Telecommunications Regulation Handbook

Module 5

Competition Policy

edited by
Hank Intven
McCarthy Tétrault

Telecommunications Regulation Handbook

Summary of Contents

Note: Detailed Tables of Contents appear at the beginning of each Module

Module 1	Overview of Telecommunications Regulation	1-1
Module 2	Licensing Telecommunications Services	2-1
Module 3	Interconnection	3-1
Module 4	Price Regulation	4-1
Module 5	Competition Policy	5-1
Module 6	Universal Service	6-1

Appendices

A	WTO Regulation Reference Paper	A-1
B	The Economics of Telecommunications Prices and Costs	B-1
C	Glossary	C-1
D	Selected Sources	D-1

© 2000 The World Bank

1818 H Street, Washington, DC 20433, USA

The World Bank enjoys copyright under Protocol 2 of the Universal Copyright Convention. This material may nonetheless be copied for research, educational, or scholarly purposes only in the member countries of the World Bank. The findings, interpretations, and conclusions expressed in this document are entirely those of the authors and should not be attributed to the World Bank, to its affiliated organizations, or the members of its Board of Executive Directors or the countries they represent.

The modules of this book are distributed on the understanding that if legal or other expert assistance is required in any particular case, readers should not rely on statements made in this book, but should seek the services of a competent professional. Neither McCarthy Tétrault nor The World Bank accepts responsibility for the consequences of actions taken by readers who do not seek necessary advice from competent professionals, on legal or other matters that require expert advice.

First printing November 2000
ISBN 0-9697178-7-3

Table of Contents

Module 5 – Competition Policy

5.1 General Principles 1
- 5.1.1 The Rationale for Competition Policy 1
- 5.1.2 Government Intervention to Implement Competition Policy 2
- 5.1.3 The Interplay of Competition and Telecommunications Policies 3
- 5.1.4 The Transition from Monopoly to Competition in Telecommunications 7

5.2 Basic Concepts of Competition Policy 10
- 5.2.1 Market Definition 10
- 5.2.2 Barriers to Entry 11
- 5.2.3 Market Power and Dominance 11
- 5.2.4 Essential Facilities 13

5.3 Remedies for Anti-Competitive Conduct 14
- 5.3.1 Abuse of Dominance 14
- 5.3.2 Refusal to Supply Essential Facilities 16
- 5.3.3 Cross-Subsidization 17
- 5.3.4 Vertical Price Squeezing 24
- 5.3.5 Predatory Pricing 27
- 5.3.6 Misuse of Information 28
- 5.3.7 "Locking-in" Customers 28
- 5.3.8 Tied Sales and Bundling 29
- 5.3.9 Other Abuses of Dominance 31
- 5.3.10 Restrictive Agreements 31

5.4 Mergers, Acquisitions and Other Corporate Combinations 33
- 5.4.1 Concerns About Mergers 33
- 5.4.2 Merger Analysis 34
- 5.4.3 Merger Remedies 36
- 5.4.4 Joint Ventures 40

Boxes, Figures and Tables

List of Boxes

Box 5-1: Substantial Lessening of Competition: Proposed Malaysia Approach 6
Box 5-2: Case Study: Canadian (CRTC) Forbearance Analysis 7
Box 5-3: Case Study: The Telecommunications Mandate of the Australian Competition and Consumer Commission 8
Box 5-4: Market Dominance: A European Commission Definition 13
Box 5-5: Essential Facilities – WTO Definition 13
Box 5-6: Abuse of Dominance by a Telecommunications Operator: Common Examples 16
Box 5-7: Some Powers to Remedy Abuse of Dominance 16
Box 5-8: Example of Vertical Price Squeeze by Incumbent Operator 25
Box 5-9: Basic Elements of Wholesale Cost Imputation Requirement 25
Box 5-10: Case Study – The CRTC Imputation Test 26
Box 5-11: What is Predatory Pricing? 27
Box 5-12: Case Study – OFTEL Investigation of BT's Internet Services 28
Box 5-13: Case Study – DG IV Intervention in "SIM Locking" 29
Box 5-14: Case Study – CRTC Bundled Service Conditions 31
Box 5-15: Some Other Forms of Abuse of Dominant Position 32
Box 5-16: Examples of Restrictive Agreements 33
Box 5-17: Case Study – The Telia/Telenor Merger 37
Box 5-18: Case Study – FCC Review of Bell Atlantic/Nynex and SBC/Ameritech Mergers 38
Box 5-19: Case Study – The BT/AT&T Joint Venture 40

List of Tables

Table 5-1: Typical Differences Between a Competition Authority and a Sector-Specific Regulator 4
Table 5-2: Scenario A: No competition in basic telephone services; competition in cellular and value-added services (e.g. Internet access, e-commerce services) 20
Table 5-3: Scenario B: No competition in local access services; competition in long distance, international cellular and value-added services (e.g. Internet access, e-commerce services) 20
Table 5-4: Scenario C: (same assumptions as Scenario B) No competition in local access services; competition in long distance, international cellular and value-added services (e.g. Internet access and e-commerce) 21

Telecommunications Regulation Handbook

Principal authors:

Hank Intven
Jeremy Oliver
Edgardo Sepúlveda

Funding for the preparation of this Handbook was provided
by the *info*Dev Program of The World Bank

Additional funding was provided by

McCarthy Tétrault
Telecommunications Lawyers and Consultants
www.mccarthy.ca

The authors gratefully acknowledge the support and assistance provided
in the preparation of this Handbook
by the International Telecommunication Union (ITU)

The modules of this Handbook are available electronically at
www.infodev.org/projects/314regulationhandbook

MODULE 5

COMPETITION POLICY

5.1 General Principles

5.1.1 The Rationale for Competition Policy

When competition exists in market-based economies, two or more different suppliers contend with each other to sell their goods or services to customers. Competitive suppliers may offer lower prices, more or better quantities, and packages or qualities of service to attract customers. Competition serves the public interest by inducing suppliers to become more efficient and to offer a greater choice of products and services at lower prices.

In a competitive market, individual suppliers lack "market power". They cannot dictate market terms, but must respond to the rivalry of their competitors in order to stay in business. Market power is generally defined as the power to unilaterally set and maintain prices or other key terms and conditions of sales; that is without reference to the market or to the actions of competitors.

Imperfect Competition

In a perfectly competitive market, there would be little or no reason for government intervention to implement competition policy. Such a market would ideally consist of a large number of suppliers of products or services, as well as a large number of consumers. Consumers would have complete information and freedom to deal with any chosen supplier. There would be no negative external factors associated with supplier or consumer behaviour. No single supplier would be able to distort the efficient operation of the market, or the setting of prices or supply conditions.

However, no markets are perfectly competitive. Many markets are not truly competitive, but are dominated by a small number of large or well-established firms. Producers or suppliers in such markets often have market power that can be exercised to the detriment of consumer welfare and overall industry performance.

Imperfect competition gives rise to an inefficient allocation of resources. Imperfect competition is an important source of "market failure". Market failure occurs when resources are misallocated or allocated inefficiently. The result is waste or lost value.

Monopoly

Monopoly can be the result of market failure. A monopolistic market is often associated with excessively high product prices, reduced supply levels or other behaviour that reduces consumer welfare. Collusive agreements among suppliers are another example of market failure. Supplier collusion can be directed to increasing prices or restricting output, behaviour that is similar to the exercise of monopoly power.

Telecommunications has, in most jurisdictions, developed in a monopoly environment. As competition is introduced into telecommunications markets, there are typically concerns about the continuing exercise of market power by the incumbent operator. This exercise of market power constitutes a special form of market failure that must be addressed by regulators and competition authorities in many countries.

5.1.2 Government Intervention to Implement Competition Policy

Objectives

Governments intervene in the operation of a market-based economy for a variety of different reasons. In the case of competition law and policy, the main objectives of government intervention are to respond to market failures, to limit abuses of market power and to improve economic efficiency. This Module will focus on competition laws and policies that are aimed at achieving those objectives.

Public intervention can have other objectives. For example, a government may adopt rules and policies that limit the participation of foreign capital or companies in order to create or cultivate a domestic industry. Such intervention may deliberately limit competition and compromise economic efficiency in favour of other public interests.

There is a long history of government intervention to preserve and stimulate the operations of competitive markets. Many useful precedents for competition policy have developed in the US, where the term "antitrust policy" is used to refer to what is often called "competition policy" in other countries. This term "antitrust" comes from an old form of anti-competitive conduct once engaged in by the owners of different companies that had the power to jointly dominate a market (e.g. steel or rail transport). These owners delivered the majority of their shares to a central body, which would hold the shares "in trust" for the owners. The trust's control of the shares was then used to direct the actions of the different companies. The objectives of such joint direction included raising prices across the industry, restricting supply and otherwise acting to reduce competition.

Types of Government Intervention

Competition policy is generally applied through two different types of government intervention.

The first type is behavioural. In this type of intervention, a public authority attempts to modify the behaviour of a particular firm or group of firms through regulation of their behaviour. Price regulation is an example of behavioural intervention. Other examples are orders prohibiting collusive practices or agreements, and orders requiring interconnection of competitors' networks.

A second form of intervention is structural. Such intervention affects the market structure of the industry. For example, governments may intervene to prevent a merger of the two major telecom network operators in a market. Similarly, a dominant supplier might be required to separate its operations into distinct corporate entities, or to divest itself of lines of business entirely. The 1984 AT&T divestiture in the United States provides a well-known example of the latter.

Flexibility

Government intervention in markets generally requires flexibility and an ability to tailor rules and principles to specific circumstances. In some instances, competition rules can be formulated as outright prohibitions (for example, against price fixing agreements). In many situations, however, pro-competitive rules are formulated so that there is discretion in their application. For example, price discrimination is not always inappropriate; only anti-competitive or otherwise harmful forms of price discrimination are generally prohibited.

Competition policy is applied to curb abuses of market power and to prevent a powerful firm from forcing competitors out of the market. However, there is a tension between the objective of protecting competition and the more problematic practice of protecting individual competitors. This tension is particularly evident in the regulation of the telecommunications industry during the transition period from the introduction of competition to the time competition becomes self-sustaining.

Competition policies generally have no iron-clad rules that must be rigourously applied in all circumstances. The policies must be applied flexibly to suit the circumstances of different markets.

5.1.3 The Interplay of Competition and Telecommunications Policies

Some countries have both a general competition authority and a sector-specific telecommunications regulator. Where two or more authorities exist, it is important that they not subject an industry to duplicative or inconsistent intervention.

Not all countries have separate telecommunications regulators and competition authorities. For example, New Zealand has long had economy-wide competition law, but no sector-specific regulator. While New Zealand is an anomaly in this regard, other countries have telecommunications sector regulators, but no economy-wide competition law or authority. Some countries have neither. In any case, it is important for those involved in the regulation or supervision of the telecommunications sector to understand and have access to the basic tools provided by competition law and policy.

Sector-Specific Regulators and Competition Authorities

The roles of a sector-specific telecommunications regulator and a general competition law authority can be compared and contrasted in several ways.

Sector-specific regulation typically involves both prospective and retrospective activities. A telecommunications regulator, for example, will often render decisions that establish conditions for firms participating in telecommunications service markets, such as the approval of prices or the terms and conditions for interconnection between operators. Such conditions have forward-looking application. Telecommunications regulators are also typically authorized to respond to particular complaints, or to remedy existing or past behaviour which contravenes telecommunications policies or laws. Competition authorities, by contrast, tend to exercise their powers on a retrospective basis and with a view to correcting problems which result from actions by particular firms that harm competition.

The types of policies typically adopted by sector-specific regulators can also be contrasted with those of competition authorities. Sector-specific regulation is often unrelated to (and even inconsistent with) the key competition policy goals of facilitating competition and improving economic efficiency. Competition policy is typically directed at preventing market participants from interfering with the operation of competitive markets. Traditional telecommunications regulation, on the other hand, often manipulated competitive market circumstances to achieve other public goals.

An example is the prices approved by telecommunications regulators. Most regulators traditionally supported price structures that were very different from prices that would prevail in a competitive market. Telecommunications regulators often supported such price structures in an effort to increase availability of basic telecommunications services. Examples include various types of cross-subsidization: local service by long distance services, residential subscribers by business subscribers and rural subscribers by urban subscribers. These price structures were typically developed in a period of public monopoly supply. These structures are not sustainable in a competitive market. They require adjustment as competition develops. (See Module 4 for a further discussion of telecommunications pricing.) Table 5-1 sets out the typical difference between a competition authority and sector-specific regulator.

Rationale for a Telecommunications Sector Regulator

An industry-wide competition authority may play a useful role in overseeing the telecommunications industry. However, there are good reasons to establish and retain telecommunications sector-specific regulation, at least until the relevant markets are reasonably competitive. These reasons include:

- the need for sector-specific technical expertise to deal with some key issues in the transition from monopoly to competition (e.g. network interconnection, anti-competitive cross-subsidization);
- the need for advance rules to clearly define an environment conducive to the emergence of competition, and not just retrospectively apply

remedies to "punish" anti-competitive behaviour or restructure the industry;

- the need to apply policies, other than competition-related policies, that are perceived important by national governments (e.g. universal service policies, national security and control policies); and
- the need for ongoing supervision and decisions on issues such as interconnection, quality of service, and the establishment and enforcement of licence conditions, particularly for dominant operators.

These factors, among others, suggest that, even where an economy-wide competition authority exists, a telecommunications regulator can play an important role.

- As a separate matter, it may be efficient to combine, in a single entity, the regulation of the telecommunications sector and other sectors, such as pipelines, electrical power, commercial water supply, etc. The advantages and disadvantages of such a multi-sectoral regulator are discussed in Module 1.

