Regulation and Inefficient Entry [*]

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1. Introduction

I explore some unpleasant interactions between policies for regulating firms with market power and policies for achieving efficient entry. These anti-competitive effects of regulation can take many forms, and it is clear that different policies will have different effects: sometimes the "wrong" kind of entry will take place, and sometimes the "right" kind of entry will not take place.

Of course, it might sometimes be a deliberate – and justified – policy to sacrifice productive efficiency for some wider goal, but nevertheless a careful analysis of the costs involved in this needs to be carried out. The discussion is carried out under three headings: the problems for productive efficiency associated with (i) the protection of incumbents, (ii) the protection of entrants, and (iii) the protection of consumers. Of course, it is not always easy to separate out policies neatly under these three headings, especially as regulators often justify their policies as being in the "interests of consumers". For instance, universal service obligations are there ostensibly to protect certain vulnerable consumer groups, but act also as a justification for protecting incumbents (e.g. against cream-skimming entry). In addition, however, these social obligations also act in practice to *assist* entry into profitable markets.

Of course it is always an easy task to criticise existing policies. The interaction of regulation and liberalisation is particularly complex, and it is inevitable that early policies will be flawed. However, I do not attempt to go beyond this remit, and, except at the end when some policies for access charges that ensure efficient entry are briefly discussed, there is little analysis of how policy should be.

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2. Problems associated with the protection of incumbents

Some of the most flagrant examples of anti-competitive policy-making are concerned with protecting incumbents from the full rigours of competition.

One policy is to grant an incumbent firm a monopoly franchise, perhaps for a temporary period. Obviously there is no more clear-cut example of anti-competitive regulation than this, but it remains surprisingly common. (For instance, in almost every country the basic postal service is a monopoly franchise.)

The argument usually given for *temporary* monopoly is that incumbents somehow require a 'transitional' period to prepare for full-blown competition. the evidence is that a more effective way for inefficient incumbents to become competitive is actually to face competition. A more cynical explanation for such policies is that they are part of the "privatisation contract", i.e. a kind of bribe paid to the incumbent (including both the employers and employees) to persuade it to support the privatisation process.

Another argument against competition is that it may undermine various politically desirable cross-subsidies built into the incumbent's tariff (for instance, tariffs favouring residential customers at the expense of businesses). This argument is certainly true – it is virtually impossible to combine cross-subsidies with laissez-faire competition in the long term – and the argument is used to justify the ban on competing postal services in Britain (and most of the rest of the world). Indeed it is perhaps the chief negative aspect of universal service obligations that they provide incumbents with a reasonable-sounding argument for entry restrictions. However, we will come back to the problems caused by these kinds of 'universal service' policies in part 4 of the discussion, and we will see that, even if it is desired to maintain the cross-subsidies, there are superior ways to do this than to ban entry.

It may be that special considerations apply to developing countries, which there is often:

- a history of under-investment
- a shortage of finance from within the region, both public and private (related: a high social cost of public funds).

Does grave need for investment combined with a shortage of outside finance imply that unregulated franchise monopoly, perhaps as a temporary measure, is a better policy than liberalization, since high profits generated internally can be used to fund investment? See Armstrong and Vickers (1996) for some tentative arguments along these lines.

3. Problems associated with the protection of entrants

It is a common regulatory practice to "assist entry", especially in the early stages of liberalisation. There are a large number of entry barriers and incumbency advantages in the network industries – to do with sunk costs, customer inertia, and so on – and a natural question is whether potential entrants should be given special assistance. It is fair to say

that economic theory has not generated any clear-cut general principles in this regard: entry assistance might stimulate beneficial future competition that otherwise would not exist, but might also damage productive efficiency and distort competition. However, even if we remain agnostic about the merits of such assistance, it is worthwhile to examine the drawbacks of the various *methods* of providing assistance. (We postpone questions about entry assistance to do with the incumbent's universal service obligations and other pricing restrictions until part 4 of the note.)

