A Review of a Report on the Question of Whether to Include Statutory Powers for Repayment/Supplementary Payment in the Electronic Communications Act

Martin Cave
Warwick Business School
Martin.Cave@wbs.ac.uk

October 20 2005

I have been instructed by the Norwegian Ministry of Transport and Communications to undertake a study relating to adjustments to payments based on misestimates of the costs of access products.

The background and subject of the study are described as follows:

> According to the Norwegian Electronic Communications Act, the national regulatory authorities may impose with significant market power pricing obligations for access and interconnection. In circumstances where a cost-orientation obligation is appropriate, the national regulatory authorities may choose to specify the appropriate charge or to control it via a price cap. This is resource intensive work. For reasons of expediency, the national regulatory authorities may instead specify that the charge should be "cost oriented" or some similar formulation. One problem with the latter approach is that the operator with significant market power may have an incentive to inflate its estimate of its costs. Such an incentive can be significantly reduced, if not removed altogether, if the appropriate charge (once it has been identified) can be levied from the date on which the cost orientation obligation became applicable. The operator with significant market power would therefore be required to reimburse (preferably with an appropriate commercial rate of interest and at its own expense) any over-payment, which had been made while non-compliant charges were in effect.
>
> An expert group was established by the Ministry in 2004 to examine this issue. The expert group handed over its report to the Minister of Transport and Communications (hereinafter the Minister) in January this year. The expert group recommended a provision similar, but not identical, to the provision in the UK Communication Act to be included in the Norwegian Electronic Communications Act.
>
> The Minister has now asked for additional work to be undertaken, before the Ministry reaches a final conclusion on the issue. The contractor is to undertake an analysis of the following two questions:
>
> > 1) Explain possible alternatives to a provision of reimbursement as a means
> > to prevent disagreements on the access price from taking unnecessary time and resources for the providers
> > 2) Evaluate the advantages and disadvantages of these alternatives against the advantages and disadvantages of a provision of reimbursement.

In this report, I first summarise my understanding of the relevant regulatory framework, based on the Electronic Communications Act[1] of 2003. I then consider alternative bases for proceeding.

1. The underlying regulatory framework

The regulatory regime for Norway, as for other members of the EU and EETA, is based upon the set of Directives legislated in 2002 covering electronic communications services. The objective of this package, set out in framework Directive Article 8 are to promote competition, to contribute to the development of the internal market, and to promote the interests of citizens.

Under the Electronic Communications Act, Chapter 3, a finding of significant market power is a pre-condition for intervention by the regulator (subject to a number of exceptions. Such a finding is preceded by definition of the relevant market and the performance of a market analysis. In relation to access to networks and services the regulator can direct a provider with SMP to meet reasonable requests from access seekers. The regulator is also entitled to impose pricing obligations on providers with SMP.

[1] of which I have an unofficial English translation.

By way of parenthesis, it is worth pointing out that economists often distinguish between one-way and two-way access.[2] Under the former, an incumbent firm has a monopoly over important inputs needed by its rivals, but itself needs nothing from other firms. A classic example would be access to the historic operator's local loops.

Under the latter, firms need access to one another's assets, or customers, on a reciprocal basis. An example would be the mutual termination of voice calls or SMS messages on competing mobile networks. My discussion relates to one-way access problems. This is because the reciprocal nature of two-way access renders problems of under- or over-payment less significant for the firms involved, if a reciprocal payment system is involved.[3]

When regulators in EU/EEA countries find the need for a price control for access products, based on a determination of SMP, they have a choice over the form and method of implementation of the remedy. Roughly speaking, they can mandate reasonable prices, which would normally be taken to include retail minus prices, or cost-oriented prices. The method of implementation can be stipulated in advance, either by explicit determination of individual prices or by setting a price cap, normally lasting several periods and covering a range of access services; or the task can be delegated to the access provider – which is instructed to set cost-oriented prices.

[2] See M. Armstrong 'The theory of access pricing and interconnection: in M. Cave *et al.* (eds) *Handbook of Telecommunications Economics*, Vol 1.
[3] However, end-users may be affected (for example if operators agree a high reciprocal access charge as a means of supporting high prices in end users markets).

European regulators' price control activity is located in different places across these two dimensions (type of price and form of implementation of the control). As the Working Party report puts it:

> The Norwegian Post and Telecommunications Authority has traditionally used costing models based on historical cost. In using such costs, the Norwegian Post and Telecommunications Authority is making requirements for cost-oriented prices but leaving it to the price-regulated provider to specify what the price is to be. The Norwegian Post and Telecommunications Authority checks ex post facto what the correct price ought to have been.
>
> In most of the EU/EEA countries, however, prices are calculated by the regulatory authorities, typically on the basis of Long Run Incremental Costs (LRIC). In use of LRIC, costs are determined in advance by the national telecoms authorities, often on the basis of set formulae, which in reality can be compared with an *ex ante* approval of the price for a future period.

