Institutional strategies within APEC for improving the microeconomic policy foundations of East Asia's economic performance — concept paper

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Executive Summary

Good microeconomic policy requires two things. The first is a commitment to the entrenchment of well functioning markets and to letting market competition determine economic outcomes in all circumstances where competition is appropriate. The second is good regulations (ie rules) to guide economic outcomes when competition is not appropriate.

Two sorts of institutional strategies are required to attain good microeconomic policy foundations. Good regulations require good supporting institutions to implement and enforce the rules. So countries need to identify the institutional frameworks they will need to support good regulatory regimes. But no economy starts out with the best regulations or supporting institutions. Instead they inherit a set of regulations and institutions that reflect their own unique history. Further, economic growth and technological developments mean that the areas where competition is appropriate can change over time.

Hence, countries also need to identify meta-institutional strategies that allow their existing regulatory structures and supporting institutions to evolve over time towards a changing ideal. In other words, they need to identify institutions to support the reform process itself.

This paper outlines the elements of good microeconomic policy, and the regulatory and institutional frameworks necessary to support it. It also outlines the institutional strategies to support the reform process. Key to this are mechanisms to review the desirability and performance of all existing and new regulations and institutions on an ongoing basis, and in a way that involves all relevant stakeholders.

The purpose of the paper is to lay down some possible regulatory and institutional benchmarks against which countries in the East Asian region can assess the frameworks within which micro economic or structural economic policy is made. Such reviews would encompass not just the regulations and institutions that govern current economic behaviour, but also the institutions that govern and help to guide and promote the process whereby policy and economic performance is improved. Once economies within the region have undertaken their own reviews, they will be better placed to make informed recommendations about how the APEC process could assist in developing better national policy institutions — those that govern performance, and those that deliver beneficial reform.

Institutions that support the reform process should be actively involved in identifying policy problems, consulting with all relevant stakeholders and developing reform options *before* policy proposals are put to government. Ideally, these institutions should have three key attributes:

- S*tatutory independence* — the institution(s) should not be bound by current government policy, so that in conducting policy reviews, they can be openly critical of current government regulatory initiatives, and of government policy more broadly. The ability to provide a full critique of current regulation is a necessary first step in proposing regulatory reforms.
- *An economy-wide view* — the institution(s) should be required to look beyond narrow sectional interests, and to consider *net* gains to the economy as a whole from any policy initiative.
- *Transparent processes* — when consulting with stakeholders, the institution(s) should conduct their consultations publicly, to ensure the transparency of the arguments and analysis put to it. The institution's reports to government should also be made public, to ensure the transparency of its own advice to government. Transparent processes bolster the ability of at least some countervailing interests to marshal against particular vested interests, so helping to ensure that an economy-wide view will be taken by policy makers. This can also relieve the government from having to marshal those countervailing interests itself.

Such institution(s) will need to have significant internal analytical capability, or be able to contract it in. This capability is necessary to identify regulatory best practice, to compare it to current practice, to assess who are the relevant stakeholders in moving from one to the other, to marshal arguments on behalf of some stakeholders in the event that they are too scattered or poorly organised to represent themselves, and to assess whether the balance of effects on all stakeholders represents a net gain to the economy as a whole. There will also need to be mechanisms to ensure the credibility of such institutions in the face of inevitable attacks from vested interests (both outside government and within).

The necessary characteristics of supporting institutions that can effectively implement and enforce the rules will depend on the nature of the economic problem being addressed. There are heavy or light handed approaches to regulation. There are also heavy or light handed approaches to enforcement. And since regulation is both a costly and risky activity, given the administrative and information problems involved, the best regulatory approach to many instances of market failure may be regulatory forbearance.

The first part of this paper gives a very broad overview of good microeconomic policy foundations, and the institutional mechanisms required to achieve and support them. Section 1 describes the benefits of well-functioning markets, including their ability to decentralise decision-making and thus economise on scarce regulatory resources. It also gives a very broad overview of the conditions under which market failures may occur, thus *potentially* warranting regulatory intervention. Section 2 describes the regulatory spectrum available to decision-makers to deal with particular instances of market failure. It discusses the relative strengths of each approach, and outlines the characteristics of 'good' and 'poor' regulation. Section 3 describes the policy development process, and discusses the characteristics of institutions that can support a reform process by reviewing existing regulation and devising and administering new regulation. In addition to institutions which have the above three key attributes, the policy development process also requires mechanisms to ensure policy coherence among different government departments. The chapter also briefly describes desirable characteristics of the institutions that implement and enforce regulation. These include independence, transparency and accountability.

The second part of the paper provides more detail about best practice regulation and supporting institutions in three particular circumstances in which governments might choose to intervene. Section 4 outlines the characteristics of good industry support programs. Whether or not these are motivated by considerations of market failure, there are still design and evaluation issues to consider to ensure that the programs actually achieve their stated objectives without unintended consequences. Section 5 gives a broad outline of the issues involved in regulating for natural monopoly in infrastructure industries. Section 6 outlines the principles of regulating social services. It also outlines some principles of good regulatory enforcement.

The third part of this paper outlines the national research agenda designed to identify institutional strategies within APEC for improving the microeconomic policy foundations of East Asia's economic performance. As noted in section 7, the crux of the research task is to identify regulatory and institutional gaps. Does each country have institutions with the necessary characteristics to support the reform process? Does each country have institutions with the necessary characteristics to implement and enforce regulations, once the regulatory decisions have been made. If not, are there strategies that can be used to nudge the current institutional structures in the right direction, and provide the necessary credibility? Can regional organisations such as APEC play a role, either in helping to move indigenous institutions in the right direction through sharing policy experience, or in supplementing their resources to help them perform the necessary tasks?

As already noted, the economic problems that might motivate economic regulation vary from one industry to the next. So the regulatory solutions vary, as do the cast of relevant stakeholders. Almost invariably, national regulatory and institutional stocktakes will need to be undertaken on an industry by industry basis. The final section of this paper is designed to bring together what is known about the nature of economic problems in each broad sector, and what is known about regulatory best practice, to ask a series of questions about whether the right regulatory and institutional structures are in place, and if not, whether the right review agencies or functions are available to promote the necessary regulatory reform. Inevitably, many of the questions are a *policy* review. But as noted in section 7, detailed answers about current *policy* are less important than what they imply for *institutional* reform, and possible strategies to achieve that reform.

Each economy will have a different set of policy priorities and its own set of challenges in terms of dealing with the institutional and regulatory bottlenecks to achieving higher productivity and better economic performance. These differences are a product of the history of each country's development, the stage of its economic growth, and its social and political circumstance. The paper attempts to cover the broad universe of possible problems and challenges. The determination of priorities is a matter of independent national choice.

Contents

1 Microeconomic policy foundations

1.1 Introduction

Good microeconomic policy requires two things. The first is a commitment to the entrenchment of well functioning markets and to letting market competition determine economic outcomes in all circumstances where competition is appropriate. The second is good regulations (ie rules) to guide economic outcomes when competition is not appropriate.

Two sorts of institutional strategies are required to attain good microeconomic policy foundations. Good regulations require good supporting institutions to implement and enforce the rules. So countries need to identify the institutional frameworks they will need to support good regulatory regimes. But no economy starts out with the best regulations or supporting institutions. Instead they inherit a set of regulations and institutions that reflect their own unique history. Further, economic growth and technological developments mean that the areas where competition is appropriate can change over time. Hence, countries also need to identify meta-institutional strategies that allow their existing regulatory structures and supporting institutions to evolve over time towards a changing ideal. In other words, they need to identify institutions to support the reform process itself.

This paper outlines the elements of good microeconomic policy, and the regulatory and institutional frameworks necessary to support it. It also outlines the institutional strategies to support the reform process. Key to this are mechanisms to review the desirability and performance of all existing and new regulations and institutions on an ongoing basis, and in a way that involves all relevant stakeholders.

The purpose of the paper is to lay down some possible regulatory and institutional benchmarks against which countries in the East Asian region can assess their own frameworks. Such reviews would encompass not just the regulations and institutions that govern current economic behaviour, but also the institutions that govern and help to guide and promote the reform process. Once economies of the region have undertaken their own internal reviews, they will be better placed to make informed recommendations about how the APEC process could assist them in developing the right institutions — those that govern performance, and those that deliver reform.

1.2 Microeconomic policy — competition is the key

The forces of competition can exert powerful pressure on producers to find the least cost way of serving customer needs, and to innovate in order to better serve those needs. Individual producers can benefit from any cost savings they make, in the form of higher profits. And consumers and downstream using industries can benefit as competition from other producers squeezes those profits and drives prices down towards costs. This dynamic process leads to prices that reflect production costs, and costs that are as low as possible. The first condition ensures allocative efficiency — resources are put to their best uses. The second ensures productive efficiency — the maximum output is achieved from those resources. Both types of efficiency ensure the highest possible levels of income.

Not only does competition help to maximise income levels, but it does so in an administratively efficient way. In theory, the same patterns of production and consumption could be achieved through a system of centralised decision-making. But the administrative requirements for such central planning are burdensome, and the information requirements for doing it successfully are prohibitive. By contrast, the market place achieves these outcomes in a decentralised way. No bureaucrat needs to decide which individuals should run which companies producing which products at what price. For countries where regulatory capacities are in short supply, this can be a significant benefit from letting the market place decide.

This is not to say that there are no administrative or legislative requirements for market competition. Basic laws are needed to set the boundaries of that competition. For example, corporations' law is needed to allow for limited liability companies, thus limiting the downside risks to shareholders from poor corporate performance. Accounting standards and disclosure requirements are needed so that shareholders and creditors can assess the economic performance of companies in a transparent way. Bankruptcy laws are needed so as to limit the downside risks to outside creditors of poor corporate performance. But no case-by-case decisions are needed about which producers should survive and which should go out of business.

Another benefit of competition and decentralised decision-making is that it can make an economy more flexible and robust to external shocks. Producers used to out-guessing rivals on a daily basis will be better placed to react to adverse global market developments than producers who have no rivals, or are used to being told what to do by bureaucrats. Furthermore, producers with rivals will have a financial incentive to be better informed than those rivals of likely global market developments. By contrast, bureaucrats have no profit motive to collect such information. Finally, producers with rivals are likely to be the best placed to respond to adverse shocks, because competition is likely to have weeded out the poorer performers. Small economies in particular need to be relatively open to global markets, because they do not have the variety of resources to produce everything at home. Flexibility is the key to protecting themselves from the variability of global markets. And competition can enhance flexibility.

Potential rivals are as important as actual ones. Even a monopoly supplier will be unable to inflate costs or profits on a sustained basis if this attracts the entry of a competitor who can produce at lower cost or with a smaller profit margin. So long as it is possible for a competitor to enter at any time with few irreversible costs, this will discipline an incumbent's behaviour. So the number of actual competitors is less important than the absence of barriers to entry and exit. Contestability is the key to effective competition.

As a corollary, good microeconomic policy means protecting competition, *not* protecting particular competitors. The difference is crucial, although it is not always observed, even in the most enlightened economies. The benefits of competition will only emerge if firms and workers have the incentive to enter into or exit out of specific activities. Entry, exit or survival of any particular player should not be preserved by administrative means. There is a growing body of empirical literature that supports the idea that the entry and exit of firms is a key determinant of productivity in developing countries (Roberts and Tybout 1997).

Foreign competition can play an important part. It can come from allowing cross-border trade to occur in an unimpeded fashion. It can come from allowing foreign direct investment, so that foreign suppliers set up a permanent local presence. The latter sort of competition can bring additional benefits, in the form of new capital, technologies and business processes. But any attempt to 'manage' the process by allowing only a specific number of foreign players, rather than allowing free entry and exit of foreign players, is an instance of protecting particular competitors, rather than protecting competition. Further, such managed competition risks handing over existing monopoly profits from domestic to a few foreign players, with little benefit to domestic consumers and users in the form of lower prices, and a net loss to the economy as a whole.

Competition from domestic new entrants is arguably even more important than foreign competition. A recent study examined the empirical evidence on the relative importance of discriminatory barriers to foreign competition, and non-discriminatory barriers to *any* new competition, among a group of East Asian economies. The results were striking. The gains to the region from unilaterally reforming the non-discriminatory restrictions on competition in seven selected services sectors were almost six times those from forming an East Asian preferential trade area, and three times those from a successful Doha Round (Dee 2005). East Asia need not fear that unleashing the forces of competition would see their economies overrun by foreign multinationals. The critical barriers to competition are often those protecting incumbents against domestic new entrants.

Promoting competition is a much broader agenda than putting in place competition law, narrowly defined. Anti-trust legislation is about ensuring that abuses of monopoly power do not occur. Competition policy, broadly defined, is about removing the barriers to entry and exit so that positions of monopoly power do not persist. This paper is more about the latter than the former.

Indeed, this paper is about competition policy in its broadest possible sense. The policy agenda includes removing barriers to foreign competition, be it from cross-border trade or from foreign direct investment, and not just for particular trading partners. It includes removing barriers to the entry of domestic new entrants, and allowing existing firms to exit the marketplace in an orderly fashion if the market dictates that they cannot survive. It includes ensuring that the minimum regulation exists to guide economic outcomes in those circumstances when markets alone may not deliver the most efficient outcomes. It includes ensuring that the right institutions are in place to review and remove the unnecessary impediments to the functioning of markets. It includes ensuring that the right institutions are in place to design, implement, enforce and review the functioning of more appropriate regulation. It includes devising strategies protect the credibility of those institutions, despite the inevitable attacks from special interests. It includes developing transparency of institutional processes, and nurturing an educated and informed commentariat, so as to bring economic policy making out of ‘smoke filled back rooms’ to help establish that credibility. Above all, it involves establishing a presumption in favour of *non*-intervention in the economy.

1.3 Markets can fail — competition is not always appropriate

There are situations, well known in theory but not always easy to identify in practice, where competition may not lead to the most efficient economic outcomes.

Some technologies, particularly in infrastructure industries, have natural monopoly characteristics, arising from economies of scale or scope. This means that a single firm can produce all the output(s) that the market requires more cheaply than could two or more firms. This poses the following policy dilemma. Introducing competition by allowing more than one firm may lead to productive inefficiency, so that total costs per unit of service are not at their lowest. But in the absence of competition (actual or threatened), the incumbent firm has an incentive to exploit its monopoly position by restricting output and inflating prices above costs. The consumers and users of the infrastructure service will face distorted price signals in making their usage decisions, leading to allocative inefficiency. The possible policy responses in this circumstance are discussed in generic terms in section 5, and specifically for a number of infrastructure industries in part 3 (section 8).

Some activities involve unpriced spillovers or externalities, so that market price signals do not convey the required information about the value of the activity to the economy as a whole. Some types of pollution involve negative externalities, because the pollution is disposed of using a medium (the air, a river) the use of which is unpriced. Recent policy solutions have involved creating markets for ‘use rights’ — making participants pay for the right to pollute the air or the river. Basic R&D is an activity that can convey a positive externality — other businesses may benefit from basic research (eg via reverse engineering, through the information disclosed in patents), but the original researcher is not able to charge for those returns. As a result, not enough socially beneficial R&D may be undertaken. Tax concessions and grants may ameliorate the problem, as may the public conduct of some R&D activity. Note that it is not the presence of spillovers per se that constitutes a market failure. Only where the spillovers are unpriced may there be a need for intervention, to establish the missing pricing mechanism (in the case of externalities) or additional public provision (in the case of public goods). In neither case, however, is there a case on efficiency grounds for limiting competition.

Finally, information asymmetries can create problems of market failure. The classic example is second hand car markets. If potential buyers cannot distinguish whether a particular car is a ‘lemon’, they will tend to discount the price of all used cars because of the risk. This in turn may deter the owners of better quality cars from selling — better quality competition is curtailed. In the extreme, quality may fall to such an extent that the market disappears altogether. Policy solutions include warranties, to help regulate for quality. Similar problems arise in the professions. The client is not in a position to judge whether the service being delivered is of reasonable quality, so licensing or accreditation requirements can help to bridge the information gap. The problems of regulating for quality are discussed generically in section 6, and specifically in part 3 (section 8).

1.4 There may be other objectives besides efficiency

Market competition can deliver efficient outcomes in many circumstances, maximising total income. But governments may have additional policy objectives besides economic efficiency. They often have equity objectives — either a concern for the overall distribution of income, or of particular services (eg telephone, internet), or a concern for certain vulnerable groups. They may also have concerns about safety, diversity, or any number of other objectives. They may also have concerns about the adjustment costs associated with policy reform.

The overriding principle of good microeconomic policy is to match the number of policy instruments to the number of economic objectives. Only then can more than one objective be achieved simultaneously. If a single policy instrument is used to achieve more than one objective, the result will be a trade-off, and neither objective will be achieved exactly. There are many cases where economies have adopted policies that have directly or indirectly curtailed market competition, in the interests of other objectives. This paper provides examples where instead, policy combinations can be used to meet other objectives without sacrificing the efficiency benefits of competitive markets.

Partly as a corollary, good microeconomic policy management means that if there is a policy problem (either a market failure, or suboptimal regulation currently), the first-best policy response is to fix the problem directly, rather than redirecting some other policy instrument towards that end.

On the other hand, good microeconomic policy also requires policy coherence — ensuring that different branches of government are not pursuing mutually inconsistent objectives, ensuring that they each have control of, or access to, the policy instruments that best deal with the economic problems under their responsibility, and ensuring that policy instruments designed to meet one problem do not unintentionally cut across the achievement of other objectives. Policy coherence requires policy coordination. This is discussed in more detail in section 3.

1.5 Governments can fail

All the administrative and information problems that beset central planning also beset the identification, design, implementation and enforcement of good economic regulation. So it is not surprising that even with the best of intentions, governments can fail. The next section looks at the characteristics of good and bad regulation in more detail. What needs to be recognised here is that regulation is risky.

Good regulation is also costly. The characteristics of good regulatory process are outlined in section 3. These processes can reduce the chance that bad regulation is instituted in the first place. They can also be used to review the performance of existing sub-optimal regulation, providing the logical underpinnings for regulatory reform. But they are very much slower and more costly than the processes that lead to bad regulation.

Given that regulation is both risky and costly, rationales for intervention based on market failures or other imperfections are a necessary, but not sufficient basis for regulation. In many cases, the risks and costs of regulation will outweigh the good intended from them — the best response to many market imperfections (though not to regulatory imperfections) will be to accept them as the lesser evil.

One key principle of good microeconomic policy is therefore to establish a presumption in favour of *non*-intervention — that markets be allowed to work unless there is *strong* evidence that the *economy-wide* benefits of regulation will outweigh the *economy-wide* costs, and that there are no other ways (such as dismantling other sub-optimal regulation) of dealing with the problem. Regulators themselves cannot always be trusted to adhere to this presumption, either because of regulatory capture, or because of regulatory self-interest. So it is important that the presumption is built into the mechanisms of regulatory review.

2 Principles of good regulation

2.1 The regulatory spectrum

Various forms of policy responses to a perceived problem are listed in Box 2.1.[1] They range from no action all the way to explicit government regulation. With a presumption in favour of *non*-intervention, the earlier options should be considered first whenever regulation is designed or reviewed.

Box 2.1 **The regulatory spectrum**

1. No government action or regulation
2. Government action of a non-regulatory nature (for example, information programs, market-based instruments)
3. Agreements negotiated between industry and government
4. Industry self-regulation
5. Quasi-regulation — industry based code of conduct or standard with government endorsement
6. Quasi-regulation — direct government involvement in the development and subsequent monitoring of an industry cost of practice or standard
7. Government guidelines to assist business meet legislative requirements by suggesting actions not specified in law
8. Co-regulation — codes of practice and standards embedded in regulation
9. “Black letter’ law — explicit government legislation

No specific action

As noted, given the substantial risks of government failure, this may be the best course of action. It can be supplemented by generic measures, such as general liability laws, insurance markets, bankruptcy laws, or a general social safety net. It may also be the appropriate action when a problem is caused by previous government action — a better solution may be to remove, simplify or amend the previous action.

[1] The material in this section is taken from ORR (1998), Coghlan (2000) and Banks (2003).

