

Getting the NBN Infrastructure We Need

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Abstract: This article summarises the presentation given by the author at the TelSoc NBN Futures forum held in Melbourne on 31 July 2019. The author spoke in favour of retaining NBN Co in public ownership, at least for the medium term and until a long-term plan and evolution pathway has been established. Such a plan is needed to ensure that Australians have affordable access to world's best broadband service and that delivers social and economic inclusion. Dr Holmes argued that there are positive reasons for supporting public ownership, and that this was the least worst of the options available.

Keywords: NBN, public policy

Introduction

The discussion that we had under the aegis of TelSoc in Melbourne on 31 July 2019, and which we are now continuing through the *Journal*, is ostensibly about the structural and ownership options for the National Broadband Network and the future of NBN Co. But these are secondary questions that do not need to be considered until after we address the question of the sort of NBN infrastructure that we need as a society and as an economy.

Broader policy issues must determine industry structure and ownership, not the other way around. If we rush to judgment on ownership issues, without first settling the policy objectives for the sector or the context in which such decisions will play out over the long term, the result is almost certain to be simply an ideological preference for competition, private enterprise, socialism, or whatever. This would be a disservice to the current and future generations. Broad agreement on the policy objectives will give us the criteria for assessing proposals for industry structure and ownership, and therefore such policy issues need to be considered first.

Policy Objectives

Part of the conversation that TelSoc seeks to have is to create a workable consensus on the policy objectives that need to be achieved through the NBN.

Generally, there is surprisingly little disagreement about most of the objectives – although some contention might occur about the relative priority of each objective.

The objectives that I would suggest as being relevant to the NBN are as follows, in no particular priority order:

- A key source of international competitive advantage;
- Affordable, reliable and accessible for all users;
- Permitting maximum competition for wholesale and other retail services and technologies;
- With a future development pathway that sustains the above;
- With a regulatory regime that delivers on all of the above.

The first thing to note with the above list is that the words used are general and will require further analysis as the objective is implemented. Admittedly, there is a risk that, at this level of generality, the objectives could become mantra without practical meaning. On the other hand, greater specificity risks losing focus altogether as we all rush down one rabbit hole after another.

The second thing to note is that the objectives are continuing. They are not going to be achieved once and for all. They need continuous effort.

The third thing to note is that the first two objectives are expressed as goals – albeit with moving goal posts. However, the last three are process objectives, which draw from other areas of policy preference in Australia. NBN policy is not something separate from the body of policies on which there is some measure of widespread public support in Australia, namely competition, economic progress and infrastructure development.

So, there is a public policy commitment to facilitating, where feasible and appropriate, the dynamic of competition as the engine to drive efficiency, innovation and value creation. It is not the only thing that matters, but it does matter. (The benefits of competition have been outlined previously by McLaren ([2018](#)).)

The fourth objective in the list above requires that our approach to the NBN recognises that we are involved for the longer term, and that structural and ownership proposals need to permit pathways to be developed, and to evolve, to address the changing social, market and technology environments that may emerge. We cannot lock in assumptions based on current markets, usage patterns and technologies.

The last objective listed recognises that NBN Co and its successor organisation(s) will have significant market power and be such fundamental infrastructure that it will require a

carefully developed regulatory framework that, itself, must be regularly adjusted to keep pace with the changing environment.

Starting Points

Much NBN discussion seeks to review past decisions and to analyse the quality of past decision making in this area. This can be useful in a discussion about pathways for NBN future evolution, but all too often it serves to focus on the past and on blame. On many major issues across the whole spectrum of public policy – not just about the NBN – there are calls for a respectful national conversation. All too often these quickly deteriorate. Perhaps we can change that in the case of the NBN by resolutely focussing on where we actually are at present, and I would characterise this as:

- A collection of (mainly) fixed access networks that reflect a multi-technology mix and seek to extend the economic life of some older transmission assets (such as copper cabling);
- A delayed rollout that is now picking up and which should now be completed by 2022 (after the migration period);
- Public financing in the order of \$A51B and a value (after estimated write downs) of around \$A24B; and
- A Government commitment to privatisation at some point that would be as soon as practicable after the completion of the NBN and customer migration.

Further details about the current state of the NBN and future options can be found in Gregory (2018) and Gregory (2019).

