Assessing the proposed merger between Sky and Vodafone NZ

A report for 2degrees and TVNZ

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Executive Summary

The effect of the merger on competition in the pay TV markets of New Zealand

In the developed world there is now strong convergence between the retail pay TV markets and the retail broadband markets in which suppliers in both markets increasingly compete for the spend of the same consumers. This trend is likely to continue as the capability of fixed and mobile broadband networks continues to improve rapidly over the next few years. The functionality offered by unicast services is clearly valued by consumers. But the success of the new services and the extent to which competition in the retail pay TV markets grows will depend on the extent to which entrants can gain access to premium content and especially premium sports content. There are certainly numerous examples from around the developed world, including in New Zealand, of entrants in the pay TV market which have failed commercially due to a lack of premium content.

Recognising this trend regulatory authorities in some countries – such as Australia, Singapore and the UK – have imposed regulatory constraints on players which control a substantial proportion of premium content rights, to protect the development of new forms of competition in the supply of pay TV services. This option is not available to the Commerce Commission in New Zealand. At the same time Sky in New Zealand has a market share in the traditional pay TV market (by revenues) of over 90% – a position which is largely based on its control of premium content, and especially premium sports content. We believe that Sky's dominant position in this market is likely to remain unchanged for many years under the current regulatory regimes.

As a result, there is a substantial likelihood that a merger between Sky and Vodafone would stifle this new form of competition in the pay TV market of New Zealand with little opportunity to eliminate harm later. There is also a strong likelihood that the merger would damage competition in the mobile and fixed broadband markets as explained below.

A likely counterfactual to the merger

Given the growing importance of convergence in the consumption of video content Sky might:

- merge with Vodafone – the foremost mobile operator in New Zealand and the second-largest fixed broadband provider;
- distribute its premium content to all broadband retail service providers, both fixed and mobile, through commercial wholesale agreements (as well as retailing its content via its traditional satellite broadcast distribution platform); or
- enter the New Zealand market as a fixed broadband retail itself.

We believe that the second of these strategies is likely. We also believe it will be more profitable for Sky than the third, which we think is unlikely. So we adopt the second strategy as the counterfactual in assessing the incremental impact of the merger on competition in the relevant markets in New Zealand.

The impact of the merger on competition in the retail mobile and fixed broadband markets

Our analysis indicates that the merger would, relative to this counterfactual, lead to a substantial lessening of competition in the retail mobile market. There are two main effects:

- with access to Sky's premium content on preferred terms, Vodafone would be able to increase its share of the retail mobile market, currently 50% by revenues, as the take up of its 4G data services increases; and
- Vodafone would also be able to cross sell into the Sky customer base in a way not available to its two mobile rivals.

These effects would not exist under the counterfactual.

We also find that the merger would lead to a substantial lessening of competition in the fixed broadband market in New Zealand when compared with the counterfactual. Again there are two effects:

- Vodafone would have access to premium content on substantially better terms than rivals. This would enable the merged entity to create more attractive triple and quadruple play bundles than rivals, to grow its fixed broadband customer base and to reduce customer churn; and
- again there would be an opportunity for the merged entity to cross sell to Sky customers. This effect is likely to be significant given the large market share of Sky in the pay TV markets.

Under the counterfactual all retail service providers of fixed broadband would have access to Sky's content on comparable terms and there would be no cross-selling effects. It is therefore likely that the overall effect of the merger would be a substantial lessening of competition, especially if the market tends towards duopoly between Vodafone and Spark.

The consumer benefits of the merger

We agree with Sky and Vodafone that the merger would create some consumer benefits. But our analysis indicates that these benefits would be greater under the counterfactual, in which premium content is distributed through a wide range of fixed and mobile retail service providers rather than just through Vodafone.

1 Introduction

Vodafone New Zealand ('Vodafone') and Sky Network Television Limited ('Sky') propose to merge and have applied to the Commerce Commission for clearance. Should the Commission allow the merger or should it refuse it on the grounds that it would lead to a substantial lessening of competition (SLC) when compared with likely counterfactuals?

2degrees and TVNZ engaged Plum Consulting to undertake a study of the likely outcome and effects should the proposed merger proceed, and to compare that to possible counterfactuals without the merger, to determine whether the merger would lead to a SLC.

1.1 The applicants' argument for allowing the merger

The applicants assert that the relevant markets affected by the merger are:

- the national retail market for fixed broadband; and
- the national retail market for pay TV services.

They argue that there are no horizontal issues arising from the merger which might lead to a SLC because:

- Vodafone does not participate in the pay TV market - apart from reselling the content of Sky; and
- Sky does not participate in the fixed broadband market (and currently delivers its pay TV services primarily through satellite TV broadcast).

They further argue that there are no vertical competition issues which would enable the merged entity to foreclose (or make significantly less effective) competition from rivals. They claim that:

- none of Sky's content is essential for rivals to compete in the pay TV market;
- the merged entity would have neither the ability nor incentive to engage in foreclosure strategies; and
- the high level of competition in the relevant markets would be an effective constraint on the merged entity.

Finally the applicants argue that the merger would benefit New Zealand consumers by enabling:

- the design of more attractive bundled packages;
- enhanced delivery of content across multiple devices;
- faster innovation of new digital products; and
- greater participation in the opportunities created by the Government's UFB and RBI initiatives.

We note that in presenting their arguments the applicants do not publish the likely counterfactual against which to judge whether the merger would lead to SLC.

1.2 The structure of our report

Our own analysis of the likely effects of the proposed merger is structured as follows:

- we summarise the key characteristics of competition in the relevant markets in New Zealand in Chapter 2;
- in Chapter 3 we review relevant market developments in other jurisdictions and discuss their relevance for the proposed merger in New Zealand;
- Chapter 4 constructs a likely counterfactual to the merger;
- Chapter 5 examines the applicants' key arguments as to why the merger would not damage competition;
- Chapter 6 presents our assessment of the impact of the proposed merger on competition in New Zealand; and
- Chapter 7 considers the consumer benefits which might arise from allowing the merger when compared with the counterfactual.

2 The state of competition in New Zealand

We start our analysis of the proposed merger by assessing the state of competition in the relevant markets in New Zealand. As well as the retail pay TV market and retail fixed broadband markets identified by Vodafone and Sky in their application for merger clearance, we also consider the retail mobile markets and the wholesale pay TV markets. The reasons for including these two additional markets are set out at the end of Chapter 3.

2.1 The retail pay TV market

There are a number of competing offers in this market:

- Sky offers a range of products, as set out in its application to the Commerce Commission. But its main offering is a range of multi-channel TV packages delivered via satellite. Sky has 833,000 subscribers.[1]
- Vodafone resells Sky content by offering pay TV over its fixed broadband network. It also owns cable networks in the Wellington, the Kapiti Coast and Christchurch areas which pass approximately 200,000 homes and provide Freeview channels and the option of subscribing to Sky premium packages.[2] Sky generates 2.6% of its pay TV subscription revenues through resale by Vodafone.
- Netflix has been successful in the New Zealand market with an over-the-top premium entertainment service. At the end of 2015 it had 264,000 customers.[3] This number is growing. But Netflix recently substantially downgraded its global growth forecasts[4].
- Spark launched a fixed broadband/TV offering, Lightbox, in 2014. [ ]
- Apple and Amazon have transactional offerings in New Zealand (i.e. download to rent or download to own) and are not a strong presence in the market. YouTube's revenues are not reported separately from Google's and are almost all derived from advertising (with some subscription now through its "freemium" model).

Based on our research we estimate that the market shares of the players by subscribers and revenues[5] are as shown in Table 2-1. Sky clearly dominates the retail pay TV market. While its dominance in this market will, almost certainly, decrease as Netflix and others increase their revenues, this effect is likely to be a marginal one. We believe that Sky's dominant position in this market is likely to remain unchanged for many years under the current regulatory regimes.

[1] Sky/Vodafone explanatory memorandum to shareholders (2016) *"Creating a leading telecommunications and media group"* (Explanatory Memorandum).

[2] Explanatory Memorandum, page 41.

[3] See Sky/Vodafone clearance applications.

[4] See for example http://www.marketwatch.com/story/netflix-shares-crater-35-in-premarket-2011-10-25

[5] The preferred metric for measuring market power according to both the Commerce Commission and the UK's Office of Fair Trading.

Table 2-1: Market shares for the retail pay TV market in New Zealand

Provider	Subscribers (000)	Average revenue per user per month ($)[6]	Revenue per annum ($m)	Revenue market share
Sky (including Vodafone resale)	833[7]	85	853[8]	95.0%
Netflix	264[9]	12	38	4.2%
Others	50[10]	12	7	0.8%
Total			899	100%

Source: Plum Consulting (see foot notes)

Using the market shares of Table 2-1 we calculate that the market in New Zealand is highly concentrated, as measured by the HHI of around 9040. This compares with an HHI of 5100 in the UK pay TV market, based on the calculations and assumptions of Table 2-2.

Table 2-2: Market shares for the retail pay TV market in the UK

Provider	2015 subs (m)[11]	2015 ARPU (£ per month)[12]	2015 revs (£m pa)	Market share by revenue
Sky UK	11.3	55	7460	68%
Virgin Media UK	3.9	49	2293	21%
TalkTalk	1.4	25	420	4%
BT	1.1	30	395	4%
Netflix	5.0	6	360	3%
Others	0.5[13]	15	96	1%
Total			11024	100%

Source: Plum Consulting (see foot notes)

We believe that Sky's strong position in the retail pay TV market is largely based on its control of premium sports content. As discussed in Section 3.3, there is considerable evidence to indicate that premium content, and especially live sports content, is key to attracting pay TV subscribers. We also note that Sky promotes itself on its website as *"a place where sport is king"*. Sky has exclusive rights to a wide range of sports events as indicated in Table 2-3.

[6] Calculated from providers' retail prices.

[7] Explanatory memorandum.

[8] Explanatory memorandum.

[9] Sky/Vodafone clearance applications.

[10] Assumed.

[11] Data from Informitv (May 2015). Numbers reduced by 5% to exclude Ireland where appropriate. Netflix figure from BARB research - see http://www.barb.co.uk/tv-landscape-reports/netflix-taking-over/

[12] Data for Sky and Virgin Media from company reports. Other data taken from company price lists.

