2013 ANALOG TV SWITCHOFF: WHAT ARE THE PROSPECTS?

F R A N C O P A P A N D R E A

Abstract

A decade after the Australian Government decided to embark on the conversion of analog free-to-air television to digital transmission much remains to be done to achieve that goal. After the latest changes to the implementation program, analog switchoff is planned to occur progressively starting with a regional trial in the second half of 2010 and concluding in Sydney and Melbourne at the end of 2013. The principal reason for the delay is a much slower than hoped-for take-up of digital reception equipment by consumers.

Despite the enthusiastic and optimistic predictions of policy-makers Australian households have not rushed to adopt digital TV. Initially, the high cost of converting to digital was a significant disincentive, but even after a substantial decline in conversion costs a substantial proportion of consumers remains disinterested. The paper explores whether the recent modifications to the digital TV policy are likely to be sufficient to achieve the hoped for goal of analog switchoff in 2013.

Introduction

More than a decade has passed since the government detailed its plan to convert Australia's terrestrial television distribution system from analog to digital. The original plan was for digital transmission to start 1 January 2001 in metropolitan areas and 3 years later in regional areas. Switchoff of analog TV was envisioned to start in metropolitan areas at the end of 2008, but much slower than anticipated consumer uptake of digital TV rendered those plans unrealistic. As is well known, in 2009 Australian households are barely half way to being converted to the reception of digital television — far short of the expectations at the start of implementation of the digital conversion plan.

What has happened? Have consumers been particularly reluctant to embrace digital TV or were the expectations of them overly optimistic and ambitious? Was the digital plan up to the task? Is Australia's experience different to that in other comparable developed countries? These are some of the questions explored in this paper as part of a review of progress towards a revised analog switchoff target date of the end of 2013.

Australia was one of the first developed countries to introduce a plan for digital terrestrial television broadcasting (DTTB). The switch from analog to digital transmission was seen as a major boost in efficiency in the use of scarce spectrum resources which were facing rapidly increasing demand from developments in modern telecommunication services. It is interesting to note, however, that policies for the telecommunication and broadcasting sectors followed contrasting philosophies. For telecommunications, regulatory policy fostered competition and a reliance on market forces; digital television developments, on the other hand, were to be highly regulated.

The digital television conversion decision, banned new entry into the commercial TV, mandated transmissions in high definition (HDTV) and standard digital formats, banned multichannelling by commercial operators, and extensively constrained the use of datacasting to exclude services even remotely similar to traditional TV. The decision was the latest and possibly the saddest chapter in the history of Australia's broadcasting policy replete with highly prescriptive regulation and costly mistakes which have often favoured the vested interests of politically powerful incumbents more than the public interest (Albon and Papandrea, 1998). The policy largely delivered what FTA commercial television operators were seeking and was welcomed by them. Almost everyone else was highly critical (see for example, Given, 2003; Papandrea, 2001; Productivity Commission, 2000; and Jones, 1998). The popular press was particularly strident in its opposition. The *Australian*

Financial Review (1998) derided the decision as 'information age mockery … designed to grant a political favour … to the incumbent broadcasting oligopoly'. Stung by the widespread and ongoing opposition the responsible Minister (Alston, 1998) sought to justify the decision's departure from competition policy principles argued that the incumbents deserved 'a degree of special treatment' because they would otherwise be threatened by new competition when they are being asked to pay 'huge sums to transfer to digital broadcasting'.

The review of broadcasting by the Productivity Commission (2000) provided a balanced and objective evaluation of the decision. The Commission was not swayed by the Minister's defence and concluded that the policy 'had serious ramifications for the public interest in efficiency and competition' (p. 233). It was critical of all the major aspects of the decision: the ban on entry of new commercial broadcasters; prohibition of multichannelling and pay TV, mandatory HDTV requirements, datacasting restrictions, open-endedness of the simulcast period, and high adoption costs to consumers. Its recommended changes to achieve 'an equitable and efficient migration to digital transmission' and provide greater 'certainty and credibility … a role for market forces (p. 242) were all ignored by the Government.