Information and education campaigns

This can be the best solution to problems caused by inadequate or asymmetric information. It has the advantage of allowing individuals to choose what is best for themselves given the information available, rather than imposing one solution on all.

Governments can pursue this strategy by collecting and disclosing information to the public. Alternatively, they can require companies to disclose information concerning their performance or about their product to the public. Labelling requirements are an example of the latter. Often, there is no attempt to monitor behaviour or to impose sanctions on those who do not comply.

Self-regulation

It is generally characterised by industry formulating rules and codes of conduct, with industry solely responsible for the enforcement. In some cases, governments may also be involved in a limited way, such as by providing advisory information.

Codes of conduct can be effective in establishing the *reputation* of practitioners, as an antidote to asymmetric information. Self-regulation is common among the professions and in the financial sector. Because the rules are made by the people in the industry being regulated, the regulations may be more likely to be observed. However, rules and codes of conduct can also be designed to protect or confer commercial advantage on one group over another, to exclude new entrants from an industry, fix prices or limit competition, when such behaviour is not warranted from an economy-wide perspective. Hence there may be a need to oversee self-regulation to ensure that the community benefits.

Quasi-regulation

This comprises a range of rules, instruments and standards developed by industry, where the government influences business to comply, but where the arrangements do not form part of explicit government regulation. Some examples of quasi-regulation include government endorsed industry codes of practice or standards, government agency guidance notes, industry-government agreements and national accreditation schemes.

The involvement by government in quasi-regulation, whether through official endorsement, representation on monitoring committees, provision of funding or other help to industry, can enhance industry compliance with the particular code, standard or arrangement.

Co-regulation

This refers to a situation where industry develops and administers its own arrangements, but government provides legislative backing to enable the arrangements to be enforced. This is known as 'underpinning' of codes and standards. Sometimes legislation sets out mandatory government standards, but provides that an industry code can override those standards. Legislation may also provide for government imposed arrangements in the event that industry does not develop arrangements of its own.

Although the co-regulatory arrangements may be designed by industry, they would normally be subject to the government's regulation making and review process, to demonstrate that the best option has been chosen.

Benefits and costs of self-regulation, quasi-regulation and co-regulation

There are potential advantages of self-regulation, quasi-regulation and co-regulation, compared to direct government legislation. They can involve lower government administration costs, because the regulations are developed and often administered by business. They can also involve lower compliance costs for business. They can be better targeted, by being tailored to specific needs. They can be also be more flexible, being quicker to implement or amend. They often incorporate innovative inducements for compliance and sanctions against non-compliance, and have greater credibility because they are developed by industry, not imposed by governments. They can also provide greater responsiveness to consumer needs, by incorporating complaints mechanisms.

However, they can create unwarranted restrictions on competition, through barriers to entry, restrictions on advertising, prescribed prices, etc. They can create an incentive for 'free-riding', and the sanctions against non-compliance may be ineffective, even though government involvement may have created an expectation of compliance. Where they impose minimum standards, these forms of regulation can reduce consumer choice. Businesses may not have the resources or capacity to develop or administer quasi-regulation. Alternatively, the regulatory requirements may not be clear.

Further, there is often a lack of government justification and risk assessment for quasi-regulation. It gives much discretion to regulators, and because of its convenience and lack of scrutiny, it can be used as 'backdoor regulation'. It can also result in a shifting of costs to industry because of the substantial resources involved in developing and administering an industry-based scheme. Small business in particular may lack the resources and expertise to operate under performance-based regulation, and may prefer the certainty of prescriptive regulation.

Government legislation

Legislation has three main characteristics: it attempts to change behaviour by detailing how regulated entities should act; it generally relies on government inspectors and/or monitoring to detect non-compliance; and it imposes punitive sanctions (such as fines) if the regulations are not complied with. This approach establishes clear and standardised rules and can be successful for addressing well-defined and stable problems.

Some forms of government legislation can be much more interventionist than others. At the ‘lighter’ end of the spectrum may be taxes, fees and fines, business registrations and so forth. At the heavy-handed end may be prohibitions on certain business activities, barriers to entry in certain industries, price controls and other operational restrictions on business.

At the light end of the spectrum, *market-based instruments* such as taxes, subsidies or user charges can provide economic incentives to change behaviour. They can be more efficient than prescriptive regulation because they allow individuals to make their own cost-benefit tradeoffs in pursuing certain behaviour. So they can achieve the desired regulatory outcomes in the least cost ways. However, the outcomes from these approaches are less certain than those associated with (effective) prescriptive regulation.

Similarly, *tradeable property rights* can be used as an alternative to issuing licences and permits to limit production or consumption. Making the rights tradeable in a market ensures that the rights go to the people who are most prepared to pay for them. These will be the people who can limit their production or consumption in the least cost ways. So again, these are instruments to ensure regulatory targets are achieved in an efficiency way.

Another consideration, which applies across the regulatory spectrum, is the distinction between prescriptive (‘command and control’) regulation and performance/outcome oriented regulation. Performance-based regulation is widely seen as appropriate for building flexibility into regulation and for encouraging innovation. By focusing on the outcomes required, rather than prescribing the precise means of achieving those outcomes, this approach gives business the opportunity to achieve those regulatory objectives in ways that suit their needs and minimise compliance costs.

Benefits and costs of government legislation

Explicit government legislation is often considered to offer more certainty, including industry-wide coverage, and greater effectiveness compared to other forms of regulation because of the availability of legal sanction. It is often preferred by regulators, particularly in dealing with high risk, high impact public issues. In some circumstances, compliance costs might be lower for legislation due to greater certainty.

However, government legislation can also have drawbacks. It may be inflexible, not dealing adequately with diverse conditions or changes over time. In one extreme, it may become irrelevant; at the other, it may impede technological progress and innovation. Its inflexibility may also lead to more and more regulation over time, to cover its inadequacies. It can be slow to implement or to amend. It can impose high budgetary costs, and there can be less accountability for administrative costs, compared to other regulatory forms which use the resources of commerce or industry. It can also impose high compliance costs, as the law often does not reflect accepted commercial practices.

This form of regulation is generally subject to scrutiny from the legislature and from the government's regulation making and review processes (if any). However, in some jurisdictions, primary legislation may not contain specific provisions, but rather overall guidelines for what the legislation is intended to do. The actual implementation may be delegated to a second tier — delegated legislation. Some forms of delegated legislation may be subject to limited scrutiny by the legislature, but considerably less so than for primary legislation. Other forms of delegated legislation may be the sole responsibility of Ministers, relevant boards and officials, this avoiding scrutiny from the legislature or public review processes.

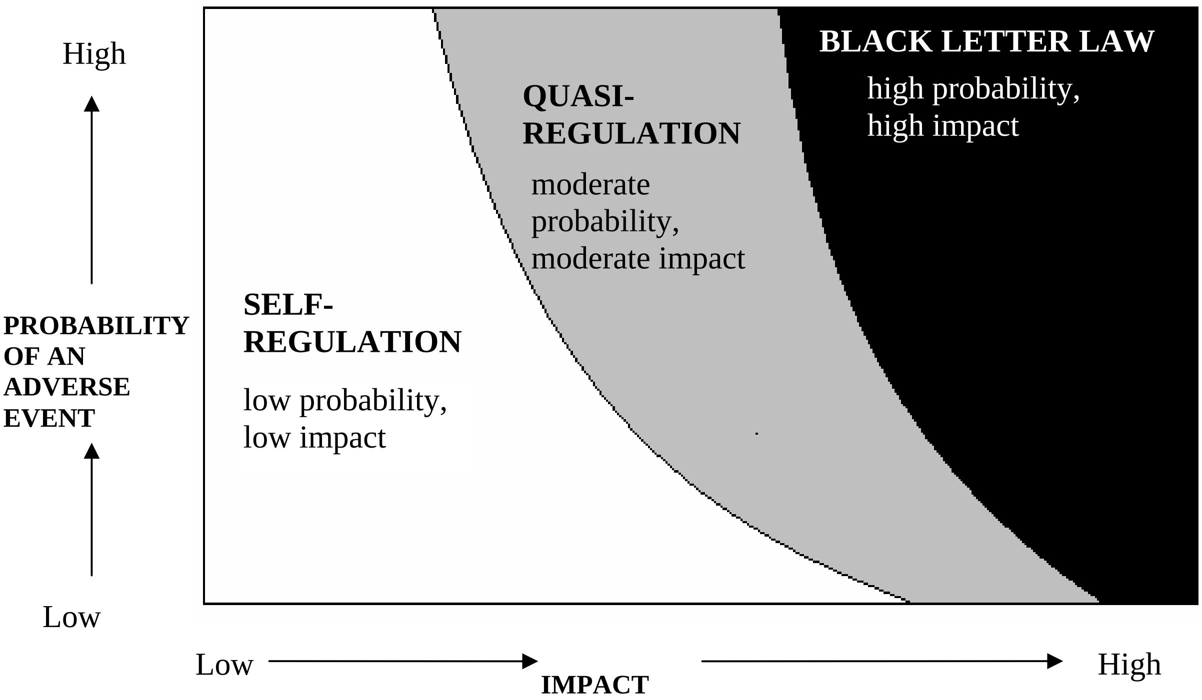
2.2 Choosing from the regulatory spectrum

An important principle is that regulation should be the minimum necessary to achieve the stated objectives. So the form of regulation will depend on the nature of the problem — the extent of risk, the severity of impact, the nature of the industry concerned, and the need for flexibility or certainty in any regulatory arrangement.

This is summarised in Figure 2.1. Matters where the potential damage is minimal might best be left to the market or industry itself to correct, irrespective of the extent of risk. Matters with moderate probability and/or moderate impact may best be handled by a relatively 'light-handed' regulatory approach. Matters with high probability and/or high impacts may warrant highly interventionist regulation.

For example, the probability of a mid-air collision between two aircraft might be very low, but, should it eventuate, the consequences would be great. Such a matter is likely to justify explicit government regulation. In contrast, the risk of someone being overcharged for a supermarket item may have moderate probability, but the impact is quite low. This event should be left to the industry and not addressed by government regulation.

Figure 2.1 **Notional relationships between risk and regulatory forms**



The choice of appropriate regulatory instrument depends not just on the nature of the problem, but also on the relative strengths and weaknesses of the various regulatory instruments. The following is a possible checklist for assessing the suitability of various forms of regulation.

Self-regulation should be considered where:

- there is no strong public interest concern, in particular, no major public health and safety concern;
- the problem is a low risk event, of low impact/significance; and
- the market can fix the problem itself — for example, there may be an incentive for individuals or groups to develop and comply with self-regulatory arrangements (for example for industry survival or market advantage).

The likelihood of self-regulatory schemes being successful is increased if there is:

- adequate coverage of the industry concerned;
- a viable industry association;
- a cohesive industry with like-minded/motivated participants committed to achieve the goals; and
- evidence that voluntary participation can work — effective sanctions and incentives can be applied, with low scope for the benefits being shared by non-participants.

Quasi-regulation should be considered where:

- there is a public interest in some government involvement in regulatory arrangements and the issue is unlikely to be addressed by self-regulation;
- government is not convinced of the need to develop or mandate a code for the whole industry;
- there are cost advantages from flexible, tailor made solutions and less formal mechanisms such as access to speedy, low cost complaints handling and redress mechanisms;
- there are advantages in the government engaging in a collaborative approach with industry and industry having substantial ownership of the scheme.

Explicit government regulation should be considered where:

- the problem is high risk, of high impact/significance, for example, a major public health and safety issue;
- the government requires the certainty provided by legal sanctions;
- universal application is required;
- there is systemic compliance problem with a history of intractable disputes and repeated or flagrant breaches of fair trading principles and no possibility of effective sanctions being applied; and
- existing industry bodies lack adequate coverage of industry participants, are inadequately resourced or do not have strong regulatory commitment.

This checklist can assist in the choice of regulatory instrument, but it cannot substitute for a formal testing of the effectiveness and the likely costs and benefits of different regulatory options discussed later.

2.3 Features of poor regulation

Consideration of some of the characteristics of poor and ineffective regulation can provide further clues as to essential principles of good regulation.

Failure to enforce the regulation

No regulation will be effective unless it is enforceable and enforced. Ideal regulation will have the widespread support of those who have to comply with it and so can be largely self-enforcing. In cases where more direct government pressure is needed to enforce the regulation with suitable penalties and other sanctions, adequate resources must be allocated to that task. If not, the regulation will be ignored and be ineffective, and that could contribute to a culture of non-compliance with other laws. The principles of enforcement are discussed in more detail in section 6.

Unintended consequences

Regulations explicitly or implicitly alter prices, resulting in demand or supply effects that may frustrate the goals.

On the demand side, regulations may fail if they do not take into account how people respond to regulatory-induced price increases. For instance, safety measures tend to drive up costs and therefore the prices of regulated products and services. This can have perverse effects if consumers and users substitute into more dangerous alternatives.

On the supply side, interest rate caps imposed as a measure to assist small business can make it less attractive for banks to lend to small business, given the relative risks involved. The result can be reduced credit availability for small business, undermining the original goal. Generally, price ceilings imposed on suppliers who are free to alter supply will have perverse, or at least unexpected, consequences.

A recent case study showing the dangers of paying insufficient attention to both the supply and demand sides was the notorious Californian electricity crisis. This was the result of poorly coordinated regulation. Electricity wholesalers were playing ‘pig in the middle’ — squeezed by price caps at the retail end and high prices charged by generators whose capacity had been constrained by past regulatory initiatives. The financial insecurity of wholesalers eventually led to rolling blackouts and economic dislocation for the state. Even sophisticated regulators can make mistakes.

Another example of unintended consequences is when government assistance to industry is provided via restrictions on land use. Zoning laws that forbid the establishment of new discount stores in certain geographical areas (as in Thailand) or restrictions on the use of land for sugar production (as in Indonesia and Fiji) may be designed to help incumbent producers. But the value of that assistance may simply be capitalised into the value of land. The original incumbent may benefit, but any new operator who buys into the business has to pay a price for the land that reflects the discounted present value of the industry assistance. So subsequent operators simply face higher costs costs. This method of dissipating government assistance also occurs in other contexts (Tullock 1975).

Too much scope for discretion

It is always a difficult judgement to know how much detail should be embedded in regulation. If there is too little detail, the officials who administer the regulation may be given too much scope for discretion in interpreting the regulation. This effectively shifts power from the legislature to officials. Too much scope for interpretation of regulation by officials increases uncertainty for those regulated, and can raise compliance costs (including through corruption).

In contrast, very detailed and highly prescriptive regulation runs the risk of being inflexible by specifying how those regulated must go about complying. Where regulations set down subsidiary rather than fundamental objectives as requirements, this runs the risk that while the subsidiary requirement is met, the underlying purpose of the regulation may not be. For example, a concern about the conservation of certain animal species has sometimes led to bans on commercial exploitation, but in the process this has destroyed any commercial incentives for conservation.

'Thirty different governments'

When there is a lack of consistency and coordination among different government agencies, businesses can feel they are confronted by many separate governments. Such perceptions have led some jurisdictions to set up 'one stop shop' facilities to assist businesses. There can also be a lack of coordination cross different levels of government — federal, state (or provincial), and local.

Lack of transparency

Regulation will not be effective, and certainly not efficient, if those who must comply have substantial difficulty gaining knowledge of what it is they must comply with, and how they must comply. Primary legislation may need to be tabled in the legislature, but delegated legislation need not be. Quasi-regulation may be even more inaccessible still. For example, a standard may be embedded in legislation, if it has been set by a non-government body, it may be necessary to go to that body to determine the detail of the regulation to be complied with. E-government initiatives have facilitated moves such as establishing a Business Entry Point to provide information about regulation, licensing and operating requirements. But accessibility needs to be considered in the design of regulation.

High compliance costs

Even when businesses or individuals may have no disputes about the nature of particular regulations, there may be substantial concerns about unreasonable compliance costs. Compliance costs can affect small and medium sized enterprises particularly heavily, as they tend to be fixed costs, and larger businesses can spread them over a larger operation. Compliance costs can be particularly high in areas such as taxation, where successive waves of regulation have been required to patch up loopholes in existing legislation, where constant change has made it difficult to know what must be complied with, and where complexity of the regulation means that professional help must be sought to ensure compliance. High compliance costs are evident in the strong growth of 'information asymmetry' industries, such as tax consultants, financial advisors and other experts.

2.4 Characteristics of 'good' regulation

The discussion of when governments should regulate, the different forms the regulation should take, and some features of poor regulations, can now be drawn together into essential characteristics of effective and efficient regulation. Defining what is good regulation is a starting point for doing better.

1. *It must actually have a clear benefit.* It should have a sound rationale and be shown to bring a *net* benefit to the community, not just to one particular group or sector.

2. *It must be better* than any alternative regulation or policy tool. It is not enough to compare a regulation to a counterfactual of no regulation, but to compare outcomes across all feasible policy alternatives.

3. *It must be robust to errors* in the assumptions underlying it. While portrayed as a dull bureaucratic process, many regulations could be more aptly likened to risky experiments. The regulatory appraisal process should take explicit account of the likely outcomes if the regulator turns out to be wrong about aspects of the effects of regulation. Certain errors may completely overturn the gains from the regulations and knowledge of these may make it sensible to redesign the regulation or, in some cases, not to proceed at all.

4. *It should contain the seeds of its own destruction.* Good regulations should not presume their own immortality, but allow for ongoing appraisal of their risks and continued effectiveness. If regulation endures, that should be because it continues to pass stringent tests.

5. *It should state (ex ante) what it is going to do* and, as far as possible, establish verifiable performance criteria. This tests a regulation for precision and relevance, and provides a basis for assessment of ex post effectiveness.

6. *It should be clear and concise.* It should also be communicated effectively and be readily accessible to those affected by it. Not only should people be able to find out what regulations apply to them, the regulations themselves must be capable of being readily understood.

7. *It should be consistent* with other laws, agreements and international obligations. Inconsistency can create division, confusion and waste.

8. *It must be enforceable.* But it should embody incentives and disciplines no greater than are needed for reasonable enforcement, and involve adequate resources for that purpose.

9. *It needs to be administered by accountable bodies* in a fair and consistent manner, Governance arrangements for regulators are discussed in the next section. Apart from the nature of reporting responsibilities (to a Minister or to the legislature) and the scope for judicial and administrative review, important features of good governance include clear statutory guidance, transparency of both process and judgement, and public accessibility.

3 Good institutions to devise and administer regulation

3.1 Institutions to devise good regulation

Good regulation does not just happen.[2] It requires good processes, with the right institutions, to design new regulation and to review existing regulation. This is the subject of the current subsection. It requires good institutions to administer and enforce the regulation. That is the subject of the next subsection.