Implementation of Competition Policy by Telecommunications Regulators

Telecommunications sector regulators often apply competition law or policy in carrying out their mandates. Four examples from the UK, Malaysia, Canada and Australia are set out below.

Table 5-1: Typical Differences Between a Competition Authority and a Sector-Specific Regulator

Feature	Competition Authority	Sector-Specific Regulation
Timing/Process	➢ Typically applies remedies retrospectively (i.e. after the fact) ➢ Specific complaint or investigation driven ➢ Formal investigative, other procedures ➢ Narrow scope for public intervention	➢ Prospective as well as retrospective ➢ Decisions or other processes of general application, as well as specific issue proceedings ➢ Mix of formal and less formal procedures ➢ Typically broader scope for public intervention
Policy Focus	➢ Objective to reduce conduct which impedes competition ➢ Focus on allocative efficiency/ preventing abuse of market power or other misconduct	➢ Typically applies multiple policy objectives ➢ Traditional (monopoly) regulation likely to pursue social objectives other than allocative efficiency (universal service for example) ➢ Transitional regulation may focus on preventing anti-competitive behaviour as market becomes competitive; (ultimately, forbearing from regulation may be a policy objective as competition becomes sufficient to protect public)
Scope	➢ Economy wide, multiple industries ➢ Powers of intervention and remedies tend to be narrowly defined.	➢ Usually industry-specific (usually develops greater sectoral expertise) ➢ Powers tend to be more broadly defined (correspond to breadth of policy objectives and procedures).

United Kingdom

In the UK, Oftel has concurrent authority to deal with matters arising under the *Competition Act*. Oftel must co-ordinate its efforts with the Director General of Fair Trading, who is primarily responsible for enforcing the *Competition Act*. Oftel has also been responsible for enforcing the Fair Trading Conditions of U.K. telecommunications licensees, including BT.

Oftel has published *Guidelines on the Application of the Competition Act in the Telecommunications Sector*. The guidelines address subjects such as market definition, measures of market power and the assessment of individual agreements and conduct. The guidelines reference conventional approaches to competition rules from a number of sources and jurisdictions, and anticipate how these standard tools will be applied in the telecommunications sector.

Malaysia

The Malaysian Communications and Multimedia Commission has prepared similar guidelines. These indicate how the Commission will apply competition law concepts such as "substantial lessening of competition" and "dominant position" in exercising its authority under the *Malaysian Communications and Multimedia Act 1998*. The guidelines identify the concepts and analytical processes that the Commission will use in evaluating certain conduct. The guidelines borrow conventional tools and concepts from competition theory and indicate how they will be applied in the context of the domestic telecommunications industry.

Box 5-1 sets out the Malaysian Commission's proposed analytical process for evaluating whether particular conduct constitutes a substantial lessening of competition.

Canada

Canadian law provides for changes in the extent of sector-specific telecommunications regulation depending on the level of competition in specific telecommunications markets.

Under the Canadian *Telecommunications Act*, the sector-specific regulator, the CRTC, has a duty to forbear (refrain) from regulation where telecommunications services are subject to sufficient competition to protect the interests of users. Forbearance is also permissible in certain other circumstances. A forbearance order may not be made by the CRTC where such an order would likely impair the establishment or continuance of a competitive market for a service. The Canadian approach to forbearance is described in Box 5-2.

Australia

A more general example of the interplay of competition policy and telecommunications sector regulation can be found in Australia. In July,1997, the Australian government implemented a package of statutory reforms to both its competition and telecommunications laws. These reforms changed the *Trade Practices Act 1974* (the primary competition law) and introduced a new *Telecommunications Act*.

As a result of these reforms, the Australian Competition and Consumer Commission (ACCC) was given a significantly expanded role in telecommunications regulation. It became responsible for both (1) implementation of competition rules and policies in the telecommunications sector; and (2) economic regulation of telecommunications operators, including the incumbent operator, Telstra.

Box 5-3 provides details on the scope and performance of the telecommunications regulatory responsibilities of the ACCC.

These four examples from the experience of different countries illustrate the overlap of telecommunications and competition policy. The examples indicate how some telecommunications regulators apply standard competition policy and analysis, and how competition authorities must understand sector-specific telecommunications regulation. The competition policy concepts used in these examples are discussed in greater detail below (in Section 5.2).

Box 5-1: Substantial Lessening of Competition: Proposed Malaysia Approach

	Define the Context	Define the Market	Assessment of Conduct
Objective	Ensure that the Commission has appropriate powers to act.	Define the boundaries of the relevant market	Determine whether there is (or may be) a substantial lessening of competition within the relevant market.
Process	Consider which section of the Act the assessment is being made under. Identify the circumstances which initiated the assessment. Identify the key stakeholders in the process.	Identify all demand substitutes for the service. Identify all supply substitutes for the service. Determine the relevant product market. Determine the relevant geographical market. Determine the relevant temporal market.	Assess the likely changes in the degree of competitive rivalry in the absence of Commission intervention in the light of test criteria. Assess the likely changes in the degree of competitive rivalry in the case of Commission intervention in the light of test criteria. Assess the difference in the level of rivalry between the two cases. Assess whether the difference is substantial in the light of the objects of the Act and national policy objectives.

The Regulated Conduct Defence

A final point to consider in the interplay of telecommunications sector regulators and industry-wide competition authorities is the regulated conduct defence. A number of jurisdictions recognize such a defence. The defence can shield regulated firms from the application of competition laws in certain circumstances.

The essence of the defence is that activities that are authorized under a valid scheme of regulation are deemed to be in the public interest. Where the defence applies, a telecommunications operator that carries on activities authorized by a telecommunications regulator will generally not attract liability under competition laws for those activities. Questions can arise, however, as to whether particular anti-competitive activities were subject to active regulation. For example, competition laws that are generally inapplicable to the activities of regulated telecommunications operators may become applicable where a regulator decides to forbear from regulation.

Box 5-2: Case Study: Canadian (CRTC) Forbearance Analysis

The CRTC may withdraw ("forbear") from regulation of telecommunications markets or services when there is sufficient competition. In Telecom Decision CRTC 94-19, the CRTC set out the criteria for decisions to forbear from regulation pursuant to Section 34. The criteria for forbearance reflect standard competition policy concepts and principles. They can be summarized as follows:

- The CRTC should forbear from regulation when a market becomes "workably competitive".
- A market cannot be workably competitive if a dominant firm possesses substantial market power.
- Market power is assessed in terms of three factors:
  - (i) the market share held by the dominant firm;
  - (ii) demand conditions affecting responses by customers to a change in price of the product or service in question; and
  - (iii) supply conditions affecting the ability of other firms in the market to respond to a change in the price of the product or service.
- High market share is a necessary but not a sufficient condition for market power. Other factors must be present to enable a dominant firm to act anti-competitively.

The CRTC's method of assessing market competitiveness begins with a definition of the "relevant market". The CRTC defines the relevant market as "the smallest group of products and geographic area in which a firm with market power can profitably impose a sustainable price increase"

The CRTC then proceeds to an assessment of the market share held by the largest and other firms in the relevant market. In addition to an assessment of market share, the CRTC assesses other aspects of market power, including the availability of substitutes, whether a particular product or service is an essential input or bottleneck and the extent of barriers to entry. Among the other indicators of competition highlighted by the CRTC is evidence of rivalrous behaviour (price competition and effective marketing activities for example).

The CRTC decided in Decision 94-19 to refrain from regulating the sale, lease and maintenance of certain forms of customer premises equipment. The CRTC subsequently applied Section 34 to forbear from the regulation of a number of other services, including wireless services, services provided by non-dominant long distance operators and certain of the long distance services provided by the incumbent telephone companies. The CRTC has also forborne from the regulation of other services, including retail services provided by competitive local exchange operators and the supply of retail Internet services.

5.1.4 The Transition from Monopoly to Competition in Telecommunications

An effective competition policy must take into account the specific characteristics of the market to which it is applied. Telecommunications network service markets raise unique challenges for the application of competition policy. These challenges arise from the specific manner in which some incumbent network operators are able to continue to dominate their markets after the introduction of competition.

It is generally desirable to minimize government intervention in competitive markets. However, there is a general consensus that regulatory intervention is required to implement a successful transition from monopoly to competitive telecommunications markets. The introduction of effective competition into telecommunications markets around the world has generally been more difficult and intrusive than in the case of most other markets.

Box 5-3: Case Study: The Telecommunications Mandate of the Australian Competition and Consumer Commission

The ACCC's telecommunications mandate is performed by the Telecommunications Group, which is considered a part of both the ACCC's Regulatory Affairs Division (for economic regulation) and the Compliance Division (for competition enforcement).

The revised Trade Practices Act 1974 (TPA) includes two parts which address telecommunications matters specifically. Part XIB gives the ACCC authority to issue competition notices in cases of anti-competitive conduct. Competition notices are enforceable in the Federal Court. Part XIB also governs tariff filing and record keeping requirements (the latter reinforce the ACCC's implementation of accounting separation in appropriate cases).

Part XIC of the TPA establishes a framework for access to the networks of competing operators. The ACCC has power to declare a body to be a recognized "telecommunications access forum" or "TAF" (a facilitator of access arrangements); to approve any "access code" prepared by the TAF; to approve "access undertakings" or model terms and conditions submitted by individual operators; and to arbitrate access disputes.

The ACCC has complementary authority under the *Telecommunications Act*, the *Radiocommunication Act* 1992 and the *Telstra Act 1991*. Specifically, the ACCC has regulatory authority:

- to oversee the conduct of international telecommunications operators;.
- to issue directions on technical issues such as the implementation of number portability and interconnection:
- to arbitrate a range of operator disputes (i.e., in addition to interconnection disputes);
- to administer price regulation, such as price caps, for those services of Telstra which remain subject to price regulation; and
- to assess the acquisition of radio-frequency spectrum by incumbent operators to determine whether such acquisition is likely to have anti-competitive effects.

The ACCC also has authority to monitor telecommunications markets and activity in order to determine whether the general provisions of the TPA should be applied to promote competition and fair trading

Advantages of Incumbent Operators

The nature of telecommunications networks provides strong advantages to well-established network operators. These advantages often call for pro-competitive measures that are relatively unique to the telecommunications sector. Such measures are discussed throughout this Module and in Module 3 – Interconnection. Without such measures, new entrants may never overcome the "incumbency advantages" of established operators. Incumbents in other types of markets (e.g. steel, chemicals, and food products) generally do not enjoy similar advantages and, therefore, those types of markets typically require less detailed sector-specific regulation.

Some major advantages of incumbent operators are listed below. Technical terms used in this list are discussed in greater detail in the following sections of this Module.

Control of Essential Facilities – Incumbent operators often own "essential facilities" that were built and paid for under a regime of government ownership or guaranteed rate-of-return regulation. The concept of essential facilities is discussed in detail in Section 5.2.4 below. In telecommunications network markets, essential facilities may include public rights-of-ways, support structures such as poles and conduits, local loops, telephone numbers and frequency spectrum. New entrants typically require access to these facilities in order for competition to be feasible. Duplication of these

facilities may be either technically difficult, or more often, economically inefficient.

Control of essential facilities can give an incumbent numerous advantages over new entrants, particularly in the absence of strong pro-competitive regulation. For example, an incumbent can use its control over essential facilities to increase a competitor's costs, and make its services less attractive to customers. The competitors' costs can be increased by increased prices of essential facilities. The incumbent may be able to shield its own customers from the impacts of such higher essential facility prices, either by not "charging itself" those price increases, or offsetting them with cross-subsidies from its monopoly or less-competitive services.

An incumbent can also discriminate in the provision of essential facilities to make its competitors' services less attractive to end-customers. In the extreme case, it can simply refuse to supply essential facilities to competitors. It can also discriminate by providing inferior quality essential facilities to competitors, as compared to itself. For example, it can provision local loops to its own customers within a week, but delay provisioning of local loops to customers of competitors for months. Anti-competitive discrimination in the provisioning of essential facilities can take many forms, some of which are difficult to detect.

Economies of Established National Networks – As a related matter, incumbent network operators might enjoy "economies of scale and scope" that cannot be matched by new entrants for many years (or decades). For some network elements (e.g. a national local access (loop) network), the cost of duplicating an incumbent's facility may be prohibitively high. At the same time, the facility may have a large enough capacity that one or more competitors may be able to share use of the facility with the incumbent without imposing any congestion costs.

In addition, many established telecommunications operators have a long history of providing local access service at subsidized rates. This provides the incumbent with advantages in terms of economies of density, scale and scope. In competing for a new customer, an incumbent can often set a relatively low price, which reflects a lower long-run "total-service" incremental cost than new entrants, and spreads its "joint and common costs" across a large established customer base. A new entrant must often cover a much higher long-run total-service incremental cost, since this must be recovered from a smaller customer base.

Vertical Economies – Many incumbents have "vertically integrated" upstream and downstream production facilities. For example, they may operate local access networks, national long-distance networks and international networks. These incumbents would usually enjoy vertical economies. For example, it is less expensive to co-ordinate local, long distance and international telecommunications within a single firm than through arm's-length negotiations and transactions with different (often competing) operators. Incumbents may also enjoy vertical economies related to integrated network planning, construction, operations (e.g. traffic aggregation) and maintenance.

Control Over Network Standards and Development – An incumbent usually has a significant advantage in that its existing technologies and network architecture have become de facto network standards to which all competitors must adapt their networks. Unless competitors are notified well in advance, the incumbent may obtain a substantial head-start in the deployment of new network services or features that rely on switching, transmission or software upgrades installed by the incumbents.

Cross-subsidies – Incumbent operators are often able to cross-subsidize some services from others. Many different forms of cross-subsidy are possible. In most countries, local access services have traditionally been cross-subsidized by international services. Profits from the latter were used to maintain below-cost tariffs in the former. New entrants typically do not have a similar range of services to cross-subsidize. Some incumbents have engaged in anti-competitive practices by which competitive services (e.g. mobile telephone services or Internet access services) are priced below costs and effectively subsidized by monopoly or less-competitive services, such as international services.

