COMPETITION ASSESSMENT TOOLKIT

2 guidance

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COMPETITION ASSESSMENT CHECKLIST

Competition assessment should be conducted if a legal provision has any of the following effects:

A Limits the number or range of suppliers

This is likely to be the case if the provision:

- ☐ **A1** Grants exclusive rights for a supplier to provide goods or services
- ☐ **A2** Establishes a license, permit or authorisation process as a requirement of operation
- ☐ **A3** Limits the ability of some suppliers to provide a good or service
- ☐ **A4** Significantly raises cost of entry or exit by a supplier
- ☐ **A5** Creates a geographical barrier for companies to supply goods, services or labour, or invest capital

B Limits the ability of suppliers to compete

This is likely to be the case if the provision:

- ☐ **B1** Limits sellers' ability to set prices for goods or services
- ☐ **B2** Limits freedom of suppliers to advertise or market their goods or services
- ☐ **B3** Sets standards for product quality that provide an advantage to some suppliers over others, or are above the level that some well-informed customers would choose
- ☐ **B4** Significantly raises costs of production for some suppliers relative to others (especially by treating incumbents differently from new entrants)

C Reduces the incentive of suppliers to compete

This may be the case if the provision:

- ☐ **C1** Creates a self-regulatory or co-regulatory regime
- ☐ **C2** Requires or encourages information on supplier outputs, prices, sales or costs to be published
- ☐ **C3** Exempts the activity of a particular industry, or group of suppliers, from the operation of general competition law

D Limits the choices and information available to customers

This may be the case if the provision:

- ☐ **D1** Limits the ability of consumers to decide from whom they purchase
- ☐ **D2** Reduces mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers
- ☐ **D3** Fundamentally changes information required by buyers to shop effectively

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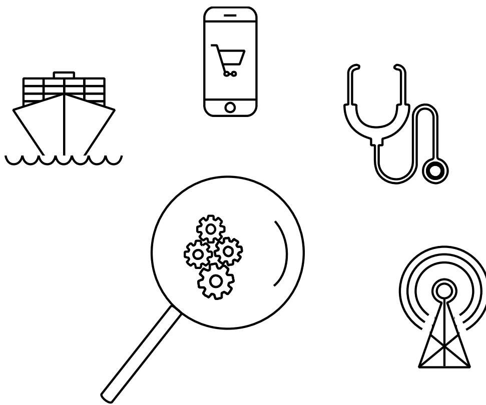

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Foreword

Increased competition improves a country's economic performance, opens business opportunities for its citizens and reduces the cost of goods and services throughout the economy. However, numerous laws and regulations may unduly restrict competition in the marketplace. Governments can reduce unnecessary restrictions by applying the methods described in the OECD's "Competition Assessment Toolkit". The Toolkit provides a general methodology for identifying unnecessary restraints and developing alternative, less restrictive policies that still achieve government objectives. A key element of the Toolkit is the "Competition Checklist" that asks a series of simple questions to screen for laws and regulations that could unnecessarily restrain competition. This screening focuses limited government resources on areas where competition assessment is most needed.

Governments can use the Toolkit in three ways:

- To evaluate draft new laws and regulations (for example, through regulatory impact assessment programmes)
- To evaluate existing laws and regulations (either in the economy as a whole, or specific sectors)
- To evaluate the competitive impacts of regulation (either by the government bodies that develop and review policies -or the competition authority.

It is designed for use in a decentralised fashion across government, at both national and sub-national levels. The Toolkit materials were designed with this flexibility because restrictions on competition can be implemented at different levels of government, and competition assessment is useful at all levels. One of the most successful examples of pro-competitive reform occurred in a federal system when Australia implemented broad, pro-competitive reforms at both national and state level in the mid-1990s. Since that time, Australia has experienced strong economic performance, with high and steady growth that has raised Australia's economy from a mid-level performer to one of the top

performing OECD economies. In a 2013 large competition assessment project, economic benefits from implementing recommended changes amounted to around EUR 5.2 billion (OECD, 2014a). In another project, benefits were estimated at around 2.5% or more of GDP (Sims, R., 2013 and Productivity Commission, 2005). While not all projects will have such large impacts, benefits from competition assessment can often be substantial.

The Toolkit can be used by officials without specialised economic or competition policy training. Potential users include: ministries, legislatures, government leaders' offices, state governments and external policy evaluators.

The Competition Assessment Toolkit is available in many languages to encourage its broad use and adoption. It contains three volumes: Volume 1 - *Competition Assessment Principles* - gives examples of the benefits of competition, provides an introduction to the Competition Checklist and shows ways that governments assess the competitive effects of their policies; Volume 2 - *Competition Assessment Guidance* - provides detailed technical guidance on key issues to consider when performing competition assessment; and, Volume 3 - *Operational Manual for Competition Assessment* - is a step-by-step guide for performing competition assessment. All related materials can be found on the OECD's website at www.oecd.org/competition/toolkit.

Acknowledgements

The Competition Assessment Toolkit was developed by Working Party No. 2 of the Competition Committee, with the input of many OECD delegations, both from Member and non-Member economies, and other OECD bodies with an interest in these areas, including the Regulatory Policy Committee and the Consumer Policy Committee.

At the OECD Secretariat, the materials were drafted by Rex Deighton-Smith, Sean F. Ennis, Vivek Ghosal, Marta Troya-Martinez, Mark Ronayne, Cristiana Vitale and Sabine Zigelski, under the leadership of Sean F. Ennis of the Competition Division. Substantial comments were made by Peter Avery, John Davies, António Gomes, Stéphane Jacobzone, Federica Maiorano, Ania Thiemann and many OECD committee delegates.

Table of contents

Chapter 1
Introduction: The need for regulation and regulatory reform 7

Chapter 2
Competition Assessment: Means to achieve a part of regulatory reform 13

Chapter 3 ....
Concepts and framework to assess competition in markets 19

Chapter 4 ....
Regulatory interventions 31

Chapter 5 ....
General framework for the competition assessment of regulations .. 97

Chapter 6 ....
The stages of evaluation 109

Chapter 7 ....
Concluding remarks 115

References 117

Appendix A
Market definition and structure analysis 127

Appendix B.
Sample competition assessments 135

Boxes

1. Entry 40
2. Granting or extending exclusive rights 44
3. Flow of goods, services and capital 46
4. Advertising and marketing 53
5. Port-towing operators: mandatory equipment requirements 59
6. Grandfather clauses 64
7. Star classification system in hotels 68
8. Information problems 71
9. Self-Regulation 77
10. Co-operation and information exchange 80
11. Exempting activities from competition laws 83
12. Mandatory sale of the branded drug, unless substitution is expressly permitted 90
13. Switching costs 93
A1.Market Structure 131

Chapter 1

Introduction: The need for regulation and regulatory reform

Governments often intervene in markets to regulate their structure, or the behaviour of businesses. Economic interventions can include:

- Restrictions on starting or expanding businesses;
- Regulations that affect actions that companies take to compete with each other;
- Regulations that restrict the incentives of companies to compete; and
- Regulations that limit the choice or information available to consumers.

The consequences of such interventions can have significant impacts on the affected sectors and, at times, reduce productivity and harm consumers. This volume explains how to identify whether an intervention may be unduly harmful and provides examples of the development of alternatives.

There can be good economic reasons for such interventions, such as preventing market failures arising from the presence of externalities, overseeing common public resources and public goods, limiting market power, and reducing inefficiencies from insufficient or asymmetric information. In addition to economic regulation, governments regulate businesses' behaviour to promote valuable goals in areas such as health, safety and environmental quality.

When considering the necessity of government intervention, it is worth taking account of the extent to which products can be excludable and rivalrous. Excludable goods are those for which it is feasible to exclude users and consumers. Rivalrous goods are those for which use by one party reduces the supply available to others. Products can combine these characteristics. When products are non-excludable, there is a particularly strong economic

rationale for public intervention, whether the goods are common goods (non-excludable and rival) or public goods (non-excludable and non-rival). Private goods (excludable and rival) and club goods (excludable and non-rival) may still involve market power or safety concerns that merit consideration of government intervention. Common goods present a particular risk of depletion of supply, as with fisheries; fishing boats may be difficult to exclude (e.g., in hard-to-patrol national waters or in international waters) and will be unlikely to take into account the full impact of their own fishing on the stock of fish available. Regulations may be the only way to ensure that common goods are not over-used.

The characterisation of some products as excludable, in particular, is subject to debate. For example, lighthouses were long considered public goods, as ships could not be forced to pay a fee to the lighthouse provider and as the light emitted by them to one ship would not reduce the light available to other ships. Coase (1974) noted that private lighthouses did exist in the UK at one time, with fees paid by ships for example when docking in a port, suggesting that lighthouses might be club goods. Subsequent scholarship has suggested that private lighthouses rarely survived long, with government grants of monopoly fees often substituted for purely private operation, and ultimately creating a system of high rents ultimately followed by government takeover of lighthouses. The appropriate nature of government involvement in services like lighthouses thus requires a full analysis of the type of product provided and options for private market provision.

The rich diversity of economic and social objectives, and the policies for attaining them, are illustrated in the following examples:

- To prevent the exercise of market power arising from natural monopolies, governments traditionally use price and rate-of-return regulation;
- To control for the negative externality generated by pollution, governments impose taxes and quantity restrictions; they also implement innovative schemes such as enabling trade of pollution credits;
- To ensure consumer safety, governments set standards for the quality of pharmaceuticals and medical equipment;
- To minimise workplace accidents that can cause casualties , governments intervene to set safety guidelines and standards; and

- To improve automobile passenger safety, governments mandate seat belts and airbags to be fitted in automobiles.

These diverse examples represent a fraction of the social and economic objectives that governments can address through their policy choices. Government action is vital to promote effective public policy goals.

Policymakers face the difficult task of identifying the best form of government or private action to achieve these particular goals. Since the 1970s, many countries have initiated reforms to improve the quality of regulations and minimise the extent to which national economies are subject to command-and-control forms of regulation. Impediments to competition, which can arise from poorly designed regulations, may prevent achievement of these goals.

When developing regulations, the competitive impact, and design to minimise competitive harm, should be considered early in the process and certainly before a near-final form of regulation has been produced. In its 1997 report on regulatory reform, the OECD noted that:

> *"Despite the fact that almost all economic activity today occurs in markets where competition can work efficiently, economic regulations that reduce competition and distort prices are pervasive. They take many forms at various levels of government, ranging from legal monopolies that block competition in entire sectors, to a host of less visible restrictions on starting up and operating businesses, such as quotas on business licenses and shop opening hours. Yet economic regulations have often proven to be extremely costly and ineffective means of achieving public interest goals. In the absence of clear evidence that such regulations are necessary to serve public interests, governments should place a high priority on identifying and removing economic regulations that impede competition".*

An additional driving-force that has created a pressing need for regulatory reform is the progressive opening up of global markets to the flow of goods, services and capital. As noted by many scholars and policy-makers, success in global markets requires competitive and innovative domestic markets. The more traditional command-and-control forms of regulation often impede the flow of goods, services, investment and technology within a country's regions, denying consumers the benefits of competition and innovation. Many have argued that minimising restrictions or other interventionist policies might help national economies to adapt more

quickly to fast-changing global markets, and to shift resources away from declining industries into high-growth and innovative activities. In industries characterised by rapid technological change or international mobility, failure to remove impediments to competition could disadvantage individual firms and the economy as a whole. In light of this, a growing number of countries have embarked on ambitious programmes to reduce regulatory burdens and improve the quality and effectiveness of regulations.

Regulatory reform and improvements in regulatory quality can increase productivity, lead to price reductions, and improve the quality and range of goods and services. Numerous studies, including several conducted by the OECD, have documented the beneficial impacts of regulatory reform in specific industries. The OECD (1997) report noted that, in the United States, reforms in several sectors are estimated to be providing benefits to consumers and producers of between USD 42 billion and USD 54 billion annually. The replacement of separate national requirements by a single Europe-wide requirement is estimated to have increased European Gross Domestic Production (GDP) by up to 1.5% between 1987 and 1993. In Japan, efficiency gains from deregulation are estimated to have boosted consumer income by about 0.3% (or USD 36 billion) annually. The report also noted that it cost USD 10 million to conduct 15 regulatory impact analyses in the United States but resulted in revisions to regulations with an estimated net benefit of about USD 10 billion, or a benefit-cost ratio of about 1 000 to 1. The Canadian Business Impact Test has been judged to be particularly effective in assessing regulatory impacts on small and medium enterprises. In other estimates, the implementation of competition-minded reforms is considered by the Australian government to have delivered benefits to the average family of about EUR 4 000 per year.

While governments enact regulations to pursue a wide range of legitimate social and economic interests, it is important to keep in mind that greater competition can produce benefits for both national economies and consumers. Thus, since competitive markets are expected to yield high economic welfare in most circumstances, assessing the impact of rules and regulations on competition will provide significant benefits. As the OECD (1997) has noted before:

> *"Economic and social policies should be mutually supportive. Restrictions on competition – such as limitations on entry, price, output, or production methods – are very costly ways to promote such public interests [and] have often been ineffective … There may be lower-cost approaches such as market incentives or approaches*

> *that are competition-neutral that work better within competitive markets. Whatever approach is taken should be evaluated for effectiveness. Reasonable standards applicable to all producers, based on benefit-cost analysis, scientific criteria, and risk assessment techniques, and underpinned by effective enforcement, are crucial to sound regulation."*[1]

The bigger picture that emerges is that assessment of the impact on competition in markets can also: provide additional insights into the functioning of markets; make the relevant factors for making decisions more transparent; and provide an important tool to help policymakers make the right choices when assessing the pros and cons of regulations. With this objective in mind, this volume provides a general framework for policymakers on how to assess the competition impacts of various rules and regulations. It uses the framework and concepts of competition law enforcement to assess the impact of rules and regulations on competition.

Chapter 2 briefly discusses the OECD's initiatives in regulatory reform and the role that competition assessments might play in improving regulation quality.

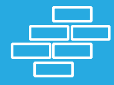
Chapter 3 presents key concepts used by competition authorities in their conduct of competition law enforcement. The concepts relate to market power, structure of markets, barriers-to-entry, entry and exit of firms, efficiency and innovation, and the behaviour of incumbent firms, among others. The primary objective here is to familiarise officials conducting competition assessments with key concepts that can be used to evaluate the harm to competition that may be caused by various rules and regulations.

Chapter 4 provides a compendium of the many rules and regulations that impact competition, such as those related to entry, advertising, grandfathering clauses, product content and quality, flow of goods and services, and exclusive rights, among others. For each type of rule or

[1] Much earlier, Engman (1974) argued that US federal transportation regulations by the Civil Aeronautics Board and the Interstate Commerce Commission lowered price competition, impeded entry and led to higher transportation costs which contributed to lower economic growth. MacAvoy wrote (1992, p.1): "Not only is there concern that regulation is failing in the goal of protecting certain groups of consumers, there is also an impression that it may be a leading cause of reduced economic growth rates."

regulation, this guidance document briefly discusses their justifications, highlights the potential competition issues they raise and presents selected examples from different countries.

Finally, **Chapters 5 and 6** outline a general framework, as well as a step-by-step methodology for regulatory officials to follow when assessing the impact of various rules and regulations on competition. The assessment of competitive effects is carried out in two steps, with the "initial assessment" stage including a simple review followed by a more detailed "full assessment" if significant competition concerns emerge during the initial assessment.



Chapter 2

Competition assessment: Means to achieve a part of regulatory reform

OECD initiatives over the years have added rigor, structure and transparency to the process of regulatory reform and have been used to assess the benefits and costs of regulations, the distributive impacts of regulations, alternative approaches to attain stated objectives and the disproportionate impacts on small businesses. Since regulations enacted by governments have diverse and important social and economic objectives, any reform or assessment of regulations must contain a balanced evaluation of all social and economic benefits and costs to reach a fair and objective judgement. An important initiative relates to the competition assessments of regulations where the specific aim is to examine potential harm that might be caused to competition by some of the rules and regulations imposed by governments, as well as various restrictions imposed by professional organisations.

The majority of OECD governments have some form of competition assessment included in the process of evaluating regulations (OECD, 2014a). This is consistent with the recommendations outlined in a 2005 OECD report on regulatory quality and performance, that new and existing rules and regulations be reviewed to assess regulatory quality, impact on competition and openness of markets[1] as well as with the OECD Council

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[1] For example, in June 2005, the European Commission (EC) as part of its Better Regulation Agenda, adopted revised *Impact Assessment Guidelines* covering all legislative and policy initiatives included in the E.C's Annual Work Programme. The Impact Assessment Guidelines recognise that *"vigorous competition in a supportive business environment is a key driver of productivity growth and competitiveness"*. Competition screening forms an integral part of impact assessment. In another example, in 2005 the

Recommendation on Competition Assessment (2019) and its Implementation Report (OECD, 2014b). While there is a general consensus that competition assessments improve a country's regulatory quality and economic performance, there is a significant variation in approach. Before the creation of the OECD's Competition Assessment Toolkit, the concepts, methods and framework for conducting competition assessments had not been fully explained or analysed in detail, and the area of competition assessments of rules and regulations was missing a rigorous and transparent framework for implementation. The OECD's Competition Checklist provides an initial, and useful, framework for review.

Mexican Federal Competition Commission (CFC) and Federal Commission on Regulatory Improvement (COFEMER) signed a collaboration agreement to foster joint work between competition and regulatory improvement authorities. The agreement established an "early alert" mechanism to be executed by COFEMER when the latter receives a draft regulation submitted for review, and the draft regulation has an effect on competition. Starting in 2006, the Mexican competition authority had the power to issue binding opinions to ministries and agencies of the federal government, with respect to their draft regulations, policies and programmes when they might have an adverse effect on competition.

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- ☐ **A4** Significantly raises cost of entry or exit by a supplier
- ☐ **A5** Creates a geographical barrier for companies to supply goods, services or labour, or invest capital

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This is likely to be the case if the provision:

- ☐ **B1** Limits sellers' ability to set prices for goods or services
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C Reduces the incentive of suppliers to compete

This may be the case if the provision:

- ☐ **C1** Creates a self-regulatory or co-regulatory regime
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- ☐ **C3** Exempts the activity of a particular industry, or group of suppliers, from the operation of general competition law

D Limits the choices and information available to customers

This may be the case if the provision:

- ☐ **D1** Limits the ability of consumers to decide from whom they purchase
- ☐ **D2** Reduces mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers
- ☐ **D3** Fundamentally changes information required by buyers to shop effectively

It is useful to briefly compare the standard Regulatory Impact Analysis (RIA) approach with new initiatives on competition assessments. There are two potential differences. First, the typical RIA analysis will have a more quantitative focus and evaluate benefits and costs of regulations. In contrast, competition assessments are generally designed to provide more qualitative judgments about the likely adverse effects on competition. Second, a typically conducted RIA does not study behaviour of, or changes to, market participants. Rules and regulations may alter incentives for market participants, and an important aspect of competition assessments is to understand what impact regulations might have on the behaviour of market participants and the likely effects on competition. Overall, it is important to understand that competition, and the benefits that may result from it, are inherently dynamic in nature. Benefits related to greater efficiency and innovation, lower prices, and a greater variety of goods and services are generally not attained instantaneously but become more apparent over time. In this sense, the objectives of the competition assessments, which are designed in part to evaluate changes in behaviour of market participants and forecast longer-term benefits and costs, constitute an indispensable tool for the assessment of regulations. In this respect, more traditional RIA evaluations and new initiatives on competition assessments can be seen as complementary inputs into improving the quality and efficiency of regulations and, more generally, economic performance and welfare.

The role of competition assessments has been appropriately summarised in the "Guiding Legislative Principle", as expressed in the Australian Competition Principles Agreement. The guiding principle is that rules and regulations should not restrict competition unless it can be demonstrated that (Australian Government, 1995):

- The benefits of the restriction to the community as a whole outweigh the costs;
- The objectives of the legislation can only be achieved by restricting competition.

The OECD 2005 report "Guiding Principles on Regulatory Quality and Performance" suggests that new and existing rules and regulations should be reviewed for their effects on competition and that one needs to:

> *"Design economic regulations in all sectors to stimulate competition and efficiency, and eliminate them except where clear evidence demonstrates that they are the best way to serve broad public interests, [and]… periodically review those aspects of economic*

> *regulations that restrict entry, access, exit, pricing, output, normal commercial practices, and forms of business organisation to ensure that the benefits of the regulation outweigh the costs, and that alternative arrangements cannot equally meet the objectives of the regulation with less effect on competition."*

While we have focused on the need for reforming rules and regulations, and making them more efficient and minimising (or even eliminating) them where necessary, it is important to note that improving the quality and efficiency of regulations and conducting competition assessments should not always be interpreted as minimising or eliminating regulations. As discussed in Chapter 4, dealing with issues such as switching costs imposed by formerly regulated incumbent firms – in the electricity, natural gas and telecommunications industries, for example – may sometimes call for added vigilance as well as some new rules and guidance for market participants to minimise the harm on consumers and new entrants caused by the behaviour of incumbents. Another example can be provided from the areas of self-regulation (or co-regulation) where some governments have increasingly relied on market participants to collaborate and develop compatibility, quality and safety standards. Self-regulatory (and co-regulatory) mechanisms are intended to minimise and even eliminate the need for more traditional (command-and-control) governmental regulations and are clearly beneficial to both governments and market participants in many respects. One aspect that has raised some concern is the self-regulatory mechanisms, which allow firms to collaborate in certain areas, may also lead to firms co-ordinating their activities and engaging in cartel-like behaviour (e.g. price-fixing) and creating barriers to entry for new firms. This concern calls for greater alertness on the part of regulatory officials and governments and even some carefully crafted checks and balances to minimise potential adverse effects.

In summary, while there is clear recognition that regulations are designed to achieve important social and economic goals, competition assessments can be viewed as valuable input into examining the potential harm to competition that may be caused by some of the rules and regulations legislated by governments and imposed by professional organisations and the benefits that can arise from pro-competitive reforms. Without compromising desired social and economic policy goals, competition assessments should develop regulatory options under the principle of maximising benefits for competition. Assessments aim to highlight alternative arrangements that can equally meet the broader social and economic objectives of the regulation with less harmful effects on competition. Given that estimating costs and benefits in a quantitative sense is particularly

difficult in the competition area, this toolkit is based on the assumption that the process of evaluation of rules and regulations includes a distinct competition test. In this sense, competition assessments and the RIA process can be viewed as complementary inputs into better decision-making by policy-makers and governments to improve economic well-being.

Chapter 3

Concepts and framework to assess competition in markets

The central objective of this document is to provide a framework for assessing the impact of various rules and regulations imposed by governments and professional organisations on the extent of competition in markets. This chapter highlights some of the key concepts used by competition law enforcement authorities to gauge the competitiveness of markets. Since competition policy and its enforcement have a well-established tradition in many countries, the concepts used within this framework can offer valuable insights into assessing the effects of various rules and regulations on competition.

Competition policy is a process by which governments attempt to foster competition and create the right environment for competition by prohibiting, or putting restrictions on, certain types of business practices and transactions that unduly limit competition. Broadly speaking, the objectives of competition policy can be thought of as fostering competitive markets and promoting innovation, with implications for prices, welfare and economic growth. The types of conduct scrutinised by national competition authorities include, for example, attempts by businesses and professional organisations to erect barriers-to-entry into markets, raising costs to firms' rivals, and co-ordination (as opposed to competition) among competitors in their pricing and production strategies. Reduced competition, resulting from certain types of business conduct going unchecked, may lead to higher prices for consumers, loss of product variety and quality, and lower innovation.

Why is awareness of the competition concepts and framework useful for understanding the impact of regulations or government policy interventions more broadly? If we examine the history of rules and regulations enacted by governments and restrictions imposed by professional organisations, they often end up limiting entry into markets and creating a variety of distortions that lead to inefficient market results. Differing views exist regarding the

reasons underlying this observation. One view is that the unanticipated impacts of rules and regulations are routinely large and would potentially see these anti-competitive impacts within this context. Another view is that demand for regulation often arises from existing producers within a particular market. From a producers' perspective, regulatory controls that reduce the ability of new entrants, or even existing rivals, to compete are of high value and will be pursued vigorously. In Chapter 4, we provide details of different types of rules and regulations and their likely impact on competition. While rules and regulations are adopted in response to various social and economic objectives pursued by governments, the downside is that they may:

- Impose barriers to competition, such as restrictions on entry or the flow of goods and services across regions and states;
- Facilitate co-ordination of prices and production among competitors;
- Impose higher costs on entrants and small businesses, as opposed to incumbents or larger firms;
- Partially, or completely, shelter firms from national competition laws.

There is one type of business conduct which is likely to be the most harmful to competition: the formation of cartels. Cartels, via their collusive or co-ordinated behaviour, result in higher prices, lower quantities and potentially lower variety and innovation with a clear loss of welfare. Collusion is illegal in most countries today. Collusive behaviour poses interesting challenges in the context of competition assessment of regulations. For example, in some industries, businesses collaborate in setting standards and compatibility rules and in conducting research and development (R&D). Professional organisations in the legal and medical professions implement and oversee codes of behaviour and quality of practice. Certain professions and producers of goods and services have historically been given the latitude to engage in self-regulation (or co-regulation) in areas such as product characteristics, including quality and safety, co-ordination of technical standards, ethical standards of professional practice and pollution control. There are, of course, significant benefits to be gained from allowing certain types of co-operation as this could potentially result in more efficient market outcomes and reduce the need for more formal regulation and associated costs. However, it may also create a fertile ground for businesses to engage in collusive behaviour related to their pricing and production. In Chapter 4 we highlight these issues in more detail, along with some checks and balances that can be put in place to minimise adverse outcomes.

The remainder of this chapter discusses key concepts that can be used for competition assessments. In Chapters 4 and 5, we use these concepts to gain a better understanding of the competition effects of rules and regulations.

1. Central concepts in assessing competition issues

1.1. Market power

Let us consider some possibilities regarding the extent of competition in a market.

- A market with a single firm – a monopoly – faces no competition. There are many reasons why a monopoly may occur. For example, a pharmaceutical company could produce the only drug that treats a particular medical condition, such as Genentech's patented targeted therapy drug Avastin for treating lung cancer. Since the pharmaceutical monopolist's product has no effective substitutes, it faces little/no competition. Consequently it will be able to charge high prices and earn significant profits.
- A market may have a large number of firms selling a product. For example, the United States has over 15,000 tomato producers. In this market, the product of one farm is a relatively close substitute for another. Each tomato farmer faces significant competition, cannot charge high prices and earns relatively low profits.
- An intermediate market where there are few sellers, such as the large commercial aircraft engines market where General Electric, Pratt & Whitney and Rolls Royce are the competitors. This is neither a monopoly, like the pharmaceuticals case, nor likely to be as competitive as the tomato case. In this intermediate case, one of those companies, for example, has less pricing power and earns less profit than it would as a monopolist due to the competition it faces from the other two companies. (In this example, issues related to collusion in markets with a small number of firms are not considered. These will be discussed later in the chapter.)

These three examples show different levels of competition which determine how high prices will be (relative to costs) and the size of profits.

Broadly speaking, **market power** is defined as the ability of firms to charge prices above competitive levels and consequently earn significant profits (or above-normal economic profits). In the above examples, the pharmaceutical monopoly possesses significant market power whereas the typical tomato producer does not. The aircraft engine case falls between the two outcomes. Market power can arise due to a variety of reasons and last for a short or long time period. The examples below provide some insights. Finally, any assessment of market power will have to be made in the relevant market (for the product or services) under consideration.

Identifying products in a relevant market can be complex, depending on whether the product sold by one firm is a close competitor (or substitute) to that sold by another. The extent to which two firms' products are good substitutes depends on factors such as the product's characteristics and its geographic availability.

Relevant markets can be much narrower or broader than the ordinary use of a "market". Automobiles are highly differentiated in terms of their characteristics, suggesting that an appropriate product market for automobiles may be narrower than "all automobiles". Consumers who shop for a luxury sports car, such as a Ferarri, are usually not choosing between a Ferrari and a small economy car but rather between one sports car and another. In other words, luxury sports cars are not considered by consumers to be close substitutes for small economy cars, or they would not be in the same relevant market. In contrast, rice produced in two neighbouring farms may be virtually identical in taste and characteristics, in which case consumers would treat them as good substitutes.

Once the relevant (or affected) market has been clearly defined, we can look at variables that describe the structure of this market. For example:

- ***Number of firms:*** In general, the larger the number of firms in the relevant market, the lower the concerns about market power.

- ***Concentration of output:*** This measures the extent to which production is concentrated in the hands of a few firms in the market. Higher concentration of output, in general, is expected to lead to a greater likelihood of market power.

A small number of firms, or higher concentration, is not necessarily bad for competition – it depends on the magnitude of the barriers-to-entry (discussed below) and potentially on the type of competition that prevails

(e.g., when bidding processes with clear technical criteria might mean that entry by new firms is highly feasible).

1.2. Barriers-to-entry

Barriers-to-entry can be broadly defined as those factors that might hinder the entry of new firms into the relevant market. Evaluating the magnitude of barriers-to-entry is important as it provides a perspective of the extent of potential competition that the incumbent firm(s) might face. For example, if barriers-to-entry are high, incumbents can engage in anti-competitive behaviour, raise prices and enjoy elevated profits without fearing that a new entry will erode their profits. To put it differently, lower entry-barriers give rise to greater potential competition and have a disciplining effect on incumbent firms in the market, restraining the exercise of market power.

In the context of competition assessment of rules and regulations, evaluating barriers-to-entry might be useful in the following context. Assuming that a regulation has the effect of reducing competition in a market, the totality of detrimental effects on competition will depend on the extent of barriers-to-entry. If they are high, then one might argue that the new regulation that imposes additional constraints on competition can cause significant harm to competition. If the barriers are low or negligible, then the harm to competition may be less material.

Barriers-to-entry can take many dimensions and are discussed below. (Pros and cons associated with each barrier are not discussed here.)

- ***Natural barriers:*** Barriers-to-entry could arise due to natural factors, such as economies of scale arising from high fixed (or overhead) costs. For example:

  - Water treatment plants have high overhead costs. Given this, it is typically optimal to have a single water treatment plant in a given geographic area;

  - Due to high R&D and overhead costs, entry is difficult into the large commercial aircraft engine manufacturing industry.