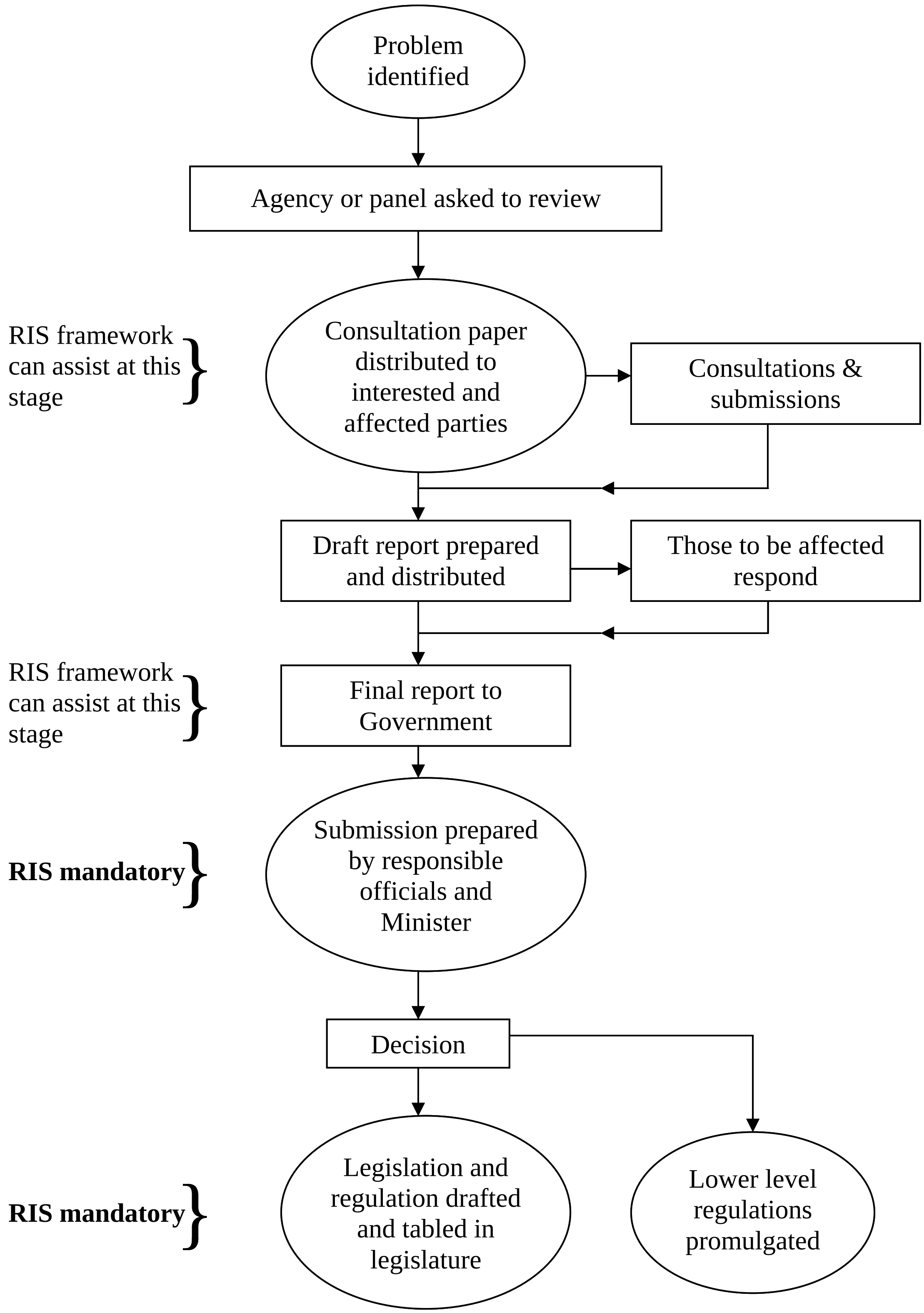
Good regulatory design requires stringent ex ante assessment procedures. But because these are themselves costly, time-consuming and seen as ‘getting in the way of regulators going their job’, there may also need to be independent verification that that ex ante assessment procedures are used. Improved transparency and independent assessment can also help to provide greater discipline on regulation-making.

The same processes can also be used to review existing regulations to test how they can be improved, or whether they have outlived their usefulness.

Figure 3.1 shows an ideal policy development process. The figure presupposes having certain institutions, or at least institutional divisions. However, the ideal development process does not depend on having those exact institutions — other institutions could perform the same functions, depending on the system of government. What is important is the functions themselves. When countries of the East Asian region review their own regulatory frameworks, they may want to assess whether they have institutions within their own systems of government that do, or could potentially, perform the same functions.

[2] Parts of this section are taken from Coghlan (2000), PC (1998) and Banks (2003).

Figure 3.1 **Stylised policy development process**



At the very *end* of the ideal process, a policy proposal is put to government by the responsible officials and Minister, and a decision is made as to the appropriate form of regulation. In a parliamentary system, this decision is often made by Cabinet, a grouping of all government Ministers. When a Minister makes a submission to Cabinet, other Ministers can scrutinise the proposal, although this Cabinet scrutiny is typically not made public. In a presidential system, the decision may be made by the executive branch, with scrutiny only from within the presidential office.

If the decision is to implement ‘black letter law’, then legislation will be drafted and tabled in the legislature. This allows for public debate and scrutiny by members of both the ruling government and opposition parties. If the decision is to institute lower level regulations of any sort, these will typically not be tabled in the legislature.

Sometimes the policy development process does not work in an ideal fashion, and the above process is *all* that takes place, once a problem has been identified. In this case, there is very little scope for those other than the responsible Minister to have input into the decision-making process. And there is no public scrutiny, if at all, until after the decision is made.

When the system works in an ideal fashion, a great deal of policy development work takes place *before* a proposal is put to government. This policy development process involves:

- *review* — an agency or panel reviews the problem and all its possible regulatory solutions (including dismantling existing regulation, if that is the cause of the problem);
- *consultation* — ideally, there would be two rounds of consultation with all relevant stakeholders, one at the inception of the review as the review panel or agency is starting to develop its ideas, and again after the preparation of a draft report that outlines the full analysis and possible regulatory solutions (sometimes, but not always, including a preferred solution at the draft stage).

The review agency then puts a final report to government, which can provide input into the final government decision.

Some institutional examples of good policy development process

In Australia, for example, the initial policy review and consultation is sometimes undertaken by an agency called the Productivity Commission. While this particular agency is rarely found in its exact form in other countries, it has three key attributes that ensure high quality regulatory review.

- S*tatutory independence* — the agency is established via an Act of Parliament as a statutorily independent agency, meaning that it is not bound by current government policy. Hence, in conducting its reviews, its reports can be openly critical of current government regulatory initiatives, and of government policy more broadly. The ability to provide a full critique of current regulation is a necessary first step in proposing regulatory reforms. Nevertheless, an organisation of this sort needs to have the resources to ensure that its critical analysis is of the highest possible quality, if it is to survive.
- *An economy-wide view* — the agency is required to look beyond narrow sectional interests, and to consider *net* gains to the economy as a whole. This requirement has been seen as sufficiently critical to be formally enshrined as a policy guideline in the legislation creating the agency.
- *Transparent processes* — the agency conducts public hearings, which ensures the transparency of the arguments and analysis put to it. The agency's reports to government are also made public, which ensures the transparency of its own advice to government. Transparent processes bolster the ability of at least some countervailing interests to marshal against particular vested interests, so helping to ensure that an economy-wide view will be taken by policy makers. This can also relieve the government from having to marshal those countervailing interests itself.

A requirement to take an economy-wide view is critical, and a requirement to consult widely is not enough, for two reasons. Without a requirement to take all views into account, a review agency may simply ignore some views. More importantly, one key group of stakeholders — consumers — rarely participate in public consultation processes. In many countries, consumer interest groups are active on consumer safety issues, but rarely participate on matters of economic efficiency. Having a review agency required to take an economy-wide view ensures that consumer interests are taken into account, as well as the interests of producers and downstream using industries. This is better accomplished if the agency has the analytical resources, including skills in partial and general equilibrium modelling and cost benefit analysis, to estimate the gains or losses in consumer surplus as well as producer surplus from any reform initiative.

Such an agency cannot possibly undertake the policy development for every single policy proposal. But it is particularly useful in those policy areas where there are major potential efficiency or other payoffs to the community from change, but where existing entitlements create resistance to reform. Referring such issues to a statutorily independent body can help to de-politicise them, and allow breathing space for more careful analysis.

The government need not be bound by the recommendations of such an agency. For example, in Australia the government quite frequently modifies aspects of the recommendations made by the Productivity Commission when implementing them, and occasionally rejects its recommendations, in whole or in part. Indeed, this is the 'other side of the coin' to its statutory independence. Nevertheless, an agency can still have influence, even if it can be ignored, for several reasons:

- transparent processes have influence, and such an agency can 'name and shame' the beneficiaries of special-interest policy deals; and
- ideas have influence, and such an agency can present reform proposals with high-quality intellectual backing.

The credibility of such an organisation is enhanced if, as noted, it has the resources to ensure that its analysis is of the highest quality. Credibility may also be enhanced if it can maintain the status of an 'honest broker', mediating among the special interests and making recommendations, but not becoming involved in the politics of the subsequent decision-making. If it is to remain 'above the fray', but if its ideas are to have influence, its ideas need to be championed, or at least debated, by others. Thus an educated and literate commentariat has an important role in adding credibility to an independent review institution. Alternatively, a review agency could credibly remain involved in the subsequent decision-making, so long as it had no clear conflict of interest. However, this involvement would divert resources from its review tasks.

A statutorily independent review body is not the only type of organisation that could carry out the review and consultation phases of policy development. Government departments can develop their own consultation mechanisms, such as holding round-tables of relevant stakeholders or asking for written submissions from interested parties, as input to their own policy development processes. Such consultations are facilitated by e-government initiatives, and may be effective in eliciting countervailing producer interests.

Inter-departmental committee processes convened by a 'central agency' department (such as a Finance Ministry or Presidential office) can also bring a number of stakeholder interests to bear by proxy, through the representative departments. Inter-departmental processes can be important in themselves for ensuring policy coherence among the different departments, so long as the central coordinating agency has the authority to ensure that final committee decisions are honoured. Coordinating agencies that have control over the purse strings are generally in a strong position in this regard. The lack of interdepartmental coordination has been identified as a major cause of policy incoherence in Indonesia's sugar trade policy (Stapleton 2006).

However, neither departmental consultations or inter-departmental committees always ensure that consumer interests are taken into account. Further, public consultation is often limited to the first round of consultation shown in Figure 3.1. Not often do government departments or inter-departmental committees circulate their own reform proposals for public comment once they have been tentatively formulated.

Another type of review mechanism is to convene a review panel of eminent persons on a once-off basis to consider a particular issue. Such panels often rely on the integrity of individual appointees for their independence and impartiality. For example, appointees who come from an independent judicial background may maintain that independence in a review context, while more overtly 'political' appointees may be neither independent nor impartial. Such panels also depend for their effectiveness on their terms of reference, which may direct them to take a broad or narrow focus on a particular issue. And terms of reference that are tailor-made to a particular issue are more likely to be manipulated than policy guidelines that need to be applied across a whole range of issues. Resourcing such panels with a well-trained secretariat from the bureaucracy can provide the skills to carry out economy-wide analysis, but is not sufficient to ensure that it is actually carried out.

Finally, a bicameral system of government can sometimes provide one other important mechanism of policy review. Upper houses of government can sometimes instigate their own reviews of legislation before it is voted on in the upper house. The reviews may included public consultation, and may be a useful final screening mechanism. But they are typically highly charged politically, and occur too late in the policy development process to have a major influence on policy design.

Verifying the ex ante assessment

OECD governments have become increasingly aware that improving regulatory regimes is an essential part of microeconomic reform. Regulatory reform has the potential not only to boost productivity, but also to improve the investment climate and the ability to attract increasingly mobile economic activity. Most OECD member countries now have in place some form of regulatory quality assurance process.

A major vehicle for ensuring quality control is regulatory impact analysis, which calls for an economy-wide perspective in identifying who benefits from the regulations, who incurs the costs and whether the regulation achieves its objectives without excessively burdening the community. For example, the Australian Government has declared that a regulatory impact statement (RIS) must be prepared and presented at two stages (see Figure 3.1)

- *Stage 1*: when the proposal goes to the decision maker; and
- *Stage 2*: when the proposal is tabled in the legislature (thereby making the RIS publicly available).

The elements of a RIS are shown in Box 3.1. The RIS requirement forces policymakers to work through a sequential process of articulating the problem, assessing a range of options and recommending the best option or explaining why some other option is recommended. The third element, setting out some viable options as to how the desired objectives might be achieved, prompts officials to work along the regulatory spectrum outlined in the previous section. Taken together, all the element of a RIS essentially constitute a systematic policy development process designed to implement the principles of good regulation.

Box 3.1 **Elements of a Regulatory Impact Statement (RIS)**
A RIS has seven key elements which set out: • The problem or circumstances which give rise to the need for action • The desired objective(s) • The options (regulatory and non-regulatory) that may constitute viable means for achieving the desired objective(s) • An assessment of the impact (costs and benefits) on consumers, business, government and the community of each option (including the impact on small business paperwork and compliance costs) • A consultation statement (the process and results of consultation) • A recommended option • A strategy to implement (including consideration of appropriate enforcement mechanisms) and review the preferred option

The RIS process can be useful quite early in the policy development process. A RIS prepared early can serve as a consultation document and draw out the views and data from those likely to be affected. A RIS prepared earlier can also provide regulatory discipline on policy making that does not culminate in an explicit or 'black letter' law regulatory solution.

If RISs are mandatory, there needs to be an agency responsible for ensuring that all government departments and regulatory agencies prepare and submit RISs of a satisfactory standard. Ideally, it should publish an annual report on their compliance with RIS processes.

Strengths and weaknesses of the RIS process

The most important and challenging aspect of the RIS process is that it promotes a significant 'cultural change' among officials and the government. It prompts an abandonment of the traditional regulate-first approach, encourages assessment of non-regulatory options and seeks more careful selection and better justification of the preferred option. The RIS process also makes the government and its officials more accountable for policy choices and promotes improved transparency in policy making because the RIS documentation is made available to the public.

For the RIS process to make a useful contribution, there needs to be an orderly policy development process and the RIS needs to be done early enough to articulate viable options before positions become locked in. Quite often, policy making does not fit this model. Rather, policymaking often results from political imperatives calling for quick action, from deals with particular interest groups and from bargaining between political interests or parties. Sometimes these approaches result on good regulatory outcomes, but the risk of failing to do so is undoubtedly higher than in cases where a more open and orderly policy development process is adopted.

Even then, the RIS may be prepared too late, in which case it becomes no more than an apology or rationalisation for the preferred option, in stark contrast to its intended role of setting out an even-handed description and assessment of all the viable options and their likely impacts. Making RISs mandatory towards the end of the policy making process (as in Figure 3.1) may impose discipline on that process. Having independent policy development agencies who can carry out RIS-type procedures as an integral part of their policy-making process may be preferable, especially in high-impact areas.

Much regulation-making is incremental or evolutionary in nature, as modifications are made to improve or refine existing law. If the regulatory base is flawed, quality control processes focusing on changes to that base may sometimes have limited effect. Therefore, governments occasionally need to institute complete reviews of related sections of the law, using a systematic framework such as provided by the RIS. Such reviews could usefully focus on identifying any potentially anti-competitive elements in the existing stock of legislation.

A RIS process is much easier to impose on black letter law than on more light-handed forms of regulation. Because there is no central register of quasi-regulation and many different processes for making such regulations, it is very difficult to track them down and even harder to impose a quality assurance process on them. For example, if an industry sector is persuaded by government to develop a code of practice, with some administrative and advisory support from government officials, it is not clear who should prepare a RIS and what would be done with it. In this case it is preferable to have RIS processes built into the review process that led to the recommendation of a code of practice.

Finally, departments and regulatory agencies sometimes do not have sufficient skilled staff to prepare RISs. The officials making regulations have widely different specialist skills, such as engineering, pharmaceutical chemistry and the law. But they may be poorly placed to identify and assess the likely costs and benefits of different regulatory options. This again argues for an independent review agency staffed with economic specialists to undertake RIS type processes early in the policy development process.

3.2 Good institutions to implement and enforce regulation

Where rules have been developed to promote the greater good of the community as a whole, as opposed to sectional interests, it is important that they be administered and enforced by institutions that do not have conflicts of interest, and are not amenable to capture by sectional interests. Capture occurs when the regulator gets 'too close' to the regulated.

Some institutional strategies to guard against regulatory capture are:

- *An independent regulator* — having a regulatory body that is formally (preferably statutorily) independent from both the regulated entities, and the government ministries that represent those entities;
- *Generic rather than industry-specific regulation* — often there are regulatory problems that are common across a number of industry segments (eg infrastructure industries with natural monopoly characteristics), and having generic rather than industry-specific regulation can help to prevent capture by any particular industry segment;
- *Adequate funding* — ensuring that the regulator is not dependent for its financial survival on kickbacks or excessive licence fees paid by the regulated;
- *Statutory guidance* — providing the regulator with statutory guidance about the overall objectives of the regulation, and whose interests are to be taken into account in implementing it;
- *Transparency* — requiring the regulator to have open and transparent processes, and to publish the basis of its regulatory decisions;
- *Review* — allowing those affected by regulatory decisions to ask for judicial and/or administrative review of those decisions; and
- *Accountability* — requiring that the regulator report regularly to the relevant Minister or to the legislature about its activities and financial performance.

While regulatory 'capture' is one problem, regulatory 'culture' is another. Recent experience of 'regulatory overreach' suggests that there can be more subtle pressures on regulators that can distort decision-making. These pressures include:

- *Undue ambition* — for example, there is often insufficient recognition that monopolists have economic incentives to provide an economically efficient *structure* of prices by themselves, even if that price structure might be set at too high a *level* (Baumol, Bailey and Willig 1997).

- *Pressure from government* — even where governance arrangements involve statutory independence, governments may still exert some influence because they provide funding and over time can determine the functions and therefore the power of the regulator.
- *Populism* — like everyone else, regulators like to be 'popular'. Thus an action that is popularly perceived to be profiteering by a large firm may be inappropriately subjected to regulatory control, even if it is objectively efficient (eg where current profits are the reward for a past risky investment). Similarly, there may be pressures on regulators to manipulate asset valuations so as to avoid having to raise the retail prices of a regulated monopoly.
- *Technophilia* — when regulators are required to develop or endorse standards, they can be captured by those who value technology or elegant technological solutions for their own sake.
- *Risk aversion* — regulators face risks with asymmetric returns. It is rare that a regulator will be found deficient for over-regulation, partly because these costs are not generally or immediately apparent, but will often face censure if a low-risk adverse outcome *is* realised (eg a child dies on play equipment).
- *Precedent* — regulators may be constrained by past decisions in which they have vested their reputation, and which firms have relied upon for key business decisions. This can lead to lock-in of poor implementation and enforcement.

These pressures reinforce that regulatory forbearance is likely to be the appropriate stance in situations in which market outcomes are only a little bit imperfect.

4 Industry support — broad issues in program design and evaluation

Sometimes governments want to give budgetary support (via tax breaks, subsidies or grants) to a particular activity or industry for efficiency reasons, such as supporting basic R&D activity because of its unpriced spillover benefits. Sometimes governments want to provide budgetary support to an industry because they have succumbed to sectional interests. Sometimes governments want to provide budgetary support to an industry or activity because of relatively weak efficiency reasons, combined with equity or protectionist motives.[3]

Whatever the merits of the argument, once the decision has been made to provide an industry or activity with budgetary support, there are principles of good program design and evaluation that can be brought to bear. This section outlines those broad principles, giving some examples of how they might apply to support for small business. The same principles apply in many other contexts.[4]

The principles of good program design are shown in Box 4.1.

4.1 Targeting the problem

In a small business context, an important issue is whether a *small* business program is appropriate, rather than simply a business program (table 4.1). Government programs specifically targeting small business may be warranted when either

- all the conditions for a general business program are met *and* the underlying problem is relatively specific to small business (or a segment of small business); or
- all the conditions for a general business program are met *and* the design of the program is only effective when the program is targeted at small business.

[3] Industry support may be in other forms, such as through tariffs, cross-subsidies, the subsidised provision of infrastructure, or the selective use of competitive tendering. An assessment of tariff policy, infrastructure provision and government procurement is given in part 3 (section 8).

[4] This section draws on Lattimore (1996) and Lattimore et al. (1998).

Box 4.1 **Program design principles**

1. Does the program target the problem effectively?
2. Selection issues (adverse election and take-up)
3. Is it timely?
4. Does it induce new activity?
5. Are large transfers overseas avoided?
6. Does the program have the right duration, scale and target group?
7. Is it administratively efficient for government?
8. Does it impose big compliance burdens on firms?
9. Is it transparent and accountable?
10. Is it financed in the least cost way?
11. What are the risks posed by the program?
    a. Strategic behaviour by firms
    b. Unforseen liabilities for government
    c. Adverse interactions with other policies
12. Does it breach international obligations?
13. Does it impose any significant costs on any group?

Table 4.1 **When is a small business program appropriate?**

	Small business specific programs	*Generic programs with small business awareness*	*Generic programs*
Relatively unique small business market failures	√		
When design problems rule out larger firms	√		
Better delivery of a generic program to different sub-groups of firms		√	
None of the above			√

The first point is an obvious basis for targeting. If a problem is specific to small firms, then programs with a broader coverage will suffer from poor focus, and waste resources. However, the same logic also implies that it will often be appropriate to make only a subset of small firms eligible for a particular program (eg small start-up firms). Ultimately, appropriate small business policies are problem-directed — they attempt to resolve economic problems that are associated with firm size — rather than aimed at supporting small business as such.

