

Radio Days – 2013-04-13

Tip of the Week – Superannuation Increase

The federal Government has recently announced that, from 1 July this year, all employers must increase the Superannuation Guarantee Payment for each employee from 9% to 10%. If any of your employees earn over \$450 per month (this will include the vast majority of your employees) then you must pay an extra 1% of their normal salary into their superannuation fund.

This change takes effect on the first pay that you make next financial year: that is the first pay after Sunday 30 June this year. This is the first change to the superannuation rate for some years so you may not know how to make the change to the superannuation rate in your accounting program. If you calculate your employees' superannuation manually then you will continue to make manual calculations but at the new higher rate.

If you use an accounting program like QuickBooks then you will have to change the rate in each of your superannuation payroll items. You should have one superannuation payroll item for each superannuation fund that you need to make payments to: this makes life as easy as possible for you both when you pay each employee and when you remit their superannuation to their superannuation fund.

I am assuming that you want to make your life easier on payday!

The Federal Opposition's NBN Plan

The Coalition's Plan

The federal Coalition has released its plan to give a universal high-speed broadband internet service to all Australian residents. This plan is, in my opinion, flawed in a number of areas. These areas are:

- The attenuation of the signal, especially at higher speeds, over copper wire. This has been a problem with the introduction of higher speed broadband over the existing copper wires and is the reason for the Labor Party's introduction of the NBN.
- There is no mention of the power needed to make all existing telephones work after the fibre has been installed to the node.
- There is no mention of evolving needs. I agree that 25 Mbps is enough speed for most people at present, but I am not convinced that the infrastructure is able to deliver that speed.
- There is no mention of either satellite or wireless delivery, both of which are needed in the bush. This will add to the cost of the Coalition's proposal.

With errors like this it is no wonder that the Coalition can quote a cheaper price for its NBN broadband. I have gone into more detail on each of these points in the following sections.

Attenuation

Attenuation describes how a signal of any kind gets weaker the further it has to travel. It is relevant to broadband (especially high-speed broadband) because the signal attenuates over quite short distances when travelling in copper wire. This attenuation is increased with the higher frequencies needed for higher speed broadband.

To see how this is relevant to the Coalition's NBN plan it helps to know some history.

When ADSL broadband was first introduced you could get this type of broadband if you lived within about four to five kilometres of your telephone exchange as the wire flies. This was as far as the signal could travel before it was too weak to provide a reasonable service. If you lived within this distance of your local telephone exchange the system provided you with a download speed of about 1.5 megabits per second (Mbps).

For those of us who had grown up on analogue download speeds it was internet heaven!

Then along came ADSL 2: this had a speed of 6 Mbps: about four times as fast. There was, as usual, a catch: the higher speed used higher frequencies within the copper wire and you were limited to being within 1.5 kilometres of your telephone exchange. Again, if you lived further away you could not get this high-speed signal because of the attenuation over the copper wire.

Now the Coalition is promising us 25 mbps (this is a schoolboy howler if ever there was one: mbps stands for millibits per second, not megabits per second (Mbps)) over copper wire by the end of 2016. This speed is four times as fast as ADSL 2 so will not travel nearly as far over copper wire: the limit would be perhaps 300 metres from the node. This is a small distance when measured against the distances travelled by the *last mile* of copper wire from the node to your home or office.

This problem of attenuation will only be exacerbated when the planned higher speeds are introduced by the end of 2019.

All these figures suggest to me that the Coalition has made a massive mistake in their calculations of the speed available from the copper wire at quite short distances.

Power

In the olden days, when I was a boy, a telephone was just plugged into the wall. When a call came in the phone rang, you picked it up and answered then talked for hours until your parents told you to get off the phone so that they could use it.

The electrical power for all of this came down the wires from the telephone exchange with the voice signal.

All telephones in use today both expect and need the signal from the telephone exchange to be powered by the telephone exchange. If the Coalition's plan does not include power down the copper wire then every telephone in Australia will need to be replaced before your landline will work after the installation of the Coalition's FTTN in your area. I have no idea how much this would cost, but it is a cost which the Coalition would pass on to you.

The copper wires from the nearest node to your home will still need power but it will no longer come from the exchange. This means that their plan needs considerable infrastructure to get the electricity to the nodes. I wonder if this has been considered by the Coalition, because it is not mentioned in the Coalition's Plan for Fast Broadband.

Evolving Needs

In days gone by Henry Ford introduced the Model T Ford. This car was massive commercial success, even though it was only available in black. In the years since then the motor car has undergone many major changes: it has become more reliable, more comfortable and safer. I will take any bet the Mr Ford did not see the vast majority of these changes coming.

One of the reasons that the Japanese cars gathered such a foothold in the Australian market is that they provided cars with heaters and radios. In those days the radios were only AM: FM and digital radio were not yet a gleam in their inventors' eyes. This is the sort of thing which happens unexpectedly: looking back it is obvious but we did not know that we needed (or even wanted) heaters or radios. It took the Japanese to show us how to improve our cars.