Customer Inertia – Telecommunications network markets are often characterized by a high degree of

customer inertia. New entrants may find it very difficult to persuade customers to switch from an incumbent that has served them for many years. This is particularly true for lower-volume users (e.g. residential customers) when marketing costs and customer-switching costs and inconveniences can be high (e.g. dialing extra digits to reach a new entrant's network, dealing with two telephone bills, changing telephone numbers, etc.). In some cases, incumbents may intentionally take actions to "lock in" their customers, and to make switching to competitors more difficult and costly.

The "natural" advantages of incumbent operators (e.g. economies of scale and scope and customer inertia) can be augmented by anti-competitive conduct on the part of such operators. This is where telecommunications regulators (and competition authorities) often face difficult challenges. Their goal is to promote competition without unfairly "handicapping" incumbents.

Before dealing with specific types of anti-competitive conduct, we will describe some of the basic concepts that are widely used in competition law and policy.

5.2 Basic Concepts of Competition Policy

5.2.1 Market Definition

The definition of a market is a key issue in competition policy and analysis. It is necessary to define a "relevant market" in order to establish whether a firm has a dominant position in that market. Similarly, in analyzing whether a restrictive agreement among firms has an appreciable effect on reducing competition in a market, it is necessary to define the relevant market and then to evaluate the impact of the agreement in that market. Market definition is an initial step in competition analysis. It provides the context in which to evaluate the level of competition and the impact of anti-competitive conduct.

There are two aspects to the definition of a market – the product, including a service, and the geographic area in which the product is sold. In defining the product, close substitutes are normally included. The analysis of substitutability is generally conducted from the demand side, that is from the perspective of buyers of the product.

For example, the definition of the market for international telephone service in a country could include IP Telephony services that are available through the PSTN, by dialing a specific access number or code. However, the definition would generally exclude "computer-to-computer" IP Telephony services that require special software, computers at both ends of a call, and pre-arranged calling times, etc. to the average buyer of international telephone services, such "computer to computer" services would not be a close substitute for international telephone service.

The Product Market

A widely accepted approach to market definition begins with the assumption that there is a monopolist in the relevant product market. The question is then asked: could the hypothetical monopolist raise the price of the product by a small but significant amount and for a non-transitory period? If a sufficient number of buyers would switch to other products so as to make the price increase unprofitable for the monopolist, those substitutes would be included in a new definition of the market. This analysis will be repeated until the boundaries are set so that substitution does not make the price increase an unprofitable strategy.

The Geographic Market

The second dimension is the definition of the geographic scope of the market. In defining the geographic boundaries of a product market, the aim is to identify the extent to which the proximity of rival suppliers can impose competitive constraints on the hypothetical monopolist or actual market participant. Again, the definition of the geographic scope of the market is based on an assessment of substitutability in response to product price changes.

Geographic areas are more important in defining some telecommunications markets than others. For example, the market for local access in Mumbai is not affected by the degree of competition in the Johannesburg local access market. These are clearly separate markets. However, geography is increasingly less important in defining the level of competition in markets for Internet Service Providers

(ISPs), E-mail providers or even international long distance services. The markets for these products are rapidly becoming global markets. Consider the substitution test described earlier in this Section. It would be difficult, if not impossible, for an E-mail service provider in Mumbai to raise the price of its E-mail service if customers in Mumbai have local access to substitute E-mail service providers (e.g. Hotmail) that are based in other geographic areas.

Having said that, the definition of product and geographic markets remains very relevant for the services that remain most subject to market dominance, particularly local and national long-distance services.

5.2.2 Barriers to Entry

The evaluation of competitive markets and market behaviour often focuses on the extent to which one or more firms can introduce and sustain price increases. If it is easy for a new supplier to enter a market and provide a substitute product, then established suppliers will be reluctant to implement significant long-term price increases. Such price increases would invite market entry, which will increase competition.

The existence of barriers to market entry will limit this competitive response. There are many types of barriers to entry in different markets. Among the most commonly recognized barriers are:

➢ government restrictions such as monopoly franchises or restrictive licensing practices;

➢ economies of scale (i.e., where per unit production costs fall as output increases, a large established supplier can produce at a lower per unit cost than new entrants);

➢ high fixed/capital costs; and

➢ intellectual property rights such as copyright and patent protection (which may affect the availability to a competing supplier of key inputs or outputs).

Multiple barriers to entry may exist in a single telecommunications market. For example, local networks are typically regarded as being characterized by economies of scale. The establishment of a local facilities-based network also requires a large investment in fixed costs. Local telecommunications operators often require government licences, which may be granted on an exclusive or otherwise restrictive basis. Entry into wireless local networks is also restricted by spectrum scarcity. Certain local telecommunications services may operate on network platforms which have patent or copyright protection (complicating or preventing the launch of a competing service).

In addition to these barriers to entry, it is also possible for a dominant firm to engage in conduct that establishes additional barriers to entry. Refusal to supply essential facilities and refusal to interconnect networks are two classic examples of anti-competitive conduct that an incumbent operator may engage in to discourage or prevent new entry. These and other examples of anti-competitive conduct are discussed in Section 5.3.

5.2.3 Market Power and Dominance

As a practical matter, most of the concern of competition authorities (and telecommunications regulators promoting competitive markets) is focussed on established telecommunications operators that have market power. Firms without market power are simply not able to cause serious problems in the economy or in the sector. If they raise their prices above market levels, for example, they will simply lose customers and profits.

This Section discusses the related concepts of market power, significant market power and market dominance.

Market Power Defined

In general, market power is defined as the ability of a firm to independently raise prices above market levels for a non-transitory period without losing sales to such a degree as to make this behaviour unprofitable.

Factors frequently considered in determining whether a firm has market power include:

➢ market share;

- barriers to market entry;
- pricing behaviour;
- profitability; and
- vertical integration.

Market share can be measured in several ways, including monetary value, units of sales, units of production and production capacity. Market share alone can be an inaccurate measure of market power. However, it is unlikely that a firm without significant market share will have sufficient market power to behave anti-competitively on its own. Therefore, market share is usually a starting point in determining market power.

Assessment of barriers to entry is also important. The extent to which established suppliers are constrained by the prospect of new market entry is a key factor in whether the established suppliers have market power.

Pricing and profitability are other factors relevant to a determination of market power. The existence of true price rivalry is inconsistent with a finding of market power. Price competition, which consists of "follow the leader" behaviour is consistent with the exercise of market power by the price leader.

The profitability of existing suppliers in a market can also be indicative of the extent of true price competition. Excessive profitability typically indicates insufficient price competition and the exercise of market power in setting prices.

Finally, vertical integration is relevant to an assessment of whether a firm which enjoys market power in one market is able to extend its power into upstream or downstream markets. In telecommunications, incumbent operators that are vertically integrated (e.g. that provide local access as well as long distance or international services) can often use their market power in the local access market to competitive advantage in the long distance and international markets. They may abuse their market power, for example, by inflating local access prices (including interconnection prices) and using the surplus revenues to subsidize rate cuts to their competitive long distance or international services.

Significant Market Power

A related concept is that of "Significant Market Power" (or SMP). This is a relatively arbitrary measure of market power utilized in European Commission competition analysis. A number of the European Commission's Open Network Provision (ONP) directives permit the imposition of additional obligations on operators that have SMP. In its July 2000 package of proposed policy reforms, the Commission proposed to change its approach, and to focus more on traditional measures of market dominance. Nevertheless, since the SMP approach is frequently referred to, we will discuss it here.

Article 4 of the European Commission's *Interconnection Directive* states that "an organization shall be presumed to have significant market power when it has a share of more than 25% of a particular telecommunications market". The article imposes an obligation on organizations with SMP to "meet all reasonable requests for access to the network including access at points other than the network termination points offered to the majority of end-users".

The 25% SMP threshold is not fixed in stone. The Directive permits national regulatory authorities to determine that organizations with less than 25% market share have significant market power; and to determine that organizations with market share greater than 25% do not have significant market power. In making such determinations, regulators are directed to take into account factors such as:

- the organization's ability to influence market conditions;
- turnover relative to the size of the market;
- control of means of access to end-users;
- access to financial resources; and
- experience in providing products and services in the market.

Characterization of an organization as having SMP does not necessarily lead to a finding of market power or dominance on the part of that organization. The SMP designation is simply a trigger for the ap-

plication of additional obligations under the various ONP Directives.

Market Dominance

Market dominance is a more extreme form of market power. The definition of market dominance varies significantly in the laws and jurisprudence of different countries. In general, however, two factors are key in the determination of market dominance. First there must usually be a relatively high market share (usually no less than 35%, often 50% or more). Second, there must normally be significant barriers to entry into the relevant markets occupied by the dominant firm.

Some definitions are more qualitative than quantitative. Consider Box 5-4, which sets out the definition established in European Commission jurisprudence.

Other definitions exist. The U.K. Office of Fair Trading has said that describing an operator as dominant raises the implication that it possesses more market power than any of its competitors. The European Court of Justice has found that there is a presumption of market dominance, in the absence of evidence to the contrary, if a firm has a market share consistently above 50%. As is the case for market power generally, market dominance is not a matter of market share alone. However, some commentators have suggested that a market share in excess of 65% is likely to support a finding of dominance.

5.2.4 Essential Facilities

The concept of essential facilities is important to the application of competition law in the telecommunications sector. In the sector, an essential facility is generally defined as one which has the following characteristics:

- it is supplied on a monopoly basis or is subject to some degree of monopoly control;
- it is required by competitors (e.g. interconnecting operators) in order to compete; and
- it cannot be practically duplicated by competitors for technical or economic reasons.

Box 5-4: Market Dominance: A European Commission Definition

"A position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained in the relevant market by affording it the power to behave, to an appreciable extent, independently of its competitors, customers and ultimately consumers."

(United Brands v. Commission, ECR 207).

Definitions of essential facilities have been developed by a number of national regulations and multilateral agencies. Box 5-5 includes a benchmark definition of essential facilities was included in the *WTO Regulation Reference Paper*.

The complete *WTO Regulation Reference Paper* is reproduced in Appendix A. The Reference Paper indicates when and how signatory countries must ensure essential facilities are provided to competitors.

The phrase "bottleneck facility" is sometimes used as a synonym for "essential facility". However, the term "bottleneck" puts the emphasis on the facility being a necessary part of a communications link, the supply of which is restricted, rather than on the ability of competitors to replicate the facility.

Box 5-5: Essential Facilities - WTO Definition

Essential facilities mean facilities of a public telecommunications transport network or service that:

(a) are exclusively or predominantly provided by a single or limited number of suppliers; and

(b) cannot feasibly be economically or technically substituted in order to provide a service

Common examples of essential facilities are network access lines (local loops) and local exchange switching. Local loops are the circuits between a customer's premises and the first "node" or exchange which connects the customer with the PSTN. It can be seen that in many countries, local loops fall within the definition of essential facilities because they are:

(1) required by competitors in order to compete for the business of end customers;

(2) predominantly supplied by the incumbent, and

(3) technically or economically difficult to substitute, at least on a widespread basis.

Accordingly, regulators in the US, Canada, Europe and elsewhere have required incumbents to facilitate competition by providing local loops to competitors. If alternative sources of fixed and wireless local loops become available, they may no longer be designated as essential facilities.

More examples of essential facilities, and a more detailed discussion of the concept are set out in Section 3.4.5 of Module 3 under the heading "Access to Unbundled Network Components".

A telecommunications operator that controls an essential facility often has both the incentive and the means to limit access to the facility by competitors. It becomes a matter of public interest to ensure that essential facilities are available to competitors on reasonable terms. Without such access, competition will suffer, and the sector will operate less efficiently than it could.

Consider, for example, how much more efficient it is to have a variety of different ISPs, international operators and other telecommunications service providers use the same network access lines and local switches to reach subscribers in a locality. This is far more efficient than having each operator construct network access lines to serve the same locality.

The determination of which telecommunications network resources constitute essential facilities has great practical importance. Too narrow a definition can impede competition by preventing competitors from being able to obtain necessary network components on appropriate terms. Too broad a definition can stimulate uneconomic entry or provide insufficient incentives for competitors to invest in and develop alternative network infrastructure.

Various approaches to defining essential facilities are discussed in Section 3.4.5 of Module 3. That Section considers which facilities an incumbent operator should be required to unbundle and provide to competitors, The balance of this Module 5 illustrates the use of the concept of essential facilities in competition policy as it applies to the telecommunications sector.

5.3 Remedies for Anti-Competitive Conduct

5.3.1 Abuse of Dominance

The concept of abuse of dominance includes a broad range of anti-competitive conduct recognized in the laws and policies of many countries. It is similar to, but broader than the concept of "monopolization" that is found in some laws.

While there are different definitions of abuse of dominance, there are common themes in the definitions. The essential characteristics of abuse of dominance include:

(i) A firm has a dominant market position in the relevant market; and

(ii) The firm uses that position to engage in "abusive" conduct which is or is likely to be harmful to competition.

The concept of abuse of dominance covers many specific types of conduct. New forms of abusive conduct are being recognized today. Recent examples can be found in the Microsoft litigation in the US, or in other areas of intellectual property licensing. Other actions that were once considered abusive are considered acceptable today, depending on the circumstances. This Section and subsequent sections describe some specific types of conduct that have been considered abuses of dominance in the telecommunications industry. These descriptions should not be considered exhaustive.

Before discussing different types of abusive conduct, we will review the concept of market dominance.

When Does a Firm Dominate a Market?