[13] Assumed.

Table 2-3: Premium sports content rights in New Zealand

Sport	Status of broadcasts in New Zealand
Soccer	Bundesliga TVNZ All other major leagues SKY
American football	Sky and TVNZ
Athletics	Sky only
Australian rules football	Sky and TVNZ
Baseball	Sky only
Basketball	Sky and TVNZ
Cricket	Sky only
Cycling	Sky only (Tour de France)
Field hockey	Sky only
Golf	Sky only
Horse racing	Sky only
Motor racing	Dominated by Sky
Netball	Sky only
Rowing	Sky only
Rugby league	NZ tests and NRL Sky only
Rugby union	NZ tests, Super Rugby, provincial competition, Sevens Sky only
Swimming	Sky only
Tennis	Wimbledon TVNZ All other majors SKY

Source: TVNZ

2.2 The retail fixed broadband market

Over the past few years the retail fixed broadband market in New Zealand has seen:

- a rapid move from narrowband fixed services (based around voice telephony) to broadband services;[14]
- a more recent move from basic to high-speed broadband with take-up of Spark's VDSL services and rollout and take-up of UFB services;[15] and

[14] See p12 of Commerce Commission New Zealand (2015) *"2015 Annual Telecommunications Monitoring Report"* http://www.comcom.govt.nz/regulated-industries/telecommunications/monitoring-reports-and-studies/monitoring-reports/ (Commerce Commission 2015)

[15] Commerce Commission (2015) page 12.

- a rapid increase in the volume of data consumed by the average fixed broadband user. This has risen from 10 to 48 GB per month over the past three years. The Commerce Commission believes this growth is primarily driven by video consumption.[16]

There is strong evidence that fixed lines are now purchased primarily for broadband rather than voice telephony use given that:

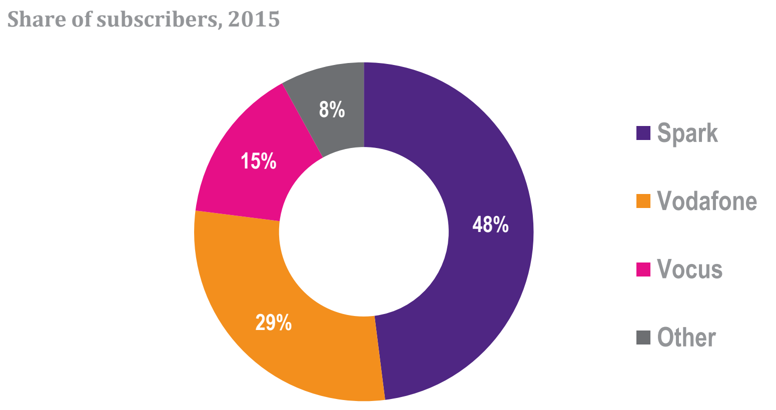
- the volume of fixed voice telephony minutes has halved over the last eight years while mobile voice telephony minutes overtook fixed voice telephony minutes for the first time in 2015/16;[17] and
- the average household now spends 4.5 minutes per day using its access line for fixed voice telephony but 120 minutes per day using it for broadband Internet access.[18]

At the retail level there are three main players in the fixed broadband market:

- Spark, the now separated retail and core network arm of Telecom NZ;
- Vodafone, a fixed and mobile operator in New Zealand which has purchased Telstra/Clear and which owns cable networks in the Wellington and Christchurch areas; and
- Vocus, an Australian-headquartered telecommunications company that moved into New Zealand in 2014, which is a provider that specialises in serving high and medium businesses, but which has recently moved into providing residential fixed broadband through the acquisition of a number of independent ISPs.

Figure 2-1 presents our estimates of the market share of these operators in the fixed broadband market. These shares appear to be stable. According to the Commission’s monitoring reports the market share of the two biggest operators has changed very little over the past three years. We can see that Vodafone is, by some way, the second-biggest fixed broadband supplier.

Figure 2-1: Market shares in the retail fixed broadband market



Source: Plum Consulting, Commerce Commission 2015

[16] Commerce Commission (2015) page 10.
[17] Commerce Commission (2015) page 14.
[18] Commerce Commission (2015) page 20.

The New Zealand retail fixed broadband market is concentrated, with an estimated HHI of around 3390. This compares with 2140 in the UK market. There are good reasons to believe that the New Zealand fixed broadband market should become less concentrated over the next few years, given that the UFB initiatives will reach 75% of New Zealand's population and will allow open access to retail service providers.

2.3 The retail mobile market

There are three network operators in this market – Spark, Vodafone and 2degrees:

- Vodafone is the market leader, whether measured by subscribers or revenues. Its network offers 98% population coverage for voice and around 90% for 4G data services.
- Spark, which operates two brands (Spark and Skinny) comes a very close second. Its network offers similar coverage to that of Vodafone.
- 2degrees is a relative newcomer which entered the market in 2009 and has the smallest market share. Its network offers 95% population coverage for voice and around 70% for 4G data. Its coverage is supplemented by a national roaming agreement with Vodafone.

Table 2–4 shows our estimates of market shares by subscribers and revenues at the end of 2011/12 and the end of 2014/15. We can see that the shares by revenue are stable.

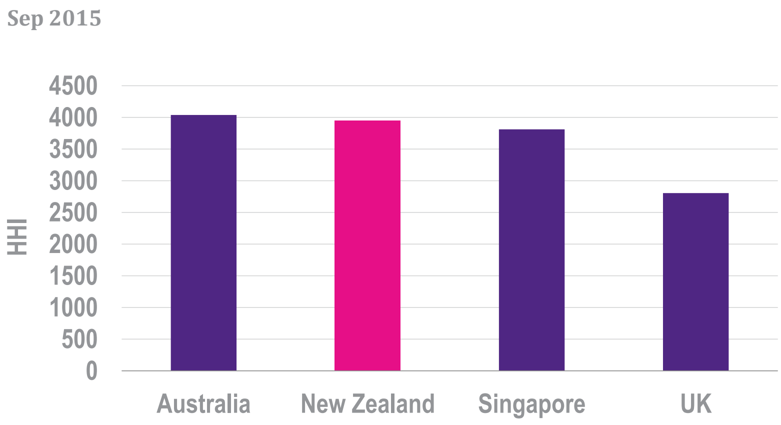
Table 2-4: Market shares in the retail mobile market

Operator	2011/12		2014/15	
	By subscribers	By revenues	By subscribers	By revenues
Vodafone	44%	51%	40%	50%
Spark/Skinny	32%	36%	36%	37%
2degrees	24%	13%	24%	13%
	100%	100%	100%	100%

Source: Commerce Commission monitoring reports, Merrill Lynch Global Wireless Matrix

Figure 2-2 compares the concentration of market power in New Zealand with our three case study countries – Australia, Singapore and the UK. We can see that the level of concentration is similar to that of Australia and Singapore but substantially higher than that in the UK.

Figure 2-2: Mobile market power concentration (HHI) in New Zealand vs the case study countries



Source: Plum Consulting, Merrill Lynch

2.4 The wholesale pay TV market

The wholesale pay TV market for the supply of content in New Zealand, like the corresponding retail market, is dominated by Sky. Sky self-supplies its retail business with content and resells content to one retail service provider – Vodafone. Its share of this downstream market is in excess of 90% by revenues.

We understand that Sky has a standard resale offering in which:

- The Sky brand must remain visible to the subscriber. Resellers are not allowed to put their own brand on content;
- A reseller must take the complete Sky offering and is not permitted to augment Sky's content with content sourced from others without Sky's explicit permission; and
- There is a very small margin between the wholesale price and the price at which Sky retails this content, which we understand is an order of magnitude less than that in the UK. The margin is unlikely to be commercially viable.[19] [20]

We also understand that Sky's rivals in the retail pay TV market have struggled to get better terms than this standard offer. For example:

- The Commerce Commission investigated Sky's contracts with other rights owners and telecommunications retail service providers in 2013.[21] It found that the key commitments in the contracts with retail service providers had both the purpose and effect of substantially lessening competition in the pay TV market. It took the view that these effects were unlikely to continue into the future because of market developments. Its arguments here relied substantially on Telecom New Zealand[22] succeeding in the pay TV markets of New Zealand with its Lightbox offering.[23]

[19] In the mobile market MVNOs typically achieve a 15 to 20% margin.

[20] In contrast Sky UK resold its premium sports channel to the UK cable operator, Virgin Media, at a 55% retail margin.

[21] Commerce Commission (October 2013), "*Investigation report on Sky TV contracts*".

[22] Now structurally separated into Spark and Chorus.

[ ]

- In 2010 TelstraClear failed in its attempt to agree acceptable supply conditions with Sky for premium content which it could then broadcast over its cable network in the Wellington and Christchurch areas. Box 2-1 illustrates the restrictive nature of Sky's offer; and
- The experience of Snap and 2degrees, is described in the 2degrees submission to the Commission.

. Box 2-1: the restrictive nature of Sky's terms for supplying premium content to Telstra Clear

TelstraClear, acquired by Vodafone New Zealand in 2012, had rebroadcast Sky content on its cable network in Wellington and Christchurch since 2002. During the negotiation of an extension to its supply contract in 2010, the then CEO Allan Freeth revealed the control exercised by Sky over its distribution partner, calling the deal "restrictive".[24]

During the protracted negotiations Freeth claimed that:

- Sky required TelstraClear (TCL) to go to Sky in the first instance should TCL wish to acquire content not already provided by Sky;
- TCL was prohibited under its Sky contract from acquiring additional content itself, unless Sky chose not to acquire it. In contrast Sky was free to partner with any other retail service provider (RSP), such as Telecom (now Spark) and Vodafone;
- Sky's contracts with its content providers such as TV and movie houses and sports organisations, effectively prevented other companies from marketing the same content in New Zealand[25];
- Sky prohibited TCL from launching a subscription VoD (SVoD) service[26] – noting that the content provided by Sky at that time (2012) was only linear broadcast content;
- Sky required TCL to take its complete bundle of channels and did not permit it to purchase the premium sports channel alone; and
- Sky claimed the right to take over all of TCL's pay TV customers should TCL break its contract with Sky.