The Government planned to privatise the NBN during the current parliamentary term, but the requirements for NBN completion and migration now make that extremely unlikely. The rollout will continue and be completed more or less on the new timetable. The extent of the final Government debt and the value that will need to be written down (or off) will be in the order of magnitude indicated above. These are large amounts, and a loss of this magnitude appears unavoidable as accounting begins to catch up with reality.

Public Ownership – More Than a Default Option

If nothing further happened once the current NBN building program and customer migration process are completed, then the NBN would remain in public ownership. In that sense public ownership is a default option. It is where we are at present, and – if nothing changes (legislation aside) – that is where we stay.

But public ownership for the NBN into the foreseeable medium-term future is more than a default option. During that period, it has positive features as outlined below, and is to be preferred over many of the other options now being put forward.

The key arguments for public ownership are:

- **Long term fundamental infrastructure**

The NBN is infrastructure that is fundamental. It is the basis on which Australia's digital economy and future online society will rest. Our national communications infrastructure will determine how we interrelate, learn, and participate socially and economically in the longer term. Its importance cannot be underestimated.

A long-term perspective is necessary to match the long term and fundamental nature of the infrastructure involved. We should not risk serious compromise by subjecting the NBN to the short-term profit-maximising imperatives of private ownership. At least we should not do that until some very important frameworks have been put in place and tested.

Taking this sort of infrastructure and the means for evolving it to meet emerging and developing needs is not something that can be specified in a sale process – at least not until a lot of other pre-conditions are also in place. Importantly, what serves the long-term interest cannot always be identified in a short-term process due to changing circumstances over time. Public ownership does not preclude efficient management – nor does it guarantee it. But it does facilitate a longer-term perspective for critical decision making, free of the short-term pressures for commercial levels of profit returns to shareholders.

Of course, private companies can manage their own long-term assets in the interests of their shareholders, but, where there is effectively a single service provider and the assets cannot be economically replicated, the overall public interest requires continuous government intervention, which in turn is restricted by the private property rights involved.

- **Avoiding privatisation of monopolies**

Picking up from the last point, there is a well understood recent tendency in Australia to privatise government enterprises that operate in competitive markets. Some might extend this to the privatising of government enterprises that should, or are planned to, operate in competitive markets. The restructuring and privatising of Qantas is an example of the more limited principle – the international airline industry was and remains competitive – and the privatisation has not since been called into question. Electricity generators and Telstra are in the category of enterprises that have been privatised for operation in competitive markets, and have proved to be much more troublesome.

In the case of Telstra, the enterprise was privatised in tranches, as a vertically integrated and very powerful incumbent operator. It was assumed that the legislative settings and the regulatory framework were adequate to ensure that the achievement of competition and other public policy goals would be facilitated. The worst assumption of all was that the Government and bureaucracy continued to treat Telstra as if it was an instrument for achieving national policies, much as it was prior to privatisation and to the market liberalisation of the early 1990s. They appeared to be surprised to find that Telstra had its own commercial agenda, even during the period when the government maintained a majority shareholding.

I am not arguing that Telstra should have remained in public ownership: only that an ideological commitment to complete privatisation and the failure to foresee some of the issues that have arisen since should not be repeated with NBN Co.

It is true that NBN Co is a purely wholesale operation and that the issues associated with Telstra being vertically integrated will not arise. But it will have substantial market power (even monopoly power outside inner city and some other urban areas) and the policy and regulatory framework that is intended to limit potential abuses of market power have not been developed for a privatised NBN Co, let alone road-tested.

Some of the proposals for restructuring and ownership of NBN are driven by a desire to encourage competition. The Vertigan Committee Report released in October 2014 ([Vertigan, 2014](#)) proposed disaggregation of NBN Co along technology lines to encourage inter-platform competition. Competition will be forthcoming from other sources in any case, with the development of mobile data technologies such as 5Gⁱ, and based on the economic feasibility of network duplication in CBDs and some other urban settings. Future competition may be in some markets only, rather than across NBN's complete range of services. However, competition will likely be as much about contestability rather than actual contests in the early post-rollout stages of the NBN. We can therefore reasonably plan around the NBN having effective market dominance for the medium-term and possibly longer.

- **Planning**

Following on from the last points, the imperative for national planning (and continuous plan review) cannot be overstated. This is much more than the outcomes from competitive markets, where planning is for competitive advantage and of limited transparency. The certainty generated from transparent national infrastructure planning is important not only for the NBN itself, and for its own financial and operating plans, but for all users.

