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Global Forum on Competition

ROUNDTABLE ON BRINGING COMPETITION INTO REGULATED SECTORS

(Background Note by the Secretariat)

-- Session I --

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BRINGING COMPETITION TO REGULATED INDUSTRIES[1]

Background Note

by the Secretariat

1. Introduction

1. It is now conventional wisdom in most countries that competition has a key role to play in ensuring productive, efficient, innovative and responsive markets. Competitive forces drive firms to innovate, to develop new and more efficient production processes and to adjust their products in response to changing consumer demand. Policies to stimulate competition are a key driver for improving the microeconomic and macroeconomic performance of both member and non-member economies[2].

2. This paper summarises the set of policies which governments might pursue in order to promote competition in those sectors which are or were subject to government regulation. In other words, the subject matter of this paper is "competition policy" in the broadest sense (as opposed to competition law), and its application to regulated industries. It is intended that this paper will act as a framework for thinking about competition policy, and/or a guide for developing competition-oriented reforms. Given the enormous breadth of the field of competition policy, this paper inevitably only touches on many key ideas and policies. The OECD has published many documents which discuss in more detail many of the issues which are raised here.

3. This paper is primarily about the policies, tools and techniques for bringing competition to regulated sectors. The focus is on competition and not on ideas which are often closely related in practice but which do not relate directly to competition, such as policies for improving the quality of the regulation of a natural monopoly or the performance of a regulated firm. This paper will not discuss, for example, privatisation – which, where it is feasible, is a powerful tool for improving the performance of government-owned firms. Neither will it discuss the issue of optimal setting of regulated prices except, insofar as those prices have an impact on competition.

2. Competition as a tool for achieving broader government objectives

4. Competition is not an end in itself. Rather, competition is a policy tool to achieve broader government objectives for the economy or for a given industry. These objectives differ in their details from industry to industry, but it is common for governments to seek some combination of the following objectives: that the goods and services that consumers and users want are produced efficiently, with the quality and variety that they desire, are sold at an efficient price, and with on-going investment and innovation in the industry to develop new products and improve the efficiency of production over time. These objectives are sometimes summarised as the pursuit of "economic efficiency". Allan Fels, former head of the Australian Competition Authority has said:

> "Whilst the pursuit of competition is an important economic goal, it is not pursued for its own sake. Competition is valued because of the economic results to which it gives rise. The ultimate economic goal of competition policy is to achieve economic efficiency".[3]

5. In most markets, reliance on the forces of competition is by far the best way to achieve these objectives. In a healthy competitive environment those firms which produce goods and services which best meet the needs and desires of users and consumers, and which do so most efficiently, prosper, thrive and

attract funds for investment and expansion. At the same time those firms which do not meet the needs of users and consumers or which produce inefficiently suffer a reduction in output, releasing resources to be used more efficiently elsewhere in the economy. The desire to obtain a competitive edge over rivals drives firms to develop new products and services, or new ways of producing or marketing goods and services. Firms are induced to respond flexibly to changes in technology and in market conditions over time.

6. In those markets which can sustain effective, healthy competition, the government's rule-making powers can be focused on maintaining and improving basic market rules and institutions which underpin all trade, exchange and investment. These rules and institutions include the framework of laws within which enterprise, investment and competition operate and the institutions necessary for enforcing those laws and private contracts. These framework laws establish the basic "rules of the game" and ensure that each firm's competitive energy is directed towards socially-productive ends rather than socially-destructive or welfare-reducing ends. These framework laws include, for example, laws governing property rights, contracts, firm structures, how firms can raise capital, insolvency and so on. Included amongst these framework laws are, of course, consumer protection laws and competition law.

7. For many markets, promoting competition-enhancing reforms is primarily a matter of ensuring that the forces of competition can operate without hindrance. This might imply, for example, removing barriers to entry; removing barriers to trade (such as tariffs or quotas); removing controls on the nature or range of goods and services which can be offered; restructuring the industry to enhance the number of independent participants; eliminating rules which favour certain industry participants over others; enforcement of competition rules against collusion or concentration; and so on. These policies are discussed further in the next section.

8. Unfortunately, however, there are some markets for which reliance on competition and these framework laws alone will not yield satisfactory outcomes. This might be, for example, because there will be too few firms in the market to sustain effective competitive pressure. It might also be because consumers do not have enough information to make informed choices, or because the actions of one firm have an impact on other firms or individuals which are not correctly priced.[4] These issues are discussed further in section 4.

9. Many regulated industries have a cost structure such that the only sustainable long run outcome is for the entire market demand to be supplied by a single firm. In these markets it is not possible to rely on conventional competition in-the-market between integrated firms to achieve the objectives set out above. However, in some cases, there still remains scope for competition for-the-market. This possibility is discussed in section 5.

10. Even in those industries which have natural monopoly elements, there often are significant components which are potentially competitive. In such industries, regulating to ensure access to the natural monopoly components can greatly enhance the scope for reliance on competition in the competitive components of the industry. The pros and cons of this approach are discussed in section 6.

11. In those industries in which there is a desire to promote competition by mandating access to essential inputs, it may be that the degree of competition can be materially enhanced through structural reform – that is, by preventing the owner of any remaining essential facilities from providing competitive services using those facilities. This, and other, vertical structural reforms are discussed in section 7.

12. Finally, section 8 addresses issues relating to the design of the reform process itself and how the design of regulatory institutions may affect competition. The precise role of the competition authority varies from country to country. In some countries, competition authorities have a direct role in developing economic policies which affect competition, such as policies regarding market structure, or the rules

governing market entry. In other countries, the role of competition authorities is limited to giving advice on competition-related matters, or simply enforcing the competition law. The extent to which the competition authority may be able to be involved in developing some of the policies set out below will therefore vary from country to country. In any case, section 8 argues that it is desirable for there to be at least one government agency or institution which is empowered to advocate for competition-oriented reforms along the lines of those set out here.

3. Promoting competition in competitive markets

13. As already noted, in most economic markets, the objectives set out above can be best achieved through primary reliance on competition between a number of independent firms operating against a background of framework laws and institutions. Promoting competition in such markets is largely a matter of ensuring that these framework laws and institutions operate effectively, ensuring that the conditions for competition are in place and ensuring that the firms in the market have the freedom to choose the range of services they provide and how they will provide and market those services. In particular, promoting competition may involve one or more of the following policies:

3.1 Improvement of the "framework" laws and institutions

- In many developing and transition countries the single biggest impact that governments can have on competition is through improving the "framework" laws and institutions against which all investment, trade and exchange takes place. As noted above, these framework laws establish the basic "rules of the game" that ensure that each firm's competitive energy is directed towards socially-productive ends rather than socially-destructive or welfare-reducing ends. These framework laws include, for example, laws governing property rights, contracts, firm structures, how firms can raise capital, insolvency and so on. Equally important are the institutions for enforcing these laws including, most importantly, the judiciary.

- Almost all except the most trivial transactions require investment by one party. Policies which improve the overall climate for investment will increase the scope for competition. Economic actors will not make investments if they fear that their investment will not be protected by legal rules and institutions. Action to improve access to the courts, the independence of the judiciary and control of corruption[5] can all improve competition and investment.

- Reforms to property and contract law can also have an impact on competition. For example, in a market in which the recipient of goods cannot be certain of receiving good legal title, there will be a "chilling effect" on transactions and the process of exchange. Laws governing enterprises and commercial activity can also have a material impact on competition. For example, if the bankruptcy law allows insolvent firms to continue trading, rival firms may be unable to charge a price high enough to enable them to cover their true cost of capital. In addition, the threat of bankruptcy will impose little discipline on incumbent management to improve performance.

- Even in those countries which have a very long and well developed legal tradition governing private property, competition can often be enhanced through the creation of new rights. In recent years property rights have been defined or clarified in a number of sectors, such as tradeable rights to radio spectrum, fishing rights (in the form of tradeable quotas)

and/or tradeable rights to water. This process will continue as technological developments change the costs of monitoring and enforcing property rights.