- ***Sunk cost related barriers:*** Barriers-to-entry can occur in markets where the sunk costs of entry are high. Sunk costs are defined as the non-recoverable component of cost, i.e., costs that a firm is unable to recover if it chooses to exit from a particular industry. Sunk

costs essentially reflect the fact that certain productive inputs are highly specialised in nature and, as a consequence, have limited alternative uses. This component can arise due to the low resale value of purchased capital, high advertising expenditures, high research and development expenditures and selective subsidies to reimburse the sunk costs of only selected firms, among others.[1] Sunk costs could arise in the context of regulations and some examples are listed below:

- In the pharmaceuticals industry, firms have to conduct extensive clinical trials to demonstrate safety and effectiveness of the medication before they are allowed to introduce the product to the market. In the event the firm does not succeed in demonstrating safety and effectiveness, the drug is not approved. The costs incurred during the regulatory approvals process are sunk costs as they cannot be recovered;
- Due to environmental regulations, manufacturers of paints and dyes have had to alter the chemical composition of their products. New R&D expenditures had to be incurred to ensure safety of the new formulations as well as the new formulations meeting standards of colour, adhesiveness and viscosity. The R&D expenditures incurred would be sunk costs in the event the firm was unsuccessful and had to exit the market.

- ***Barriers created by the conduct of incumbent firm(s):*** Actions by incumbent firms in the market can have detrimental effects on competition. For example:

  - Companies in industries such as telecommunications, electricity and natural gas offer schemes whereby the customer is locked-in to the contract for a period of time and there are costs to changing suppliers. These are called switching costs. Since they

[1] Sutton (1992, 1996) provides excellent discussion of various types of sunk costs. Many consumer products industries such as cosmetics and carbonated beverages, for example, have high advertising expenditures (relative to firms' sales). Industries such as biotechnology have inherently high R&D expenditures. These are examples of industries that have been argued to have high sunk costs.

raise the costs the customers have to bear while changing suppliers, they disadvantage competitors and new entrants.

- Telecommunications companies in the United States have aggressively fought to restrict/deny access to their networks by competitors.
- In the pharmaceuticals industry, companies often aggressively pursue patent "extensions" and embroil potential generic manufacturers in costly litigation in order to thwart entry.
- When postal markets were being opened up for competition, incumbent Postal organisations attempted to erect barriers for the emerging competitors by making agreements with foreign Posts to grant them preferential treatment in mail clearance, sorting and delivery at the expense of the private carriers.[2]

- ***Regulation induced barriers****:* Regulations by government and professional organisations may create barriers-to-entry. For example:
  - Laws in many countries impose restrictions on new entry into the retail sector, particularly the entry of large retail store chains;
  - Lengthy and costly bureaucratic procedures to start new businesses in many countries dampen entry;
  - Grandfathering of landing or gate slots in airports favours incumbent airlines and creates barriers for new start-up airlines;
  - In many countries the practice of law or medicine in a state or region requires the lawyer or doctor to pass the local board's certification exams, creating barriers-to-entry of professionals into a given state and their mobility across states;
  - Subsidies are often granted to one or more producers (but not all) while certain producers and potential entrants do not have access to such benefits.

[2] See Ghosal (2002) and the references therein for discussion of issues in postal markets.

Overall, an evaluation of the extent of barriers-to-entry into the market will be a key component of the competition assessment of rules and regulations.

1.3. Entry of new firms

Entry by new firms can inject price competition into the market, stimulate innovation, and provide gains in production efficiency, resulting in a broader variety of goods and services sold and improved product quality.

If entry by new businesses into the market is relatively easy, then incumbent firms are less likely to be able to exercise market power. If incumbent firms were to exercise market power, raise prices significantly and earn higher profits, then new firms would be expected to enter the market quite quickly and erode the high profits being made by the incumbents.

The ease of entry into the relevant market is determined by the various types of barriers-to-entry described above. They include natural, regulatory, sunk cost related and those created by the behaviour of incumbent firms. Entry by new businesses is less likely when barriers-to-entry are high. For example, entry is less likely in the:

- Pharmaceuticals market due to high sunk costs of R&D and regulatory approvals;
- Commercial aircraft engine manufacturing industry due to extremely high overheads, sunk costs and reputation effects;
- Internet services market if new entrants do not have access to the incumbent's network.

An additional issue relates to the timing of entry. The main concern is whether entry by new businesses can take place within a reasonable time frame. Entry within a short time period is unlikely:

- In the physicians market due to the educational and certification requirements;
- In the pharmaceuticals market for a particular diagnostic category as R&D costs, time and regulatory hurdles are significant.

In contrast, entry within a short time-period is more likely:

- In the baking industry as the production technology is standard and overhead costs are relatively low;
- In the furniture industry as there are no regulatory hurdles and overhead and R&D costs are low.

Any assessment of competition effects must make a proper evaluation of entry-barriers and the likelihood of entry by new businesses within a reasonable time frame. To consider some examples: (1) if new environmental regulations impose significant costs on business and are heavily grandfathered so that incumbent firms benefit, this may have the highly undesirable effect of dampening new entry; and (2) in several countries, airline landing slot allocations are grandfathered. This is detrimental to entry as new start-up airlines find it difficult to compete with the incumbent carriers.

1.4. Exit of firms

If efficient businesses exit, it may lead to an increase in market power exercised by incumbent firms leading to higher prices. Businesses may be forced to exit due to a variety of circumstances. For example:

- Assuming that, under a new regulation, incumbent firms have five years to meet new standards on environmental pollution. Companies that fail to make costly investments would very likely have to exit. While exit may be the intended result, competitive impacts merit consideration when evaluating such interventions;
- After the ruling by the US Federal Communications Commission (August, 2005) that incumbents are not mandated to share the network with competitors, some internet service providers may be forced to exit due to lack of access to the network;
- If dominant incumbent firms in industries such as natural gas, electricity and telecommunications are allowed to impose significant switching costs on customers newly formed firms may exit.

On the other hand, the exit from the market of inefficient firms creates room for more efficient firms to develop and grow. At times, subsidies may prevent the welfare enhancing market exit of such inefficient firms.

Competition assessment of existing or new regulations and business conduct should examine the likelihood of foreclosure of businesses as it has consequences for the extent of future competition in the market, with implications for prices, product variety and other factors.

1.5. Innovation and efficiencies

Business innovation can provide a number of desirable outcomes, such as:

- Increased production efficiency due to process innovations that decrease firms' costs, resulting in lower prices paid by consumers;
- Improved product quality;
- Wider product variety;
- Improved product safety.

Competition policy is very cognisant of the role played by innovation in preserving the dynamism of markets and strives not to hinder firms' innovative activities. Thus, this is an area of particular concern in relation to the potential anticompetitive impact of government regulation. In situations where regulation is "prescriptive" in character (that is, it instructs firms on what they must do, rather than the result that they must achieve), there is a high probability that it will have a negative impact on innovation.

Generally speaking, if the particular business conduct enhances the likelihood of innovation and provides gains in efficiency, then these benefits are traded-off against any potential increase in market power. If the former outweigh the latter, the business conduct may be viewed favourably. Some examples are shown below:

- Allowing research joint ventures between competitors. For example: the SEMATECH Consortia whose members included AMD, Freescale, Hewlett-Packard, IBM, Infineon, Intel, Panasonic, Philips, Samsung, Spansion, TSMC and Texas Instruments. The objective of this consortium was to advance semiconductor technology and performance of integrated circuits. Competition authorities recognised that such collaboration had the potential to lead to information exchange and co-ordination of prices and production, but also appreciated that, when properly structured, the expected gains to society from the resulting increase in innovation from such a venture could more than offset potential negative effects. Similar examples can be provided where companies are allowed to co-operate to set standards on product design and compatibility.
- Permitting businesses to undertake investments or initiate organisational changes or offer new products and services that would allow companies to attain:

- *Economies of scale*: these arise when overhead costs are high. Allowing for a greater scale of production leads to lower average costs per unit produced. For example, permitting larger retail stores may allow firms to reap economies of scale and create lower unit costs for service provision;
- *Economies of scope:* where it is less costly for one firm to produce different products or services, as compared to products being produced by separate specialised firms. For example, from a cost-efficiency standpoint, it would be efficient to allow a grocery store to sell over-the-counter medication due to cost-savings that arise from common marketing, storage and supplier contracts, as opposed to regulations forcing a separation between pharmacies and grocery stores.

Competition assessment of business conduct and regulation needs to carefully examine effects on innovation as it can deliver significant benefits.

1.6. Raising rivals' costs

If a business can raise its rivals' costs, it can reduce the amount of competition in the market and earn greater profits. Strategies to raise rivals' costs, relative to those of another company, can take a variety of dimensions. For example:

- Incumbent telecommunications companies attempt to prevent rivals from gaining (easy) access to their networks; this has implications for both internet services and telephone markets. Similar behaviour can be found in the electric industry where incumbents attempt to impose costs on competitors trying to gain access to the transmission network;
- Confronted with new environmental regulations, incumbent companies lobby hard to obtain grandfather clauses. These clauses allow the incumbent businesses to continue to operate under the older rules for a length of time while forcing any new business to meet the standards immediately. This can create significant cost asymmetries between incumbents and entrants with considerable harm to competition;
- A company can tailor its product or service contracts such that consumers cannot easily switch to a rival's product. Such restrictive

contracts, with lock-in periods, have been found in industries such as telecommunications, natural gas, electricity generation and banking.

- Pharmaceuticals companies can vigorously pursue patent extension applications and one of the objectives of this behaviour could be to impose additional (litigation and other) costs on rivals (generic manufacturers) to delay or thwart their entry.
- A company may seek a subsidy specifically for itself that is not available to its competitors.

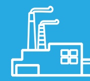
Since one of the objectives behind these types of behaviour by businesses is to make it difficult for rivals – a smaller incumbent or a potential entrant – to compete, leading to negative impact on markets and consumers, competition assessment needs to carefully sort through the alternative explanations for such behaviour and weed out the undesirable, anti-competitive aspects.

2. Summary and links to competition assessment of regulations

In assessing competition effects, the key issue is whether a particular business conduct can lead to a decrease in the extent of competition in the market (increase in market power), with implications for prices, efficiency and innovation. The discussion above provides a broad sense of the concepts and framework that competition policy uses to assess issues related to firms' behaviour, market power and innovation.

How is the above discussion and framework likely to be helpful in the competition assessment of regulations? While there are several benefits, we note two:

- A number of concepts outlined above – for example, related to market definition, switching costs, barriers-to-entry, consideration of efficiencies and raising rivals' costs – provide useful insights into understanding the adverse competition effects of different types of regulation, which we discuss in Chapter 4;
- The competition assessment framework described above provides an outline which can be used to conduct a logical, step-by-step assessment of the competition effects of regulations. Assessment steps are laid out in Chapters 5 and 6, and identify the likely impact in affected market(s), and types of businesses that might be affected.



Chapter 4
Regulatory interventions

There are alternative explanations for why governments intervene in markets. One rationalisation is that there are market failures in many industries and various rules and regulations are designed to remedy these.[1] As noted by MacAvoy (1992), regulation has typically been founded with the best of economic and social intentions, with profit and price controls designed to protect consumers from monopoly power, and workplace safety codes and emissions legislation instituted for health protection and for individuals living near the facilities. Some areas of regulation are described below:

- Natural monopoly may arise in industries such as electricity, water, railroads, telecommunications, and postal services among others, which have typically been characterised by large economies of scale due to high overhead costs. This implied that it was often optimal to have local or regional monopolies (for example, in water and electricity) and even national monopolies (for example, telecommunications, railroads and postal service). If monopolists were allowed to set prices for their products, they would be unduly high. One solution was to allow the monopolist to operate in the market but regulate prices in order to guarantee fair prices for consumers. Apart from economies of scale, universal service provision was another argument for legal monopolies in these industries. As market conditions, technology and other factors changed, some industries have been deregulated in many countries. More sophisticated regulatory design has also allowed the

[1] Viscusi, Harrington and Vernon (2005) and MacAvoy (1992) provide useful discussion of the motivations and different facets of regulations. A large and influential literature discusses the "capture theory" of regulation where lobbying and pressures from interest groups has led to various regulations. However, this line of reasoning is not explored in this document.

separation of competitive and natural monopoly segments of particular industries, allowing competition to be introduced into areas such as telecommunications and railroads in place of former regulated (or government-owned) and vertically integrated monopolies.

- Industries such as electricity, chemicals, pulp and paper, and petroleum refining among others, can generate significant amounts of environmental pollution as part of their normal production process. Left unchecked, many industries would generate pollution above socially optimal levels which they would have little incentive to clean up due to the high costs involved. Governments have intervened to control the negative externalities generated by pollution. Specific instruments have included taxes and quotas, along with offering investment credits for companies to adopt newer, less-polluting technologies.
- In the pharmaceutical industry, governments have instituted regulatory approvals and oversight mechanisms for the approval of new drugs, as well as monitoring potential negative effects of existing drugs. As noted in the OECD (2000) report, controlling the safety and quality of drugs is a predominant concern.
- Regulations are found in areas of industrial (workplace) safety. One motivation behind these regulations is the broader societal goal of reducing the risk of death or serious injury. In a similar vein, automobile safety regulations are designed to ensure the safety of drivers (and pedestrians), and reduce the serious injury and death toll caused by accidents.
- Several aspects of the banking industry and financial markets have been, and are, regulated. Two key objectives are to ensure stability of financial markets and to protect consumers' investments and finances.

Broadly speaking, regulation typically consists of a set of rules administered by the government to influence the behaviour of businesses and, consequently, economic activity. This document focuses on some instruments of regulation, including:

- ***Entry*****:** For example, many countries set limits on the number of pharmacies and retail store outlets within a geographic area. Regulations on the number of taxicabs in cities are common. In

industries such as electricity, telecommunications and banking, regulation prevented new firms from entering markets. Professions, such as doctors, lawyers, architects, have many rules and restrictions that often prevent, or greatly hinder, the flow of professionals from one region to another.

- ***Quantity*:** Examples include: quantity regulations on the amount of fishing in many countries, prohibition on the sale of alcohol on Sundays, regulations on the extent of (commercial) construction in specific areas. Quantity regulations can take other forms, such as universal service obligations for postal services where the post has to meet all demand at the regulated price. Finally, there are examples from agriculture related to quotas on production and the acreage planted.[2]
- ***Standards*:** Governments in many countries set standards on the safety of medical instruments and pharmaceuticals, building codes, health and occupational safety, automobile safety, environment and labour. Regulations also exist in other areas such as content and language in different mass media.
- ***Price*:** Industries such as electricity, natural gas, airlines, telecommunications and postal services, among others, have been subjected to price regulation.

There have been many social and economic justifications for regulations, but some rules and regulations enacted by governments and restrictions imposed by professional organisations can potentially hinder competition in markets.

- Successful lobbying by incumbent firms and industry organisations to significantly grandfather environmental and other types of regulation; this may place new entrants at a cost disadvantage compared to the incumbent firms, potentially affecting entry and competitiveness of markets.

2 Glaeser and Schleifer (2001) present an insightful discussion of quantity regulations.

- Stringent regulations on the number of retail stores and pharmacies, for example, can potentially limit competition, raise prices and reduce the variety and quality of services offered.
- Setting "unduly high" minimum quality standards may deprive consumers of greater variety and lower prices.
- Restrictions on advertising imposed by professional organisations – such as legal, medical and veterinarian – are very likely to have detrimental effects on competition and the variety of services provided.
- Finally, rules and regulations on the flow of goods and services across a country's regions are often unjustified; these restrictions create geographic separation of markets, potentially resulting in higher prices.

To fully understand the potential consequences of different types of rules and regulations on competition, the remainder of this chapter is devoted to discussion of these rules and regulations, which are grouped under four broad categories:

- Limits number or range of suppliers.
- Limits ability of suppliers to compete.
- Reduces supplier's incentive of to compete.
- Limits choices and information available to consumers

Under each category, the motivation behind the rules and regulations, and the potential competition concerns that may result from them, are described. Several examples from various markets, industries and countries are presented.[3]

One mechanism deserves mention beforehand: self-regulation and co-regulation. As noted in section 3.1 of this chapter, some professions and

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[3] The four categories above form the key elements of the "Competition Assessment Checklist" in Chapter 1 of the companion volume *Competition Assessment Principles*,

producers of goods and services are given leeway to engage in self-regulation or co-regulation. These mechanisms have a number of potential advantages, such as better co-ordination by market participants in setting standards related to product compatibility, and quality and safety, among others. By imposing less direct and burdensome governmental rules on businesses, they allow markets to flourish. An important concern, however, is that the enhanced scope for co-ordination among firms may also provide a ripe setting for implementing collusive strategies in prices and quantities and even setting standards that may impose barriers to entry. If left unchecked, these may result in a considerable reduction of consumer welfare and loss of market innovation. Although self-regulation and co-regulation are discussed under the third category ("Reduces supplier's incentive to compete"), given the fairly wide range of areas of concern under this mechanism, they can also be considered under the first two categories. As an example, consider the situation where an industry group that is allowed self-regulation decides to erect barriers to entry to protect profit-margins of the incumbent group (see item C.2 in Box 9). Arguably, some of these concerns to competition could also be discussed under the first two categories. In short, the competition concerns that may arise in the areas of self-regulation and co-regulation extend to nearly all of first three broad categories above.

Finally, it is important to note that the examples described in the information boxes indicate areas where a closer look and review of competition issues would be, or have been, worthwhile, and not necessarily to indicate where inappropriate government action was taken.

1. Rules and regulations that limit the number or range of suppliers

Some rules and regulations can limit the number, or type, of supplier of goods and services in the marketplace. This is likely to be the case if the proposal:

- Significantly raises cost of entry or exit by a supplier;
- Grants exclusive rights for a company to supply a product or service;
- Establishes a license, permit or authorisation process as a requirement of operation;

- Limits the ability of some types of firms to participate in public procurement;
- Creates a geographic barrier to the ability of companies to supply goods or services, invest capital or supply labour.

Historically, policy-makers have often had sound economic and social reasons for imposing constraints on the number and type of firms. The concern, however, is that such regulations can end up having detrimental effects on the level of competition in the market with potentially adverse effects on consumer welfare. Therefore, in circumstances where the number or range/type of suppliers might be affected, it would be worthwhile conducting a thorough investigation of benefits and costs of the proposed regulation and the potential loss of competition. Below are two broad areas where competition effects would need to be carefully evaluated.

1.1. Regulations on entry

Entry by new businesses plays a crucial role in preserving the vitality of markets by offering competition to incumbent firms and fostering innovation and growth in the longer-run. Therefore, it is important to recognise that rules and regulations that restrict entry are very likely to have a significant negative impact on competition and welfare, and they need to be carefully evaluated and justified.

Regulations on entry can take many forms and justifications are diverse. For example, in a natural monopoly setting, the government grants a legal monopoly and explicitly restricts entry. Motivations include high overhead costs and economies of scale in production. Professional organisations, such as legal and medical, may originally have had good reasons for establishing rules that limited entry, but such restrictions can unnecessarily place constraints on competitive commercial behaviour. Justifications typically include ensuring quality standards in professional practice. Regulations on entry and growth of retail businesses are common in many countries. Justifications include controlling urban congestion, and protection of private property values, among others.

It is important to recognise the different types of new entrants to be able to understand their effects on entry. A useful classification for entrants in the manufacturing sector is provided by Dunne, Roberts and Samuelson (1988, p.504) and their framework is adapted here for discussion. There are three broad entrant types.

1. A new firm entering by constructing a new plant (production facility) in the manufacturing sector, or similarly in the services sector. For example, a new machine tools company started by entrepreneurs with no prior business experience. The information technology revolution and surges in biotechnology and nanotechnology have seen many firms enter these industries with no prior business experience in these or other industries. A new legal practice set up by fresh graduates would also fall under this category.

2. Diversifying businesses entering by the construction of new facilities. For example, a large multi-product company like Siemens could enter a new line of medical instruments by setting up new production facilities. A hospital could open a new facility for the treatment of cancer. A chemicals company starts a new production facility for the manufacture of lysine.

3. Diversifying businesses entering through changes in the mix of outputs they produce in their existing plants. For example, an automobile company that historically made mid-to-large sized cars diversifies into making small fuel-efficient cars within the same flexible production facility. A steel company that produced machinable steels and micro-alloyed steels diversifies into making bearing and gear steels. A software company that focused on network security software diversifies into internet games.

The differences between the various types of entrants noted above can be significant in several dimensions. For example:

- ***Financing constraints.*** There is a large literature that provides evidence that firms' ability to enter and grow is, in an important way, dependent on their ability to attract external financing for their projects; see Fazzari, Hubbard and Petersen (1988) and the ensuing literature. This is less likely to be a problem for entrant types 2 and 3 above, but can be an important constraint for entrant type 1. One of the reasons is that banks, for example, typically need some form of collateral and past history to make loans and type 1 entrants are typically disadvantaged in this realm. In contrast, entrant types 2 and 3 can more easily obtain external financing from banks, as well as raise equity capital. Thus, financing constraints can make it more difficult for type 1 entrants to be successful.

- ***Learning.*** In general, prior business experience allows entrepreneurs to learn from past experience, knowledge of markets and regulatory hurdles, among other factors. Entrant types 2 and 3 are likely to have an advantage in this area.

The data presented in Dunne, Samuelson and Roberts reveal interesting differences across the various types of entrants. The failure (or exit) rates are generally quite high and:

- More than 60% of entrants in one cohort typically fail and exit an industry within five years;

- Entrant type 1 (new firms with new plant) have exit rates that are 7-8 times higher than entrant type 2 (diversifying firm with new plant).

As described in Caves (1998) and Sutton (1997), these broad findings are quite general and have been replicated by researchers using data from different industries in different countries. One way to look at these findings is that type 1 entrants face disproportionately high hurdles and costs in order to succeed. A clear implication of this would be that regulations that impose barriers-to-entry are likely to have a significantly greater adverse effect on type 1 entrants. The same is true for barriers-to-exit. If market success is risky for new entrants anyway, then facing high exit costs will act as an additional entry barrier and deter market entrance.

A wide variety of rules and regulations put in place by governments and professional organisations place constraints on entry into markets. Regulations can take very explicit forms such as outright restrictions on entry, but can also be implicit in nature.

- Explicit constraints are very direct and arguably have the most adverse effects on competition. For example:

  - Many countries impose rules on the number of retail stores that can be allowed within a certain geographic area, or per a certain number of individuals living in an area. Under the latter rule, if the number of people never exceeds, for example 5 000, no new pharmacies will be allowed. (UK OFT, 2003b contains a useful discussion of competition and regulatory issues in pharmacy markets.)

- Under the older US-EU airline agreement, a European airline could not offer flights to the United States departing from any city outside of their home country. This restricted the degree of competition in the US-EU airline markets. (A new agreement removes many of the regulations.)

- Implicit constraints can be thought of as those that more indirectly place constraints on entry. For example:

  - In the deregulated telecommunications markets, facilitating competition would require rules forcing the incumbent to share its network with new entrants. Without this, entrants cannot provide (adequate) services (in internet, telephone) and compete. Similar issues arise in electricity markets where it is imperative that entrants be allowed access to the incumbent's transmission network to have meaningful competition. Not mandating sharing, however, does not necessarily imply that the incumbent will not allow access to its network, but it does become a more uncertain business prospect for the entrant/potential rival;

  - Quality standards and certification rules, among others, adopted by professional organisations – such as legal, accounting or medical – can impose significant constraints on entry.

  - Considerable administrative and bureaucratic barriers can delay or thwart entry (Djankov, La Porta, Lopez-de-Silanes and Schleifer, 2002).

Box 1 provides selected examples of rules and regulations where a closer look could be taken regarding the competition issues that may arise from entry restrictions.

Box 1. Entry

The amount of time and money required to clear bureaucratic hurdles to start a new business can vary enormously across countries. According to data presented in Djankov, La Porta, Lopez-de-Silanes and Schleifer (2002), the time required to start a business varies from a low of 2 days for Canada to a high of 152 days for Madagascar. The monetary cost as a percentage of (the 1997) GDP per capita ranges from a low of 0.53% for New Zealand to a high of more than 300% for Tanzania, Bolivia and Dominican Republic. Even among developed countries, there are large differences in the time required (and cost): for example, it is 4 days (and 0.5% of GDP per capita) for the United States, 42 days (and 32%) for Germany and 2 days (and 2%) for Australia. The dramatic variation in time required to get clearance and associated costs show that there are likely to be significant differences in barriers to new entry. Administrative reform of entry procedures seems imperative in order to reduce barriers to new entry and promote growth and innovation.

In some countries regulations are imposed on pharmacies and can take various forms.

- Rules limiting the number of pharmacies that can operate within a pre-specified geographic area or per number of inhabitants. For example, in Hungary the threshold is about 5 000 inhabitants.
- Direct entry regulations, as noted in the UK's Office of Fair Trading (2003b) report. Entry regulations for pharmacies were introduced in England and Wales, Scotland and Northern Ireland in 1987 in order to contain the escalating cost to the National Health Service. The regulations include official evaluation of the desirability of new pharmacies, relocations and change of ownership.

While one justification for regulation of pharmacy locations is universal service provision, the restrictions may impede competition. Even in cases where prices of pharmaceuticals are regulated, these restrictions may affect competition in the sense that variety and quality of service may be affected. In Germany, where many restrictions have been lifted, studies have noted greater competition in the variety of services rendered. As the UK's OFT 2003 report concludes, removing restrictions on entry to the community pharmacy market would give consumers greater choice, benefits from greater competition and better access to pharmacy services.

Australia's 1998 digital conversion legislation barred entry of new commercial broadcasters until 2006. The move was targeted to facilitate the incumbent commercial stations' conversion from analog to digital television transmission.

The liberal professions, such as lawyers, accountants, architects, engineers and pharmacists, across the EU are subject to regulations such as fee scales, advertising restrictions, exclusive rights and rules prohibiting inter-professional co-operation. While the professional organisations justify the restrictions on grounds of ensuring quality of professional services and standards, it is important to note that they may restrict competition leading to potentially higher prices and lower variety of services offered.

The US Government Accountability Office (2004) describes how, under the "Open Skies agreement", there would be little/no restrictions on the number of airlines that may operate and no restrictions on what markets airlines may serve. The older agreement had restrictions on the number, origin and final destination of EU-US flights. For example, Air France could offer flights from France to the United States but not, for example, from

Frankfurt to the United States, similarly for US airlines. The new Open Skies agreement is designed to reduce these barriers-to-entry.

As Terzic, Wurm and Dietrich (2000) note, Germany's 1998 energy law removed exclusive franchises for electricity and natural gas that had restricted entry. The new law opened the retail market for both types of energy to competition. German electricity consumers, who once paid the highest prices in Europe, have seen an increase in competition, better services offered and a decrease in prices.

Laws that affect entry, potentially leading to loss of competition with implications for innovation and growth of the retail business sector, are ubiquitous in many countries. For example:

- Bertrand and Kramarz (2002) show that regulations on the creation and extension of large retail stores have resulted in barriers-to-entry which have affected growth of the French retail sector and resulted in lower employment gains.
- Across many countries in Europe – Italy, Spain, Netherlands and France, among others – there are limits on retail store operating hours. Tax and planning laws are designed to protect small family-run corner shops. While smaller stores offer proximity services, these rules prevent retailers (big and small) from providing the better service and higher employment that would result from remaining open longer. OECD (1997) discusses competition problems created by such regulations.
- Countries such as Japan, where similar regulations have been relaxed, have seen significant growth of this sector. The Large-Scale Retail Store Law was passed in Japan in 1974 to protect small independent retailers. Restrictions were relaxed in three revisions that took place during the 1990s. The number of applications for opening large stores jumped from 794 in 1989 to 1 667 in 1990, and peaked at 2 269 in 1996.

While there are several public interest justifications for regulations in the retail sector such as those related to protection of small businesses, these regulations should be evaluated for their likely harm to competition and economic growth.

In August 2005, the US Federal Communications Commission (FCC) voted to end regulations requiring incumbent telecommunications carriers, like the regional Bell companies, to share their Digital Subscriber Line broadband connections with competitors. This new FCC ruling puts DSL regulation on an equal footing with cable modem service. The FCC justified the change of rules by arguing that the rules forcing incumbents to share their networks with competitors discouraged them from investing in new products and offering new services. Consumer groups on the other hand argued that the market would see less competition and that DSL customers could have fewer choices, deterioration of service and higher prices.

In Portugal, the permission to operate a long-distance bus service (known as "Express Service" in the national legislation) can only be granted to incumbents. Additionally, long-distance bus operators cannot freely decide the itinerary of their new routes: at least part of the itinerary and termination points are established in the regulation for long-distance operations. The requirement that an operator must already have an operation severely limits the entry into the market. In addition, imposing itineraries and limiting the operators leads to fewer available routes, reduced frequency of service and fewer incentives to innovate, and may therefore lead to higher fares for consumers, which all contribute to lower welfare. International comparisons, based on several ex-post studies on the liberalisation of long-distance bus services, have demonstrated that a more liberalised framework promotes price competition and product differentiation (in terms of more routes, stops and operators)

contributing to an increase in the welfare of consumers. In a competition assessment by the OECD in 2018, the OECD recommended that access to the market of long-distance buses above 50 km should be fully liberalised. Law 52/2015 foresees such a liberalisation, but the required secondary legislation has never been adopted. The recommendation suggested that any new framework put in place should allow operators to freely decide their business strategy and identify the optimal components of their offer.

While in many instances the original public interest justifications for the rules and regulations were reasonable, it is important to keep in mind that they can have negative effects on consumer welfare and may retard longer-run growth and development of markets. Restrictions on entry, particularly those based on regulating the market structure, should be avoided. But regulations such as those based on land use regulations may, under certain circumstances, be deemed reasonable. In the case of natural monopolies and where there are universal service considerations, for example, exclusive rights should preferably not be part of the agreement. In the event they are included in the agreement, they should be subject to review and modification as circumstances and market conditions change. In circumstances where countries impose constraints on entry justified on stability considerations – such as in financial markets and banking – it should be clear and transparent what is done and the principle of minimum restrictions needs to be applied. Given the potential for significant negative effects, regulators need to scrutinise any rule or regulation that results in explicit or implicit constraints on entry.

