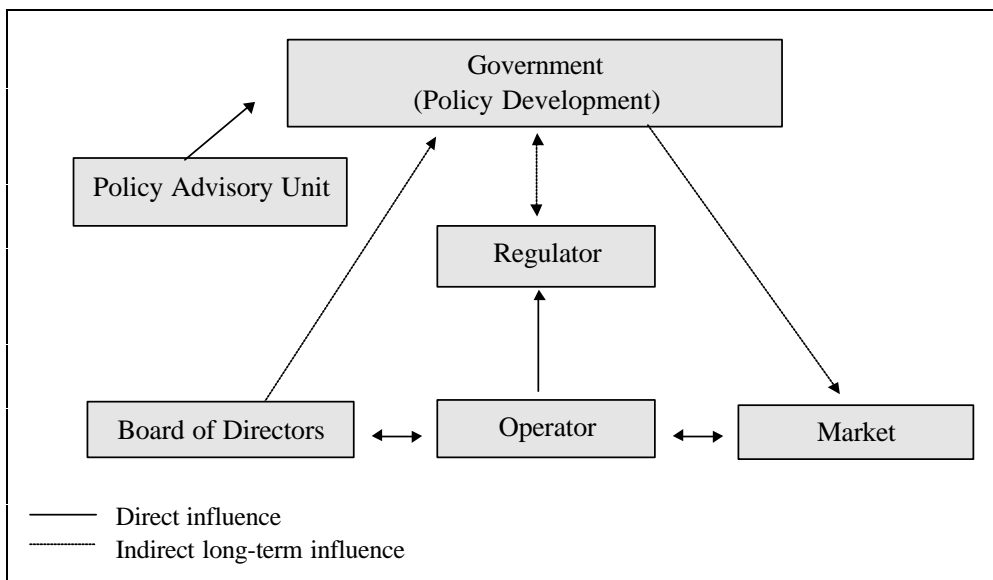


Figure 2 – The Decentralised Structure of Telecom Reform

6.0 The Meaning of “Independent” Regulation

The term “independence”, as used in the context of telecom reform is often misunderstood. It does not imply independence from government policy, or the power to make policy, but rather independence to implement policy without undue interference from politicians or industry lobbyists. It implies independence to acquire specialised skills, to manage without interference and to be accountable for results according to specified performance criteria. In principle, it is no different than a delegation of specific responsibilities, authority and accountability for the performance of specific activities, as

takes place in any large organisation. Experience has shown that PTOs cannot provide efficient and responsive services in a dynamic industry environment if they are simply administered by government bureaucrats subject to day-to-day interference from politicians. The administrative activities must be replaced by professional management activities, where the managers are given the freedom to manage and then judged by results.

The more dynamic the industry and market environment, the greater the independence that is required. Moreover, to be fully effective, this independence must be transparent. The PTO must be publicly seen to be independent from government. This is one reason why many countries have chosen to privatise their PTOs. Privatised operators are often able to raise more investment funds from the capital markets, and the independent suppliers of capital will provide pressure on the PTO management to operate efficiently and profitably, and resist interference from bureaucrats and politicians. It helps to reinforce both the independence to manage and the accountability of management for efficiency.

PTO management independence from government is normally ensured by two specific structural reforms relating to government influence on the PTO board of directors and to the government's accountability standards applied to the PTO. In each case, an arm's length relation is established so it is clear that the government sets the policies and the accountability standards, but it cannot interfere in the management of the PTO or the application of the detailed accountability standards. In practice this means the telecom legislation should specify clear policies and specific performance objectives for the PTO and the industry, at whatever level of generality the government considers appropriate. Independence is promoted if government appointments to the PTO board are selected on established professional criteria requiring specialised expertise and for specified, staggered terms. Independence usually requires that the government appoints fewer than half the directors. Often one government appointee is sufficient, and if a strong telecom regulator is established, none may be necessary. The management and board of a PTO are likely to be more responsive to policy and performance objectives relating to PTO efficiency and profitability than to industry structure policies such as competitive network access or broader public policies such as universal service. Increased PTO independence is not intended to diminish accountability for performance with respect to the full range of government telecom policies and industry performance objectives.