- In a few cases the strengthening of these framework laws may conflict with a desire to promote competition. For example, intellectual property laws enhance the incentive on firms to innovate and to develop new intellectual property, thereby promoting long-term growth and economic welfare. However, these same laws also create exclusive rights which may confer significant market power. Careful attention is needed to ensure that firms are not able to use intellectual property laws to inappropriately restrict competition.

- The quality of a country's framework laws and institutions will affect the extent to which it is feasible or desirable to implement some of the other reforms discussed below.

3.2 Application and enforcement of competition law

- Even in those markets which can potentially sustain competition, competition may be limited or reduced through the actions of firms in the market. It is important therefore that the competition law apply as widely as possible (including, especially, in regulated industries) and be actively enforced. This will involve, amongst other things, detecting and preventing collusive agreements between firms, preventing mergers that would otherwise restrict competition and prohibiting those vertical arrangements which are anticompetitive.

- Competition law enforcement is particularly important in industries which have historically been heavily regulated. In such industries, a move to introduce competition often does not mean an end to government intervention, but rather a change in its focus – and, in particular, a change in focus towards control of anticompetitive behaviour.

- Firms in these industries which have recently been subject to competitive pressure may seek to replicate some of the anticompetitive effects of regulation through arrangements between firms, or to re-merge to restore a concentrated industry structure. In addition, in such industries there is often a dominant firm which can restrict competition by restricting access to essential inputs or through attempting to force rivals to exit the market (perhaps through predatory pricing). For these reasons, competition enforcement is even more important in industries which are or were tightly regulated.

3.3 Removal of barriers to entry and barriers to trade

- In some regulated markets, the promotion of competition is primarily a matter of lifting restrictions on entry and exit. Aviation and trucking, for example, are two industries which can be transformed primarily by simply removing barriers to entry, allowing new and innovative firms to enter the industry.

- In the case of internationally-traded goods or services, competition can also be promoted by lowering barriers to trade by eliminating quotas or tariffs. Reducing barriers to trade will usually enhance the benefits of domestic competition-oriented reforms. Some barriers to entry still exist in both trucking and airlines – particularly at the international level, where bilateral agreements still place quantitative limits on the number of services that can be offered on certain routes.

- In some industries, ownership restrictions on participants in the market may limit competition. For example, in markets with economies of scale or scope the most likely new

entrants to a market may be existing foreign firms. In this context, controls on foreign ownership may limit the number of entrants and therefore the extent of competition.

- Ideally, domestic and foreign firms should compete on an equal footing in the market. There is no guarantee, of course, that all domestic firms will survive in a market with foreign competition – although some will prosper, others will not be competitive and will be displaced. This process both benefits domestic consumers and frees up resources which are used inefficiently to be used elsewhere in the economy.

- In those industries in which a licence is required to compete in the market, barriers to entry can be reduced through "mutual recognition" of the licences and regulatory standards of other states or nations, where those standards meet minimum acceptable levels. The EC is, of course, active in establishing minimum EU-wide regulatory regimes in many industries. More generally, regional economic integration initiatives can enhance cross-border trade in goods and services and (as discussed further below) can increase the size of the relevant market – which, other things equal, increases the number of firms which can thrive in the market.

3.4 Structural reform

- Naturally, competition cannot thrive without a reasonable number of independent market players. In those industries which were previously dominated by a single (usually state-owned) firm, the promotion of competition has almost always involved some kind of structural reform – particularly horizontal separation into competing companies.

- Structural separation of this kind is common, for example, in the electricity industry – many countries have split up the generation sector into a number of competing parts. In some cases, however, that separation did not go far enough. For example, for many years the electricity market in the UK was plagued with problems arising from the exercise of market power by the two dominant incumbent generating firms.

- Horizontal separation of this kind should be handled using the same tools as a competition authority would use to handle a merger proposal – that is, the relevant markets should be identified and (ideally) the separation should be carried out to the point where there is effective competition in all the relevant markets. Ideally, separation into two or more parts should be carried out if re-integration of those parts would be blocked by competition law. In markets in which the total market demand is small relative to the minimum efficient scale of operation of firms, a trade-off will need to be made between productive efficiency and enhancing competition. As mentioned earlier, the need for this trade-off can be reduced by increasing the size of the market by reducing barriers to international trade.

- In some countries, competition authorities have explicit powers to require changes to the structure of an industry (e.g., to force divestiture of certain facilities, perhaps as a remedy for an "abuse of dominance"). One of the most well-known cases of structural reform – the break-up of AT&T in the US – was the result of an antitrust action taken by the US competition authorities. In any case, given the expertise of the competition authority in defining the relevant markets and assessing the level of competition in markets with different structural arrangements, it is natural for the competition authority to be involved in such structural decisions. The competition authority in Mexico, for example, was closely involved in designing a competition-promoting structure of the Mexican rail sector.

- In addition to horizontal structural separation, other forms of separation may also prove to be important. Vertical separation of competitive and essential-facility elements of the industry are discussed further in section 5. It may also make sense to separate a monopoly business from any competitive businesses (even when the competitive businesses do not purchase any essential inputs from the incumbent) in order to prevent cross-subsidisation from regulated to competitive parts of the business. This was one of the reasons behind the break-up of AT&T. Similar concerns have also been expressed about possible cross-subsidisation of Deutsche Post's parcel business from its monopoly letter services, or possible cross-subsidisation at La Poste of its banking services.[6]

Example #1: Electricity Restructuring[7]

In a certain country there is an integrated incumbent electricity company. The network in this country consists of two regions connected by a single interconnector. The government decides to restructure this company by dividing the generators into four companies – one company for the "base load" and the "peaking" generation in each region. The government argues that this will create four independent generating companies which should be more than enough for effective competition (and indeed, it is more divestiture than some countries carried out in their electricity reforms). Each company only has a 25% share of the total generation capacity. Should your agency accept this plan?

Although four equal-sized competing firms would not be too problematic in many industries, key features of the electricity industry gives cause for concern. For example, the inelasticity of the demand curve in electricity implies that any given level of concentration will yield more market power in electricity than in other industries. In addition, since electricity cannot be economically stored in large quantities, it is important to differentiate electricity markets by time – market power is particularly likely to be high at times of peak demand.

In this example, the scope for competition across the regions depends on the size of the interconnector. Once the interconnector has reached its capacity the two regions are effectively isolated. If the capacity of the interconnector is small and often congested, these two regions would be better treated as two separate markets, significantly increasing the apparent concentration.

Furthermore, at off-peak times, only the "base load" generation will be active in the market. It can price up to the cost of the "peaking" generation without any risk that the peaking generation will increase output. Therefore, at least at off-peak times, the relevant market definition should focus on just the "base load" generation, again significantly increasing the apparent concentration.

In addition, the inelasticity of the demand curve for electricity means that, in any case, at peak times, once demand exceeds 75% of the total capacity any one of these four firms has unlimited market power (since it is required to produce some output to meet the total demand).

In summary, the proposed market structure is highly questionable. Possible improvements include increasing the interconnector capacity, reorganisation so that all four companies include both base load and peaking generation in a single generation portfolio and further separation in both regions – ideally to form at least four balanced companies in each region (eight firms in total). Whether or not such separation is possible will depend on the size of the market relative to the minimum efficient scale of each generating plant.

3.5 Competitive neutrality

- In many countries, the government itself is a major participant in certain markets, through so-called state-owned enterprises. But government owned firms do not always compete on an "equal footing" with other enterprises. In particular, government owned firms often benefit from favourable terms on inputs such as relief from taxes, implicit government-guarantee or borrowings, or discounted valuations on historic assets.[8]

- Promoting competition in these markets is often a matter of ensuring "competitive neutrality" – that is, promoting the famous "level playing field" between government-owned and private firms. This might require, for example, eliminating any implicit government guarantee on the borrowing of the state-owned enterprise. It is also likely to require placing strict limits on access to subsidies or aid of various kinds, such as the limits found in the EC Treaty.