The concepts of market power and dominance are discussed earlier in this Module. The first step in evaluating whether a firm dominates a market involves the definition of the relevant market in which the possible abuse occurs. As discussed earlier, once the relevant product and geographic market must be considered. Then the degree of dominance exercised by the firm in the relevant market can be evaluated.

A narrow definition of the relevant market will generally suggest a higher market share for a particular firm, and an appearance of greater dominance. Conversely, a broad definition of the market will suggest lower market shares and less dominance. The definition of the relevant market will, therefore, often be critical to an assessment of market dominance.

Once the relevant market has been defined, the evaluation of whether a firm occupies a dominant position will typically depend on two main factors: (i) the market share of the particular firm; and (ii) the extent of barriers to market.

A finding of dominance must be based on the context and circumstances of the relevant market. It is difficult to provide general guidelines to determine the particular measure of market share which will support a finding of dominance. Many commentators suggest that a market share of less than 35% is unlikely to be associated with a dominant position; while a market share of greater than 65% is likely to be. It is widely observed that even a very large market share may not result in market dominance. This is particularly the case when barriers to entry are so low that price increases or output decreases by a firm with a large market share will stimulate new entry and additional competition.

When is a Firm Abusing its Dominant Position?

If it is determined that a firm has a dominant position in a relevant market, the next question is: Is the firm abusing this position? In telecommunications markets, abuse of dominance can occur in many ways. Box 5-6 sets out common examples of the types of behaviour that are seen as abusive, if carried out by a dominant telecommunications operator.

Different approaches are used to define conduct that amounts to an abuse of dominance. These approaches all focus on conduct that is harmful to competition in a market.

Abusive conduct is sometimes divided into "exploitative abuses" and "exclusionary abuses". Conduct such as charging excessive prices or offering poor service to subscribers can be characterized as exploitative abuses. This type of conduct exploits the dominant position a firm enjoys in a market and reduces consumer welfare. Predatory pricing or refusal to supply essential facilities, on the other hand, can be characterized as exclusionary abuses. These forms of conduct are aimed at foreclosing market entry or forcing market exit. Other approaches to classifying abuses of dominance exist in various laws as well as in the legal and economic literature.

The main types of abuse of dominance encountered in the telecommunications industry are discussed in greater detail below. They include refusal to supply essential facilities, anti-competitive cross-subsidization, vertical price squeezing, predatory pricing, tied sales and bundling.

Legal Prohibitions Against Abuse of Dominance

National and international laws and treaties include prohibitions against abuse of dominance. Some prohibitions are broad and general; others more specific.

A good example of a broad prohibition against abuse of dominance is found in Article 82 of the EC Treaty (formerly Article 86). It provides a general prohibition at the level of European Union law. Article 82 states that:

> "Any abuse by one or more undertakings of a dominant position within the common market or any substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between member states."

The broad prohibitions of the EC Treaty have been incorporated into the laws of member countries of the European Union. In addition to being bound by the requirements of the EC Treaty, public telecommunications operators in EC member countries are generally subject to additional and more specific national legal prohibitions against abuse of dominance.

Abuse of Dominance – Remedies

Different approaches are taken to prevent, correct or punish abuse of dominance. To properly investigate and remedy abuse of dominance complaints, a regulator or competition authority must have sufficient powers to conduct a proper investigation. At a minimum, investigative powers typically include the ability to compel the dominant entity to disclose information and documents.

If an investigation indicates that abusive conduct has occurred, an effective legal framework generally provides powers to remedy the situation. Examples of the types of powers that are granted to remedy abuse of dominance are set out in Box 5-7. Some of these powers may be granted to a telecommunica tions regulator, some to a general competition authority, and some to the courts.

Box 5-6: Abuse of Dominance by a Telecommunications Operator: Common Examples

- Refusal or delay in providing essential facilities to competitors;
- Providing services or facilities to competitors at excessive prices or on discriminatory terms;
- Predatory pricing and/or cross-subsidization of competitive services with revenues obtained from services which are subject to less competition;
- Bundling of services designed to provide the dominant firm with exclusive advantages in subscriber markets or require a competitor to obtain services or facilities which it does not truly need.

Box 5-7: Some Powers to Remedy Abuse of Dominance

- Power to issue enforceable orders against the dominant entity,

  (a) to cease abusive behaviour; or

  (b) to prescribe specific changes in its behaviour to limit the abusive aspects
- Power to revoke the licence of the dominant entity (NB. In practice, this has limited applications since no regulator wants to deny service to the public)
- Power to fine the dominant entity and the individual persons responsible for the abusive conduct
- Power to order compensation (damages) to be paid to subscribers or competitors injured by the abusive conduct
- Power to restructure the dominant entity (such as the divestiture of some lines of business or structural separation of those lines into a separate but affiliated company)
- Power to facilitate and approve informal settlements in cases of abuse of dominance (e.g. to pay compensation, restructure, voluntarily cease or change conduct)

The question of establishing an effective regulatory framework, including investigative and remedial powers, is discussed in Module 1 – Overview of Telecommunications Regulation. Specific remedies for different types of abuse of dominance and other forms of anti-competitive conduct are set out in the following sections.

5.3.2 Refusal to Supply Essential Facilities

The concept of “essential facilities” is introduced in Section 5.2.4. above, and discussed in greater detail in Section 3.4.5. of Module 3. We will only deal with the matter briefly here.

The competition policies of a number of countries require dominant firms to provide competitors with access to essential facilities controlled by dominant firms. The so-called "essential facilities doctrine" is closely related to the concept of "refusing to deal" with competitors, which is an offence under competition law in some, but not all circumstances.

Some experts have discouraged telecommunications regulators and competition authorities from developing excessively broad principles requiring incumbent operators to provide network facilities to their competitors. They point out that such principles would discourage competitors from building their own competitive facilities.

However, most telecommunications experts agree that the introduction of competition can be greatly accelerated by requiring incumbents to provide access to a broadly defined range of essential facilities to new entrants. For the provision of telecommunications services to the general public, for example, interconnection to the incumbents' PSTN and related switching, signaling, Operational Support Systems (OSS) and database systems can significantly speed up the introduction of competitive new services.

Most of the debate about essential facilities in the telecommunications context relates to interconnection facilities. The issues related to the supply and unbundling of essential facilities are discussed in more detail in Module 3 – Interconnection.

Abuse of Dominance and Essential Local Network Facilities – The EU Example

The European Commission's 1998 "Access Notice" provides a good example of the treatment of essential network facilities in current competition and telecommunications law and policy (*Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector*).

The Access Notice illustrates how an established telecommunications network operator can abuse its dominant position in controlling network access facilities. The Notice sets out how competition rules are to be applied to telecommunications network access agreements in the context of: i) specific telecommunications market liberalization directives; and ii) overlapping authority between national and EU institutions, and between competition and sector-specific regulatory authorities. The Access Notice builds on earlier Commission guidelines on the application of competition rules in the telecommunications sector.

The Notice adopts a conventional approach to market definition. It uses the concepts of demand substitutability and non-transitory price increases as the main tools for defining separate product markets. Based on its analysis, the Commission concludes that telecommunications network access constitutes a distinct market from the market for end user services.

Much of the Notice is directed toward an evaluation of market dominance and the application of principles of abuse of dominance to the network access market. The first principle is that a company controlling access to an essential network facility is in a dominant position within the meaning of EU law on abuse of dominance (specifically, Article 82 of the EC Treaty – formerly Article 86).

The Commission concludes that abuse of dominance can be made out where a network operator refuses access to its network, withdraws access or provides access subject to unjustifiable delays or excessive prices. The Commission identifies other conduct which may be abusive, including tying or bundling network elements without adequate justification, configuring a network so that access by competitors becomes more difficult, unjustly discriminating in the terms of access offered to competing operators or pricing access so as to "squeeze" competitors' profit margins. These concepts are discussed later in this Module.

5.3.3 Cross-Subsidization

In some key telecommunications markets, there is a concern that incumbent telecommunications operators will abuse their dominant position by engaging in anti-competitive cross-subsidization. The concern is that an operator that dominates one market may increase or maintain its prices above costs in that market. It can then use its excess revenues from the dominant market to subsidize lower prices in other more competitive markets. As a result, a disproportionately large share of the costs of the operator's

entire business can be recovered from the markets the operator dominates.

This results in a "cross-subsidy" between services and subscriber groups. The more competitive services are subsidized by the less competitive services. Such cross-subsidies can be significant barriers to competition.

Without the ability to cross-subsidize its own competitive services, a new entrant may not be able to match the incumbent's low prices in competitive markets. This may prevent new entry into the incumbent's less competitive markets. Alternatively, it may drive new entrants out of business or prevent them from raising enough capital to expand into the incumbent's dominant markets.

Regulatory treatment of anti-competitive cross-subsidies in telecommunications markets is complicated due to the patterns of "social" cross-subsidies which characterized the monopoly era of telecommunications services in many jurisdictions.

In the monopoly era, governments typically authorized the cross-subsidization of local, residential and rural services by other services, such as international, long distance and business services. Whatever the benefits of social cross-subsidies in the monopoly era, there is now a widespread recognition that they should be abolished. These cross-subsidies are gradually being eliminated by the implementation of rate rebalancing policies. Rate rebalancing policies are aimed at aligning prices of different services more closely with their costs. Rebalanced rates are closer to the types of "efficient" pricing found in competitive markets.

That is not to say that social objectives, such as maintenance of affordable access for poor or remote subscribers, are being ignored today. However, most telecommunications policy-makers, regulators and sector experts agree that implicit cross-subsidies between services should be replaced by explicit subsidies aimed at meeting specific social objectives. The issues surrounding targeted subsidies to meet social objectives are discussed in greater detail in Module 6.

Prohibitions Against Cross-Subsidies

Prohibitions against anti-competitive cross-subsidy have been incorporated into the laws and regulatory framework of many countries. Many countries that did not do so before have established such prohibitions as part of their obligations under the 1998 *WTO Agreement on Basic Telecommunications*.

The WTO's Regulation Reference Paper (see Appendix A) requires signatory countries to maintain appropriate measures to prevent major suppliers from engaging in or continuing anti-competitive practices. The list of anti-competitive practices specifically includes "engaging in anti-competitive cross-subsidization".

National prohibitions against cross subsidies can be found at various levels, including laws, regulations, regulatory guidelines, rules, orders or licences.

Licence conditions are often used to prohibit cross-subsidy. One example of a licensing prohibition can be found in the *General Telecommunications Licence* granted by the Office of the Director of Telecommunications Regulation in Ireland. Condition 14 of the Licence permits the Director to enquire into complaints of cross-subsidization by the licensee, and to issue a binding direction requiring the licensee to cease such cross-subsidization. This condition is found in Part 3 of the Licence, which includes the conditions applicable to any licensee with Significant Market Power (see definition in Section 5.2.1). This licence also requires licensees to keep appropriate accounting records in order to permit the Director to evaluate whether conduct amounts to unfair cross-subsidization.

Another example of a broad prohibition can be found in the licence issued to the Jordan Telecommunications Corporation by the Telecommunications Regulatory Commission of Jordan. The prohibition reads as follows:

> "The Licensee will not, alone or together with others, engage in or continue or knowingly acquiesce in any anti-competitive practices and, in particular, the Licensee shall: … not engage in anti-competitive cross-subsidization;"

Such broad prohibitions are included in licences or in other regulatory conditions imposed on incumbent operators in many other countries. While these broad prohibitions send a strong signal to incumbents, they are not generally effective unless they are accompanied by more specific measures to identify and prevent anti-competitive cross-subsidies. We will now consider several specific measures: accounting separations, structural separations and imputation tests.

Accounting Separations

Accounting separations can be used to determine the existence of cross-subsidization. Regulators have developed accounting separations, or have required incumbents to do so, in a number of jurisdictions.

An example is provided by Article 8 of the EU's *Interconnection Directive*. It imposes an obligation on EU member states to ensure that public telecommunications network operators that have significant market power keep separate accounts for their interconnection-related activities and their other commercial activities. This obligation applies if such incumbents provide both end user services and interconnection services to new entrants. In addition, the record of interconnection-related activities must include both interconnection services provided internally and interconnection services provided to others. The new *Interconnection Directive* proposed by the European Commission in July 2000 provides that regulators should have the authority to impose accounting separations in relation to specified activities related to interconnection and/or network access (Article 11).

More detailed accounting separation approaches are required by several national regulators. In some cases, accounts must be separated for a range of different services. The most detailed approaches have been developed in Canada and the United States.

The goal of accounting separations is to divide the costs of an operator between the different services it offers in order to determine the costs of providing each service. The costs of each service are then compared to the revenues generated by that service to determine whether the service recovers its costs or loses money. Services that do not cover their costs are considered to be subsidized by other services with revenues that exceed their costs.

In effect, accounting separations require an operator to account for different services as if they were stand-alone operations. Since telecommunications operators provide a wide range of services, many accounting separations undertaken for regulatory purposes do not attempt to separate the costs of each individual service. Rather, they separate the costs of broad categories of service.

The focus of regulators is usually on separating the costs of the categories of services in which an operator is dominant, from the costs of providing the more competitive services. Such a separation permits the regulator to determine whether the monopoly (or less competitive) services are generating excess revenues – and whether these costs are being used to subsidize the more competitive services. Accounting separations can add transparency to the costing and pricing process of the incumbent operator.

Accounting Separations – Cost & Revenue Categories

Determination of which accounting categories should be established will depend on the state of competition in a national telecommunications market. In general, the more competitive the market, the more difficult the accounting separation process.

Once all segments of a market become workably competitive, it will no longer be necessary to establish accounting separations, or worry about cross-subsidies. At that point, no firm would retain a dominant position in any market segment. Accordingly, it could not raise prices above competitive levels and use the excess profits to cross-subsidize more competitive areas.