The implementation of government telecom policies and the application of accountability standards to the PTO and other industry players rests primarily with the telecom regulator. An independent regulator is needed precisely for the same reasons as an independent operator. Routine administrative activities must be replaced by professional management that can adapt its methods of operation to the dynamic environment in which it must function. It requires the same kinds of specialised expertise as the PTO and other industry players, if it is to be able to monitor industry developments and enforce the government's policies by applying accountability standards. Moreover, as the regulator must apply the government's comprehensive telecom policies to the industry as a whole, not just the PTO, it must be fully aware of technological and market trends and be capable of forecasting, planning and proactive inquiry. This will enable the regulator to implement the government's policies more effectively, resolve industry

problems in a progressive rather than an ad hoc manner, and act as a beacon for government on issues that will require policy attention from government from time to time.

Structuring the relation between the government and the independent regulator is more difficult than with the PTO because the regulator remains a part of the government. This makes the requirement for public transparency especially important. Professional qualifications, independent budget and employment processes, public reporting of government communications to and from the regulator, requirements for detailed public accountability of the regulator, and the appointment of several “commissioners” with fixed staggered terms rather than a single regulator are some of the mechanisms used to help ensure a desirable degree of independence from government. It is also important that the new structure ensures the regulator remains independent from the PTO and industry interests, i.e., that it has sufficient power to avoid the problem of industry capture that has developed in some countries.

The independent regulator must also be subject to clear standards of accountability to the government, the industry and the public. The regulator normally reports annually on the extent to which the industry is achieving the policy objectives established by government, the results of the regulator’s monitoring of industry developments, and measures of the regulator’s own performance of regulatory activities. In addition, procedures for administrative due process, public justification of decisions, appeals to the courts and public access to information all help ensure the accountability of the independent regulator.

The most independent telecom regulator to date has been the US Federal Communications Commission (FCC). When most people speak of independent regulation, they usually have the FCC model in mind. However an FCC-type independent regulatory agency is a unique product of the US constitutional system, with its elaborate division of powers among executive, legislative and judicial branches of government. Some analysts view the public utility regulatory agencies in the US, including the FCC, as quasi-legislative and quasi-judicial organisations. They have broad mandates and significant freedom both to interpret and enforce their mandates. Few countries have governmental structures that have permitted such a degree of independence, at least so far. Some even view such a degree of independence as an abdication of the political responsibility of elected government officials.

Among countries with parliamentary systems of government, the Canadian Radio-television & Telecommunications Commission (CRTC) has a significant degree of independence, but on occasion its decisions on major issues have been subject to modification by Cabinet. OFTEL in the UK has a lesser degree of both independence and public accountability, but a clearly identifiable positive role, and is currently seeking to expand it. Most countries are now assessing the degree of independence that their new telecom regulators will have.

There are two fundamental reasons why independent regulation is particularly important to achieving the goals of telecom reform. It is absolutely essential that the “competition” among the major industry players be moved from the arena of politics and bureaucracy to the marketplace, and to achieving the industry performance objectives of government policy. This will only happen if regulatory decisions are made on their substantive merits, not on the basis of political favouritism or the backdoor influence of

the most powerful industry players. Only an independent, transparent regulatory process that is seen to be so by all affected parties and the public can achieve this.

Independence is also necessary for a regulatory agency to adapt effectively to changing conditions in a dynamic industry sector. If regulation is narrowly focused and administrative, the number of different mini-regulators will tend to proliferate as circumstances change and new issues arise. The UK Institute for Public Policy Research (IPPR) has reported that media and communications in the UK are now regulated by at least eleven separate agencies. Regulators must be able to adapt to changing circumstances or they will simply become a bureaucratic drag on industry development. They must have the power to interpret policy and adapt their approach and methods accordingly. In a dynamic industry sector, what is needed is fewer, stronger, more independent regulators with responsibilities for a proactive and forward looking approach to regulation. This will benefit all parties.