- In many cases, when a dominant firm remains government owned it may be very difficult for the government to make a credible commitment that it will not act in a way to favour its own firm in the future. The inability to commit can itself be an obstacle to competition as potential entrants may fear entry if their entry or expansion would trigger a response by the government (perhaps in the form of higher subsidies to the state-owned enterprise). Privatisation, by allowing the government to commit to not favour any one firm over the others, can therefore be a tool for improving competitive neutrality and thereby promoting competition.

Example #2: Subsidies and cross-modal competition[9]

In a country the rail industry provides predominantly freight services and faces significant competition from other transport modes – particularly from road and water transport. The market share of the incumbent integrated rail company has been declining over time and the size of the subsidy from the government has been increasing. Your agency recommends splitting up the rail company into several competing entities, but the railway company responds that it already faces strong competition from other transport modes and therefore there can be no benefit – and only harm – from such restructuring. Is this argument valid?

The problem with this argument is that it ignores the impact of access to government subsidies on the incentives for efficiency within the rail mode. While it is true that competition from other transport modes limits the prices the rail mode can charge, as long as the government cannot commit to limit the subsidies to the rail sector, the incumbent rail company will have limited incentive to improve productivity, increase service quality and to be more responsive to customer desires.

Introducing competition within the rail mode allows the government to implement competition for the subsidy – thereby stimulating efficiency and minimising the size of the subsidy. Competition from other transport modes is of limited use in stimulating productivity in the presence of open-ended subsidies.

3.6 Removal of controls on the prices, output, range of goods and services that can be offered, or the forms of business organisation

- Firms cannot compete effectively if they do not have the freedom to lower their prices. In some industries, promoting competition is primarily a matter of removing price floors. Prices for many agricultural products, for example, have often been subject to a price floor. As another example, for many years there was a ceiling on the interest rate which retail banks in many countries were allowed to pay on transactions accounts.[10]

- In other industries, firms are or were limited in the services which they were allowed to provide – for example, historically, some countries limited the services that could be provided by trucks in order to preserve certain traffic for the rail sector. A few countries still place limits on "backhauls" by trucking firms, thereby forcing some trucks to return to their origin empty, effectively reducing competition at any given location to those firms which have trucks originating at that location.

- In still other industries, there are controls on the way in which firms may organise themselves. In some countries, for example, legal practitioners must be organised as partnerships and not as limited liability companies. In some countries pharmacies must be owned by a pharmacist and there are strict limits on the number of pharmacies a pharmacist can own. Such restrictions limit the extent of competition to pharmacies from large, efficient chain-store retailers. (Foreign ownership restrictions which may similarly limit competition were mentioned earlier).

- In some cases, limits on the dimensions over which firms can compete may facilitate collusion over the remaining dimensions. For example, in Italy, the government liberalised the price at which petrol stations could sell petrol, but retained controls on opening hours, and the other products and services which petrol stations could offer. The result was very limited competition on price (as petrol station owners feared sparking a price war if they lowered their prices). It was not until the government liberalised the other services provided by petrol stations that more effective competition emerged.

3.7 Encouraging demand-side responsiveness to prices

- Competition only operates effectively if buyers of goods and services are willing and able to seek out the best price-quality combination on offer. Competition does not operate very effectively if consumers are not very responsive to price – that is, if they do not reduce their output or switch to another supplier in the event of a price increase. In some industries – especially those which were previously supplied by a monopoly firm – consumers may have little experience in how to exercise their power to choose and may need to be actively encouraged to do so.

- The inelasticity of demand is particularly a problem in the electricity industry. Many countries have established an active wholesale or "spot" market for electricity. But the resulting spot price is often quite volatile. As a consequence, most end-users do not purchase directly on the spot market but, instead, purchase electricity combined with a form of insurance in the form of a fixed retail price for electricity which does not vary with the wholesale price. As a result generators face a wholesale demand which is almost completely unresponsive to the wholesale price in the short-term. This significantly increases the opportunities for the exercise of market power.

- In some cases the purchaser may not even care about the price paid – this might be the case for say, local government services, where the local government receives a substantial part of its revenue from central government. In this case promoting competition may involve taking steps to ensure that the local government has incentives to purchase as efficiently as possible.

- Even where end-users are directly exposed to the price, they may be reluctant to change to a different supplier if there are switching costs. Switching costs are a recognised problem, for example, in telecommunications. Customers may be unwilling to switch local

telecommunications service provider if doing so requires them to change their telephone number. As a result, many countries have implemented some form of "number portability" – allowing customers to keep their telephone number when switching suppliers.

- Similar issues also arise in banking. Some retail customers are deterred from switching banks due to the significant costs of re-organising any payments or receipts directly to or from their existing accounts. In an analogy with telecommunications, some commentators have proposed some form of "account number portability" as a tool for reducing the cost of switching between banks.

- In some cases, switching costs may be the result of a decision by the firm. For example, some firms deliberately use fixed-term contracts, or "loyalty" schemes to "lock in" customers. Frequent flyer programs, for example, are now virtually ubiquitous amongst the major (full-service) airlines. Concerns have arisen that these schemes may have the effect of reducing competition from smaller airlines. The EC has, on at least one occasion, taken action to reduce the consequences of loyalty schemes in airlines.

Example #3: Airline deregulation[11]

A country has a domestic airline monopoly. The government decides to enhance competition in its domestic airline industry. It proposes to do this by removing the barriers to entry by foreign or new domestic airlines. Do you foresee any problems with this approach?

Removing the barriers to entry is an important first step in liberalisation in this case, and could be expected to have an immediate impact on prices and services. In some countries this step alone may be sufficient to achieve an adequate level of competition. However, there are reasons to believe that the dominance of the incumbent airline will continue, for two reasons. First, many customers prefer travelling on an airline which offers more frequent services (i.e., there are economies of "route density"). This means that either a new entrant is forced to enter with a frequent service schedule and a high network density, or the incumbent has a competitive advantage.

More importantly, the incumbent can offer a wider variety of destinations and therefore can offer a more attractive frequent flyer programme. Again, this reduces the attractiveness of the new entrant airline relative to the incumbent.

Although it might be possible to offset these advantages through regulatory intervention (for example, the regulator might force the incumbent to allow access to its frequent flyer programme), it is likely to be easier to address these problems through structural changes, such as further division of the incumbent into competing parts.

3.8 Tariff-rebalancing and eliminating cross-subsidisation

- In many cases restrictions to competition are linked to the presence of tariffs which are in excess of underlying costs, often in order to provide some other services below cost. For example, many countries historically adopted the policy of charging above-cost for long-distance and international telecommunications services in order keep the cost of line rentals and local services as low as possible. In postal services and electricity it is common to charge geographically-uniform prices, even though the costs of providing services in remote and/or rural areas is much higher than in urban areas.

- The presence of below-cost services funded through internal cross-subsidisation is a major obstacle to competition. The reason is simple. If competition were allowed, new entrants would focus on the high-margin business (e.g., long-distance telecommunications services, or postal services in urban areas), thereby reducing the margins and eliminating the source of funds necessary to maintain the cross-subsidy. In other words, allowing competition places under threat either the financial viability of the incumbent or the continued provision of the subsidised services. Politically, the incumbent firm and the beneficiaries of the non-commercial services are likely to be powerful opponents of competition-oriented reform.

- Promoting competition in these circumstances requires either (a) rebalancing the tariffs so that all services are provided at a price which at least covers their incremental cost; or (b) establishing a separate mechanism for funding the non-commercial services. This mechanism might involve funding the non-commercial services from general government revenues or by establishing a "tax" on other services which is competitively neutral. In the case where the provision of competitive services requires access to an essential input (discussed in Section 5 below) this "tax" can, in principle, be included in the price of the essential input. Ideally, the tax or cross-subsidy should be made transparent to end-users.

Example #4: Universal Service and Competition[12]

A country has a goal of increasing the penetration of telecommunications services. At present the price for renting a domestic telephone line is kept very low, in order to promote take-up of this service. The cost of below-cost local telephone service is funded through cross-subsidies from long-distance and international service. These services are currently provided by a monopoly which has consistently resisted opening the market to competition on the grounds that it will undermine the country's universal service goals. Is there a way to promote universal service without sacrificing competition?