In response to Freeth's comments a Sky spokesperson challenged the concept of wholesaling content, asking "*Why would any media organisation invest in any premium content, if they were then forced to licence that content to competitors?*"[27]

2.5 New Zealand's legal and regulatory regimes

While New Zealand has well-formed telecommunications and competition law, there are acknowledged shortcomings which can severely constrain their effective application to address video content and new market bottlenecks. In particular:

[23] Paragraph 24 of Commerce Commission (October 2013), "*Investigation report on Sky TV contracts*"

[24] http://www.stuff.co.nz/business/industries/3620986/Unhappy-Freeth-turns-on-Sky-TV

[25] http://www.radionz.co.nz/national/programmes/mediawatch/audio/201803707/what's-behind-sky-vodafone-merger-talks

[26] http://www.computerworld.co.nz/article/492309/sky_tv_telcos_telstraclear_boss_tackles_content_issues/

[27] http://www.stuff.co.nz/business/industries/3620986/Unhappy-Freeth-turns-on-Sky-TV

- the definition of "*telecommunications*" in the Telecommunications Act 2001 (which provides the NZ Commerce Commission with its powers to regulate the sector) explicitly states that it "*does not include any conveyance that constitutes broadcasting*";[28]
- the regulatory regime does not extend to audiovisual content, so the Commission is unable to clear the merger on condition that unbundled content be offered to Vodafone's competitors at wholesale rates;
- the Commission cannot accept behavioural undertakings as a condition of merger clearance (such as an undertaking by the merged entity to offer unbundled content to Vodafone's competitors at wholesale rates)
- there are no open internet or net neutrality principles, voluntary or regulated; and
- the prohibition on abuse of dominance under Section 36 of the Commerce Act 1986 is widely viewed (including by the Commission) as all but unworkable.[29] [30]

We address these issues further in the course of this report.

2.5.1 Lack of any open internet or net neutrality principles

MBIE, in a 2015 discussion document,[31] identified that retail service providers (RSPs) can act as 'gatekeepers' to extract an advantage from their position of market power,[32] and sought views on whether net neutrality regulation – such as that introduced in other jurisdictions – was needed in New Zealand. In its 2016 Options Paper,[33] MBIE noted that respondents to the Discussion document did not highlight any areas for concern and it concluded that the current regulatory framework has sufficient safeguards in place to manage any net neutrality issues.[34]

Most commentators agree that the two key non-regulatory factors that ensure users' continued access to an open and uncaptured internet are retail access competition and transparency. MBIE and a number of responses noted the Telecommunications Carriers' Forum Broadband Product Disclosure Code[35] as an important tool in delivering transparency for consumers.

Our observation of the policy debate around net neutrality held in the UK, EU and USA amongst other countries, suggests that the issues are nuanced and emotionally charged, and that it is challenging to

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[28] NZ Telecommunications Act 2001, 5 Interpretation – telecommunications, (c).

[29] Dr Mark Berry, New Zealand Commerce Commission Chairman, (2013), *"New Zealand Antitrust: Some Reflections on the First Twenty-Five Years",* presentation at Loyola University.http://lawecommons.luc.edu/cgi/viewcontent.cgi?article=1157&context=lucilr

[30] Donal Curtin, Ex NZ Commerce Commissioner, (July 2016), *"Are our laws allowing big companies to get away with anticompetitive behaviour?"* http://www.listener.co.nz/current-affairs/money/big-companies-anticompetitive/

[31] Ministry of Business, Innovation and Employment [MBIE], (September 2015), *"Regulating communications for the future - Review of the Telecommunications Act 2001"* http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/regulating-the-telecommunications-sector/review-of-the-telecommunications-act-2001/consultation-8-sept-2015/telecommunications-review-2015 (MBIE September 2015).

[32] MBIE (September 2015) page 101.

[33] Ministry of Business, Innovation and Employment [MBIE], (July 2016), *"Telecommunications Act Review: Options Paper"* http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/regulating-the-telecommunications-sector/review-of-the-telecommunications-act-2001/telco-review-options-paper/telecommunications-review-options-paper-final.pdf (MBIE July 2016).

[34] MBIE (July 2016) page 12.

[35] The Code can be found here: http://www.tcf.org.nz/content/91e8297b-8548-4285-b211-501650db702e.html

strike the right balance. Often-agreed principles or regulations, as in the UK and the EU, address the quality of conveyance across the access network and do not address adequately either the interconnection of the access network with the content delivery networks (CDNs) of the content and applications providers – nor possible charging/payment models such as zero rating – in a sufficiently robust and clear manner. The upshot is a lack of clarity as to acceptable processes and behaviour for both providers and regulators.

Without at least initial policy discussions and agreement on key principles having been reached by key stakeholders, addressing future innovative business practices will be challenging. While Vodafone[36] and others claim that the Commission has the necessary tools under the Commerce Act, as we noted above these are unlikely to be effective in addressing any competition concerns in a timely manner.

2.6 Conclusions

Overall the level of concentration of market power in the retail markets for pay TV, fixed broadband and mobile services in New Zealand is relatively high by international standards. It is especially high in in the pay TV market and we do not expect this concentration of market power to decline significantly over the next few years. Table 2.5 illustrates.

Table 2-5: Market concentration in relevant markets in New Zealand

Market	Estimated HHI		Prospects in New Zealand over the next few years (absent the proposed merger)
	NZ	UK	
Retail pay TV	9040	5100	Slight decline in HHI expected
Retail fixed broadband	3390	2140	Significant decline in HHI expected
Retail mobile	3900	2800	Stable

Source: Plum Consulting

[36] Vodafone New Zealand response to the MBIE Review (November 2015), *"A bold vision for the future".* http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/regulating-the-telecommunications-sector/review-of-the-telecommunications-act-2001/submissions/Vodafone%20New%20Zealand%20submission.pdf

3 An assessment of market developments based on international experience

In this section of our report we consider, based on international experience, how markets relevant to the proposed merger are changing. In particular we have produced three case studies (attached as Appendix A, B and C) for:

- Australia – a standard comparator country when considering market and regulatory developments in New Zealand and one in which, like New Zealand, there is strong interest in sports and growing open access to high-speed broadband through government initiatives.
- Singapore – a country similar in population size to New Zealand and one in which there is open access to high-speed broadband.
- The UK – a country in which there has been extensive regulatory analysis of the competition problems associated with a concentration of market power in the pay TV markets.

3.1 The impact of high-speed broadband on the pay TV market

Our research suggests that the widespread availability of high-speed broadband[37] and its take-up is having a substantial impact on the nature of competition in the pay TV markets of developed countries.

Traditional pay TV has been delivered via satellite and terrestrial cable networks. But the growing take-up of high speed fixed broadband services has led to new services being offered and substantial market entry which is changing the nature of competition in pay TV markets. In particular video-on-demand (VoD) services, in which video content is unicast to subscribers over a broadband network rather than broadcast to subscribers, have proven very popular. Typically a subscriber can select from a very wide range of content and view it on demand. In contrast, traditional pay TV services offer a narrower range of content delivered through linear channels which can be viewed when broadcast or stored on a PVR for later consumption. The availability of high-speed broadband services has had four main effects on the market.[38]

First we have seen strong growth in the proportion of households which purchase pay TV services as part of a bundle with other telecommunication services. Figure 3-1 illustrates for the UK. It shows that the proportion of households making such purchases grew from 17% to 27% between 2010 and 2014. This proportion continues to rise.

In Singapore 61% of households take a triple or quad play bundle.[39] The high uptake of bundles is likely to be facilitated by the wide availability of high-quality broadband wholesaled on an open access basis in a structurally separated industry structure– a model almost identical to New Zealand's UFB roll out. In this regard, the market developments in Singapore are a bellwether for similar market developments in New Zealand.

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[37] In the UK, for example, fixed broadband at speeds in excess of 24 Mbps will be available to 97% of the population by 2018 according to the UK's Department of Culture Media and Sport.

[38] See, for example, Plum for the European Commission (December 2014), "C*hallenges and opportunities of broadcast-broadband convergence and its impact on spectrum and network use".*

[39] Calculated by Plum from SingTel and StarHub Quarterly Reports (Q4 FY2016) and the Singapore Department of Statistics.

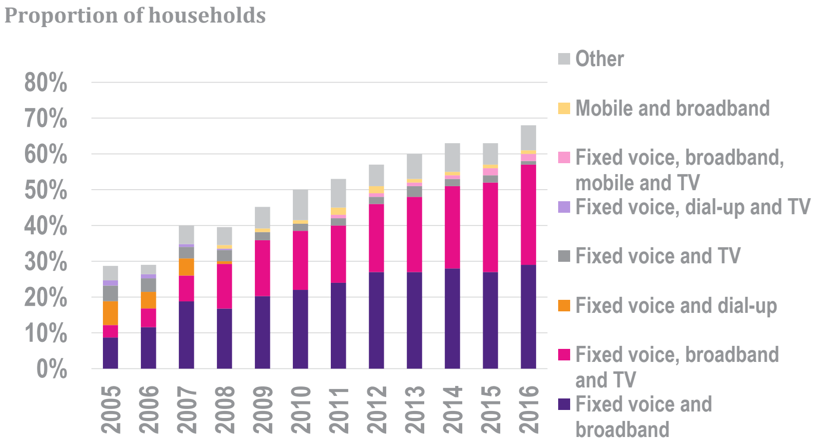
The trend of Figure 3-1 has been led by cable operators – for whom bundling of pay TV with fixed broadband is an obvious and relatively low-cost strategy. Traditional telecommunications operators and satellite pay TV providers have then responded:

- in the UK the leading satellite pay TV provider, Sky UK, has entered directly into the market as a retail fixed broadband supplier;
- in Germany, the Netherlands and Spain Vodafone has combined its mobile and fixed broadband businesses with those of pay TV suppliers; and
- in New Zealand Sky is now proposing to do the same by merging with Vodafone.