1.2. Granting or extending exclusive rights

Exclusive rights to ideas, production of goods, purchase of goods and provision of services are granted by governments to business in a large number of areas. For example:

- In the markets for solid waste disposal, a common mechanism for waste collection in local markets is by a private firm which has been granted exclusive rights to collect the waste;
- Historically, electricity, natural gas, telecommunications, water, postal services and railroads, for example, were granted legal monopoly status – or exclusive rights – to provide the services;
- In a wide variety of markets and across countries, local, regional or national government agencies can sign contracts that provide exclusive rights to private companies for the provision of specific goods and services. These can arise in defence contracts, supply of inputs, among others.

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The motivations for granting or extending exclusive rights are myriad. In some industries, one of the reasons for granting legal monopoly (or exclusive rights) relates to economies of scale arising from high overhead costs. Over time as the markets and technology have evolved, many countries have deregulated the sectors, privatised nationally-owned companies and have allowed competition. Also, more sophisticated regulatory approaches have allowed the identification of specific elements of industries that are characterised by natural monopoly and their separation from other elements (both upstream and downstream) that are potentially competitive. Recipients of exclusive rights for the production of goods and services obtain significant market power. In the case of natural monopolies, the problem was alleviated by price or rate-of-return regulation in the utilities industries.

There are clear justifications for granting patents, but one topic that has generated considerable debate and concern relates to the "extension" of patent periods. Pharmaceuticals companies, for example, have aggressively attempted to extend patent periods. Extending patent protection periods can have significant downsides:

- It extends the period over which consumers will pay higher prices;
- Patent holders by aggressively fighting for extensions can impose heavy costs (e.g., litigation) on potential entrants – such as generic drug manufacturers – and this may significantly reduce the likelihood of future entry into the markets. The longer-term adverse effects on competition can be significant.

While granting legal monopolies had valid justification, the literature on the effects of regulation shows that there were significant deficiencies related to the lack of innovation, production inefficiency and adoption of newer technologies which harmed long-run growth of these industries. In other instances where governments grant exclusive rights, the pros and cons are mixed and are best evaluated on a case-by-case basis. In the solid waste disposal example noted above, governments are increasingly realising that they can allow competition into these markets with beneficial effects; see the Finnish experiments at OECD (2000). In many instances, government granted exclusive rights can be done away with while maintaining a careful watch over these markets.

Box 2 contains examples and discussion of exclusive rights and some of the adverse effects that may arise from them.

Box 2. Granting or extending exclusive rights

In Western Australia, the Rights in Water and Irrigation (Construction and Alteration of Wells) Regulations (1963) granted the Waters and Rivers Commission sole rights to fit, repair and test water meters. In 2000, the government amended the regulations to remove the Water and Rivers Commission's exclusive right to the fitting, repair and testing of water meters noting that it was harming competition.

An industry with a significant number of applications for "extensions" of patent periods is pharmaceuticals. Extension of patent protection can, in many cases, have detrimental impact on competition.

Prozac (an anti-depressant) was patented in 1977 and launched in 1987. It is one of the highest selling drugs in history. Eli Lilly fought a five-year battle in court to extend their patent on Prozac but lost. Barr Laboratories, who opposed the extension, along with Dr. Reddy's Laboratories, Teva Pharmaceuticals, Geneva Pharmaceuticals and Pharmaceutical Resources could produce a generic version for a fraction of the original cost. It was estimated that once the generics came to the market, the price for the 20mg capsule would drop from over $2.00 (Eli Lilly's brand-name version) to below $0.50 a pill for the generics.

In Brazil, a patented invention must be manufactured within Brazil in order for the patentee to retain the exclusive rights associated with a Brazilian patent. In some sectors such as pharmaceuticals and biotechnology, the manufacturing facilities are costly investments and it seems unrealistic to expect a company to build a factory in every country. This may have detrimental effects on competition in various sectors.

In the 1997 Ferrovias case, a Colombian state company (Ferrovias) entered into an exclusive contract with a company (Drummond) to transport coal annually for 30 years. The contract also conditioned the transport of other firms' coal upon Drummond's prior approval. The Colombian superintendency later scrutinised the conduct and found the contract to be discriminatory and restrictive of competition. This example from competition law enforcement provides evidence of the harmful effects of granting exclusive contracts.

Governments may sometimes end state-owned monopolies but create private ones. Attracting high bids for state assets are sometimes a key element in the decision. Governments have to resist the temptation to get a higher price in the short run at the expense of creating an exclusive right that causes far greater damage to their consumers and economic growth in the medium and long run. In Jamaica, for example, the telecommunications company was privatised with granting of exclusive rights for a period of 25 years.

As noted in Goodwin (2001), in a case that was reviewed by the European Court of Justice in 2000, the municipality of Copenhagen's regulations had granted exclusive rights to limit the number of plants that could process non-hazardous building waste produced within the municipality. By ensuring a supply of waste to a limited number of plants, the regulations sought to encourage investment in the building of large scale processing plants producing better quality re-cycled material. Despite being equipped to perform this function, a Copenhagen recycling plant was prevented by regulations from processing building waste.

There is increasing evidence that, in certain areas, granting or extending exclusive rights does not necessarily improve welfare. For example, given the burgeoning generic sector of the pharmaceuticals industry, a very close look

needs to be taken on patent extensions. Undoubtedly, there are instances where extensions ought to be granted, such as when the regulatory approvals process gets drawn out over a longer period and effectively shortens the patent period. In some instances, patent holders may aggressively pursue extensions and impose high costs on rival generic manufacturers. Some incumbents have deep pockets and may engage in long drawn out litigation, whereas rivals may not necessarily be in a position to do so. In these instances granting extensions are likely to deny consumers access to cheaper general drugs with considerable loss of welfare. In other areas such as waste collection, the few experiments that exist on allowing more competition in the markets show noticeable gains in the areas of quality of services provided and price. Overall, granting or extending exclusive rights needs to be scrutinised carefully as they have the potential to significantly diminish competition.

1.3. Rules and regulations on the inter-state (or intra-national) flow of goods, services and capital

Within-country regulations on the flow of goods and services have been a common feature in many countries. Historically, tolls were imposed on the movement of goods across different regions and states. While many of these restrictions have been removed over time, there continue to be instances where they persist. The arguments made to impose such regulations are diverse and include:

- Protecting the in-state or in-region businesses from competition;
- Since roads in a region or state are typically the responsibility of the local government, regulations and taxes were imposed on the weight of the goods and the size of the trucks from other regions and states that could move through that region or state;
- Consumer protection. For example, by passing legislation preventing the sale of out-of-state/region alcohol in a particular State or transport of alcohol through or into that state.

Regulations restricting the geographic flow of goods can take very explicit forms such as outright bans on purchasing goods and services from outside the State or region. For example:

- The state of Florida in the United States has had restrictions on interstate wine shipments. For example, an individual could not purchase wine in another state and have it shipped to his home in

Florida or be a member of wine clubs in other states and have wine delivered to his home. These are considered felonies under Florida law. Regulations like these are often imposed to grant special privileges and protection to in-state retailers and distributors.

Regulations can take other forms such as impediments to the flow of goods including taxes imposed on inter-regional trade. For example:

- Goodpaster and Ray (2000) note that Indonesia has had many regulations and taxes on inter-regional transportation of agricultural commodities. Law 18 (1997) reduced the distortions and this led to an increase in inter-regional trade. However, the study notes that many of the restrictions implicitly or explicitly returned in some areas such as the South Sulawesi region. These include restrictions imposed by the local department of transportation on the weight of goods carried by trucks. A by-product of these regulations included harassment by local authorities to extract payments from truck drivers. The end result of these barriers to the flow of commodities has been lower prices obtained by farmers and hindering growth and development of local and regional markets.

Rules and regulations on the flow of goods, services and capital between regions of a country, or between countries, may be particularly restrictive on e-commerce and online services since digitalised businesses often serve consumers outside a local area.

Box 3 presents some examples of the different types of impediments to competition that can be generated by regulations on the flow of goods and services.

Box 3. Flow of goods, services and capital

The Jones Act in the United States imposes restrictions on ships carrying freight between two US ports. The state of Maine legislature requested Congress to repeal this regulation as it impedes commerce and the full development of Maine's ports. They argued that in an increasingly global market, restrictions on the nationality of the builders and owners of a ship no longer make sense.

In the past, India had imposed regulations on movement of agricultural food grains across different states. Government authorities restricted interstate movement through notified orders, imposing constraints on the free flows of goods. While in 1993 the central government decided to treat the entire country as a single food zone to ease the flow of agricultural products, Wadhwa (2001) notes that some states continued to impose at least informal controls that can hamper unfettered movement of agricultural goods between states.

- A common practice followed by the local officials at State borders is, to stop and check trucks carrying goods. Though on the excuse of a routine check, trucks can be held up for days on end. This imposes a heavy price on private traders. In surplus wheat-growing areas of Punjab, Haryana and Western Uttar Pradesh, informal restrictions have been imposed such that farmers lose the right to sell their produce to anyone offering better prices – making the government regulation akin to extortion.

In most countries, a substantial fraction of goods are transported via trucks. In many instances, restrictions are imposed on the operations of trucks. The justifications are diverse and include, urban congestion, pollution control, among others. While some of the justifications and constraints imposed appear meaningful, it is important to recognise that restrictions on the operations of trucks can lead to reduced flow of goods, separation of markets and harm competition. We provide a couple of examples:

- Highway A12 is a major commercial traffic route between Germany and Italy. The Tyrol region initiated a ban on heavy trucks for environmental reasons (improving air quality). The ECJ (case C-320/03) ruled that banning heavy trucks on such a critical thoroughfare constitutes an illegal restriction on the free movement of goods.
- Earlier, the EU member states had divergent driving restrictions for heavy trucks during weekends and holidays. The International Road Transport Union, for example, had argued that these divergent restrictions had significant consequences for commerce within a member state as well as the EU as a whole and called for harmonisation of rules.

In many countries there are (or have been) barriers to the movement of professional qualifications thus imposing constraints on the professional services market. While member EU states previously had fragmented rules, a 2007 EU directive under the "the principle of mutual recognition" pushes for recognition of qualifications across member states. Easing of these restrictions will allow for greater flow of professional services with benefits to consumers in terms of a broader variety of services offered and potentially lower prices. In the United States, different States require certification tests, for example, for lawyers and doctors. This imposes constraints on the flow of medical and legal professionals across States and potentially harms competition.

In Greece, the legislation used to distinguish between two types of companies: (1) those that could trade seeds, at wholesale and retail levels, both inside and outside the country; and (2) those that could only trade, at wholesale and retail levels, within the country. Type (2) companies could only purchase seeds from local producers or from Type (1) companies. The objective of the distinction was to have two different sets of regulatory requirements, in order to facilitate controls. The restrictions on domestic-only trading enterprises resulted in a geographical barrier to the ability of companies to market their goods, as well as limiting the number and range of their suppliers. After an OECD competition assessment review in 2017, the distinction was removed from the legislation.

Mexican food sanitary law stated that 100% of imported lots of meat must be inspected. The requirement seemed excessive and unnecessarily costly. Moreover, according to industry participants, compliance with this requirement was not operationally feasible, which might allow wide discretion of controlling Mexican authorities and lead to discrimination. The objective of this provision was to ensure that imported meat originated in foreign plants comply with health requirements as strict as those in Mexican plants. In a 2018 competition assessment review, the OECD recommended replacing the requirement to inspect all imported lots of meat with a system under which both the timing and number of controls, as well as the amount of samples taken to be inspected, would be chosen

based on a risk assessment, with the frequency of controls as well as the size of the sample inspected during each control based upon a risk assessment that took into account, among other factors, an exporter's past compliance with food sanitary requirements. If this OECD recommendation were fully implemented, the benefits were estimated to range between MXN 32.9 million and MXN 253.9 million.

It is important to recognise that free flow of goods, services and capital across regions within a country are essential for consumers to reap the benefits of competition and businesses to have access to wider markets to sell in and grow. These benefits can be lost if regions or States within countries impose regulations on the flow of goods and services. This implies that proposed rules and regulations that restrict the flow of goods and services should be carefully scrutinised and their expected benefits and costs and competition effects evaluated. As a general principle, such restrictions should be eliminated.

2. Rules and regulations that limit the ability of suppliers to compete

Governments and professional organisations can impose rules and regulations that may sometimes have the effect of reducing the intensity of rivalry among businesses in the market, potentially increase prices and lead to reduced variety and quality of goods and services. Some examples include proposals that:

- Limit freedom of businesses to advertise or market their products;
- Set "unduly high" standards for product or service quality that end-up providing an advantage to some suppliers over others or that are above the level that many well-informed customers would choose given their preferences and ability-to-buy;
- Significantly raises costs of some suppliers relative to others, for example by treating incumbents differently than new entrants;
- Control or substantially influence the prices at which goods or services are sold.

As we note below in our more specific examples and discussions, the motivations behind these regulations typically have some beneficial economic and/or social underpinnings. Our objective here is not to question these motivations but to undertake a thorough examination of the potential adverse impact these regulations might have on the degree of competition in

the markets and to examine whether the restrictions could be crafted in different ways in order to minimise the loss of consumer welfare that may result from higher prices and reduced variety and quality.

2.1. Regulations on advertising and marketing

Advertising by firms can disseminate information about product characteristics, quality and prices for existing products, improvements in existing products and introduction of new products. In general, advertising can serve a very important role by informing consumers so that they can make better, more informed, choices. Advertisements are placed by companies in different media which include television, radio, newspaper and magazines, and, increasingly, the internet. Other forms include, for example, window advertising in retail locations, professional panels on a place of business and distribution of flyers (or pamphlets). Finally, direct-to-consumer advertising (or marketing) occurs when companies use telephone calls, emails and other methods to distribute information directly to consumers.

Advertising can be classified into two broad types, comparative and non-comparative.

- ***Comparative advertising*** has the objective of extolling the virtues of the product sold by the advertiser compared to its competitor(s). Comparisons can be very specific, highlighting, for example, technical differences. Or they could be general and more subjective in nature. Comparative advertising can also provide price comparisons between the advertiser's product and its competitors. A car manufacturer can, for example, advertise and make statements about how their cars are safer relative to their competitors and cite scientific crash test studies. A carbonated drink producer could advertise that their drink tastes better than a competitor's based on surveys of consumers.
- ***Non-comparative advertising*** aims to highlight features of the advertiser's own product. These could include quality, product characteristics and prices. No comparisons are provided with competitors' products. A car manufacturer, for example, can advertise and simply extol the virtues of their own cars or indicate the prices of their models.

Many countries impose regulations on advertising and marketing of various goods and services. These restrictions can take a number of forms

and there are significant variations across countries and across products within countries. Box 4 provides illustrative examples of restrictions on advertising and marketing and below we provide additional discussion of some issues.

- ***Comparative advertising:*** Several countries impose restrictions on comparative advertising – whether they are about product characteristics or prices – in the sense that they are allowed, provided the claims are validated by an independent authority. One important issue with comparative advertising relates to the validity of claims and promises made. An individual consumer, for example, may have little information or ability to verify whether the claims made are accurate. In this sense there needs to be an agency that can address consumer complaints, and many countries in fact have laws on misleading and untruthful advertising. Looking at the bigger picture, unwarranted restrictions on comparative advertising are likely to deprive consumers of useful information about the differences in product quality, attributes and prices across alternative suppliers.
- ***Non-comparative advertising:*** Some countries, for example, do not allow pharmaceutical companies to advertise their products. Similarly for advertising of alcohol related products and tobacco. There are/have been stringent restrictions to outright bans on advertising by various professions such as architects, lawyers, veterinarians and doctors. For pharmaceuticals, one of the justifications given for the restrictions is that allowing pharmaceutical companies to advertise may lead to greater (advertising) induced demand for drugs, in part because lay people will not be able to adequately compare and contrast different products and that advertising may manipulate consumers' fears. The resulting increased use of pharmaceuticals may be detrimental to health and reduce the ability to contain healthcare costs. For alcohol, the regulations are justified on the grounds that it potentially has adverse health effects and that advertising results in consumers holding positive associations with substances that are, when consumed in excess, dangerous. The restrictions on advertising by the professions arise largely from the restrictions imposed by the respective professional organisations themselves. While the professions originally may have had good reasons for imposing the restrictions, they can unnecessarily reduce the intensity of competition and harm consumer welfare. In the broader context,

however, restrictions on non-comparative advertising may hinder dissemination of valuable information about product quality and attributes.

- ***Size, media and time of day:*** For example, spirits (hard liquor) can be advertised in specialty magazines but there are stringent restrictions on advertising in media such as television. Even in magazines, many countries limit the amount of space that can be allocated to hard liquor advertisements. Some countries allow liquor to be advertised only after late evening hours. The major purpose of imposing regulations on size, media and time relate to minimising the visibility of products that are deemed to have detrimental effects on segments of the population such as minors or related to health concerns.
- ***Direct-to-consumer marketing:*** Increasingly, countries are imposing bans or introducing significant regulations on direct-to-consumer marketing of products via email, fax and telephone. In general, both large and small companies and self-employed individuals rely on this channel to advertise their products and services. One factor that has been driving this type of advertising is the relatively lower cost – in comparison to say advertising on television and specialty magazines. This type of direct advertising may also be preferred by many companies as they are better able to reach their target audience. One of the significant downsides of this type of marketing relates to intrusion of privacy. Individuals may prefer not to be bombarded by telephone calls at odd times of the day by tele-marketers. Business may not want to be sent faxes from companies advertising their products and services. Finally, non-work related spam emails are viewed as disruptive to productivity in the workplace and may clog the email and computer systems. Imposing unduly stringent restrictions or outright bans on direct-to-consumer marketing, however, may have an important adverse effect. It might be the preferred channel for advertising by many small businesses and self-employed individuals who otherwise may choose not to advertise due to the higher costs. On balance, while there is need for some regulations on direct advertising, for example to prevent productivity loss at workplace due to unsolicited faxes and emails, one needs to adopt a more balanced approach in order to allow the smaller businesses and self-employed to have successful businesses by advertising.

Apart from the above, there are some special problems posed by various rules that may govern advertising and marketing in professions. At times, a law gives a professional association the right to determine the conditions under which professional activity is exercised. When this is the case, professional associations often have an interest in passing rules that suppress competition, and one way they can do so is by imposing restrictions on advertising. These restrictions can serve as a very effective deterrent to providing consumers with information that they would find valuable, as professional associations have the ability to retract rights to practice from a professional when their rules are not followed. After a detailed review of seventeen studies on advertising, Stephen and Love (2000) conclude that increase in advertising typically leads to decrease in fees of professionals' services, implying that advertising restrictions by professions impose barriers-to-entry and competition.

While certain types of regulations on advertising contain important public interest justifications, restrictions on advertising generally have the potential to reduce information flows and adversely affect competition and consumer welfare. Regulations on advertising may also help to restrict the entry of new firms by reducing their ability to create brand awareness. Given this, the restrictions need to be minimised where possible. Below we highlight some alternatives.[4]

Regulations on comparative advertising

As we noted above, many countries impose severe restrictions on comparative advertising. An alternative would be to focus on preventing untruthful or misleading advertising. Some would argue that it is only regulations on misleading and untruthful advertising that can be justified in benefit/cost terms in the vast majority of markets. This objective could be achieved by setting up a mechanism where consumers can file their complaints and where penalties are imposed for fraudulent or misleading advertising. For example, in the United States, the consumer protection bureau of the Federal Trade Commission evaluates complaints regarding fraudulent advertising. Such a process would allow companies to make

4 For a useful discussion of the informational role played by advertising and various aspects of deception in advertising, see Rubin (2000).

claims and at the same time provide some checks and balances to protect consumers.

Box 4. Advertising and marketing

A number of Asian countries have (had) rules restricting advertising or subjecting it to specific framework conditions.

- Philippines: no direct comparison advertisements are permitted.
- Thailand: comparative advertising is not allowed and all claims must be supported.

Significant advertising restrictions exist (or have existed) in many countries. For example:

- Auditing in France, Luxembourg, Portugal, Spain, Belgium and Germany;
- Architects in Luxembourg, Ireland, Germany, Netherlands and Greece;
- Engineers in Luxembourg;
- Lawyers in Greece, Portugal, and Ireland;
- Notaries in France, Spain, Greece, Austria and Germany;
- Pharmacists in Ireland, Portugal, Greece, Austria, France and Luxembourg;
- Accountancy in France, Belgium, Germany, Luxembourg and Portugal.

As an example, there are advertising restrictions on Italian veterinarians, such that their names and contact information cannot be posted on the internet to gain business. A study by the Maastricht Accounting and Auditing Research Centre concluded that there is no evidence that restrictions on advertising by auditors make a direct, positive contribution towards audit quality. They concluded that there is convincing evidence on the negative effects of these restrictions on intra-EU competition. The study recommended that national restrictions regarding unsolicited offering of services and advertising should be removed.

In the United States, there is increasing pressure on the pharmaceuticals companies to reduce direct-to-consumer advertising of prescription drugs via television, magazines and other media. Members of the US Senate have asked companies to wait two years before advertising new drugs. Some companies, fearing regulation, have started delaying their advertisement of new drugs. The main issue is whether drug advertising leads to unnecessary prescriptions and higher health costs. While direct-to-consumer marketing is permitted in the United States and New Zealand, it is prohibited in EU and other countries.

Restrictions on advertising of professional services

In many countries, doctors and other professionals are either prohibited from advertising or have stringent restrictions. In many instances these restrictions are imposed by the respective professional organisations such as legal and medical associations. If a professional association, body or board is given control over the practice of the profession, this control should not include any rights to restrict truthful advertising, except when there is compelling evidence that the advertising may cause direct harm to consumers. Preventing truthful advertising by the professionals is likely to lead to lack of competition and higher prices for these services.[5]

Direct-to-consumer marketing

Governments have imposed significant restrictions on direct marketing. Some of the prohibitions would however be detrimental as they are likely to disproportionately affect smaller businesses and the self-employed who may choose this low-cost avenue for advertising. A less restrictive approach is to provide individuals with an opt-out clause. Mechanisms could be set up where specific telephone and fax numbers or email addresses could be added to a list of 'do-not-call', or 'do-not-send-email' list. Internet and server based spam filters can accomplish part of this role, but in general it is quite difficult to track down the perpetrators (unlike the do-not-call telephone number list), implying that a do-not-email policy will not be effective. These solutions may allow individuals to opt-out if they would like and at the same time permit businesses – small businesses in particular – to legitimately advertise their products and services.

Overall, regulations on advertising and marketing should be minimised as they are important avenues for the dissemination of information. If advertising is misleading, rules are sometimes imposed to require inclusion of additional information. In some cases, restrictions on comparative advertising may be justified. As we have discussed above, some checks and

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5 In recognition of these adverse effects, the Italian Competition Authority Act (August 4, 2006, n. 248, Article 2), for example, has eliminated advertising restrictions for professional services. Professionals can now advertise their specific qualifications and specialisations and the characteristics and prices of their services.

balances could be put on comparative advertising in order to weed out misleading and untruthful advertising.

2.2. Rules on content and setting standards

Markets naturally tend to produce goods and services that are differentiated in characteristics as well as quality. Consumers have a preference for variety and this, along with their differential ability to pay, implies that producers of goods and services would typically respond and provide a broad spectrum of variety as measured by product attributes and quality. For example:

- The automobile market contains a wide range of cars: for example, from bigger and higher-quality luxury cars that are very expensive, to those that are smaller, relatively lower-quality and low price. This market is populated by consumers who vary in their preferences for quality as well as their income levels which determine their buying power. In the market for cars, some consumers would be happy to buy relatively lower quality and lower priced cars, whereas others would prefer the higher priced luxury cars;
- The bottled water industry is rapidly growing worldwide. In an unrestricted market, the quality of bottled water produced – say as measured by its mineral content – is likely to vary considerably across different sellers (or brands). Given that the cost of producing better water (in terms of its content) is higher, it will be priced higher. Since preferences vary, some consumers would prefer to have access to safe but relatively cheaper bottled water while others would prefer the more expensive higher quality bottled water.

Many products and services are, however, subject to regulations on content and quality standards and these can arise from at least two distinct sources:

- Governments often set standards on product content or characteristics, including minimum quality standards. These can occur in diverse categories such as:
  - Food products and beverages, where regulations can span both content and quality controls. The objectives behind the content and quality regulation of food and beverages typically relate to safety and nutritional value;

  - Television programming, where the regulations are typically related to lewd content (e.g., pornography, abusive language) or undesirable products (e.g., alcohol, tobacco). Certain types of programming can either be prohibited or restricted to specific times of the day.
  - Residential and commercial building codes which are designed to push quality above a certain threshold. The typical motivation relates to safety standards.
  - Environmental pollution has become a significant issue worldwide and governments have progressively imposed guidelines and standards on various types of substances that can be emitted into the atmosphere or discharged into water.
  - Automobile safety is an important issue and governments have, over time, imposed stricter formal standards, as well as coaxed companies, on the safety mechanisms that are built into cars. These started with seatbelts, then crumple-zones, followed by front-airbags and side airbags.
- Professional organisations, such as legal, architectural, accounting and medical, can impose – via criteria related to education level, professional certification among others – minimum quality and certification standards. One objective of the organisations in imposing these rules is higher quality of professional services rendered, and in some instances, like the medical profession, it also relates to safety and reliability of practice.

Setting standards and quality is often necessary and clearly serves the public interest. What is important to note is that while many of these objectives are reasonable, “unduly high” or stringent rules and regulations on content and minimum quality can, at times, clash with consumer preferences which tend to be diverse. Regulations that force the quality to unduly high levels may disadvantage consumers – for example, lower income consumers – who may prefer a lower price and lower quality outcome. It goes without saying that food and beverages need to be safe for consumption, but pushing quality and content to higher than necessary levels can have the effect of reducing variety offered to consumers and raising prices. Housing and construction codes are clearly necessary and designed for safety, but setting standards too high and limiting supplies of buildable land could lead to considerably higher housing prices that may result in many lower-income individuals being denied access to the market. Indecent language needs to

be controlled in the media, but imposing restrictions on the content of television programming, particularly if they are not well thought out and are too broadly interpreted, can harm consumer welfare by reducing the variety of programming. Safer automobiles are very important, but the newer generation of safety features adds thousands of euros to a car's final price. One potential downside of "unduly high" safety standards that push prices above desirable thresholds is that many low-income consumers may shy away from paying these higher prices and may prefer to drive older (more dangerous cars) for longer periods. While safety features have to be improved, it is useful to evaluate the marginal benefits from a new safety regulation against the marginal costs.[6] Environmental regulations are required as they have clear societal benefits in terms of cleaner air and water, but one needs to at least evaluate the economic consequences on consumers and producers of setting "unduly high" standards.[7] Finally, while professionals such as lawyers and doctors obviously need to be qualified and standards of professional practice need to be ensured, the professional organisations may set minimum quality rules that lead to higher than necessary quality. As has been noted by a growing number of scholars, one of the objectives behind some of the restrictions imposed by the professional

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[6] Pedestrian safety is an important issue. In Europe, EU safety requirements are likely to mandate design changes to minimise the harm done when cars hit pedestrians. The regulations spell out specific targets for leg impacts and may force design and safety changes in the front end of cars. As noted in Ogando (2003), suppliers are working on different types of deployable systems for pedestrian safety: some would raise the hood in the event of a crash while others aim to add an exterior airbag to the car. The likely EU regulations could have a significant adverse cost impact on all automobile manufacturers as they have to incur additional costs, R&D and design changes. This is expected to lead to marked increases in the prices of automobiles.

[7] Due to the imposition of more stringent environmental regulations that were put in place, the global pulp and paper industry had to undergo significant transformation which included costly investments in new technologies to restructure their production processes and products. As noted by Panchapakesan (2003), the cost increase has been as high as $30 per ton for some grades of paper in terms of fixed and operating costs. A negative consequence of the higher costs was that many domestic plants were shut down with loss of jobs as the US pulp and paper companies built new plants overseas to avoid some of the regulations.

organisations is to raise the entry-barriers and reduce the level of competition in the market in order to raise their earnings.[8]

While many of the rules and regulations on content and standards are necessary, it is important to recognise that they may impose significant costs on businesses, as well as differential costs imposed across companies, as they attempt to restructure their production processes and products to meet the new standards. For example, significant new investment and R&D expenditures may have to be incurred by businesses for developing new products. And, as we have discussed earlier, these costs may have a large sunk cost component – that is, costs are largely non-recoverable if the firm decides to exit the industry. The imposition of these costs has the potential to create competition problems in the sense that some companies may have to exit the market. One, somewhat unintended but significant, end result could be that in the new market that emerges after the change in regulation, there is less competition and potentially higher prices. For these reasons, it would be useful to at least evaluate the benefits of the higher standards along with their costs.

We conclude by noting that when imposing rules and regulations on standards, quality and content, an important point to debate is how high the standard should be or the nature of the specific content to be regulated. “Unduly high” standards can have significant negative consequences on consumer welfare. The added costs of delivering the unduly high standard or quality need to be carefully considered as the higher costs incurred by businesses will typically translate to higher prices paid by consumers and reduction in the variety of products and services available. In setting content rules, the rules need to be set and applied to the very specific types of content deemed harmful. Otherwise there may be a tendency to apply the restriction more broadly and this may lead to loss of variety and harm competition. In short, one needs to carefully balance the legitimate societal goals of setting the higher standards and content regulations with the ensuing costs, including potential loss of variety and competition, to determine the net impact on welfare.

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[8] The study by Kleiner and Kurdle (2000) provides interesting information. They find, for example, that more stringent licensing restrictions in dentistry do not lead to better dental health, such as fewer cavities, but have the effect of increasing dentists’ incomes.