The second condition for appropriate small business policy is more subtle. Several possible reasons why a general program may work best when targeted at small business are that the inducement rate of new activity may be higher for small firms (large firms would have undertaken the activity anyway), and few small firms may be foreign-owned, so the leakage of benefits to foreigners is lower.

But even if there are not grounds for programs dedicated to small business, it may be appropriate for generic business programs to have different program delivery of information dissemination strategies for small business.

Definitional issues

Presupposing there is a rationale for a program aimed only at small business, a definition is required of what is meant by small business. An appropriate small business policy presumes that some market or other (eg institutional) failure is specific to a certain size of firm. It is this empirically determined size range, not some pre-ordained size grouping, on which the policy should be based.

Other issues also arise. Small business policies will exclude some bigger firms from the policy measures. This means that firms around the threshold size may face disincentives for growth — a growth trap. If there are economies of scale for these firms, a growth trap will have first-order effects on economic efficiency.

4.2 Selection issues

There are two major selection issues: adverse selection and take-up.

Adverse selection

The government is like a financier when dealing with firms. It has the same sort of problems in monitoring the quality, reliability and completeness of information provided by firms and the credibility of their good intentions. Just as high interest rates can result in only high-risk ventures applying for finance, certain designs of programs may adversely select the worst performing representatives of a group of firms — picking losers instead of winners. The devil is in the detail of eligibility criteria and rewards offered by a program. But if a program offers the biggest incentives to the worst firms, it will have an adverse selection problem.

Take-up and compliance

Generally, a program has to be taken up by a high proportion of targeted firms to be effective. However, there are two sorts of programs:

- 'a little for a lot' programs. These try to provide small amounts of assistance to large numbers of enterprises.
- 'a lot for a little' programs. These are less common, and provide more substantial assistance to each of a few enterprises.

Each type of program poses a unique set of take-up and compliance issues.

In a small business context, each small business, by definition, accounts for a very small share of economic activity. To make much of a difference to economic performance, the outreach of a program — either directly through participation, or indirectly through demonstration effects — must be high. Otherwise the impact of the small business program on resource allocation and efficiency will be very small. Since there are often substantial fixed costs in developing and running programs, the overall administrative overheads may be higher than the program's benefits.

This implies that dissemination of information about small business programs is likely to be an important aspect of their success. This contrasts with the position for generic business programs, where a large proportion of the economic activity being targeted will be accounted for by a few, readily identifiable firms.

Similarly, compliance costs imposed by programs become much more important in small business policies. Small business programs aiming for high take-up by small firms must be designed to keep compliance costs low. This is more likely where:

- programs are relatively simple and application forms easy to read and answer;
- information about the program is easily accessible (eg through the internet, one-stop shops);
- eligibility criteria for the programs are clear;
- good governance mechanisms are worked out for the program, so that government departments have the right incentives to minimise compliance costs; and
- programs are targeted (where appropriate, eg in the provision of best-practice information) at business associations or business networks, rather than individual firms.

Many of the problems facing small businesses are informational — how and where to obtain finance, how to tackle export markets, advice on technical issues, training and management advice. The internet provides a low-compliance-cost way of disseminating information. Nevertheless, it is common for small business programs to reach only a minority of small businesses. So policies directed at the 'fundamentals' of infrastructure provision and general regulatory reform may be more effective than specifically targeted small business programs.

By contrast, in programs that try to give 'a lot to a little', compliance costs are generally minimal compared to the assistance being offered. The more critical problem is in targeting the right firms. The risks include:

- targeting sure winners, which would have succeeded anyway;
- targeting 'lemons';
- targeting projects with high private rather than high public returns;
- targeting 'fad' technologies, rather than providing assistance based on a hard-headed assessment of which investments may generate unpriced spillovers; and
- targeting 'bad' technologies, through lack of technical knowledge.

Design features that can reduce some of these risks include very careful technical and economic assessment of individual proposals, application fees for assessing projects, budget capping of programs, and claims (by government) on the royalty streams of any benefits from a business venture. Such mechanisms tend to create incentives for managers only to put forward good projects that would not otherwise have gone ahead. But these features are only feasible when the overall assistance amount is big enough to support the higher associated administration and compliance costs.

4.3 Additionality

One of the major issues in program design is that of additionality or inducement. Business programs may aim to do all sorts of apparently good things, and may pay large amounts of money in support of those activities. But this does not mean that those things were caused by the program. If the eligibility criteria are not tight and the compliance costs are low, many such firms will apply for government subsidies for such activities, even though they were going to do them anyway. Then the program expenditures are merely transfers to the assisted firms, costing money but producing no additional economic benefits.

There are design mechanisms that can improve additionality, although none are perfect and some may conflict with other good design principles.

Eligibility criteria

Eligibility criteria can be used to try to maximise additionality. Examples are only supporting R&D above some base-year level, rather than supporting all R&D, or only providing loan guarantees where a loan application has already been turned down by a bank, rather than providing loan guarantees to all loans. However, eligibility that are highly restrictive in an effort to ensure additionality will also add to administration and compliance costs.

Incentive-compatible mechanisms

Managers of firms have weak incentives to tell program administrators whether they were going to undertake some subsidised activity or not. Some program designs — called incentive-compatible mechanisms — try to create incentives for managers to put forward activities that are really new.

One method is a repayable grant. If the project fails, the firm pays nothing back to the government. But if it succeeds, the government obtains a right to a royalty stream with a present value *greater* than the original grant. This scheme could be implemented by the government obtaining a stock option. The principle is not one of 'user pays', nor maximising revenue to the government, but rather providing managers with incentives only to put forward projects they were unable to otherwise fund.

4.4 Program scale and duration

The level of funding needs to be appropriate for the coverage of the program, especially given the fixed costs of designing and administering programs. But there are more subtle issues to do with the scale of programs.

It is the *marginal*, not the *average* effects of a program that matter in deciding whether it needs to be expanded or scaled back. A program may generate positive net benefits in total, but still need to be scaled back if the *marginal* projects supported by the program earn negative social benefits.

Consideration needs to be given to the alternative uses of budgetary funds in deciding whether a program should go ahead. A program may generate positive net benefits in total, but still earn a lower return than other uses of the funds. To go ahead, a program must be better than alternative interventions, *and* alternative uses of the funds.

4.5 Avoiding program risks

Avoiding strategic behaviour

Programs should avoid undesirable effects, such as encouraging moral hazard. For example, government loan guarantees may reduce incentives for financial institutions to be careful in their lending, while at the same time weakening the incentives of the financed firm to be prudent. Similarly, 100 per cent funding for R&D reduces the adverse consequences of failure, leading to potentially poor project management.

Moral hazard is weakened by having the involvement of a commercial stakeholder with significant stakes at risk. 100 per cent subsidies are generally highly undesirable. Similarly, if a program provides a form of insurance against adverse outcomes (eg flood or drought assistance), moral hazard will be reduced if the recipients are required to pay an insurance premium.

Avoiding unforseen government liabilities

Programs should have a risk management strategy that efficiently limits sizeable downside risks. Budget capping is one strategy. Program administrators should also examine how the budgetary cost of a program would vary if the assumptions underlying its design are wrong.

Avoiding adverse interactions with other programs

Programs may overlap, compensate for, complement or adversely affect each other, Program design should take account of these interactions.

4.6 Program evaluation issues

Program evaluation assesses whether taxpayers are getting value for money from a program. Typically, it should address at least the following questions:

- is the business program *appropriate* — for example, is there some underlying market failure which the program seeks to rectify, and does it do this in a way that confers a net economic benefit?
- is the program *effective* — that is, does it achieve its objectives? and
- is the program *operationally efficient* — that is, does it achieve its objectives at a lower cost than other feasible alternatives?

Three factors are central to a well designed evaluation:

- independence of approach;

- adequate resourcing; and
- sound methodology.

Independence of approach

Internal evaluations may be satisfactory ways of improving a program's cost-effectiveness, but the fundamental question of program appropriateness is best addressed by organisations independent of program administration or policy. Evaluations can be undertaken by independent organisations within government, such as Auditors-General or independent policy review agencies. Or the program evaluation can be contracted out to a private consulting firm. In the latter case, mechanisms need to be put in place to guard against the tendency of consultants to 'please the client'. The evaluation contract could be let by an agency outside the program area, or a representative from outside the program area could sit on an overseeing committee.

Resourcing

The time and budgetary allocation for program evaluation needs to be sufficient to support the use of an adequate methodology.

Methodology

Evaluations are about measuring the impact of a program on its participants. They should therefore involve an empirical investigation of some kind.

For example, a general formula for measuring the social benefits (*B*) of a program that generates spillovers is as follows:

$$B = PB + (SPILLOVER \times INDUCE \times ACTIVITY), \text{ where}$$

PB is the private return on induced activity (eg R&D, management training) *less* the private returns on the resources displaced;

SPILLOVER is the rate of spillovers to people or firms outside of the recipient firms, measured as a ratio of spillover benefits to baseline activity;

INDUCE is the proportion of the activity which would not have occurred in the absence of the program. The value of *INDUCE x ACTIVITY* is sometimes called the *additional* activity;

ACTIVITY is the total value of the activity supported by the program.

Thus there are two potential sources of benefit — private returns to the participants, which may exceed the standard rate of return on resources which have been displaced, and benefits that people or firms other than the participants derive from the activity.

The private return is the difference (if any) between the private returns on the induced activity, compared with alternative uses of those resources. This additional return to participants is likely to be small or even negative. The activity will have used resources (eg R&D projects use skilled researchers) and these will have come from somewhere else. Indeed, if the program is doing its job, the additional private benefit *should* be negative. If it were positive, the firm would have an incentive to undertake the activity without the program. The issue for project evaluation is whether this additional private return is small negative — where the project successfully induces new activity — or large negative — where the new activity consistently fails commercially.

Spillovers are hard to measure for a particular project, so program evaluations typically use generic estimates from a survey of the relevant literature. This may overstate the gains if the marginal activity induced by a particular program is of poorer quality, and hence generates fewer spillovers, than the average as measured in the literature.

Inducement rates are critical to program evaluation, but very hard to measure. Ideally, control groups (individuals or groups not in the program, but which are in other respects identical to the 'treatment' group) can help to distinguish the impact of the program from the many other influences affecting the behaviour of participants. In practice, self-selection by enterprises for program participation, combined with selection mechanisms used by program administrators, often mean that apparent control groups are very different in character from the treatment group. Econometric approaches to measuring how activity is affected by a program have often failed to produce robust results. However, survey methods can be valuable. Here participants are asked about the effects of the program on the target activity — and too provide reasons for those effects. Such surveys can be a part of the evaluation activity.

The social benefits (B) of a program need to be set against its social costs. Revenue costs are not social costs — when the government pays a dollar to a firm, then the firm gains a dollar and government revenue loses a dollar. The social cost is the economic cost of raising the dollar of revenue (given that taxes cause economic distortions with real economic costs), plus the administrative costs of the program. Estimates of the so-called marginal excess burden of raising a dollar of revenue may be available from the economic literature, although care needs to be taken because they are specific to a particular economy with a particular tax structure.

The minimum requirement for any program is that it produces net social benefits. This is calculated as the sum of all social benefits less the sum of net social costs (with care to avoid double counting). A full evaluation could also assess the program against all the design principles shown in Box 4.1.

5 Regulating for natural monopoly in infrastructure industries

5.1 The policy problem

One key attribute that many infrastructure industries have in common is economies of scale or scope. This can lead to natural monopoly, where the costs of provision are minimised with only one supplier in the market. One aspect of the policy problem is that the provider may abuse their monopoly power by restricting the quantity or quality of the monopoly output and pricing above cost. Another aspect is that they may use their control of the bottleneck facility to thwart competition in upstream or downstream markets. This section canvasses possible policy responses to both these problems.[5]

Economies of scale occur when average costs fall as output rises, not just in the short term but also when firms get to the right level of capacity for the volumes of business they are managing. A key reason for this is that some production costs are *fixed*, that is, independent of usage. The costs of providing and maintaining the copper wire connection that connects a household to the public switched telecommunications network does not depend on the number of calls made. Some of the costs of running an individual airplane (eg labour costs, costs of running a reservations system, costs of using the airport runway slot) do not depend on how many passengers the aircraft carries. Some of the costs of running an airline (costs of running a reservations system) do not depend on the number of airplanes used. The costs of installing and maintaining long-distance electricity transmission lines are largely independent of the amount of electricity transmitted. Similarly, the cost of installing and maintaining rail lines or water reticulation systems is largely independent of use.

A related concept is *economies of scope*. This occurs where there are cost savings from bundling together the production of more than one service, so that it is cheaper for one firm to produce all the different services than it is for more than one firm. It is often claimed that there are economies of scope in the production of local and long distance calls, so it is cheaper for one firm to produce both products than for two separate firms. The cost savings come because both local and long distance calls use some parts of the public switched telecommunications network in common. Similarly, it may be cheaper to

[5] This section draws on Dee and Findlay (2004).

bundle together the provision of air passenger and air freight services into one firm than to split them among more than one firm, since both services use the same fixed costs elements.

A final source of economies of scale is *network economies*. Some services are provided through networks — telecommunications and transport being two examples.

Network economies sometimes mean that from a *user* perspective, the benefits of the service increase with the size of the network. The benefit to a person of connecting to a telephone network that includes all the people in their city is greater than the benefit of connecting to a network that includes only half the city. This aspect of network economies is sometimes used as a rationale for consumer subsidies to encourage more users to connect to the network. Each user will recognise the benefits to themselves from connecting, but not the additional benefit to other users from having them connect. Subsidies can help to internalise this *externality*. The same argument does not apply as strongly to transport, water or electricity networks.

Critical for the current purpose is not what network economies mean for consumers but what they mean from a *producer* perspective. The switching costs of running a telecommunications network depend in complex ways on the pattern of usage through the network, but can be optimised according to particular patterns of use. Similarly, the switching costs and transmission losses through an electricity grid depend on usage patterns, but can be optimised to any particular pattern. Network economies in production can arise where operating costs can be optimised (relative to usage patterns) more successfully in large networks than in small. This is because larger networks often provide more flexibility to manage particular bottlenecks. For this reason, operating costs may be lower in a single large network than in two or more smaller ones.

When is there **not** *a policy problem?*

While natural monopoly is a common feature of infrastructure industries, care should be taken not to exaggerate its importance.

First, the definition of natural monopoly refers to the boundaries of a particular market. In some cases, the likelihood of natural monopoly is increased by policy. For example, in markets where network effects are important, regulation might exclude a segment of a domestic market, for transport services for example, from the international networks. If this barrier is removed, there may be competition in the market for those services, as international operators take the domestic sectors into their networks. This situation is of special advantage to small economies. Restrictions on foreign entry may actually increase the likelihood of a natural monopoly problem, but opening the market to trade converts it into a component of a larger market in which competition can be sustained.

The definitions of economies of scale and scope apply to a given technology, but if there is sufficient competition from *alternative technologies*, there is not necessarily a policy problem. For example, a rail network may constitute a natural monopoly in a technical cost sense, but if there is sufficient competition from a road transport network that can provide a close substitute service, this can limit the ability of a single rail operator to engage in monopoly pricing. Similarly, there is some evidence that competition from mobile phone operators is limiting the ability of incumbent providers of fixed line telecommunications services to monopoly price their services.

A related point is that natural monopoly only requires a policy response if it is a long-run problem, ie once all firms involved have had sufficient time to choose their scale of plant to minimise costs per unit of service delivered. A single provider with an inefficient scale of plant may face sufficient competitive discipline from a rival with a more appropriate scale of plant. And in infrastructure industries such as telecommunications where technology has been changing very rapidly, the minimum efficient scale of operation has also been reducing rapidly over time, providing technological solutions in areas such as long distance telephony, which are no longer regarded as natural monopolies.

Finally, a natural monopolist may, under certain circumstances, be effectively disciplined by the *threat* of competition. This is an important consideration for many smaller developing economies. The size of their market may be small relative to prevailing technologies, meaning that lowest unit cost may come from having one producer. But if that producer is subject to the credible threat of replacement by a rival, this may provide enough discipline for the monopolist to keep prices close to costs. A credible threat requires there to be no legislative or regulatory barriers to such entry. It also requires that the rival not have to incur any costs that they could not recoup if they were unsuccessful. The absence of *sunk costs* — costs that cannot be recovered once committed — is an important precondition for the threat of ‘hit and run’ entry to work. If it does, the market is said to be *contestable*. Examples of sunk costs include the costs of market research and advertising, which can be significant even if other fixed costs associated with production are not. But in many parts of infrastructure services, investments are lumpy and location-specific, and this often ensures that their costs are sunk.

Where sunk costs are prevalent, rivals are likely to be reluctant to commit resources, and the incumbent will have a strong incentive (having sunk costs itself) to lower prices if necessary to deter entry. So the problem of inefficient duplication of infrastructure is unlikely. But the problem of monopoly pricing remains.

5.2 Monopoly services — policy response

Not only may a monopoly provider have an incentive to price above costs, they may not keep costs as low as possible. One way to provide an incentive to controls costs is to allow competition *for* the market (separate regulation may still be required to guard against monopoly pricing).

Competition *for* the market involves having firms compete for the right to be the sole supplier (competition *in* the market occurs when firms compete against each other within the same market, which cannot be sustained under conditions of natural monopoly). Competition for the market could be arranged, for example by allocating the licence to be the incumbent operator through a competitive bidding process. This can be done on a once-off basis or regularly, every few years. Foreign operators can be invited to make bids for the licence. The specifications for the licence could include:

- provision of specific services, such as information technology or vehicle maintenance (service contract);
- management of the relevant infrastructure but without any exposure to commercial risk (management contract);
- inclusion in a contract of not only responsibility for managing some components of the system but also for collecting revenue, which implies taking a share of commercial risk, but without any responsibility for capital spending (lease);
- the inclusion of responsibility for financing and managing capital works (concession); or
- complete privatisation.

Policy makers are not necessarily converging on any one model. The choice depends on a number of considerations, including:

- the extent of stakeholder support;
- whether infrastructure prices are set to recover costs;
- whether the bidders and/or those seeking the bids have extensive knowledge of the system;
- whether those seeking the bids have good regulatory capacity;
- whether the country has a low risk rating.

Brook Cowen (1997) discusses how these factors affect the choice of model in the water sector, for example.

Where natural monopolies are regional rather than national, another mechanism to discipline costs and prices is to use ‘benchmarking’ or ‘yardstick’ competition, by comparing estimates of technical efficiency across the regional operators. Estcahe, Gonzales and Trujillo (2001) show the potential for this form of competition across ports, for example.

There may be advantages in letting a foreign provider be the incumber service provider. Foreign providers of transport or telecommunications networks can bring new technologies that have been tried and tested in offshore markets. This can allow them to offer a better quality and/or lower cost service than a local provider. They can also bring new business practices that also lower costs. They may have greater access to financial capital, or greater ability to bear risks. In these cases, there can be significant advantages in allowing foreign operators the option of becoming the incumbent monopolist. In some circumstances, the threat of foreign entry may be sufficient to discipline the costs of a domestic provider.

There are at least two offsetting considerations. One is whether there is a case for protecting a domestic incumbent from foreign competition in the expectation that the domestic provider will eventually become as efficient as a foreign provider. In some service industries, eg some professional services, domestic firms may have a comparative advantage in any event in tailoring their services to meet local language or other needs. In infrastructure services, this is less likely to be the case. But then there is a series of questions about the incentives that the less efficient domestic provider will have to become more efficient over time.

A second consideration is whether it is easier to apply pro-competitive regulation to guard against monopoly pricing when the incumbent is government owned, and therefore by definition domestic. However, there is evidence that a traditional integrated public monopoly may perform even more poorly than a private monopolist (for example, penetration of fixed line telephony increased very rapidly in Chile after privatisation, suggesting the government provider had restricted output even more than a private monopolist would). There is also mounting evidence that the traditional methods of regulating a public monopoly are not conducive to promoting competition in those parts of an infrastructure industry that are amenable to competition. New regulatory methods are emerging to guard against monopoly pricing, while promoting competition in those market segments where competition is sustainable and desirable.

