# When a Monopoly Beats Competition

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Coverage of the OECD's report on Australia distorted their criticisms of the NBN. And anyway, there's nothing wrong with a natural monopoly on broadband cable, argues Ian McAuley.

Last weekend the OECD released its regular economic survey of Australia, a document which praised our governments, present and previous, for their handling of the global economic and financial crisis.

Journalists from The Australian trawled through the report seeking points of criticism which they could amplify into condemnatory headlines. They skipped over the finding that our resource extraction taxes are too light — a fortiori such criticism would weigh more heavily on the Opposition than on the Government. They didn't dwell on the OECD's suggestion that we should invest more on infrastructure and education — to do so would go against an editorial line that our priority should be to cut government spending.

What they found for Monday's papers was a minor criticism of the National Broadband Network. The OECD acknowledged that the NBN "will improve Internet services for the entire population and promote a fairer competition between private firms on retail services", but it went on to suggest that the network itself, as a monopoly "may not be optimal for competition and innovation."

That minor point has been inflated into a major political criticism of the NBN, both by those who believe we do not need such an ambitious project and by those who believe the Government should leave it to the private sector.

So, the question remains, do we need the NBN? If we could see the future with clarity this would be a question easily resolved with the established tools of benefit-cost analysis, conducted by a competent body such as the Productivity Commission. Economists would evaluate the distribution of costs and benefits, they would apply appropriate discount factors to bring those future costs and benefits to a present value, and finally they would declare whether the project is worthwhile. If the project provides adequate financial returns to private investors then it could be left to the market, but if the benefits are more diffuse ("external" in economists' terms), then the project should be wholly or partly publicly funded.

That is the standard mechanism for evaluating projects with reasonably predictable outcomes such as airports, roads, ports, and other physical infrastructure which we have been building for the last century and longer.

The NBN is different however. On one level, the NBN is a fairly mundane project: for the most part it involves laying and connecting fibre-optic "wires" in conduits. There is nothing on the horizon that's going to render it obsolete within the next 30 years or so. Its costs are reasonably predictable: it's not an Opera House or a Joint Strike Fighter.

Where uncertainty arises, however, is in the use of the NBN — its applications, and therefore in its returns to investors. We know some of its applications, but there are almost certainly many others beyond our imagination.

To draw an analogy, most roads in our inner cities were laid down in the 19th century. Few of those planners would have anticipated the development of the car, and the notion of road congestion caused by mass car ownership would have been one entertained only by the occasional crank. Those roads were quite adequate for future they could foresee at the time.

Or, to relate to more recent times, I recall, when I was an engineering student in the 1960s, that we could see where hardware was heading — valves were giving way to transistors which in turn were giving way to integrated circuits. We saw new switching and carrier technologies being developed; fibre-optics were already in an experimental stage. But even at our Friday afternoon sessions at the Queen's Head Hotel, when academic rigor gave way to speculation, we had no concept of developments such as the World Wide Web, search engines, Google Maps, real-time navigation, Facebook, and other now-familiar applications. The most our imagination allowed was something like text-based email between large institutions.

In fact, in 1977, a decade after we all graduated, Ken Olson, founder of Digital Equipment Corporation, is on record as saying "There is no reason anyone would want a computer in their home". (This and earlier expert assurances that technologies such as the telephone and radio were but passing fads can be found at the "bad predictions" page of the Rinkworks website.)

I don't think we were an exceptionally dull bunch of students, that we would have done better had the University of Adelaide Engineering School been more integrated in the recreational drug culture of the 1960s, or that Ken Olson was incompetent. Predicting hardware developments is not particularly difficult, but it is well nigh impossible to predict how creative people will use that hardware. Unless there is a sudden stop to the creativity we have seen unleashed over the last thirty years, there will be many new applications for the NBN. These cannot be built into a benefit-cost model.

Naysayers point to the current flexibility of wireless communications — wifi and cellular phone networks — but in a future when everyone wants to use wireless at the same time our internet experience will be the cyber equivalent of a peak hour city traffic jam. The only difference is that while we can see road congestion building up, the first we know of wireless congestion is when our connection freezes.

But why then a monopoly? Physical networks, like roads, power distribution and water supply, are what economists call "natural monopolies". A network of broadband cable is similarly a natural monopoly. The alternative is a combination of wasted over-capacity and neglected supply, as we experienced in the 1990s when Telstra and Optus laid duplicate pay TV cables in our densely settled areas, while neglecting other areas altogether.

Drawing on an historical analogy to explain the absurdity of this development, John Quiggin at the time pointed out: "competition is not always better than monopoly. This lesson was first learned in the 19th century, when competing railway companies built parallel sets of tracks linking the same destinations."

Bob Katter and other rural politicians may not use the terminology of economists, but they know about networks and natural monopolies. A competitive broadband model would be one with a similar perverse outcome of wasteful duplication and under-provision.

The economists at the OECD dislike monopolies, generally with good reason, for monopolies are under no pressure to innovate and they exploit consumers with high prices. But those same economists tend to see competition as the only way to overcome these problems, and they can come to see competition as an end in itself, rather than as a means to better market outcomes. Also, as Bob Katter and his colleagues know full well, they live and work in Paris, in one of the world's most densely populated regions, where competitive broadband may be more feasible than in Australia.

Contrary to the OECD suggestion, a monopoly NBN is unlikely to suppress innovation, for it is about the mundane task of providing wires to homes and business premises. In this regard it is little different from other "pipes and wires" industries, such as water and electricity distribution: there is little scope for innovation. In fact, by providing a wide channel for applications, it will encourage service innovation. The two aspects — the wires and the content — should not be confused.

Monopoly public ownership, at least in the development phase, provides cost economies which should benefit customers, because the government's cost of finance for capital-intensive projects of this nature is significantly lower than the cost which would be faced by private investors. In Australia our capital markets are distorted by the very high returns available in mining and related industries; it's hard for projects with longer term and more modest returns to attract finance.

Furthermore, the NBN is a network, which does not yield its full benefits until there is a critical mass of users. Inevitably therefore early stage developments will not be profitable — as an analogy, we could consider the low value of having a telephone before there is a substantially complete phone network. Private capital markets cannot handle this type of investment; they need early returns. Furthermore, private investors seek a high return for infrastructure projects because of what is known as "sovereign risk" — the risk that there will be changes in government policy. Governments as policymakers are unlikely to jeopardise the value of their own investments.

Critics may interpret this as a general argument for nationalisation, but that would be a misrepresentation. Private markets do a good job where returns are reasonably assured in a short period, where innovation is possible, where products can be differentiated, and where scale diseconomies support multiple providers without the waste of excess capacity. The NBN does not fit any of these criteria.

Perhaps the NBN's opponents aren't really considering its economics. There are "knockers" in our midst, with a colonial mindset that rejects any notion of our country taking a technological lead. There are ideologues blindly opposed to public investment — they are the mirror of the dogmatic communists opposed to private investment. And there are partisans determined to discredit the government at any cost, even if that means depriving the nation of the benefit of modernising our infrastructure.