These two goals can be reconciled through, amongst other things, an explicit source of funds for providing below-cost local loops. These funds could be raised, for example, by a tax on certain telecommunications services – this tax could be on long-distance and international services (as it is at present) but would be more efficiently charged to local services for those consumers whose demand for telephone service is inelastic (where those consumers can be identified). Efficiency in the use of the funds could be ensured by careful targeting of the subsidies and the use of competitive tendering for the provision of service in below-cost areas.

Once a universal service funding mechanism of this kind has been established there is no conflict between competition and universal service – and, indeed, competition could be expected to enhance the penetration goal by strengthening incentives for productive efficiency and for creating innovative and desirable products and services.

4. Promoting competition in markets in which there may be a "market failure"

14. In some markets we cannot rely solely on competition, operating against the background of the "framework laws", to deliver the objectives set out in section 1. In these markets, some form of additional regulatory intervention is required.

15. The most appropriate intervention will differ from case to case, according to the market and the particular problem which is being addressed. However, as a general rule, this additional regulatory intervention should, as far as possible, be designed to facilitate rather than restrict competition. In some cases it may be necessary to restrict competition in some way. However, the restriction on competition

should be no greater than necessary to achieve the given objective and should be kept under review, so that it may be eliminated when market conditions change.

16. For example, in the case of many forms of professional services, some customers are not able to judge the quality of the services they will receive in advance. As a result, there is a danger that, in the absence of regulatory intervention, competition between providers will force quality down below the efficient level. This argument is used, for example, as an excuse for the need to limit entry into many professions.

17. In some cases, however, it may be possible to intervene in a way which does not restrict competition. For example, the government might seek to intervene by directly providing consumers information on the quality of services provided. Alternatively, mechanisms might be established by which consumers who have been wronged through low quality services can be compensated (such as through warranties or guaranties).

18. Where these are not feasible or effective it may be necessary to introduce minimum quality standards. Inevitably this implies a restriction on supply, as only those practitioners who meet certain standards would be allowed to provide services. However, this restriction on supply should be directly related to the need to ensure a minimum quality of services and should be set no higher than necessary to maintain the minimum quality of services. In some cases, where entry criteria have been stricter than necessary to provide certain services, new professions have been created with lower entry criteria, in order to stimulate competition. Examples include "licensed conveyors" in the legal profession and "nurse practitioners" in the medical professions.

19. Similar principles apply to say, the regulation of safety or the control of pollution. In each case the regulatory mechanism to control the harmful effect should be, as far as possible, compatible with market processes and should enable and encourage firms to allocate resources and to find new ways to meet the desired standards in the most efficient way possible.

20. The examples below illustrate these principles further. The first example illustrates a situation where it may be necessary to restrict competition somewhat to achieve a given objective. The second example illustrates how additional regulatory interventions can have a significant impact on the level of competition in the market.

Example #5: Taxi regulation[13]

A certain city currently has no regulatory controls on taxis. As a result there are a very large number of taxis operating – both motorised and pedal-powered. However concerns have arisen that these taxis are over-charging tourists (who are unaware of routes, distances, or appropriate fares), that fights are breaking out between taxi drivers over potential customers and that the taxis themselves are poorly maintained, with an unacceptable rate of accidents. The government has proposed a licensing regime which will significantly restrict the number of taxis allowed to operate. Your agency is invited to comment on this proposal. Should you oppose this proposal on the grounds that it is a clear restriction of competition?

It is true that this proposal will restrict competition. However there is also a potential "market failure" in that some users of taxis (especially those from out-of-town) are unaware of appropriate fares and are unable to assess the maintenance of the taxi before embarking. How should this market failure be addressed? One possible approach would be to educate taxi users about the need to "shop around" before accepting a ride. However, this might be impractical, especially at those sites (such as major airports) where efficiency of queuing essentially requires that customers take the first cab off the rank. As a result, it might be necessary to licence taxis, to impose standardised meters, and strictly enforce

rules that taxis take the shortest route. Even in this case, though, the number of taxi licences need not be restricted. Free entry and exit of taxi drivers will eliminate any rents and will determine the number of taxis available for service at any point in time. The taxi fares should be carefully calibrated to ensure that there is neither a shortage nor a surplus of taxis at both peak and off-peak times.

However, at the same time, locals who are highly familiar with routes, distances and fares and are able to "shop around" may not need such protection. Therefore, it may make sense to develop a "two-tier" taxi system with one tier highly regulated, with the right to service locations mostly used by newcomers to the city (e.g., airports and major hotels) and a second tier, largely unregulated, who can serve all other customers on demand. A two-tier system of this kind operates in the London metropolitan area.

Example #6: Bank regulation[14]

A particular country has no history of competition between banks – instead there has been a single, dominant, government-owned bank operating under strict controls which set a floor on the interest rate it can pay on deposits and a ceiling on the rate it can charge on its lending. The government decides that this is a sector which is potentially competitive and therefore decides to liberalise entry to the banking sector. At the same time the government decides to lift the controls on the state-owned bank. Should your agency support this proposal?

The liberalisation of entry and the removal of controls are to be welcomed but, in and of themselves, they may not be sufficient to achieve effective competition. In the absence of any further intervention, the outcome is likely to be that consumers are worse off than before. The reason is that consumers often find it difficult to assess the prudential risk taken on by a bank. Where this is the case, competition between banks will drive banks to increase their risk to the point where the risk of failure is unacceptably high. To avoid this outcome, consumers may decide that they are better off remaining with the state-owned bank, on the basis that it enjoys an explicit or implicit government guarantee. The net result is that there is unlikely to arise effective competition between banks. With the removal of interest rate controls, consumers are likely to be paid less for deposits and charged more for borrowing, leaving consumers worse off than before.

It may be possible to educate consumers about the need to assess the riskiness of the bank they choose. Laws requiring banks to disclose their credit risk would facilitate such comparisons. However, as long as the state-owned bank enjoys an implicit guarantee it will have a competitive advantage. Privatisation would eliminate this advantage but, where this is not politically feasible, the only remaining solution is to create a system of deposit insurance which removes the risk of loss of deposits from all competing banks. This would, naturally, need to be backed up by a system of prudential regulation and oversight of the competing banks. In this case, the regulatory infrastructure (in the form of prudential regulation of banks) is necessary in order to support competition between banks.

5. Competitive tendering or competition for-the-market

21. Earlier it was noted that it is not possible to rely on competition to deliver the government's objectives in those markets in which the only sustainable outcome in the long run is a single firm. This happens, for example, when the entire market demand can be produced more cheaply by a single firm than with two or more firms. Such markets are referred to as "natural monopolies". Almost all of the conventional "public utility" industries have significant "natural monopoly" elements.

22. In most countries, public utility services such electricity, telecommunications and water services have been for many years provided by a single monopoly firm in each region. This firm was sometimes

explicitly regulated by an arms-length regulator but often was state-owned and subject to implicit regulation. In the next section we will explore how in recent years competition has been promoted within the competitive parts of these industries. In this section we will focus on those cases where competition for-the-market has been used as an alternative to regulation of an integrated firm.

23. Suppose therefore that the government has decided that certain services will be provided by an integrated natural monopoly firm. In this case the government cannot rely on conventional competition in-the-market to deliver the objectives in section 1. Instead, the government has a choice between relying on regulation, or a form of competition for-the-market, in the form of "competitive tendering".

24. Under competitive tendering the government specifies the services it would like to see delivered (including the quality, variety, and so on), and any other obligations (such as investment requirements) and invites bids from interested firms – either in the form of the amount the bidder is willing to pay (or would be willing to accept) to provide the given services at the specified price or, alternatively, the price the bidder would charge for the service given the size of the subsidy offered by the government.

25. Competitive tendering is widely used in many countries, particular for those services which are conventionally the responsibility of local governments – such as solid waste disposal services, ambulance services, fire protection services or urban commuter rail services. In some countries competitive tendering of certain local government services is mandatory.

26. The effectiveness of competitive tendering in achieving the objectives above depends in part, of course, on the level of competition present in the tendering process. Many governments have explicit rules governing procurement processes which seek to maximise the degree of competition in competitive tendering for services.

