CPI minus X In Practice

Prior to 1975, the Post Master General's Office could be blamed for everything wrong with the phones.

Then Parliament spoke and the responsible bodies multiplied. We now have four bureaucracies to blame: the Government in the form of the Department of Transport & Communications (DOTAC) with its Bureau of Transport and Communications Economics (BTCE), who set the parameters; AUSTEL, the regulator looking over the carriers' shoulders to see that the Government's policy is being carried out, and finally the two carriers (soon to be joined by another mobile carrier), trying to make a handsome profit despite this interference. Talk about deregulation!

The old self-regulating monopoly only had a minister to satisfy, and millions of subscribers to annoy with the arrogance which self regulation and monopoly together seem to generate. The new competitors are falling over themselves to show how much they love customers (who are no longer subscribers, but telephone 'owners'), especially big business customers. But humble householders are also courted with special offers and discount deals just like those of the supermarket.

Why is all this regulation required when competition seems to be so strong? Why do we have 'price cap' regulation rather than just the oversight of the Prices Surveillance Authority or the Trade Practices Commission to monitor fair play?

The short answer to the first question is that the competition we see is neither between equals nor is it 'natural'. It is 'unnatural', because the theory of market behaviour in a duopoly would suggest that either the stronger competitor would eat up the weaker, or they would both agree on market shairing; third party resellers of capacity would immediately be excluded from access; a 'natural' monopoly based on the power of the incumbent would re-assert itself.

The answer to the second question is much longer.

The Regulatory Problem

Economic theory suggested that the American style regulation of public utilities' rates of profit gave rise to many problems. The regulator's task was to set a rate of return that the utility was permitted to earn, a rate that would be the same as that which a firm in a competitive market could expect to earn. The problems are the following:

1. *How is profit measured*, especially where the utility produces in a competitive market for some things, and in the regulated monopoly market for others? Allocation of joint and fixed costs is inherently arbitrary.

2. *What if the allowed rate of profit is not the rate available in other markets?* If capital is actually cheaper than that allowed, the utility will over invest to enjoy the high profit allowed.

3. *How can the regulator know as much about the utility's costs as it does itself?* Only by close and expensive monitoring. In effect, a second management information system is required.

4. *Won't the regulator come to think like its client, and adopt the private goals of the utility?* Indeed, this is known as the 'capture' theory of regulator's behaviour.

The alternative to this heavy handed regulation is the supposedly information-economising price cap regulation we know as 'CPI-X'. 'X' is roughly speaking, equal to productivity change. It forces the utility to keep its real prices constant, or constrained to whatever degree is chosen by the regulator.

This was first done to British Telecom in the UK at the time of its privatisation. The aim of this system was to remove the need for detailed rules about each and every regulated product, to allow the evolution of new tariffing methods without detailed intervention, to allow prices within the capped activities to move in response to cost and demand conditions while ensuring that overall performance is socially acceptable.

The origin of the inflation minus X rule is in the work of Professor Stephen Littlechild, a consultant to the British Treasury in the early 1980s. Professor Littlechild is no ordinary or orthodox economist. He is, or was then, a follower of the doctrines of Ludwig von Mises and Friedrich Hayek, a believer in the not very difficult idea that the future is likely to differ from the past, and that it is not possible to calculate future decisions in the manner orthodox economics assumes possible. This school also has a high view of humanity: all action is rational by definition. Rational is usually self serving, but even if an action does not look as though it is 'rational' on conventional criteria, no one is able to judge the worth of what another has chosen[1].

The school also believes that prices in decentralised markets contain virtually all the information required for individuals to make efficient economic decisions. Looking at the price cap rule in this light, it can be seen that Littlechild was suggesting a regime which would act in a manner similar to the market as a constraint or as a provider of information about social preferences, to bend future action by British Telecom. The rule was intended to constrain private decision makers without presuming to know either precisely what they believed about costs, or what they hoped or feared about future demand for their services. Littlechild was certainly not advocating a surrogate management nor a social control on prices as such. The type of regulation that he was

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willing to contemplate was non-intrusive in contrast to that experienced in the old American rate of return regulatory model.