Box 5. Port-towing operators: mandatory equipment requirements

In Portugal, a regulatory restriction found in many ports imposes minimum levels of equipment or work force on port towing operations. Several port authorities have adopted port-specific regulations requiring towing operators to have the "adequate material means" to provide towing services. While the port regulations do not define "adequate material means", in practice port authorities request towing operators to have a minimum number of tugboats with a certain pulling capacity, which are their most significant financial investment. The main objective of this request is to guarantee that a licensed towing operator has the necessary equipment to provide services to all port users, including particularly large vessels that rarely enter the port. Finally, port-specific regulations also require towing agents to have permanent staff with appropriate qualifications. Legal requirements imposing a minimum investment in capital may substantially increase fixed costs, and thus restrict the number of operators that can profitably co-exist in the same port. The provisions may have the effect of restricting competition in the market, In particular, the imposition of minimum levels of equipment and work force also limits the ability of the operators to organise themselves and to allocate their resources. There is a risk of distorting investment, for instance when the law imposes on every towing operator to own the minimum number of tugboats that are necessary to drag the largest vessels entering the port, rather than several operators sharing equipment and boats to save costs and avoid duplication. Likewise, it might be more efficient for the company to hire temporary staff, rather than having permanent staff with concomitant fixed overheads. In a 2018 competition assessment review, the OECD recommended that the legislator and port authorities should abolish all equipment and labour standards that are not based on transparent, non-discriminatory and objective criteria. Instead, the establishment of minimum levels of service or the use of equipment/labour pools can be an effective alternative to ensure public services.

2.3. Differential costs and grandfather clauses

At times, regulations or policies may give cost advantages to some firms over others, creating a differential cost structure that maintains or enhances inefficient business activity. Such cost advantages can arise from technological requirements, subsidies, preferences given to state-owned firms and also notably from grandfather clauses relating to situations where the existing businesses (incumbents) are allowed to continue operations under older rules whereas new firms are subject to the newly imposed rules and regulations.

2.3.1. Restrictions on technology

Regulations may appropriately either mandate use of certain technologies or prohibit use of certain technologies for worker health or safety reasons. Where such restrictions are not essential, they can impose costs on some firms that place them at a competitive disadvantage versus

their competitors, particularly when there is a differential effect on one or more companies compared to others. In some cases, the costs to a company of changing or adapting the processes and methods they are using, may result in them exiting the relevant market entirely.

For example, a technology requirement for scrubbers in factory smokestacks may be imposed that would prevent other, alternative, more cost-effective technologies (that might be developed in the future) from being developed. Alternatives to mandating a specific technology include emission controls or emissions trading, approaches that provide incentives for the development of new, more cost-effective technologies or that ensure emissions reductions would occur at lower cost than under a mandated solution.

2.3.2. Subsidies

Subsidies might be provided to businesses in one form or another for a wide range of economic, social, industrial, redistributive and other policy objectives. Subsidies with particularly significant competitive effects are government interventions that assist some firms more than others. This means that the intervention is available only to a selection of firms, or affects the recipients' production costs in different ways. Subsidies can take the form of: cash grants, low interest government loans, reduction of specific tax liability, or government provision of goods and services at below-market prices.

In some cases, subsidies may provide a means to promote more efficient market outcomes as an instrument for correcting market failures. One such case concerns R&D “spillovers”. Spillovers are benefits that one company’s R&D investment may provide to other companies that are not reflected in the returns to the company investing in the R&D.[9] Where spillover effects are present, they tend to lead to underinvestment in R&D since the innovating firm is not rewarded on the basis of the full benefits generated by their R&D. Subsidies may promote higher more efficient levels of R&D activity in the presence of spillovers by increasing the rewards received by firms investing in R&D.[10]

9 For a discussion of spillover effects, see Jaffe A.B. (1996).

10 For discussion of other market failures where subsidies might promote more efficient outcomes, see Friederiszick H.W. et al. (2007).

While subsidies can be an effective instrument for achieving a wide range of economic and social policy objectives, they can also seriously restrict competition. Subsidies to a subset of businesses in a market can provide them with a cost advantage over their competitors that allows them to sustain or increase their output, even though they may be relatively inefficient competitors. This can generate a number of different costs in addition to resulting in the inefficient allocation of inputs and outputs by requiring more resources to produce the same output.

Subsidies can be particularly harmful where they are used to support failing firms. Where subsidies are used to prop up failing firms, this can disrupt the process of creative destruction, in turn reducing the incentive for businesses to develop better products and more efficient supply processes.

Subsidies can also have the effect of lessening competition in markets where they result in the exit of unsubsidised business. In such cases, they can also lead to higher prices and reduced product variety for consumers.

Careful attention to the design of subsidies can also be important for mitigating their potential anti-competitive effects. Subsidies will tend to do less harm to competition where, for example, they:

- do not favour one competitor in a market over others;
- are provided as a single lump sum rather than made available over time;
- pertain to fixed costs rather than variable costs; and
- are directly tied to a market failure and set at the minimum level necessary.

2.3.3. State-owned firm cost advantages

State-owned enterprises (SOEs) play an important role in the economies of many countries and markets. SOEs may be established for a range of purposes including for example; to supply natural monopoly, public and merit

goods, to internalise the effects of externalities into supply decisions, and for industrial, development, redistribution and employment policy reasons.[11]

SOEs may have a variety of cost advantages in cases where they compete against private firms that are not based on superior efficiency or competitive performance these may include:

- Preferential tax treatment;
- Cheaper debt financing caused by them being government, rather than private sector-backed;
- The absence of any requirement to make a commercial rate of return on assets;
- A loose budget constraint due to their access to government subsidies or transfers to prevent them from failing; and
- Exemptions from regulatory constraints or costs.[12]

Where such advantages exist, goods and services may no longer be produced by those who can do it most efficiently. Further, cost advantages provided to SOEs can deter entry by private sector firms leading to the less innovative, higher cost and higher-priced supply of products.

Where SOEs compete against private firms, careful attention should be paid to ensuring, to extent feasible, that they do not have unwarranted cost advantages, and are competitively neutral in that they compete on a level playing field versus private sector firms. [13]

2.3.4. Grandfather clauses

Grandfather clauses occur when the existing businesses (incumbents) are allowed to continue operations under older rules while new firms are

[11] For discussion of the reasons used to justify the establishment of SOEs, see OECD (2005c) Chapter 1.

[12] For discussion of potential cost benefits for SOEs, see, for example, *Australian Government (2004)*, and the Hilmer Report (Australian Government,1993) pp. 296-7. As indicated in the Hilmer Report, public ownership can also create competitive disadvantages for SOEs.

[13] For guidance on establishing competitively neutral SOEs, see OECD (2012).

subject to the newly imposed rules and regulations. Grandfather clauses may give temporary exemption to the new rules to incumbents or permanent exemptions.

Consider two examples of grandfather clauses:

- The pulp and paper industry has, over the decades, seen a significant ratcheting up of environmental regulations. A simple grandfathering rule would be one where existing production plants are given a pre-specified time-frame within which they have to conform to the new pollution standards whereas any new production facility that is set up has to meet the newly imposed regulations. Similar examples can be provided for the electricity generation and chemicals industries.
- Construction of new buildings in earthquake-prone areas has to conform to considerably higher standards of tolerance. Similarly, new high-rise buildings may have to install fire-extinguishing sprinkler systems. Older buildings are typically exempt from these regulations.

The main motivation behind such grandfather clauses is that the new rules and regulations may place an undue cost burden on incumbents who made their investments in production facilities and started operations under the older rules. Since significant changes in the existing structure and facilities can be prohibitively costly, they can either be exempt or given a pre-specified time-frame to conform. For example, forcing older buildings to meet new earthquake standards or installing fire-extinguishing sprinkler systems would be exorbitantly expensive in most cases and this is exactly why they are not forced to conform to the newer regulations. On the other hand, most pulp and paper companies have, over time, been forced to conform to the more stringent pollution control standards. Grandfather clauses can be quite diverse and complex. Which production facility is grandfathered and for what time-frame can vary considerably and would depend on the specific industry, the nature of production technology and the costs of meeting the new regulations.

Box 6. Grandfather clauses

For electric generators participating in the European Greenhouse Gas Emissions Trading Scheme, the initial allocation of greenhouse gas emission permits was crucial. An important aspect is grandfathering where permit allocations are decided on the basis of one or more past reference years. While new generating plants will be cleaner, the introduction of greenhouse gas emissions constraints throughout the EU power sector has the potential to add significant extra cost to power generation, increase power prices, and lead to the exit or bankruptcy of certain producers.

Stavins (2005) examined whether the timing of plant investments was affected by the nature of regulation. In a study of several industries over 1963-1992, it was found that the US Clean Air Act's New Source Review significantly depressed the birth of new plants, keeping old plants in use. In the organic industrial chemicals industry, Becker and Henderson (2000) found that grandfathering of plants contributed to environmental degradation by raising survival rates, reducing plant turnover rates, and keeping otherwise unprofitable operations in business. It also slowed improvements in air quality by prolonging the lives of older, dirtier plants. They concluded that it would be desirable to adopt a more uniform policy with respect to age to encourage retrofitting and other antipollution activities of existing VOC and NOx emitters much earlier in the regulatory process. Overall, these studies point to grandfathering creating barriers-to-entry by new firms, depressing new investments and promoting inefficiency.

The current slot allocation system that controls landing rights at the majority of European airports requires a carrier to have a landing slot for a particular time of day in order to operate a flight at that time. The slots are allocated using grandfather rights: carriers that used their slots last year have the right to continue using the slots this year. (These are the use it or lose it rules.) This allocation system implies that inefficient, high-cost airlines can have access to an airport even though a new low-cost carrier or an efficient, former flag carrier could use the slot much more productively. For example, the European Commission in its 2000 decision noted that British Airways' stranglehold on the UK markets for air transport is reinforced by the substantial portion of the slots it holds in the relevant airports and by the system of grandfathering that currently exists for their reallocation. (See Brueckner, 2004, for details). Control of landing slots and gate facilities have also been of significant concern to the US Federal Aviation Administration.

The European Board of Thoracic and Cardiovascular Surgeons was founded in 1996 to establish common standards for thoracic and cardiovascular surgery and to gain recognition by the European Union. According to Article 19 of the Regulations, surgeons in established practice of at least five years at the time the Board was founded, with independent responsibility and meeting the other eligibility criteria, may be recognised without examinations. Surgeons had till September 2001 to apply for fellowship under the grandfather clause.

In 1975 the US Securities and Exchange Commission (SEC) created a new regulatory category: Nationally Recognized Statistical Rating Organization (NRSRO). One effect of this was to ensure that less competent firms would not set up business to receive payments from bond issuers in return for good rating. This SEC classification grandfathered the main ratings agencies – Moody's, Standard & Poor's, and Fitch. The agency has not approved any new entities since 1992, and all the newcomers have consolidated with Fitch, leaving only the three grandfathered firms today. Though there are a handful of smaller niche raters, the absence of a NRSRO designation is an impediment to their expansion as well as to new entry (see White, 2001).

While the cost considerations for not making the older facilities immediately conform to new regulations are a legitimate economic justification, it is important to recognise that grandfathering clauses which impose asymmetric standards on older versus newer production facilities may impose considerably greater costs on new entrants as well as new capital investments by incumbents. Depending on the extent of the burden imposed and the cost asymmetry, grandfathered regulations can:

- Deter new entry
- Dampen new investment by incumbent businesses
- Allow continuation of inefficient production by older more inefficient plants
- Lead to higher prices

Box 6 provides some examples and discussion of grandfather clauses in different markets.

In circumstances where, for example, new stricter environmental standards are being put in place, it is inevitable that there will be grandfathering to some extent. What is clear is that the greater the extent of grandfathering – for example, where incumbents do not have to meet the standards for a long time period – the greater will be the potential asymmetries created between incumbents and entrants, and the consequent harm to markets. In addition, it is crucial to note that grandfathering has the ability to depress new capital investment by incumbent firms and this has implications for longer-term growth and efficiency of the affected markets. The central issue, therefore, is the structure of the grandfather clauses. We consider a hypothetical scenario to discuss some alternatives.

Proposed legislation being considered: set new standards on environmental emissions and allow grandfathering for all incumbents for a ten-year period. In this case, the new emissions standard is to be taken as a given when assessing the competition effects.

Alternatives that could be considered include:

- Where relevant, the no grandfathering option needs to be considered. For example, in some countries airport landing rights have explicit or implicit grandfather clauses and the no-grandfathering option can be evaluated. But in cases with new

environmental standards that require new capital investments or changes in products and processes, the no-grandfathering option is not a meaningful option.

- Grandfather all incumbents but reduce the number of years for which grandfathering occurs. The decision on this will critically depend on the magnitude of the costs that are imposed by the regulation on the firms. Costs imposed should not be considered in absolute terms but relative to, for example, the firms' sales revenues. The larger these relative costs, the longer may be the optimal grandfathering period.

- Grandfathering based on the vintage of the firms' capital. Suppose we can segment the incumbents into those who purchased their capital stock a long time back versus those who purchased it recently. While there are alternative ways to examine this situation, we consider one scenario. For capital stock that is "older", depreciation ensures that the current value (and efficiency) of the machinery may be quite low. For firms that have "newer" capital stock, the existing machinery has higher market value and efficiency. What this implies is that forcing those who purchased their capital relatively recently to change may be quite costly. Those with much older capital may be at a point where they are due for replacement anyway, and therefore the regulation forcing them to change may be less of an undue cost burden. Where the vintage cut-off – between older and newer capital – lies, will be determined by the technological facts of the particular type of capital.[14] For example, a particular machine tool may have a meaningful lifespan of a few years, whereas the machines that pulp and paper companies buy typically last several decades. Under the above scenario, the vintage effect can be combined with the duration of grandfathering as follows:

  – Shorter grandfathering period for firms with older vintage;

[14] For firms with different vintages of capital – as will typically be the case – the cut-offs will have to be based with consideration given to the average vintage and the distribution around the average.

  - Somewhat longer grandfathering period for firms with relatively recent vintage.

- Considerations for smaller versus larger firms. An important consideration here may relate to exit or foreclosure. While the argument is likely to be important for both larger and smaller firms, faced with new costly regulations there might be greater likelihood at the margin that smaller firms may not be in a position to meet the standards. While some exit may be inevitable, it would be useful to consider the scenarios of larger scale exit. As with the vintage issue discussed above, it may be useful to consider alternative grandfathering scenarios where the adjustment period provided could vary by the size of the firm, vintage of capital and issues related to firms' production technology.

The above discussion highlights the point that grandfathering agreements can raise very complex issues in many industries and have significant detrimental side-effects. Overall, the alternatives to the proposed hypothetical grandfathering rule above could include varying the extent of the adjustment (grandfathering) period as well as conditioning the time-period on firm-specific characteristics such as technology, vintage of capital and firm size.

2.3.5. Regulatory Disparity

Regulatory disparity can take many forms. In some cases, the disparity can involve a disparate treatment of different business types. Brick and mortar companies may be treated differently from each other, and sometimes brick and mortar companies may be treated differently from internet companies. At times, principle based regulation can involve differences that reflect for example the different risks posed by the different characteristics of different suppliers, e.g. small and large banks.

As businesses adapt to digitalisation, new business models or new digitally enabled services emerge. In markets where digitally empowered and traditional suppliers coexist, regulatory disparity may hamper competition by creating heavier regulatory costs for a group or type of suppliers. Regulatory disparity may be in favour of either type of suppliers. On the one side, in many cases, new entrants or services and goods are not regulated at all or are regulated differently from their traditional counterparts. This situation may create an undue cost advantage for new entrants as their competitors are

under heavier regulatory cost. On the other side, unduly higher regulatory standards for new entrants has an effect similar to grandfather clauses.

This does not mean that conventional and digitally enabled suppliers must be regulated in the same way regardless of their peculiarities. However when a level playing field is feasible for all suppliers, this can enhance competition in the market.

Box 7. Star classification system in hotels

In Greece, the legislation for the star classification of hotels sets classification requirements of tourist resorts into categories on the basis of technical specifications. The legislation also stipulated that existing buildings converted into hotels could not obtain a star classification above 1 star. Moreover, such hotels were not allowed to expand capacity by adding new rooms or other extensions. The legislation would discourage investors from renovating and improving existing buildings, while effectively forcing them to demolish buildings and rebuilding them for obtaining a better star classification. As a result of the potential higher costs, the legislation discouraged entry into the hotel market and prevented the development of higher quality infrastructure. After an OECD competition assessment review, the restriction was removed from the legislation.

See OECD (2014), OECD CompetitionAssessment Reviews: Greece, OECD Publishing, Paris, https://doi.org/10.1787/9789264206090-en.

2.4. Regulations that influence prices

Across countries, regulations have influenced prices of goods and services in markets such as electricity, cable television, healthcare, telecommunications, airlines, taxicabs, rental housing units, among many others. In the case of natural monopolies, the unregulated market outcome would lead to undesirably high prices. Historically, industries that fell under this category such as electricity, telecommunications, natural gas, postal services, among others, were subject to various forms of governmental price regulation designed to protect consumers from unduly high prices.

While governments can regulate prices with the objective of protecting consumers, the downside is that firms, when confronted with prices that are lower than what they would wish to charge, may reduce the quality of services offered. Product variety may also be reduced as incumbent firms may have little incentive to offer additional variety under price controls. In several countries, markets such as airlines, telecommunications, among others, have seen noticeable changes in the quality and variety dimensions once the price regulations were relaxed. In addition, entry may be lower in

markets with regulations on prices due to reduced profit-making incentives. Overall, the literature shows that while governments may be pursuing legitimate socio-economic goals in controlling prices in certain markets, these controls can have a wide range of detrimental effects in the long-run such as reduction of production efficiency, slower adoption of new technologies and reduction in product quality and variety.[15] This implies that in markets where competition among businesses can potentially flourish, rules and regulations on prices need to be looked upon with a great deal of scepticism and avoided to the extent possible.

When policymakers choose to intervene in the market, there are reasons to focus on options that are "asymmetrically paternalistic" and that promote competition, instead of introducing price regulation, for example.[16] These options may have significant benefits for those consumers who make "errors" but minor costs for those who do not and consequently are likely to have benefits that exceed their costs. Options include:

- Providing convenient sources of comparative information (e.g., websites that compare average costs for users of mobile phones from different offers that are available; labelling requirements for food; requiring that items in a store have price tags; requiring itemisation of estimates and bills[17]);

- Standards for presenting information to consumers (for example, a general rule for calculating the annual percentage rate of interest) to enhance comparability of financing offers;

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15 Viscusi, Harrington and Vernon (2005, Ch.16) provide a detailed discussion of the motivations for price regulation in potentially competitive industries and some of the intended and unintended effects of such regulation including issues related to productive efficiency and non-price competition. Also see Netz (2000) for an excellent and relatively non-technical overview of this literature.

16 "A regulation is asymmetrically paternalistic if it creates large benefits to those who make errors, while imposing little or no harm on those who are fully rational." (Camerer et al. 2003)

17 Requiring large and complex disclosures may have minimal impact, as consumers can suffer from information overload.

- Cooling-off periods (one week to reconsider terms of a home equity loan; car purchase; waiver of consumer rights; or of door-to-door sales) that give time to gather more information and reconsider options; and

- Disclosure requirements (e.g., requiring mortgage lenders to provide the annual percent rate and the monthly payment, as well as a simple statement like "If you take this loan, the lender will have a mortgage on your home. If you do not meet your obligations under the loan, you could lose your home and any money you have put into it.")

Focus for a moment on the first option. Improving information available to consumers is not simple. A number of examples related to information problems are provided in Box 8. Consumers can suffer from information overload. Complex contracts, written in specialist legal language, may help to reduce the cost of resolving potential contractual disputes, but the language of such contracts, and disclosures within them, may not aid the decision-making process for average consumers. Rather, providing select information that is crucial to consumer decision-making is most helpful. Sometimes providing relevant information that might help consumers to negotiate better deals can actually confuse their evaluation of the attractiveness of different alternatives.[18]

Ensuring that consumers have appropriate information at the right time is complex but improving information available to consumers can yield substantial benefits to consumer well-being and potentially save consumers substantial sums (as with mortgages). The consumer benefits from testing alternative information disclosure mechanisms with sample consumers can often substantially outweigh the costs of such testing. [19]

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[18] See Lacko and Pappalardo (2007).

[19] See Lacko and Pappalardo (2007), which shows that a potential form for improving consumer information related to mortgage disclosures is likely to enhance confusion and result in greater frequencies of consumers choosing more expensive loans over cheaper ones, even when they are seeking the best price.

Box 8. Information problems

This box provides examples of situations where policy makers might consider price regulation as an option to rectify an information-related market failure. Policies to communicate better information are shown as alternatives.

Loans

Most loan contracts contain several pages of fine print, and many of the items in the contract may not be readily understood by all consumers or small businesses. For example, consumers may typically focus on the loan rate, while either ignoring or paying much less attention to the fine print on items such as the:

- extent of commissions;
- amount of various types of service fees; and
- penalty for a single or multiple late payment(s) of a loan installment.

These items are critical in terms of the expected total cost of the loan for the consumer. Consumers and small businesses may face unexpected hardships due to volatility in economic conditions, which may result in late payment of loan installments or even default. They may be caught off-guard with the severity of financial penalties if they did not read the fine print when obtaining the loan.

Medium and larger businesses are slightly different as the larger size of business operations typically implies that they may have in-house legal staff who are knowledgeable and adept at reading fine print and, therefore, more likely to form a clearer picture of the expected total costs of the loan and make the right decisions.

Understanding what is in the fine print of loan contracts requires a consumer to be well informed and educated to be able to make the right decisions. As has been observed in many countries, a relatively competitive financial market on the supply-side does not necessarily eliminate the problems described above about the complexity of fine print and information problems that may impede decision-making, especially by individual consumers and small businesses.

Government intervention designed to clarify the true costs of a loan can promote better deals for consumers in the loans market. One policy response may be to require clear price transparency for key pricing terms, by providing a one-page “summary loan contract fact sheet” to all borrowers including the following information:

- Loan rate expressed in a standardised form, e.g. annual percentage rate;
- Commission;
- All fees and surcharges;
- Penalty for default;
- Penalty for late payment; and
- Any other costs that might be imposed on the borrower.

This provision would inform each borrower about the specifics of a particular loan contract and also allow for easy comparison across multiple loan providers when shopping around for loans.

Currency transactions

Consider a tourist who wants to exchange one currency for another. The posted exchange-rate is arguably the most important factor. This rate, however, can vary considerably among service providers – from being relatively close to the official market exchange-rate to a considerable markup above it. Further, most providers charge service fees or commissions which can range anywhere from close to zero to 10%. The total price the consumer pays for this service – currency exchange – is the combination of the posted exchange-rate and service fees and can, therefore, get complicated if all details are not transparent. In some instances, "after" the transaction is completed, the consumer gets a printout of the transaction with all the fees and commissions listed. A consumer can end up getting a much worse deal than they initially expected based on posted exchange rates. In this type of transaction, the consumer needs to have the appropriate information to be able to compare the exchange rate being offered and fees and commissions across the service providers. This process of gathering information is likely to entail meaningful transactions costs being incurred by the consumer. Introducing a requirement for a full quote in advance of a transaction that calculates the effective exchange rate (including fees) can be helpful. Bank loans and other financial transactions share similar characteristics in terms of the complexity of the total price paid by the consumer.

Funerals

When making funeral arrangements, family members may consider it undignified to ask about prices. However, they may make decisions that have dramatically different implications for costs. To the extent that decisions do not take into account prices, a family can be surprised by the extent of a bill at the end of the process and have difficulty paying. At times, therefore, governments have introduced rules that require funeral homes to provide an itemised estimate of costs in advance of a funeral.[20] Such rules promote price transparency and enhance the ability to compare across different options, helping consumers to make better buying decisions.

Automobile insurance

There are numerous providers of insurance with a variety of available plans. Each plan provides information and options about coverage for the individual who is buying the insurance regarding damage to the automobile and property, and medical payments. There is also an important quality dimension to automobile insurance. For example, if an insured person has an accident, the purchaser will be concerned with how easily and how quickly insurance payouts are delivered, and the options the insured may have regarding where to get the car repaired or seek medical treatment. This quality dimension is relatively opaque unless the insured has first-hand experience with the company or has outside information from other consumers and, for example, consumer protection organisations. In this market,

[20] See, for example, the US Federal Trade Commission's Funeral Rule (16 C.F.R. § 453.) While such rules of price transparency might seem unnecessary, because the market should already provide such information, in fact the rules were passed because many funeral homes did not provide transparent price information.

one can get outcomes where an automobile insurance provider may offer lower (higher) rates for the same insurance package but the quality dimension noted above could be much worse (better), resulting in significant variation in the true cost of buying the insurance. A consumer who simply decides to buy based on price could be in for a rude shock when they realise that it takes months and significant transactions costs to obtain the reimbursements from the insurance company. Consequently, requiring insurance companies to reveal average rejection rates for claims, length of time for repairs and average length of time to resolve claims may help consumers to make better decisions when comparison shopping. Similar considerations would be relevant when buying home-owners insurance and life insurance. Even more challenging with life insurance is that payment is made up front for a product whose true quality may be learned only much later in time.

3. Rules and regulations that reduce the incentives of suppliers to compete

Some rules, regulations and mechanisms that permit businesses to exchange information and collaborate in specific activities can lead to an environment which diminishes incentives for businesses to compete. A particular concern is that these circumstances may facilitate cartel-like activities among firms, potentially leading to higher prices, loss of output and reduced variety. These considerations are very different from those related to the number and range of suppliers or the ability of businesses to compete – issues that were discussed in the preceding two main categories. In addition, there are specific business practices that may be employed by firms in formerly regulated industries such as electricity, telecommunications, and natural gas, which erect barriers to competition and lead to reduced incentives to compete. Incentives to compete can be diminished in situations where:

- Self-regulatory or co-regulatory regimes are created;
- Information on supplier outputs, prices, sales or costs are required or encouraged to be published;
- The activity of a particular industry or a group of suppliers is exempted from the operation of national competition laws;
- The mobility of customers between suppliers of goods or services is reduced by increasing the explicit or implicit costs of changing (switching) suppliers. As detailed below, costs imposed by dominant incumbent formerly-regulated monopolies are of particular concern.

Many of the information sharing mechanisms and collaboration among firms are permitted on the grounds that they may help facilitate greater innovation and the setting of uniform technical codes, standards and business practices. Companies and industries in many countries were (are) granted partial or complete exemption from competition laws to encourage their growth and increase exports. While in some cases the economic and social objectives are justifiable, they may be misguided in others. Below we present a discussion of the pros and cons and note some of the significant concerns related to the potential effects on the incentives of firms to compete.

3.1. Promoting self-regulation

In contrast to the traditional command-and-control model of government regulation, certain professions and producers of goods and services have historically been given the latitude to engage in self-regulation (or co-regulation).[21] Self-regulation has a number of potential advantages:

- It presents the opportunity for a more co-operative approach to regulation. There may be enhanced regulatory credibility arising from the involvement of a respected industry association as an active participant in the regulatory scheme and, by extension, endorsing its validity. This effect can, in turn, improve compliance levels.
- Involves industry and other interested parties in the regulatory process and allows a leveraging of resources provided at little or no cost by making these parties participants in regulatory monitoring and, in some cases, enforcement activity.
- Specific knowledge of industry participants is drawn upon in designing the regulatory system, suggesting that it should be well adapted to its purpose and minimise formal regulation.

Specific areas in which self-regulation exists include:

- Product characteristics including quality and safety
- Design compatibility

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21 While many of the arguments below also apply to co-regulation, our discussion will be based on self-regulation only. The Jaguar Consulting (2003) report and Deighton-Smith et al. (2001) present insightful discussion of various aspects of self-regulation and co-regulation.

- Co-ordination of technical standards
- Ethical standards of practice
- Control of pollution

The fact that formal regulatory processes are avoided means that self-regulation is potentially more flexible in its form and approach than government regulation and is also more easily amended over time in response to problems that may arise. From the government's perspective, self-regulation is low cost in nature. Industry participants also tend to regard self-regulation as generally less costly than the more traditional command-and-control government regulation.[22] In certain sectors such as professional services, an industry association is likely to be better positioned to ensure standards as opposed to traditional governmental regulation. Self-regulatory agreements reached on design and standards among the market participants have the ability to enhance competition. Finally, self-regulation can in many instances lower the burdens faced by businesses – costs and uncertainty – that often accompany the more traditional governmental regulations. Therefore, in many areas, self-regulation has the potential to deliver gains in efficiency, enhanced innovation and improved profitability.[23]

An important competition concern, however, can arise in self- and co-regulatory arrangements. By its very nature, self-regulation, via industry organisations and trade associations, brings together "competitors" permitting greater flow of information between them. While the objective of the meetings among the market participants may be to reach agreements on, for example, product designs or safety standards, they also provide fertile ground for discussion of firms' strategies related to prices, quantities, capital investments, market shares and other aspects. Permitting the market participants to co-operate in some areas of business, therefore, has the potential to lead to greater information flows and co-ordination rather than competition. Some of the concerns include:

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22 We note a potential strategic issue. Often, self-regulation may serve as an intermediate step towards more formal regulation. If self-regulation fails to deliver the results, then governments may intervene and more formally regulate the market. Faced with this scenario, industry organisations and participants have an incentive to propose self-regulation and to make it work.

23 Valentine (1998) and Pitofsky (1998) present useful discussions of some of the pros and cons of self-regulation.

- Greater likelihood of price co-ordination;
- Co-ordination to prevent new entry;
- Agreement on conduct standards, or regulations on the nature of and range of services that may be provided, that may be to the detriment of consumers;
- Rather than engage in competition in innovative activities via costly R&D expenditures, competitors may choose to co-ordinate their actions and reduce product and process innovation.

These concerns can arise in markets with a large or small number of competitors. While the presence of a few competitors increases the likelihood of co-ordination in prices and production, the problem can arise even in large groups. Consider the following example. Suppose under the current technology the industry association – consisting of a large number of firms as members – has reached a consensus on standards. Now let a new entrant attempt to enter with a superior technology. The incumbent firms via the industry association will have an incentive to erect entry-barriers to protect their profits (see item C#2 in Box 9 for an example of this). Permitting collaboration, therefore, has the potential downside of leading to collusive anti-competitive outcomes irrespective of whether the group of incumbent firms is small or large.

Box 9 provides a few examples of self- and co-regulation and discusses some of the potential costs and benefits that can arise from them.

One important issue with self-regulation is the setting of standards. If adoption of standards is voluntary – or that the industry merely indicates guidelines which the market participants could follow – it may reduce the likelihood of anti-competitive effects. A key feature to take note of is whether the industry standards are imposed in a coercive manner. If so, there may be a significant likelihood of anti-competitive behaviour as industry associations can use these standards to erect barriers to competition (for example, item C #2 in Box 9). In this sense, the design of the self-regulatory system should avoid coercive standards.