27. Competition for-the-market can be enhanced through careful attention to the factors discussed earlier in section 3 – such as minimising barriers to entry, ensuring a competitive industry structure, and ensuring competitive neutrality between government-owned and private businesses. Barriers to entry can be reduced by, amongst other things, ensuring that the franchise is long enough to fully recover the costs of any sunk investments which must be made by the successful franchisee. Alternatively, the government could retain ownership of any long-lived assets required and lease them to the successful franchisee at pre-determined rates.

28. Problems can arise with competitive tendering when the incumbent franchisee acquires a competitive advantage over other rivals at the time when the franchise comes up for renewal. This advantage might arise from, say, "inside" knowledge, for example, on the quality of any assets involved, the likely need for future maintenance, and the cost of that maintenance. The incumbent might also have tied up in contracts any inputs which are in short supply such as personnel which have built up skills specific to the provision of the given service. The presence of a competitive advantage to the incumbent is a deterrent to bidding by rivals. In these cases governments can promote competition by taking actions such as ensuring that part of the existing workforce is taken over by the new successful franchisee, and by maintaining a pool of firms providing similar services in neighbouring franchises.

29. Competitive tendering does not eliminate the need for regulation – in fact, competitive tendering yields very high powered incentives on the successful franchisee to reduce expenditure to a minimum. This incentive must be balanced by a strong regulatory incentive to maintain service quality and to maintain the quality of any long-lived infrastructure which outlasts the franchise period.

30. Competitive tendering is very difficult in those circumstances where the decision by a successful franchisee to cease providing services imposes large costs on the government or on consumers. These costs

might arise from the costs of service interruption or from the costs of having to re-run the tendering process. Where these costs are large the government is subject to a "hold-up" problem ex post – the successful franchisee can seek to renegotiate the franchise terms and conditions ex post. Anticipating this, the franchise bidders may be over-optimistic ex ante. In the case of competitive tendering of rail services in the UK, many of the successful franchisees subsequently became insolvent. The government eventually decided to substantially increase the subsidies paid to existing franchisees.

31. The longer the franchise period, the greater the uncertainty over the evolution of the cost of providing the franchise services. If the franchisee faces a fixed price, the longer the franchise the greater the risk faced by the franchisee. For longer franchises, this risk can be reduced by allowing automatic processes for revising the franchise price. For very long franchises the price adjustment processes may, themselves, need to be revised by a neutral arbiter. In effect, the longer the franchise period, the closer that competitive tendering approaches to conventional regulation.

32. In summary, like other forms of regulation, the success of competitive tendering depends on effective regulatory institutions which have the incentives necessary to promote competition in the franchising process, to ensure that the franchise requirements are monitored ex post, and to ensure a successful transition when the franchise comes up for renewal.

Example #7: Non-commercial rail services[15]

A country wishes to reduce the subsidy involved in ensuring the provision of certain non-commercial passenger transportation services in a remote area. These services are currently provided by the incumbent, heavily subsidised, integrated monopoly rail company. The track gauge in this remote area is non-standard. The government proposes holding a competitive tendering process for rail services in this area. The government invites bids for the subsidy required to provide a given level of rail transport services in this area for one year. In the first year the only bid received is from the incumbent rail provider. In the following year your agency is approached for advice on how the level of competition in the competitive tendering process could be improved.

The decision to make use of competition for-the-market to minimise the cost and enhance the productivity of these services is commendable. However, the government's approach runs the risk that there will not be adequate competition in the tendering process. There are several features of the tendering process which might deter potential bidders from competing:

First, the incumbent, which already provides these services, is at a strong information advantage relative to other firms as to the true costs of providing these services. This can act as a deterrent to other firms bidding against the incumbent. Second, there is nothing in the bidding process which prevents the incumbent from cross-subsidising from its other monopoly services. Third, the fact that the track in this region is non-standard means that any investment by a new entrant in rolling stock or locomotives would be, in part, a sunk investment. The short length of the franchise period rules out the possibility that this sunk cost could be recovered over the life of the franchise.

There are several ways the tendering process could be improved. First, and most importantly, the range of potential bidders could be expanded by allowing other non-rail transport modes to bid to provide these services. Bus companies, especially, may be able to provide a service which meets the government's objectives. Second, the need for sunk investment should be eliminated by leasing any required rolling-stock and locomotives to the successful franchisee. The franchise period should probably also be extended to allow the franchisee to recover any other sunk costs. Finally, consideration could be given to preventing the incumbent from participating in the bidding process. In order to eliminate the risk of cross-subsidisation.

Example #8: Competition in local bus services[16]

A government is considering a thorough reform of local bus services. These are currently provided by a state-owned firm but the government has determined that there are little or no economies of scale in the provision of bus services and therefore decides to open this market up to competition. The government considered competition for-the-market in the form of competitive tendering but recognised that this implied an on-going regulatory role for the government in determining what services will be provided and at what quality and has instead proposed conventional in-the-market competition. The government argues that such competition will ensure that the services that people want will be provided, with a high level of efficiency and innovation. Should your agency support the proposed approach?

Unfortunately, the answer is probably no. In the case of local bus services (unlike, say, long-distance bus services), passengers do not purchase tickets in advance which commit them to travel on a certain company at a certain date and time. Instead, they merely wait for the first bus to come along. This means that any attempt by a local bus company to invest in a fixed operating schedule (by, say, announcing a schedule in advance and posting it at the bus stops) risks being "hijacked" by another bus company which simply operates its buses to arrive just before the announced times, thereby collecting all of the waiting passengers. The company which made the investment in the timetable is penalised for doing so. In addition, rival bus companies have an incentive to "race" each other to the next stop to be the first to collect the waiting passengers. In the absence of a fixed schedule, customers are less likely to choose to travel by bus.

These problems can be eliminated with competitive tendering for the right to operate certain routes. It is true that the government must specify the routes, fares and minimum quality standards and will have to enforce these requirements. But, on balance, these costs outweigh the problems arising from conventional in-the-market competition. In addition, certain other conditions could be imposed in the tendering process which enhance the inter-operability of the overall bus network (for example, ensuring through-ticketing, ensuring that certain connections are guaranteed and so on).

6. Access to essential facilities

33. In the previous section we looked at how, in some industries, it is possible to introduce a form of competition for the right to provide a given service while maintaining an integrated monopoly firm. But, in many of the traditional public utility industries this approach is simply infeasible for the bulk of the services provided by the industry. Instead, in most countries, governments have historically relied primarily on regulation of an integrated (usually state-owned) firm to achieve the objectives set out above.

34. But, on closer examination, we find that in virtually all of the traditional public utility industries there are parts of the industry which can sustain competition and other parts which are natural monopolies. Perhaps the most significant development in regulatory policy-making in the last twenty years has been the realisation that the objectives set out above can usually be better achieved by facilitating competition in those parts of the industry which can sustain competition.

35. The promotion of competition in the competitive parts of public utility industries involves, amongst other things, a shift in the focus of regulation away from the regulation of end-user prices and quality to a focus on the regulation on the prices and quality of essential inputs (also known as "access services"). Government intervention in the competitive segments of these industries can then be limited to the kinds of intervention set out in section 3 above (i.e., reducing barriers to entry, promoting a competitive structure, ensuring competitive neutrality, minimising switching costs and so on).

36. The primary advantage of regulating access to essential facilities is that, as already noted, it allows the government to rely primarily on competition to deliver the objectives set out above, reducing the

scope for regulation. A secondary benefit is that it allows incumbent firms to offer an expanded range of "seamless" services[17].

37. The primary disadvantages of mandating access to essential facilities are that (a) the task of the regulator in ensuring efficient prices and quality of access may in some respects be harder than the task of the regulator in ensuring efficient prices and quality of integrated end-user services; and (b) there may be a loss of certain economies of scope arising from the joint provision of the essential input and the competitive service within the same firm.