The issue of repayment of excessive changes naturally arises in the case of *ex post* verification of regulated prices, and most regulators employ that method in some form. For example, in the UK, Ofcom which makes extensive use of price caps for access products, also has the power under the Communications Act 2003 to examine prices *ex post* for cost orientation either following a complaint or on its own initiative. It has utilised that power in one case to date – and (as it happens) to require repayment or supplementary payment where transactions have occurred which depart from approval levels, (see below).

In the interests of concreteness, it may be helpful to think about a 'commercial' situation in which:

i. the regulator has found SMP in the supply of a one-way access product

ii. a cost orientation remedy has been imposed on the access provider from a certain date

iii. the provider sets a price, but that price is subject *ex post* to verification by the regulator that it meets the condition in the remedy

2. The objectives and behaviour of the parties

It is helpful, as a preliminary, briefly to rehearse the objectives of the access provider and the access seeker in the commercial situation considered above, *absent any regulation*- (The purpose of this is to gain insights into behaviour in circumstances where regulation is ineffectual.)

In relation to the access provider, I will make the conventional assumption that it is striving to maximise long-term profits. In relation to the joint pricing of access and end-user services, this will involve it in deciding where it is advantageous to supply services to competitors and where to end users. Its willingness to supply competitors will depend upon:

- where in the value chain market power resides
- the provider's efficiency, relative that of others, in carrying out 'competitive' functions

- the provider's concern that a competitor which establishes a strong position in end user markets will be able to integrate backwards in the value chain and threaten the provider's SMP.

The implication of this for access pricing is a desire either to charge prices which exploit any market power or to set prices which are too high to allow competitors to survive (a constructive refusal to supply).

This result is not much affected if the access provider is maximising output rather than profits – except that the incentive to exclude competitors wholly from the market will be stronger.

Competitors, by contrast, will simply seek low access prices, at the points in the value chain which are determined by (and determine) their 'buy or make' decisions, probably combined with a desire for high access prices elsewhere, to discourage other rivals.

There thus appears to be a fairly irreconcilable conflict between the incumbent and each competitor taken separately, complicated by competitive interactions among entrants.

3. Information problems in setting cost-oriented prices

I now turn to the problem of setting cost-oriented prices in 'real-time'. The final qualification distinguishes the task from the explicit adoption of a forecasting approach, as required with a price cap, and the calculation of costs *ex post*. The question is of interest if the regulator's remedy is for the provider to set cost-oriented prices concurrently with the production process.

The identification of costs even, *ex post* is a notoriously difficult business, especially for a multi-product firm. Questions arise about cost causation, the valuation of assets and procedures for allocating and recovering common costs. The Working Party report notes that the Norwegian Authority uses historic cost accounting, and will, I presume have procedures established to deal with other issues, such as the determination of mark-ups. This does not prevent a regulated firm from misunderstanding or misapplying them.

Setting 'current' cost-oriented prices also creates problems associated with output forecasting. Since many costs are fixed in the short run, and since production processes do not in any case exhibit constant returns to scale, unit costs are likely to decline with output, almost whatever costing procedures are in use. As a result an output forecasting error will result in a misestimation of unit costs – in either direction. Such an output forecast could be unbiased, or it could be biased in the downward direction, creating a systematic tendency for unit costs to be over-estimated.

It is thus possible to identify – non-exhaustively – a range of possible sources for error in setting of cost-oriented prices by a regulated firm.

- mistakes in computational tasks associated with cost calculations
- innocent failure to apply the costing methodology intended or approved by the regulator
- mistakes in forecasting largely exogenous factors, such as output on demand levels
- deliberate falsification of calculations or forecasts, or the application of erroneous methodologies, with the aim of charging a higher price than is justified.

4. The consequences of non cost-orientation.

The Working Party rightly identifies the adverse effect of excessive access prices on the competitor: access seekers are weakened or even excluded from the market, and the competitive process is distorted. Prices which are too low will go in the opposite direction: competitors will enjoy a (possibly temporary) benefit.

The effect on the efficiency of end user prices is harder to calculate. Ideally, end users would pay marginal cost (at least for their marginal purchases). Prices above average cost, associated with excessive access prices, would take them away from that. The effect of below-cost access prices, if translated into lower end user prices, might – in

contrast – improve efficiency, though it could in the limit breach the access provider's overall break-even constraints.

The regime discussed here, with no repayment or supplementary payment imposes a particular distribution of risks on the parties. The consequences of error lie where they fall. Against a state of the world in which all prices are exactly cost-oriented, this introduces additional risk for both sides. If the distribution of error were predictable, it might be possible to evaluate the consequences from a social perspective. It can be argued that entrants with limited market share, possibly limited access to capital markets, and with a heavy dependence, on services bought from the incumbent, are particularly vulnerable to 'access price' risk.