Regarding the issue of anti-competitive conduct such as price-fixing and market allocation schemes, evidence from competition law enforcement suggests that while these can occur in markets with a large or small number of competitors, they are more likely to occur in markets with high concentration and/or few firms. These variables, therefore, can thus be used to gauge the likelihood of such behaviour. In the end it is important to note that while the

enforcement of these abuses is in the domain of national competition law enforcement, regulatory officials need to be aware of the potential harm to competition when crafting or altering regulatory arrangements.

Box 9. Self-Regulation

A. Examples of types of self-regulation

1. Australia started a new self-regulation system for advertising standards in 1998 with the creation of the Advertising Standards Board and Advertising Claims Board. These organisations are now responsible for consumer complaints regarding the content of advertisements.
2. The US Federal Trade Commission (US Federal Register, August 20, 1998) rescinded the labeling guides for the feather and down products industry in favour of self-regulation whereby the industry determines the standards for labeling. The FTC decision was based on the argument that the existing disclosure rules were more likely to have harmful effects that distorted consumer demand, affected firms' production decisions and potential anticompetitive effects. The existing regulation allowed, for example, a product with 75% down content to be called "down". This would, however, make a 100% down product appear less distinguishable as high quality and adversely affect firms' incentives to bring higher quality down products to the market.
3. Australia allows for a certain degree of self-regulation in the telecommunications industry with the expectation that it will encourage the industry to better respond to customer needs. Self-regulation is encouraged through the co-operative development of technical standards and operating arrangements and is promoted via the Australian Communications Industry Forum – a telecommunications industry owned and resourced organisation. In the event that compliance relative to the industry developed guideline is viewed as deficient, the regulator reserves the option of requiring the industry to develop a "Code of Practice" which effectively has regulatory status and compliance becomes compulsory under the relevant legislation. Given the stringency of the latter, the industry has an incentive to attain a degree of self-regulation that avoids more formal regulation.

B. Threat of more formal regulation and industry initiatives in self-regulation

1. More stringent regulations on the beer industry, including harmonisation across member countries, have gained momentum in the EU. The objective is to discourage beer drinking and proposed solutions include higher taxes and effective bans on advertising. The brewing industry has, however, argued that self-regulation, as opposed to formal restrictions such as an advertising ban and increased taxes, is the more efficient way to ensure that the brewing industry develops in a healthy way. The industry has argued that formal regulations and over harmonisation would harm longstanding European traditions, the competitiveness of the industry and go against the concept of open European markets.

2. In response to growing criticism concerning advertising and promotional activities and looming threats of explicit regulation, the Pharmaceutical Research and Manufacturers of America issued self-regulatory guidelines in 2002. The self-regulatory codes controlling the promotional activities of companies, however, have been subject to criticism as being vague and lacking teeth. As noted by Lexchin (2003), the mission of the association is primarily to increase sales and profit and when they outline codes of practice, they deliberately make them vague, do not cover many aspects of promotion and allow companies wide latitude by leaving room for misleading advertising.

C. Examples where there were competition concerns in self-regulated areas

1. In the United States, the American Medical Association had imposed standards on physicians. The rules set constraints on advertising, provision of services to patients and price competition by physicians. In 1979, the US Federal Trade Commission held that this form of self-regulation violated US antitrust laws as they prevented competition among physicians and the emergence of new forms of competition in the healthcare industry.
2. Industry self-regulation can result in perverse incentives whereby potential competitors are foreclosed from the market. An example is the 1988 US antitrust case – Allied Tube & Conduit Corp. v. Indian Head, Inc. In this case, Allied Tube had set standards for steel based electrical wire conduits in buildings and these standards had been incorporated into safety codes of local governments. A new entrant offered a plastic based conduit that was high quality and cost efficient. The incumbent steel conduit manufacturers collectively agreed to vote against the new entrant in the association's annual meeting. The association co-ordinated action prevailed, resulting in significant harm to competition.

We conclude the discussion on self-regulation by re-iterating the comments we made in the beginning of Chapter 4. As noted in the discussion above and highlighted in some of the examples in Box 9, self-regulatory mechanisms can generate perverse incentives for firms to engage in collusive activities such as setting prices or quantity restrictions as well as erect barriers to entry to protect the incumbent groups profits. In this sense, the range of competition concerns that arise from self-regulation are not only valid for the category #1 of "Rules and regulations that limit the number or range of suppliers" but also for the category #2 of "Rules and regulations that limit the ability of suppliers to compete." For example, depending on the specific nature of implicit or explicit entry barriers that may be erected, the competition concerns would fall under category #1 and/or #2.

3.2. Co-operation and information exchange

Businesses in a market are expected to compete. Competition brings benefits related to lower prices, efficiency gains and innovation. Under competition laws of most countries, firms are prohibited from co-ordinating their strategies with respect to variables such as prices, quantities and market share.

Specific exceptions to these general prohibitions, however, can be found. Rules often enable competitors to engage in specific types of co-operation and formation of market organisations such as:

- Formation of agricultural co-operatives for joint marketing of produce. These were justified on the grounds that smaller farmers would not get fair prices for their products as the buyers often tended to be large. Allowing co-operatives was seen as a mechanism to counter buyer power;
- Allowing professional organisations, such as legal and medical, to set best practice guidelines and rules for its members. Allowing this was assumed to ensure better controls on quality and standards for the professional services offered;
- Formation of trade associations which allow members of the industry to meet and exchange information about industry trends and market conditions;
- Co-ordinate product design and compatibility to ensure standards and uniformity;
- Permitting research and development joint ventures for promoting innovation.

While there are legitimate reasons for allowing and encouraging these types of co-operation, an unintended side-effect may be that these mechanisms also allow competitors to exchange information about prices and quantities and engage in collusion. In other instances, public information provision on, for example, prices may lead to better information flows among firms resulting in greater likelihood of collusive behaviour.

Box 10 provides examples of instances where information sharing and co-operation by firms has led to investigations by the competition authorities. While these examples are from competition law enforcement, they are included to highlight the fact that (opportunities for) information sharing can lead to anti-competitive outcomes. A broad message is that permitting

information exchange and co-operation needs to be well thought out due to its likely anti-competitive outcomes.

Box 10. Co-operation and information exchange

In 1993 the Danish competition authority decided to collect and publish firm-specific transactions prices for two grades of ready-mixed concrete in three regions of Denmark. Within one year of the publication of the data, average prices of the two grades increased by 15-20%. Publication of prices potentially facilitated collusion and increased prices.

Professional or producer organisations are common in most countries and involve collective decision-making by firms who otherwise would compete against each other. If not adequately monitored and regulated, such organisations may lead to loss of competition and barriers-to-entry due to the organisations making membership difficult, intentionally excluding firms, and even agreeing to engage in anti-competitive activities such as price-setting.

The co-operative of anaesthesiologists of the state of Goiás in Brazil distributed a list of prices covering anaesthesiological procedures to all the affiliated anaesthesiologists in the state of Goiás. The Brazilian Competition Council held the co-operative guilty for price co-ordination.

The co-operative of Medical Works Ltd. in the city of Macapá in Brazil was implicated for restraining competition by influencing the adoption of uniform commercial conducts or agreements among competitors.

The American Medical Association has argued that physicians should be entitled to collectively compare information about the reimbursement rates from health insurance plans. The AMA argues that physician reimbursement rates are contractually imposed by large health insurance companies in a take-it-or-leave-it manner. The concern, however, has been that this arrangement potentially allows the physicians to fix prices (set their rates).

Cavaliere, Silvestri and Tanasso (2000) outline issues regarding self-regulation and voluntary agreements designed to allow firms to meet environmental objectives. But this co-operation is also viewed as fertile ground for sharing information about prices and other activities that may reduce competition.

As noted in Potter (2001), an important concern of regulators with internet based business transactions and exchange of information is whether the amount of information that is revealed and shared between the sellers will lead to collusion and increase in prices. More generally, business-to-business internet based transactions may permit firms to view the prices and volumes at which other sellers have consummated sales or to learn whether other sellers have excess capacity. This may encourage at least tacit price co-ordination. The US Department of Justice, for example, has investigated internet bond exchange (Schiffrin, 2000) as well as airline reservation entities formed by several airlines such as Hotwire and Orbitz, which were also the subject of investigations by the US Federal Trade Commission and the Department of Transportation (Greenberg, 2000). The US Department of Justice brought an enforcement action based on evidence that information sharing in airline reservations systems was used to manipulate prices. (www.usdoj.gov/atr/cases/f4800/4800.htm)

> On the broad topic of information sharing and anti-competitive outcomes, an example from the French mobile telephone industry is illustrative. Three companies – Orange France, SFR and Bouygues Telecom – were implicated by the Conseil de la Concurrence and heavily fined for sharing strategic information on new subscriptions and cancellations. The Conseil noted that the information sharing distorted competition by reducing uncertainties over competitors' strategies and diminishing each company's commercial independence. In addition, the Conseil observed that from 2000 onwards, the information sharing had enabled them to monitor and stabilise their jointly-targeted market shares.

It is quite transparent that allowing co-operation in some areas has the potential to bring substantial benefits to society, such as collaboration in research and development. Thus, determining the nature and extent of the derogations from the general prohibition on a range of co-operative behaviours between firms in an industry is one of the more difficult tasks facing a regulator. Many of the violations of competitive principles may occur in a covert manner, one that is neither readily apparent nor easily forecast by the regulator. In this area, as in others, the task effectively amounts to that of reaching a difficult conclusion on whether the benefits to society of allowing co-operation in particular contexts are likely to outweigh the costs, expressed in terms of the anti-competitive corollaries of allowing the co-operative behaviour. While, as a general rule, it is difficult to forecast when collaboration in one area – such as R&D or determining compatibility standards – might lead to co-ordination of prices or market share allocation, evidence from competition law enforcement points to high market share or small number of firms as one of the indicators for the likelihood of such anti-competitive behaviour. While, in the ultimate analysis, national competition law enforcement is entrusted with the task of detecting and prosecuting collaborative behaviour in the areas of prices and quantities, it is important to keep in mind that regulatory decisions should not end up facilitating collaboration because collusion is very hard to detect even by the competition authorities.[24]

[24] Ghosal (2007) presents a discussion of the various avenues by which information flows into the investigative offices of the competition authority and the extreme difficulty they have in detecting cartel-like activities.

3.3. Regulations that partially or completely exempt activities from national competition laws

In many countries, governments grant competition policy exemptions to companies and business organisations. The motivations are diverse and include exemptions for:

- Promoting exports
- Regulated companies
- Agricultural co-operatives
- Organisations for small and medium businesses.

Undoubtedly, some of the underlying arguments for granting competition law exemptions can be justified from a historical perspective. Worldwide, farmers tended to be small and permitting them to co-ordinate their marketing/selling activities made sense. For some of the above categories, exemptions at times can serve to help create goods and services that would not otherwise exist or that otherwise may have lower quality.

The significant downside, however, is that regulations that eliminate or reduce competition by exempting activities from competition laws or requiring competitors to act jointly can have detrimental effects on the extent of competition in the market and the actions of businesses protected under these arrangements have often cast a long shadow. Therefore, careful consideration should be given to proposals which aim to provide exemptions from competition laws. In situations where a proposal creates some uncertainty as to whether the government intends the competition law to continue to apply, language should be added making the competition law's applicability clear. For example, the 1996 Telecommunications Act in the US contained an "antitrust savings clause" which made it clear that antitrust laws would continue to apply and would not be displaced by that legislation.

Box 11 provides some examples of exemptions from competition laws and the adverse effects.

Box 11. Exempting activities from competition laws

The *Shipping Conferences Exemption Act, 1987* (SCEA) in Canada, exempts certain shipping conference practices (e.g. collective rate setting, and conditions of service) from the provisions of the *Competition Act*. In order for a conference not to run afoul of the *Competition Act*, antitrust immunity is provided through SCEA. The report by Clyde and Reitzes (1995) provides evidence that some aspects of the liner shipping conference immunity system may have contributed to higher ocean liner shipping rates.

Until October 2008, liner shipping companies enjoyed the benefits of a Block Exemption Regulation, which allowed the carriers to agree on prices and capacity (so-called "Conferences"). Such agreements are no longer allowed on routes to and from Europe, although they may still continue legally on some routes outside Europe. Conversely, non-price agreements in the form of Consortia are authorised under Regulation No 906/2009, as they contribute to the efficiency and rationalisation of liner shipping services, provided sufficient competitive pressure still remains in the market. Exempted activities include joint fixing of schedules, the joint determination of ports of call, exchange of space on vessels and pooling of vessels. Consortia with a market share of above 30% fall outside the block exemption but may still be considered legal under general EU competition rules.

The US McCarran-Ferguson Act (1945) exempts the insurance industry from some federal antitrust statutes to the extent that they are regulated by the states. The exemption primarily applies to gathering data for the purpose of ratemaking. Otherwise, antitrust laws prohibit insurers from boycotting, acting coercively or restraining trade. Commentators have argued that the Act has provided shelter to the insurance companies and allowed them to fix prices. As noted in King (2003), consumer advocacy groups have argued that insurers have taken advantage of the Act to raise prices and restrict coverage, as well as engage in other anti-competitive activities that would be considered unlawful in any other industry. Legal challenges involving alleged price-fixing by insurers are typically dismissed by the courts because of the industry's special exemption from the antitrust laws.

In the United States, sectors that retain some form of exemption from, or special treatment under, the antitrust laws include: agricultural co-operatives; fishermen's co-operatives; banks and other financial institutions; securities and commodities industries; insurance; newspapers; professional sports; interstate motor, rail, and water carriers; ocean shipping; organised labour; and air transportation. The US Congress passed the Newspaper Protection Act (1970) to provide limited antitrust exemption by allowing the creation of Joint Operating Agreements by newspapers. The motivation was to keep newspapers from failing, especially if it would leave only one daily paper in a market.

The European Union's block antitrust exemption for the distribution and servicing of automobiles had created a system where automobile dealers had to offer after-sales repair services, and mechanics needed a quality mark from the manufacturer. This allowed manufacturers to dominate the market by excluding competing brands from their dealers' showrooms. The exemption ended in September 2002 and car dealers are now able to offer a variety of brands. The European Union's antitrust block exemption regime for the distribution and servicing of automobiles was reformed in 2010. For the car repair sector, special rules remain, to ensure that competition to car brand repair by independent repair

shops is not prevented, and that repair shops continue to have access to alternative, often cheaper brands of spare parts.

In Sweden, there is legal exemption under the Competition Act for agricultural co-operatives. Pricing by a primary association where it is responsible for the sale of goods, which are supplied to the association, falls outside the scope of competition policy actions against anti-competitive behaviour.

In South Africa, exemptions from the competition law may be granted to firms and professional associations to act in a manner that, in the absence of exemption from the Commission, would be anti-competitive. Exemption could be granted on grounds such as: (a) promoting exports; (b) promoting small and medium enterprises; (c) aiding the economic stability of an industry; and (d) maintain professional standards or for the ordinary function of the profession.

While in some instances the historical roots of granting exemptions from competition laws are deep, it is fair to say that such exemptions merit serious consideration when they are brought into place. As OECD (1997) points out, exemptions from national competition laws have accumulated in numerous sectors such as energy and utilities, transport, communications, and agriculture. Such exemptions can reduce economic performance by allowing anti-competitive practices such as abuses of dominant position and collusive conduct. Overall, there are significant benefits to applying general competition law as widely as possible.[25]

4. Consumer choice and decision-making

Suppliers compete with each other to attract consumers. As noted elsewhere, at times government policies may unduly restrict actions that suppliers can take. By the same token, government policies can also affect consumer decisions in ways that may limit choice or might otherwise not be in their interests.

Consumers make their decisions to buy particular goods and services based on factors such as their personal preferences, income, prices and the

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25 The report notes that this is particularly important in the period after regulatory reform, because such abuses can frustrate the emergence of competition by blocking entry or fixing prices. Vigorous enforcement of laws against cartels will be needed where years of regulation have taught firms to co-operate rather than compete. Without determined action, the benefits of reform can be lost.

attributes of competing products.[26] When making their decisions, though, they may not have sufficient information about a product, may face government constraints over the variety available to them, and/or may face costs in switching from one product to another that deter them from selecting the product that they would choose if they could freely switch. Moreover, they may fall victim to behavioural biases that result in their making choices that are, upon examination, inconsistent with their underlying preferences. These factors affect the demand for some goods and services in significant ways.[27] When this occurs, governments sometimes seek to take measures that improve transparency or otherwise assist consumers.

To illustrate the importance of demand side factors for promoting beneficial competition, consider situations where consumers are presented with information that is incomplete, confusing, misleading or difficult to decipher. In these situations, unconstrained market outcomes may not yield the highest possible consumer welfare. For example, if consumers have adequate information about product quality, firms offering lower-quality products may be forced either to lower their prices vis-à-vis firms providing higher quality items or to improve their products. In contrast, if consumers possess insufficient, confusing or misleading information about products, they may find it difficult to properly evaluate products. They may then pay higher prices for relatively inferior goods and services or, in the case of confusing information, they may reduce efforts to search out products that best meet their needs. For these reasons, ensuring that consumers are in a position to make informed, well-reasoned choices is of primary importance for fostering vigorous and beneficial competition.

Governments can help in this regard. Wilson and Waddams Price (2005) examine a UK sample of electricity purchasing households and find that one third of customers who switched electricity supplier in their UK sample switched to a more expensive provider rather than a cheaper one. One of the key factors explaining this result was the difficulty consumers experienced in comparing complex and competing offers. Consumer "errors" can increase equilibrium profit mark-ups by weakening the relationship between firms'

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[26] The OECD Consumer Policy Committee produced a framework for determining when and how governments might want to take an action to address a consumer issue. (*Consumer Policy Toolkit, OECD*, 2010)

[27] Regulations that affect what suppliers produce, how they compete and their incentives to compete with each other affect the supply side of the market.

sales and relative surplus offerings (Perloff and Salop 1985, Gabaix et al. 2005). If there is a profitable business strategy that is based on systematically confusing consumers, and it appears that suppliers are intentionally following such a strategy, there may be a reason to protect consumers, for example by requiring a clear and comparable standard for comparing offers made by different suppliers. Caution, however, needs to be exercised in intervening in markets as there can be consequences that are detrimental both to suppliers and consumers. Examples of policies that harm consumer options and decision-making include regulations that create product standards that are higher or lower than many consumers would desire (thus eliminating part of the choice set available to consumers), regulations that mandate consumer purchases of certain products, regulations that give specific professions the ability to restrict consumer choice, such as when issuing certain prescriptions (e.g., for contact lenses) that require purchase of a specific brand of lens. Examples of policies that help to expand consumer options and improve their decision-making may include regulations that require labelling of content in food, regulations that establish a standard form of quotation for mortgage rates (aiding the comparability of offers across financial institutions), disclosure rules and cooling off periods.

4.1. Ability to choose

Markets generally work best when consumers can exercise free choice. Choice can be restricted even when multiple provider options are available. This can occur when government regulations restrict the choices available to consumers. In many circumstances, private restrictions are appropriate and expected, as when consumers select a car, recognising that, for service, there then may be limitations on which repair shops will have the equipment that is necessary to service the car.[28] Private restrictions on choice can at times be highly beneficial to promoting competition and getting better deals for consumers.[29] In some circumstances, however, choice is restricted by

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[28] For example, repairs to computerised systems in a car may require diagnostic equipment that is specific to a model or manufacturer. This special equipment is expensive and may involve proprietary technology.

[29] For example, private health insurers in the United States offer their subscribers a network of physicians and hospitals. Health insurers are able to negotiate the best deals with providers like physicians and hospitals when they are able to exclude some providers (and offer the remaining providers more patients). Some US states require that any provider of

government policies towards the consumer. When government policies restrict consumer choices, it is worth asking whether such restrictions are necessary to achieve a public policy goal that could not be achieved in some other way with less harm to competition.[30]

Government policies can restrict consumer choices directly or indirectly. For example, governments may declare it illegal for consumers to purchase prescription or non-prescription pharmaceuticals in a neighbouring state or country at potentially lower prices. This constitutes a direct restriction. Alternatively, a government policy relating to insurance coverage for pharmaceutical purchases may reject reimbursement for all pharmaceutical purchases that are outside the state. This constitutes an indirect restriction that may have a similar effect to the direct restriction, but which operates through a mechanism of financial reimbursement rather than through a direct legal restriction.

Limiting consumers' ability to choose freely may have harmful effects, because when suppliers know that consumers are blocked from some of the choices they would have preferred, suppliers may be less responsive to competitive pressures that would lead suppliers to lower price, increase quality or increase variety of goods and services available. In addition, consumers may be less satisfied with the products they obtain or may simply not purchase a particular type of product at all.

Promoting consumer ability to choose is important for making markets work well. Sometimes this promotion is pursued by a competition or consumer protection agency but, in many instances, it is also pursued by sector regulators or legislative action.

- At times, government policies may play a role in restricting choice. For example, in the United States, a federal regulation requires

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medical services who is willing to be in a network shall have the right to be in the network, while others permit selective contracting. Vita (2001) shows that state requirements mandating that any willing provider can join a network are associated with higher expenditures for health care in the state.

30 Mortgage insurance is compulsory in Canada for high loan-to-value loans, but the consumer does not get to choose the provider; the lender does. France used to have a similar requirement, but has sought to change that to give consumers choice over their providers.

wearers of contact lenses to receive recent prescriptions from an authorised eye care specialist prior to purchasing contact lenses. The regulation was passed to ensure that patients received appropriate diagnoses for types of lens (if any) that would be appropriate and for the corrective strength and other features of the lenses. Some eye care specialists began purchasing lenses that they branded under their own private label (such as "Dr. Jones Contacts") and which were available only from a given prescriber. Dr. Jones, for example, might issue her patient with a prescription for the purchase of Dr. Jones Contacts of a specific corrective strength. Patients could be limited in their ability shop around for such lenses, because, by law, prescriptions could only be fulfilled with the prescribed product and only Dr. Jones sold the Dr. Jones Contacts product. Pricing data suggest that private label lenses from independent eye care practitioners and from optical chains can be 9-13% more expensive than the next most expensive option of the equivalent branded product (from online stores) and as much as 50% more expensive than from the cheapest alternative option (wholesale stores) selling equivalent products.[31] Following legislative action[32], the US Federal Trade Commission issued an order that required prescribers issuing a prescription with a private label contact lens to provide sufficient information in the prescription to identify comparable, broadly available lenses and that prescriptions should be portable, thus ensuring that consumers would not be forced to purchase from their prescribing eye care practitioner.[33]

- At times, government policies may play a role in expanding choice. For example, the *Warsaw Municipal Corporation for Public Services Ltd* (*MPUK)* had rented funeral homes located in the Warsaw Public Cemetery and in the Military Cemetery Powaski from the City of Warsaw. The MPUK required that other funeral service providers and individual clients who wished to use the funeral homes purchased additional services such as music, funeral director of the

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31 See data in US FTC (2005) concerning sale of Biomedics55 branded and private label products (p. 25).

32 The Fairness to Contact Lens Consumers Act (FCLCA) P.L. 108-164, 1117 Stat 2024.

33 15 U.S.C. § 7601; 16 C.F.R. §315.

ceremony, and ceremonial services from MPUK. Thus, a customer who wished to use a funeral home had to purchase all the additional services from MPUK, even if she already had her own funeral services provider. The linkages between cemeteries and funeral service providers caused concerns about entry barriers into competitive markets for funeral services. The Polish authorities found this practice harmful for competition on the market of funeral services, and MPUK was required to stop requiring additional services and charging for them.[34]

When choice is restricted by government regulation in a way that hurts consumers, revisions to the regulation may be possible to ensure that choice remains, as occurred with the legislation and rules over contact lens purchases when eye care specialists used the prescription requirement to give patients prescriptions that could only be filled by their private label products. Nonetheless, when free choice is restricted by purely private actions, government action should not be an automatic result. Many purely private restrictions of choice can have beneficial impacts. Factors to consider in evaluating potential government responses include examining whether consumers are locked in to a course of action prior to having good information about the costs of different options and whether there are aggravating circumstances suggesting that consumer decision making will frequently not be well considered.

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[34] Not all competition authorities would consider that joint financial interests between cemeteries and funeral homes are universally problematic or, conversely, that a separation between cemetery and funeral service owners is necessary or desirable. See US FTC (1993). Having said this, the FTC has instituted a Funeral Rule that, among other actions, promotes customer access to alternative suppliers of caskets or urns, so that a funeral services provider must accept caskets or urns that have not been purchased from the funeral services provider and the funeral service provider cannot charge a casket handling fee that would undermine the intent of the Funeral Rule. See 16 C.F.R. § 453.

Box 12. Mandatory sale of the branded drug, unless substitution is expressly permitted

Doctors in Mexico can either prescribe an International Non-proprietary Name (INN; as defined by the World Health Organization, a unique, globally recognized name that is public property) or a jointly generic and distinctive designation, which is a mix of a generic drug and a brand name (e.g. salbutamol and "Ventolin"; ibuprofen and "Advil"; or paracetamol and "Tylenol"). When doctors prescribe a distinctive designation, pharmacists must comply with that designation; the medicine can only be substituted when the doctor expressly authorises it. Consumers are thus locked into purchasing a branded medicine if that is what is prescribed by the doctor. This reduction in consumer choice can harm consumers, who may lose access to cheaper medicines that they often pay for from their own pocket. The objective of this provision is to protect the Mexican population against sanitary risks given that there is a widespread belief in the Mexican population that generics are not as effective as the original drug (i.e. medicine protected by a patent or whose patent has expired). However, concerns over generics' safety and effectiveness compared to original medicines seem generally unfounded. In a 2018 competition assessment study of pharmaceuticals in the Mexico, the OECD recommended either (1) obliging pharmacists to inform patients about the cheapest available generic and allowing the substitution of prescribed medicines with this generic when the patient agrees, unless the prescription specifically states "substitution not allowed" (which might be necessary if certain patients do not react well to substitutes of a certain medicine) or (2) introducing a provision that requires doctors to prescribe only INN medicines, which is the active substance, but not the brand name. If either of these OECD recommendations is fully implemented, the benefit to Mexican consumers was estimated to range between MXN 6 177.4 million and MXN 21 417.8 million.

4.2. Switching costs

In some instances, consumers may face significant costs to switch suppliers of a service or product. For example, the telephone company or the natural gas company may have had the consumer sign a contract which locks the consumer in to buying the product or service from the company for a specified duration.[35] In some instances, the companies may make the consumer pay up-front for the provision of services for the contract duration, or charge a fixed fee to sign the contract. One motivation for such clauses is to lock-in customers as this helps create barriers to consumer mobility.[36]

35 On telecom, see for example OECD (2008).

36 In the case of mobile phones, one can argue that such clauses are designed to keep customers long enough in order to pay for the mobile phones (handsets) that are heavily discounted during promotions. This appears to be a common marketing strategy among competing providers of mobile

Under such contracts, if customers want to change to a new supplier – such as a new entrant – they will have to absorb the fee they paid to the previous supplier. Imposing high switching costs can, therefore, benefit the incumbent firm(s), reduce competition and potentially make future entry difficult.[37]

One manifestation of switching costs that is of significant concern relates to the deregulated industries such as natural gas, electricity and telecommunications which have dominant incumbent companies who attempt to thwart competition by offering contracts that embed switching costs. These traditionally regulated industries pose considerable challenges for at least two reasons:

- The incumbent's network of gas pipelines, or transmission wires or telecommunications network has to be accessed by competitors to provide service;
- The incumbent firms have high market shares due to their regulatory heritage.

phone services. However, this logic would not apply to the provision of natural gas or electricity services.

37 Paul Klemperer (New Palgrave Dictionary) provides a more general definition of switching costs: "A product exhibits classic switching costs if a buyer will purchase it repeatedly and find it costly to switch from one seller to another. For example, there are high transaction costs in closing an account with a bank and opening another with a competitor; there may be substantial learning costs involved in switching between computer-software packages; and switching costs can also be created by non-linear pricing as, for example, when an airline enrols passengers in a "frequent flyer" programme that gives them free trips after flying a certain number of miles with that airline. Switching costs also arise if a buyer will purchase "follow-on", or "aftermarket", products such as service, refills or repairs, and find it difficult to switch from the supplier of the original product. In short, switching costs are created whenever the consumer makes an investment specific to his current seller that must be duplicated for any new seller".

As some of the examples in Box 13 show, consumers in many countries are sometimes subject to switching costs that impose barriers to choosing alternative suppliers. [38]

The behaviour of incumbent firms in industries such as electricity, telecommunications and natural gas shows that they have significant propensity to impose switching costs and deny or restrict access to new entrants to their markets in order to maintain their market power and profits. Governments can play an important role in shepherding these industries from their regulated-monopoly past into a future where there is a more competitive environment. The solution is multi-part and all of the elements below have to be in place to increase competition:

- Legislate access to the incumbent's network. This is the case in many countries in Europe. The United States provides mixed evidence as the Federal Communications Commission (August 2005) ruled that incumbent telecommunication companies do not have to provide access to competitors. (There are a number of issues related to access which we will not discuss here – these relate to the ability of incumbents to degrade access even when there is open-access. The relevant regulatory agency has to monitor this.)
- The price to access the network has to be fair and non-discriminatory.
- Consumers must have the ability to switch suppliers. Switching costs have to be low. One can think of two distinct components of switching costs in these industries and both components, noted below, have to be lowered or eliminated to increase ease of switching and to generate more competition:
  - Administrative barriers such as specific periods/dates when the consumer can switch. These create practical difficulties for consumers who may want to switch;
  - Monetary barriers that are created by lock-in contracts and up-front fees;

[38] The paper by Salies (2006) contains a brief survey and sampling of estimates of switching costs from selected countries.

In closing we note that the combination of dominant market position, ownership of the network and ability to impose switching costs presents a rather complicated mix of factors and they have to be addressed in unison.

Box 13. Switching costs

Number portability is the ability of customers to retain their existing phone number when they switch their supplier. It has been mandatory in the UK since 1999 and Germany since 2002. In mobile telecommunications, number portability is considered to be an important prerequisite for competition as it reduces switching costs. Lack of portability has the potential to lock-in customers to the incumbent's network. Thus switching costs favour the incumbent and are an obvious source of monopoly power to established suppliers. As examples of the significance of this issue: (a) number portability was legislated in the UK starting 1999; and (b) since end-2002, number portability became mandatory in Germany. Landgrebe (2004) provides a discussion of various switching costs in the mobile telecommunications market in Europe.