'CPI - X' in Practice

But what is the reality of price cap rules? Would Littlechild's vision have achieved the goal of surrogate market control as against the surrogate management that he wanted to avoid? A second question is whether his vision has been betrayed by those who have adopted a version of his scheme?

The choice of 'X' by a regulator for a period of four to five years sets one parameter for management. Knowing the rate of productivity change required to maintain profit rate for the firm, knowing that the 'market' will accept a given level of real prices, puts one a step ahead of managers of firms in competitive markets. Management will then look to balancing the prices of its various product lines with their expected costs over the period. This is where 're-balancing' occurs, with prices of high margin products, like trunk calls, able to absorb reductions while low margin products, like rural local services, can be raised in price, so that the enterprise as a whole can grow in the higher productivity areas.

So far it looks a bit like a market. But there are a number of aspects that are not market-like at all. The first is in the rigidity of the formula. Unlike a competitive market, where prices can adjust continuously, the formula is set for a long period. If costs or demand growth are markedly different from the regulator's expectations, the rule could allow the enterprise a free ride, or grind it into losses. And the regulator has to make its predictions well ahead of the time that management would make its forecasts.

The predictions the regulator has to make are thus not at all like the daily test of the market. The regulator's predictions are based on demand, costs, productivity guesses just as surely as are those of the enterprise. And the basis of the predictions, or guesses, of the regulator is the past performance data of the enterprise. If this is not clearly understood and transmitted to the regulator then the possibility of the enterprise profiting from the misinformation available to the regulator is considerable.

As we all know, accounting information is subjective, constructed by conventions that are themselves hotly debated and ambiguous. The attribution of costs to products or activities is largely arbitrary in the case of a telecommunications carrier, except for the relatively few direct costs. Some activities stimulate other activities, but may appear instead to be part of a network of cross-subsidies. For example, residential subscribers' access to a telephone generates demand for business subscribers, so businesses should be happy to 'subsidise' residential subscribers[2].

And how is the regulator to trust the information available from the enterprise? With all the difficulties of constructing the required information, the self interest of the enterprise management will result in tendentious information, even with the best will in the world. Only by shadowing the management (at least to some extent) can the regulator know the basis on which an 'X' is to be imposed. This may end up being just as intrusive as the American rate of return regulators. Whether the job is done loosely and non-intrusively, or tightly and intrusively depends on how the regulators approach their task.

Heavy Regulation with Uneven Effect

The second question I put was whether Littlechild's vision has been betrayed by the way in which the system has been implemented here in Australia. In light of my analysis above, it is unlikely that any but a very loose application could satisfy Littlechild's desire for non-intrusiveness. But have our regulators gone further in imposing heavier regulation? Clearly yes.

The regime of multiple price cap baskets or internal constraints is even more intrusive and demanding than the single basket system which could be viewed as a surrogate market. More surprising is that one of the internally constrained baskets is subject to competition between Optus and Telecom, and the overall constraint applies to services that will be supplied by no less than three carriers. The internal constraints are *political devices for imposing social preferences as interpreted by the regulator.*

The strange aspect of this arrangement is that the preferences of the regulator appear to lie with those charges most relevant to residential subscribers (otherwise known to politicians as voters) which are allowed to rise faster, or fall slower, than with those more relevant to business. 'X' is 2 for all connections, rentals and local calls, while 'X' is 5.5 for trunks, and for all international calls. The 'super-basket' also includes all dedicated lines, mobile services (for which there is competition, as there is for international calls) and has an 'X' of 5.5.

So deregulation appears to have resulted in pretty heavy handed regulation at the broad level of the price cap. This is before one considers the detailed regulation by AUSTEL of the rules of competition. Given the layers of bureaucracy that have been created to support this regulation, the question remains whether we are better served under this 'deregulated' regime than we might have been under the old monopoly Telecom, with only two regulating layers, the Ministry and Telecom. The old model operated without the duplication entailed in the very unnatural and probably unsustainable[3] duopoly/triopoly structure that is being so painstakingly constructed. ❑

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1 The Austrian school is also called Subjectivist because of this element of their thought.

2 This is just an example of external benefits that any member of a network enjoys from the membership of all the other members. The more comprehensive the network, the greater this benefit.

3 Without a regulator to keep Telecom from using its market power to crush the new entrants, they would be gone as fast as both Compasses.