Limitations on further entry: One common policy is that only one or two firms are licensed to compete with the incumbent. Protecting one or more entrants by raising legal barriers to the entry of further firms is a curious means with which to assist entry. The idea is presumably that no entry at all would occur unless there is a guarantee against further entry, and a little entry is better than none. Three arguments against this policy are:

- If a second entrant would make the first entrant unprofitable, why would the second firm enter (unless it was much more efficient than the first, when it would be good to have this entrant in any event)?
- A ban on further entry is likely to make collusive behaviour between the incumbent firms more tempting.
- The main effect of the policy is likely to be to benefit the original incumbent itself rather than the entrant – if entry assistance is desired it can surely be better targeted?

Asymmetric treatment of incumbents and entrants: Often entrants are freed from restrictions placed on incumbents, such as universal service obligations and prohibitions on cross-market entry. The fact that an entrant might be permitted to pick and choose the markets and customers it wants, while the incumbent is forced to serve all customers at a distorted tariff, is a major source of entry assistance, but we defer this discussion to when we talk about universal service.

Often, incumbents are prevented from serving a related market as a means to encourage entry into that related market. Competition in a market can seriously be impaired if the incumbent is prevented from participating in some important aspect of the market. The choice between "conduct" and "structural" remedies is a difficult one. Recent regulatory policy in this regard has been extremely mixed: some privatisations have been accompanied by vertical restructuring and some have not. However, it is fair to say that the most recent policies have involved a more lenient attitude towards vertical integration and this trend has the pro-competitive advantage of keeping incumbents in all the markets.

Explicit market share targets for incumbents: A superficially desirable policy for regulators keen to ensure effective competition in their industry is to aim at a specified market share reduction by the incumbent firm. For one thing, achieving such a target may provide an easy way to demonstrate how effectively regulators are doing their job. However, even ignoring the well-known drawbacks of using raw market share data as an indicator of competitiveness, such a policy is bound to be anti-competitive, in the sense

that the incumbent is then required by regulation to compete *less* effectively (for instance, by increasing its prices). The likely result is that inefficient entrants will prosper.

Premature deregulation: There is obviously an inverse link between the tightness of regulation and the amount of entry. If a market is deregulated when there is still substantial market power present, prices will be high, which may in turn induce a high degree of entry. Given that there is a price/cost margin due to market power, this entry may not be the most efficient.

Favourable terms of access to incumbent's facilities: The final point we discuss is the common practice of granting entrants generous terms for access to the incumbent's facilities (such as gas pipelines, the electricity grid, or the local lines connecting the incumbent's subscribers in telecommunications). Here we just discuss the effects of a low *level* of access charges, rather than an inefficient *structure* of access charges (which is left to the next part). In telecommunications, one major policy dilemma for access charges is that if the incumbent is forced to cover the fixed costs of local network provision partly out of call charges – i.e. if there is an "access deficit" – and if rivals had access to the incumbent's network at marginal cost, then this could over time lead to inefficient cream-skimming with the result that the incumbent would be unable to cover its fixed costs. On the other hand, in the early stages of liberalisation competition is bound to be limited, and perhaps in danger of being stifled altogether. In Britain, the first competitor was explicitly granted favourable access to BT's network, and in particular was made exempt from making any contribution to BT's access deficit (see DTI, 1991, page 70):

> "it is reasonable to exempt a new competitor [...] from the [access deficit] contribution in the early stages of its business development, in the interests of helping it get started. If this were not done, the ability of the newcomer to compete might be inhibited because of the economies of scale available to the incumbent and competition might never become established."

In terms of its effect on entry, subsidised access prices have a similar effect to allowing the incumbent to charge high retail prices, as discussed above. (Entrants care largely about their available *margin* between retail prices and access charges, not the absolute value of these prices.) The difference between the two policies is that with high retail prices it is consumers who pay for entry assistance, whereas with low access charges it is the incumbent. Either way, though, the likely result will be inefficient entry. Oftel is now of the view that this policy should not be followed (Oftel, 1995, para. 5.10):

> "Oftel does not favour using interconnection charges to provide entry assistance but will continue to tackle barriers to entry directly."