Following the deregulation of electricity markets in many countries, switching costs are deemed to be an important factor determining the competitive functioning of markets. Inability of customers to switch due to barriers and costs imposed by incumbent suppliers are expected to result in a less competitive market. Given this, many countries have focused on this issue with an eye towards streamlining the switching procedures and reducing costs faced by customers.

The level of consumer switching activity varies considerably across the Nordic countries with the highest activity in Norway, followed by Sweden, Finland and Denmark. The NordREG (2006) report suggests that when it was written, the ease of switching varied across the countries. In Sweden, supplier switches could take place only on the first day of the month and switches could take up to two months if the consumer was late by just one day. In Finland, the system allowed the distribution system operators to charge fees if the customer changed supplier more than once a year. In Finland, Sweden and Norway a consumer could enter into a new supply contract orally or electronically, whereas in Denmark the consumer actually had to sign the contract. As the study noted, lowering barriers to switching is a prerequisite for an effective electricity market.

In the early years of retail choice for electricity provider in Austria, the electricity market saw a relatively low rate of switching in the small consumer segment with roughly 5% rate of switching compared to 25% for the large customers. The barriers to switching, especially for the smaller customers, included, for example, opaque price information provided by the suppliers on electricity bills such as all-inclusive prices, restrictive minimum agreement terms which locked-in consumers for the contract duration and loyalty rebates which reduced the incentive to switch. For similar reasons, switching among gas customers was also low.

4.3. Appropriate and useful information

Companies use a variety of advertising, promotion and other methods to convey information on their products to consumers in normal course of doing business. In established markets, these sources can be supplemented by

other forms of information such as prior product experience, supplier reputation, word-of-mouth and online third-party reviews. These mechanisms, taken together, generally provide effective ways for consumers to obtain the information that they need to make informed and appropriate choices.

However, major regulatory reforms can create situations where normal information sources initially provide limited information needed by many consumers. This is particularly likely to be the case where new markets are being created for products for which consumers have previously not had to shop. For example, deregulation of household electricity markets can result in consumers being asked to choose among suppliers that are new to the marketplace, and agree to supply offers that neither they nor other consumers have previous experience evaluating. On the one hand, a risk in these cases is that many consumers will be induced into signing supply arrangements that are not in their best interests. On the other hand, lack of information can result in many consumers remaining with incumbent suppliers, even though other better offers may be available.

In either case, the lack of adequate information can seriously affect the potential benefits from regulatory reforms and perhaps even threaten the entire deregulation process. Widespread complaints from consumers may lead to calls for reregulation. Where too many customers remain with their incumbent supplier, this can slow the development of effective competition and call into question whether the relevant market is potentially competitive or should be reregulated.

To ensure deregulation or other major market-changing initiatives by government are considered a success, it may be worthwhile to accompany the creation of new choices with an information requirement that provides consumers with a reference point for comparing offers.

In order to decide among alternative choices, consumers evaluate the products they are considering. For many products, the information consumers obtain in advance of purchase will help them to decide among different options.[39] When the information available to consumers is inadequate, they run

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[39] For some products (experience goods), the quality of the product can only be known after consumption, such as for a fruit. For other products (credence goods), the quality of the product may not be known by the consumer even after purchase (such as medical care or legal

a higher risk of making poor choices. However, the suppliers that win business because of consumers' lack of information may profit from these suboptimal decisions, potentially giving suppliers less incentive to reveal information about their products that would be useful to consumers.

The mere existence of information failures does not necessarily suggest information requirements will solve such failures. Careful consideration must be given to whether requirements may create additional problems of their own, through unanticipated consequences or increased costs.

5. A summing up

In Chapter 4 we discussed the many types of rules and regulations that can be imposed by governments and professional organisations. We briefly evaluated the underlying social and economic motivations behind the regulations and then focused on the potential competition problems that could be caused by the restrictions. For each type of regulation we provided some examples, along with additional discussion, to highlight the nature of the restrictions under each category. We noted that when ongoing interventions such as price regulation are considered, it is worth checking whether other alternatives would solve customer problems, such as improving information available to customers.

In discussing the various competition concerns for the rules and regulations imposed by governments and professional organisations, we utilised the concepts and framework from Chapter 3. Next, in Chapter 5, we develop a general framework that can be used to gain a better understanding of the competition concerns for a given rule or regulation and, in Chapter 6, we outline a two-stage process for a more specific evaluation of the competition concerns that may arise.

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representation). Information provision and disclosure can be helpful to improve consumer decision-making for the purchase of such products.

Chapter 5

General framework for the competition assessment of regulations

The concepts and framework outlined in Chapter 3 provide a flexible and analytical method for competition assessment of the different types of regulations and government interventions highlighted in Chapter 4. The concepts and framework of Chapter 3 are flexible in the sense that they can be used to evaluate competition effects of different types of regulations in industries and markets with widely differing characteristics. The primary objective of this chapter is to develop a broad framework which can be used by regulatory officials and economists to gain a thorough understanding of the issues related to competition and help them evaluate the effects of regulations on competition. After we spell out the broad framework in this section, a more specific two-step process for evaluation of regulations is outlined in Chapter 6.

As a general principle the regulatory officials should focus on three important aspects to begin the evaluation process. Firstly, the starting point of any evaluation should be the "objectives" being pursued. Once this is done, at a later stage it will become easier to consider and evaluate alternatives that achieve the objective with fewer restrictions imposed on market processes. For example:

- If the goal is the protection of less-informed consumers, regulating minimum prices may be one way to achieve the goal. But there are other means of accomplishing this that also merit consideration;
- Depending on the nature of the regulation, some grandfathering is inevitable. However, an important challenge is to minimise the time-period over which grandfathering occurs as longer periods of protection and ill thought out grandfather mechanisms have the potential to cause significant harm to markets.

Secondly, many markets may have significant barriers to competition that are relatively transparent. Given this, it would be useful to itemise the "existing barriers" which could be related to:

- ***Regulatory barriers*** related to entry regulations, grandfathering clauses, advertising restrictions, among others. Whatever regulations the market under consideration is subject to will need to be itemised and their likely effects on competition noted;

- Large ***overhead costs*** or ***sunk cost*** related barriers such as the need for businesses to incur significant advertising or R&D expenditures to compete in the market. For example, if the market's current set of products or services required high investments in capital or R&D, then any new regulation that affects the market's cost structure – either due to necessary changes in the production process or re-positioning of products – can have significant consequences for incumbent firms as well as potential entrants;

- ***Behaviour of incumbent businesses***. Is there any history of dominant firms in the market behaving in a manner that makes it difficult for new firms and potential entrants to compete? For example, a dominant telecommunications or electric company may have a history of denying or degrading access to its network.

Thirdly, if the proposed regulation involves rules and regulations on market prices, it needs to be recognised that this may affect numerous facets of firms' operations. As was noted in section 2.4 of Chapter 4, controls on prices that firms can charge can have potentially wide ranging effects such as lower product quality and variety, lower entry, reduced production efficiency and slower adoption of new technologies. Given this, if there are restrictions on prices, it should be looked upon with scepticism and alternative solutions that are less damaging to the long-run functioning of markets need to be carefully evaluated.

The above considerations will provide a better, up-front, understanding of some aspects of competition assessments in situations where new rules and regulations are being proposed. Even in the case of existing rules and regulations that are being reviewed, such an assessment will be valuable. The key point to note is that the combination of different types of barriers may significantly impact competition; this effect may not be apparent if one focuses only on a particular barrier.

After the above assessment, the considerations noted below are designed to gain a fuller understanding of the likely effects on competition.

1. Examine the effect on incumbent businesses

It is important to gain a clear understanding of how the regulation might affect various aspects of the companies' operations, whether the regulation might have substantially different impacts on different incumbent firms, and whether the differing impacts would substantially change competitive relations in such a way as to reduce the intensity of competition within the market in a significant manner.

- Assess the costs of meeting the regulation.
  - (i) What are the components of the costs that have to be incurred?
  - (ii) Are these costs best described as fixed (or non-recurring) costs or as variable (or recurring) costs?
  - (iii) How large are the costs relative to businesses annual sales revenues?
  - (iv) Does the answer in (iii) vary by the size of the business? For example, are small businesses more adversely affected?
  - (v) Does the answer in (iii) depend on the (old versus new) vintage of a business's capital? For example, are companies with older production facilities more adversely affected?
- Examine the effect of the regulation on the exit of firms. Note that if the exit of firms occurs in significant numbers, it may result in a decrease in the intensity of competition. Various types of regulations will impose costs on incumbent firms.
  - (i) Will these costs lead businesses to exit the market?
  - (ii) Which businesses are more likely to exit?
  - (iii) Can we conclude whether small or large businesses will exit? Can we conclude whether businesses with older vintage of production facilities will leave?

(iv) Gaining an understanding of which types of businesses (if any) might leave the market will provide insights into the likely changes in the structure of the market.

- Evaluate the effect of the regulation on the potential anti-competitive behaviour of incumbent firms. For example, if the regulation facilitates co-operation and sharing of information, it may lead to collusion among the firms in the market: price-fixing; quantity restrictions and market share allocations. While law enforcement against collusion is in the domain of competition law enforcement, it would be useful to explicitly make note of the illegality of price-fixing agreements and collusive agreements. Finally, if the past history of the market shows occurrences of collusion, this information should be accounted for in the decision-making process.

2. Examine the effect on the entry of new firms

In Chapter 3 we discussed different types of entrants. It will be important to note the answers to the following questions. Does the regulation restrict entry:

- For all types of entrants? For example, if there is a regulation that limits the total number of pharmacies per 5 000 people, this applies to all types of pharmacies and will limit the extent of competition in the market in a very explicit manner.
- For specific types of firms such as the new-firm/new-plant category? Suppose new environmental regulations have to be met that require considerable capital expenditures. In this case, it is very likely that the regulation will affect smaller entrants more than larger. It is also likely to adversely affect the new-firm/new-plant category of entrants more than diversifying entrants. The competition effects here may be more complicated, for example, since by leading to the emergence of a few large firms, thus facilitating collusion.

Understanding the consequences on entry, and by type of entrant, would provide valuable insights into future competition in the affected market(s).

3. Examine the impact on prices and production

Here we examine the potential channels via which the regulation under consideration can *increase* the prices of goods and services and production in the affected market(s).

- The regulation may impose costs on producers. Increases in the costs of production will lead to higher prices paid by consumers and lower production by the firms. This, for example, would occur if new environmental or safety standards were imposed that force firms to make new and costly investments. The resulting price increase is obviously not due to any anti-competitive behaviour. But taking note of this would be useful in assessing what fractions of the total price increase may arise due to cost increases versus potential anti-competitive behaviour or increased market power.
- The regulation may cause exit of incumbent firms, lower the likelihood of future entry by creating barriers-to-entry and lower the extent of competition in the market. This may lead to increase in the market power wielded by firms that remain in the market and lead to higher prices and lower production.
- Regulation may facilitate greater information sharing and co-operation among businesses leading to collusion. This will result in higher prices and lower production.

An important objective here will be to sort through the different channels and get clear answers to the following questions:

- Whether prices paid by customers will increase?
- If yes, what are the likely major factors that will cause prices to rise?
  - Increase in production costs?
  - Increase in market power?
  - Likelihood of anti-competitive behaviour?

While the primary concern here is whether there will be a reduction of competition in the market (say, due to lesser number of firms), it is important to recognise that different rules and regulations can have complex effects. In the case of new environmental standards, for example, it is relatively transparent that prices may increase as firms make costly investments to

meet the new standards. However, as we have discussed earlier in the document, potential consequences of the new standards may include the exit of firms and less entry of new firms; these may confer greater market power to the incumbent firms. In this sense, an increase in environmental standards has a direct cost-driven price increase as well as a potentially indirect effect where future price increases may occur due to gains in market power resulting from lesser competition. When examining regulatory proposals, one needs to be aware of these complexities and gain a proper understanding of the underlying issues.

4. Examine the impact on the quality and variety of goods and services

At a broad level, any regulation that reduces the quality and variety of goods available in the market is detrimental to consumer welfare unless we are speaking of specific cases in which minimum product standards are introduced in order to reduce substantial risks associated with use of the product. Regulatory officials will need to assess whether there will be a negative impact on quality and variety and, if yes, whether it meets this specific “public benefit” test. Quality and variety can be affected via alternative mechanisms such as:

- Regulations that set minimum quality standards will reduce variety in the market. While this will raise the average quality, market prices paid by consumers will increase to reflect this higher average quality. The segment of the consumers – for example, those who prefer to consume lower price and lower quality products – will experience a loss of welfare.
- If the market contains differentiated products, then regulations that cause firms to exit are likely to lower product variety.
- If the regulation creates barriers-to-entry, then the market does not benefit from future injection of variety that would become available if entry was freer.

Overall, a market with reduced variety and quality can have significant negative effects on consumer welfare. These adverse effects will need to be carefully traded off with the key socio-economic objectives of the regulation.

5. Examine the effect on innovation

To understand the impact on the efficiency of business operations and *innovation*, one rule-of-thumb that can be applied is:

- If the regulation creates barriers-to-entry and causes exit of incumbent firms, it is highly likely to result in reducing competition in the market. Lack of competition may encourage the incumbent businesses to be less efficient and reduce the incentive to innovate. As we have discussed earlier, various types of regulations can result in this. For example:
  - Grandfather clauses that offer significant and long protection-periods to incumbent firms may lead to reduced entry and perpetuation of inefficient production practices;
  - Prohibitions on advertising can create markets that have reduced competition leading to lack of incentive to innovate and become more cost efficient;
  - Restrictions on the flow of goods and services across regions may reduce competition within regions and promote inefficient production structures.
- If the regulation strictly describes a certain method of doing business, for example based on traditional ways of service or good provision, then it may prevent firms from adopting new technologies and business models. For example:
  - Requiring face-to-face interaction between supplier and customers restricts online services.

Another important issue relates to the costs imposed by the regulation. If these are significant, they may negatively impact firms' R&D expenditures and other innovative activities as firms may divert resources away from pursuing innovative activities and towards meeting the regulatory standards.

6. Examine the effect on the market's growth

There are two primary features of regulations that may lead to adverse consequences for *growth*:

- If the regulation imposes high cost on the incumbent firms and potential entrants;

- If the regulation creates barriers-to-entry and thwarts competition.

Market growth issues can be examined by considering growth of production and sales as well as new capital investments in plant, equipment and machinery. Analysis of this aspect is directly linked to the concerns about entry and exit highlighted in our prior discussions.

7. Examine the effect on related markets

It is important to understand that apart from directly affecting the market under consideration, regulations are likely to affect the upstream and downstream markets. For example, suppose a regulation calls for reduced automobile emissions and raises production costs for the automobile companies to meet the new standards. While this regulation will have obvious direct effects on production and prices in the automobile industry, it will also have indirect effects on a variety of markets such as automobile dealers, suppliers of inputs such as rubber, steel, electronics among others. In addition, it will also affect the petroleum industry where the gasoline may need new additives and changes in refining process to meet the newly-set emissions standards. Ignoring the effects on the upstream and downstream markets – or the full “supply-chain” – could, under certain circumstances, lead to a significant under-statement of the adverse effects on competition and welfare.[1]

To properly gauge the impact of a regulation, one should examine its effects on all the related – upstream and downstream – markets. The procedure can be thought of as containing two parts.

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[1] There are other ways in which one can think about how markets relate to each other. For example, two products may not be exactly the same and may be subject to different regulatory structures, but compete for the same subset of buyers. Tough regulation in one area may give an “artificial” competitive advantage to others. Consider the case of power boats and personal water craft in Canada. Personal water craft are regulated in a way very different from powerboats, even though both are close substitutes for a given set of users. Another example is real estate legislation in Canada which required bundling of various services largely because legislators did not realise that services could in fact be unbundled.

- A preliminary assessment is made to identify the markets that might be affected and whether there are likely to be "significant" upstream or downstream effects on competition.
- If the answer from above points to significant effects, then, for completeness of the competition assessment, items 1 to 6 above will need to be examined for each related market that is affected.

8. Summary of the impact of the rule or regulation

Highlight the conclusions for the ***primary*** market under consideration:

- Prices and production;
- Product variety and quality;
- Efficiency;
- Innovation.

Highlight the conclusions for the ***related*** (upstream and downstream) markets that might be affected. Any assessment of the related markets will be conducted only if significant negative effects to competition are found for the primary market and noting the procedure outlined in item 7 above. As in the case for the primary market, the summary should include the effects on:

- Prices and production;
- Product variety and quality;
- Efficiency;
- Innovation.

9. Alternatives to the proposed rule or regulation with less restrictions on free markets

In many instances, the rules and regulations can be re-structured to minimise harm to competition. While for some types of restrictions a broad consensus can be reached regarding the nature of alternatives, in others the issues are more complex and will have to be evaluated on a case-by-case basis. Consider this hypothetical example:

- **Restriction:** ban on all *advertising*. Aside from some products such as tobacco or alcohol, limitations on advertising should be viewed very sceptically. Alternatives that could be considered include:
  - (a) repeal all restrictions on advertising;
  - (b) allowing all non-comparative advertising;
  - (c) allowing all non-comparative and comparative advertising with comparative advertising being subject to verification of claims.
  - (d) allowing all advertising but subject it to a standard that it cannot be false or misleading.

  In most cases, options (c) or (d) may be the ideal ones.

Proposed legislation being considered: set new standards on environmental emissions and allow grandfathering for all incumbents for a ten-year period. In this case, the new emissions standard is to be taken as a given when assessing the competition effects. Alternatives that could be considered include (for more details on the items below, see Chapter 4 section 2.3 on grandfather clauses):

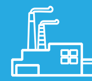
- (a) Where relevant, the no grandfathering option needs to be considered.
- (b) Grandfather all incumbents but reduce the number of years for which grandfathering occurs.
- (c) Grandfathering based on the vintage of the firms' capital. The vintage effect could be combined with the duration of grandfathering:
  - (i) Shorter grandfathering period for firms with older vintage;
  - (ii) Longer grandfathering period for firms with more recent vintage.
- (d) Differential grandfathering periods for smaller versus larger firms.

The alternatives to the proposed grandfathering rule above could include varying the extent of the adjustment (grandfathering) period as well as conditioning the time-period on firms' characteristics such as vintage of capital and size.

To complete this portion of the assessment, identify alternative ways of structuring the proposed regulation. For each proposed alternative:

- Assess the competition effects;
- Compare the alternatives with respect to their effects on competition;
- Rank the options with the objective of maximising benefits while minimising restrictions.

We conclude this chapter by noting an important issue. A problem with many rules and regulations is that while they may be beneficial at a point in time and for a given state of the world, they may end up lasting too long and become protectionist. This, for example, may be the case with pharmacies in many countries, various regulations on retail operations, and for professions. This problem also exists in other types of regulatory decisions such as grandfathering where offering a lengthy grandfather period may significantly distort market incentives and damage competition. Overall, it is crucial for governments to realise that "time" is an important variable when structuring regulations and this should receive explicit recognition. Where possible, the time-period of the rule or the regulation should be tailored to the specific needs and no longer, or regulations could include evaluation clauses that require a review of the impacts of a regulation and its impacts after a specified time period, with the regulation being repealed if net effects are not beneficial.



Chapter 6
The stages of evaluation

The assessment of competition effects will contain two stages. Stage one will contain an initial assessment that can be completed within a reasonable time-frame to gauge potential competition problems. If there emerges a likelihood of significant harm to competition, a more detailed stage-two evaluation will be required. If the stage-two assessment reveals that the scale and scope of the impact on competition is large, one might want to consider external reviews of the analysis carried out by the government agency as well as collaboration with the country's competition authorities.

1. Initial evaluation

This stage will contain an initial assessment to gauge the scale and scope of likely harm to competition. The initial evaluation will be focused on the primary market under consideration. No attempt will be made to assess harm to competition to related – upstream and downstream – markets (as in section 7 of Chapter 5). In the initial evaluation, extensive use of data and its analysis is not expected.

To carry out the initial evaluation, an official can review the *Competition Checklist* contained in Chapter to examine whether a regulatory proposal has a significant potential for anti-competitive impacts. The Competition Checklist provides a series of simple questions designed to elicit the potential for anti-competitive impact without requiring extensive industry knowledge. Many regulations are not expected to raise significant competition concerns as identified in the checklist.

The objective will be to subject various rules and regulations to the above screen to make an initial assessment of the likely harm to competition. A "yes" answer to **any** of the items noted in the Competition Checklist will warrant a more thorough review of the rule or regulation under consideration

as it potentially signals a significant competition concern. This will trigger a "full assessment" noted in section 2 below.

Many regulations are likely to be complex in their structure (e.g., grandfather clauses and regulations on content and standards) and will require careful assessment in order to evaluate the likely harm to competition. However, there are some rules and regulations that can more easily be argued to reduce competition unless there is a compelling public interest justification. These merit high scrutiny and include:

- ***Advertising.*** The primary focus should be on restricting misleading or untruthful advertising. In addition, imposing restrictions on advertising for products such as alcohol and tobacco may have strong public interest justifications such as those related to health and consumption by minors. Aside from these considerations, restrictions on advertising should be viewed very sceptically;
- ***Exemption from competition laws.*** Partially or completely exempting potentially competitive industries or specific businesses from competition laws needs to be done away with. The public interest justification for such exemptions is often not transparent;
- ***Restrictions on entry*** should be viewed with scepticism unless there are compelling public interest justifications.

In addition, if the proposal calls for any form of restriction on the prices of goods and services, these need to be reviewed carefully as they may have wide-ranging, detrimental effects on the long-term functioning and performance of markets. As we noted in section 2.4 of Chapter 4, restrictions on prices should be avoided wherever possible.

2. Full evaluation

The full evaluation is to be conducted if the initial evaluation suggests that the regulation has the potential to be harmful to competition. One aspect in particular that requires a thorough analysis is the issue of costs.

A common theme across many regulations is that they impose costs on market participants. The issue of costs imposed by the regulation on incumbent businesses and potential entrants is a significant one and will typically be addressed in detail within the more standard benefit-cost analysis of regulatory impact analysis. Setting of content and standards,

grandfather clauses, switching costs, product repositioning, among others, have the potential to impose significant costs on businesses. What is important is that the costs may be significant and asymmetric. For example, smaller businesses may be more adversely affected if the new quality or environmental standards force firms to incur significant new investment and R&D expenditures or when there are asymmetric effects by vintage of capital. If a firm acquired capital relatively recently assuming that older rules will prevail, then their costs of meeting the new rules may be more significant compared to another firm whose capital stock is relatively old and nearing replacement. Thus, for many regulations, evaluating the costs imposed by the regulation is of paramount importance to assessing the competitive effects. In this dimension, there are clear synergies between the standard regulatory impact analysis process and competition assessment as the evaluation of costs imposed by regulations forms part of the standard benefit-cost regulatory evaluation. These data and information obtained from regulatory assessments can be used to make assessments of the degree of costs imposed and whether they might be asymmetric.

In some instances the assessment of costs will be easier, but in others it will pose significant challenges. For example, if new environmental regulations for electric generation companies require new capital equipment such as pollution filters, the costs of these may be readily available. In other instances, such as regulation of product content or standards, where new R&D expenditures may have to be incurred by businesses, estimating costs is more complicated. Assessment of the magnitude of costs and whether they have asymmetric impact by type of business and type of capital will have to be made on a case-by-case basis. What is clear is that such an assessment may be critical for the evaluation of the effects of the regulation on entry, exit and future competition in the market.

Assess whether the regulation might:

1. **Impose barriers to entry of new businesses.**

   Regulations that explicitly restrict entry or impose barriers to the flow of goods and services are obvious cases. Other candidates in this category – which may be thought of as implicitly restricting entry – include regulations that set content and standards, grandfathering clauses, subsidies, policies that favour state-owned enterprises, granting or extending exclusive rights, switching costs and product repositioning.

2. **Force certain types of incumbent businesses (e.g., smaller firms) to exit the market.**

   Included in this category would be setting of new standards or content, grandfather clauses, granting or extending exclusive rights, switching costs, new (implicit or explicit) regulations on flow of goods and services into local or regional markets and product repositioning.

3. **Increase the prices of goods and services.**

   Inference on this item will, in part, be derived from 1 and 2 above. For example, if a particular restriction might reduce entry or force exits, there is a likelihood that prices might increase. In addition, there is a likelihood of prices increasing if there are restrictions on advertising; if mechanisms that allow increased co-operation between businesses lead to collusion; and if self-regulatory mechanisms lead to price co-ordination and collusion; and partially or completely exempting industries or specific businesses from competition laws.

4. **Reduce product variety.**

   As for item 4, inference on this item will, in part, be derived from 1 and 2 above. For example, if a particular rule or regulation might decrease competition by reducing entry or force exits, there is likelihood that the market may suffer from reduced variety.

5. **Significantly increase concentration in the relevant market.**

   A more thorough description of the specific (affected) market and an assessment of the potential increase in concentration would be useful in gauging the likelihood of anti-competitive conduct. Chapter 3 discussed issues related to market definition and market concentration, and Appendix A outlines measurement issues. As has been alluded to before in this document, it is important to note that while concentration data is a useful starting point for analysis, the proper assessment of market power effects will have to take into account issues related to barriers-to-entry and the competitive behaviour of incumbent firms. For example, high concentration in the relevant

market when combined with high barriers-to-entry will lead to a significant likelihood of market power.

6. **Reduce innovation.**

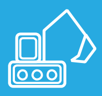
   The broad guidelines for this were outlined in Chapter 5. These include assessment of entry and exit and the extent of costs imposed by the regulation on businesses. If the consequence of a regulation is likely to be reduced competition in the market, it may lead to decrease in innovation. Also, if the costs of meeting the regulatory requirements are high, it may divert firms' resources away from innovative activities into meeting the regulatory targets.

7. **Affect upstream and downstream markets.**

   This issue was discussed in Chapter 5 section 7. The impact on related markets can be assessed in two stages, just as they were for the primary market under consideration.

3. Proposed alternatives

As noted in Chapter 5, alternatives to the proposed regulation will have to be outlined and an assessment of their competition concerns noted.



Chapter 7
Concluding remarks

Keeping the broad social and economic objectives of regulations in clear view as well as assessing the impact of rules and regulations on competition in markets can serve to accomplish important economic goals. Economies flourish when markets are relatively competitive as this compels businesses to be more efficient and innovative. The long-term rewards to the national economies can be significant in terms of better allocation of resources, lower prices, improved competitive position relative to trading partners and higher economic growth and welfare. Traditionally, when crafting regulations, governments typically did not pay close attention to the impact of the regulations on the extent of competition in markets. While competition effects cannot supplant some of the desirable social and economic goals that are pursued by regulations, it is being increasingly recognised that minimising the adverse effects on competition can reap significant dividends. In recent years, many national governments have initiated steps to evaluate the pros and cons of various rules and regulations in order to minimise harm to economic growth and welfare.

While initiatives to improve the efficiency of regulations are gaining ground, there is relatively little guidance available on how to assess the impact of various rules and regulations and government interventions on competition. This document is an important step towards alleviating this shortcoming.

This document draws on the concepts and framework used by competition law enforcement to provide an understanding of the key competition issues. It discusses various types of rules and regulations and government interventions that have the potential to unduly limit competition, and outlines a general framework to provide guidance on how regulators and public-policy officials can evaluate the impact on competition. While discussing the different types of regulations, the document also provided some insights on how to devise ways to assess the competition effects and minimise the negative consequences.

The guidance contained in this document is meant to provide an introduction to competition issues for regulatory officials who seek to consider the market impacts of regulations and other actions by governments and professional organisations. On the one hand, the approach outlined here could potentially be included as one element within a broader regulatory impact analysis In that case, it is expected that a detailed competition assessment would be merited only in those cases where there was a potentially significant adverse impact on competitive conditions. On the other hand, the approach outlined here could also be used to simply enable policymakers to consider more fully the competition impacts of various regulations and directives. Overall, the framework for competition assessments outlined in this volume is likely to help regulatory officials sharpen their knowledge of competition law enforcement concepts and tools and to then use those to evaluate the impact of regulations.

Overall, competition assessments that focus on evaluating the impact on market outcomes of governmental policies, and rules and restrictions imposed by professional organisations, can be a valuable input into increasing the effectiveness and efficiency of rules and regulations and lead to improved outcomes for consumers and higher economic welfare and growth.

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Appendix A
Market definition and structure analysis

In the event that a regulation appears to have significant adverse effects on competition, it might be useful to conduct a more formal analysis of the relevant market under consideration and its structure as part of the more detailed stage-two assessment. This analysis is more in tune with analysis conducted by competition authorities. Given this, there might be benefits of consulting with other parts of government that have competition policy experience.[1]

A valid question to ask is: why might a formal analysis of market definition and market structure aid in competition assessment of regulations? One of the objectives of a formal analysis would be to assess the likelihood of anti-

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[1] Pro-competitive legislation is becoming stronger and more effectively enforced in many countries. The European Union has seen important changes in the enforcement of competition rules and calls for greater vigilance to ensure competitiveness of markets. Contributions in Eekhoff (2004) make a case for competition policy vigilance in the newly deregulated sectors in Europe to ensure competition and growth. Enforcement of price-fixing agreements has seen a big change in Europe; Harding and Joshua (2004) detail the shifts. Motta (2004, p. 9-17) provides an overview of competition policy in selected European countries and the EU, Japan and Australia have, for example, put new emphasis on competition policy and debated harmonising laws with major trading partners (Cassidy 2001, Homma 2002, OECD 1999, and Richardson and Graham 1997). The United States has significantly ratcheted up enforcement against cartels over the last two-decades; Ghosal (2006) discusses these shifts. China is expected to pass its Antimonopoly Law sometime in 2006-07 after over ten-years of deliberations (Bush, 2006). India passed its new Competition Act in 2002 and set up its Competition Commission (Bhattacharjea, 2003). Within this context, there might be meaningful synergies between government staff who enforce competition laws and those who conduct regulatory impact analyses.

competitive behaviour and exercise of market power. As we have described in several places in Chapter 4, many types of rules and regulations can lead to barriers-to-entry and exit of firms, leading to changes in the market structure. Decrease in entry and/or increase in exits may significantly increase market concentration and the likelihood of exercise of market power and anti-competitive behaviour. To the extent that market concentration has a link to the likelihood of anti-competitive behaviour, it is worthwhile to formally examine this issue. The classic article by Hay and Kelley (1974), for example, shows the clear links between the structure of markets – small number of firms and high concentration – and emergence of co-ordination of prices and quantities (collusion). Once the relevant market has been formally defined, then, consistent with the country's guidelines on critical cutoffs of concentration, an assessment can be made regarding the likely harm to competition. Once again we note that while concentration data is useful for assessing the likelihood of market power, a complete assessment of market power effects will have to take into account issues related to barriers-to-entry and the competitive behaviour of incumbent firms.