A final consideration in deciding whether a domestic or foreign operator should provide a monopoly service is that, in the presence of location-specific sunk costs, any incumbent will have a ‘first mover’ advantage that can protect it from being displaced by a lower cost rival in the future. First movers can have an advantage over potential entrants because of the costs which they have already sunk into the project, and which are therefore not recoverable, but those costs are associated with investments about which the entrant has yet to commit. While this argues for making the right choice in the first place, few countries have the luxury of making such a ‘greenfield’ decision, that is, a decision in which there is no existing project or infrastructure — they are stuck with the incumbent (and its cost structure) that they have inherited. This is an additional argument in favour of allowing competition *for* the market.

Price regulation

Competition *for* the market can discipline an incumbent’s costs. It *may* be judged necessary also to regulate the incumbent’s prices, although the next section demonstrates that unless price regulation is very carefully designed, it can interfere with the development of competition in the potentially competitive segments of the market.

There is a growing consensus that regulated prices should *not* be cost-based (eg Beesley and Littlechild 1989). First, cost-based price regulation (including rate of return regulation) provides no additional incentive for incumbents to limit their *actual* costs. Second, cost-based price regulation gives incumbents an incentive to inflate *reported* costs, and government officials are often in a poor position to check the veracity of those costs. Third, incumbents may be reluctant to commit the substantial resources required to upgrade or expand their infrastructure facilities if regulated price structures prevent them from earning an adequate return on their risky investments. Where prices are tied to costs, there is no room for rewarding risk.

The literature on incentive regulation provides other mechanisms for regulating retail prices that are more incentive-compatible. One of these is CPI-X regulation. This allows an incumbent to raise prices each year at the rate of increase of the consumer price index (CPI), less a regulatory factor X. The X factor may be set with at least three considerations in mind. In industries such as telephony that are undergoing rapid technological change, X may reflect the difference in the rate of total factor productivity growth in the regulated industry, compared to other industries. X may also reflect assessments about the extent to which actual costs have been inflated, due to ‘featherbedding’ (hiring more labour than is needed) or ‘gold-plating’ (investing in more or better-quality capital than is needed), and hence the extent to which costs could fall over time. Finally, X can reflect assessments about the extent to which profits have been inflated, due to the past exploitation of monopoly power, and hence the extent to which profit margins could fall over time, consistent with the incumbent still earning a return for risk-taking.

A final advantage of CPI-X regulation is that it can be applied to a revenue weighted *average* of prices of different services, rather than to each service separately. This gives the incumbent monopolist the flexibility to determine the economically efficient *structure* of prices, while limiting the freedom to inflate the *level* of prices.

5.3 Monopoly inputs into competitive services — policy response

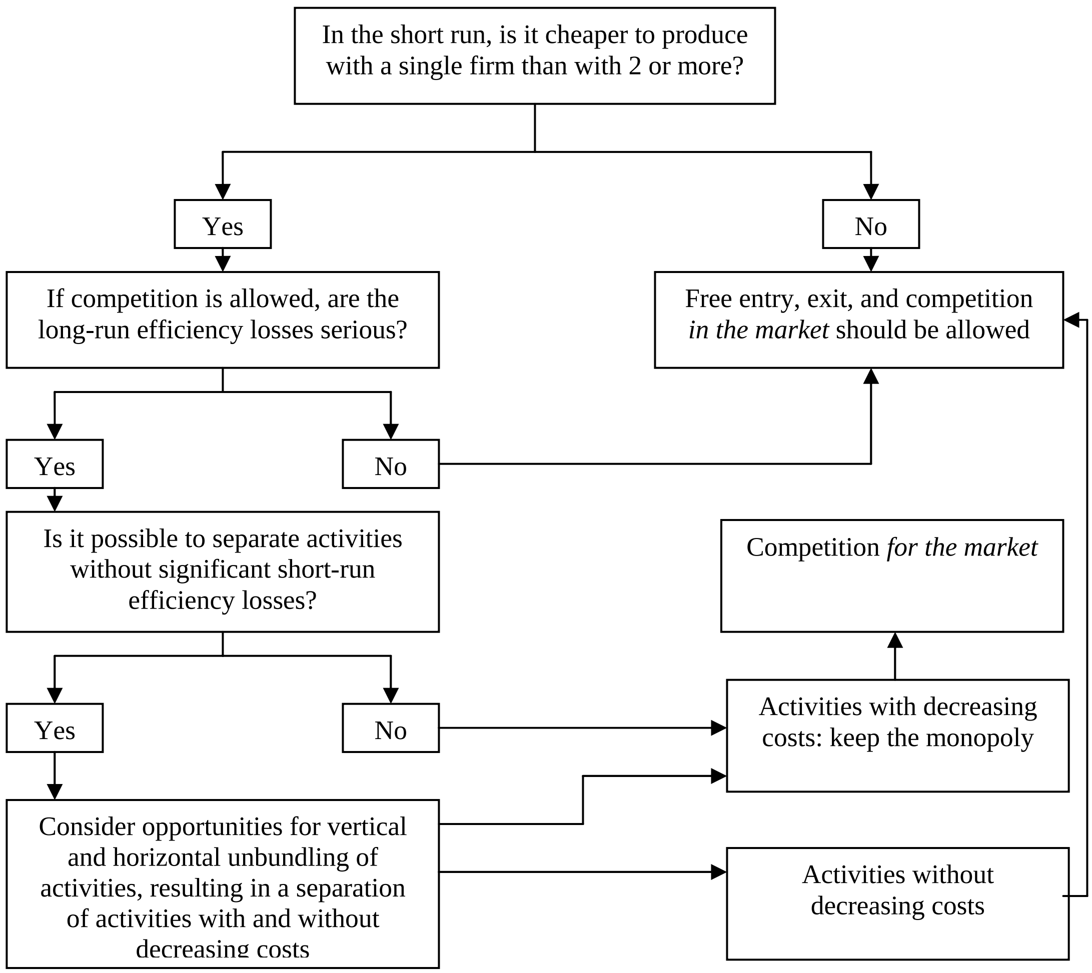
There is growing realisation that not all segments of infrastructure industries are natural monopolies. There can be significant advantages in ensuring that those parts of the industry that are capable of sustaining competition are opened up to it. Estache and de Rus (2000) illustrate the resulting decision tree in Figure 5.1. As noted above, measures may be required to contain costs and monopoly pricing in the monopoly segment of the market. Measures may also be required to ensure that the monopoly operator does not abuse their monopoly power over the monopoly bottleneck facility to thwart competition in competitive upstream or downstream activities. This involves ensuring that competitive suppliers, including foreign suppliers, can gain access to the bottleneck facility on reasonable terms.

Competition downstream of the bottleneck facility

Here the incumbent monopolist is selling an input to competitive suppliers. The problem is whether the competitive suppliers can get access to the monopoly input on reasonable terms. It is worthwhile to outline some of the main considerations in designing such *access regulation*, to give a flavour of the regulatory challenges involved.

'First best' pricing to ensure allocative efficiency involves pricing access to the facility at marginal cost — this is the real resource cost of producing an extra unit, once the fixed costs have already been incurred. The problem with marginal cost pricing is that it will not recover those fixed costs, only the operating costs of producing the extra units.

Figure 5.1 **Separating the natural monopoly and competitive elements of infrastructure industries**



Source: Estache and de Rus (2000).

There are several alternative methods for recovering fixed costs that do least damage to allocative efficiency. One is so-called *Ramsey pricing* — where contributions to fixed costs are graded according to the price sensitivity of demand. Allocative efficiency requires that contributions be greatest from those customers of those services whose demands are relatively price-insensitive, so their quantities demanded remain relatively unaffected by the contribution they make. Another solution is *two-part pricing*, with an access charge used to recover fixed costs, and a usage charge to recover variable costs (another form of two-part pricing is quantity discounts). It is not always recognised by regulators that a profit maximising monopolist has the right incentives to introduce pricing structures of this form on their own account (Baumol, Bailey and Willig 1997).

The only problem is that in the absence of any pricing regulation, the *level* of those pricing structures will be too high.

If the policy concern is only for technical efficiency, with no concern about allocative efficiency (or alternatively, if allocative efficiency concerns are met in other ways), then it may be appropriate to have access charges that follow the so-called efficient component pricing rule (ECPR). These charges include an element that compensates the monopolist for a loss of monopoly profits in the downstream market.

The issue is further complicated by whether the monopolist is vertically integrated, meaning that they also produce for and compete in the downstream market, or whether there has been structural separation of the monopoly and competitive elements of the monopolist's business. With vertical integration, there is the opportunity for the monopolist to use their monopoly position in the upstream market to distort competition in the downstream market.

The appropriate access charges also depend on whether competition in the downstream market is sufficiently fragile for there to be a case for retail price regulation in the downstream market. Finally, it depends on how universal service obligations to meet equity objectives have been implemented.

Valletti and Estache (1998) discuss the details of the appropriate access pricing schemes in these and other situations. A flavour of their conclusions is given in Tables 5.1 (for where there is structural separation) and 5.2 (for where the monopoly is vertically integrated).

Table 5.1 **Access charges with structural separation**

Objective	*Access charge*	*Comment*
First best	Marginal cost	Fixed costs not recovered so that a subsidy is required.
Second best (one final good)	Average cost	
Second best (many final goods)	Ramsey prices	
Dealing with imperfect downstream competition	Lower prices than above to avoid the effect on final service prices of extra margins imposed downstream	Fixed costs not recovered so that a subsidy is required.
Dealing with downstream entry costs	Higher prices than above to discourage the entry of too many firms	The problem is less significant if entry brings product variety

Source: Derived from Valletti and Estache (1998).

Table 5.2 **Access charges with vertical integration**

Objective	*Access charge*	*Potential problems*	*Eventual remedies*
First best	Marginal cost	Requires lump sums, otherwise fixed costs not covered	Tariff rebalancing USO funds
Second best	Ramsey	High information content, may not be sustainable	Price cap
Productivity efficiency	ECPR	Partial rule	
Entry promotion for - product variety - entry barriers - learning-by-doing	Lower than above	Fixed costs may not be covered	Direct subsidies, equal access
Dealing with bypass, cost duplication	Higher than above	Small entrants disadvantaged	Quantity discounts
Dealing with risk and hold-up by the incumbent	Higher than above		Long-term contracts, spot and forward market, capacity charges
Dealing with asymmetric information	Incentive regulation	Predatory behaviour	Accounting separation, price floors and ceilings
Dealing with market power	Lower than above	Fixed costs may not be recovered	Price regulation

Source: Valletti and Estache (1998).

This is clearly a situation where there are multiple objectives — a need for allocative efficiency in both retail prices and (wholesale) access charges in the upstream market, a need for allocative efficiency in the downstream market, a need for full cost recovery of the monopolist's fixed costs, a need to ensure universal service, and other possible objectives besides. If the access charge is used as the single instrument to meet all these objectives simultaneously, it is unlikely that any of them will be met with any precision.

The more separate instruments that can be brought to bear, the better. Two key additional instruments are separate retail price regulation (discussed above), and separate instruments for meeting universal services obligations. In these circumstances, Valletti and Estache (1998) show how the solution to the problem of regulating access prices may be particularly simple — a single global price cap to be applied to an average of the monopolist's retail prices and access charges, leaving it up to the monopolist to choose the appropriate Ramsey or two-part structure for the individual prices within the overall cap.

In developing economies with limited or weak regulatory capacity, there are clear advantages in designing a system so that the incumbent has the incentive to offer access on reasonable terms through commercial negotiation, without there needing to be regulatory oversight. But to work, such a system requires policy coherence, something that is often lacking.

For example, in the past it was common for telecommunications services (in both developed and developing countries) to be provided by a single, often publicly owned monopoly. The goal of restraining monopoly pricing was met by a detailed system of retail price regulation, while universal service obligations were met by cross-subsidies built into the monopolist's retail pricing structure. Typically access charges were kept low to encourage participation by the poor, and usage charges were too high, to compensate. This typically did not follow Ramsey or two-part pricing principles, since the demand for access, especially by businesses, is typically far less price sensitive than the demand for (especially long-distance) usage.

If competition is then introduced into downstream markets and the monopolist is required to offer cost-based access to downstream competitors on commercial terms, the access charges the monopolist will demand will typically be too high. This is because, in the absence of being able to recover the fixed costs of subscriber access through retail access charges, the monopolist will seek to recover them from downstream competitors, and will have an apparently legitimate cost-based reason for doing so. The failure of some developing countries to 'rebalance' their retail pricing structures, and to find ways other than cross-subsidisation to fund USOs, is currently thwarting the development of effective downstream competition in their telecommunications industries. It is also thwarting the development of broadband services (Crandall 2004).

Competition upstream of the bottleneck facility

Here the monopolist is buying from the competitive suppliers. An example is a natural monopolist in electricity transmission buying from competitive electricity generators. The main policy problem is the one of hold-up and refusal to deal, which is also noted in Table 5.2. In electricity generation, there are also a series of technical issues — electricity is completely non-storable, so that supply and demand have to be matched on a second-by-second basis, and sudden surges in supply from competitive suppliers could result in short-circuiting the entire system.

The thinking on how to deal with these issues in electricity has changed somewhat recently. It is still generally agreed that if competition in electricity generation is to be encouraged, then regulated or negotiated third party access is necessary, and structural separation of the generation and transmission facilities is desirable. Long-term contracts have often been used as a mechanism to handle the technical problems with integrating competitive generators into a transmission system, but these were seen as having the disadvantage of locking in particular suppliers and protecting them from more competitive new entrants.

One solution to the problem of lock-in was to establish a wholesale pricing pool. Under this arrangement, competitive suppliers would make bids to supply blocks of electricity for certain future time slots, and an independent grid management authority would choose best bids and arrange them in increasing order of cost to stand ready to meet whatever demand eventuated in those time slots. There is a huge literature on how to design the auction to minimise the problems of collusion or 'gaming' by dominant providers.[6]

Until recently, the United Kingdom was viewed as having gone furthest and most successfully in implementing the necessary regulatory regimes to promote competition in electricity generation, while California was seen as an example of regulatory failure. But in March 2001, the United Kingdom suspended the operation of its wholesale pricing pool and returned to a system of bilateral contracts, because of the problem of gaming by dominant players. This problem was at least partly the result of insufficient competition among electricity generators. This problem would persist, even under long-term contracts. Among developing countries, the Philippines has gone relatively far towards encouraging competition in electricity generation and retail distribution (Villamejor-Mendoza 2005).

5.4 A residual role for competition policy?

A residual policy question is whether, having allowed entry and competition in the potentially competitive parts of an infrastructure industry, and established an access regime to endure access to bottleneck facilities, a country can afford to rely on a general competition policy regime to discipline any remaining problems of anti-competitive conduct, either by the monopolist, or where competition in the competitive segment is fragile. Or does a country need to establish industry-specific rules on anti-competitive conduct?

In the first instance, the answer depends on whether a country has a general regulatory regime to protect against anti-competitive behaviour. Most countries in the region do not, so a key question is what the priority should be — establishing a general regime, or regulating on an industry-specific basis.

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[6] There is similar literature on how to auction scarce radio spectrum for use by competitive cellular and broadband service providers. See Chan, Laplagne and Appels (2003) for a non-technical overview.

But even countries that have reasonably sophisticated competition policy regimes have judged it necessary to retain industry-specific regulation against anti-competitive conduct in certain infrastructure industries (see PC 2001a and 2001b for a review of the issues). For example, it has been argued that, given the speed of technological advances in telecommunications, more rapid regulatory remedies are needed than are provided by generic competition policy regimes.

On the other hand, there are recent indications that allowing market competition mechanisms, even in areas (such as electricity transmission) thought to have natural monopoly characteristics, may provide better market performance than regulatory solutions (eg Littlechild 2006). In these complex areas, the tradeoffs between market failure and regulatory failure are particularly acute.

6 Regulating social services and principles of enforcement

6.1 The policy problems

Governments often have equity objectives in the provision of social services, particularly health and education services, wanting to ensure minimum levels of access for all members of the population. Thus, one policy challenge is to meet those equity concerns without unduly diluting the benefits of market competition.

Social services such as health, education and the professions are also characterised by asymmetric information. Consumers need to make choices based on quite limited information. In the case of health services, the choices may not even be voluntary, but arise because of adverse circumstances beyond their control. There can be a role for governments in regulating for quality, especially when the consequences of wrong 'purchasing decisions' can be very severe. A second policy challenge is regulating for quality in a way that does not unduly limit the entry of new service providers.

A final policy challenge is in enforcing the regulations that govern quality. There are principles of good regulatory enforcement, which are more general than the enforcement of quality regulation.[7]

6.2 Meeting equity objectives in an efficient manner

Governments in developing countries have generally chosen methods of meeting equity objectives that are less damaging to competition than those used in some Western welfare states. One reason is that their concern has often been to provide a minimum standard of service to the poor, rather than the same standard of service to everyone. They have therefore allowed a variety of service standards to emerge — a minimum standard of service provided for free or at a highly subsidised price, often by a government provider, and higher quality services at commercial rates, often provided privately. This provides the wealthy with an incentive to self-select towards the higher quality services, and government resources only need to be devoted to meeting the needs of the poor.

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[7] This section draws on many sources, including WTO (1998), PC (2005), ORR (1995), and IC (1995).

Nevertheless, there are several other policy challenges in meeting equity objectives. As noted in the previous section, meeting universal service obligations through cross-subsidies can be particularly damaging to competition. Methods less likely to interfere with other objectives include explicit government funding, or funding through a levy on all industry providers. The actual delivery of the service to non-economic areas can also be contracted out, to further limit costs. In some countries, (eg Malaysia), universal service has been defined in terms of delivering a service to communities, not necessarily to each individual.

In addition, there can be invidious interactions in the health sector between the provision of health care and the provision of health insurance, which can thwart equity and other objectives. On the one hand, health insurers have an incentive to engage in 'cream skimming', insuring only low-risk patients and leaving the high-risk (but not necessarily the poor) patients to the public health system. On the other hand, if insurers are preventing from 'cream skimming' by having to charge the same premiums to all patients, irrespective of risk, there will be an incentive for healthy patients to drop out of insurance, leaving the only the high risk (but not necessarily wealthy) patients insured. This adverse selection problem may eventually lead to the collapse of private health insurance.

If social services are to be provided for free or at subsidised rates to a particular group, it can matter whether the subsidy is provided to the supplier or to the customer. Providing the funding to the service provider can lead to services that are provider-driven — there is little client focus, little output, volume and quality are seen as invariably in conflict, and resources are devoted to what interests the providers, not where the client needs are. Providing funding to a provider on a per-service basis, rather than in block grant form, can increase output, and lead to a hard 'volume' orientation, but only according to what can be measured, and volume and quality are still seen in conflict. By contrast, providing funding to the customer leads to services that meet client needs, and quality is not biased — providers that offer better quality are rewarded with higher throughput by customers.

In health care, the main argument against providing funding to the customer is one of asymmetric information. However, some countries have developed systems where a doctor or insurance agency acts as an agent for the customer, and 'shops around' to get the best value for money on their behalf. While such 'managed competition' preserves some of the benefits of competition, it is not the only way to contain health-care costs. Other mechanisms that have been used in developed countries are shown in Box 6.1. A key policy challenge in developing countries is to ensure that equity objectives are met at least cost to both economic efficiency, and to the government budget.

Box 6.1 **Policy initiatives to contain health-care spending**

PRICE AND/OR MARKET-ORIENTED

Measures promoting competition between insurance funds (eg through abolition of exclusivity rights, enhanced mobility of insured persons, flexibility to modify policy conditions.
Co-payments by patients (for pharmaceuticals, hospital spending).
No-claim rebates for insurance premiums.
Measures encouraging prescription or dispensation of cheaper alternatives (generally generics) in lieu of brand-name products.
Sales of pharmaceutical through alternative distribution channels (doctors, hospitals, mail order).
Removal of products and services from reimbursement.
Creation of larger purchasing entities with market power (eg health commissions).
Incentives to substitute home care for hospital nursing, especially for older patients.

