The NBN is bleeding the Federal Budget to the tune of A$580 million in 2016-17, increasing to A$730 million in 2019-20 and A$2.1 billion in 2026-27, according to the recently released Parliamentary Budget Office (PBO) report . However the ultimate cost to the taxpayer will be many times this amount.

The current budget cost of A$580 million consists of the interest payments on the funds that the government borrowed to buy its equity stake in the NBN (currently A$20.3 billion and due to rise to A$29.5 billion next year), minus a small offset due to the net interest receipts the government receives from its loans to the NBN (which will be $19 billion by 2020). The government is charging the NBN more than it costs the government to borrow the money.

But the real cost to the taxpayer is much more than this because the NBN has accumulated operating losses of A$8.2 billion as of 30 June 2016. If we subtract A$1 million from that due to asset revaluations and include other adjustments, the government's investment in the NBN has deteriorated by A$8.8 billion according to the PBO. This is the real cost to the taxpayer.

These operating losses are projected to continue for at least another two years, even under the optimistic revenue forecasts of nbn co.'s Corporate Plan . These losses are not recorded in the budget but they are still a cost to the taxpayer because the government had to borrow the money to inject funds into the NBN. This loan has to be repaid. The plan was that this loan would be repaid from the sale of the government's equity stake in the NBN in 2020.

This is why the final sale price of the NBN will be crucial to determining the ultimate funding cost to the taxpayer. Unless the sale price covers the accumulated interest cost plus the Commonwealth's equity injection, taxpayers will be out of pocket.

The sale price is very hard to estimate but the current estimates of the internal rate of return (IRR) are of 3.2 to 3.7% (which is low) is based on the government's current equity value. An acceptable IRR for social infrastructure with low risk is usually around 10% . In order for the government to get a higher IRR, the sale price would need to be much lower, with the taxpayer picking up the loss on sale.

Also weighing on the sale price are the several guarantees provided by the government, liabilities that would be ultimately borne by the taxpayer should they materialise. These include:

- a guarantee to the company, nbn co., that it would pay any outstanding costs in the event that the NBN rollout is terminated for whatever reason
- guarantees to both Telstra and Optus in relation to nbn co.'s financial obligations to both telcos.

These contingent liabilities are collectively worth A$15.5 billion at current valuations – a very substantial dollar risk to the taxpayer even though the probability of this materialising is estimated by the government to be very low.

On the bright side, the risks and costs would have been much worse under the original plan in 2011. The costs of the original plan for fibre to the premises (FTTP) rollout had blown out to A$72.6 billion by December 2013 according to government forecasts, with completion not occurring before 2024. This compares with A$44.1 billion in the NBN's estimate at August 2012.

The original estimated IRR of 7.1% was pie in the sky. The government’s NBN Review in 2013 found that in order to achieve the 7.1% modest return, it would require price increases of 50 to 80% to customers or a government subsidy of up to A$2.5 billion every year to 2039-40.

Either the price rises or the subsidy would have been absurd and unaffordable. This is why the government's new NBN model includes a range of technologies at a substantially lower cost although still, it must be said, leaving a very low IRR.

The bottom line is that the NBN is a drag on the government's budget at a time when its credit rating is under increasing threat . But there are much larger costs yet to come when the government sells its equity at a substantial loss which of course will ultimately be borne by the taxpayer.

We won't see any sign of these impending costs in the government's Mid-Year Economic and

Financial Outlook (MYEFO) because the effect of the accumulated NBN losses on the government's equity investment are off-budget. This is of course one reason why governments are attracted to commercial infrastructure arrangements in partnership with the private sector.

Ross Guest does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond the academic appointment above.

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