Next we go through the process of defining the relevant – economically meaningful – market. A key question to ask is: Is the product sold by one firm a good substitute for that sold by another firm? The extent to which the two firms' products are good substitutes depends on factors such as product characteristics and geography. Let us consider some examples:

- Automobiles are highly differentiated in terms of their characteristics. Consumers who go shopping for a large luxury car like the Rolls Royce are not the same as those who are looking to buy a small economy car like the Smart Car. In other words, these two cars are typically not considered by consumers to be substitutes. In contrast, corn produced in two neighbouring farms may be virtually identical in their taste and characteristics, in which case consumers would treat them as very good (if not perfect) substitutes.
- A producer selling electricity in Norway does not compete with a producer selling electricity in Portugal. Similarly, sellers of electricity in the state of California do not compete with sellers in Florida. Transmission constraints ensure that these markets are geographically separated. In other words, the supply of electricity in one market may not be a substitute for the other, geographically separated, market. In contrast, pencils used in schools that are

manufactured by different producers are available all over the country and there is no geographic separation of this market.

Thus, when defining the relevant market, we need to consider firms and products that are in direct competition with each other and this involves careful assessment of:

- The relevant product; and
- The relevant geography.

From the above examples, the market for small cars has to be defined as different from large luxury cars. And the set of firms selling electricity in one part of the country (e.g., California) may well be different from those in another part (e.g., Florida).

Defining the relevant market is important in order to assess the potential impact on consumers. Let us consider some examples:

- If the producers of electricity in California are engaging in business practices that may be harmful to competition – such as price-fixing – this is expected to have an adverse impact on the consumers of electricity in California but no impact on the consumers in Florida.
- Suppose a new nationwide regulation raises the safety standards for x-ray machines to make them emit lower radiation. Companies now engage in new expenditures on R&D to attain the new regulatory standards. Some businesses are able to cost-effectively meet the standards early on, while others fail and have to exit the market. An effect of this regulation may be to permanently change the number of firms that compete in this market and potentially raise the market power and prices consumers face. These effects will have to be evaluated in the specific product market that is affected by the new safety regulation.
- Access to the incumbent's telecommunications network is crucial for new entrants to enter the market and compete. Suppose a country legislates rules whereby the owners of the network (incumbent companies) do not have to share it with the competitors. This ruling is likely to have an adverse impact in several markets such as (a) long-distance phone services, (b) domestic phone services and (c) high-speed internet. The adverse impact of this ruling may differ significantly across these three markets. Competition in the high-speed internet services market, for

example, may be quite adversely affected if competitors do not have reliable and adequate access to the network.

Thus any competition assessment has to be targeted to the relevant – economically meaningful – market and the companies in it.

Once the relevant market has been defined, after considerations of the product characteristics and geography, one can look at several variables that describe the structure of this market.

- ***Number of firms:*** In general, the larger the number of firms in the relevant market, the lower the concerns about market power. A small number of firms is not necessarily bad for competition – it depends on the magnitude of the barriers-to-entry and potentially on the type of competition that prevails (e.g., bidding markets versus regular markets).[2]
- ***Size distribution of firms:*** Are the firms in the relevant market relatively equal in size, or are there substantial differences in their sizes? For example, suppose a market has 20 firms but the size distribution of firms is highly skewed with the largest firm enjoying 80% of the market share and the remaining 19 firms having the other 20% of output. If the size distribution is highly skewed, it has potential implications for the market's competitiveness. It may well be the case that a dominant firm that faces no effective competition from the firms at the fringe wields significant market power.
- ***Concentration of output:*** This measures the extent to which sales or production capacity is concentrated in the hands of a few firms in the market. A simple measure, for example, is the share of total sales that is accounted for by the 3 or 4 largest firms in the market. The measure that is typically used by competition policy authorities, is the Herfindahl-Hirschman Index (HHI). A larger HHI indicates greater concentration of sales (or production capacity) in the hands

[2] Bresnahan and Reiss (1991), for example, study entry into local markets by various professional services – doctors, dentists, and others. They find that starting from a monopoly provider, even the entry of one additional provider leads to a significant drop in profit margins with additional entry reducing the margins by much smaller amounts. Their results seem to indicate that one does not necessarily need a large number of competitors to attain low prices for consumers and low margins for producers.

of a few firms. Increases in HHI are, in general, expected to lead to greater likelihood of market power with implications for higher prices paid by consumers.

In combination, the variables related to the number of firms, the size distribution of firms and output concentration can be used to get a broad picture of the structure of the relevant market, allowing us to make judgments about the competitiveness of the market under consideration. It is important to note that high concentration or the presence of a few firms do not necessarily imply the ability to exercise market power. For a proper assessment, one will also have to examine the extent of barriers-to-entry and competitive behaviour of incumbent firms. For example, higher concentration when coupled with high barriers-to-entry will lead to a greater likelihood of incumbent firms having the ability to exercise market power.

Box A1 presents information to illustrate market structure concepts.

Box A1.Market Structure

Example 1. A hypothetical market

Consider a market with five firms with their market shares being 40%, 25%, 20%, 10% and 5%. The size distribution is skewed in the sense that the biggest firm has a large share, but the second and third firms have shares that are not too much smaller.

- Four-firm output concentration measure (C4) = 95%.
- The Herfindahl-Hirschman Index (HHI) is defined as follows. Let there be N firms in the market with Q the total output of all the firms in the relevant market and q_i be the output of the ith firm; $Q = \sum_{i=1}^{N} q_i$. Let s_i be the market share of the ith firm; $s_i = \frac{q_i}{Q}$. HHI is defined as: $HHI = \sum_{i=1}^{N} (s_i^2)$.

In the above hypothetical market, HHI=$40^2+25^2+20^2+10^2+5^2$=2,750.

Example 2. Market shares for aircraft engine manufacturing
(approximate numbers for 2001)

General Electric 42%; Pratt and Whitney 32%; and Rolls Royce 26%. While General Electric has the largest share, the size distribution is not skewed too much.

- C4=100%.
- HHI=1764+1024+676=3464.

Example 3. Market shares for internet browsers (approximate numbers for 2005)

Internet Explorer 85%; Firefox 5%; Mozilla 4%; AOL 2%; MSN 2%; Netscape 1%; and Opera 1%. Internet Explorer has the largest share and the size distribution is highly skewed.

- C4=96%.
- HHI=7225+25+16+4+4+1+1=7276.

Example 4. Market shares for UK supermarket store chains
(Source: BBC, 8 February, 2006)

Tesco 31%; Asda 17%; Sainsbury's 16%; Morrison's 11%; Somerfield 6%; Waitrose 4%; Iceland 2%; and total for other (smaller) stores 13%. Tesco has double the market share compared to its closest rival and the next three chains are relatively even. (While the HHI computations below assume a national market, the market is most probably likely to have some geographic segmentation and, in this case, concentration measures will have to be calculated for each geographically segmented market. (This complication is not covered here.)

- C4=75%
- HHI (for the top 7 firms)=961+289+256+121+36+16+4=1683.
- From examples 2-4, the internet browser market has the highest HHI at 7276 and the UK supermarket chains the lowest at 1683. The stark difference in HHI is due the fact that Microsoft has 85% of the market but the leading supermarket chain, Tesco, has only 31%. The HHI is a better measure compared to the C4 as it takes into account size distribution issues. The broad conclusion that can be drawn in competition policy analysis is that markets with a higher HHI have greater potential for the exercise of market power.

The steps in evaluation could be thought of as follows.

1. Define the relevant product and geographic market

This is a crucial first-step in order to properly assess the impact of the rule or regulation. We consider a few hypothetical examples to highlight the product and geography issues.

- ***Regulation:*** Suppose a local government in a country has imposed restrictions on the transport of goods into the region. And suppose that the set of products affected are agricultural. One could go about defining the product and geography as follows:

  - ***Product:*** First, itemise all the agricultural products that are likely to be affected. This gives us the broader product market definition. Second, identify whether there are any specific products (potatoes? corn?) within the broad set that are likely to be affected more. Thus, one can have product definitions at two levels: one broad and one narrow.
  - ***Geography:*** The broad definition would include the entire region affected. If say parts of the region (East?) is affected the most, this could constitute a narrower geographic definition.

- ***Regulation:*** Suppose a grandfather clause permits existing electric generation plants not to meet the new pollution standards for five years but all new plants (either expansion by incumbents or new entry) have to meet the new standards.

  - ***Product:*** Electricity.
  - ***Geography:*** The best way to think about geography would be to consider whether the market is segmented in terms of the electricity (transmission) network or is it best considered as an integrated whole. In the United States for example, if the state of California passes a new environmental legislation and adds a grandfather clause, it is unlikely to affect the market in Florida. Thus, it would be best to consider the state as the relevant geographic market.

- ***Regulation:*** Suppose there is a prohibition on veterinarians from advertising on television or the internet.

  - ***Product:*** veterinarian services.
  - ***Geography:*** entire country. Since the restriction applies to everyone in the profession, there is no geographic segmentation of the markets.

2. Assess the structure of the relevant market

Once the relevant market has been defined above, proceed to outline the following information:

- Number of firms in the market. This would be a tally of all the businesses in the relevant market. If a complete tally is not possible, at least the major players in the market should be identified.[3]

- Size distribution of firms in the market. In general, it will be difficult to obtain the market share of each business. A rough idea can be obtained by grouping the businesses into small, medium and large categories, and the number of businesses in each category.

- Concentration. The Herfindahl-Hirschmann Index (HHI) of concentration will be a difficult measure to construct in general as exact production levels of the businesses in the market may be hard to get. Where available, one can use the market shares of the major players in the market to compute this index. A simpler measure, such as the four-or-five firm concentration index, may be easier to construct because less information is needed.

As noted earlier, the specific cut-offs for market concentration or number of firms that will be used will be determined by the country-specific guidelines.

[3] Ideally one would also like to obtain a picture of the number of potential entrants as this would more accurately portray the extent of likely competition. But this information may be difficult to obtain.

Appendix B.
Sample competition assessments

As expressed in the “Guiding Legislative Principle” of the Australian Competition Principles Agreement (Australian Government, 1995), the guiding principle of competition assessment is that rules and regulations should not restrict competition unless it can be demonstrated that:

- The benefits of the restriction to the community as a whole outweigh the costs;
- The objectives of the legislation can only be achieved by restricting competition.

As we have seen, competition assessments provide an effective, two-step general framework for policy-makers and government officials to use to make the necessary assessment of what the competition impact of a particular rule or regulation is, or is expected to be. As the examples below show, such assessments, with their “initial assessment” stage of a simple review followed by a more detailed “full assessment” if significant competition concerns emerge during the initial assessment, provide insight into how markets function, make more transparent the relevant factors for making decisions, and provide an important tool to help policymakers make the right choices when assessing the pros and cons of regulations. Rules and regulations often alter the incentives for market participants. Competition assessments help policy makers understand what impact those changes may have on the behaviour of market participants, and how that impact may affect competition.

Taxi regulations

This section provides a sample competition assessment for a change in taxi regulations in a hypothetical town. First, the current situation and potential actions are described. These are materials that would be envisaged with a broad regulatory review and are therefore not specific to a competition assessment. After these introductory materials, a sample competition assessment is provided.

This sample assessment is relatively brief. Longer assessments could be appropriate, especially for markets with greater economic import.

1. Overall situation

1.1. Background

The city of Touriste has a City Council that is the municipal authority in charge of regulating the taxi industry. In pursuing its functions, the City Council's ultimate goal should be ensuring that the markets providing taxi services function efficiently and deliver the maximum benefit to consumers, the taxi industry and the overall economy. Touriste is a town with a number of major tourist attractions. 60% of taxi rides in the town are generated by tourists. In order to protect the tourists, the City Council has maintained a highly regulated taxi environment in the past.

Despite the high level of regulation, the level of consumer complaints has been quite high, largely related to an absence of supply of taxis both at peak hours and at night. At the request of the Department of Transportation and Local Government, the City Council has reviewed the regulations in place. It has found that the existing regulations were not always in accord with the public interest and is suggesting new regulatory proposals that are intended:

- To ensure the efficient functioning of the market of taxis, guaranteeing that safety, quality and availability are assured at all times of the day and year; and
- To deliver the maximum benefit to consumers in accord with the public interest.

1.2. Description of existing regulations and current environment

The City Council, empowered by the Traffic Act, has, since 1978, had the duty of determining the regulation of the taxi industry, which has three dimensions: the regulation of entry, the regulation of quality and the regulation of fares. The City Council currently has 2562 licences in circulation. In the last three years, the city has issued a total of 25 new licences, i.e. increased the number of licences available by 1 per cent.

The City Council, the municipal licensing authority, requires that all persons operating a taxi shall own a driving licence and pass a background check, before they are licensed. The potential taxi drivers must meet government standards on financial viability, safety of passengers and the public, and vehicle maintenance. Operators must also ensure that taxis under their control fulfil the same conditions.

In particular, the background check requires taxi drivers:

- To present a bank account statement for the last five years;
- To pass a medical fitness check;
- To undergo a review of the driving record;
- To pass tests on the knowledge of the local road network and on language skills; and
- To take the taxi vehicle to a city garage to have it tested.

A satisfactory background check must be completed before obtaining a licence. There are two paths by which a licence can be obtained: first, when the City Council issues new licences and second, when an incumbent taxi driver wants to sell his or her own licence. In both cases, the newcomer has to pay a fee for the licence.

Due to the restrictions on entry and to prevent the abuse of market power, the licensing authority determines a per-distance-fare per time band and area plus an initial charge. The rules do not state whether drivers can offer discounts. While discounts are occasionally obtained through advance negotiation with a driver, particularly for long trips, such discounts are rare. The fares are increased when necessary to reflect inflation and the market price of petrol. The Council specifies, as well, the taximeter characteristics and the regularity of its inspections.

It has been pointed out by various consumer and tourist associations that the goal of the current regulation is to protect incumbents instead of protecting consumers. It has been alleged that the measures to obtain a licence (replacing an existing licence holder or acquiring one of the rare additional licences issued by local authority) restrict entry to the market.

As a result, there is a significant demand and supply imbalance that gives speculators the incentive to apply for licences and on obtaining them (for a regulated price), sell at a high market value and make a healthy profit. The shortage of supply also lowers the quality of service, for instance, waiting time over the last five years has increased significantly, as the number of active taxis during the day has decreased from 9.2 to 7.9 taxis per 10,000 people and some illegal taxis have already entered the market. Taxis are particularly difficult to find at night (currently, there are only 5.7 taxis per 10,000 people), because the lower rate of usage and higher likelihood of "bad" customers results in taxi drivers earning less, per hour, at night than during the day. In addition, the fact that most taxi drivers have families means that they are less willing to work at night.

1.3. Alternatives

There are five primary policy alternatives being considered:

- No action;
- Maintenance of the licensing system with a gradual elimination of the restriction in the number of licences while maintaining taxi fare regulations, with a higher fare during the night time hours;
- Maintenance of the licensing system with a gradual elimination of the restriction in the number of licences and on the taxi fares;
- Conversion to a franchise system; and
- Elimination of all regulations.

2. Sample competition assessment

Given this background, the competition assessment prepared for the Touriste City Council is attached below. The exact outcomes of this assessment would not necessarily be the same in all circumstances, so other assessments of taxi regulations could well arrive at different conclusions. The City Council would then make its decision as to how to proceed based, in part, on the results of the competition assessment, but would have no legal obligation to follow the recommendations of the assessment.

2.1. Objectives of the regulation

The objectives of the regulation are:

- To ensure the efficient functioning of the taxi market, guaranteeing that safety, quality and availability are assured at all times of the day and year; and
- To deliver the maximum benefit to consumers in accord with the public interest.

2.2. Regulatory options

Regulatory options are:

- **Option 1: Status Quo**

  Do nothing but keep the current regulatory content, under which the City Council (the municipal regulatory body) continues to regulate entry through a compulsory licensing system that restricts the number of licenses in the market. By means of this licensing system, the Council also establishes the quality requirements under which taxis can operate. In particular, it has established that, prior to obtaining a license, a background check, which requires presentation of a bank statement for the last five years; passing a medical fitness check; a review of the driving record; passing tests on the knowledge of the local road network and on language skills; and taking the taxi to a city garage to have it tested, is made. Moreover, the City Council also sets the structure and the maximum level of taxi fares that can be charged.

- **Option 2: End Entry Limits**

  Maintain the licensing system implemented by the City Council but eliminate, gradually, the restriction in the number of licenses. The City Council will charge newcomers a fixed fee to cover the costs of certifying driving ability, knowledge of services, personal fitness of drivers, possession of liability insurance and safety checks for cars. The City Council will also retain the taxi fare regulations, although it will introduce a higher fare during the night time hours and will require the fare structure to be displayed on the outside of the taxi.

- **Option 3: End Entry Limits and Fare Regulations**

  Remove the maximum fare regulation and the rule of "first-in, first-out" that apply to taxi stands but otherwise retain the regulations of option 2.

- **Option 4: Franchise System**

  Introduce a franchise system under which all the taxi companies compete with each other to offer the best price-quality service. Companies proposing the best offer will be awarded franchises, which shall be re-tendered periodically. As part of the franchise, the City Council will make the taxi operators responsible for handling complaints and will hold them accountable for resolving each complaint satisfactorily. Franchisees that violate city standards will be subject to fines and possible revocations. Consideration has been given to awarding four franchises.

- **Option 5: Abolish All Regulations**

  Abolish all the regulations. In particular, make the industry impose a voluntary registration system (certification system), managed by the City Council, and let potential consumers freely decide between using a certificated taxi service or a cheaper unregulated taxi service.

2.3. The affected market

The product market directly affected by the regulation is the market for taxi services which includes all the vehicles providing door-to-door

passenger services on demand within the municipal area. This market can be segmented on the basis of how customers search for the service. According to this criterion, the following segments can be delimited: the phone-booked taxi market, the internet-booked market, the taxi stand market and the hailed-taxi market. The scope of the market is the municipality affected by the City Council regulation as taxis can only take passengers from within their licensed area.

Any substantive impact on other elements of the supply chain (i.e. supply of special devices for taxis such as taximeters) is unlikely.

Although the market is not highly concentrated (as at January 2006, there were 2562 licenses in circulation, most of which owned by self-employed drivers who drive their own vehicle) and the degree of differentiation[1] is low, competition in the market defined above is rather weak, with important supply and demand imbalances (especially at night) and with taxi drivers apparently making little effort to improve the service with the objective of attracting customers. This is the result of:

- The existence of information failures, regarding both price and quality, that prevent consumers from choosing the most suitable service for them (for example, when a taxi is ordered by phone, they do not know the features of the taxi);
- The artificial restrictions on the number of drivers in the market (in the last three years, the city increased the number of licenses available by only 1 per cent) which prevents potential drivers from entering into the market when there is a situation of undersupply; and
- The custom, enforced by taxi drivers through mutual threats, that requires customers at taxi stands to take the first taxi, rather than choosing a car that has quality-related features that they might prefer.

The existence of prices that are higher than the competitive level and undersupply is reflected in the exorbitant unofficial market value of the

[1] The degree of differentiation refers to the amount of modifications that can be done to the service in order to make it different from those of the competitors.

licenses, when they are resold to newcomers and in the long waiting lists to obtain a license.

However, the liveliness of competition varies with the segment. In principle, the phone-booked market can be fairly competitive as travellers can shop around gathering and comparing information about different prices with relatively low search costs (i.e. a phone call). Moreover, repeated purchases in this segment are relatively probable which would ensure the provision of an appropriate service. In the taxi-stand market the opportunities for competition are limited because consumers are required to take the first taxi on the rank (the "first-in-first-out" policy). Finally, in the hailed taxi market, the opportunities for choosing between taxis can be limited, especially if taxis arrive infrequently meaning that consumers have incentives to hail the first vacant taxi that passes them. In such a situation, price competition is difficult to sustain because a price reduction is very likely to be unprofitable if consumers are unwilling to search for offers and a repeated purchase pattern is inexistent (i.e. a taxi driver that unilaterally decreases his price would not see demand for his service increase).

2.4. Competition assessment

Option 1: Status Quo

Licensed drivers would continue to benefit from the weak competition stated above.

Option 2: End entry limits

The initial fixed cost of entry is expected to decrease as a result of the increase in the available licenses. Moreover, a tendency to offer innovative services is expected to arise to the extent that competition is enhanced.

The abolition of the restrictions on the number of licenses will decrease the barriers to entry and therefore encourage competition. This fact, together with the decrease in costs, will create a downward pressure on the fares, which now are going to be more easily observable by consumers. This should enable the market to function more effectively, with consumers making better-informed choices. Additionally, the increase in entry will also reduce the waiting times and therefore increase the average quality of the service.

Option 3: End entry limits and fare regulations

The competitive impacts are the same as in option 2, with the difference that competitive fares would not be as effectively ensured. In particular, it is difficult to predict with any degree of certainty what the final impact on fares will be. On one hand, fares may decrease if more competition is promoted and if the initial entry costs are reduced. But on the other, fares may increase if the expansion in the supply leads to a reduced occupancy rate[1] or if a competitive setup is not achieved due to the market failures inherent in the market, including the ignorance of non-resident customers about the taxi system and the need to negotiate.

Given that 60% of rides are by tourists, and most tourists would not be familiar with the idea that fares might differ or be negotiated, there is reason to worry that many taxis may engage in price gauging tactics.

Option 4: Franchise system

The effects of this option seem to be ambiguous. Much depends on whether competition could be successfully established.

If this is the case, then the fares are expected to decrease and the quality and the available information to increase, which would enable the market to function more effectively, with consumers making better-informed choices.

However, if instead, a collusive setup is established, then the fares would be expected to increase and the quality to decrease. This is a possible scenario as concentration and barriers-to-entry are expected to increase (i.e. effectively, only large companies will be able to operate).

Option 5: Abolish all regulations

The costs of entry and of quality compliance are expected to decrease. Thus more entry is anticipated. Fares are expected to decrease on average as a result of the decrease in costs and the increase in competition but quality is expected to decrease due to the lack of quality control and insufficient incentives for taxis (except for those that are pre-ordered) to invest in quality.

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[1] Given that the majority of the costs are fixed, this would mean that fares should increase in order to recoup all the costs.

Since no quality and fare regulation is provided, consumer uncertainty about the quality and prices of services will increase. As a result, particularly for less informed consumers, such as tourists, who are a high percentage of taxi users, welfare may be decreased, with many non-certified taxis expected to pursue a "ripoff" strategy. The punishment for taxi drivers who commit fraud or do not respect their initial oral commitments on price (once a trip is over) are weak, as the retraction of a license is not very costly if entry is low cost. Once taxi customers, particularly those with luggage, are in a taxi, they are in a weak negotiating position if initial commitments are not respected.

2.5. Conclusions

Option 1 is likely to have the greatest detrimental competitive effect, since regulations impose unnecessary barriers-to-entry into the market, which not only undermines competition but also the information available to consumers necessary to make informed choices. As a result, the quality and availability of the services provided are negatively affected. Proposals number 2 and 3, conversely, have a number of pro-competitive benefits because compared to the current regulations, the number of available licenses in the market is not artificially restricted, which had the effect of limiting competition. It is believed that these options would promote a high-quality deal for customers and appropriate service availability. However, under option 3, competitive fares will not be as effectively ensured. It is difficult to determine whether option 4 would do away with the anticompetitive problems detected under option 1. If it is successfully implemented, it may have pro-competitive benefits but the risk of ending up in a collusive agreement is significant, particularly if new franchise operators are not able to enter easily in later rounds of bidding. Moreover, given the current market structure, the implementation of franchises is relatively complicated. Finally, although option 5 has many pro-competitive benefits, it is not able to ensure good market functioning in a heavily tourist-oriented town, as it does not address the problem of asymmetric information between the driver and the customer. Moreover, neither quality nor safety are effectively ensured in the market.

Dentistry regulation

This section provides a sample competition assessment for a national change in dentistry regulations. First, the current situation and potential actions are described. These are materials that would be envisioned within a broad regulatory review and are therefore not specific to a competition assessment. After these introductory materials, a sample competition assessment is provided.

This sample assessment is relatively brief. Longer assessments could be appropriate, especially for markets with greater economic import.

1. Overall situation

1.1. Background

The Parliament held hearings into dentistry two years ago that included testimony by dentists, dental insurers, dental hygienists and consumer groups. The testimony from the non-dentists suggested that dental treatment was increasingly being moved from the state payment schedule to much higher private fees. Consumer groups testified that there was little active competition between dentists over these fees. The Competition Authority testified that, if the General Dentistry Council were not protected by its authorising regulations, many of its actions would likely be viewed as those of a cartel organiser. Dental hygienists noted that private options for receiving dental care, such as teeth cleanings by dental hygienists, would be much less costly but were obstructed by the system of governance over all dental practice. Because the system of governance was set up by a regulation that stated that dentistry practice should be governed by the General Dentistry Council, and that many problems were thought to arise from the fact that dentists held the majority of seats on the General Dentistry Council, the Parliament passed, as part of its recent Health Act, a requirement that the Department of Health review its dentistry regulations and the operation of the dentistry profession, with a view:

- To ensure that safety and qualifications for persons engaged in dentistry are assured, as well as the appropriateness of services performed; and
- To avoid unnecessary or disproportionate restrictions on provision of dentistry services, particularly those restrictions that may not be in accord with the public interest.

1.2. Description of existing regulations and current environment

In the provision of dentistry, a substantial portion of patients have their care reimbursed by the state, while a substantial portion of dentist revenue comes from private provision. The state reimbursement is directed towards the young, unemployed, low income, elderly and disabled population. The fees for private service are considerably higher than those of the state's fee schedule. Most dentists serve both private and public patients.

For 37 years, the Department of Health has held by regulation 103.4(a) that the duty of determining the qualifications necessary to practice different kinds of dental procedures, excluding oral surgery, shall be determined by the professional regulatory body, the General Dentistry Council.

The General Dentistry Council requires that all persons overseeing and practising dentistry shall have, at least, a professional degree in dentistry (the Doctor of Dentistry Degree) from a programme certified by the General Dentistry Council and that all such persons shall remain members in good standing of the General Dentistry Council.

The General Dentistry Council has established that, in order to remain a member in good standing, a Doctor of Dentistry must maintain "ethical standards" of the Council. The ethical standards include:

- Honest billing practices (patients shall be charged rates that are in accordance with the practice's price list);
- No advertising for services in newspapers or on public panels that exceed 10 cm x 20 cm;
- No soliciting of other dentists' patients;
- No employment by a corporation and no employment of a dentist by non-dentists; and
- No prices set that are below standard prices practised in the local community.

The General Dentistry Council has determined that no person who is not a Doctor of Dentistry shall be permitted to perform dentistry, except under the supervision and oversight of a Doctor of Dentistry. In particular, dental hygienists and dental technicians were determined by the General Dentistry Council to not have sufficient qualifications to provide any services on their own.

As a result of the review called for by the Dentistry Act, the Department of Health is proposing to rewrite the regulation 103.4(a). The proposed amendment gives the General Dentistry Council the duty of determining medical and safety requirements for becoming a Doctor of Dentistry, a dental hygienist or a dental technician and of regulating the business practices of practitioners and their corporate form. However, the Department of Health would retain veto power over the proposed codes of conduct by the General Dentistry Council and would act according to the principle that persons shall be permitted to be self-employed and perform the tasks for which they have been licensed to perform, as long as they do so honestly and without false advertising. The Department of Health will also introduce a complaints procedure with the scope to discipline dental professionals whose patients claim provide inferior service and will introduce a corresponding disciplinary procedure.

1.3. Alternatives

There are four alternatives considered in this review:

- No action;
- The General Dentistry Council maintains quality and standards control, as well as non-medical aspects of care delivery. However, non-medical aspects will be subject to oversight by the Department of Health. Similarly, the complaints procedures will be governed by rules of the Department of Health;
- Department of Health assumes all functions previously carried out by the General Dentistry Council; and
- Elimination of all dentistry regulations.

Under the first option of no action, the pre-existing regulation 103.4(a) would remain in place.

Under the second option of revision, a number of changes would be instituted that address concerns raised by some observers about the current regulation of dentistry. In particular, the General Dentistry Council has used its ability to develop and oversee appropriate qualifications of oral health practitioners to govern both health related and non-health related aspects of behaviour, while not appropriately ensuring that patients are aware of prices for procedures before those procedures are performed. The General Dentistry Council would then maintain the responsibility for overseeing health-related qualifications and non-health related aspects of conduct; however, the aspects of conduct would henceforth be subject to approval by the Department of Health. The complaints procedures would also henceforth reside and remain with the Department of Health.

Under the third option, the Ministry would assume the duty of setting the qualifications of practitioners and deciding on recommendations concerning appropriate procedures to perform a given diagnosis.

Under the fourth option, the current regulations governing safety and conduct would be eliminated. Qualifications would continue to be issued by the General Dentistry Council, but such qualifications would not be necessary for practice. Rather, potential patients would be responsible for ensuring that their practitioners had the appropriate qualifications and would have recourse to courts for non-performance.

A competition impact assessment should be undertaken as option 1 of the regulatory proposal appears to have at least one of the effects listed in the “Competition Checklist” proposed by the OECD Competition Toolkit. In particular, option 1 would “control or substantially influence the price at which a goods or services can be sold in the market” and “limit the freedom of suppliers of a product or service to advertise or market their product (beyond any general limitations requiring accurate labelling and preventing false or misleading advertising)”.

2. Sample competition assessment

2.1. Objectives of the regulation

The objectives of the regulation are:

- To ensure that safety and qualifications for persons engaged in dentistry are assured, as well as the appropriateness of services performed; and

- To avoid unnecessary or disproportionate restrictions on dentistry provision, particularly those that may not be in accord with the public interest.