PRICE AND/OR BUDGET CONTROLS
Various forms of price approval, price setting etc. for prescription drugs, hospital and doctor’s fees.
Price effectiveness as an approval criteria for new pharmaceuticals.

ORGANISATIONAL CHANGES
Reorganisation of the hospital sector (eg creation of larger units and improved coordination/specialisation.
Exclusivity arrangements between insurers and hospitals/practices.

RESTRICTIONS ON SUPPLY OR DEMAND
Negative/positive lists for pharmaceuticals.
‘Good practice’ recommendations for medical treatment.
Measures to discourage direct access to specialist doctors (generalists as ‘gatekeepers’).
Introduction of supply quotas.
Caps on reimbursement (per patient, practice or clinic).
Caps on staffing (eg number of doctors or nurses per hospital bed).
Access restrictions for new practices, hospitals and pharmacies.

OTHERS
Legal changes influencing the waiting period for, and level of, wage compensation to sick employees.

6.3 Regulating for quality

One way of dealing with asymmetric information is to provide the missing information. Food labelling requirements are an example. But in some cases, such as medical services and many of the professions, government officials may be no better placed than customers to assess whether the right type or quality of service is being provided.

In some cases, governments are happy to let market mechanisms deal with any problems ‘after the event’. A noted, warrantees are a mechanism that market participants often use on a voluntary basis to limit problems of adverse selection when the buyer knows less about the quality of a product than the seller. Public liability laws can provide consumers with recourse in the event that a commodity or service is faulty, and public liability insurance can ensure that suppliers are able to meet the costs of redress in the event of a fault. In some circumstances, there may be downstream quality checks already in place. For example, faulty architectural services could lead to a building collapse, but if building inspections are mandatory, there may be no need to monitor the quality of architectural services in advance.

In other circumstances, the consequences of a fault may be so severe that dealing with the problem ‘after the event’ is not acceptable. Medical and legal services are examples where regulating for quality before the event is often deemed warranted. In some countries, food safety is another such area.

But having accepted that regulating for quality is required, policy makers still have choices as to the appropriate types of regulations. Some of these principles were covered in section 2. For example, regulations can focus on desired outputs and outcomes. Alternatively, they can focus on inputs. Governments can institute their own minimum standards of outputs or inputs. Or they can rely on industry-initiated accreditation schemes.

The costs of monitoring and enforcing different types of regulations, compared with their benefits, can differ greatly, depending on the circumstances. In the medical area, it may be impossible to get industry agreement on a minimum acceptable death rate from heart bypass surgery, and even if regulation specified such a minimum standard, violations of the regulations would still imply excessive deaths, just as if there had been no regulation at all. So governments typically find it easier to get agreement on the minimum acceptable qualifications of heart bypass surgeons, and there is at least a chance that violations can be detected before excessive deaths have occurred. Thus in health services and many of the professions, regulation for quality involves regulating qualification requirements, ie regulating a minimum standard of input. The details of such regulations are discussed in part 3 (section 8).

By contrast, in food safety, regulating for a minimum output or outcome may result in a higher level of compliance with food safety *objectives* than regulating inputs. Further, output-based regulation may be more amenable to ‘audit compliance’, and less enforcement resources will be needed. However, small business may prefer the certainty and simplicity of prescriptive input regulation.

6.4 Enforcement mechanisms

There is a diversity of tools available to agencies to enhance compliance with regulations, including education and training, licensing, warnings and penalties, and award schemes. Each tool has its advantages and disadvantages. But first breaches have to be identified

Identification systems

Several approaches can be used to identify breaches, including random sampling, routine inspection, targeted sampling (blitzes), risk-based sampling, and third party complaints.

Random sampling

This involves drawing on sample units with an equal probability of selection. It minimises strategic behaviour aimed at avoiding compliance, due to the uncertainty of an inspection. It also allows for the projection of sample results to the population, which may be useful for risk management purposes. However, it does not incorporate any known information about risk probabilities. Nor does it take into account the expected costs of identifying and rectifying a breach

Routine (non-random) sampling

Examples are inspection that is part of once a year registration. This is simple to administer but may encourage strategic behaviour and thus only achieve temporary compliance during the inspection period.

Targeting

Targeting by product, geography, class of business etc can be based on risk and/or cost assessments. It will be more effective, the more information is known about a concentration of poor practices. But if there is not a random component, there is likely to be low compliance outside of the target area.

Risk-based inspections

These use risk as a criterion for selecting the frequency or intensity of inspections. As such, a risk criterion can be applied to all the above procedures. Risk targeting has the advantage of directing inspection resources to where the potential pay-off is greatest. But it ignores both the different costs of inspecting any given sample and the probability that a problem can be detected. Therefore, on its own, it may not be the most cost-effective approach. Further, like any kind of targeting, it can generate incentives for low risk businesses to lower their compliance.

Third party complaints

These may come from consumers, employees or other businesses. Following up public complaints may be an inexpensive way of identifying breaches. If the complaint comes from employees or other businesses, the enforcement agency may be able to act before the breach affects the public. However, complaints may reveal only isolated instances, rather than the true risks.

Education and training

This can be an effective mechanism to enhance compliance in areas such as food safety, when ignorance is the prime cause of breaches. It directly addresses the problem, can increase awareness beyond the specifics of any one breach, and can enhance cooperative attitudes, encouraging greater compliance.

Education and training can be delivered as part and parcel of an inspection. It can be provided through voluntary training courses. Here there is a trade-off between comprehensiveness and cost to both the enforcement agency and the businesses attending — no more than basic courses may be warranted, for example, when staff turnover is high. Alternatively, incentives may be provided in the form of reduced registration or accreditation fees for businesses to train staff, or to employ trained staff. Finally, training could be mandatory, but the benefits of this need to be weighed against the consequences, including reduced employment and greater use of labour-saving devices.

Warnings

Warnings and directives may be verbal or written. And they may vary in tone according to the circumstances and severity of the breach. They can raise the offender's awareness of the regulation and if delivered correctly (eg in conjunction with advice about how to avoid further sanctions), can heighten responsibility and maintain cooperative relations between the enforcement agency and the business. They avoid the costs associated with formal education or punitive sanctions.

However, warnings may encourage strategic behaviour (eg initially low compliance) and may be inappropriate for intentionally flagrant breaches.

Penalty systems

These include on-the-spot fines and court remedies following successful prosecutions. They can be accompanied by the use of adverse publicity.

On-the-spot fines are easy to dispense and cheap to administer. Their very existence and moderateness creates an ongoing and credible deterrent. They are likely to be appropriate when punitive action is justified, but the delays and costs of court action need to be avoided, perhaps due to limited agency resources. They offer a compromise between warnings and education on the one hand, and prosecution on the other, so it can be useful for agencies to have the power to issue them. However, they may be open to abuse by field officers, which may reduce or even reverse their 'moral shock' value. Their inappropriate use may also antagonise firms and reduce the possibility of cooperation.

Prosecution provides a more effective deterrent because of the severity and range of remedies under prosecution, and the daunting nature of court proceedings. The threat of prosecution can be used as a bargaining chip by agencies.

Against that, prosecution has high costs for both the prosecuting agency and the defender. So prosecution may not be a credible threat to offenders, particularly when the severity of financial penalties imposed (eg for minor regulatory breaches) does not justify the expense of court action, so enforcers are unlikely to see court proceedings through. Prosecution may thus be appropriate only as a 'last resort' and possibly for some intentional and severe breaches.

According to the theory of optimal deterrence, 'expected penalties' should be set equal to the social costs of a breach, where expected penalties are the amount of the penalty, multiplied by the probability of being detected and penalised. This has relevance for the relative size of penalties for different breaches. For example, penalties for higher risk (ie more dangerous) breaches need to be higher than those for low risk breaches. Sometimes the courts themselves may have discretion to vary penalties in this way. The theory also provides guidance about the absolute size of penalties. However, beyond some point, governments and courts are unwilling to impose extremely high penalties on a very few firms that are actually prosecuted. So higher pecuniary penalties may lack credibility, and alternative penalties are more appropriate, such as custodial sentences, and adverse media publicity.

Adverse media publicity can involve naming firms that have been successfully prosecuted to increase the 'expected penalty' of such breaches, or simply publishing the fact that certain unspecified firms have been prosecuted, thus increasing the general deterrent effects associated with legal penalties. Adverse publicity can provide a large deterrent at relatively little cost to an agency. It can also raise the general awareness, and hence compliance, of other businesses. However, agencies may have little control over the amount of media exposure any particular case receives, making it difficult to match the offence with the appropriate amount of corrective action. Adverse publicity may also harm innocent businesses, whose reputation may be damaged by the publication of a breach by another business.

Licensing

Licensing conditions can specify requirements for premises, procedures to be followed and staff training/educational requirements. As well as applying to firms, individuals can also be separately licensed to perform certain functions. As noted above, this is often the preferred method of ensuring compliance with minimum quality standards in the professions. However, licensing requirements can also be used as an artificial barrier to entry by new practitioners, especially when industry associations have a large say in setting the licensing criteria.

From an enforcement perspective, licensing has the advantage of giving agencies knowledge about ownership/location of businesses and changes therein. As noted above, it avoids high remediation costs after the event. License renewals provide a bargaining tool for enforcers to gain increased compliance. And license fees can be a useful source of revenue for resource-constrained agencies. Licences can also be risk-based, with either varying degrees of stringency or levels of fees. However, licensing imposes administrative costs on agencies and compliance costs on business. And as noted, licensing can act as a barrier to entry, especially where licence requirements are enforced more rigidly for new firms than existing ones.

Awards

Awards may encourage compliance in a positive and cooperative manner, by rewarding firms for good performance rather than punishing them for poor performance. Awards also convey information to consumers.

However, they may expose the enforcement agency to potential liability in court cases in the event that regulations are breached in awarded premises. They also involve administration costs, and further, may direct agency resources towards those firms who would have complied with the regulations anyway. A change of management may substantially affect the quality of service such that the justification for an award may be lost. There are also issues in the design of an award program, such as how high to set the standard, and whether to set several standards to encourage better performance at more than one end of the market.

6.5 Enforcement strategies

In addition to considering the array and design of tools available for enforcing regulations, there is also the question of how, and in what circumstances, they should be deployed. There are alternative behaviours and approaches that enforcement agencies can and should use for enforcing regulations in different situations. Relevant enforcement frameworks include:

- proactive-reactive;
- combative-cooperative; and
- legalistic-discretionary.

Proactive versus reactive strategies

The *proactive-reactive* framework refers to whether a regulatory agency seeks to modify behaviour before or after a breach occurs. Proactive approaches encourage (via education), coerce (via the possibility of inspection) or require (via licensing) compliance before the breach occurs. They are preventative. In contrast, reactive approaches involve the following up of complaints or adverse inspection results. Of course, reactive strategies can also have proactive effects where action to rectify a breach has broader educative or deterrent effects.

Some proactive strategies, involving formal education and licensing, can appear resource intensive. But they may still be more cost-effective than some reactive strategies, especially where reactive strategies lack credibility.

At a broader level, proactive strategies have advantages for matters (as in many social services) where:

- breaches are hard to identify — if the effect of a breach is so dispersed, unmeasurable or difficult to trace back to the offender, than reactive strategies become quite ineffective;
- the costs of the breach are very high; and
- initial mistakes are hard to rectify subsequently.

However, proactive measures such as licensing or mandatory education are more likely to act as a barrier to entry. Further, if proactive measures are poorly targeted, they may waste resources on those firms that would comply anyway.

Combative versus cooperative strategies

The combative-cooperative continuum refers to whether regulatory agencies adopt a threatening or friendly posture in dealing with those regulated. Combative approaches often involve the threat of severe punishment as the incentive for compliance. This has been described as regulating with ‘a big stick and raised eyebrows’. Combative approaches alternatively involve a frequently used ‘little stick’. The central idea behind a combative approach is deterrence, which may manifest in a number of ways, often making it uneconomical for business not to comply with the regulations. Cooperative approaches focus on education, advice, working together and mutual interdependence.

The appropriateness of cooperative or combative approaches will depend partly on:

- the cooperativeness of business;
- agency resource levels;
- available penalties;
- visibility of violations; and
- the rate of firm turnover.

Cooperativeness of business

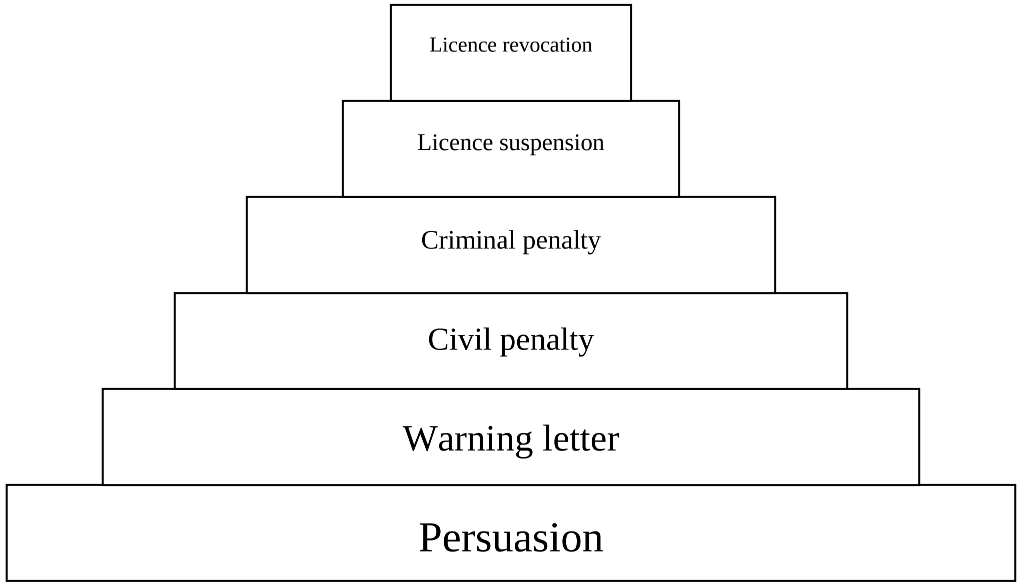
When businesses are not cooperative, with a propensity to comply only when it is profitable to do so, combative approaches may be more appropriate. For these businesses, resources spent on education and gaining compliance progressively through negotiation will be relatively ineffective. Further, negotiation and cooperation can be abused by non-cooperative businesses undertaking strategic behaviour, using it to 'buy time' and avoid non-compliance.

On the other hand, if a business is cooperative, resources spent on legal costs will be poorly spent as cooperative firms may not need to go through the courts in order to modify their behaviour. It may also create an environment of resistance to compliance.

One strategy that offers guidance on which approach to use is the 'tit for tat' strategy. This involves an enforcement agency adopting a cooperative strategy until a business displays non-cooperative behaviour, if it indeed does, whereupon the agency's strategy will change significantly to a combative one. The recent literature on game theory suggests that this strategy can gradually convert non-cooperative to cooperative behaviour in repeated games.

A related solution is the regulatory enforcement pyramid, where regulators start at the bottom of the pyramid, assuming that business is willing to comply voluntarily, but with the provision that they can move up the pyramid to increasingly combative approaches for continued non-compliance (Figure 6.1).

Figure 6.1 **Enforcement pyramid**



Support for a pyramid enforcement structure also comes from its subtle ability to encourage compliance without actually having to move up the hierarchy. The existence, and signalling, of the capacity to 'get tough' when needed can produce a climate that is more voluntaristic and non-litigious than is possible when the regulator rules out and adversarial or punitive approach as an option. Thus there is an argument for regulators displaying an explicit enforcement pyramid. Businesses are then made aware of the consequences if cooperative relations break down and non-compliance continues.

Thus, under the enforcement pyramid and tit for tat strategies, agencies could expect to use a cooperative approach most, if not all, of the time.

Agency resources

An agency faced with scarce resources may nevertheless achieve more using a combative measures, where the use of large penalties (assuming the agency has sufficient discretion over the size of penalties) may encourage reasonable compliance, even if inspections are infrequent. The agency may lack the resources for frequent inspections, but the high penalties may keep the expected costs of non-compliance sufficiently high to induce compliance. Further, when resources are scare cooperative strategies may require too much time, while the enforcement pyramid and tit for tat strategies may require too frequent interaction with firms to promptly identify and punish any betrayal of trust.

However, it is not unambiguously the case that combative strategies require fewer resources than cooperative ones.

Available penalties

Some combative approaches may not be possible if there is no mechanism to reimburse the enforcement agency for the full costs of mounting a prosecution. The adoption of combative methods then depends on the extent of an agency's non-court related remedies. They may still be possible if the agency has the power to impose fines, seize defective goods or revoke licences without court involvement. But the penalties must be large enough for the combative approach to be effective.

Visibility of violations

If breaches are hard to identify or link back to the offending party, the use of combative methods can be somewhat blunted. But it does not follow that ease of identifying breaches justifies a more actively combative approach. As noted above, the mere existence of potential combative action may be sufficient to induce businesses to remain on the bottom of the pyramid, particularly if breaches are easy to detect.

A related issue is the frequency of inspections (or other interaction with businesses). The more frequent the interaction, the more the agency will learn about a business and the better it can evaluate the risks and alternative ways of achieving regulatory goals. This makes adopting a tit for tat enforcement strategy more feasible.

Rate of firm turnover

The benefits of adopting a cooperative approach are more likely to be realised when there is a slow rate of firm turnover, since education and relationship building take some time to have their effect on compliance. Similarly, tit for tat strategies require repeated games to be effective. If there is high rate of firm turnover, then cooperative strategies are open to abuse by firms or proprietors who can violate the trust without having to face the consequences.

Legalistic versus discretionary strategies

The legalistic-discretionary framework refers to the flexibility agencies show in interpreting regulations and applying legal sanctions. Legalistic approaches entail strict enforcement and letter-of-the-law interpretation, whereas a discretionary approach is more tempered, often involving flexibility and judgement in interpreting regulations and hierarchies of enforcement levels. It often provides offenders with a second chance, frequently coupled with advice on how to comply. Strategic tradeoffs may also be used where, for example, the enforcement agency overlooks one violation in return for enhanced compliance in other areas.

The degree of discretion that is appropriate on any particular situation will depend on several variables, including:

- variations in the costs of compliance for different businesses;
- how much knowledge the agency has about a particular business;
- the importance of business cooperation;
- the type of regulation being enforced; and
- aspects of the legal system.

Costs of compliance

When compliance is costly, businesses have a commercial incentive to avoid any attempt to comply and simply risk the legal consequences (or seek to escape the legal consequences by exiting the industry).

In such cases, a discretionary approach may provide the benefit of lifting the level of compliance by encouraging business to meet an intermediate standard, whereupon discretion will be used to overlook the fact that total compliance has not been achieved. Rather than an 'all or nothing' option, discretion can provide businesses with attainable, intermediate goals.

The costs of complying with a new regulation are likely to be higher for existing businesses, which may have to undertake major modification of existing equipment, facilities or business processes, while potential new businesses can design the compliance mechanisms into their operations from scratch. So there is a case for applying a discretionary approach to enforcement with existing businesses, in terms of time frame of adjustment or the degree of compliance, but less or no need for discretion in applying the law to new businesses.

Importance of cooperation

If a business is cooperative, and this is important for achieving regulatory objectives, the use of legalistic enforcement may be counterproductive if the agency's pursuit of breaches is viewed as trivial or unreasonable and leads to a breakdown in cooperative relations.

Agency knowledge of business

Where an agency possesses a good understanding of a business, discretionary approaches may be appropriate. Making tradeoffs with proprietors and establishing discretionary time frames for compliance are more likely to achieve regulatory objectives if the agency understands the risks involved in a particular business and the capacity of a business to adjust.

Regulatory design

Appropriate enforcement approaches will depend in part on whether the type of regulation being enforced is prescriptive, performance-based or principle-based.