4. Problems associated with the protection of consumers

A number of problems for efficient entry are caused by policies designed to protect consumers. In particular, the kinds of retail tariff that the regulated incumbent is

permitted or required to offer will significantly affect the pattern of entry that occurs. We sub-divide the issue into three parts: (i) the effects of average price regulation, which means that there is a negative relationship between prices in competitive markets and prices in monopolised markets; (ii) the effects of prohibiting price discrimination, which means that there is a positive relationship between prices in competitive markets and prices in monopolised markets, and (iii) the effects of the incumbent's tariff not reflecting its underlying costs. The implications of (i) and (ii) are quite contrasting, and roughly speaking with the former there is too little entry and with the latter there is too much. Policies (ii) and (iii) are usually combined in practice – for instance in "universal service" policies that require the incumbent to offer geographically uniform tariffs even when costs differ – but it is clearer to analyse the two effects separately. Problem (iii) is quite complex, especially when access to the incumbent's facilities is an issue, and we discuss the problems with cost-based access pricing and so-called local loop unbundling under this heading.

Average-price regulation: Price cap regulation often takes the form whereby a measure of the average price of a basket of the incumbent's prices is controlled, but the firm has some leeway in choosing the pattern of its relative prices within the basket. While such a system has good features in terms of allowing the firm to make its tariff reflect costs, especially as relative costs change over time, it can also give rise to incentives to react particularly aggressively to entry, a feature that may act to deter efficient entry.

For instance, suppose the incumbent faces competition predominately in one market. With an average price cap, the firm has an additional incentive to cut prices in the competitive market, other than the usual healthy incentive to compete fairly with rivals – it can use price cuts in the competitive market to enable it to raise its prices in its captive market. Indeed, such incentives might be so great as to cause its prices to fall below the associated cost of providing the competitive service, something that is one of the usual tests for predatory pricing. As a result, competition from rivals might be thwarted even if they are more efficient than the incumbent.

Constraints on price discrimination: Policy often involves prohibitions on the incumbent engaging in price discrimination, so that the incumbent is required to offer the same tariff to different consumer groups, even when the scope for competition is greater for some groups than others. This is roughly the opposite policy to average price regulation, in that here if the incumbent lowers its price in response to entry in one market it must then lower its prices in other markets. Naturally such policies will blunt the incumbent's incentive to compete in markets where entry takes place. In particular, rivals who are less efficient than the incumbent may well succeed in their chosen markets because the incumbent cannot afford to compete aggressively with them.

The usual rationale for such policies has recently been re-stated by Oftel (1999a, para. 3.27):

> "Oftel set out the principle that those basic elements of telecoms service would be provided at geographically averaged prices so that they are available to all

> consumers at the same price throughout the country. [...] It has the benefit of ensuring that the benefits of competition in areas of the country where BT faces strong competition are extended throughout the country."

This argument has some appeal, in that prices are then lower in monopolised markets than they otherwise would be. But this benefit comes with the cost of perhaps excessive entry in competitive markets, and anyway one would imagine that consumer protection in monopoly markets could be better targeted by direct price regulation. Of course, such a policy also has the effect of assisting entry (see previous section): one would imagine, however, that it is a blunt and ill-focused instrument for doing so.

Incumbent's tariff not cost-reflective: There are numerous ways in which an incumbent's retail tariff can be out of line with its underlying costs. For instance, we might have:

- a requirement that the incumbent offers a geographically-uniform tariff even when its costs of providing services differ around the country;
- a requirement that the incumbent offers a balance between fixed and usage-dependent charges better suited to lower-usage residential subscribers than higher-usage business subscribers.

Tariffs that do not reflect costs are one of the most potent source of regulatory-induced problems with competition: a tariff which involves large positive margins in some markets and large negative margins in others will attract, all else equal, an undesirable pattern of entry. A simple example serves to illustrate some of the problems.

<u>Example</u>: Geographically uniform tariffs

Suppose an incumbent firm is required by regulation to offer a <u>uniform</u> price P for providing a specified service anywhere in the country. The country is divided into two broad kinds of region, urban and rural, and the incumbent incurs costs for providing service in an urban area of C_{urban} and in a rural area of $C_{rural} > C_{urban}$. Suppose that $C_{urban} < P < C_{rural}$, and that overall the incumbent makes a reasonable profit, but profits from the urban sector, where it has a positive margin of $P - C_{urban}$ per unit, are used to cross-subsidise the rural market, where it makes a loss of $C_{rural} - P$ per unit.