On the supply side, aided by considerable financial assistance from remission of licence fees, broadcasters moved quickly to install digital transmission infrastructure and by 1 January 2001 all was ready as planned for the start of digital transmissions in metropolitan areas. On the demand side, consumers were no where to be seen. Most were quite happy with analog reception and could not see any value in parting with more than $500 for a converter or several thousand dollars for a digital television set to receive exactly the same programs. Initial consumer take-up was dismal and after two years there had been less than 50,000 cumulative sales of digital TV sets and converters (House of Representatives Standing Committee on Communications, Information, Technology and the Arts, 2006). In addition, the planned auction of datacasting spectrum had to be abandoned because of a lack of interest in the service. It was soon evident that the plan was seriously off-track and needed a rethink.

The scheduled mid-term reviews of various aspects of the digital plan provided an opportunity for a major rethink of the digital plan, but sadly the government was in no mood for radical change. The reviews were conducted by the Department of Communications, Information Technology and the Arts (DCITA, 2006a). They appear to have been little more than perfunctory and indeed were largely confined to the compilation of a summary of views presented in submissions. The main changes that followed were: postponed the start of analog switch-off to 'sometime' in the period 2010–2012, eased restrictions on multichanelling, and set aside two additional digital multiplexes; one to be allocated to up to eight free-to-air datacasting (with some easing of original constraints) and narrowcasting channels; and the other for transmission of television services to mobile devices[1]. At the same time, the ban on the allocation of new commercial television licences was extended until the end of the simulcast period. (DCITA, 2006b)

Following a change in Government at the end of 2007, the new Minister introduced some further modifications which included: legislating a schedule for progressive area by area switch-off of analog signals for completion by the end of 2013; establishment of the Digital Switchover Taskforce to coordinate the switchover program; and provision of $38 million for a package of initiatives such as research to track uptake of digital TV, a public awareness campaign, and development of a logo and labelling scheme to identify digitally-ready products. The announced analog switch-off schedule reversed the earlier perception that metropolitan and regional licence areas would be provided with the same fixed period of simulcasting of analog and digital formats. In other words, analog signals would be switched off first in metropolitan areas, followed three years later by switch-off in regional areas. By reversing the order and scheduling major

[1] The auctioning of licences for the datacasting and mobile television was to have taken place in 2007 and appears to have been postponed indefinitely.

metropolitan areas last, the schedule effectively delays the anticipated benefits of more efficient use of spectrum and a wider range of services to consumers by a further five years until the end of 2013.

Is the switchover schedule realistic?

The switch-off of analog signals in any area is unlikely to be politically feasible without almost universal digitisation of households in the area. Earlier this year, analog switch-off in the United States was postponed for four months even though less than six per cent of households had not yet converted to digital (Nielsen, 2009). According to the then acting Chairman of the Federal Communications Commission many consumers were not ready, and had not been adequately informed about necessary preparations, likely causes of related reception difficulties and sources of help (Copps, 2009). Consumer difficulties in getting subsidy coupons for the purchase of digital set-top boxes were partly to blame. But as the politically induced extensive delays in switching off CDMA mobile telephone services demonstrate, taking a service away from even a small number of users can be extremely difficult for politicians.

The Australian digital conversion policy presupposed rapid adoption by consumers keen to acquire the new technology. Experiences of rapid adoption of colour television, mobile telephony and the internet created expectations that Australians would quickly and enthusiastically adopt digital technology simply because it was a new technology. But Australian consumers proved to be much more rational and have been reluctant to part with their money for something that provided little additional benefit to them. Converting to digital provided some improvements in reception quality, but the overall experience for consumers was not greatly different to what they could get by continuing to watch analog TV for no extra cost.