Prescriptive regulations are specific requirements that entail little flexibility. As such, by themselves they are unable to cater for the myriad of variables that influence optimal regulatory outcomes. Interpreted literally and enforced legalistically, these regulations could impose unnecessary costs on business and/or promote sub-optimal outcomes. Discretionary enforcement may be needed to complement prescriptive standards to introduce some flexibility into the overall regulatory regime.

For performance-based and particularly principle-based regulations, flexibility is built into the regulation such that discretion and judgement are largely unavoidable in interpreting whether a breach has occurred.

Legal system

There are two aspects of the legal framework that will affect the feasibility of a legalistic approach to enforcement. First, high court costs, without adequate reimbursement, may make it impractical for enforcement agencies to enforce all aspects of the law in a legalistic manner, especially for minor or infrequent breaches. The second is the range of enforcement remedies available to the enforcement agency, such as administrative fines or adverse publicity. If sufficient alternative remedies are available, the legalistic enforcement need not be limited by the high costs of prosecution.

6.6 Enforcement policy

It is appropriate for higher level government agencies to examine the mechanisms for enforcement and to seek to provide an appropriate array of tools for field agencies.

It is less clear whether there is a role for central agencies to develop enforcement strategies for field agencies. On the one hand, a complex array of variables will influence the ideal approach (Box 6.2). To the extent that central agencies can marshal the appropriate expertise, there may be economies in a central agency examining these issues and determining and disseminating an appropriate mix of strategies for enforcing regulations. On the other hand, several of the variables relate to localised conditions. So while central agencies could provide broad guidance on these matters, there will always be a role for decentralised decision-making by field agencies in determining specific enforcement approaches.

Box 6.2 **Factors influencing ideal enforcement behaviours**

Relevant firm and industry-specific factors include:

- size of the regulated firm;
- cooperativeness of the regulated firm (and its employees);
- whether the firm is existing or new; and
- rate of firm turnover.

Relevant regulation-specific factors include:

- nature of standard breached (principle, performance-based of prescriptive);
- risk levels associated with particular breaches;
- relative costs of rectifying a particular breach proactively and reactively;
- visibility of particular breaches.

Relevant agency-specific factors include:

- resources available to the enforcement agency;
- sanctions and mechanisms available to enforcement agency;
- costs to the enforcement agency of undertaking different enforcement actions;
- the enforcement agency’s level of knowledge of the regulated enterprise; and
- political environment.

7 A national research agenda

7.1 The research agenda

The preceding three sections have outlined some (but not all) of the key elements of best-practice regulation and supporting institutions. But as noted, no country starts out with best practice regulations or supporting institutions. Each inherits a set that reflects its own unique history.

Further, many countries lack institutions to support the reform process. And many countries have yet to formulate a coherent regulatory or institutional reform agenda, or even a coherent regulatory and institutional review process. So the national research agenda is three-fold:

- to identify strategic triggers that could kick-start the reform process;
- to identify existing institutions that could support the reform process, to identify the corresponding institutional gaps, and to identify strategies to fill those gaps;
- to identify gaps in the regulatory and institutional frameworks governing economic performance, and to devise a policy *review* agenda, which could lead to a policy *reform* agenda.

When countries of the East Asian region assess their own regulatory and institutional frameworks against these best-practice benchmarks, the outputs of that research should be in the form of a 'tops-down' identification of such strategies and institution-building initiatives, even if the thinking process begins with a 'bottoms-up' review of regulations and institutions. The purpose of this section is to speculate about some of the possible elements of those strategies and institution-building initiatives. It is not intended to pre-empt research outcomes.

7.2 Strategic triggers for reform

As noted, incrementally improving the quality of new economic regulation may be inadequate if the existing regulatory and institutional structures are dysfunctional. In these circumstances, it may be necessary to devise strategic triggers to kick-start a more comprehensive reform process.

At this strategic level, national leadership can be crucial. But leaders do not have to be specific on the detail of the reform agenda. National leaders can simply signal a commitment to the entrenchment of well functioning markets. Or they can signal a new presumption in favour of *non*-intervention. They could perhaps also commit to a broad-based review of existing regulation, or at least commit to develop the resources and institutional frameworks to allow this. In one sense, a commitment to develop resources and institutional frameworks may seem more ‘constitutional’, and hence less threatening, than a commitment to undertake reviews. This is because it is one step removed from actually reviewing special interest deals.

The research task should include thinking about appropriate strategic triggers, and how to orchestrate them. For example, the APEC process is one possible vehicle for encouraging commitments at a national leadership level. The commitment to develop resources and institutional frameworks could then be made on a regional basis, including the provision of technical assistance from those APEC members in a position to provide it. However, the type of assistance provided would need to be consistent with a coherent regulatory and institutional review or reform agenda that was developed at the national level.

There may be unilateral rather than regional opportunities to signal a commitment to market-based outcomes, perhaps also below the national leadership level. These opportunities will depend greatly on the internal political situations in each country. But they should be canvassed as part of the research agenda.

7.3 Institutions and strategies to support the reform process

There are two types of institutions required to support the reform process (although sometimes one will substitute for the other). The first type of institution is one that can undertake an independent policy review process, either in reviewing existing regulatory settings, or reviewing policy proposals before decisions are made. The second type of institution is one that can coordinate policy-making across different government ministries, ensuring that each ministry has access to the policy instruments most appropriate to its policy problems, and that the actions of one ministry do not cut across others.

Consider the second type of institution first. If coordination is currently lacking, a key research question is to identify an existing institution that might have the capability and incentive to take over that coordinating role. As noted in section 3, ministries that are in charge of the purse strings are better placed than others to ensure that coordinated decisions are abided by. Ministries or offices that are closest to national leaders can also carry clout, because they control access to those leaders, which can be as valuable as controlling resources.

Ministries in charge of the purse strings may have an incentive to take on the coordinating role. This is because they bear the budgetary responsibility for badly coordinated decisions. This is most clearly seen in the case of budgetary assistance — poorly targeted assistance will lead directly to a waste of budgetary resources. Nevertheless, for this reason, there is often an in-built check on budgetary assistance. Other forms of poorly targeted or coordinated policy making may have much bigger adverse effects on economic efficiency. These too will have adverse budgetary implications, by eroding the tax base. But these indirect budgetary effects may not be transparent.

Hence, there may be an initial role for a review agency to undertake policy review work to identify the indirect budgetary or other costs of poorly targeted or poorly coordinated decision-making, with a view to persuading a particular ministry or office to take on a coordinating role. The potential coordinating ministries are unlikely to have the skills and resources to undertake such studies internally. Arguably, they should not develop those skills, as their job will be coordination, not policy review. But they could perhaps be persuaded to commission such research from independent review agencies, either in the bureaucracy or in academia, in order to provide backing for a broader coordinating role for themselves.

Where a national research agenda identifies gaps in policy coordination, it should consider possible institutional candidates for that role, and strategies for achieving the desired outcome.

The regulatory and institutional review may also identify gaps in the policy review framework. Even if extensive policy review procedures (as in the top half of figure 3.1) do not take place currently, there may be current institutions that could perform this role. Some of the options were canvassed in section 3. In some economies, there may also be sector-specific institutions with sufficient expertise, but enough independence, to credibly take on these roles. In many economies of the region, there are also academic think-tanks, and even private consulting firms, whose resources and expertise could be brought to bear in the policy review process. Increasingly in the developed world, the market for policy review and advice is contestible. There is no reason why it should be otherwise in the East Asian region.

In addition to identifying possible candidates for regulatory review functions, the research agenda needs to consider how to ensure the credibility of those institutions. There are two elements — ensuring that the review institutions have desirable characteristics, and ensuring that the rest of the policy-making community cannot consistently ignore the policy reviews without cost.

As noted in section 3, a policy review agency should ideally have statutory independence, consult publicly and widely, and take an economy-wide rather than narrow sectional view in reaching its recommendations. These characteristics can be assigned to a single institution. Alternatively, they could be established as policy guidelines to be followed by any agency that undertakes policy review tasks (so that, for example, an agency with insufficient independence would be ruled out from undertaking a review). In the latter case, there could usefully be independent assessment of whether the policy reviews have conformed to the policy guidelines (such conformity assessment could also encompass other elements of a regulatory impact assessment — see box 3.1). There are clear advantages to establishing general guidelines to be followed in all cases, rather than devising them on a case-by-case basis.

If there are sufficient institutions with the skills, expertise and inherent independence to undertake policy reviews, one remaining research task is to address how they can be funded. A finance ministry might be persuaded that funding such reviews would pay for itself, in terms of delivering better economic performance in the long run. If national leaders have already made a commitment to reform, and to resourcing policy review institutions, the funding may be less of an issue.

If there are gaps in the institutional or skill base for undertaking policy reviews, the research task should also consider how to fill those gaps, and how the APEC process could assist. But either way, the importance of high-quality analysis in helping to provide credibility should not be underestimated.

Credibility also requires that policy reviews not be consistently ignored without cost. Once again, if national leaders have already made a commitment to reform, and to resourcing policy review institutions, this in itself could provide credibility. But credibility needs to be sustained, even in light of review outcomes that target particular vested interests. One strategy may be to make the reviews mandatory, at least in certain circumstances. Another strategy may be to empower the review institutions to subpoena evidence from stakeholders, if necessary. Both strategies would make it more difficult for the review process to be sidestepped, thus adding to its credibility in the longer term.

There is also a role for an independent and informed commentariat to add credibility to the review process. An initial commitment by national leaders would provide a useful signal to the media, as well as to the policy making community. To some extent, the media can also be cultivated by the review institutions themselves. Nevertheless, this may be another area where APEC processes can assist.

One further strategy for maintaining credibility is in marshalling countervailing interests against a particular vested interest. In some cases, this will occur as a natural outcome of having transparent processes and taking an economy-wide view. Countervailing interests can become powerful allies of policy review institutions. A relatively broadly based review program may also ensure that a player who is a vested interest in one review may be the countervailing interest in another.

The research agenda should include identifying such strategies for building and preserving the credibility of the policy review process.

7.4 Regulations and institutions to govern economic performance

The lowest level research task — identifying gaps in the regulatory and institutional framework that governs economic performance — is the easiest research task to specify in advance. Indeed, the next section outlines a detailed regulatory and institutional stocktake, so as to evaluate existing regulations and institutions against best-practice benchmarks. The stocktake begins with trade policies governing merchandise trade, proceeds to industry and investment policies governing merchandise production, and then to policies governing the areas of economic and social infrastructure. The coverage is thus more comprehensive than in the previous three sections. The stocktake is set out as a series of questions about the regulations, institutions and regulatory review procedures (if any) in each of these policy areas.

Scanning the regulatory and institutional landscape and providing broad answers to these questions will do several things. It will provide the basis for drawing up a detailed policy review agenda. It will also provide insights that will be useful in thinking about strategies and institutions to support the reform process.

There are two ways to draw up a detailed policy review agenda. One way is to gauge where the worst economic performance is currently. Another way is to gauge where the worst policy-making processes are. The first approach risks infinite regress — reviews are needed to gauge where performance is poor, in order to prioritise reviews. The stocktake takes the second approach. It asks questions about how existing regulatory and institutional frameworks measure up against best-practice benchmarks. It also asks about the existence of policy review procedures. Where the regulations, institutions or review procedures are wanting, economic performance *may* be poor, and the sector would be a good candidate for policy review. Nevertheless, there is a chance that at least some reviews may find that economic performance is adequate. There may be strategic advantages in having a policy review agenda that need not always deliver reviews that are critical ex post.

The regulatory and institutional stocktake asks direct questions about the existence of policy review procedures, and so provides direct inputs into the higher level research question of strategies and institutions to support the reform process. More subtlety, it can also provide insights into the likely sources of institutional resistance to institutional reform. There will inevitably be institutional losers in a move to more systematic policy reviews, quite apart from the institutional losers from the policy reviews themselves, and any subsequent policy reforms. The stocktake may help to identify possible institutional losers from a strengthened policy review process, to identify their incentive structures, and hence to provide insights into strategies by which their resistance can be managed.

Finally, providing very detailed answers to the lowest level research questions is less important than harvesting the general insights to help address the higher level research tasks.

8 A regulatory and institutional stocktake

8.1 Merchandise trade

8.1.1 What institutions are there to evaluate tariff options *before* decisions are made? What institutions could potentially perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how the protective effects of tariffs might escalate up and down the production chain? If the reviews are narrow, could they be broadened (eg by examining whole tariff chapters)? Do the institutions have the technical skills (eg using effective rates of protection, or partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed tariff changes)? To what extent do (or could) they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of industry policy or investment policy?

Are their deliberations made public before the decision is made? After the decision is made?

8.1.2 What institutions are there to evaluate tariff options *after* decisions are made? What institutions could potentially perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how the protective effects of tariffs might escalate up and down the production chain? If the reviews are narrow, could they be broadened (eg by examining whole tariff chapters)? Do the institutions have the technical skills (eg using effective rates of protection, or partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed tariff changes)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of industry policy or investment policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.1.3 What institutions are there to evaluate non-tariff barriers to trade (eg import licensing, quotas, dual exchange rate regimes), either before or after decisions are made? What institutions could potentially perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how these forms of protection interact with other forms within a product category, or across product categories? If they are narrow, could they be broadened? Could the reviews be conducted before decisions are made? Do the institutions have the technical skills (eg using effective rates of assistance, or partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

Do the reviews evaluate alternative means of allocating import licences, quotas, or foreign exchange?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed tariff changes)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of industry policy or investment policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.1.4 What institutions are there to propose or champion across-the-board cuts to tariffs or non-tariff barriers? What institutions could perform this role? Do the institutions have the technical skills (eg using effective rates of assistance, or partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders, allowing the identification of win-win outcomes for all industries? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of industry policy or investment policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.2 Merchandise production

8.2.1 What institutions are there to evaluate restrictions on foreign participation in production (eg through equity limits on foreign direct investment), either before or after decisions are made? What institutions could perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how these restrictions interact with other restrictions within a product category, or across product categories? If they are narrow, could they be broadened? Could the reviews be conducted before decisions are made? Do the institutions have the technical skills (eg using partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

Do the reviews evaluate alternative means of deciding which foreign participants to allow?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed restrictions)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of tariff policy or industry policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.2.2 What institutions are there to evaluate restrictions on *any* new participation in production (eg through restrictive licensing procedures), either before or after decisions are made? What institutions could perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how these restrictions interact with other restrictions within a product category, or across product categories? If they are narrow, could they be broadened? Could the reviews be conducted before decisions are made? Do the institutions have the technical skills (eg using partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

Do the reviews evaluate alternative means of granting licences, using the enforcement criteria outlined in section 6?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed restrictions)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of tariff policy or investment policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.2.3 What institutions are there to evaluate budgetary assistance to agriculture or industry, either before or after decisions are made? What institutions could perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how these forms of assistance interact with other restrictions within a product category, or across product categories? If they are narrow, could they be broadened? Could the reviews be conducted before decisions are made? Do the institutions have the technical skills (eg using partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

To what extent do they (or could they) follow the evaluation procedures outlined in section 4? To what extent are they conducted by independent evaluators?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed restrictions)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of tariff policy or investment policy?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.2.4 What institutions are there to evaluate the effects of underpricing of infrastructure to agriculture or industry, either before or after decisions are made? What institutions could perform this role?

How is the scope of those reviews determined (or how could it be)? Is it in narrow piecemeal fashion, or is there scope to examine how these forms of assistance interact with other restrictions within a product category, or across product categories? If they are narrow, could they be broadened? Could the reviews be conducted before decisions are made? Do the institutions have the technical skills (eg using partial or general equilibrium modelling) to quantify economy-wide effects, including effects on consumers?

To what extent do they take into account other infrastructure issues, such as those outlined in section 5?

To what extent do (or could) those institutions allow consultation with all relevant industry stakeholders (including those that might be harmed by proposed underpricing)? To what extent do they allow consultation with, or otherwise represent the interests of, consumers? To what extent do they allow consultation with other government departments, eg those in charge of tariff policy, investment policy or infrastructure provision?

Are the reviews conducted (or could they be) on a once-off or a regular basis? Are the deliberations made public? Could they be undertaken on a regular (eg annual) basis?

8.3 Electricity

8.3.1 Is there structural separation of the natural monopoly elements (eg transmission, perhaps retail distribution) from the potentially competitive elements of the electricity network (eg generation, perhaps retail distribution)? Are there institutions (eg a government department or inter-departmental committee) that could evaluate which elements are potentially competitive and propose such structural separation (eg as in Figure 5.1)?

8.3.2 Is there competition *for* the market in the natural monopoly elements? Are there institutions that could evaluate the best way to organise this (as in subsection 5.2)? Is foreign participation permitted? Are there restrictions on its form (eg only through joint ventures)? Are the residency or nationality requirements on the employees of such companies?

8.3.3 Is there competition *in* the market in the potentially competitive elements? Has existing generation capacity been split among two or more generation companies (horizontal separation)? Is private participation permitted? Is foreign participation permitted? Are there restrictions on its form (eg only through joint ventures)? Are the residency or nationality requirements on the employees of foreign companies? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.3.4 Is there an independent regulator to ensure that competitive generators have access to transmission facilities on reasonable terms?

Is the regulator independent from the incumbent network operator? Is the regulator independent from the sector ministry?

How is the independent regulator funded? How dependent is it on licence fees from producers?

Is the regulator responsible for licensing? Setting of access pricing rates? Regulation of retail tariffs? Dispute settlement and arbitration among industry participants? Technical and safety regulation? How many of these functions are retained by the Ministry?

8.3.5 Under what conditions are sales from independent generators to the transmission company made — long term contracts, wholesale price pool, short-term electricity market, take-or-pay contracts? Does the regulator have the technical expertise to organise a wholesale price pool? Does it have the expertise to assess whether there is sufficient competition among generators for a pool to be worthwhile?

8.3.6 Are large industrial users allowed to purchase electricity directly from the generator and/or retailer of their choice?

Are retail customers allowed to purchase electricity directly from the generator and/or retailer of their choice?

How are end-user tariffs determined — by market forces, by a CPI-X price cap established by the regulator, by rate of return regulation, via cost-justified price increases approved by the regulator? Are there institutions evaluate and implement alternative means of price regulation?

How are any universal service obligations funded — by cross-subsidies, budget allocation, contributions from the incumbent, contributions from all electricity providers? Are there institutions that can evaluate and propose alternative means of funding cross-subsidies?

8.4 Construction (including government procurement)

8.4.1 Are there limits on the participation of foreign construction firms in construction projects, such as minimum or maximum contact amounts, restrictions on the intra-firm transfer of construction machinery, technical and training manuals, engineering software and design tools (restrictions could include time limits, tariffs, bond requirements, etc). Are there limits on the residency on nationality of employees used by foreign construction firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.4.2 Are there restrictive licensing requirements on domestic or foreign construction firms (eg minimum capital, bank references, deposit of cash bond, proof of experience, certificates of conformity with quality assurance system, enrolment on professional or trade register, proof of professional qualifications of staff)? Are the restrictions more stringent for foreign companies? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria?

Are there regulatory requirements that are specific to a particular construction contract (eg building regulations and technical requirements, building permits and inspections, registration of proprietors, contractors and/or professionals)? Are these administered by central government, state or provincial governments, or local governments? Are the requirements transparent? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

8.4.3 Are there institutional mechanisms for deciding whether central governments, state or provincial governments and local governments should contract out construction work? Are there institutional mechanisms for deciding whether the contracting out should be open to the participation of private domestic companies, foreign locally established companies, and/or offshore companies, and in what form (eg as outlined in section 5.2)? If not, how could such mechanisms be established?

Can foreign construction companies participate in the construction of projects procured by central governments, state or provincial governments, local entities, or state-owned enterprises? Is a permanent commercial presence required for their participation? Are there other restrictions (eg minimum or maximum thresholds, requirement for them to be sub-contractors only)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

Are invitations or solicitations to bid for a construction project made public? If so, are the invitations easy to find?

Are there local content requirements, local employment or investment requirements, or requirements for technology transfer attached to government procurement contracts? Are these the same for domestic and foreign firms? Are there (or could there be) institutions to review the necessity of these requirements, and whether they are followed in practice?