The following are simplified illustrations of possible accounting separations that could be used in emerging markets that are subject to a limited degree of competition. Three simplified scenarios are considered in Table 5-2, Table 5-3 and Table 5-4.

Several observations can be made about these simplified scenarios. In Scenario A, the operator appears to be cross-subsidizing its entry into competitive services with revenues from its monopoly services. Several factors are relevant in determining the extent of this cross-subsidy. Any firm will incur start up costs in the early years of introducing a new service, and if the deficit for Category 2 competitive services is short lived, there may not be a serious anti-competitive problem. However, if the cross-subsidy persists, or increases, that would make it very difficult for new entrants in the cellular and value-added services markets to compete. They may be driven out of business.

Table 5-2: Scenario A: No competition in basic telephone services; competition in cellular and value-added services (e.g. Internet access, e-commerce services)

Accounting Category 1 – Monopoly Services		Accounting Category 2 – Competitive Services	
Revenues	**5000**	**Revenues**	**100**
Costs		**Costs**	
Local Access Network Services	**2500**	Cellular Telecommunications Services	300
Long Distance Network Services	1000	Value-added Services (including Internet Access, e-commerce)	200
International Network Services	400		
Total Costs	**3900**	**Total Costs**	**500**
Surplus	**1100**	**Deficit**	**(400)**

Table 5-3: Scenario B: No competition in local access services; competition in long distance, international cellular and value-added services (e.g. Internet access, e-commerce services)

Accounting Category 1 – Monopoly Services		Accounting Category 2 – Competitive Services	
Revenues	**2500**	**Revenues**	**2600**
Costs		**Costs**	
Local Access Network Services	2500	Cellular Telecommunications Services	300
		Value-added Services (including Internet Access, e-commerce)	200
		Long Distance Network Services	1000
		International Network Services	400
Total Costs	**2500**	**Total Costs**	**1900**
Surplus/Deficit	**0**	**Surplus**	**700**

Table 5-4: Scenario C: (same assumptions as Scenario B) No competition in local access services; competition in long distance, international cellular and value-added services (e.g. Internet access and e-commerce)

Accounting Category 1 – Monopoly Services		Accounting Category 2 – Competitive Services	
Revenues from End Users	1700	**Revenues**	**2600**
Local Access Revenues from Competitors	800		
Total Revenues	**2500**		
Costs		**Costs**	
Local Access Network Services	2400	Cellular Telecommunications Services	300
Cost of Providing Local Access Services to Competitors	100	Value-added Services (including Internet Access, e-commerce)	200
		Long Distance Network Services	1000
		International Network Services	400
Total Costs	**2500**	**Total Costs**	**1900**
Surplus/Deficit	**0**	**Surplus**	**700**

Scenario B illustrates a hypothetical accounting separation for an incumbent operator that has rebalanced its local access prices. Its local access prices are sufficient to cover associated local access costs – and no more. Based on these data, the firm cannot be said to be cross-subsidizing its competitive services from its monopoly services.

However, a further degree of accounting separation may illustrate a form of anti-competitive cross subsidization that is potentially damaging to competition. This is illustrated in Scenario C.

The total costs and revenues illustrated in Scenario C are the same as in Scenario B. However, Scenario C separates out the costs and revenues of the incumbent in providing local access services (e.g. call termination) to competitors. In so doing, Scenario C illustrates what appear to be anti-competitive cross-subsidization practices on the part of the operator.

It appears that the operator is charging competitors 8 times as much as it costs to provide them with local access services (local access revenues from competitors are 800, costs are 100). This could increase the costs of competitors to a level where they would find it very difficult to compete with the incumbent. The more detailed level of accounting separation provided in Scenario C illustrates what seems to be a large cross-subsidy from one category of monopoly services, i.e. local access services provided to competitors, to other monopoly services.

Scenario C indicates other potential problems that merit further investigation. For example, it is possible that the incumbent is implicitly charging its own competitive services at lower prices for local access services than it is to competitors. This problem is discussed later in this Section.

A comparison of Scenarios A, B and C indicates that it is important to design accounting separation categories to meet different market circumstances, and to take into account the type of cross-subsidy that is being investigated or monitored.

Accounting Separations - Cost Allocation Issues

In practice, it is sometimes difficult to separate the costs to telecommunications operators. Cost accounting approaches are well developed in some highly competitive industries, where business managers carefully monitor the financial performance of different services or "profit centres". However, the same has not generally been true of incumbent telecommunications operators.

Identifying the costs of different services was simply not required in the monopoly era. Telecommunications managers and regulators typically focussed on the overall profitability of the firm, not on the profitability of individual services. If some services lost money, these losses were covered by profits in other services. Detailed cost separation approaches were never required or developed.

Some difficult issues of cost separation are rooted in the nature of telecommunications costs. Many of the costs of operating a multi-service telecommunications operator can be characterized as joint or common costs. These concepts are defined and discussed in detail in Appendix B.

As discussed in Appendix B, it is difficult to assign joint and common costs directly to a service. Accordingly, such costs are often "allocated" or "distributed" among the different services. Various approaches can be used for such cost allocations. Most involve some degree of judgment.

Given the arbitrary nature of some cost allocations, incumbent operators will often have the opportunity to allocate more costs to their less competitive service offerings. This "shifting" of costs will make the more competitive services appear less costly and more profitable. For example, an incumbent might allocate 95% of its head office expenses to its basic telephone services, because those services account for 95% of its revenues. However, in reality, over 30% of the time of head office staff may be devoted to competition with new entrants in value-added, Internet and e-commerce services, which accounts for only 5% of its revenues. By shifting its headquarters' costs away from the more competitive services, the incumbent could justify charging a very low price for these services. The incumbent might thus be able to convince the regulator that it was not pricing the competitive services below cost, and subsidizing them from excess basic service revenues.

There is no simple solution to the accounting separation problems identified above. If there are serious concerns about anti-competitive cross-subsidies, the regulator will have to "roll up its sleeves", and work to understand the cost structure of the incumbent. The help of experienced telecommunications accounting or economic consultants will be useful, if not essential, in most cases.

International benchmarks can assist in some cases. For example, consider two services: (1) local termination services provided by an incumbent to interconnecting competitors, and (2) cellular telephone services provided to end users in competition with the same competitor. A benchmarking study may show that the incumbent charges twice as much for service (1) in comparable countries, and only half as much for service (2). In such a case, the regulator will want to take a closer look at the costs and pricing of the incumbent to ensure it is not engaging in anti-competitive cross-subsidization.

In conclusion, accounting separations can be challenging for both the regulator and regulated operators. However, some simplifying assumptions and benchmarking can assist in providing "order of magnitude" indications of possible cross-subsidies. Whatever techniques are used, accounting separations remain a valuable tool for regulators.

The accounting separations approach does have drawbacks. These include the discretionary nature of some cost allocations and the large amount of resources required for detailed cost separations. For example, the Canadian regulator spent the better part of a decade to develop its "Phase III" category-wide cost separations process. These drawbacks suggest that detailed accounting separations should not be relied on exclusively as a tool to identify and prevent anti-competitive cross-subsidies. In countries with limited resources, it may be more efficient to use a combination of benchmarking and very high level cost separations.

Structural Separation and Divestiture

Two other approaches, namely structural separation and divestiture, have been used by competition authorities and telecommunications regulators in cases of serious anti-competitive cross-subsidization. Both approaches tend to be used only where there is evidence of significant anti-competitive conduct. This usually involves not only cross-subsidization, but related conduct such as predatory pricing, anti-competitive use of information and discriminatory practices.

Structural separation generally refers to the separation of different lines of business of a telecommunications operator into separate corporate entities.

As an example, a cellular business can be operated by a separate company from a wireline telephone business. Both may be owned by the same shareholders. However, existence of a separate cellular company makes it easier to ensure that the incumbent operator with which it is affiliated does not discriminate unfairly against cellular competitors as compared to its own cellular operations. Rules can be established to ensure that both cellular companies are treated the same, for example, with respect to interconnection charges. Other examples of telecommunications lines of business that are frequently separated include ISPs and various types of mobile operators.

When structural separation is mandated by regulation, the different companies must typically be run on an "arm's length" basis. In that case, the companies must deal with each other on the same terms and conditions as they deal with third parties, such as competitors. The separate companies must normally not only have separate accounting records, but also separate management, offices, facilities, etc.

Regulatory conditions normally determine the degree of separation required in the companies' operations. Development of these conditions can pose challenges. Regulators must balance two competing objectives. One is to create sufficient separation to minimize the potential for cross-subsidization, collusion or other anti-competitive actions between the separated companies. The other is to minimize the inefficiencies that will almost inevitably be created by structural separation.

For example, there may be efficiencies (economies of scale and scope) inherent in providing common administrative services to both companies. On the other hand, the sharing of administrative services, such as accounting services, provides potential for anti-competitive conduct and for developing covert cross-subsidies. Similarly, sharing head office space can lead to efficiencies. On the other hand, it provides opportunities for collusive conduct between managers of the two companies. If structural separation is to be required, there should be a real separation of the two lines of business, including their management, premises, customer data bases, accounts and operations. Otherwise, the structural separation may be a sham.

The initial question, however, is not whether there should be structural separation between the companies, but whether the advantages of separation outweigh the disadvantages given the realities of a particular market. Other disadvantages of structural separation include high transaction costs (the costs of creating the separate companies) and the distraction for employees and customers as they work through the separation. Despite those disadvantages, structural separation may be the only way to ensure a level playing field for competition in some markets.

Structurally separate companies can often continue to operate under common ownership. Divestiture refers to a situation where a company, such as an incumbent, not only runs a particular line of business through a separate company, but divests (i.e. sells) some or all of the ownership of that separate company to independent parties.

Some competition advocates argue that only divestiture of ownership can ensure that a separate company is run in the interests of its separate shareholders, rather than merely as an operating arm of its parent company (e.g. the incumbent). Without divestiture, it is argued, a great deal of regulatory effort will be expended to detect anti-competitive dealings between affiliated companies. Once there are separate shareholders, the management of the separate companies must act in the interests of those shareholders. It will be safer to assume that the companies are actually run on an arms-length basis.

Structural Separation – The EU Cable Directive

An example of a structural separation directive can be found in the EU's *1999 Cable Ownership Directive*. This Directive requires dominant telecommunications operators to place their cable television operations in a structurally separate company. The Directive builds on the EU's ONP Directives and other efforts to implement a competitive framework for telecommunications. It is intended to address specific problems which the EU Commission has concluded result from the joint operation of cable television networks and conventional telecommunication networks.

The *Cable Ownership Directive* makes it clear that the Commission views structural separation as the minimum corrective measure required at this time, and that it may impose further measures, including divestiture of cable interests to third parties, in specific cases. The Commission also appears to be adopting a practice of requiring dominant companies to divest their cable interests as a precondition to securing Commission approval for new mergers among telephone companies. (See, for example, the discussion of the Commission's approval of the merger of Telia AB of Sweden and Telenor AS of Norway in Section 5.4.2 below.)

Divestiture – The AT&T Model

The most famous example of a telecommunications divestiture involved the separation of AT&T from the Regional Bell Operating Companies (RBOCs) in the United States in 1984. Not only were the local operations of AT&T structurally separated from its long distance and international operations, but ownership of the two groups of companies was separated by means of a share swap. The divestiture was, by most accounts, a great success.

With their ownership separate from AT&T, the RBOCs no longer had an incentive to favour AT&T over its long distance competitors, such as MCI and Sprint. Therefore, all long distance competitors obtained access to local telecommunications services from the RBOCs on similar, non-discriminatory terms. More relevant to this Section, the divestiture eliminated concerns about anti-competitive cross-subsidies between AT&T's local and long distance operations.

Divestiture is generally viewed as an extreme remedy that is only appropriate in cases of overwhelming dominance by very large operators in large economies such as the US. Policy-makers in other countries have been reluctant to consider dismembering incumbents, which are often seen as "national champions".

However, this view may be changing. The EU *Cable Ownership Directive* indicates a willingness by the EU to consider divestiture of at least some types of business lines. Consideration of the divestiture option may increase as more incumbents around the world become fully privatized. The changing market, economics and financing of the telecommunications sector suggest that there are advantages as well as disadvantages in divesting some lines of telecommunications business from others. For example, it is often easier to finance an e-commerce or GSM cellular business on a stand-alone basis than as part of a large multi-service operator. Finally, in countries with limited competition, divestiture may provide the means to create other strong players with the critical mass to become successful telecommunications service providers.

5.3.4 Vertical Price Squeezing

Vertical price squeezing is a particular type of anti-competitive conduct that may be engaged in by incumbent operators. This form of conduct can occur if the incumbent provides services in two or more "vertical" markets. Vertical markets are sometimes labelled "upstream" and "downstream" markets. For example, the oil production market is upstream of the oil refining market, which in turn is upstream of the gasoline sales market. Instead of upstream and downstream, the terms "wholesale" and "retail" are often used.

Vertical price squeezing can occur when an operator with market power controls certain services that are key inputs for competitors in downstream markets, and where those same key inputs are used by the operator or its affiliates to compete in the same downstream market.

To take an example, in telecommunications markets, incumbents often control local access and switching services. Consider one such service – the provision of dedicated local circuits from customer

premises to local exchanges. Dedicated local circuits can be viewed as "upstream" services. These services are used as an input by the incumbents in providing "downstream" services, such as dedicated Internet access services. Dedicated local circuits are also a key input for competitors who provide dedicated Internet access services. In other words, both the incumbent and other suppliers compete in the downstream market for dedicated Internet access services.

If the incumbent decided to engage in vertical price squeezing, it could increase the price to competitors for the upstream input (i.e. dedicated local circuit rates) – while leaving its downstream prices the same (i.e. prices for its dedicated Internet access services). The effect would be to reduce or eliminate the profits (or "margins") of competitors. Their margins would be "squeezed". To increase the squeezing effect, the incumbent could also reduce its downstream prices for Internet access. This would be a "two-way" or margin squeeze.