5. Repayment variants

I will consider and evaluate the following:

a) no repayment or supplementary payment
b) repayment or supplementary payment dependent on other legal enactments or precedents
c) repayment (only) of overcharges (with interest)
d) repayment and supplementary payments (with interest)
e) repayment (and/or supplementary payment) with an additional penalty

c), d) and e) also raise the key 'process' issue of the role of the regulator initiating proceedings relating to repayment, determining the scale of it and enforcing it.

It will be apparent from this list that I have not been able to devise a realistic mechanism or approach which goes outside examined by the Working Party.

My criteria are:

impact on competitors[4]

impact on end user prices

regulatory burden

My base case is one in which perfect cost-oriented access charges are set. Against this base case, the possibities noted are now above.

a) no repayment or supplementary payment

This has been discussed in Section 4 above, and a purely theoretical outcome since it is impossible to deny the parties recourse to other legal rights.

In my view, the key point is that given the incentives on the access provider and the delay and likely incompleteness in verifying the cost orientation of prices, the outcome will be biased in favour of excessive prices, with predictable long term detriments to end users.

[4] This should in principle be distinguished from impact on the competitive process. For example, an undercharge by an access provider would help competitors but might distort competition if sustained for a long period. However at the early stages of competition, the distinction is harder to implement.

The latter will also have an incentive to challenge prices as frequently and as early as possible. The effect on regulator's costs and regulatory burdens is thus hard to predict.

b) sole reliance on other legal enactments

I rely on the Working Party's account of the relevant legislation and cases, in particular their conclusion (p.29) that 'the existing statutory powers are unclear with regard to whether it is possible to demand repayment of excess prices.'

The *Source* case, described in the Working Party's report (at pp. 26-7 and 28) illustrates some of the uncertainties:

- the possible dependence of the outcome on whether the situation arose in good faith
- the ultimate incidence of the excess payment, whether on the access seeker or on end users.

Determination of the former point would involve fine judgement if, for example, a cost-oriented price could be shown to be based on a faulty but possibly deliberately faulty output forecast. And, clearly, excessive access prices could have an adverse effect on end users even if the access seeker (which would still face a reduction in sales) were able to pass them on.

c) repayment (only) of overcharges (with interest)

What is envisaged here is the following: the regulator verifies access charges *ex post*; if they are found to be excessive, the access provider makes restitution, including interest at a market rate.

Several things can be said about this. First, if all excessive prices are rectified, the access provider makes no financial gain from them. However, if verification of prices is incomplete, as is likely given the many separate studies which such a complete coverage would require, the access provider continues to benefit in part.

Secondly, even with complete restitution, the charging of excessive prices has an impact on the market outcome. The access seeker may find it difficult to finance the excess payments. Alternatively, its own downstream prices may be affected, with a possibly adverse effect on its market share. Its cost of capital may rise.

The impact on the access provider will depend upon whether the error was unconscious or deliberate. If the former, the need to make a subsequent repayment will impose an additional risk, which might find reflection in a higher cost of capital and the pursuit of higher margins. If the overcharging were deliberate, the access provider might engage in especially aggressive pricing behaviour to exclude a competitor.

Thus in terms of my criteria, compared with a no repayment, the impact on competitor and on end user prices as is more favourable (although less favourable than is my base case with no overcharging). Competitors suffer from any failure to detect overcharging. And the regulatory burden is high.

d) repayment and supplementary payments

The new issue here is whether to correct for under- and well as over-charging. Considerations of symmetry point in favour of allowing both. The key issue is whether the price setter has a special responsibility of a kind which should preclude it from recovery from mistakes it makes itself when they operate to its disadvantage.

Could an access provider deliberately undercharge and then place access seekers at a disadvantage by unexpectedly demanding a large additional payment (with interest)? This does not seem to be logically excluded, but it would not be riskless.

Would an access seeker confident of its right to demand supplementary payments expend enough effort on preparing precise estimates of, eg. volumes of traffic, to be used setting cost-oriented unit prices? It seems reasonable to expect that such forecasts would be needed for other purposes as well, so that shirking would be unlikely.

If supplementary payments are allowed, the likely effect is to benefit incumbents over entrants, and to shift risks from the latter to the former. There would be a small increase

in regulatory burden; but prices would in any case be scrutinised for excess under the option.

One possible compromise is to require a reduced supplementary payment (say 75% of the total, or to disallow interest). This would focus the price setter's effort upon the accuracy of its forecasts, and deter manipulation.

e) remedies involving penalties

The above-noted possibility of discounting payments is part of a wider possible set of adjustments which might deal optimally with particular dysfunctional behaviours.