In a similar vein, I am prepared to bet that most people did not see just how big a change would be created by the computer, the mobile phone or almost any other device produced in the last fifty years. I remember how, as a boy of about fifteen, telling my father that we would see films on record. I stated that this would definitely occur within my lifetime and probably within his. Some few years later, when I was a university student, I went to an audio show at the Exhibition Buildings in Melbourne and saw an device produced by Panasonic which used a 12 inch platter to store a whole film. This was the same size as a 33 RPM record (the CD of my youth).

I believe that it is better to build to best possible NBN at the beginning. As Tony Abbot and Malcolm Turnbull stated at the unveiling of the Coalition's policy, the major cost is for the labour needed to install the wires and equipment required for any rollout of this size. As I see the future envisioned by the Coalition's plan, there will be equipment needed to install fibre to the node then, when this equipment is no longer needed at a particular location, it will be removed to work somewhere else.

Then, some months or years later, this same equipment will be needed to come back and install fibre from the node to the premises. Isn't it better to do everything at the one time, rather than in pieces?

This reminds me of a story that my mother told me as a boy. It involved a farmer who thought that it was cruel to dock puppies' tails so every week he cut just one bone off each puppy's tail. This meant that the puppies would do their best to hide every time they heard his footsteps. This is the cruelty that I see in the Coalition's plan.

Wireless and Satellite Coverage

Nowhere in the Coalition's policy does it mention the need for either wireless or satellite coverage of areas of the country. This, then, would presumably be excluded from their costings but not from the Labor Party's costings. There are a number of my clients who are currently enjoying fixed wireless NBN coverage near Campbells Creek in central Victoria. This area is not shown as covered on the NBN's online coverage map but the people who live there are enjoying fast broadband now.

I also have clients in Moonambel, also in central Victoria, who are enjoying fast satellite NBN coverage now. This, too, is not mentioned in the Coalition's policy so I assume that it is not covered in their costings.

Summary

Will we wake up after the election and find that the Coalition's costings this time are as bad as those before the last election where there was a \$90 billion hole? This

Labor's Plan

Labor's plan for the NBN is comprehensive and well known to most interested people. This plan provides for complete coverage of the whole continent of Australia with fast broadband. The vast majority of the people of Australia will be covered by fibre optic cable to the premises (FTTP) and, of the remainder, some will be covered by wireless and the balance by satellite.

All these elements are being provided at once, not piecemeal as in the Coalition's plan.

Attenuation

Labor's NBN plan doesn't involve copper wiring so there is no problem with attenuation. The signal carried by optical fibre does, of course, attenuate over distance but this signal is easily boosted using well-known technology. Another factor is that the distance over which the signal attenuates is much longer in optical fibre than in copper.

Thus attenuation is not a factor in the FTTP NBN as provided by Labor's plan.

Power

There is no power needed for fibre optic cable. The only power needed is at the endpoint: your home or office. The power needed there is already present as a normal part of living. It is just a matter of running a lead from the mains to the NBN endpoint and all the power needed to convert the signal from the optical in the fibre to the electrical in your home or office network is there as a matter of course.

Thus attenuation is not a factor in the FTTP NBN as provided by Labor's plan.

Evolving Needs

The FTTP NBN which Labor is providing is as future-proof as is possible. Unlike the Liberal's NBN policy, which will require upgrading in the near future, there is a clear path to providing the best broadband for both the present needs and for future needs.

Wireless and Satellite Coverage

Wireless and satellite coverage are both present in Labor's NBN plan. They have both been implemented successfully: satellite is now available over the whole continent because of the technology while wireless broadband is being rolled out at the same time as the optic fibre broadband.

This is included in the costings of the Labor NBN so, obviously, the Labor costs will be higher because essential costs have been included.

Summary

The Labor NBN is being implemented more slowly than the original estimates suggested. It is more expensive than the original estimates suggested. It is, however, being implemented.

When the Liberal government was in power it was far more interested in buying votes with tax cuts than using the surpluses available to create or update our infrastructure. The Labor government has provided leadership to the whole world with the way it coped with the Global Financial Crisis: this would appear to be another action by a government which believes in working for the long-term good of the country.

Glossary

FTTN (Fibre To The Node)

This is a wiring arrangement which sees a telecommunications company laying fibre-optic cable from the telephone exchange to a *node*. This optical fibre cable carries high-speed data from the telephone network to the node, and from the node it is carried by existing copper cable to each endpoint (your home or business, for example).

FTTP (Fibre To The Premises)

This is a wiring arrangement which sees a telecommunications company laying fibre-optic cable from the telephone exchange to the premises: typically your home or business. There is no copper used in FTTP: everything (voice and data) is carried by the fibre-optic cable.

Node

A *node* is the place where a signal running along a single fibre-optic cable is split to continue its journey over a copper wire to the endpoint (or premises). This used to be seen as grey concrete posts about one metre high in the street. These posts where the copper cables from the telephone exchange were continued onto your home or office. I have not seen one of these posts for a while so they seem to have been phased out.

Further Information

NBN Co www.nbnco.com.au
Liberal Party's NBN Summary <http://tinyurl.com/Liberal-NBN>