The suggestion of strong independent regulation raises a concern for some people about a potential undue concentration of power in the regulator. Yet experience to date with telecom and other public utility industries overwhelmingly indicates the opposite problem. Telecom regulators in the US, Canada and the UK have been unsuccessful in restraining the anti-competitive behaviour of the dominant operators. Today in nearly all countries, on the major regulatory issues the big players go straight to the politicians. Stronger regulation can minimise the risks of industry capture and political favouritism, and create confidence that regulatory decisions affecting market opportunities will be made on their merits and on criteria for achieving stated policy objectives.

7.0 Fundamental Regulatory Issues

A close examination of the essential characteristics of the telecom services sector makes it immediately apparent that there are many aspects that cannot be resolved efficiently in unregulated markets. Regulation is necessary to provide a foundation upon which markets can function more effectively than they could otherwise. Access to public resources, including the radio spectrum, numbering and rights of way, is essential for facilities-based entry. None of these essential resources can be acquired in unregulated competitive markets. Therefore competitive operator licensing and cooperation in technical standards development must take place. Interconnection with dominant PTOs on reasonable terms, including pricing, revenue sharing and access to information is essential both for new facilities-based entrants as well as VAS suppliers, and will only occur if regulation enforces it. Consumers of basic public services who have no competitive options will need regulatory protection for both prices and quality of service. Universal service regulation will be necessary both to capture the network externality benefits that competitive markets cannot achieve and to implement important economic and social policy objectives. With intelligent network developments, such as the Internet, new concerns relating to privacy and security, and information content issues, ranging from obscenity to intellectual property rights, are requiring policy and regulatory attention.

Table 1 summarises the essential considerations for framing national telecom reforms. In a very real sense telecom regulators will be the market managers for the future development of the information infrastructure of the next century. Under progressive management by informed professional regulators, there can be enormous

public and private benefits, far exceeding what could be hoped for under either government monopoly or unregulated markets.

The International Framework
International Telecommunication Union (ITU) World Trade Organisation (WTO) OECD Common Trends Regional Compatibility (e.g. European Union)
Related National Policies
Competition and Anti-monopoly Policy Consumer Protection Policy Information Society Policies
Structural Reform of Telecom Sector
Objectives of Telecom Policy Development Role for an Independent PTO Communication or Competition Ministry? Role for Independent Telecom Regulation
Defining the Process of Regulation
Independence and Relation to Ministry for Policy Development Scope for Pro-active Industry Monitoring and Inquiry Information Gathering Powers Procedures for Participation in the Regulatory Process Scope for Public Access to Information Accountability of the Regulator
Substantive Regulatory Issues
Licensing Competition Radio Spectrum Access to Rights of Way Numbering and Portability Standards and Protocols Interconnection (Carrier and Subscriber) Preventing Anti-competitive Behaviour Price Regulation Quality of Service Regulation Universal Service Consumer Protection Privacy, Security, Content Compatibility for Trade Information Society Development

Table 1– Considerations for Framing National Telecom Reforms

8.0 Conclusion

Telecom policy objectives have not changed significantly in recent years. Rather changing circumstances have made it clear that the old models for implementing the objectives – public service monopoly or regulated private monopoly – were not functioning well and would have to be updated. For the future, an updating of objectives to reflect current circumstances leads one to conclude that both the traditional economic and social objectives will be more important in future information societies. A new model of telecom regulation focusing on competition as a fundamental tool for achieving both economic and social objectives is seen as helping to drive desirable changes. The direction and priorities of particular applications of the model will depend upon the particular circumstances in different countries. The most notable differences are between developed and developing countries, but all countries can fashion a comprehensive policy and regulatory program within the framework of the model outlined in this chapter.

Endnotes

¹ M.S. Glaeser (1957) *Public Utilities in American Capitalism*, New York, Macmillan, p. 10.

² *Munn v. Illinois*, 1877. 94 U.S. 113, 126.

³ *Op.cit.*, 132.