Put another way, an incumbent can often squeeze the margins of competitors by raising wholesale prices paid by competitors, while at the same time lowering retail prices on competitive services.

A simplified numerical example of a vertical price squeeze is included in Box 5-8.

Box 5-8: Example of Vertical Price Squeeze by Incumbent Operator

Cost to incumbent of upstream facility (e.g. dedicated loop)	$ 90
Price charged by incumbent to competitor for loop	$ 120
Cost of providing retail services to end users (e.g. dedicated Internet access service) in addition to loop cost (e.g. marketing, billing)	$ 20
Price charged by incumbent to end users for dedicated Internet access services	$ 130

In this example, it is evident that there is no margin available for the competitor. The competitor must buy the upstream service, a dedicated loop, from the incumbent at $120. Assume that it will incur $20 in additional costs before it can provide retail services. Thus, it must spend $140 to provide the retail service to end-users. Since the incumbent provides the same retail service for $130, it is unlikely that the competitor could attract any customers away from the incumbent.

Wholesale Cost Imputation Requirement

To prevent vertical price squeezing, a telecommunications regulator may impose a wholesale cost imputation requirement, along the lines set out in Box 5-9.

Box 5-9: Basic Elements of Wholesale Cost Imputation Requirement

Conditions for Application:

1. Applies to a monopoly or dominant provider of "wholesale services"
2. Where the dominant provider also competes in market for "retail services" that require the wholesale services as inputs.

Basic Rules:

Dominant provider must provide evidence to the regulator that its retail prices are no lower than the sum of the following:

A. The price it is charging competitors for the wholesale services that form part of the retail service (this price is said to be "imputed" in the cost of the dominant provider whether it actually incurs this cost or not); plus
B. The actual incremental costs (above the imputed wholesale costs) that are incurred by the dominant supplier in providing the retail service. For example, marketing, billing, etc. costs.

Variations on this type of imputation approach have been used by various regulators and competition authorities. It is relatively simple to use (compared to detailed accounting separations or cost allocations). To return to the margin squeezing example in Box 5-8, it does not matter whether the actual cost of the wholesale service is $90, $120 or some other number. What the imputation requirement assures is that the same cost for essential wholesale services is imputed to the dominant operator's retail services as is passed on to its competitors.

Imputation – A Canadian Example

A form of the wholesale cost imputation requirement has been applied by the Canadian regulator in response to complaints of targeted retail price discounting by incumbent operators. The CRTC's approach was tailored to the rather unique circumstances of the Canadian market. In that market, the CRTC established a universal service program in the form of a subsidy for the access deficit incurred by operators in higher-cost areas.

All long distance operators, including new entrants, are required to make "contribution" payments to subsidize the deficit described above. However, as noted in our detailed discussion of the Canadian example in Module 6, incumbent local operators continue to receive the vast majority of contribution payments. Initially, the CRTC did not specifically require the incumbent operators to account for their own use of the local access network in providing competitive services. That is, it did not require incumbents to make contribution payments to themselves. This led to the potential for vertical price squeezing by incumbents. The CRTC's response to this situation is described in Box 5-10 below.

This imputation test is similar to the one described in Box 5-9. The main difference is that the CRTC imputes "contribution" subsidies, as well as wholesale facilities costs, as costs that must be covered in the incumbents' retail prices. The CRTC took the position that so long as a service recovers these imputed costs, plus the direct causal costs of the retail service, targeted pricing would not be anti-competitive.

Box 5-10: Case Study - The CRTC Imputation Test

In 1994 (Decision 94-13), the CRTC described the targeted price cutting responses of incumbent operators to new entrants as follows:

> "Under a scenario of unrestrained targeted pricing by the telephone companies, competitors could be faced with the situation in which they must compete against telephone company prices that embody a contribution amount that is lower than the competitor contribution cost in that market segment…The Commission considers that, due to their previous status as monopoly toll providers, the telephone companies have an established and generally predominant share in all market segments. As a result, their traffic mix, the presence of barriers to entry and the existence of customer inertia would permit them, on a sustained basis, to recover contribution from the most highly contested market segments at a level below the contribution amount [payable by competitors]."

As a result of these concerns, the CRTC implemented an "imputation test" to ensure that incumbents' prices in competitive networks were subject to similar cost recovery requirements as competitors. This imputation test, as modified in a later CRTC decision (Telecom Decision CRTC 94-19), has the following requirements:

Revenues for each service offered by an incumbent must equal or exceed the sum of--

(a) the costs for "bottleneck services" used by the company in the provision of the services in question, using tariffed rates for those bottleneck services (the "Operator Access Tariff");

(b) the causal costs specifically attributed to the services, which are additional to the costs covered in (a) above; and

(c) any applicable contribution payments.

5.3.5 Predatory Pricing

Predatory pricing is the practice of providing services at prices that are low enough to drive competitors out of a market, so as to monopolize the market. There is considerable debate about what prices and what conduct constitute predatory pricing. While the competition laws of various countries differ, it is generally agreed that a number of elements must exist to constitute predatory pricing. Typical elements for the definition of predatory pricing are set out in Box 5-11.

Predatory pricing is often prohibited under national competition laws. It may also be prohibited under the laws or policies applied by a telecommunications regulator. Either way, it will be necessary for the regulator to have the means to investigate and stop instances of predatory pricing and to implement suitable penalties or remedies.

Remedies vary. Predators may be penalized, competitors which have been the victims of predatory pricing may be compensated, or both. Another regulatory approach is to anticipate predatory pricing by implementing price regulation to deter predatory behaviour. Wholesale cost imputation requirements, which are discussed in the previous Section, provide an example of this approach.

Predatory pricing is a particularly difficult type of conduct to prove in the telecommunications industry. As previously discussed, the industry is characterized by substantial joint and common costs which are difficult to assign to particular services. The economic cost tests used to determine predatory pricing, such as Average Variable Costs and Long Run Incremental Costs are difficult to apply to many types of telecommunications prices. Again, these tests and related costing issues are discussed in Appendix B.

Predatory Pricing – Example of a Complaint

The case study provided in Box 5-12 summarizes Oftel's investigation into certain of BT's Internet services after a competitor raised predatory pricing concerns. It illustrates some of the problems of establishing that low pricing amounts to predatory pricing.

Box 5-11: What is Predatory Pricing?

Generally, the following elements must exist to constitute predatory pricing:

- The predator must have market power (power to unilaterally increase its prices, etc.).
- The predator must charge prices that fall below a predatory price standard. This standard varies somewhat between countries. Generally, in competition law, prices in this sector must be below Average Total Costs, and near or below Average Variable Costs. In the telecommunications sector, prices must usually be below Long Run Incremental Costs (LRIC) or Total Service Long Run Incremental Costs (TSLRIC). (See Appendix B for a discussion of these cost standards).
- There must be evidence of a clear policy of selling at predatory prices, not just sporadic or reactive price cutting.
- Normally, there must be a reasonable expectation that the predator will be able to recoup its losses after its predation ends (e.g. after competitors are driven out of the market).

Box 5-12: Case Study - Oftel Investigation of BT's Internet Services

The complaint:

A competing Internet service provider complained to Oftel that BT was engaging in predatory pricing. The complaint was that BT was offering its BTNet services at a price 9 times less than other comparable BT services (X.25 packet services). Other elements of the complaint were that BTNet was not recovering an appropriate measure of costs and that BT was offering a free initial period of subscription.

The analysis:

Oftel observed that barriers to entry were low in the Internet services market, and so predatory behaviour was not feasible (BT would not be able to raise prices and recoup early losses in the longer run). Oftel also noted that the BTNet service was distinguishable from the X.25 packet service, which the complainant relied on to demonstrate unreasonably low pricing. Oftel looked at the business plan for BTNet and performance against plan, and concluded that early losses were consistent with being a start up business and that projected results indicated a move into profitability. Finally, Oftel observed that free subscription periods were common in the industry and that BTNet had limited these offers to its initial launch.

The conclusion:

Oftel concluded that BT was not engaged in predatory pricing in its BTNet offers. Oftel did state its intention to continue to monitor the situation closely (given BT's potential influence over the market).

5.3.6 Misuse of Information

Dominant providers of local telephone services and certain other monopoly services are in a position to collect competitively valuable information on their interconnecting competitors. For example, a competitor might require a local access circuit from an incumbent operator in order to provide a dedicated Internet service to a business customer. The competitor would order the circuit from the incumbent.

An incumbent should not be able to misuse the information obtained in its capacity as a supplier of essential facilities to the competitor. For example, the incumbent should not be permitted to approach the competitor's prospective customer to induce the customer to switch to (or remain with) the incumbent's own dedicated Internet services.

Most of the information received by an incumbent which is subject to competitive misuse, is received in the course of interconnection arrangements. Therefore, the types of potential anti-competitive abuse, and the remedies for such abuse are discussed in Module 3, Sections 3.4.2 and 3.4.3.

5.3.7 "Locking-in" Customers

Telecommunications network operators may attempt to "capture" particular subscribers through agreements that make it difficult or impossible for a customer to move to another network operator or service provider. Examples include long term contracts and discounts for exclusive dealing, as well as agreements which tie a customer to a particular technology or hardware platform.

Not all agreements that lock-in customers are anti-competitive. Most do not warrant regulatory interference. However, there are cases, particularly where a dominant competitor locks in customers in advance of the introduction of competition, that merit regulatory review. Dominant firms certainly can injure the prospects for competition in a market by locking customers into exclusive arrangements. These arrangements can amount to an abuse of dominance.

One clear form of abuse involves a requirement by a monopoly operator that a customer enter into a long-term exclusive contract in advance of the introduction of competition, as a condition of receiving continued service. Regulators should prohibit such

practices. Clearly, monopoly services should not be discontinued if customers refuse to enter into long-term contracts that would undermine the introduction of competition. Such a practice clearly involves an abuse of dominance. This is a form of anti-competitive tied sale, as well as a form of locking-in customers.

Other cases of locking-in customers are less clear. Much will depend on the degree of competition in the market and the effect of the locking in-arrangements on competition in the market. The more dominant a telecommunications operator, and the more injurious to competition the locking-in arrangement is, the stronger the case for intervention by the regulator or competition authority. Some regulators and competition authorities will be more vigilant than others regarding the potential harm through locking-in arrangements.

A practical example of the approach taken by a competition authority to a case of locking-in telecommunications customers can be found in the EU's "SIM Lock" case. The approach taken by the EU's Director-General for Competition (DG IV) in this case is illustrated in Box 5-13.

5.3.8 Tied Sales and Bundling

A tied sale is the sale of one product or service on condition that the buyer purchases another product or service. Bundling is the practice of assembling multiple products or services (or multiple product / service elements) together in an integrated offer.

Tied or bundled sales are not necessarily abusive or anti-competitive. The sale of one product or service may be tied to another for reasons of consumer safety or technical interdependence. Bundled sales may also be provided to respond to consumer preference or convenience.

Box 5-13: Case Study – DG IV Intervention in "SIM Locking"

The following approach was taken by the Director-General for Competition (DG IV) of the European Commission in the case of the "SIM Lock" feature on mobile phone handsets. This feature was, at one time, common on European handsets.

The SIM Lock feature had at least two characteristics:

(i) It could be used as a theft deterrent (since the "subscriber identification module" – or "SIM" – integrated circuit card was uniquely associated with a particular handset); and

(ii) It effectively locked a particular handset and subscriber to a single mobile telephone service operator. The SIM card authorized a particular handset and subscriber to use a particular service provider's network. Locking the SIM card and preventing its replacement in the handset prevented subscribers from changing their service provider. The SIM Lock feature could be "unlocked". However, service providers tended to impose significant charges for overriding the SIM Lock feature.

On 30 May 1996, DG IV wrote a letter to the manufacturers of the handsets and to network operators notifying them that it considered the SIM Lock feature as having anti-competitive effects. Further consultations and correspondence ensued. As a result, manufacturers agreed to modify their handsets and include the ability for subscribers to unlock the SIM Lock feature.

DG IV also set out a number of additional restrictions on the use of the SIM Lock feature. These included full disclosure to consumers that they could unlock the handsets. Where service providers had subsidized handset prices, the amount of the subsidy and specific commercial terms for recovering that subsidy had to be disclosed. Providers also had to disclose any effect that this subsidy might have on the subscriber's ability to unlock the feature. DG IV permitted service providers to keep the handsets locked until such time as the subsidy had been recovered.

Anti-competitive Aspects

Tied sales can be abusive when they have significant adverse effects on consumers or competitors. An example of an abusive form of tied sales is tying a product or service offered in a highly competitive market to another product in a monopolistic or less competitive market. The first product would typically have low prices and profit margins; the latter, higher prices and profit margins. Another example is tying a requirement to buy a maintenance service contract with the sale of the product itself, where the service market is highly competitive but the product market is not.

Bundling has become a popular marketing approach in the telecommunications industry. Many incumbent operators and competitors are offering bundled packages of services. A popular bundle in Canada, for example, includes wireless telephone service, Internet access service and cable TV service, sold together for a price which is 10% lower than the combined price of the individual services. Like tied sales, bundling can be convenient to customers. Among other things, it cuts down on the number of bills to pay. However, regulators have been asked to deal with anti-competitive aspects of bundling in various countries.

Regulatory Intervention

Regulatory intervention is usually focussed on a few types of bundling activity. One type occurs where an incumbent offers bundles of products or services on terms which cannot possibly be met by competitors. This concern is particularly serious where the operator includes a service in the bundle, such as basic local telephone service, of which it is the monopoly or dominant supplier.

