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## HENRY ERGAS COMMENT: How the NBN Implementation Study stacks up

Posted on May 9th, 2010 | 75 post views

The Implementation Study is clearly a serious piece of work that provides a wealth of information and analysis relevant to an assessment of the NBN proposal. By and large, the Study is of high quality. However, its results are based on strong, often not well justified, assumptions, there are some seeming errors in the analysis and overall, the results do not suggest the NBN proposal is commercially viable or economically desirable.

The assumptions, notably about take-up, have already received extensive comment. It hardly needs to be said that there are many uncertainties involved in projecting demand for fixed network high speed service. Whether the Study has paid enough attention to the emergence of mobility as a dominant feature in consumer preference (as highlighted by the strong demand for the Kindle, the iPhone and even more so the iPad) is especially questionable. Its views about the long term progress of data rates over wireless are at odds with other studies, and make its conclusions about the demand for NBN Co's service seem unduly optimistic.

Additionally, it is surprising, to say the least, that the Study projects very high levels of penetration for the NBN even in a scenario in which Telstra competes with the NBN using both its copper and HFC networks. While the Study claims that the economics of the copper network would force Telstra to progressively decommission copper, this part of its assessment shows a scant knowledge of the operating costs of the Australian copper network. It also seems to ignore the HFC network and the scope not only to upgrade it, but to extend its reach in areas where unit revenues are high and incremental expansion costs low. The likely effect would be not only a fall in NBN Co's market share but also in its unit revenues. If the Study did not take that possibility into account, it is seriously deficient; if it did, its failure to release the relevant results is unfortunate.

There are also a number of seeming errors in the analysis. For example, the Study uses the Modified Internal Rate of Return (MIRR) instead of the Internal Rate of Return (IRR). However, neither the MIRR nor the IRR is relevant to deciding whether to go ahead with a project; what is relevant is whether the project has a positive NPV.

Moreover, that NPV needs to be assessed at different levels of the assumed cost of capital, as well as for different revenue and cost scenarios; the Study neither estimates the project NPV nor sets out the sensitivity tests around it. This in itself seriously reduces the value of the Study.

Even more surprisingly, at a number of points in the Study, costs are discounted to the present at 9 per cent, which is higher than the bond rate which the Study (incorrectly) takes as the cost of finance (a point discussed below). The effect is to reduce the present value of costs. It can be perfectly correct to discount costs and benefits at different rates, but this is subject to two constraints: the differences must reflect differences in systematic risk; and the weighted sum of the rates should equal the discount rate for net income under the project. Neither of these conditions seems to be met in this case.

The most serious problems with the Study lie in the conclusions that have been drawn from it. In particular, the Study does not show that the project is commercially viable; on the contrary, all it shows is that under the assumptions the Study team made, the project's internal rate of return is slightly higher than the bond rate. This raises two obvious difficulties.

**NOT COMMERCIAL:** First, the bond rate is far below a commercial rate of return. As the Study acknowledges, a commercial rate of return would be several percentage points above the bond rate: the Study itself suggests a range for that required commercial return that goes to 12.4 per cent. The Study also acknowledges that the Competitive Neutrality provisions enshrined in the Competition Principles Agreement require that capital used in the project be costed at that commercial rate. And readers will not need to be reminded that the government repeatedly claimed that such a commercial rate would be earned by the project. Those claims are comprehensively refuted by the Study.

Second, the bond rate is not even the cost of finance to the public sector. Here the Study errs by ignoring the Department of Finance's own Handbook of Cost Benefit Appraisal which says that "the Government's borrowing rate does not reflect the true opportunity cost of the use of capital funds", a

point also stressed by the Productivity Commission in its comprehensive study of the choice of discount rates for public sector investments. Rather, the cost of finance to a project must be grossed up to take account of the systematic risk of the project. (Additionally, and also ignored by the Study, where there are losses that will be financed by taxpayers, the net loss must be grossed up by marginal deadweight cost of taxation). This would yield a cost of public funds for the project close to or even above the private sector pre-tax WACC. Regardless of the precise level of that rate, it is clearly far above the Study's estimate of the project IRR. It is disappointing that the Study does not get this right, as it has a significant bearing on its conclusions and as the correct approach would be obvious to any practitioner in this field.

**NO BENEFIT ANALYSIS:** That the project fails to cover its capital costs, properly estimated, does not mean it is undesirable. That assessment would require a comparison of the project's properly estimated costs to the properly estimated benefits. The Study is not intended to undertake such a comparison and does not. However, what can be concluded from the Study is that if cost-coverage is the relevant criterion, the project fails, probably by some 10 to 15 billion dollars.

The government, in releasing the report, has suggested that its findings mean that the substantial funding the project requires will not be a drain on the Budget. Even were this claim correct, and for the reasons given above it should not be, it is obviously wrong to suggest that the funds used in this project do not detract from other uses of resources. This project will not be funded by manna from heaven; rather, it will be funded by the taxpayer, who will bear the very significant costs and risks involved. There is therefore no doubt that discontinuing the project would yield large savings that could be used for other purposes; obviously, there is the question of whether those savings would be justified. This question the government could only have answered if a proper cost-benefit appraisal had been undertaken.

**MIXED POLICY RECOMMENDATIONS:** Finally, the Study makes a large number of policy recommendations, many sensible, others plainly not. For example, the proposal to penalise networks that compete with the NBN is bizarre; presented, as it is, without any careful consideration of the consequences, one wonders why the authors thought it should be adopted: one hopes it won't be, but such hopes have proven unfounded before.

The ambitious proposals with respect to deployment of backhaul are also debatable. These are presented as being socially desirable, as if a cost-benefit study had been undertaken; in fact, all the Study does is assume that the benefits from this deployment exceed its costs. On the Study's own numbers, which seem to project relatively low and slow take-up in areas where Telstra is currently the sole backhaul provider, it seems difficult to believe this condition would be met. In any event, if the Study wants to recommend such duplication, it should present a proper supporting analysis.

It is also strange to think of ACMA as having the skills or accountabilities required to take commercial decisions, imposing potentially large costs on taxpayers, about network upgrading. That the criterion ACMA would use is that of determining whether the upgrade plans were "sufficient to maintain Australia's broadband position internationally" (p151) does not inspire comfort.

As for allowing NBN Co to offer differentiated take-up subsidies, reflecting 'local competition (and) local demographics', it is playing with words to claim this is not a derogation from the principle of equivalence. The reality is that this would allow NBN Co to offer large subsidies in areas or to demographics where it needed to compete, while not doing so elsewhere. Those users who faced the higher prices might well feel aggrieved, especially if their taxes were being used to reduce prices to others. Moreover, there must be a substantial risk that these payments and NBN Co's charging arrangements more generally will be used to politically motivated ends, perpetuating the myriad price distortions that have plagued Australian telecommunications from when it first entered public ownership.

In conclusion, the Study, with a degree of British understatement, rightly notes that the model the government has chosen – a public monopoly, extending, at least for the first dozen years, to the active service – "departs from the collective experience in most other markets"(p45). It also finds that at least in metropolitan areas, competition is currently 'vigorous' and Telstra's competitors offer 'attractive prices, speeds and download allowances'. Given the very high costs this project involves, and the fact those costs and risks must, on the Study's own numbers, fall largely on taxpayers, a visitor from Mars might well wonder quite what we are doing.

Henry Ergas

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