Available data on DTTB uptake paint a vivid picture of poor interest in digital television in the years immediately after its introduction. Estimates of digital TV reception equipment sales by the non-profit industry body, Digital Broadcasting Australia (DBA) show that after a very slow beginning, digital TV adoption started to accelerate around 2005 boosted by declining prices and increasing consumer appeal for widescreen TV sets. Australian Communications and Media Authority (ACMA) annual surveys from 2005 to 2007 reported a considerably higher rate of adoption but those finding were likely to have been upwardly biased by the composition of the survey sample (see Papandrea, 2009). Starting in the first quarter of 2009, the Digital Taskforce has been conducting a quarterly survey of digital TV penetration the latest of which (for quarter 2, 2009) indicates that 53 per cent of households have at least one piece of digital reception equipment. The available data are summarised in Table 1.

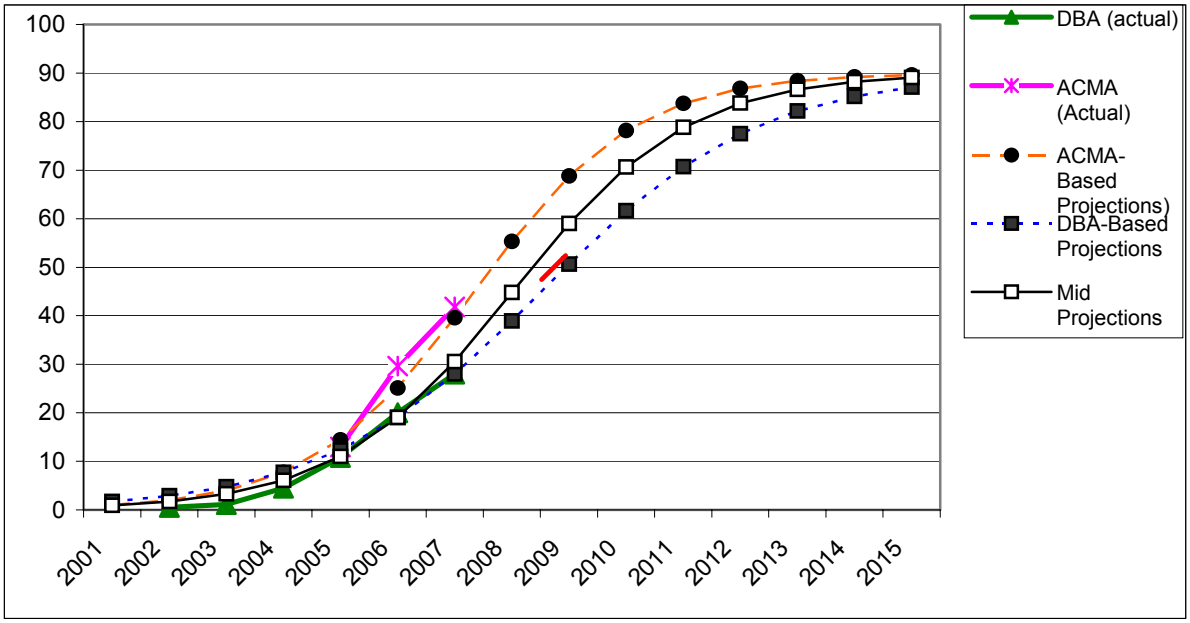
Table 1: Estimated uptake of DTTTB

	Estimated DTTB Penetration (per cent of households)		
	DBA	**ACMA**	**Digital Tracker**
2003	1.1 (June)		
2004	4.5 (June)		
2005	10.8 (June)	13.0 (July)	
2006	20.0 (June)	29.6 (October)	
2007	28.0 (March)	41.8 (December)	
2009			47 (Quarter 1)
2009			53 (Quarter 1)

Source: Digital Broadcasting Australia Information Bulletin (Various); ACMA (2007 and previous years), Digital Tracker.

A little more than a year ago, as part of the analysis presented in a recently published paper (Papandrea, 2009), I used the DBA/ACMA data to produce three indicative 'S-shaped' cumulative diffusion curves for digital television in Australia (one each for the DBA and ACMA data and a third using an average of the two sets of the data). In producing the diffusion curve, a conservative saturation level of 90 per cent of households was arbitrarily assumed to as the politically acceptable household penetration rate for analog switch-off (see source paper for details). The curves are reproduced in Figure 1.