The trend shown in Figure 3-1 is strongest in countries, such as the Netherlands, Belgium and Malta, with highly developed cable networks. It is weakest in countries without cable networks.[40] In New Zealand, where cable networks have limited footprints, bundling of pay TV with fixed broadband is so far limited. But we can reasonably expect that this position will change over the next few years:

- as the availability and take-up of high-speed broadband in UFB areas grows; and
- given the findings of Ofcom's research, described in Section 3.2 below, which suggests that both consumers and suppliers value TV/broadband bundles.

Figure 3-1: use of bundled telecommunications services in the UK over time



Source: Plum Consulting, Ofcom CMR

Second we have seen additional entry by over the top (OTT) service providers which deliver audio-visual content to fixed broadband subscribers who pay separately for broadband access and video content. There are two main categories here:

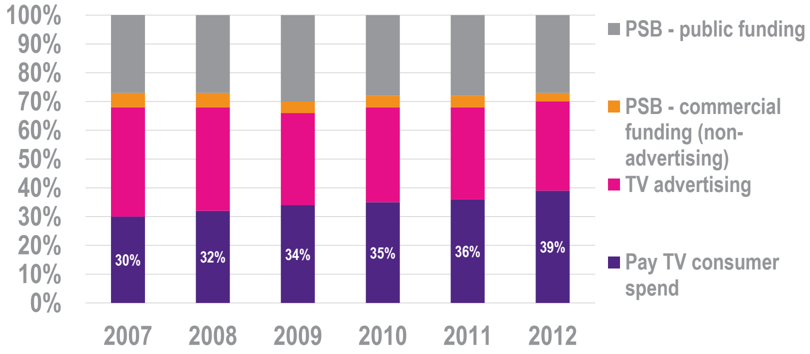
- TV broadcasters which provide catch-up services (normally free of charge) so that users can view content up to a week or a month after it has been broadcast. The BBC iPlayer service in the UK is a good example; and
- Commercial suppliers which charge a monthly subscription to view a wide range of premium content. Netflix, a global subscription video on demand (SVoD) provider based in the US, is a good example. Typically these players charge a relatively modest subscription (£6 to £9 per

[40] European Commission (May 2016) *"Special Eurobarometer 438: E-communications and the Digital Single Market"* http://ec.europa.eu/COMMFrontOffice/PublicOpinion/index.cfm/Survey/getSurveyDetail/instruments/SPECIAL/surveyKy/2062

month in the UK for Netflix; $9.99 to $15.99 in New Zealand) when compared with traditional pay TV providers (who might charge £50 plus per month).

Third, at least in Europe, the emergence of unicast VoD services has reinforced the growth of pay TV at the expense of free-to-air TV services. Figure 3-2 illustrates. The main effect is substitution of traditional TV services by IPTV and OTT viewing. This is occurring for both primary viewing via the main TV set and secondary viewing, where use of tablets and fixed broadband is replacing viewing over traditional secondary TV sets.[41]

Figure 3-2: The growth in pay TV in the EU



Source: Plum Consulting, EAVO

Finally we note that access to video content is becoming increasingly important in the supply of mobile services as operators rollout 4G networks. 4G provides substantially higher data speeds (typically 10 Mbps in download mode) than previous mobile technologies at significantly lower incremental costs per GB delivered. They are therefore more suitable for viewing video content.

In our UK case study we note that both O2 and Vodafone who needed to deliver a differentiated offering following the earlier launch by EE, bundled video content with their 4G launch. In the case of Vodafone, this included Sky Sports with more than 150 hours of Premier League football. According to Vodafone UK's CEO, Vodafone's 4G proposition was "*all about entertainment*".[42]

3.2 The importance of bundles to consumers

Residential consumers have a growing preference to purchase more than one of their communications services from a single supplier. This is evident from the three case study countries we cover in this report. The key drivers appear to be the convenience of a single bill and of a single point of contact for service.

For example in the UK, EY has carried out a series of consumer surveys. It updated its 2007 survey and report in 2013,[43] and surveyed again in March 2016 (it plans to publish an updated report in

[41] Plum for the European Commission (December 2014), "*Challenges and opportunities of broadcast-broadband convergence and its impact on spectrum and network use*."

[42] http://www.ft.com/cms/s/0/1b557fb4-ff6d-11e2-8f25-00144feab7de.html#axzz4FhR474zW

[43] EY (2013) *"The Bundle Jungle: A closer look at consumer attitudes towards buying broadband, telephony and pay TV"* http://www.ey.com/UK/en/Industries/Telecommunications/The-Bundle-Jungle#.V5m637iAOko

September 2016).[44] The preview of the 2016 survey confirms the 2013 results, and makes some additional observations:

- by 2013 residential bundles were mainstream (2013), but consumers were not receptive to packages that include mobile services. 82% of UK households in the study took some form of bundle (up from 53% in 2007);
- by 2016 TV-based broadband packages were the dominant type of bundle in the UK with half of the UK's broadband subscribers taking a package that included some form of TV – up from 42% in 2013 and 23% in 2007;
- bundles including mobility connectivity were still at a nascent stage in 2016; and
- bundles generate higher customer satisfaction and reduced churn. The more services a customer takes within a package the more satisfied they are likely to be – "*crucially customers on TV packages are the most satisfied and least likely to switch providers regardless of their exact combination of services, and this underlines the importance of content as a driver of customer loyalty*".

3.3 The importance of premium sports content to success in pay TV markets

A key factor for success in the growing pay TV market is access to premium content. This includes both premium sports content (especially big events viewed in real-time) and premium entertainment content. There is strong evidence that premium sports content is a good way to attract high ARPU subscribers.

- Sports content attracts audiences as Figure 3-3 illustrates. It shows that, while audiences for the top 10 entertainment shows on mainstream US television networks have declined by 35% since 2008, audiences for live American Football games has grown by nearly 50% over the same period.
- Pay TV companies value premium sports content. The ability of premium sports content to attract audiences is reflected in the growing price paid for rights to such content. Figure 3-4 illustrates for popular European and US sports.

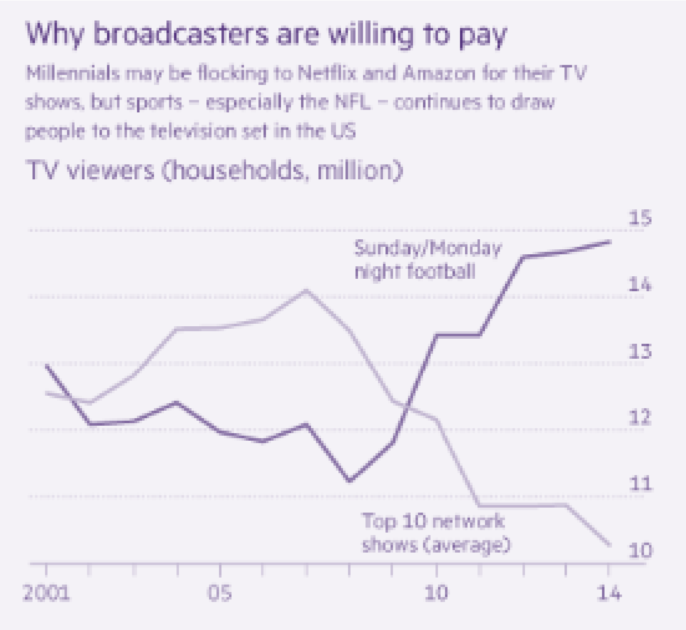
There are a number of examples of how pay TV services have failed to gain viable audiences without premium sports content. See Figure 3-5. As Vodafone put it in its submission to Ofcom's Digital Communications Review:

> *"sport stands apart due to its very specific characteristics: propensity to lose value after live broadcast; its degree of exclusivity to individual pay TV services and the sums invested to secure those relevant exclusive broadcast rights. In particular, Sky [UK] and BT's willingness to spend so much on sports broadcast rights ….indicates the value they believe they can recover from utilising this content. Given the combination of these factors,* ***sport appears to***

[44] Early insight to the EY 2016 report was given by Adrian Baschnonga, Global Lead Telecommunications Analyst, EY, at the Westminster eForum, *The UK broadband market: technology, competition and policy priorities* 14th June 2016. Recorded in the transcript.

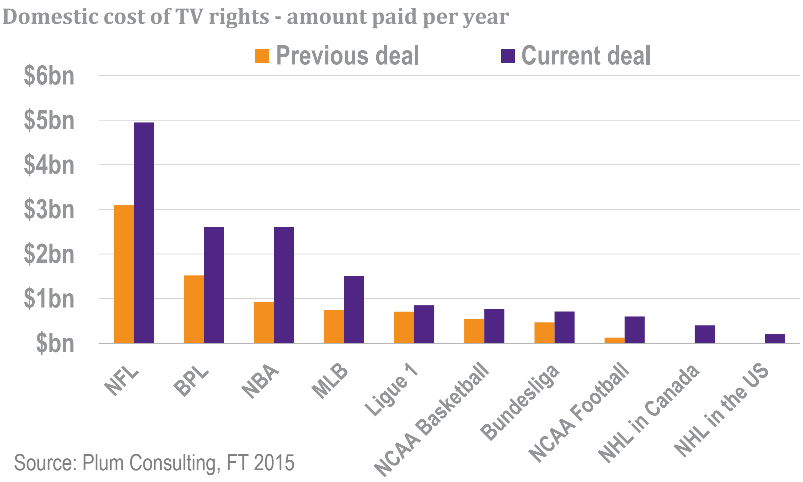
be uniquely placed to drive consumer choice in Pay TV services and beyond.”[45] (emphasis added)

Figure 3-3: The attraction of premium sports



Source: *TV sports rights: Show them the money*, Financial Times February 2015

Figure 3-4: The increasing price paid for sports content



[45] Vodafone (October 2015), *“Vodafone response to Ofcom consultation: Strategic Review of Digital communications discussion document”* , paragraph 3.1 http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/responses/Vodafone.pdf

Figure 3-5: the failure of pay TV services which lack premium sports content

In Australia, pay TV company SelecTV was placed in administration in 2011. Around that time the CASBAA (the Cable & Satellite Broadcasting Association of Asia) noted, *"Operators such as SelecTV, FetchTV and TransACT have demonstrated that a reasonable basic package can be assembled but the lack of premium sports makes it difficult to compete."*[46]

In Singapore, SingTel launched a pay TV service at the beginning of the millennium. For five years it failed to gain more than 50,000 subscribers until it started bidding aggressively for premium sports content.