Another area where regulatory intervention may be required occurs where a dominant operator supplies services to a competitor which the competitor needs as an input to its own services in order to compete with the incumbent. In other words, the dominant operator provides both the upstream and downstream services, but the competitor only provides downstream services. Some concerns about this situation are discussed above under the title Vertical Price Squeezing.

A related concern arises where the dominant operator chooses to provide the upstream service to competitors on a bundled basis. In other words, the dominant operator may require competitors to acquire not only the minimum upstream service elements they require, but also other services. Such bundling would impair the competitors' efficiency. It would also inflate revenue flows from competitors to the dominant operators.

The issues related to the bundling of services provided by incumbents to their competitors are discussed in detail in Section 3.4.5 of Module 3, under the title Access to Unbundled Network Components.

Unbundling Conditions

Dealing more generally with the issue of bundling of retail packages by incumbents, a number of regulatory approaches are possible to prevent anti-competitive conduct. Outright prohibition should generally be seen as a last resort. Other approaches can often be used.

Steps can often be taken to level the playing field between dominant operators and new entrants, even when monopoly services are part of a bundle. Where this is the case, regulators can impose resale requirements on the dominant operator. In other words, the dominant operator may be permitted to sell monopoly services as part of a service bundle, but only if it makes the monopoly services available to competitors on reasonable terms to resell as part of their own competing bundles.

Box 5-14 provides an example of conditions imposed by one regulator on dominant operators that want to provide bundles of services that include monopoly service elements. The conditions established in this example include a resale requirement, a cost imputation test and a general requirement that competitors must be able to offer similar bundles in competition with the dominant operators.

Box 5-14: Case Study - CRTC Bundled Service Conditions

In 1994, when local services were offered on a monopoly basis in the Canadian market, the CRTC established the following bundling conditions (in Telecom Decision CRTC 94-19). These conditions applied to dominant operators that proposed to offer a bundled service, including monopoly service elements and competitive service elements:

- The bundled service must cover all applicable costs including:
  - (a) Tariffed rates for bottleneck network components;
  - (b) Bundled service start-up costs; and
  - (c) Contribution payments (access deficit subsidies similar to those paid by competitors);
- Competitors must be able to offer their own service bundles by combining network or service elements acquired from the dominant operator at tariffed rates and the competitor's own network or service elements; and

The dominant operator must permit resale of the bundled service by its competitors.

Regulatory conditions of this type can be incorporated into the regulatory framework to permit provision of bundled services, while safeguarding against anti-competitive conduct. Such conditions can be included in licences or specific guidelines, decisions or directions of regulators.

5.3.9 Other Abuses of Dominance

When the concept was introduced in Section 5.3, it was indicated that abuse of dominance involved two factors: (1) existence of market dominance, and (2) conduct by the dominant firm that is harmful to competition. The most common types of abuse of dominance in the telecommunications industry have already been reviewed.

However, various other abuses of dominance are possible. If conduct by a dominant firm exploits consumers, excludes competitors, or otherwise harms competition, it should be reviewed by telecommunications regulators or competition authorities. Box 5-15 lists some other types of abuses of dominance that are found in telecommunications and other industries.

5.3.10 Restrictive Agreements

Types of Restrictive Agreements

Most telecommunications regulators and virtually all competition authorities are called upon, from time to time, to review potentially anti-competitive agreements involving telecommunications operators. Some types of regulatory review are ex ante, such as where laws or licence conditions require prior approval of some types of agreements entered into by regulated operators. Other reviews are ex post, such as in cases where a competitor complains about the anti-competitive effect of an existing contract.

Some types of telecommunications agreements, such as interconnection agreements, are routinely reviewed by regulators. Interconnection agreements are discussed in Module 3. The following discussion focuses on other types of agreements between telecommunications operators.

Two categories of agreements may raise concerns of anti-competitive conduct. "**Horizontal agreements**" are agreements among competitors. They will cause concern to the extent that they restrict the competitors' ability to compete independently.

Box 5-15: Some Other Forms of Abuse of Dominant Position

The following list includes common types of abuses not discussed in detail elsewhere in this Module. This list is not exhaustive.

- Excessive Prices – This is perhaps the most common form of "exploitative" abuse of a dominant or monopoly position in the telecommunications sector. It is not an anti-competitive abuse but an exploitation of consumers. (It is discussed in Module 4 and Appendix B.)
- Restriction of Supply - A monopolist or dominant firm may refuse to invest in network infrastructure and supply new customers, preferring to serve a limited range of customers. This limited range of customers may provide a secure stream of profits, and requires less additional capital.
- Refusal to Deal – Refusal by a telecommunications operator to deal with a competitor is not always anti-competitive. Refusal by a dominant operator to do so may be anti-competitive, where the effect is injurious to competition. The most common example involves refusal by an incumbent operator to provide essential facilities, such as local loops required by competitors to compete (see discussion in this Module and in Module 3). However, other forms of anti-competitive refusal to deal occur in telecommunications markets.
- Unjust Discrimination – A dominant firm may discriminate unjustly or unfairly between customers, or between competitors (including itself). Discrimination may involve prices or other conditions of service. Regulators have traditionally prohibited such discrimination where it is exploitative, exclusionary of competition or otherwise harms competition or consumer welfare. Regulators generally do not prohibit all forms of discrimination, particularly those that have no harmful effects. Rules on which forms of discrimination are "unjust" vary from country to country.
- Abuses Involving Intellectual Property – Anti-competitive abuses of dominance may occur, for example in exclusionary IP licensing arrangements, and in attempts to monopolize adjacent markets.

"**Vertical agreements**" are agreements between upstream and downstream participants in the same or related markets. These agreements can exclude or restrict competition or harm consumer welfare. Problematic vertical agreements include some agreements that fix retail prices or grant exclusive distribution rights in a given geographic market.

Only horizontal or vertical agreements that have anti-competitive effects should be prohibited. There are many useful forms of horizontal agreements. These include some agreements to adopt common standards, or other product specifications or design features. Such industry standardization may result in greater production efficiency. It can also promote competitive entry by establishing an "open" market with increased product interoperability.

Certain vertical agreements can also benefit the public, such as exclusive marketing agreements that induce a distributor to invest in the development of a difficult new market. Exclusive arrangements can also be used to maintain high levels of customer support.

Box 5-16 deals with three types of problematic agreements found in telecommunications and other industries: price-fixing, bid-rigging and market allocation agreements. The first two are generally horizontal agreements. Market allocation agreements can be horizontal or vertical.

Other types of agreements can have anti-competitive effects, depending on the circumstances. Some are subject to legal prohibitions and remedies in different countries. Remedies and sanctions for restrictive agreements are generally similar to those for abuse of dominance. They can include fines, awards of damages or other compensation, orders rescinding agreements and other corrective orders.

Box 5-16: Examples of Restrictive Agreements

- Price Fixing price fixing agreements among competitors are designed to manipulate pricing. The simplest example is an agreement on the prices to be charged to consumers. Variations include agreements to jointly implement price increases, resist price decreases, establish a formula to generate uniform prices, or remove lower price products from the market in order to shift demand to higher price products.
- Bid-rigging - is collusion among bidders in order to determine who will win or what the winning price or conditions will be. Various forms of bid-rigging can occur. Some bidders may agree not to submit a bid in response to a particular tender. They may agree to submit tenders at higher prices or incorporate conditions that are deliberately inferior. Another variation involves competitors agreeing to take turns as to which of them is to succeed in a particular tender, a practice often referred to as "bid rotation". This can inflate prices for all bidders.
- Market Allocation – can be implemented by horizontal or vertical agreements. Market allocation reduces competitive entry. In horizontal agreements, competitors allocate geographic or product markets amongst themselves. They will agree not to compete in each other's markets. Such agreements are anti-competitive, and should almost always be prohibited. In vertical market allocation agreements, it may be acceptable to support a period of territorial exclusivity. This may be required to induce investment to develop a market properly. Competition from suppliers of substitute products or services may also reduce the anti-competitive impact of such agreements.

Evidence of Anti-competitive Effect

Legal and regulatory approaches to restrictive agreements vary. In some countries, some forms of restrictive agreements are prohibited outright. In other jurisdictions, prohibitions incorporate a reasonableness test.

In the US, for example, collusive arrangements among competitors, such as price-fixing and market allocation, are illegal regardless of whether the agreed restrictions are considered reasonable or not. Participants to a restrictive agreement can be punished if it is proven that: (1) such an agreement exists, and (2) it could have anti-competitive consequences.

Similarly, Article 81 (formerly Article 85) of the EC Treaty prohibits all agreements between undertakings "which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market". Article 81 specifically prohibits price-fixing and production allocation agreements which prevent, restrict or distort competition.

A different approach is taken in Canada. There, only agreements among competitors that lessen competition "unduly" are prohibited. Accordingly, in Canada, it is necessary to prove: (1) the existence of a prohibited agreement; and (2) that the agreement lessens competition unduly. This additional requirement is a major reason why there have been few successful prosecutions in Canada for agreements that would be recognized as anti-competitive in other jurisdictions.

5.4 Mergers, Acquisitions and Other Corporate Combinations

5.4.1 Concerns About Mergers

The review and approval of mergers, acquisitions and other corporate combinations (all referred to as "mergers" for convenience here) is normally entrusted to competition authorities or other branches of government rather than to telecommunications regulators. However, there has been a high level of merger and acquisition activity in the global telecommunications industry in recent years. Consequently, the analysis of mergers and acquisitions can be expected to become a more

important part of competition policy in the telecommunications sector.

Many mergers will have little or no negative impact on competition. Some mergers may be pro-competitive, for example, by enhancing production efficiencies resulting from economies of scale or scope. Mergers may also create new synergies, lead to innovation by combining talents of different firms, and provide additional resources to develop new products and services.

Concerns about mergers, acquisitions and other corporate combinations are generally based on the same concerns about anti-competitive behaviour as discussed earlier in this Module. The main concern is that a larger merged firm may increase its market power. To the extent a merged firm becomes more dominant in a market, there is a greater potential to abuse this dominance. Merger controls aim to prevent the accumulation and exercise of market power to the detriment of competitors and consumers.

The basic rationale for merger control is that it is better to prevent firms from gaining excessive market power than to attempt to regulate abuses of their market power once such power exists. In practice, merger reviews and the exercise of related powers by competition authorities are usually based on an evaluation of the impact of a specific merger on competition in the relevant markets.

Types of Mergers and Acquisitions

Mergers can be characterized according to three categories: **horizontal mergers**, which take place between firms that are actual or potential competitors occupying similar positions in the chain of production; **vertical mergers**, which take place between firms at different levels in the chain of production (such as between manufacturers and retailers); and **other mergers**, such as those which take place between unrelated businesses or conglomerates with different types of businesses.

Merger reviews typically focus on horizontal mergers since, by definition, they reduce the number of competitors in the relevant markets. Also of concern are mergers between a firm which is active in a particular market and another which is a potential competitor.

In the telecommunications industry, vertical mergers can also be of concern. The merger of a firm that provides essential inputs to other firms can be problematic if the supply of those inputs to other firms is threatened. For example, the merger of a dominant local access provider with a major Internet Service Provider can raise concerns about whether other ISPs will obtain local access services on fair and non-discriminatory terms. Such a merger might be reviewed in order to ensure that adequate safeguards are in place to protect competing ISPs.

5.4.2 Merger Analysis

Large mergers, acquisitions and some other corporate combinations require prior review and approval in some jurisdictions. As part of their review, competition authorities may prohibit mergers or approve them subject to conditions. Mergers are usually only prohibited or subjected to conditions if the authority concludes that the merger will substantially harm competition. Given the discretion inherent in the interpretation of this threshold, various competition authorities have published merger guidelines. These are intended to assist firms and their advisers to anticipate the procedures and criteria which will be applied in assessing a merger.

An example of such guidelines is contained in the Horizontal Merger Guidelines published in 1997 by the US Department of Justice and the Federal Trade Commission. The Guidelines set out a five-stage analysis of the following subject areas:

- market definition;
- identification of firms participating in the relevant market and their market shares;
- identification of potential adverse effects of the merger;
- analysis of barriers to market entry; and
- evaluation of any efficiencies arising from the merger.

The importance of market definition was discussed in Section 5.2.1. In the context of a merger review, market definition is often the key factor in determining whether a merger is anti-competitive. If a market is defined broadly, the merging firms may be considered to be competitors. A more narrow market definition may result in a determination that the firms operate in different markets. On the other hand, a broad market definition could lead to a conclusion that the merged entity will face sufficient competition from other firms in the market. A narrower definition could lead to a conclusion that the merged entity would have excessive market power in a smaller market.

The second stage of the analysis is the identification of firms competing in the relevant market and their market shares. The determination of market share will have a direct bearing on an assessment of market power and the potential for abuse of market power by the merged entity. The evaluation of market participants includes not only firms which actually participate in the relevant market, but also firms which could be expected to enter it.

In assessing the potential adverse effects of a proposed merger, attention will typically focus on the establishment or increase of the dominant position by the merged entity. There may also be concerns that the merger, by reducing the number of firms participating in a market, will create conditions which make anti-competitive agreements among them more likely.

The evaluation of barriers to entry is an important aspect of merger review. A finding that there are low barriers to entry can help justify a merger.

Finally, the five-stage analysis concludes with an assessment of any efficiencies to be realized as a result of the merger. In this stage, the objective is to assess efficiency or other welfare gains which can be projected to result from the merger. These will be balanced against any anti-competitive effects which have been identified in the earlier stages of the review.

Theoretically, substantial efficiency gains or other public welfare gains could support approval of a merger even where anti-competitive risks are identified. In practice, it is difficult for a competition authority to quantify the positive and negative aspects of the transaction and arrive at any verifiable net effect. It may also prove difficult to determine how any efficiency or other welfare gains will be distributed between the producing firm and its customers. Similarly difficult is the development of any means to ensure redistribution of efficiency gains to broader public advantage.