Figure 1: Projections of DTTB Household Penetration



Source: Papandrea (2009)

What is interesting from the diffusion curves is that in each case, the 90% saturation rate is not predicted before 2015. Also as the curves are based on historical penetration rates they take no account of any slow-down on consumer spending that may have occurred because of the global financial crisis. To see how things stand at the moment, the recently reported Digital Tracker penetration rates have been superimposed on the figure. They are somewhere between the DBA and the mid-based projections and suggest that a 2013 switch-off target might be an optimistic expectation without some additional stimulus to consumers to adopt digital TV.

Let us examine a little deeper the prospect of the current switch-off schedule being achieved. DTTB penetration is defined as at least one digitally capable receiver device in a household but most homes in Australia have multiple TV sets and other TV reception equipment. Analog switch-off will make all non-converted devices obsolete and will add to consumer dissatisfaction either because of their loss of use or because of the additional conversion costs. This is no small problem. The ACMA (2008) reported that in 2007 only a quarter of TV reception devices in homes were digital. The proportion increases slowly because less than one third of those purchasing a digital set discard their analog sets. But this is only part of the problem. More importantly, sales of analog TV sets are outpacing those of digital sets and with an average life of a TV set of around 15 the magnitude of problem will not diminish for some considerable time. Giles Tanner (2006) of the ACMA drew attention to this problem in 2005, noting that while then digital receiver sales (TV sets and set top boxes) had been some 600,000, total sales of new analog receivers had exceeded two million. He observed that overcoming the challenge of converting all the analog devices then in people's homes by 2012 'would require monthly sales of digital receivers several times higher than those achieved in 2005'. Although sales of digital TV sets have improved significantly since, according to informal

industry estimates around one third (some 1.3 million a year) of all TV set sales continue to be analog.

Overseas developments suggest DTTB uptake is strongly motivated by access to new programming streams not available in analog format. In Australia some evidence to that effect is provided by the much higher than average (53 per cent) DTTB penetration rates in Mildura (75 per cent) and Tasmania (70 per cent) where one of the three commercial TV networks is available only in digital format. In the UK, DTTB got off to a very poor start, but became an almost instant success after the introduction of some 30 new free-to-air digital channels (*Freeview*) with an extensive range of new programming supplied by existing operators and new entrants to the industry. The importance of extra programming for DTTB adoption in Mildura and Tasmania was underscored by ACMA (2008) survey findings. While across Australia, access to more programs (19 per cent) was not significantly different from other main reasons for DTTB adoption (better quality pictures — 23 per cent; television replacement — 20 per cent; and improved reception — 20 per cent), in Mildura and Tasmania it was by far the main reason indicated (up to 56 per cent). Further, in comparing Mildura and Broken Hill as 'potential trial switch-off areas' the survey concluded that 'while the transmission characteristics appeared to make both … ideal candidates for early switch-off' there were major differences in DTTB uptake due to differences in available services offerings. 'In Mildura Channel Ten is only available on digital' (ACMA, 2008: 2). The survey also noted that a considerable higher proportion of households in Broken Hill (more than twice than in Mildura) were not interest in adopting DTTB (ACMA, 2008: 48)

Are recent policy changes sufficient?

Despite the disappointingly low DTTB adoption rate in the early years of digital broadcasting, both the previous Coalition Government and the current Labor Government have been reluctant to adopt major revisions to the digital conversion plan. While the recent changes relax constraints on multichannelling, the ban on new entry remains unchanged and will continue to apply at least until the end of the simulcast period. The ban on new services not only quashes an important source of new programs but also removes the necessity of incumbents to supply appealing programs on their multichannel services to avert the competitive threats of new entry.

Following the relaxation of multichannelling the FTA broadcasters (national and commercial) have established a consortium, '*freeview*', for the joint promotion of their digital services. While *freeview* has been touted as a package of 15 'new' channel digital services, in reality it is largely a re-jigging of the pre-existing digital services expanded to include the additional digital multichannel that commercial broadcasters are now permitted to have (one network has not yet launched its additional multichannel). While there are some programming innovations in the *freeview* channels line-up, they are largely marginal additions to what is already available and consequently are unlikely to have a sizable additional influence on digital TV take-up rates.