Do procuring entities at various levels of government grant a price advantage to local firms, or subsets of local firms (eg small and medium enterprises)? Are there quotas or other quantitative limits in favour of local firms, or subsets of local firms? Are there institutions to review the necessity and/or effectiveness of these restrictions, along the lines laid out in section 4?

Are the procuring entities at various levels of government required to publish, or provide unsuccessful bidders, with reasons for the rejection of their bids. Is there administrative or judicial review of bidder complaints?

8.5 Wholesale and retail trade

8.5.1 Are there import, export or distribution activities for certain products that are reserved for State monopolies? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.5.2 Are there licensing or other restrictions on the numbers of domestic and/or foreign firms in wholesale and retail trade activity?

If so, how are licence fees and licence duration set? Are licences transferable? How are the licenses allocated (eg auction, ‘beauty contest’, first come, first served, or other)? Are separate licences required in each state/province? Are there (or could there be) institutions to review these allocation mechanisms?

What do the licensing criteria include (eg minimum capital, safeguards against anti-competitive behaviour, restrictions on floor space or store size, limitations on opening hours, minimum domestic content, minimum number of local employees)? Are the requirements transparent? Are they the same for domestic and foreign firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.5.3 Are there restrictions on the private ownership or transfer of commercial land? Are these the same for domestic and foreign firms? Are there zoning requirements that either prevent or stipulate particular uses for land, or create geographical monopolies for particular distribution activities? Are there restrictions (other than through licensing requirements) on store sizes, opening hours, or advertising activity? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.5.4 Are there restrictions on the sale of counterfeit goods, and are these enforced? Are there (or could there be) institutions to review the necessity and/or effectiveness and enforcement of these restrictions?

8.6 Transportation

Maritime transport

8.6.1 Are there restrictions on the entry of new domestic and/or foreign firms in to international shipping, coastal shipping, cargo handling, storage and warehousing, freight forwarding, pilotage towing and tying, or vessel maintenance and repair? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are foreign suppliers of either international or coastal shipping services subject to any of the following restrictions: application of the principle of reciprocity, restrictions on total number of suppliers, application of UN liner code, bilateral agreements (including cargo-sharing clauses), other cargo reservations? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are the following services mandatory, or do the terms of access differ between domestic and foreign carriers: port services, pilotage, lowing, tug assistance, navigation aids, berthing, waste disposal, anchorage? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

What are the conditions a vessel or fleet must meet in order to fly the national flag (where there is State control)? Is an open registry system in place (no state control) ? What conditions must a vessel or fleet meet in order to be transferred to an open registry, or second registry (where national flag is retained but more flexible conditions of manning allowed)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are agreements between transport carriers (such as liner shipping conferences) subject to any disciplines from competition law? If general laws exist, are these arrangements exempt? What types of conferences are allowed (open, closed) and what types of arrangements are allowed (quantity setting, price fixing)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are the various maritime activities subject to restrictive licensing? Do the licensing criteria discriminate against foreign operators? How are licenses allocated? Are they transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and the appropriateness of the allocation mechanisms?

Air transport

8.6.2 Are there restrictions on the entry of new domestic and/or foreign firms and/or budget airlines into international air transport, domestic air transport, charter services (international or domestic), provision of fuel, luggage and freight handling, aircraft repair and maintenance, selling and marketing of air services by airline companies, computer reservation systems? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

By what principles are bilateral air service agreements negotiated? Is there a systematic attempt to liberalise these agreements? Is the country a member of any plurilateral open skies agreements? Are there (or could there be) institutions to review the content of these agreements?

What is the structure of ownership/operation of airports (along the spectrum outlined in section 5.2)? How are flight slots and gate slots allocated at airports (eg by grandfathering rights, by slot auction, by authority's discretion, by flag carrier discretion, by airport discretion, according to IATA guidelines). Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Are alliances and other carrier agreements allowed? Are they subject to the disciplines of competition law, and/or exempt from such law? Is codesharing allowed? Does the government regulate airfares on domestic and/or international routes? If so, is fare discounting allowed? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Are the various air transport activities subject to restrictive licensing? Do the licensing criteria discriminate against foreign operators? How are licenses allocated? Are they transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and the appropriateness of the allocation mechanisms?

Rail transport

8.6.3 Are there restrictions on the entry of new domestic and/or foreign firms into passenger transport, freight transport, pushing and towing services, maintenance and repair of rail equipment, and rail support services? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Is there an access regime or other arrangements to allow competitive carriers access to particular rail tracks? Is there an independent regulatory authority overseeing these access arrangements? How is the regulatory funded? Is there a dispute settlement mechanism? Are there (or could there be) institutions to review the adequacy of these arrangements?

Are the various rail transport activities subject to restrictive licensing? Do the licensing criteria discriminate against foreign operators? How are licenses allocated? Are they transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and the appropriateness of the allocation mechanisms?

Road transport

8.6.4 Are there restrictions on the entry of new domestic and/or foreign firms into passenger transport, freight transport, rental of commercial vehicles with operator, maintenance and repair of road transport equipment, and road support services? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are the various road transport activities subject to restrictive licensing? Do the licensing criteria discriminate against foreign operators? How are licenses allocated? Are they transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and the appropriateness of the allocation mechanisms?

Pipeline transport

8.6.5 Are there restrictions on the entry of new domestic and/or foreign firms into the pipeline transport of fuels, or the pipeline transport of other goods? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Is there an access regime or other arrangements to allow competitive carriers access to particular pipelines? Is there an independent regulatory authority overseeing these access arrangements? How is the regulatory funded? Is there a dispute settlement mechanism? Are there (or could there be) institutions to review the adequacy of these arrangements?

Are the various pipeline transport activities subject to restrictive licensing? Do the licensing criteria discriminate against foreign operators? How are licenses allocated? Are they transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and the appropriateness of the allocation mechanisms?

8.7 Telecommunications

8.7.1 Are there restrictions on the entry of new domestic and/or foreign *facilities-based* suppliers of the following telecommunications services: local (fixed), long distance (fixed), international (fixed), mobile (analog, digital and/or satellite), data communications, leased lines, internet access services? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on the entry of new domestic and/or foreign *resale-based* suppliers of the following telecommunications services: local (fixed), long distance (fixed), international (fixed), mobile (analogue, digital and/or satellite), data communications, leased lines, internet access services? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are companies allowed to operate private networks of *leased lines* between their various premises? Are companies allowed to operate private networks of *own facilities* between their various premises? Is interconnection of these private networks to the public switched network permitted (at one or both ends)? Are there (or could there be) institutions to review the necessity and/or effectiveness of any restrictions?

Are there restrictions on international call-back services? Do new entrants have to use the incumbent's international circuits or gateways, or are they free to choose how to route their international traffic? Are there (or could there be) institutions to review the necessity and/or effectiveness of any restrictions?

8.7.2 Is there an independent regulator?

Is the regulator independent from the incumbent network operator? Is the regulator independent from the sector ministry?

How is the independent regulator funded? How dependent is it on licence fees from producers?

What type of licence is required to operate in each market segment (eg individual, general)? How are the licenses allocated (eg auction, 'beauty contest', first come, first served, or other)? How are licence fees and licence duration set? Are there (or could there be) institutions to review the necessity and/or effectiveness of these allocation mechanisms?

How are spectrum licences allocated to facilities-based operators in each market segment (eg auction, 'beauty contest', first come, first served, or other)? How are licence fees and licence duration set? How are licensing criteria set? Do the criteria discriminate against foreign operators? Are licences transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria and allocation mechanisms?

8.7.3 How does the government define universal service? What policy instruments are used to achieve it (eg monopoly, roll-out obligations in licences, subsidies from state budgets, vouchers for target consumers, cross-subsidies etc)? Are universal service obligations imposed on all operators, or just the incumbent? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.8 Finance

Banking

8.8.1 Are there restrictions on the entry of new domestic and/or foreign banks? Are there equity or other limits on private and/or foreign participation in banking activity? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are foreign banks allowed to raise capital domestically (eg where a bank's capital is the margin by which creditors are covered if the bank's assets were liquidated? Are foreign banks restricted from taking retail deposits? Are they restricted in their lending activities? Are there restrictions on cross-border banking services? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are domestic and/or foreign banks restricted from offering the following services: insurance services, securities services, real estate lending, foreign currency lending, foreign exchange services, credit card services, financial leasing services? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.8.2 Is there an independent banking regulator? Is the regulator independent from the central bank? Is the regulator independent from the sector ministry? How is the independent regulator funded? How dependent is it on licence fees?

How are bank licensing criteria set (eg minimum capital, compatible home country regulation, reciprocity)? Do the criteria discriminate against foreign operators? How are the licenses allocated (eg first come, first served, competitive bidding, discretion)? Are licences transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria and allocation mechanisms?

What prudential requirements are there on banks: capital adequacy ratio, liquidity ratio, loan classification requirement (the number of days after which a an unpaid loan is classed as non-performing), single exposure limit (percentage limits on lending to an individual company), foreign exchange risk exposure limit, requirement to join deposit insurance scheme, lender of last resort facility available, required frequency of publication of financial statements? Is private credit rating of banks allowed? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

Insurance

8.8.3 Are there restrictions on the entry of new domestic and/or foreign suppliers of the following insurance services: direct life, direct non-life, re-insurance, auxiliary services (eg broking)? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on cross-border trade in insurance services?

8.8.4 Is there an independent insurance regulator? Is the regulator independent from the central bank? Is the regulator independent from the sector ministry? How is the independent regulator funded? How dependent is it on licence fees?

How are insurance licensing criteria set (eg minimum capital, compatible home country regulation, reciprocity)? Do the criteria discriminate against foreign operators? How are the licenses allocated (eg first come, first served, competitive bidding, discretion)? Are licences transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria and allocation mechanisms?

What prudential requirements are there on insurers: minimum capital requirement, capital adequacy ratio, liquidity ratio, covered by insolvency guarantee scheme (the insurers' equivalent of bank deposit insurance), required frequency of publication of financial statements? Is the private credit rating of insurance companies allowed? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

Securities services

8.8.5 Are there restrictions on the entry of new domestic and/or foreign suppliers of the following securities services: investment banking, stock brokerage, mutual funds? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are domestic and/or foreign securities firms restricted from offering the following services: underwriting new issues, securities dealing, stock brokerage services, risk management, mergers and acquisitions advisory services, mutual finds or unit trusts, information services (including trading information and credit rating services)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are foreign banks allowed to deal in domestic securities? Are foreign securities forms obliged to use the services of a domestic resident financial intermediary (broker-dealer) on the inter-bank market, the foreign exchange market, the stock market and/or the derivatives market? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on cross-border securities trading, or cross-border trade in securities services? Do cross-border foreign securities dealers have access to domestic settlement and clearance facilities? Do they need to use a domestic financial intermediary to use these services? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.8.6 Is there an independent securities regulator? Is the regulator independent from the finance ministry? How is the independent regulator funded? How dependent is it on licence fees?

How are securities licensing criteria set (eg minimum capital, compatible home country regulation, reciprocity)? Do the criteria discriminate against foreign operators? How are the licenses allocated (eg first come, first served, competitive bidding, discretion)? Are licences transferable? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria and allocation mechanisms?

What prudential requirements are there on securities firms: minimum capital requirement, capital adequacy ratio, required frequency of publication of financial statements? Is the private credit rating of securities companies allowed? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

Are government, private and/or foreign mutual finds required to invest in shares of publicly held companies? Are mutual funds subject to restrictions on their investments abroad? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

8.9 Professions

8.9.1 Are there restrictions on the entry of new domestic and/or foreign *firms* supplying the following professional services: legal, accounting, architecture, engineering, medical and dental, veterinary, para-medical (eg midwives, nurses, physiotherapists)? Are there equity or other limits on private and/or foreign participation in these activities? Are there limits on *non-professional* investors having an equity stake in professional service firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are professional service firms prohibited from incorporating? Are they required to establish in a particular form (eg partnership)? Are foreign services providers either prohibited from, or required to, establish in a joint venture with local professionals? Are there minimum requirements to have nationals/residents employed in foreign invested professional firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.9.2 Are there restrictions on the entry of new domestic and/or foreign *individual professionals* supplying the following professional services: legal, accounting, architecture, engineering, medical and dental, veterinary, para-medical (eg midwives, nurses, physiotherapists)? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there nationality or citizenship requirements, residency or local presence requirements for individual professionals to practice in any of these professions (as a condition of licence or otherwise)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on the outward movement of individual professionals (eg exit permit, education or employment bond)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.9.3 Which organisations are responsible for regulating (via licensing or otherwise) to ensure service quality in each of the professions: government ministry, professional body, both, other? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

What are the requirements for licensing and accreditation of *local* individual professionals in each profession: compulsory membership of professional organisation, professional examination, practical experience (eg minimum number of years), higher education, geographic location, proof of indemnity insurance, or no licence required to practice? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria?

What are the requirements for licensing and accreditation of *foreign* individual professionals to practice locally in each profession: local retraining required for a full licence, local examination, case-by-case assessment of foreign licence and qualifications (eg under a mutual recognition scheme), aptitude test, local practice, foreign licence and qualifications sufficient, geographical location, no licence required to practice? Are there (or could there be) institutions to review the necessity and/or effectiveness of these criteria?

If licence numbers are restricted, how are licences allocated in each profession: first come, first served, discretion, competitive bidding, other? Is the local employment of a foreign individual professional subject to local labour market testing, or some other needs test? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions and allocation mechanisms?

8.9.4 In each professional service, are there activities (eg appearance on court, auditing, conveyancing) that are reserved by law to the profession? Are there restrictions on partnership or association with other professions? Are there restrictions on advertising or solicitation? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

In each professional service, is there a requirement for foreign firms to train local staff? Are foreign firms restricted from participating in government contracts? Is there a requirement for the work of foreign professionals to be approved by a locally trained/licenced professional? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.9.5 In each professional service (eg medical), is there a universal service obligation? How is it defined? What instruments are used (eg consumer subsidy, producer subsidy, cross-subsidy, free provision, subsidised insurance)? How is the universal service obligation funded (eg budget allocation, industry fund)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Are foreign providers restricted in their access to producer subsidies? Are their clients restricted in their access to consumer subsidies? Are local providers (domestically owned or foreign invested) restricted in their access to producer subsidies when they serve foreign clients? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.10 Health and related social services

8.10.1 Are there restrictions on the entry of new domestic and/or foreign firms supplying the following health and related social services: hospital (including psychiatric), other human health services (ambulance, residential health care, medical laboratory), social services (aged care, child day care, counselling and rehabilitation)? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are health and social service firms prohibited from incorporating? Are they required to establish in a particular form (eg partnership)? Are foreign service providers either prohibited from, or required to, establish in a joint venture with local professionals? Are there minimum requirements to have nationals/residents employed in foreign invested firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are foreign health and social service firms restricted in the scope of services they can provide? Are they restricted in the number or type of clients they can service? Are their minimum or maximum restrictions on employing nationals/residents in managerial positions, or on employment locally trained professionals in professional positions? Is there a requirement for foreign firms to train local staff? Are foreign firms restricted in charging fees? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.10.2 Which organisations are responsible for regulating (via licensing or otherwise) to ensure service quality in each of the health and social service areas: government ministry, professional body, independent regulator, other? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Is a licence required to practice in each health and social service area? Are the licences limited in duration, or limited geographically? What are the requirements for licensing and/or accreditation in each health or social service area: minimum capital, proof of financial viability, experience, proof of professional qualifications of staff, conformity with quality assurance system, compatible home country regulation? Do the licensing criteria discriminate against foreign suppliers? If licence numbers are limited, how are they allocated? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.10.3 In each health and social service, is there a universal service obligation? How is it defined? What instruments are used (eg consumer subsidy, producer subsidy, cross-subsidy, free provision, subsidised insurance)? How is the universal service obligation funded (eg budget allocation, industry fund)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Are foreign providers restricted in their access to producer subsidies? Are their clients restricted in their access to consumer subsidies? Are local providers (domestically owned or foreign invested) restricted in their access to producer subsidies when they serve foreign clients? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.11 Education services

8.11.1 Are there restrictions on the entry of new domestic and/or foreign firms supplying the following education services via commercial presence: primary, secondary, higher (university and vocational), other? Are there equity or other limits on private and/or foreign participation in these activities? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are education firms prohibited from incorporating? Are they required to establish in a particular form? Are foreign service providers either prohibited from, or required to, establish in a joint venture with local professionals? Are there restrictions on foreign firms using particular names or titles (eg 'university')? Are foreign firms restricted in the scope of particular course that can offer, or in the numbers of domestic or foreign students they can enrol? Are there minimum requirements to have nationals/residents employed in foreign invested firms? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.2 Is a joint venture or partnership of some kind with a local institution required for the provision of distance education? Are foreign firms restricted in the scope of particular course that can offer, or in the numbers of domestic students they can enrol, in distance education courses? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are local institutions restricted in their access to the internet (either physical access, or content regulation)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.3 Are there restrictions on the entry of new foreign students (eg quotas, restrictions in length/class of visa, requirement for prior admission, proof of financial support, language skills, fees)? Are restrictions on foreign students gaining entry to domestic institutions (eg quotas)? Are there restrictions on foreign students enrolling in certain subjects? So enrolment criteria differ for foreign students in local institutions? Are there restrictions on local institutions recruiting foreign students? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on domestic students exiting to enrol in foreign educational institutions (eg quotas, visa restrictions)? Are there restrictions on foreign institutions recruiting domestic students? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.4 Are there restrictions on the entry of foreign teachers? Are there nationality and/or citizenship requirements, and residency and/or prior local presence requirements for teaching (as a condition of a licence, or otherwise)? Are there labour market tests or other needs tests for the employment of foreign teachers? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there visa or other exit restrictions in the exit of domestic teachers? Is an education or employment bond required after training? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.5 Are there licensing, registration or authorisation requirements for educational *institutions*? Are there different requirements at the state and provincial or local level? Do they discriminate against foreign institutions? Are there performance of quality assurance obligations in foreign providers? Do they differ from those for domestic institutions? Are there (or could there be) institutions to review the necessity and/or effectiveness of these requirements?

Are foreign institutions restricted in their ability to charge fees for international and/or local students? Are they restricted in setting the curriculum for the subjects they teach? Are there restrictions on the degree/certificate awarding powers of foreign institutions? Are there restrictions on the recognition of degrees/certificates awarded by foreign institutions? Are there restrictions on advertising by foreign institutions? Are there restrictions on the repatriation of fees, payments, surpluses or profits by foreign institutions? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.6 Is there a universal service obligation at each education level? How is it defined? What instruments are used (eg consumer subsidy, producer subsidy, cross-subsidy, free provision)? How is the universal service obligation funded (eg budget allocation, industry fund)? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

Are foreign providers restricted in their access to producer subsidies? Are their students restricted in their access to consumer subsidies? Are local providers (domestically owned or foreign invested) restricted in their access to producer subsidies when they teach foreign students? Are there (or could there be) institutions to review the necessity and/or effectiveness of these arrangements?

8.11.7 Are there licensing, registration or authorisation requirements for the provision of distance education? Are there restrictions on the import and distribution of educational materials and software by institutions providing distance education? Are there restrictions on cross-border payments and credit card transactions? Are there restrictions on the recognition/accreditation of distance education? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.8 Are there restrictions on foreign students gaining access to employment while studying? Are there restrictions on foreign students gaining access to tuition subsidies while studying? Are there restrictions on foreign students gaining access to other subsidies (eg travel concessions, health care) while studying? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there foreign currency restrictions on domestic students studying abroad? Are there restrictions on the recognition of overseas qualifications for institutional credit? Are there restrictions on the recognition of overseas qualifications for licensing and accreditation (eg entry to a profession, right to practice? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

8.11.9 Is there a requirement for individual foreign teachers to be registered or licensed to supply education services? Do the registration or licensing requirements differ from those for domestic teachers? Are there restrictions on the recognition of foreign teaching qualifications? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

Are there restrictions on funds transfers by domestic teachers who leave to teach overseas? Are there (or could there be) institutions to review the necessity and/or effectiveness of these restrictions?

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