38. This section focuses on the case where the owner of the essential facility is also allowed to provide the competitive services. (The case of vertical separation is discussed in the next section). In this case, the incumbent is in a position to restrict the growth of competition in the competitive segment by raising the price or lowering the quality of access to the essential inputs. Depending on the nature of the regulation governing the incumbent, the incumbent may also have the incentive to use its position to restrict the development of competition. Therefore, in order for competition to develop in the competitive parts of these industries, the government must establish a mechanism for ensuring efficient and non-discriminatory access to the essential facilities provided by the incumbent.

39. Regulation of access to essential facilities is largely a regulation problem – that is, it is primarily a matter of ensuring that the required services are delivered, at the efficient quality and price, with on-going innovation and investment in the infrastructure. However, there are several ways in which the approach to the regulation of access also affects the level of competition in the competitive segments. We will focus on these aspects of the access regulation problem.

40. First, for effective competition to develop, the level and the structure of the access charges should be the same for all firms competing in the competitive segments. In the case where the owner of the essential facility also competes in the competitive segment, this implies, in particular, that the access charges paid by the rival firms should be the same as the access charge "paid" by the owner of the essential facility to itself. The price paid by the essential facility owner to itself can be inferred as equal to the downstream or end-user price less the marginal cost of the competitive segment. Many countries have forms of "imputation" or "price squeeze" tests which, in effect, seek to ensure that access charges do not exceed the end-user price less the marginal cost of the competitive segment. This price is also known as the "efficient component pricing rule".

41. Just as important as the level of the access charges is the question of the structure of the access charges. Where there is differentiation between the end-users, the incumbent may be able to price-discriminate in a way which divides the end-users into groups which each pay a different price. This differentiation may be efficient and may be necessary to fully recover the fixed costs of the essential facility. Such price-discrimination should also be reflected in the access prices – otherwise, if the access charges are set at an average level, the effect of competition will be to force down the price for those end-users which were paying higher-than-average prices, thereby eliminating the ability of the incumbent to efficiently price discriminate.[18]

42. Not only is the (relative) price charged to rival firms important in determining the resulting level of competition – but also the relative quality and timeliness of service. The incumbent may be able to provide service at a lower quality or with such a delay as to preserve the competitive advantage of its own downstream firm.

43. In the case where the essential facility has limited capacity, there may arise a point at which it is not technically possible to provide any more services from the essential facility. In this case economic efficiency requires that this limited capacity be rationed amongst the downstream firms in an efficient

manner. As usual, the most efficient way to ration capacity is through market prices. However, this raises a potential problem. If the regulator is unsure of the capacity of the facility, the incumbent firm may seek to limit the capacity, in order to limit the quantity of services available for its rivals and/or raise the market price.

44. In summary, when the owner of the essential facility also provides services in the competitive segment (and certain other conditions hold), the owner of the essential facility has both the ability and the incentive to restrict the development of competition. In this case, the development of competition depends strongly on the incentives and effectiveness of the regulator in setting efficient prices, quality and enforcing non-discriminatory access to the essential facility.

45. In most countries, competition law control on abuse of dominance would guarantee a form of access to essential facilities (since the failure to provide access to an essential input at acceptable terms and conditions would normally be classified as an abuse of dominance). In practice, it is not common to rely exclusively on competition law provisions to ensure effective and timely access to essential facilities. The reason is that most competition law provisions can only be enforced once a breach has occurred and the enforcement procedures are typically too slow and cumbersome to ensure timely access. As a result, it is common to mandate access to designated services in sector-specific legislation. Australia is one country which has a generic "access regime" in legislation (as part of the competition law) which ensures effective and timely access to any facilities which are designated to fall under the regime. However, there may be essential inputs which are not specifically mentioned in sector-specific legislation and for which new entrants must rely on enforcement of competition law to obtain access. Ensuring access to such inputs is usually a task which falls on the competition authority.

Example #9: Mandating access for mobile roaming[19]

A country has had free entry into the mobile telephone industry for many years. However only a very limited number of networks have been established. In fact, only two networks have a geographic coverage of the whole country. There is also a third network which covers the major cities (90% of the population of this country live in the major cities), but because consumers seem to have a strong preference for selecting a network with broad geographic reach, this last network is not seen as a viable alternative for many consumers. For many years the market shares of these businesses have remained largely static, with the largest network around 60% of the market, the next largest with 32% and the smallest network with 8%. Although there has been a significant amount of price competition in the mobile telephone industry in the past this competition has now "settled down" and prices have remained static, or have even increased slightly in real terms. The government of this country has become concerned that there is a lack of effective competition in the mobile industry and has sought the opinion of your agency as to what can be done. What do you recommend?

The economics of mobile networks is such that in regions with a high population density there is probably scope for several financially-viable networks operating simultaneously in the market. The problem is that as long as consumers prefer networks with a wide geographic reach, in order to compete in the urban market, a mobile company must also establish a network in remote areas. Put another way, the costs of duplicating the network in remote areas is reducing the level of competition in urban areas. In this context, by regulating to allow new entrant networks access to the existing networks in remote areas, there may be scope for significantly increasing competition in urban areas. One possible way to increase competition in this industry, therefore, is to introduce a requirement on the existing networks to provide "roaming" services to new entrant networks in remote areas, in exchange for payment of an access fee.

Example #10: Access for internet services[20]

An incumbent telecommunications company has a subsidiary which provides internet services in competition with other, independent internet service providers. Your agency is called upon to set the terms and conditions of access by internet service providers to the incumbent's telecommunications network. You have determined that the costs of providing the access service are approximately $10 million dollars and there is forecast demand for approximately 10 million hours of access, so you set the price for access at $1 per hour. However, subsequently the incumbent's internet service provider introduces a new retail price for its internet service. The new price is a price of $50 per month for unlimited access to the internet. This offer quickly proves very popular, especially amongst the heaviest users of the internet. The rival internet service providers complain to your agency that they cannot compete with this price. The incumbent points out that the average usage per customer is 50 hours per month, so that the rivals should be able to compete with this price.

While it is true that the average usage per customer is 50 hours per month, different customers will expect to have different levels of usage of the Internet and therefore will be attracted to different charging schemes. A "flat-rate" charging scheme is more attractive to heavy users and a "metered rate" charging scheme is more attractive to light users. By implementing the flat rate charging scheme the incumbent is able to "siphon off" the heaviest users (who may also be the most profitable), leaving its rivals with the smallest users.

The solution to this problem is to ensure that any price differentiation which is present in the retail charges should also be reflected in the access charges. If the incumbent offers a flat-rate retail charge to its retail customers, there must be a corresponding flat-rate access charge offered to its rivals to enable them to offer a competing retail charge with the same structure.

7. Vertical separation

46. The previous section discussed how, when the owner of the essential facility also competes in the provision of competitive services, the owner of the essential facility has an incentive to use its control over the price and quality of access to restrict the growth of competition downstream. The regulator will, of course, seek to control this behaviour, but the incumbent firm has a continual incentive to develop new ways to restrict the quality, reduce the timeliness and raise the price of access. The regulator faces an "uphill battle" in constantly controlling the actions of the regulated firm and is unlikely to be perfectly effective at controlling all such behaviour.[21]

47. Instead of attempting to control the behaviour of the regulated firm, the regulator may be able to achieve a higher level of competition by instead, controlling the incentive on the regulated firm to restrict competition by changing the structure of the ownership of the essential facility.

48. For example, it might be possible to arrange for "joint" or "club" ownership of the essential facility by all of the firms which compete in the downstream segment. For example, it is quite common for a group of airlines to jointly own an airport (or, at least, to jointly "own" the slot-coordination functions at an airport). A group of large gas consumers may choose to jointly own a gas pipeline, and so on. The primary competition policy concerns in this context are to ensure that the joint ownership does not become a mechanism for downstream collusion and to ensure that new members are admitted to the "club" on request.

49. An alternative, and sometimes simpler, arrangement is simply to prevent the owner of the essential facility from providing services in the competitive segment. In Australia, for example, airlines are

prevented from owning more than 5% of the shares in an airport. In many countries the electricity generation sector has been entirely separated from the transmission and distribution networks.

50. The primary advantage of separation of this kind is that it eliminates the incentive on the owner of the essential facility to deny access to rivals. It therefore makes the regulation task easier and likely leads to a higher level of downstream competition.