In exceptional circumstances, a merger which would have anti-competitive effects may be permitted where one of the merging entities is in severe financial distress. The competition authority may be persuaded that the public interest is better served by a merger than by the failure of one of the merging entities. However, transactions of this sort should be carefully evaluated. Sometimes the merger is not the best solution. For instance, it may be that another firm could expand productive capacity using the assets of the failing firm and that public welfare would be better served by this alternative solution. Bankruptcy is painful for shareholders, but does not always have a long-term negative effect on the economy.

Information in Merger Reviews

As part of the merger review process, the merging firms must normally provide information to the reviewing authority. It is standard practice in jurisdictions which impose merger review to require parties to the merger to submit advance notice of the proposed transaction. The information disclosed in the pre-merger notification will normally be used by a competition authority in the first stage of merger review (i.e., to determine if any anti-competitive concerns are present and whether to proceed with a more detailed review of the proposed transaction).

The contents of pre-merger notifications are generally defined by law or regulation. Required information typically includes:

- the identity of the firms involved in the proposed transaction;
- a description of the nature and commercial terms of the transaction;
- the timing of the transaction;

- financial information on the firms involved (including revenue, assets and copies of annual or other financial reports);
- identification of related ownership interests and the organizational structure of the firms involved, and
- a description of the relevant product and service markets in which the firms operate.

The initial information filing typically triggers a waiting period, during which the reviewing authority will be entitled to request further information. This process concludes with a determination by the reviewing authority whether to proceed with a more detailed investigation.

If the competition authority decides to proceed with a further investigation, it will obtain more information from the merger participants. Additional information is usually gathered from third parties such as competitors and customers. Commercially sensitive information is also generally protected from public disclosure.

During a more detailed review, a competition authority will normally seek information about matters such as the following:

- products, customers, suppliers, market shares, financial performance;
- activity of competitors and competitors' market shares;
- availability of substitute products;
- influence of potential competition (including foreign competition);
- pace of technological or other change in the relevant markets, and its impact on competition; and
- nature and degree of regulation in the relevant markets.

The quality of a merger review will depend heavily on the quality and range of information available to the reviewing authority.

5.4.3 Merger Remedies

The goal of merger control laws is to prevent or remove anti-competitive effects of mergers. Three types of remedies are typically used to achieve this goal:

- **Prohibition or Dissolution** - The first remedy involves preventing the merger in its entirety, or if the merger has been previously consummated, requiring dissolution of the merged entity.
- **Partial Divestiture** – A second remedy is partial divestiture. The merged firm might be required to divest assets or operations sufficient to eliminate identified anti-competitive effects, with permission to proceed with the merger in other respects.
- **Regulation/Conditional Approval** - A third remedy is regulation or modification of the behaviour of the merged firm in order to prevent or reduce anti-competitive effects. This can be achieved through a variety of one-time conditions and on-going requirements.

The first two remedies are structural, and the third remedy is behavioural. Behavioural remedies require ongoing regulatory oversight and intervention. Structural remedies are often more likely to be effective in the long run and require less ongoing government intervention.

Partial divestiture or behavioural constraints are less intrusive in the operation of markets than preventing a merger from proceeding or requiring dissolution of a previously completed merger. Partial divestiture can reduce or eliminate anti-competitive effects while preserving some of the commercial advantages of a merger. Partial divestiture is emerging as a preferred remedy in many jurisdictions. Although it has since been abandoned, the proposed Telia/Telenor merger, which is described in Box 5-17 provides a good illustration of the use of this remedy.

Box 5-17: Case Study - The Telia / Telenor Merger

On 13 October 1999, the European Commission approved the merger of Swedish telecommunications operator, Telia AB and Norwegian operator, Telenor AS into a new company to be jointly controlled by the Swedish and the Norwegian governments.

On its initial review, the Commission identified a number of concerns due to the breadth of operations and market presence of Telia and Telenor, in their respective domestic markets. In addition, the Commission expressed concern with certain overlapping interests, such as the interest of each operator in competing mobile companies in Ireland. In addition, a significant concern was raised about Telia and Telenor's ownership of cable TV networks in each of their domestic markets.

To secure Commission approval of the proposed merger, Telia and Telenor volunteered the following commitments:

- each of Telia and Telenor would divest its cable television operations;
- each company would divest overlapping operations in the Swedish and Norwegian markets;
- one of Telia or Telenor would divest its Irish mobile telephone interests; and
- each of Telia and Telenor would implement local loop unbundling in its domestic market to facilitate the development of local competition.

The divestiture of cable assets is consistent with the Commission's *Cable Ownership Directive*. The commitments made to secure Commission approval for the merger represent a mix of structural and behavioural remedies to address identified anti-competitive effects. The commitments to divest operations are structural remedies. The commitment to implement local loop unbundling is a behavioural remedy requiring ongoing regulatory oversight.

Note: Although the merger was conditionally approved, it was later abandoned due to inability to agree on certain implementation matters.

We will now move to behavioural remedies. Some proposed mergers raise concerns about the potential for ongoing anti-competitive behaviour by the merged firm. Remedial orders issued in response to these concerns are generally similar to the remedies for abuse of dominance discussed earlier in this Module. Box 5-18 describes the US FCC's decisions in recent Bell Operating Company mergers in the US. It illustrates the types of behavioural remedies that may be imposed in telecommunications industry mergers. These orders are likely to focus on the supply of products or services to competitors and the prevention of anti-competitive pricing practices by the merged entity.

A merger may impact existing regulatory treatment of one or more of the merged firms in a number of ways. For example, if a merger significantly increases a firm's market share or market power, the regulator may review earlier decisions to forbear from regulation. Similarly, it may review an earlier determination that an entity involved in the merger was not dominant in its market, and was thus entitled to a lighter degree of regulation.

Box 5-18: Case Study - FCC Review of Bell Atlantic/Nynex and SBC/Ameritech Mergers

The Bell Atlantic/Nynex Merger

On 14 August 1997, the FCC approved the merger of Nynex Corporation into Bell Atlantic Corporation. The FCC's review was conducted pursuant to sections of the *Communications Act of 1934*, which requires FCC approval for transfers of operating licences and other authorizations. These sections required a demonstration that the merger is in the public interest. Accordingly, the parties to a proposed merger have the onus of proving that the transaction will enhance competition or that it will otherwise be in the public interest. The merger was also subject to approval of the US Department of Justice (DOJ).

In this and other merger reviews, the FCC applied the 1997 DOJ/FTC Horizontal Merger Guidelines. The FCC also evaluated the proposed merger on the assumption that the market opening initiatives introduced by the *Telecommunications Act of 1996* had been implemented. Applying this framework, the FCC concluded that the merger would have significant anti-competitive effects.

The first concern was that the merger would remove Bell Atlantic as a potential Nynex competitor in the New York market. The second concern was that continuing Bell Operating Company consolidation increased the likelihood of co-ordinated action among the remaining market participants.

The FCC reviewed claims of merger-related efficiencies put forward by the parties (including cost savings, accelerated broadband deployment and service quality improvements), and concluded that these fell far short of overcoming anti-competitive effects and of demonstrating a net public benefit. The FCC concluded that substantial barriers to entry would remain and that, without the benefit of additional measures, market entry could not be relied upon to constrain the exercise of market power.

Ultimately, the FCC decided to approve the proposed merger based on the following market opening commitments volunteered by Bell Atlantic. These commitments were to be made enforceable conditions for approval of the merger:

- ➢ the provision of detailed performance monitoring reports to competitors and regulators regarding performance of Bell Atlantic's networks and operational support systems (OSS);
- ➢ negotiated performance standards and enforcement mechanisms covering all major aspects of OSS operation and network performance;
- ➢ development and implementation of uniform OSS interfaces for the combined Bell Atlantic / Nynex region;
- ➢ operator-to-operator OSS testing in response to competitor requests, with a further obligation of providing evidence to the FCC that OSS functions could meet demand for resold services and unbundled network elements;
- ➢ offering interconnection, unbundled network elements and transport and termination services at rates based on forward-looking economic cost;
- ➢ offering unbundled switching and shared transport services priced on a per minute of use basis, routed in the same manner as Bell Atlantic's phone traffic and without the imposition of access charges; and
- ➢ optional payment plans permitting new entrants to pay recurring charges for what would otherwise be non-recurring charges, an installment payment plan for co-location and other large non-recurring charges and alternative payment mechanisms for common construction costs and competitor-specific construction and equipment costs (with cost apportionment consistent with earlier FCC orders).

These conditions were subject to a sunset limitation. They were due to expire 48 months following the release of the merger approval order.

Box 5-18: Case Study - FCC Review of Bell Atlantic/Nynex and SBC/Ameritech Mergers (cont'd)

The SBC / Ameritech Merger

On 6 October 1999, the FCC approved the merger of Ameritech Corp. into SBC Communications Inc. FCC approval was required and proceeded under the same statutory framework as the Nynex / Bell Atlantic merger. As a result of the merger, SBC will control three of the original seven Regional Bell Operating Companies (Southwestern Bell Telephone, Pacific Telesis and Ameritech). Perhaps because of this greater degree of consolidation, the FCC appears to have required a more onerous set of conditions in order to approve the merger.

In its review, the FCC was primarily concerned about the effects of the merger in removing a significant potential competitor from each of the participating firms' local markets. Concerns were also expressed about impeding the implementation of the market-opening requirements of the *Telecommunications Act of 1996*. Again, the FCC concluded that claimed efficiencies and other merger benefits were insufficient to overcome the identified anti-competitive effects.

Both the DOJ and FCC reviews of the SBC / Ameritech merger concluded that the merged entity would have to divest itself of cellular telephone licences in identified service markets (14 in all). This would eliminate overlapping operations by the two merged firms in those markets. The FCC concluded that the transfer of Ameritech's international authorizations to SBC would be approved subject to the SBC subsidiaries being classified as dominant international operators on US-South Africa and US-Denmark routes.

The most striking aspect of the FCC Decision is the range of conditions to be imposed on the merged entity. The conditions (30 in all) include:

- establishing a separate affiliate for the deployment of advanced services (which must obtain facilities and services from SBC companies on the same terms as competitors and be subject to a "comprehensive" annual audit);
- enhanced OSS loop information and loop conditioning to facilitate competition in advance services;
- enhanced OSS and performance measurement data to improve and monitor interconnection and other competitor provisioning (with identified "incentive payments" to be made by SBC if performance measures are not met);
- interconnection agreements to be made available on a multiple state and "most-favoured-nation" basis;
- identified operator-to-operator "promotions", including a loop discount of 25% off the otherwise lowest monthly loop charge (subject to "state-specific quantity limits");
- a commitment to enter at least 30 out of territory, major markets as a facilities-based competitive local service provider (to business and residential customers) within 30 months of the merger closing (and subject to an "incentive payment" of up to $1.2 billion U.S if the entry requirements are not met in all 30 markets); and
- a number of residential service enhancements, including "life line plans" for low-income subscribers and additional quality of service and network reliability reporting requirements.

These conditions are of limited duration. SBC undertook that each of the conditions would remain in effect for a period of 36 months from first implementation.

5.4.4 Joint Ventures

In some cases, telecommunications competitors may enter into joint ventures. The competition analysis of joint ventures generally raises similar issues to those discussed under the title Restrictive Agreements earlier in this Module. The process and information requirements for review of a joint venture will resemble those discussed earlier under the title Merger Analysis and Remedies.

Questions will be raised about whether a joint venture will bring about a significant reduction in competition or result in the exercise of market power to the detriment of competitors or consumers. Joint ventures can become vehicles for anti-competitive collusion between firms that would otherwise be competitors. Such ventures can also result in the creation or reinforcement of a dominant position.

Box 5-19 illustrates some of the considerations taken into account in a large-scale telecommunications joint venture recently reviewed by the European Commission.

Box 5-19: Case Study - The BT/AT&T Joint Venture

On 30 March 1999, the European Commission approved the creation of a joint venture between British Telecommunications plc and AT&T Corp. to create a global telecommunications services company. The final decision marked the conclusion of an in-depth inquiry commenced in December 1998. This inquiry was prompted by concerns that:

- The joint venture would create or reinforce a dominant position in the supply of international telecommunications services to large corporations and other telecommunications operators;
- the joint venture would create or reinforce a dominant position for certain telecommunications services in the U.K.; and
- the joint venture would result in anti-competitive co-ordination in the U.K. market given AT&T’s ownership interests in competitors to BT (ACC and Telewest).

The joint venture was assessed with a view to determine whether it would create or strengthen a dominant position and significantly impede competition contrary to Article 2 of the European Community Merger Regulation and Article 85 (now 81) of the EC Treaty.

The Commission concluded that the presence of substantial competition in the international services markets, as well as “plentiful additional capacity” supported the conclusion that the joint venture did not create or strengthen a dominant position. Although the Commission found that AT&T and BT had about half the traffic volume on the U.K./US route, it also found that the parties controlled only about 20% of capacity with planned additional capacity and falling prices for new capacity supporting competitive entry.

However, the Commission expressed a number of “co-ordination concerns” regarding U.K. markets. These included concerns about AT&T’s interests in BT competitors ACC and Telewest (the former a competitive long distance telephone services provider, the latter a major operator of telephony enabled cable TV systems). The Commission was also concerned about the distribution of AT&T /Unisource international telecommunications services in the U.K. To overcome these concerns, AT&T volunteered undertakings to:

- divest its interests in ACC U.K.,
- reinforce the structural separation between AT&T and its Telewest holdings, and
- facilitate the appointment of another Unisource services distributor in the U.K. (since the existing U.K. distributor, AT&T U.K., would be wound up).

The Commission granted approval for the joint venture subject to compliance with these undertakings.