If the NBN is to transform the economy and ensure that it becomes even more globally integrated and competitive, the industries that develop large-scale applications or are otherwise using the network need to understand how the NBN now and in future will affect their plans. Investment in nationwide applications and services is contingent on the certainty and transparency of NBN public planning. The same applies for major public sector programs based on e-Health, e-Education and e-Government.

I do not want to overstate the point, or to suggest that these developments that promote usage and economic and social inclusion will not happen. My argument is that delay, uncertainty and fragmentation have costs that can be significantly avoided through appropriate decisions for the NBN's ownership and industry structure.

- **Only Government can do certain things**

The provision of services required for social and economic inclusion, but which are not commercially feasible, can only be provided by Government. Government can employ private contractors to discharge universal service obligations, either directly or through programs run by Government-owned entities. However, in the case of the NBN, the planning and costs of programs for delivering above-cost essential services requires substantial planning, financing and forward procurement, especially satellite systems and capacity for the 7% of services that cannot be delivered by terrestrial technologies alone. These matters are best planned and executed by a publicly owned and publicly accountable enterprise, reporting to an equally publicly accountable Government and Parliament.

Public Ownership – Not Necessarily Forever

Public ownership of NBN need not be forever. Such a view would be as ideological as insisting that all enterprises in this industry (or any other) must be privately owned.

The development of a suitable policy and regulatory framework should also contemplate the pre-conditions that need to be satisfied before all or part of the NBN is privatised. That policy will not include an artificial timetable for ready disposability such as we have at present. This is not the time to argue what those pre-conditions might be, but they would be premised on the market for infrastructure broadband services having “settled down” and also that regulatory frameworks would have been stress-tested over several years.

Other Options

The table below was presented at the TelSoc event in Melbourne on 31 July 2019. It sets out some other options for structure and ownership that were raised by speakers at the event, and a preliminary assessment against the criteria discussed earlier in this paper.

Table 1. Some NBN Ownership and Structural Options Assessed and Compared

	InfraCo merger	Public ownership	Privatise	Technology disaggregation
1. International competitive advantage	Doubtful	Maybe	No, due to chronic short termism	No – competition seems the only consideration
2. Affordable, reliable and accessible to all	Unlikely	Yes	No	Maybe
3. Maximum competition for other wholesale operators	Limited at best	Yes, but subject to regulation	No	Yes, but subject to regulation
4. Future development pathway	Yes, but limited by past choices	Yes	Unlikely	Very unlikely
5. Effective regulation	Unclear – could be Telstra all over again	Yes, with public accountability	No – Telstra all over again	Unlikely

The first thing to notice is that the assessments are tentative. This is because the options are broadly defined and have yet to be detailed. The way in which each option is developed will undoubtedly seek to address the criteria in the left-hand column in greater detail. This applies to the public ownership option as well.

Apart from public ownership, I conceive of the other options, pending further clarification from protagonists, as follows:

- **InfraCo merger:** This option involves the merger of Telstra's backhaul network with NBN Co to form a comprehensive broadband network with both access and backhaul transmission capabilities. The option is open to public or private ownership, although only the latter would seem to be under contemplation, because the renationalisation of a significant part of Telstra is unlikely. The government has made it clear that Telstra is not a suitable buyer for NBN Co, because that would reinforce dominance in a vertically integrated organisation. This view aligns with Telstra's preference for selling InfraCo in any case. The main advantage claimed for an InfraCo merger is that the constituent parts are complementary and that there would be significant synergies that will improve the provision of a more comprehensive range of wholesale broadband services.
- **Privatisation:** This option is the one already included in legislation and the Government's announced policy. The claimed benefits are that it puts the enterprise on a commercial footing and that the imperatives of private ownership will ensure

that it operates efficiently and can access private capital for future investment in growth and development. Implicitly, the option relies on effective regulation to control a private monopoly or near-monopoly.

- **Disaggregation by technology:** This option picks up the recommendations of the Vertigan Committee (Vertigan, 2014), which favoured bringing forward platform competition by disaggregating NBN Co into separate enterprises defined by the assets and the related technologies that each would be allocated. Therefore, the new enterprises would be based on fibre and copper, HFC, fixed wireless and satellite, respectively. Presumably each of the new enterprises would seek to maximise the potential of their “starting technologies” but be free to build or lease infrastructure incorporating other technologies as required. The assumption remains that each of the disaggregated enterprises would be privatised at the earliest time, but that they need not be sold off at the same time. Conceivably, the satellite operation serving rural and regional areas could be sold last, or even not sold at all.