In the UK ***"[T]he history of pay [TV] is littered with the burnt-out shells of companies that have tried to park their tanks on Sky's lawn**."*[47] Setanta provides a graphic example the rise and fall of a sports channel that dared to challenge the Sky UK's dominance in premium sports. When Setanta failed to retain their English Premier League (EPL) rights they were picked up by ESPN, part of the huge Disney corporation. In turn, ESPN exited the UK in 2012, when it lost its EPL rights to BT, which then went on to purchase EPSN's UK and Ireland sports channels.

In New Zealand, as set out in Spark's submission to the Commission, [

]

Netflix has been successful in entering the pay TV market in many countries (including New Zealand) with a SVoD service. But this service is based on the supply of premium ***entertainment*** rather than ***sports*** content and is sourced from both third parties and its own original content.[48] We note that the Netflix price is set 80-90% below the prices charged by traditional pay TV suppliers for bundles of content which include premium sport.

We also note evidence that any competitive constraint that new OTT services actually have on traditional pay TV, particularly where that pay TV includes premium sports, is so far only slight. In the UK, Ofcom's most recent Communications Review records that 75% of SVoD users also had a pay TV subscription, indicating the services are complements rather than substitutes.[49] Moreover, if OTT SVoD is seen as a good substitute for pay TV, then we would expect its generally lower price to be a key reason for users adopting it – but only 15% of Netflix subscribers cited "Cheaper than pay TV" as a reason for subscribing.[50]

3.4 The impact of market developments on competition

The developments highlighted above impact on the level of competition in the telecommunications and pay TV markets in a number of ways:

- There is increased competition for end user revenues between traditional telcos (adding video content to their telecommunications offerings) and traditional pay TV providers (adding

[46] CASBAA (October 2010), *"Australia in View: A Test Bed for Asia?"* www.casbaa.com/mobile/Publications/Australia%20in%20View%20summary.pdf

[47] https://www.theguardian.com/business/2013/may/10/bt-challenging-sky-sports-broadcasting

[48] Netflix plans to spend $7 billion in 2017 on original content.

[49] Ofcom (August 2016), *Communications Markets Review 2016* page 64.

[50] Ofcom (August 2016), page 63.

telecommunications products to their pay TV services so as to be able to supply unicast as well as broadcast services). This point was made recently by the New Zealand Government[51];

- There is growing competition between local pay TV operators and global SVoD providers like Netflix.[52] The latter have significant competitive advantages in terms of their global economies of scale. But when considering access to content, these advantages are largely confined to premium ***entertainment*** content. The nature of premium sports content is more country specific and depends upon which sports are popular in each country.[53] At the same time the unicast Netflix OTT delivery platform is better suited to VoD delivery of premium entertainment than mass delivery of real-time sport;
- Bundling of TV and broadband helps to reduce customer churn and hence customer acquisition and retention costs.[54] This is of significant value to telecommunications operators. It is likely to be the main reason why Vodafone currently resells Sky's content – despite the fact that it enjoys a wholesale margin well below a commercially viable level; and
- The ability for mobile operators to compete in the supply of 4G mobile services will increasingly depend upon access to premium video content.

The OECD, in its *Digital Economy Outlook for 2016*, has identified another competition issue which arises from pay TV and broadband convergence. Will zero-rating of TV content[55] be pro- or anti-competitive? The OECD concludes that there may be harm to pay TV competition in countries where competition in access is limited. But this is less likely to be the case in countries where there is open access to high-speed broadband services.

3.5 A critique of the applicants' description of market developments

Vodafone and Sky devote a significant proportion of their application for merger clearance to a description of the relevant markets. Our critique of their main findings, based on international experience, is set out below.

The applicants assert that the pay TV market is now subject to significant market entry – by both by telcos offering video content (e.g. Spark) and by OTT players like Netflix. We agree, but question the substitutability of these services.

The applicants highlight content rights which have been acquired by Sky's rivals in New Zealand. The facts tell quite a different story, as set out in detail in Section 6 of the TVNZ submission to the Commission filed in this matter, and Table 2.3 of this report.

The applicants argue that new players have entered the New Zealand pay TV market without using Sky's content. This is clearly true. But the central question here is different. Which of these players has succeeded without access to Sky content? With the exception of Netflix's success with (low

[51] Ministry of Business, Innovation and Employment (MBIE) (August 2015), "*Exploring digital convergence – Issues for Policy and Legislation"* http://convergencediscussion.nz/wp-content/uploads/2015/08/Exploring-Digital-Convergence-Issues-for-Policy-and-Legislation-2015-08-27.pdf

[52] ibid

[53] For example rugby in New Zealand vs. soccer in the UK and American football in the US.

[54] Tim Burnett (April 2014), "The impact of service bundling on consumers switching behaviour" Working Paper No.14/321, Centre for Market and Public Organisation http://www.bristol.ac.uk/media-library/sites/cmpo/migrated/documents/wp321.pdf

[55] In which a subscriber's consumption of data used to view TV content does not count towards his or her data allowance.

priced) entertainment content, we can find no evidence of success. At the same time there is evidence from the case study countries that entry without access to premium sports content, over which Sky has strong control in New Zealand,[56] does not succeed.

Finally, the applicants argue that rights holders are now offering sports content direct to end users rather than via content aggregator like Sky. But it is not clear from the description in Section 7.1 of the application to what extent this argument applies to premium sports content which is attractive to a substantial audience. Nor is it clear what quality the live streaming mentioned there might achieve. In the UK we understand that the English Premier League has used the threat to by-pass content aggregators so as to increase its bargaining power when negotiating football rights. But so far it has not carried out this threat.

3.6 Regulation of premium content elsewhere

There is significant regulation in place in all three of our case study countries to limit the market power of powerful holders of content rights. There are three main measures:

- Anti-siphoning rules which ensure that key sports and other public events are available over free to air broadcast platforms.
- Wholesale must offer (WMO) rules which ensure that powerful premium content rights holders make content available at the wholesale level to other retailers on reasonable conditions.
- Requirements for auctioned rights to be split into separate lots and for bidders to be restricted on the number of lots which they can win.

We provide a brief description of these regulations and their use below. Appendix A, B and C then provides more detail while Table 3–1 provides a comparison between the three case study countries and New Zealand:

Table 3-1: regulation of content – New Zealand versus the case study countries

Measure	New Zealand	Australia	Singapore	UK
Anti-siphoning rules	No	Yes	Yes	Yes
Wholesale must offer requirements	No	Yes	Yes	Yes - 2010 to 2015
Disaggregated auctions	No	No	No	Yes - 2009 to 2012

Source: Plum Consulting

Australia

Anti-siphoning rules are required by the 1992 Broadcasting Services Act and are spelt out in the Broadcasting Services (Events) Notice of 2010. The list of free to air events includes the Olympic and

[56] See Table 2.3.

Commonwealth Games, international rugby in which Australia plays New Zealand or UK teams, and the Rugby World Cup quarter finals, semi-finals and finals.

In terms of must-offer requirements, Foxtel gave the ACCC an enforceable undertaking (as a condition of being granted clearance for its acquisition of Austar) in 2012 that it would not:

(a) Acquire exclusive IPTV rights to a wide range of “attractive” television and movie content;

(b) Exclusively acquire any movie for pay per view distribution; or

(c) Enter into any agreement which would prevent third parties from acquiring mobile rights to that content to bundle with the IPTV rights.

Singapore

Anti-siphoning rules are set out in Section 2.6 of the Media Market Competitor Code and were introduced in 2003 to ensure that certain content deemed to be of “*public interest and national interest*” cannot be acquired exclusively by a pay TV provider. This is to ensure that these programmes are available to a wide audience on free TV services.

There are also cross carriage requirements set out in Section 2.7 of this Code. These require operators (notably SingTel and Star hub) to offer “*qualified content*” on reasonable wholesale terms to other retail service providers. The requirement was introduced following the observation that many consumers were forced to purchase the pay TV services of multiple providers so as to fulfil their passion for watching sports. The regulator intervened, on the basis that:

> “*so long as the retailers continue to pursue a content exclusivity-centric strategy, the pay TV market is unlikely to correct its inefficiencies and consumer welfare will continue to be affected.*”[57]

The UK

Section 104 of the 1996 Broadcasting Act specifies anti-siphoning rules while the Code on Sports and other Listed and Designated Events lists which events should be made available on a free to air basis to the public. This includes the Olympic Games, FIFA World Cup Final, FA Cup Final, Rugby World Cup Final, Rugby League World Cup Final, and five other listed events.

From 2010 to 2015 Ofcom required Sky UK to provide other retailers with access to premium sports content on regulated terms. This requirement lapsed at the end of 2015 because, to quote Ofcom,

> “*Sky (UK) is now supplying sports widely on commercial terms outside of the regulation*”

While Ofcom has now relaxed this regulation we note that the threat of its re-imposition is likely to prove a powerful constraint on the commercial terms offered by Sky UK.

In 2007 the European Commission intervened in the auction of English Premier League football rights on competition grounds. The Premier League and the Commission agreed to split the auctioned rights into six equally valuable lots for the period 2009 to 2012 with Sky UK restricted to winning a maximum

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[57] MDA (2010), *“Code of Practice for Market Conduct in the provision of media services “*, 2.1.3 http://www.mda.gov.sg/RegulationsAndLicensing/Policies/Documents/Conducive%20Media%20Environment/Closing%20Note.pdf

of five of the six lots. Even though the obligation has expired, the Premier League continues to allocate its rights in the UK this way.

Implications for New Zealand

Regulation in the case study countries is seen as necessary to deal with problems which arise when one market player controls a substantial proportion of premium sports rights – partly to protect consumers and partly to protect retail competition in the supply of pay TV services. In other jurisdictions, regulators have imposed constraints on market players which control a substantial proportion of premium content rights. This option is not available in New Zealand. We believe the Commerce Commission should consider these facts when conducting its merger analysis. In particular we note that:

- The Commerce Commission has no powers to regulate content and the Government has recently confirmed that it does not intend to provide it with any new powers to do so. See Section 2.5 for the details; and
- The Commerce Commission does not have the powers to accept behavioural undertakings as a condition for clearing a merger.