This system of cross-subsidy leads to several problems with *laissez-faire* competition:

(a) *Cream-skimming*: Suppose an entrant has unit cost for the urban service of c_{urban}. Therefore it will find it profitable to enter that market provided P is above its costs. On the other hand, entry is socially desirable in this market if and only the entrants costs are lower. Therefore, whenever $C_{urban} < c_{urban} < P$ entry will take place when this is not efficient. Therefore, there is ample scope for inefficient entry in the profitable markets.

(b) *Lack of efficient entry in loss-making markets*: Suppose an entrant has cost for the rural service of c_{rural}. Then using the above style of argument it follows that if $C_{urban} > c_{urban} > P$ then entry will *not* take place there even though it is efficient. Therefore, there is ample scope for there being a lack of efficient entry in the loss-making markets.

(c) *Funding problems*: If widespread cream-skimming entry takes place then the incumbent will not be able to continue funding its loss-making rural service.

Issue (c) is not the focus of this paper, but will in practice be an important issue for regulators to deal with, and tends to be the problem that is of most concern to regulators. Some proposed solutions to the above problems include:

(i) Banning entry, as is the case with basic postal service in most countries. This unimaginative policy obviously eliminates all potential benefits from competition.

(ii) Rebalance the incumbent's tariff to reflect its underlying costs, so that instead of a uniform price, the incumbent's price in the urban market was $P_{urban} = C_{urban}$ and its price in the rural market was $P_{rural} = C_{rural}$. This would solve all three of the problems (a) – (c) at once, and in particular, entry would take place in either sector if and only if an entrant was more efficient than the incumbent. However, this policy is usually alleged to be politically unacceptable in industries such as post and telecommunications, though this is rarely put to the test. (Other goods and services priced non-uniformly in terms of, for instance, urban and rural locations, most notably housing, so why should post be so different?)

(iii) Create a (turnover-based) "universal service fund", so that, for instance, the uniform tariff remains in place but all firms – both entrants and the incumbent – pay a tax (on turnover, say) which is used to fund the loss-making sector (which would most likely be provided by the incumbent). This policy is sometimes followed in the telecommunications sector. However, while it does overcome the funding problem caused by cream-skimming entry, it does nothing to help the inefficient entry problems (a) and (b) above.

(iv) Use public funds to subsidise the loss-making sector, and leave the profitable sector to manage itself. In Britain loss-making rail services are funded directly out of government funds, and as a result there is no need for there to be distortions imposed on profitable routes in order to fund social obligations. Indeed, one could auction off the right to run these loss-making services to the firm that requires the lowest subsidy (for a specified level of service), which would add a desirable degree of competition for the provision of these services. This scheme has the major advantages that (i) it does not distort profitable markets unduly (although of course additional distortions are imposed throughout the economy in order to fund the subsidy), and (ii) it makes explicit the level of subsidy required, and politicians may find it hard to justify high subsidies, targeted to small groups of people, to the wider electorate.

(vi) Finally, a more complex scheme, if it is desired to keep the unbalanced retail tariff in place, is to impose a tax/subsidy scheme that brings the entrant's private incentives to enter into line with overall efficiency. Suppose that the entrant has to pay a tax of A_{urban} per unit in the urban market, and a tax of A_{rural} in the rural market. Then the above analysis shows that entry will occur if and only if it is efficient for it to do so provided that

$$A_{urban} = P - C_{urban} > 0 \;\; ; \;\; A_{rural} = P - C_{rural} < 0 \; .$$

Thus, it is optimal to discourage entry into profitable markets (in the sense of requiring a positive tax for entry there), and to encourage entry into loss-making markets (in the sense of subsidising entry there). Moreover, the scheme has the additional benefit that if entry does take place in the profitable market, there are still sufficient funds from taxation for the incumbent to continue to serve the rural market. This system, which in effect means that entrants face the same implicit tax regime as the incumbent, therefore solves at once all the three problems (a) – (c) listed above. This scheme can still be viewed as a "universal service" funding scheme, but with a better designed funding basis.

References

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