51. The primary disadvantage of separation of this kind is that it forces the loss of economies of scope that arise from the joint provision of the essential facilities and the competitive segments. Such costs include, for example, the costs of coordinating investment between the essential facility and the competitive segment, the cost of monitoring the downstream firms to ensure they do not cause damage to the essential facility, the cost of maintaining adequate quality and investment in the essential facility (as opposed to the cost of maintaining adequate quality and investment in the end-user services which make use of that facility); and the costs of not pricing access efficiently.

52. It will not always be efficient to prevent the owner of the infrastructure from providing competitive services of its own. Whether or not vertical separation is appropriate (and the most appropriate form of separation) will depend on a case-by-case analysis. However, in a number of industries it appears that vertical separation results in a material increase in competition, outweighing any possible losses from the foregone economies of scope. In particular, vertical separation is common in aviation and maritime transport, and is becoming increasingly common in the electricity and gas industries. It is not yet clear whether vertical separation is the most efficient approach in the rail industry. In any case, the optimal approach will, almost certainly vary form country to country and from industry to industry.

Example #11: Generator-transmission integration[22]

A country has several years of successful operation of a liberalised electricity market. In the process of establishing that market, the generation sector was separated from the electricity transmission and distribution networks. However recently the owner of a regulated transmission network has applied to purchase some major generation assets. In their application the applicants undertake to treat all generation in a non-discriminatory manner. Should this application be accepted?

This question comes down to whether or not such integration will give the incumbent owner of the transmission network the ability to discriminate against rival generators in a manner which is difficult to effectively control ex post. The factors over which the owner of the transmission network has control will depend on the design of the wholesale market. For example, it may be that the amount that each generator produces is determined by a “system operator” which is independent of the transmission owner. Nevertheless there are likely to remain a very large number of actions which the transmission owner can take which could restrict the output of rival generators – for example, by conducting maintenance on transmission lines to rival generators at peak times, or by failing to maintain those lines so that they have a higher failure rate, or by failing to upgrade facilities connecting to rival generators in a timely manner. The transmission owner may even have control over the ratings of the lines connecting to rival generators – it may decide that a lower rating on these lines is justified for safety or security reasons.

Many of these actions would be very hard to detect and even harder to prove as discriminatory. On balance it would seem to be undesirable to allow generators to re-integrate with a transmission network.

Example #12: Structural reform in the rail sector[23]

A country in transition (part of the former Soviet Union) has a dense rail network with major freight flows particularly on routes to and from the capital and on east-west trade routes with other countries. Railway services are currently provided by a government owned monopoly which suffers from low productivity. The railway monopoly has been loss-making overall but the government believes that certain services (particularly shipment of bulk freight) are profitable but, at the moment, does not know which services are profitable and which are not. The government is reluctant to see a reduction in passenger services (in some parts of the country the roads are impassable under certain weather conditions). The country has little experience with independent regulation and little knowledge of regulatory processes. Your agency is invited to make a proposal for competition-oriented reform.

As the discussion in this paper has highlighted, there are several ways to conceive of introducing competition into the rail sector. In particular, it is possible to conceive of competition between vertically-integrated rail companies (either competition for-the-market or competition in-the-market) or competition between train operating companies. The choice between these approaches will be, at least in part, a matter of balancing the pros and cons.

Mandating access to the infrastructure offers the potential for effective competition in train services. But the development of effective competition between train operating companies requires careful and effective regulation of access to the track infrastructure. While this might be possible to develop, the country's lack of experience and lack of tradition in regulation suggests that this will be difficult and may not be effective.

Given that the rail network is dense, it may be possible to divide the network up in such a way that there is competition between different rail companies on at least the major trade routes. Although this competition will inevitably be imperfect, it does not require complex and resource-intensive regulation of access to the track infrastructure. In addition, it may be possible to use competitive tendering to select a service provider on some parts of the infrastructure (such as spur lines or urban commuter networks which are currently loss-making). The rail company could be invited to nominate which parts of the network are unprofitable – these services could then be put out for competitive tender.

8. Regulatory institutions, processes and managing the transition

53. Effective regulation of the prices and services of natural monopoly firms requires skilled regulatory authorities. In order to protect investment by the firms they are regulating, it is conventional to require that these authorities are independent of the government, and transparent in their decision-making.[24] In the case where entry into competitive sectors requires access to an essential input, it is essential that the authority responsible for regulating access also be independent of the owner of the essential facility. (This may require, for example, a limit on the ability of the regulator to take up employment with the owner of the essential facility after the end of his/her appointment as a regulator).

54. There has been much discussion over whether it is better to have single or multi-sector regulatory agencies and whether there is value in combining regulatory and competition enforcement roles (as in Australia and, to an extent, the Netherlands).[25] The most appropriate structure is not yet clear. There is some suggestion that sector-specific agencies may eventually end up identifying closely with the interests and arguments of the sectors they regulate and, in some cases, may end up opposing the removal of regulation and/or the introduction of competition. This tendency is likely to be less in multi-sector regulatory authorities. An argument for combining the competition law enforcement role and the regulatory role is that it ensures a consistent approach to matters of market definition and assessments of the level of competition. Some commentators argue that combining the competition law enforcement and regulatory roles ensures that a competition-oriented "culture" and "mindset" permeates the regulatory

functions. In any case, the actions of regulatory authorities and competition authorities should be compatible and coordinated, for example through explicit coordinating agreements and institutions (such as regular meetings).

55. In many cases, the introduction of competition into competitive sectors has involved the establishment of quasi-regulatory not-for-profit entities tasked with ensuring non-discriminatory access to essential facilities. For example, in the aviation sector, many airports have established an authority responsible for allocating take-off and landing slots; in the electricity sector, responsibility for operating the electricity spot market and dispatching generators in the presence of transmission network limits is often in the hands of an independent, not-for-profit system operator. In the telecommunication industry, scarce resources such as numbering allocations or electronic addresses (including Internet domain names) are often managed by independent quasi-regulatory bodies. The governance of these bodies can also be important in ensuring the development of competition – in particular, these bodies should not be allowed to act in a discriminatory manner against existing firms or potential new entrants.

56. The introduction of competition into a formerly monopolised segment may involve a large potential disruption to incumbent firms and the creation of a large number of new institutions and processes which will take time to learn how to operate effectively. It may also take time for a new regulatory institution to develop a reputation for independence and credibility. For these reasons it is sometimes appropriate to consider a staged or gradualist introduction of competition. Many European countries, for example, are in the process of slowly opening their electricity market by reducing the size of the threshold above which electricity consumers are allowed to choose their electricity supplier. A primary consideration is that the transition process of opening to competition not be made contingent on the actions of the incumbent firms (for example, contingent on the development of a given level of competition at a given stage). Otherwise, the incumbent firms will have a further incentive to take action to delay or put off indefinitely the introduction of competition.

57. There are some economic arguments and some experience which suggests that a reform process is more likely to be successful when it involves bringing competition to many sectors simultaneously, instead of one at a time. Companies may be less resistant to the introduction of competition in their output markets when they expect that competition will simultaneously be introduced in their input markets – driving down the cost and improving the quality of the inputs they use. This is the primary reason why trade liberalisation talks simultaneously involve many sectors and many countries. The "National Competition Policy" reforms in Australia in the mid 1990s is a prime example of a broad-based attempt to enhance the level of competition across the economy. For many other countries, broad-based reform is a result of a "competition principle" enshrined in statutes or in a constitution (such as the EU treaty).[26]

58. There is one instance where simultaneous liberalisation is particularly important. In some industries there are restrictions on competition at two stages of the supply chain – for example, one firm may have a monopoly over gas production and transmission and another firm may have a monopoly over gas distribution and retailing (accounting for the majority of gas consumption). In this case liberalisation of this industry should occur on both levels at the same time. Liberalising the downstream industry alone risks heightening the market power of the upstream monopoly. Liberalising the upstream industry risks creating a downstream monopsony. Arguments of this kind have been used to justify delaying liberalisation of the gas industry in those countries whose primary source of gas is a single foreign producer.