Section 36 of the NZ Commerce Act (on taking advantage of market power) is considered by the Commerce Commission and others to be unworkable (again, see Section 2.5 for the details). Vodafone's own view as to the need in the UK for regulated access to what it refers to as 'key content' is insightful but, regrettably, not available in New Zealand:

> "*Key content is by its nature exclusive, or put simply a monopoly input, which in any other scenario would be subject to appropriate regulation*".[58]

There is a substantial danger that the proposed merger would lead to consumer harm with few, if any, opportunities to eliminate the harm later.

3.7 Conclusions

The analysis presented in this section suggests that there is now strong convergence between the retail pay TV markets and the retail fixed broadband markets in which suppliers in both markets are increasingly competing for the spend of the same consumers. This trend is likely to continue as the capability of fixed and mobile broadband networks continues to improve rapidly over the next few years. The functionality offered by unicast services is clearly valued by consumers. But the success of the new services and the extent to which competition in the retail pay TV markets will grow depends on the extent to which entrants can gain access to premium content and especially premium sports content.

Given these conclusions we believe that, as it has indicated in Paragraph 13 of its preliminary issues paper on the proposed merger, the Commerce Commission should consider, in addition to the retail fixed broadband and retail pay TV markets:

- the likely effects of the merger on competition in the retail mobile market; and

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[58] Vodafone (October 2015) paragraph 3.1

- the competitive dynamics of the wholesale pay TV market under the merger and under likely counterfactuals.

4 The likely counterfactual

Before we can judge whether the merger would lead to a substantial lessening of competition we need to define likely counterfactuals (what happens in the absence of merger) against which to judge the incremental effects of the merger on competition. So in this chapter we identify possible counterfactuals and present an analysis to indicate which is most likely.

4.1 The changing market for video consumption

The market for the consumption of video content is moving from:

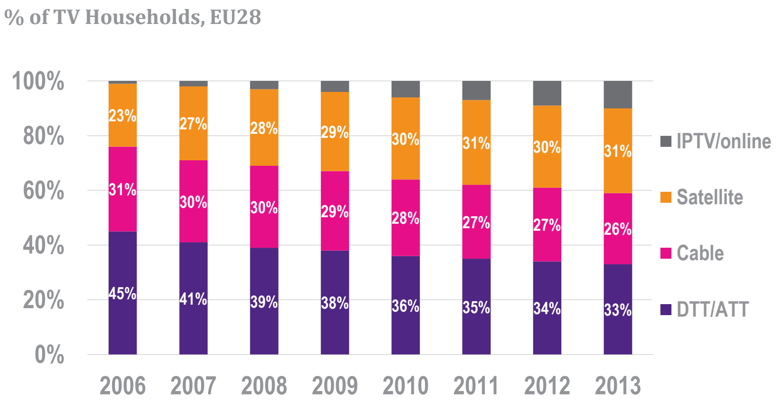
- the traditional model of viewing broadcast linear TV channels at home – the main model used by cable and satellite TV operators to date; to
- one in which end users also watch video-on-demand services delivered using unicast fixed and mobile broadband over a multiplicity of devices which includes TVs, smartphones and tablets.

Sky recognises these market developments. In Section 4 of its merger application, in which it sets out its rationale for the merger with Vodafone, Sky notes that:

> *"Video content is increasingly being delivered to consumers over the internet using both fixed and mobile networks. This change is being driven by:*
>
> *(a) the increasing prevalence of high-speed data networks in consumers' homes;*
>
> *(b) the increasing speed of mobile networks and corresponding increase in the use of mobile networks to consume video content;*
>
> *(c) the low cost of delivering video content over the internet relative to the cost of delivery using traditional broadcasting infrastructure; and*
>
> *(d) changes in consumer preferences. Increasingly, consumers prefer to consume video content on demand rather than from linear broadcasts, and on mobile devices anytime, anywhere, in addition to on their televisions or within the confines of their personal Wi-Fi networks."*

Figure 4-1 also illustrates this change. It shows how the number of subscribers to different platforms for delivery of video content into the home in Europe is changing. We can see that the number of homes which rely primarily on IPTV and OTT services delivered over broadband networks is still small but is growing quickly.

Figure 4-1: The primary platforms for TV reception in Europe[59]



Source: Plum Consulting and Farncombe for the European Commission, Dec 2014

These developments provide a strong incentive for traditional pay TV operators to expand the way in which they serve this growing demand. This includes:

- repackaging bundles of premium content, currently offered by satellite and cable pay TV operators as linear channels, into discrete subsets to better meet the demands of consumers accustomed to selecting their entertainment from a wide ranging and changing menu of options and consuming it on a range of different devices;
- retailing these smaller discrete content offerings quite separately to their traditional long-term subscription contracts (typically 12 or 18 month). This is illustrated well in the UK where Sky has launched the successful NowTV OTT product; and
- wholesaling their content in flexible ways so that other operators can build and market their own unique content offering as a way of differentiating themselves from the increasingly crowded pay TV market. The use of content as a differentiator or value-add for fixed or mobile broadband operators is recognised by the applicants.[60]

There is a general consensus that premium sports and entertainment content is expensive to source and that content costs are growing. For this reason, and given the trends in consumer consumption of TV, Sky should be motivated to distribute its content over multiple platforms as well as its traditional satellite broadcast platform and seek out partnerships to wholesale this content.

4.2 Possible commercial strategies for Sky

Sky has recognised the need to develop a strategy to exploit this shift in video consumption so as to preserve and expand its revenues, whilst maintaining its strong position in ownership rights to premium TV content. There are a number of ways in which it might do this:

- **Strategy 1**: Sky could merge with Vodafone – the Number 1 mobile retailer and Number 2 fixed broadband retailer in New Zealand. As Sky puts it in Section 4.6 of its merger application "*SKY expects that the Transaction [merger] will put SKY in a better position to respond to changes in*

[59] Plum for European Commission (December 2014).

[60] Sky/Vodafone application paragraph 10.10.

pay TV and content markets, benefit from enhanced cross-marketing opportunities, and develop and market new innovative offerings". We consider the likely impact of such a strategy on competition in Chapter 6.

- **Strategy 2**: In the absence of the proposed merger, Sky distributes its premium content via all three mobile broadband retailers in New Zealand and all of the growing number of competing fixed broadband retailers. We note here that the open access requirements in the UFB areas (which will cover 75% of New Zealand's population over the next few years), has led to a significant increase the number of retailers in the fixed broadband market.
- **Strategy 3**: Sky enters the retail market as a fixed broadband provider (as Sky UK, starting from a similar market position, has done). Such entry is made relatively straightforward by the open access requirements in UFB areas.

We believe that a counterfactual based on Strategy 2 is likely, and one based on Strategy 3 is unlikely. Strategy 3 would not give Sky access to mobile distribution channels for its premium content over the next few years – a period when distribution of video content over mobile broadband will become increasingly important. We also reason that, in the absence of a merger, Sky is likely to find Strategy 2 more profitable. Strategy 2 would allow Sky to sell its content through a wide range of broadband retail service providers rather than relying on the single, Sky owned, channel of Strategy 3.

4.3 The likely counterfactual

Based on the analysis set out above we propose that Strategy 2 should be used as the likely counterfactual against which to judge the effects of the proposed merger competition. Under this counterfactual:

- Sky would continue to retail its premium content via its broadcast satellite TV platforms; and
- in parallel Sky would distribute its premium content to a wide range of retail service providers offering VOD type services to end users of both fixed and mobile broadband networks. The supply conditions for each retailer would be determined on a profit maximising basis.

In so doing Sky is likely to find it profit maximising to allow retailers to repackage and rebrand its content - rather than simply resell Sky branded content as they do now. Such moves would enable retailers to innovate so as to:

- offer aggregated content which better matches their content delivery capability and target market segments; and
- grow the overall market for paid video consumption and hence grow Sky's revenues and profits.

As evidence we note that Sky UK now wholesales its premium content through multiple providers using different distribution platforms. This includes Virgin Media's cable network and the IPTV platforms of BT and TalkTalk. Sky UK claims that over time it has wholesaled its premium channels to 37 different DTT, Cable, and IPTV platforms and to have made it available on 43 different OTT and mobile services.[61] In all cases the retailers have a choice as to which of Sky UK's wholesale channels they purchase and how they combine them in developing distinct and differentiated retail propositions

[61] Sky (February 2015), *"Sky response to Ofcom Review of pay TV wholesale must offer obligation consultation",* Annex 3: Distribution of Sky Premium Channels, http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-must-offer/responses/Sky_-_Annex_3_-_Distribution_of_Skys_premium_channels.pdf

for their subscribers. The retailers are also able to source content at wholesale from a range of other content providers as well as Sky UK. For example Virgin Media has three TV bundles – one offering 130 TV channels; one offering 230 channels plus BT Sports; and a third offering 245 channels plus BT and Sky Sports channels and Sky Movies.[62]

[62] http://www.virginmedia.com/shop/bundles.html

5 A critique of the applicants' arguments on vertical effects

In their application for merger clearance Sky and Vodafone argue that there are no vertical impacts on competition because:

- none of Sky's content is essential for rivals to compete in the pay TV market;
- the merged entity would have neither the ability nor incentive to engage in foreclosure strategies; and
- the high level of competition in the relevant markets would be an effective constraint on the merged entity.

We believe that all three of these assertions are either questionable or false. Our arguments are set out below.

5.1 "Sky's content is not an essential input"

The applicants argue that none of Sky's content is essential for rivals to compete in the pay TV market. For example, in the executive summary of the merger clearance application, they argue that:

> *"The Combined Group does not supply any "must have" inputs that either SKY or Vodafone's competitors require to participate in telecommunications or pay TV markets"*

Sky and Vodafone are careful in their application for merger clearance to confine themselves to arguing that retail service providers can ***enter*** the pay TV market over broadband without Sky content. They do not assess the ability of retail service providers to ***compete successfully*** in this market. Yet there is substantial evidence, both from within New Zealand and from elsewhere in the world, that premium content is important if entrants are to succeed in the pay TV market.