As an illustration, consider the 'triple damages' rule, which requires infringers of US competition law to pay successful plaintiffs three times the economic damage inflicted. The rationalisation of this rule is that it discourages abuse where detection is imperfect. Roughly speaking, if one infraction in x is detected and punished, in order to apply approximately optimal deterrence, the penalty should be x times the injured party's financial costs.

In the present context there is no guarantee that an excessive price deliberately chosen by an incumbent will be discovered. If such a case could be shown, there is a case for imposition of a penalty as a deterrent. However, this would not be appropriate in the case of an innocent mistake which might go either way. In view of the difficulty of

distinguishing the cases, and because such considerations introduce a new element into the debate. I do not consider them further.

6. Negotiating or enforcing repayment

The Working Party proposes placing responsibility for agreeing the scale of a repayment, or supplementary payment, on the parties in the first instance. In other words, the regulator would not be allowed to make decisions on its own initiative, but would wait until no agreement had been reached and then mediate or decide under Sections 11.1 or 11.2 of the Act, where the latter applies because the regulator has reached a pricing decision. This would not preclude any party from bringing the case before the ordinary courts, subject to the uncertainties noted above. Preference for this outcome appears to be based in part on deference to principles of Norwegian jurisprudence relating to the division of responsibility between courts and public administration bodies.

There is an alternative in which the regulator is given competence to impose repayment decisions following its finding of excessive pricing. A working model of this kind is provided by Ofcom's only Resolution to date of a repayment dispute under Section 190 of the Communications Act 2003. This involved the overcharging of Energis by BT in respect of wholesale line rental for a 1SDN2 line) a wholesale service not covered by a price cap but subject to a cost-oriented pricing obligation.

The dispute involved Ofcom determining the extent of the overcharge and imposing a repayment on BT under Section 190 of the Act. As the Determination involved finding the cost-oriented price it inevitably involved detailed cost allocations.

There are two issues involved here. The first is to provide a reliable route to repayment, in order to discourage overcharging. In my opinion, achieving this objective may entail giving the regulator an unambiguous power to impose repayment of the parties do not agree.

Secondly, the point arises as to whether an access seeker would in all cases seek full repayment, if it feared that by so doing it would antagonise the access provider. In other words, the commercial negotiations might be between parties with bargaining power so unequal that the outcome would not be fair or efficient (in terms of the effect on prices).

Should Norway follow the Ofcom path of finding excessive pricing and setting repayment at the same time? Against it are arrayed general arguments in favour of minimising intrusive regulation and the weight of legal precedents. (As far as the former argument is concerned, I believe there is a distinction between additional net regulation and measures taken to relieve the consequences of earlier errors or infractions.) In favour is the risk of unequal negotiations. My inclination is to favour the Ofcom approach but this may be a suitable subject for consultation among firms in the sector.

7. Summary

In this report I have evaluated the Working Party's proposals and alternatives against the criteria of impact on competitors, impact on pricing efficiency and regulatory burden, where impact on competitors includes both 'price' and 'risk' effects. In the Table, I have tried to compare the effects of alternative regimes, against a theoretical bench mark of perfectly accurate *ex ante* cost-oriented prices.

Table: Impact of alternatives

	Effect on competitors	Effect on price efficiency	Regulatory burden
Baseline: accurate *ex ante* prices	0	0	0
No adjustments	---	---	+++
Adjustments based on existing legal remedies	--	--	++
Repayment only	-	-?-	+
Repayment and supplementary payment	-?-	-	+

- represents deterioration compared with base case

\+ represents improvement

Choice of the best option involves a trade-off between the benefits of stronger competitors, the change in producer and consumer surplus associated with higher pricing efficiency and the incremental direct costs (on regulator and regulatee) and indirect costs (via disincentives to invest and innovate) of the regulatory burden.

It is likely that the direct incremental costs of the regulatory burden will be relatively small because

- the incumbent will already have costing and accounting arrangements in place, under existing obligations
- if the regulatory body imposes a repayment, or the parties negotiate in the shadow of a known procedure utilised by the regulator to resolve disputes, the burden is not likely to be large.

Nor do I envisage that the indirect 'dynamic' effects of rectifying pricing mistakes would be large.

On the other hand, given the frailties to which the incumbent is likely to be exposed when setting prices, and the risks of such frailties as perceived by access seekers, I can see benefits in having a system to deal retrospectively with over-charging – which on balance I believe can be better defended if it covers both repayment and supplementary charges. I have also set out above arguments about the degree to which the regulator should exercise its own initiative in the process of triggering repayment, and my preference for allowing the regulator to act in this way, but I am not well placed to evaluate the strength of contrary arguments based on legal principles.