Without the threat of competitive new entry, there is little incentive for commercial broadcasters to provide popular programs on their multichannels, which would significantly fragment the audiences of their main channels and related advertising revenue. Thus to minimise both programming costs and audience fragmentation, the schedule of multichannels are filled mainly by repeats and other low cost programs. It could also be argued that it is in the interest of commercial networks to not encourage digital take-up with appealing new programming. Because the licensing of new commercial services is banned until analog transmissions are switched off, the commercial networks can safeguard themselves from competition by ensuring the switch-off is delayed for as long as possible.

If and when the indefinitely deferred plans for the allocation of licences for datacasting, narrowcasting and mobile television services are resumed, they are unlikely to have more than a marginal effect on DTTB adoption by households. Because datacasting and narrowcasting services

will continue to be arbitrarily constrained to prevent erosion of audiences of incumbent broadcasters, they will not have widespread appeal.

The setting of a definite analog switch-off date is an important positive aspect of the recent policy changes. The Productivity Commission (2000) argued for the setting of a definite switch-off almost a decade ago. As the switch-off date approaches those wishing to continue viewing television have a strong incentive to convert to digital. It is worrying, however, that less than one per cent of households know the switch-off date for their area (Digital Tracker, 2009). Even in Mildura where the switch-off is due to occur within a few months, only 13 per cent of households are aware of the date. For the majority of households (those in the large mainland capital cities) the switch-off is still a long-way off and there is little, if any, pressure for them to purchase digital equipment until they actually need to. Over half (53 per cent) of households planning to convert to digital intend to do it when forced to (either by analog switch-off or break down of existing TV (Digital Tracker, 2009). The proposed awareness building publicity campaign and the related labelling of TV sets should assist in promoting increased interests in DTTB among those who are either unaware of the switch-off date or of the need to obtain digital equipment to continue viewing TV once the switch-off has occurred.

Reception difficulties can be a potential stumbling block to analog switch-off. Currently the concerns include digital signal reach and coverage, reception in flats and multistorey buildings, and digital conversion of self-help community translators. The ACMA and Digital Taskforce are addressing these concerns and are unlikely to let technical reception problems become a barrier to switch-off. Signal deficiencies are apparently going to be addressed by a direct-to-home satellite distribution. But to receive the signal, affected households will need to incur the additional cost of a satellite reception dish. In their case the government might be predisposed to offer financial assistance as it is apparently doing in the Mildura test market with a $300 subsidy to households that cannot access ground-based digital signals (Day, 2009).

Little if any attention is being given to the stock of analog TV sets in homes. Analog sets continue to be sold, albeit in fewer numbers than previously. Anecdotal information suggest that least a third of all new sets sold are analog. The setting of a firm switch-off date together with the digital awareness campaign and the 'digital-ready' labelling scheme should have an increasing influence on consumer choice particularly as schedule switch-off dates approach. A more interventionist approach, similar to the US mandatory scheme for all new TV sets to incorporate a digital tuner would have had a considerably greater impact in reducing the stock of analog sets in use and in increasing Household DTTB penetration rates. The current approach seems to be assuming that the analog TV sets problem will eventually sort itself out. With an average service life of around 15 years, however, it will not entirely go away for quite some time.

Delays in the analog switch-off date have substantial welfare cost implications. For the moment at least, the government has accepted those costs at least until 2013. But further delays cannot be ruled out if significant numbers of households are not ready to receive digital signals on the scheduled switchover dates. Scheduling of the larger urban centres last for switchover, should gradually reduce the number of digitally unequipped households. With up to five years to go, the adoption of a wait-and-see position is not unreasonable. Nonetheless, it may still be necessary in the final stages of the conversion process in individual market areas to provide some form of incentive for the adoption of DTTB by the residual analog users that may have genuine difficulties to purchase the necessary equipment. A means tested subsidy in the final months before switch-off would limit costs.