59. Both theory and experience suggest that an economy-wide competition-oriented reform program is more likely to be successful when it does not rely on on-going political will, but rather empowers an institution with responsibility for either publicly advocating for reform or for directly carrying out the reforms themselves. For example, in Australia, the National Competition Policy reforms required state and local governments to carry out a review of existing legislation to assess its effect on competition. The task

of ensuring that these reviews were carried out was given to a new authority, known as the National Competition Council.

60. In many countries, the competition authority has a key role to play in promoting or, at least, guiding competition-oriented reforms. At a minimum, in some other countries the competition authority must be consulted on legislative or regulatory proposals which may have an impact on competition. In some countries, the competition authority may even have the right to participate in government bodies making decisions on, say, privatisation or trade liberalisation.[27] In some countries, the competition authority has the right to independently carry out investigations and to make public recommendations on the need for competition-oriented reforms. In a few cases (e.g., the EC and Korea) the head of the competition authority sits alongside other government ministers and is involved in making all key economic policy decisions.

61. In all these cases, the empowerment of an institution with the on-going task of promoting competition ensures that competition-oriented reforms can cover as much of the economy as possible without being subject to changing political enthusiasm for competition.

8. Conclusion

62. This paper has briefly surveyed the broad field known as “competition policy” with a particular focus on competition policy in regulated industries. Competition is a powerful tool for the promotion of efficiency and for ensuring that markets work to the ultimate benefit of users and consumers. Healthy, effective competition is not an accident but requires careful and deliberate intervention of the kinds set out here. Competition authorities have a key role to play in advocating for both greater reliance on competition and for implementing policies which will make that competition feasible, effective and sustained across all sectors of the economy.

Appendix

Empirical studies of the effects of increasing competition on microeconomic and macroeconomic performance indicators

A number of studies have attempted to find a link between either measures of competition or measures of government regulation, on one hand, and microeconomic and macroeconomic outcomes, on the other. Some of these studies are summarised below:[28]

On the link between competition-restricting regulation and productivity growth, Nicoletti and Scarpetta (2003) find that "reforms promoting private governance [i.e., privatisation] and competition … tend to boost productivity. In manufacturing the gains to be expected from lower entry barriers are greater the further a given country is from the technology leader. Thus, regulation limiting entry may hinder the adoption of existing technologies, possibly by reducing competitive pressures, technology spillovers, or the entry of new high-tech firms. At the same time, both privatisation and entry liberalisation are estimated to have a positive impact on productivity in all sectors…. These results … point to the potential benefits of regulatory reforms and privatisation, especially in those countries with large technology gaps and strict regulatory settings that curb incentives to adopt new technologies."

On the link between competition-restricting regulation and investment, Alesina, Ardagna, Nicoletti and Schiantarelli (2003) find that "tight regulation of the product markets has had a large negative effect on investment. The data for sectors that have experienced significant changes in the regulatory environment suggest that deregulation leads to greater investment in the long-run". "The implications … are clear: regulatory reforms, especially those that liberalise entry, are very likely to spur investment".

On the link between competition-restricting regulation and employment levels, Nicoletti and Scarpetta (2001) report that, although differences in employment protection laws, benefit policies and taxes explain much of the cross-country differences in employment rates, product-market regulation also has an impact. They estimate that pro-competition policy developments in New Zealand and the UK have added around 2.5 percentage points to their employment rate over the period the period 1978-1998. Countries with more modest reforms, such as Greece, Italy and Spain have only added between 0.5 and 1 per cent to the employment rates through such reforms. (This material is summarised in the addendum to the Secretariat note prepared for the second meeting of the Global Forum on Competition February 2002, CCNM/GF/COMP(2002)8).

On the link between competition and incentives to innovate, Carlin, Fries, Schaffer and Seabright (2001) and Carlin, Schaffer and Seabright (2004) find that a move from monopoly to some degree of competition (a few rivals) increases the rate of growth of sales and labour productivity and increases the incentive to innovate. However this effect is not monotonic – a further increase in the level of competition (as measured by the number of competitors) is associated with a slower rate of sales growth.

On the link between competition and antitrust enforcement and economic growth, Dutz and Hayri (1999) find that "the effectiveness of antitrust and competition policy enforcement is positively associated with long-run growth".

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NOTES

1. This paper was prepared by Darryl Biggar, a consultant for the OECD (13 January 2005). Email: darryl.biggar@stanfordalumni.org

2. The appendix to this paper briefly summarises some empirical studies on the benefits of competition-oriented reforms on different microeconomic and macroeconomic measures.

3. Fels (1999), page 13. Chadwick Teo of the Ministry of Trade and Industry in Singapore has summarised this succinctly: "Efficiency is the goal, competition is the process".

4. Economists refer to the circumstances under which competitive markets fail to deliver the objectives above as "market failures". The recognised sources of market failure are (a) natural monopoly and/or market power; (b) public goods; (c) externalities; and (d) asymmetric information.

5. See for example the work of the OECD Development Centre. They write: "The last few years have seen a growing awareness of the crippling effect of corruption on economic development. Corruption increases inequality, distorts the state's redistribution role, wastes human and financial resources and degrades public services. Several empirical studies have shown that it significantly lowers investment levels and the productivity of capital. These effects are especially harmful in developing countries, which have few resources and higher average levels of corruption than the industrialised countries.", OECD (2001a)

6. Even where competition is not directly enhanced, structural separation may improve the quality of regulation. For example, separation of a regional monopoly into a number of smaller regional monopolies may enhance the scope for inter-firm comparisons in the regulatory process (also known as yardstick competition or "competition by comparison").

7. This case study loosely reflects experiences in Australia. More information on electricity restructuring can be found in OECD (2003).

8. Government-owned firms also sometimes face competitive burdens which are not shared by their rivals, such as limits on the amount they can borrow, rules governing the terms and conditions on which they can hire labour, or, in some case, historic contracts which were entered into in the past at above-market prices which must be honoured (also known as "stranded costs").

9. This case study is loosely based on the experience of rail reform in New Zealand. More information on rail competition can be found in OECD (1998).

10. Maximum prices can also, in certain circumstances, restrict competition. This might be because the price ceiling restricts profitability and therefore reduces the incentive for entry. It might also be the case that the price ceiling acts as a "focal point" for collusive behaviour by firms in the market.

11. This case study is loosely based on experience in the UK. For more information see OECD (2000a).

12. Many countries have established universal service funding mechanisms of the kind described here. This issue was discussed in OECD (1995).

13. This case study is drawn from OECD (2001b)

14. This case study is drawn from OECD (1998b).

15. The issue of enhancing competition in procurement is discussed in OECD (1999) and OECD (2000b).

16. This case study is based on the experience in the UK. More information can be found in OECD (2001b).

17. Allowing access by one rail company to the track of another company allows the first rail company to provide a wider range of end-to-end services without the need for the passengers or freight to change trains. Allowing access by one post company to the delivery system of another allows customers of the first post company to deliver their letters to a wider range of addresses. Note that in both these examples mutual or reciprocal access is likely to be agreed even without government policy intervention.

18. For more on this see OECD (2004).

19. This case study is based on an issue which arose in Australia. For more information see OECD (2002) and OECD (2004).

20. This case study is based on an issue which is described in more detail in OECD (2002).

21. For more on this see OECD (2001d).

22. This case study is based on the experience in Australia and the US. More information on competition in the electricity industry can be found in OECD (2003a).

23. This case study is based on experiences with railway reform in China and Russia. See the OECD publications OECD (2001c) and OECD (2003b) and the forthcoming roundtable on structural reform in railways.

24. For more on this see Joskow (1998), page 26.

25. See, for example, the OECD report OECD (1999b)

26. This is discussed further in Heimler (1999).

27. The Romanian Competition Council participates in monthly meetings of the "Inter-Ministerial Group on Competition" which includes representatives of the Ministry of Economy and Trade, Ministry of Justice, Public Finance Ministry, Ministry of Communications and Information Technology, Ministry of Environment and Water Administration, Ministry of Health and Ministry of Education and Research.

28. See also the papers submitted for the Second Global Forum on Competition on the relationship between competition policy and economic development.