My preliminary assessments of each option against the criteria are:

- **InfraCo merger:** This option takes a large and troublesome enterprise and makes it larger. Whatever monopoly cultures are involved, they are likely to strengthen, possibly at the expense of achieving the full value of the synergies that are being claimed. The impact is likely to be negative on efficiency and, then, because costs will be higher than they otherwise might be, on delivering innovative and affordable services. This form of amalgamation is unlikely to facilitate competition in the sector – unless poor performance of the merged entity attracts competition. Lastly, whether our regulatory systems are able to effectively constrain and guide the behaviour of such a behemoth – especially in private hands – should not be assumed. This is time for regulatory scepticism.
- **Public ownership:** My preliminary assessment is already stated. However, we should recognise that the possibilities of under-performance, of regulatory non-compliance and of abuse of market power are equally present, whether an enterprise is in public or private ownership. We should maintain a sceptical mindset in both cases. However, the opportunities for public accountability are increased with public ownership, including reporting to the Parliament and Ministerial accountability.
- **Privatisation:** The short-term profit imperatives of private ownership structures and the need to deliver returns that are considered to be sufficiently commercial are the main concerns for this option, because of the impact on wholesale prices and ultimate affordability to broadband service users. If prices are constrained, profits are likely to be maintained by reducing service performance and quality below what they

might otherwise be. This will have serious economic knock-on effects. Private owners of public infrastructure require levels of certainty and this could constrain competition in the medium to longer term and require future government intervention or supplementary funding. Scepticism is our best guide here as well.

- **Disaggregation by technology:** This option really needs to be further spelled out because it is entirely unclear whether the complexity of implementation is worth the effort. There are other sources of platform competition as mentioned above; they do not have to come from within NBN Co. We should be sceptical about the incentives for the “baby NBN Cos” to move beyond the technology that defined their share of the starting assets, and whether, in private hands, there would not be substantial pressure to exploit to the maximum, rather than to the optimum, the assets that have been purchased. This option is unlikely to provide the sort of coherent national pathway for broadband service evolution and development that we need. It seems to be driven by a notion of platform competition and of competition generally, even though, in practice, it might well be a tortuous and ineffective way of delivering it. The assurances that private buyers will seek will, if delivered, lead to the same problems for disaggregated sales as for an aggregated (whole of NBN Co) sale.

Reality Test

The options that were discussed at the TelSoc event on 31 July 2019 and which are referred to here are in the nature of primary colours that are unlikely to result from the present exercise. All of the options, and more than have been discussed, will undoubtedly be qualified and modified by the interplay of ideas. They will take on shades and hues appropriate to ideas that need to be implemented in a complex economic, social and political environment. That process of refinement is no more than making them as fit for purpose as they can be, and is the reason that TelSoc has sought to be one platform in a useful public debate.

Preliminary Conclusion

My preliminary conclusion is that public ownership for at least the medium term is necessary to ensure that a long-term plan for long-term sustainability and public accountability is delivered. I reserve the right to modify that view as I hear new and relevant views out of the ensuing discussion.

References

- Gregory, M. A. (2018). Australian Wholesale Telecommunications Reforms, *Journal of Telecommunications and the Digital Economy*, 6(2), 1-34. <https://doi.org/10.18080/jtde.v6n2.155>
- Gregory, M. A. (2019). How to Transition the National Broadband Network to Fibre To The Premises, *Journal of Telecommunications and the Digital Economy*, 7(1), 57-67. <https://doi.org/10.18080/jtde.v7n1.182>
- McLaren, G. (2018). What Now for Australia's NBN? *Journal of Telecommunications and the Digital Economy*, 6(4), 31-62. <https://doi.org/10.18080/jtde.v6n4.162>
- Vertigan, M. (2014). *Independent cost-benefit analysis of broadband and review of regulation: National Broadband Network Market and Regulatory Report*. Department of Communications, 14 August (Vertigan Committee Report to Minister for Communications). Retrieved from <https://www.communications.gov.au/sites/g/files/net301/f/NBN-Market-and-Regulatory-Report.pdf>

Endnote

ⁱ There is considerable diversity in the views of experts about the potential impact of 5G technologies and the development of mobile broadband generally on the NBN in future. The point being made is that the NBN is not immune from the effects of technology change and will need to adopt those technologies itself, or respond to them in appropriate ways.