What are the prospects for on-time switchover in Mildura? In only a few months, Mildura is scheduled to become the first digital-only TV market in Australia. Aided considerably by the distribution in digital-only format of TEN Network third programs, it quickly became the market with the highest proportion of households converted to digital. By second quarter 2009, DTTB penetration had reached 75 per cent. Getting the remaining 25 per cent of households to convert

might not necessarily be straight forward but should not prove an overly daunting task. According to the Digital Tracker (2009:quarter 2), 82 per cent of Mildura households which considered their main TV set not digitally ready, indicated their intention to get it ready by the switchover date. If all the conversion intentions are realised, around five per cent of households would remain unconverted at the time the analog signal is switched-off. More intense publicity before switch-off will probably further reduce the number of unconverted households. It is highly unlikely that the Mildura analog switch-off will not proceed on schedule. The credibility of the whole conversion plan is at stake, and the government is unlikely to entertain a delay for any reason that can be averted. But it will be interesting to see whether additional incentives to convert are offered to residual non-digital households or whether the government is prepared to accept any consequential political flack. What happens will be instructive for subsequent implementation of analog switch-off in other areas.

Predictions of likely outcomes in other areas are much more speculative. As noted above, by scheduling Sydney and Melbourne last for analog switch-off there will be very little benefit accruing from the so-called digital dividend until the whole country becomes digital-only. How digital conversion progresses in regional areas will be secondary to the main game in the metropolitan areas. From the Digital Tracker (2009:quarter 2) we learn that 83 per cent of households not yet converted to digital plan to convert at some future time, although 76 per cent of unconverted households do not plan to do so until forced by analog switch-off or until their TV breaks down. This suggests that future growth in the number of digital households is likely to slow considerably in the near future. The Digital Tracker surmises that as much as '25 per cent of all households … could wait until switchover is imminent before converting'. That is a sizable proportion and my guess is that it would be of some concern to policymakers. There is no guarantee, of course, that such a large number of people who have postponed DTTB adoption would suddenly all proceed to make a purchase at the last minute. If the political cycle does not get disrupted by a double dissolution, 2013 will be an election year. Consequently, political intervention might become a real possibility and the introduction of some form of incentive to convert to digital might then be entertained. In my view, there is a real risk that many of those indicating they will convert only when switchover is imminent will not do so when the time comes and consequently a further delay in completing the switchover by 2013 cannot be ruled out.

Had the government been less concerned with protecting the interests of incumbent broadcasters it could have largely avoided slow uptake of digital television by allowing new entrants into the industry to provide appealing new programs to consumers. As they have done overseas and to a limited extent in Mildura and Tasmania, new programs in digital-only format would have helped drive up the uptake of digital television. Most of the up to 25 per cent of all households intending to convert to digital only when switchover is imminent will have had a significant incentive to convert earlier. The government could still revise the ban on new entry if it so wished, but time is running out for such action to have a major impact on DTTB uptake before switchover. By keeping the ban on new entry in place, the only other potential option to avoid the risk of not completing the switchover on time would be to provide a subsidy for the purchase of a digital converter box.

Conclusion

Both the current Labor Government and its Liberal-National Coalition predecessor have wasted another opportunity to set the digital television policy on a more appropriate course for rapid completion of the conversion from analog to digital. What's missing from the policy is a strong incentive for consumers to adopt digital television. Such an incentive would be provided by new competitive entry into the industry ready and willing to supply consumers with innovative and appealing programs. While policy makers are clearly aware of this, they have proved reluctant to do anything that significantly weakens the high level of protection enjoyed by incumbent commercial broadcasters. Consequently, by not making more radical changes, the recent policy amendments will provide only modest improvements to what has always been a poor policy. Under the revised

plan, the conversion process is now scheduled to be completed at the end of 2013. However, as the preceding analysis suggests, it is not entirely certain that consumer uptake will be sufficient to enable the switch-off to be completed on schedule. Having been one of the first developed countries to embark on the digital conversion process, Australia's progress towards achieving that objective has not only been sluggish but seems destined to become very long by international standards.

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