2.2. Regulatory options

Regulatory options are:

- **Option 1: No action**

  Do nothing but keep the current regulatory content, under which the General Dentistry Council (the private professional body) is responsible for the dental related and the non-dental related regulations and the complaints procedure. In particular, the current regulation has established that all persons overseeing and practising dentistry shall have, at least, a professional degree in dentistry (the Doctor of Dentistry Degree) from a programme certified by the General Dentistry Council and that all such persons shall remain members in good standing (i.e. shall respect the following ethical standards: honest billing practices, no advertising for services in newspapers or on public panels that exceed 10 cm x 20 cm, no soliciting of other dentists' patients, no employment by a corporation and no employment of a dentist by non-dentists and no prices set that are below those prices standardly practised in the local community) of the General Dentistry Council. One result of this regulation is that dental hygienists and dental technicians cannot practise without the supervision of a dentist.

- **Option 2: Dentistry Council Medical Oversight, Government Oversight of Business Practices.**

  Allow the General Dentistry Council to set safety and quality standards without having any right to control business practices such as pricing, advertising, solicitation and business organisation. Place business practice oversight under the Department of Health, who will act according to the principle that persons shall be permitted to be self-employed and perform the tasks for which they have been licensed to perform, as long as they do so honestly and without false advertising. Place the complaints procedure and the regulation under the control of the Department of Health.

- **Option 3: Government Oversight of Medical and Business Practices**

  Give the Department of Health the duty of setting the qualifications of practitioners and the non-dental regulation but otherwise retain the regulations of option 2.

- **Option 4: No regulation**

  Abolish all the regulations. In particular, make the industry impose a voluntary registration system (certification system), managed by the General Dentistry Council, and let potential patients be responsible for ensuring that their practitioners had the appropriate qualifications. Let patients have recourse to courts for non-performance.

2.3. The Affected Market

The product market directly affected by the regulation is the market for dental services which includes all the professionals who can provide preventive services (e.g. general exploratory visit, X-ray and analysis), advice on oral health, fitting and selling dentures, denture repairs, routine treatments (e.g. fillings, extractions, plaque cleaning), complex treatments (e.g. crowns), orthodontic treatment, oral surgery and cosmetic treatments (e.g. bleaching the teeth). Due to the small size of the national territory, the geographic scope of the market is the whole country.

There is unlikely to be any substantive impact on other elements of the supply chain (i.e. supply of inputs and machinery).

Although the market is not highly concentrated (as at April 2005, there were 3,459 dental professionals registered, usually practising as self-employed dentists or small partnerships of two or three professionals), competition in the market is rather weak, with each professional "waiting" for customers to arrive. This is the result of:

- The enforcement of the ethical standards, which explicitly forbids any type of competition (including promotions and advertisement);
- The existence of factors that prevent consumers from easily changing to another professional, such as the difficulty in transferring the medical records (many dentists refuse to give their

records to another dentist) and the lack of available information on prices and treatment characteristics; and

- The restrictions on the supply side that prevent corporations from entering the market and dental hygienists and dental technicians from practising independently from dentists.

2.4. Competition Assessment

Option 1: No action

Dentists would continue to benefit from the weak competition stated above and consumers would continue to be deprived of information, choices, and lower costs.

Option 2: Dentistry Council Medical oversight, Government oversight of business practices

The costs of operation are expected to decrease as a result of more freedom in the choice of business model and more efficiency in the use of the professional dental expertise. Moreover, more investment is expected as corporations benefit from greater access to sources of capital.

It is difficult to predict with any degree of certainty what the impact on the market structure will be. On one hand, more entry is expected as dental hygienists and dental technicians are allowed to practise on their own. But on the other, the entry of corporations and other private business, which are potentially larger than self-employed professionals or partnerships, may make the market more concentrated. Entry will be enhanced as well by the possibility to implement marketing strategies that were previously forbidden, such as advertising targeted to make the new business known and promotions to attract rivals' patients. These tools will facilitate the entry of newcomers by enabling them to promote their practice and, therefore, by shortening the necessary time to generate the sufficient business to obtain a return on investment.

The abolition of the most restrictive non-dental regulation would lead to increased competition without this being at the expense of inferior quality (the professional conditions to practise remain unchanged and the complaints procedure will be made more effective under this option). Additionally, in the race for obtaining new clients, more information will be disclosed. This should

enable the market to function more effectively, with consumers making better-informed choices.

Option 3: Government oversight of medical and business practices

The competitive impacts are broadly the same as in option 2, with the difference that less quality is expected as the Department of Health will take over technical, professional regulation, for which it is generally less qualified than professionals.

Option 4: No regulation

As under option 2 and 3, the costs of operation are expected to decrease. However, newcomers will benefit more (due to the introduction of a certification system). Similarly, more investment is also expected.

More entry is anticipated, not only from dental hygienists and dental technicians, but also from all those professionals who were not able to operate under the status quo. Nevertheless, the effect on the market concentration is unclear, as new and larger businesses are also expected. As under options 2 and 3, more information and new market strategies will arise in the market. However, since there will be no restriction in the behaviour of the professionals, this potential flow of information may be confusing or even misleading and, therefore, useless for the purposes of decreasing the asymmetry of information between the patient and the professional. Thus, the market may become less transparent, increasing the perceived uncertainty about the services. As a result, it will function less effectively, with consumers making worse-informed choices. Additionally, due to the certification system and a less effective complaints procedure, the quality is expected to be lower on average.

Therefore, although it seems that competition will increase, it will be at the expense of the quality.

2.5. Conclusions

Option 1 is likely to have the greatest detrimental competitive effect, since regulations impose unnecessary restrictions on the business of dentistry, which not only undermines competition but also the information available to consumers necessary to make informed choices. The proposals number 2 and 3, conversely, have a number of pro-competitive benefits because compared to the current regulations, dentists will no longer be able

to limit advertising, promotions, corporate form and auxiliary dental professional employment, which all have the effect of limiting competition. However, under option 3, quality will not be as effectively ensured. Finally, option 4, although it has many pro-competitive benefits, is not able to ensure an effective market function as it does not address the problem of asymmetric information between the professional and the patient.

Therefore option 2 attains the policy objectives while likely most promoting the process of competition. Option 2 is likely the best option from the perspective of competition.

Air quality regulation

This section provides a sample competition assessment for a national change in air quality regulation. First, the current situation and potential actions are described. These are materials that would be envisioned within a broad regulatory review and are therefore not specific to a competition assessment. After these introductory materials, a sample competition assessment is provided.

This sample assessment is relatively brief. Longer or shorter assessments could also be appropriate.

1. Background

The West region is densely populated and under a significant environmental threat due to its high level of air pollution. The West legislature authorised the West Clean Air Board (WCAB), which is a regional regulatory authority, to devise and implement regulations regarding automotive fuel blends in order to control air pollution. WCAB considered various options for reducing automotive air pollution and decided to require a new refinery technology to produce automotive fuel for use in the West. After refiners invested in changing their refineries, one of the oil companies (Xoil) announced that it had a patent on the technology being used and that refiners would have to pay a licensing fee for the right to use the technology. The refiners started complaining about high patent royalties they had to pay. A government task force conducted an investigation on the effects of the WCAB's regulation and reported that the regulation provided monopoly power to Xoil in licensing the necessary refinery technology to produce automotive fuel in the West and that this monopoly power gave Xoil the ability to increase its rivals' refinery costs, so as to control the price of automotive fuel in the West region. The task force found that Xoil had not revealed its patent application when lobbying for its technology with WCAB and had even stated the technology would not be patented. Consumer associations and truck drivers started complaining about high automotive fuel prices since the

adoption of the WCAB regulation. The increase in the automotive fuel prices was 6% in the West region, while only 1% in the rest of the country. WCAB legal counsel determined that Xoil could not be penalised by the regulator for failing to reveal its patent application nor could the WCAB revoke the patent. WCAB believes its existing regulation is not always in accord with the public interest and is considering alternatives.

2. Objectives of the regulation

The WCAB seeks to advance the three policy objectives of the Country's Clean Air Act: (1) to ensure better environmental conditions by reducing engine emissions, (2) to provide correct incentives for firms to invest in R&D to develop a cleaner-burning automotive fuel and avoid duplications of research for a technology to make a cleaner automotive fuel, and (3) to avoid disproportionate environmental regulations, particularly those that may not be in public interest, such as increases in automotive fuel prices that cause more loss in social welfare than the social welfare gains from improved air conditions.

3. Regulatory options

A number of options were identified. The regulatory options are:

- **Option 1: Keep technology standard as is**

  Do nothing but keep the current regulations, under which refiners are required to use Xoil's refinery technology to produce automotive fuel for use in the West. Xoil would thus continue to charge refiners monopolistic prices or royalties for the use of its technology. As a result, production costs of automotive fuel for the West use would continue to be high resulting in high automotive fuel prices in the West region.

- **Option 2: Add price regulation to a production technology standard**

  Set another technology as a standard on the formulation and blending process of a cleaner-burning automotive fuel through consultation with the industry associations and firms and at the same time regulating the price of the refinery technology chosen as a standard. The developer of that technology would then have

to charge the regulated price for its technology. Refiners therefore would be aware of all costs of producing cleaner-burning automotive fuel before the adoption of the WCAB's regulations.

- **Option 3: Introduce performance-based standard**

  No regulation on how to produce a cleaner-burning automotive fuel, but set a cap on emissions from any type of automotive fuel-burning. Each refiner would be free to use any method or technology to produce automotive fuel, whose burning should release fewer emissions than the maximum threshold.

- **Option 4: Introduce emissions tax**

  No regulation on how to produce a cleaner-burning automotive fuel, but introduce taxes on emission levels of gasoline sold at stations in the West region, and possibly setting a cap on emissions from any type of automotive fuel. As in the previous option, each refiner would be free to use any method or technology to make an automotive fuel polluting below the maximum threshold. Furthermore, gasoline stations (or sellers of automotive fuel) would pay some taxes proportional to the emissions from burning of their gasoline.

- **Option 5: No regulation**

  Eliminate all regulations. In particular, let refiners produce any kind of automotive fuel they want and having no taxes on emission levels of gasoline, while making the industry impose a voluntary certification system for the level of emissions released from a given type of automotive fuel use. Consumers in the West would then decide which type of automotive fuel they purchase and thereby how much they would be willing to pay to reduce emissions from their motor vehicles.

4. The affected market

The product market directly affected by the regulations is the market for refinery technology to make WCAB-compliant automotive fuel (the "technology market"). The market indirectly affected by the regulations is the

market for automotive fuel that can be sold in the West region (the "automotive fuel market").

Setting standards on how to formulate and blend properties to produce a cleaner-burning automotive fuel through consulting with the industry associations and firms is an effective way to find the most efficient refinery technology to make a cleaner automotive fuel. However, because the WCAB's regulation prescribes a specific technology, it has impeded competition in the technology market, resulting in higher consumer prices in the automotive fuel market, by (1) limiting the number or range of suppliers in the technology market through establishing a license as a requirement of operation, and (2) Limiting the ability of suppliers in the WCAB-automotive fuel market to compete by (a) raising costs of WCAB-compliant automotive fuel production for all refiners except for Xoil, and (b) creating a geographical barrier to the ability of oil companies to supply gas to the West (Oil companies operating in other regions are not allowed to import their automotive fuel into the West distribution network unless the imported fuel is produced through using the WCAB-standard technology, which is the Xoil's patented technology). Hence, the WCAB's regulations have provided Xoil monopoly power in the technology market and this monopoly power has brought Xoil anti-competitive advantages over other refiners in supplying the WCAB-automotive fuel market, since Xoil has been able to raise rival refiners' costs by charging high license fees for its technology.

5. Competitive assessment

Option 1: Keep technology standard as is

Xoil would continue to benefit from its monopoly power in the Technology market and weak competition in the WCAB-Automotive Fuel market stated above.

Option 2: Add price regulation to a production technology standard

The industry can achieve important efficiency gains by performing joint research to set the most efficient technology as a standard to refine a cleaner-burning automotive fuel. In addition to these benefits, regulating the price of the necessary technology would keep the costs of producing WCAB-compliant automotive fuel low, which in turn would result in lower automotive fuel prices in the West. Regulating an input price would also reduce uncertainties on the costs of producing WCAB-compliant automotive fuel.

However, given that the price of the necessary refinery technology would be regulated, firms would have lower incentives to invest in R&D to develop such a technology. Furthermore, changing away from Xoil's technology to a new one might require that investments "sunk" into the Xoil technology be scrapped. Permitting refiners to set a standard might give them greater leverage in negotiating the license fee with Xoil. Entering a voluntary standard scheme can provide a number of benefits. Such schemes are fairly common when they would not be condemned by competition authorities.

Option 3: Introduce performance-based standard

Removing regulations on how to produce a cleaner-burning automotive fuel would let each refiner use any method and technology in the automotive fuel production. Furthermore, setting a cap on emissions from any type of fuel-burning make each refiner either purchase a license or conduct individual research for a technology producing an automotive fuel respecting the maximum threshold on emissions. Duplication of research effort would be more likely under this regulatory framework, though there is no obvious harm from duplication of research effort, as it may generate faster innovations and more choice over technology used. There would be many alternative ways and technologies available to produce a cleaner-burning automotive fuel. The competition among suppliers of the technology market would then be strong, resulting in lower costs of producing a cleaner automotive fuel. WCAB would be able to reduce motor vehicle emissions to the desired level without impeding competition; refiners would be more flexible in their production techniques and invest in R&D to develop a refinery technology which allows them to produce cleaner-burning automotive fuel unless it is less costly to purchase a license for such a technology.

Option 4: Introduce emissions tax

Removing regulations on how to produce a cleaner-burning automotive fuel would let each refiner use any method and technology in the automotive fuel production. Collecting taxes from stations proportional to emission levels of the gasoline they are selling, would give refiners incentives to produce the fuel where the marginal benefit of reducing the tax from emissions equals the marginal cost of reducing emissions. Each refiner then either purchases a license or conducts individual research to find the most efficient technology which allows it to produce the least polluting automotive fuel. The cap on emissions from any type of automotive fuel-burning might be ineffective for some firms who already intend to produce an automotive fuel polluting less than the threshold in order to boost the demand for their fuel. This regulatory

option would therefore provide a strong incentive to invest in R&D to produce a cleaner automotive fuel. As in option 3, there would be many alternative technologies available to produce a cleaner-burning automotive fuel. The competition among suppliers of the Technology market would then be strong (even stronger than the one under option 3, due to the better incentives to invest in R&D with emission taxes), resulting in lower costs of producing a cleaner automotive fuel.

Taxing automotive fuels sold at stations proportional to their emission level from fuel-burning, makes consumers internalise the negative impact of the pollution their driving creates. Taxes would raise automotive fuel prices, reducing demand for automotive fuel in the West. Environmental taxes would increase consumer welfare if the harm to consumers as a result of higher automotive prices is lower than the social benefits generated from lower air pollution. Determining the correct level of emission taxes on gasoline is not an easy task.

Refiners would be flexible (as in Option 3) in their production techniques and willing to invest in R&D to develop a refinery technology which allows them to produce cleaner-burning automotive fuel unless it is less costly to purchase a license for such a technology.

Option 5: Eliminate all regulations

Eliminating all regulations would allow refiners to produce any kind of automotive fuel they want. However, the industry is supposed to develop a voluntary certification system for the level of emissions released from any type of automotive fuel use, so consumers could be informed about which type of fuel-burning pollutes less. Consumers in the West would then decide which type of automotive fuel they purchase, so how much they would be willing to pay to reduce emissions from their motor vehicles. Without any taxes on emission levels of gasoline, consumers would be willing to pay too less to reduce the emissions from their automotive fuel use; since they could not internalise negative externalities they put over others by their individual contributions to air pollution. Hence, the air pollution would be much higher than the desired level and other regulatory frameworks.

6. Determination

A major question in this analysis is which options will induce appropriate innovations. Three key questions are:

- Is the policy is flexible, that is, does it let the innovator determine the best way to achieve the objective?
- Is the policy applied to the pollutant, that is, does it apply directly to the externality and not to a proxy or a technology?
- Is the policy deep, that is, does it apply across a range of outputs, providing a continuous incentive to develop abatement technologies?[1]

Option 4 is more likely the best regulatory option for the consumer welfare while achieving the primary objectives of reducing automotive emissions. Option 4 is flexible, applies directly to the pollutant and is deep. Option 3 is a close second, because it is not deep and so provides no incentives for innovation below the level of the standard. Options 3 and 4 also eliminate the anti-competitive restriction that exists under option 1Under Option 1, air pollution is reduced in the West, and the industry avoids duplication of research efforts and benefits from efficiencies of adopting the most efficient refinery technology as a standard to produce cleaner-burning automotive fuel. However, Option 1 is likely to have the greatest detrimental competitive effect, since the regulations establish a license as a requirement to produce a cleaner-burning automotive fuel, so creating a monopoly in the technology market. The regulation furthermore limits the ability of suppliers in the automotive fuel market to compete by raising costs of refining automotive fuel and creating a geographical barrier to entry into the automotive fuel market of the West. As a result, fuel prices in the West have increased and consumer welfare reduced. This harm could be removed by Option 2, which ensures a lower price for the required refinery technology by regulating the monopoly price, but at the same time reduces incentives to invest in R&D to develop such a technology at the first place. Options 3 and 4 allow refiners to be more flexible in their technology choice by removing

[1] For further thoughts on key questions for environmental innovation, see OECD (2009) "Environmental Policy Framework Conditions, Innovation and Technology Transfer", https://one.oecd.org/document/ENV/EPOC/WPNEP(2009)2/FINAL/en/pdf

regulations on the production process of automotive fuel. Under both regimes, the regulator could keep the air pollution at the desired level. Furthermore, both options provide refiners with high incentives to invest in R&D to develop a refinery technology producing a cleaner-burning automotive fuel. Option 4 changes consumption of automotive fuel by imposing taxes on fuels proportional to their emission level from fuel-burning. Option 5 provides the highest flexibility to firms by letting them choose a refinery technology without any emission standards, nor taxes, but Option 5 does not provide incentives to reduce emissions nor to invest in R&D for a technology producing cleaner-burning gasoline, and thus does not reduce air pollution in the West.

Tourist Short-term Rentals over Digital Platforms

This case study provides a sample competition assessment for a change in short-term rentals regulations. First, the current situation and potential actions are described. After these introductory materials, a sample competition assessment is provided.

This sample assessment is relatively brief. Longer or shorter assessments could also be appropriate.

1. Background

Paradisio is a touristic city. In Paradisio, tourist accommodation options include hotels, apartment hotels, guesthouses and camping establishments. In addition, apartments and summer houses have been rented for short periods of time by tourists from their owners or local real estate agents. However, recently the number of tourist short-term rentals surged due to development of online platforms which facilitate peer-to-peer rentals. Currently such rentals are estimated to constitute 20% of the total tourist accommodation capacity of the city. Last year 10% of the tourists visiting Paradisio stayed in short-term rentals. This year, the number of nights in short-term rentals doubled in comparison to last year. A short-term rental operator hosts a guest for 40 days per year on average.

A drastic increase in short-term rentals caused some complaints. Hotel operators complain about unfair competition due to higher regulatory burden on them and a call for regulation of short-term rentals. Residents are concerned about their safety and maintenance of common spaces. Also, it is argued that using houses and apartments for short-term rentals causes a shortage for long-term rentals and consequently increase in rents.

1.1. New Tourist Short-Term Rental Regulation

The City Council of Paradisio has recently adopted a new regulation regarding tourist short-term rentals. Owners of short-term rental properties are obliged to register and get a registration number. The City Council's approval is necessary to complete the registration process. The registration number, which can be obtained only after the completion of registration, must be indicated in every announcement and advertisement for the short-term rental.

According to the urban plan, the city is divided into three types of zones: tourist zone, residential zone and mixed zone. The regulation states that accommodations in tourist and mixed zones cannot be registered as short-term rental.

An accommodation can be used as a tourist short-term rental only if the owners of other apartments in the same compound give their explicit consent for such use. Explicit consent of community of owners is not required for long-term rentals.

Short-term rental are defined as a commercialised furnished accommodation rented to third parties in its entirety. Therefore renting some parts of an accommodation (such as one room) is not possible.

Short-term rentals are required to have distinctive plaques at the entrance which signify that the property is dedicated to short-term tourist use.

All the advertisements and announcements about the short-term rentals must be accurate, clear and made in good faith. Guests must be informed about check in and check-out times, admission of animals, prices, payment method and other terms and conditions of the service.

The regulation sets some minimum equipment requirements for short-term rentals. For instance in the bedroom, there must be a lighting fixture next to each bed, a single (minimum size 0.9x1.9m) or double bed (minimum size 1.35m x 1.90m), an effective system for keeping out light, colour hangers that are non-deformable and all the same shape and, one set of beddings (sheets, pillows, mattress protector, blanket and bedspread) per week. Also it is stated in the regulation that the design and dimensions of the accommodation shall facilitate rest, laundry washing and drying, cleaning,

maintenance, living and storage and include access to telecommunications services.

Short-term rentals must be ready for immediate use of the guest in terms of cleanliness and maintenance.

Short-term rentals are required to have a notice in English and the local language which indicates a telephone number which can be called about incidents related to the short-term rental from 8 a.m. to 8 p.m. as well as other emergency numbers.

Operators of short-term rentals must inform the police about the guest's identity and other relevant information.

1.2. Objectives of Regulation

The objectives of the regulation are:

- To ensure sustainable development of the tourism sector by avoiding unfair competition among the different types of tourist accommodation providers and protecting the reputation of the city as a premium tourist destination,

- To protect rights of residents to affordable housing and peaceful living.

1.3. Regulatory Options

There are five alternatives considered in this review:

- **Option 1 – Keeping the above mentioned regulation** (*status quo*)

- **Option 2 – Elimination of the new regulation**: In this case short-term rentals would be unregulated at large. Some horizontal regulations such as consumer protection or housing regulations would apply to such activity. Since online platforms play a crucial role in short-term rentals they would supervise the activity as well, through their terms and conditions and rating systems.

- **Option 3 – Relaxation of regulation**: A specific regulatory framework for short-term rentals would be kept, however it would be less prescriptive compared to the current regulation. The regulation could have two tiers composed of short-term rentals rented out less than 120 days a year (Group 1) and those rented 120 days or more (Group 2). The registration process would be a simplified process for both groups of short-rentals. Equipment requirements would be trimmed down to a level that ensures provision of the essential requirements for a tourist accommodation. The explicit consent requirement and geographical restriction on short-term rentals would be removed. However a fee or a tax would be imposed on Group 2 rentals to compensate for their externalities to their neighbours through funding safety measures and maintenance services of the compounds or buildings. The definition of short-term rental would be changed in order to allow renting rooms or some part of an accommodation. To distinguish short-term rentals from guesthouses, residence of the host at the same accommodation would be a precondition renting out rooms or part of an accomodation.

- **Option 4 – Further regulation**: While geographical restriction on short-term rentals would be removed, market entry would be controlled by other regulatory means. A strict authorisation process would be introduced. Each municipality would decide the short-term rental capacity (for example, with a cap on the number of nights or lodgings) that can be absorbed by their local area depending on their urban plans and other policy objectives. Quotas would apply accordingly. Short-term rentals would be subject to further quality requirements such as 24h telephone assistance, high speed broadband internet and cable TV services, availability of a parking space and accessibility.

- **Option 5 – Reducing regulation on hotels and other tourist accommodations**: Online booking services and digital platforms enable guests to access wide variety of information easily. These digital services provide not only detailed information and numerous photos of accommodation but also reviews of previous guests. Thus digitalisation decreases the information asymmetry between the supplier and consumer that has justified much of the prior regulatory framework. In order to adjust the regulatory framework to changing market conditions,

outdated regulations would be abolished. For instance, minimum equipment requirements can be reviewed or requirements on the booking process can be adapted to e-commerce. This policy option can be combined with any of the policy options above.

2. Sample Competition Assessment

2.1. The Affected Market

The market directly affected by the regulation is the tourist accommodation services market in Paradisio. Narrower markets can be defined according to the type of accommodation or price-service package offered by the service providers such as luxurious and budget. Regulations on short-term rentals have an impact on the real estate market too, as explained in the Section 1.

Tourist accommodation services market are highly competitive in general. Almost all the accommodation providers are located in the tourist zone which is by the sea side and includes most of the tourist attractions. There are a number of sale channels available to service providers. All the tourist accommodation providers have a webpage of their own. Most of them are also listed on third party booking websites. Hotels, apartment hotels and some guesthouses are also receiving reservations via tour operators or travel agencies. 90% of short-term rentals are booked through digital platforms. These platforms facilitate payments and claims, offer a channel for direct communication between the host and the guest and have a rating mechanism which shows the satisfaction level of both sides.

Short-term rentals offer a more home-like experience for lower prices in comparison to 5 or 4 star hotels. They may lack some services such as reception, daily cleaning or valet parking. Short-term rentals have not been standardised until recently and are still less standardised than hotels. In that sense, there is a greater information asymmetry between the host and the guest in case of short-term rentals. However, online platforms provide detailed information, photos and reviews about the short-term rentals that can address much of the asymmetry.

2.2. Competition Assessment

Option 1: Keeping the regulation (status quo)

The current regulatory framework has several potentially anti-competitive clauses. Firstly, it creates a barrier to entry for small and micro-enterprises by delaying the entry and increasing related financial costs. The declaration requirement coupled with ex-ante registration system is a *de facto* authorisation system. The requirement to gain explicit consent of neighbours makes entry even more difficult.

Secondly, not granting authorisation to short-term rentals in the tourist and mixed zones practically prohibits them. As mentioned above, almost all the tourist accommodations are in the tourist zone. Therefore such regulation protects incumbents from competition of short-term rentals. What is more, pushing short-term rentals to residential zones may not be completely in line with the policy objectives regarding long-term accommodation.

Thirdly, quality requirements that include minimum equipment standards risk preventing product differentiation. For instance some guests may prefer paying less for a more basic accommodation service. Under restricted competition, tourists may face lower availability and higher prices.

Option 2: Elimination of new regulation

This policy option is anticipated to eliminate the potential anticompetitive effects mentioned above. Short-term rental supply would continue to increase and offer lower prices, more availability and greater variety to the tourist. It is anticipated that the market would be more competitive than Option 1. The competitive environment may contribute increasing service quality. However it is not possible to predict to what extent the outcome of this option will be in line with the City Council's vision of the city as a premium destination.

Under Option 2, consumers would be less protected. Nonetheless, other mechanisms such as horizontal regulations, quality standards of online platforms and rating systems would address the consumer protection and information asymmetry issues to some extent.

Other issues such as affordable housing and security are left unaddressed. Moreover the regulatory disparity between short-term rentals and other accommodation services may distort the level playing field.

Option 3: Relaxation of regulation

Option 3 is a middle way between Option 1 and Option 2. While it has some effect on competition it addresses policy objectives. A substantial challenge in this option is identifying an appropriate threshold, as some owners may wish to rent a little in excess of the threshold, are barred from doing so. A two-tier system could potentially facilitate proportional regulation but may result in depriving largely small-scale investors from returns that they could have gained. Simplified registration processes and lower minimum equipment requirements are expected to lead to lower entry barriers. More relaxed regulation would give the market the flexibility to satisfy the demand in terms of quantity and quality.

Option 4: Further regulation

Option 4 provides the public administration with better control on tourism and housing sectors. However this approach does not necessarily create desirable outcomes. To be successful, the regulation would need to be updated frequently to meet the ever-changing expectations of tourists and developments in the industry. Also municipalities would need to determine the optimum tourist capacity correctly. Allocation of this capacity to potential short-term rental operators would be another crucial issue. Beside its regulatory burden, Option 4 has a serious likelihood of restricting competition. In this option, entry barriers would not be established by geographical restrictions but quotas. It is not easy to say which constitutes a greater impediment to competition. However it is clear that quota regimes entail a high potential for anti-competitive impact. High standards for service also constitute a barrier to entry and curtail service differentiation.

Furthermore, low levels of competition may work against policy objectives. Weak competition in the market may result in deterioration in service quality.

Option 5: Reducing regulation on hotels and other tourist accommodations

This policy option can be combined with any other policy options mentioned above. Adjusting regulation governing other tourist accommodation to new market conditions through eliminating unnecessary requirements would facilitate competition. Lower operational and entry costs would increase supply. Tourist accommodation providers could concentrate

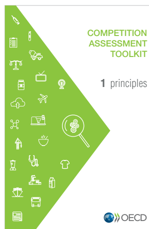
on meeting consumer expectations and service differentiation instead of meeting outdated regulations. Such relaxation would also address concerns about unfair competition between short-term rentals and other accommodation providers.

2.3. Conclusions

Option 1 and Option 4 have the greatest potential to restrict competition. Both options impede market entry and service differentiation. Option 2 presents a pro-competitive regulatory framework. In Option 2, short-term rental supply is expected to increase and facilitate competition among service providers. However this option does not address all regulatory objectives and the issue of a level playing field in the market. Option 3 promotes competition while attaining policy objectives. Therefore, to the extent the policy objectives are desirable, Option 3 could be the best option for short-term rental regulation from competitive perspective, as long as an appropriate threshold can be found that does not unduly penalise home owners and small investors. Option 4 will likely decrease competition by increasing entry barriers. Option 5 also facilitates competition and addresses unfair competition concerns. It adjusts regulations to the growth of the digital economy. Therefore it is also a good option, especially when it is coupled with Option 3 (or Option 2).

About the OECD Competition Assessment Toolkit

The OECD Competition Assessment Toolkit helps governments to eliminate barriers to competition by providing a method for identifying unnecessary restraints on market activities and developing alternative, less restrictive measures that still achieve government policy objectives. It consists of 3 volumes: Principles, Guidance and Operational Manual. Read more about the toolkit at **oe.cd/cat.**



Toolkit Principles

Volume 1 sets down the toolkit principles, describing benefits of competition, the checklist and examples of government processes.

Technical guidance

Volume 2 provides detailed technical guidance on key issues to consider when performing a competition assessment.

Operational manual

Volume 3 is an operational manual which provides a step-by-step process for performing competition assessment.

The OECD Competition Assessment toolkit helps governments eliminate barriers to competition. It consists of three volumes.

Volume 2 provides detailed technical guidance on key issues to consider when performing a competition assessment.

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