As we discuss in Section 3.3 above, premium sports content has become increasingly important for success in pay TV markets. Such content is very effective at attracting audiences and the value of such content has risen sharply in recent years. At the same time there are many examples – from Australia, New Zealand, Singapore and the UK – of how pay TV services have failed to become viable without such content. We note in particular that Spark's Lightbox initiative in New Zealand, which did not have access to premium sports content, has not succeeded commercially.

Our analysis, taken from Section 2.1, also suggests that:

- Sky has a very high share of the current retail pay TV market in New Zealand – well over 90% when measured in terms of revenue; and
- Sky's position in this market is largely based on its current holdings in content rights to all the most popular sports in New Zealand. We note that Sky also has exclusive rights to a substantial proportion of premium entertainment content.

Sky argues that new entrants to the pay TV market can bid for premium content rights (every three to five years) and this then enables successful entry into the market. This argument ignores the advantage of incumbency which Sky enjoys, including its existing long term exclusive rights, which create high barriers to entry. Our analysis, set out below, and the analysis of Sky's existing exclusive sports rights, suggests that Sky's current stronghold on premium content is likely to persist for many years.

High barriers to entry to the pay TV markets

In 2012 the UK's Competition Commission identified three main barriers to setting up a pay TV platform.[63] These were:

- the high fixed costs of setting up a pay TV platform;
- the high cost of acquiring new subscribers. This includes significant marketing costs and, for those customers that do switch, additional costs in providing new equipment (such as a set top box). These costs are not faced by an incumbent operator; and
- the likelihood of a competitive response by existing platforms. An entrant may expect incumbents to respond to entry by strengthening their offering and by seeking to retain their existing subscribers. This is a normal competitive response but anticipation of such a response could deter entry or expansion.

In addition BT, in response to an Ofcom review of the UK pay TV markets in 2014[64] claimed that:

> *"Sky's [UK] existing, large installed retail pay TV subscriber base with an established, substantial, willingness to pay for its premium sports channels* ***affords it a structural advantage*** in bidding for live sports rights*"*[65] *(emphasis added)*

BT argued that, as the dominant pay TV provider in the UK, Sky UK, would be able to systematically outbid rivals because of its incumbent's advantage:

- Any rival bidder seeking to acquire ***sports rights*** would face a "time to build" problem;
- The incumbent would always be in a position to extract more value from a given set of rights than a rival bidder over the three to five year lifespan of those rights; and
- Given Sky UK's existing scale it would be better placed to spread a higher absolute rights cost across its base than a rival bidder of a smaller scale. Sky also enjoys a range of bidder-specific advantages, including branding advantages, and lower risk and relationship advantages as a result of being the winner of sports rights auctions over many years.

We note that the task of acquiring premium ***entertainment rights*** are similarly challenging for an entrant. All the scale advantages of a large existing subscriber base, over which the high cost of rights can immediately be spread, reside with the incumbent. To this might be added possible long term exclusive or preferential purchasing arrangements with the movie studios.

5.2 "No ability or incentive to foreclose"

The applicants argue that:

> "*the Combined Group would not have the ability or incentive to engage in any foreclosure strategy – even putting aside that it will continue to make inputs available on a wholesale basis*".

[63] Competition Commission (2012) "*Movies on pay TV investigation*".

[64] Ofcom (December 2014) "*Review of the pay TV wholesale must offer obligation".*

[65] BT (February 2015) *"BT's Response to Ofcom's Review of the pay TV wholesale must-offer obligation",* paragraph 4.51 http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-must-offer/responses/BT.PDF

This assertion appears to us to be false.

5.2.1 The ability to foreclose

It is quite clear that the merged entity would have the ability to foreclose competition in the fixed broadband and mobile markets. Through its strong position in the premium content market, it would be able to supply premium content to Vodafone on preferential terms. As we note in Sections 3.1 and 3.2:

- Access to premium content is an increasingly important way for mobile operators to compete in the supply of 4G services. Vodafone is already the Number 1 mobile operator in New Zealand; and
- Access to premium content is increasingly important in the fixed broadband market because of the value which consumers place on TV and fixed broadband bundles. Vodafone is already the Number 2 supplier in the retail fixed broadband market New Zealand.

5.2.2 The incentives to foreclose

The merged entity will also have incentives to foreclose by supplying premium content to Vodafone on preferential terms. It is likely, but not certain, that such behaviour would increase the profits of the merged entity when compared with the likely counterfactual of Chapter 4. We note here that other regulatory authorities have felt it necessary to regulate access to premium content held by dominant pay TV suppliers so as to prevent foreclosure effects in the three case study countries. See Section 3.6 for details.

5.2.3 A track record of foreclosure

In New Zealand both Sky and Vodafone have a track record of foreclosing rivals in relevant retail markets through conditions of wholesale supply. For example:

- In 2013 the Commerce Commission found that in Sky's contracts with retail service providers in the pay TV market "*the purpose of the key commitments was, and is [in 2013], to substantially lessen competition in the pay TV markets*"[66]. In addition "*Sky's internal contemporaneous documents indicate support for a conclusion that Sky's subjective purpose was to limit competition from RRSPs, especially in relation to content*"; and
- In relation to Vodafone, we refer to Section 7 of the 2degrees submission to the Commission filed in this matter.

5.3 "Competition will constrain the merged entity anyway"

The applicants argue that:

> *"in any event, the high level of competition and ease of entry into the relevant markets would constrain any attempt by the Combined Group to increase price/decrease service levels".*

[66] Commerce Commission (October 2013),"*Investigation report on Sky TV contracts*" paragraph 16.

This assertion is, at best, questionable. Table 2-5 sets out our estimates of the concentration of market power in the relevant markets and the prospects for change in these levels in future. It indicates that the current levels of concentration of market power in the retail fixed broadband and mobile markets in New Zealand are high. More significantly Table 2-5 indicates that:

- there is a very high level of concentration of power in the pay TV market; and
- this level is unlikely to reduce significantly over the next few years.

As we argue above, leverage of this position of dominance into the fixed broadband and mobile retail markets would lead to reductions in the level of competition in these two markets, regardless of the current level of competition within them. This in turn would lead to increased prices and/or decrease service levels within these markets to the detriment of consumers.

6 The effects of the merger relative to the likely counterfactual

In this chapter we consider the likely effect of the proposed merger on the wholesale markets for pay TV services and on the retail fixed broadband and mobile markets. We judge these effects relative to the counterfactual of Chapter 4.

6.1 Impact on the wholesale market for pay TV services

The merged entity would have a similar, very dominant, position in the wholesale pay TV market to that currently enjoyed by Sky. The main effect of the merger would be to strengthen this position. The merger would:

- improve the merged entity's financial position by giving it a greater ability to access funding[67] and improved global buying power. Vodafone has a number of cable pay TV businesses with a combined 9.5 million TV customers[68] which Sky would join and be able to leverage when purchasing contents rights;
- provide improved access to "*world class products and services*" such as pay TV set top box (STB);[69] and
- create opportunities for the merged entity to cross-sell into Vodafone's fixed and mobile customer base.

The merger would also create incentives for discrimination in the wholesale supply of content. Under the merger Vodafone would have control of the terms on which Sky's content was supplied to both its fixed broadband and mobile broadband rivals and would have strong incentives to supply on unfavourable terms so as to create a competitive advantage for itself in the future market for retail bundles of video content and broadband.

Under the counterfactual Sky would act as a retailer and wholesaler which will attempt to maximise take-up of its premium video content (and hence profits) through deals with a wide range of retail service providers in both the retail fixed broadband and mobile broadband markets. This would mean very different competitive conditions under the counterfactual in the relevant retail markets.

6.2 Impact on the retail mobile market

With its access to content from Sky on preferential terms, Vodafone would substantially strengthen its position as the leading operator in the mobile market of New Zealand by offering TV content services and bundles over its LTE network at more attractive prices than its rivals, or simply by not allowing Sky to provide this content to its competitors at all. This competitive effect is of particular concern in the mobile market given that:

[67] Grant Samuel (June 2016), *"Independent Adviser's Report and Appraisal Report in relation to the Proposed Acquisition of Vodafone New Zealand Limited -Explanatory memorandum summary".* https://d16hubwhusm9sm.cloudfront.net/documents/24003/592182/Full+Report+Final+-+June+10.pdf/3908481f-7c9d-4e14-bed7-6f3c034e1941 (Grant Samuel June 2016).

[68] Grant Samuel (June 2016) page 10.

[69] Grant Samuel (June 2016) page 10.

- there are only three mobile operators (compared with dozens of retail service providers in fixed broadband); and
- one of the three operators currently holds a modest 13% of the market by revenue.

The merger would also allow Vodafone to cross sell into the Sky customer base in a way not available to its mobile rivals. Vodafone would be able to use the Sky customer database to target high-value customers more effectively than Spark or 2degrees – perhaps using one-off offers to get them to switch mobile supplier and then relying on bundling effects (described in Section 3.2) which raise barriers to consumers switching mobile operators again. There is empirical evidence that the more services consumers bundle together, the less likely they are to switch.[70]

Additionally many of those cross-sold are likely to be pre-pay customers. New Zealand has a particularly high proportion of pre-pay customers (60%[71]) for a developed country (UK has 36.6% and falling[72]). The applicants explain that they expect to achieve a "*pre-pay to post-pay migration and opportunities for additional data monetisation*".[73] This is important as not only are post-pay customers significantly more valuable (with APRU about 5x pre-pay, according to the applicants) but once contracted they are much less likely to switch.

These effects would not exist under the counterfactual. Given this analysis we believe that the proposed merger would lead to a substantial lessening of competition in the retail mobile market of New Zealand.

The merger might also lead to other anti-competitive effects. In particular the merged entity might zero rate Sky's TV content. As data usage increases and mobile operators are forced to either charge more for data and/or introduce more stringent data caps, it is likely that Vodafone will choose to zero-rate Sky TV data. With a merger this would create a competitive advantage for Vodafone over the other two mobile operators. We note that New Zealand has no established net neutrality principles or regulation to address such potentially discriminatory practices.

There is also the possibility that the merger might lead Vodafone to:

- leverage its preferential access to Sky content with affordable mobile data plans to establish a habit amongst mobile users of accessing TV via their mobile devices; and then
- ratchet up data charges to achieve the improved revenue and profits which it claims would flow as a consequence of the merger.[74]

Vodafone's ability to either offer zero-rating of Sky's content delivered over the Vodafone mobile network, or offer mobile and content bundles on more favourable terms than its rivals, stems from the lower costs it offers itself for content or a willingness to forgo a monetisation of the cost of delivery. As noted, we expect that such a forbearance would be a short to medium term strategy followed by a subsequent full charging for recovery. Such a strategy is akin to a form of predatory practice.

[70] Tim Burnett (April 2014), "*The impact of service bundling on consumers switching behaviour*" Working Paper No.14/321, Centre for Market and Public Organisation http://www.bristol.ac.uk/media-library/sites/cmpo/migrated/documents/wp321.pdf

[71] Sky and Vodafone (June 2016), *"Creating a leading telecommunications and media group"* Explanatory memorandum, p38 https://d16hubwhusm9sm.cloudfront.net/documents/24003/592214/SKT+Explanatory+Memorandum+FINAL.PDF/34762efc-5ece-44c9-8bbb-24db6ec712f9

[72] Ofcom (2016) Communications Market Review page 153.

[73] Sky and Vodafone (June 2016), page 43.

[74] Sky and Vodafone (June 2016), page 11.

6.3 Impact on the retail fixed broadband market

The merger would strengthen Vodafone's position in the fixed broadband market substantially at the expense of its rivals. There are two main competitive effects:

- Vodafone would have access to premium content on substantially better terms than rivals (foreclosure effects). This would enable the merged entity to:
  - create more attractive triple and quad play bundles than rivals, to grow its fixed broadband customers and reduce churn. This is a strategy which BT in the UK has successfully focused on and pitched to the City as its justification for investing in content,[75] albeit at huge cost given its lack of premium sports to start with;
  - integrate the home broadband WiFi router with the Sky set top box. As users demand ever more flexible viewing options on ever more devices in the home, the technology for delivering a successful consumer experience becomes significantly more complex. Being able to closely integrate the broadband WiFi router with the set top box (STB) offers seamless viewing.[76] Being the provider of the fixed broadband connection into the home, through which the TV STB connects to the internet, also offers enhanced technical support capability – leading to reduced support costs and improved customer satisfaction; and
  - frustrate the easy switching of either the fixed broadband or content element of a bundle[77].
- Again there would be an opportunity for the merged entity to cross-sell to the Sky customers. This effect is likely to be significant given the major market share of Sky in the pay TV markets and of Vodafone in the fixed broadband markets. Vodafone would also be able to coordinate its fixed broadband marketing with forthcoming Sky content marketing initiatives and take advantage of information from Sky on customer quality which is not currently available to it.

In the UK Vodafone has expressed strong concerns over the ability of pay TV operators to leverage their market power into adjacent fixed and mobile broadband markets:

> "" *the effects [of dominance in the pay TV markets] are no longer isolated to TV or even Pay TV. Ignoring the effects of 'key content' across wider and traditionally unrelated markets, such as mobile or broadband only customers, will have an enduring and irreversible effect, as the focus moves to TV bundled competition. Vodafone ultimately remains concerned that if access to this content cannot be secured on Fair, Reasonable and Non Discriminatory terms, competition and consumer choice across a variety of telecommunications markets will be severely harmed"*
>
> "*the increase in quad-play and triple-play propositions creates further opportunities for rights holders of key content to leverage this asset into other markets, most notably consumer broadband*"[78]

[75] https://www.theguardian.com/business/2013/may/10/bt-challenging-sky-sports-broadcasting

[76] A current example of this is Sky UK's recently released 'Sky Q', including a new STB and home broadband hub. http://www.telegraph.co.uk/technology/news/12003388/Sky-Q-What-you-need-to-know-about-Skys-new-TV-box.html

[77] Ofcom has undertaken a large amount of research into the attitude of users to switching and has introduced new harmonised switching processes for voice and broadband and has just proposed new switching processes for bundles of landline, broadband and pay TV. This is further explained in section 6.4.

[78] Vodafone (October 2015) paragraph 3.1.

Under the counterfactual all retail service providers of fixed broadband would have access to Sky's content on reasonably comparable terms and there would be no cross-selling effects.

Given this analysis the likely effects of the merger on competition in the fixed broadband market are as follows:

- Vodafone would increase its market share relative to Spark and other broadband retail service providers under the merger. This might increase product differentiation in the fixed broadband retail market in the short term;
- The competitive position of other retail service providers would be substantially weakened; and
- The likely overall long-term effect is a substantial lessening of competition, especially if the market tends towards a duopoly between Vodafone and Spark.

6.4 The effects of bundling and reduced consumer switching

The applicants note that their intention is to offer bundles of either Vodafone fixed and/or mobile broadband access with Sky TV[79] – both to attract new customers and to cross-sell to their combined customer base. This follows the growing international trend of bundling of communications services with pay TV which we have noted in our three case study countries. The applicants also note that bundling in New Zealand is not as advanced as in other markets and this suggests there is a greater opportunity to achieve a first mover advantage in New Zealand.

Given the unattractiveness of the current Sky resale offer and Sky's history of frustrating the negotiation of commercially viable wholesale arrangements, it is likely that the proposed merger would allow Vodafone to offer bundles which are superior to others in the market. This is likely to attract and convert a disproportionally high percentage of users to take a Vodafone/Sky bundle and so lead to a substantial lessening of competition.

There are also longer term effects on competition. One of the key attributes of users who purchase their communications and TV services in a bundle is that they are far less likely to switch to another provider – both because they are more satisfied than those who do not take a bundle (as we explain in Section 3.2), and also because they face more 'hassle' in migrating from one service provider to another. Ofcom in its just released consultation into the switching of landline, broadband and pay TV, note that:[80]

- 79% of users surveyed, when prompted, said that they had experienced some difficulty in switching;
- 79% of users who had considered switching but decided against it, were put off by process related worries; and
- users concerns about switching relate to: loss of service, particularly related to service migration; paying twice for services that overlap; unexpected charges; difficulty in contacting the various

[79] Sky and Vodafone (June 2016), page 8 .https://www.sky.co.nz/documents/24003/592214/SKT+Explanatory+Memorandum+FINAL.PDF/34762efc-5ece-44c9-8bbb-24db6ec712f9

[80] Ofcom (July 2016), *"Making switching easier and more reliable for consumers: Proposals to reform landline, broadband and pay TV switching between different platforms"* Consultation Paper http://stakeholders.ofcom.org.uk/binaries/consultations/making-switching-easier/summary/condoc.pdf

different providers; and a general lack of understanding among consumers of how the switching process works.

In summary the likely outcome of the proposed merger would be for the merged entity to deliver attractive bundles with good uptake ahead of their rivals. This would lead to a dampening of competition due to the reluctance of a majority of those consumers subsequently to consider switching.

7 The consumer benefits of the merger

The applicants have identified four consumer benefits from the merger:[81]

- more attractive bundle packages including communications and pay TV;
- enhanced delivery of content across multiple devices via multiple distribution technologies (including satellite, fixed broadband and mobile);
- innovative new digital products; and
- greater participation in the opportunities created by the Government's UFB and RBI initiatives.

We agree that the proposed merger would generate these four categories of benefit by giving Vodafone greater freedom in the way it uses Sky's content, and especially its premium content, when compared with the restrictions it faces under its current resale agreement with Sky.

However we would also argue that the benefits under these four categories would be available and provided under our proposed counterfactual. Significantly, under the counterfactual there would be no strengthening of Vodafone's market power in the fixed and mobile broadband markets. We reason that under the counterfactual:

- we expect Sky to be motivated to maximise its profits through repackaging its content for retailing over ***all*** fixed and mobile networks and to offer wholesale unbundled choice of its content – particularly its premium content – to communications providers who wish to bundle content as a key differentiator; and
- competition between retail service providers, both fixed and mobile, would lead to greater innovation in bundles, in digital products and in delivery via multiple devices than if the merger were allowed. It should also lead to lower retail prices and stimulate greater take-up of high-speed broadband in UFB areas.

We conclude that rejection of the merger is likely to lead to greater consumer benefits overall.

[81] Sky/Vodafone clearance applications.

Appendix A: UK case study

A.1 Overview

Ofcom is the converged regulatory and competition authority in the UK for TV broadcasting, video on demand, and fixed and mobile communications services, amongst other services and sectors. It derives its powers to regulate communications from the Communications Act 2003.

BT, the former incumbent, has been the main telecommunications operator in the UK since privatisation in 1984. Since 2000 it has undergone two main separations which have reduced its market power:

- In 2001 it carried out a structural separation between its mobile arm and its fixed network business
- In 2005 it agreed to functionally separate its access network business (dubbed Openreach) from the rest of its fixed network business.

In March 2015, BT launched BT Mobile, an MVNO based on mobile operator EE's network,[82] and introduced a quad-play bundle (rivals Virgin Media and TalkTalk were already offering quad-play bundles at this time). In January 2016, BT's proposed acquisition of EE was cleared by the Competition and Markets Authority.[83] Since the merger, BT and EE have retained separate branding, but are adapting their product offering – most notably with a forthcoming offer for free BT Sport content for EE customers.[84]

Other notable players in the relevant markets include:

- Virgin Media, which operates its own cable network and sells pay TV, fixed line broadband and voice, and mobile telephony (as an MVNO);
- TalkTalk, which relies on Openreach's network and sells pay TV, fixed line broadband and voice, and mobile telephony (as an MVNO);
- BSkyB, which also relies on Openreach's network and sells pay TV and fixed line broadband and voice;
- Mobile operators Vodafone, O2 and Three.

A.2 Fixed broadband

The fixed retail broadband market in the UK is well developed and highly competitive with only 12 percentage points difference in market share between the number one and three provider (see Figure A-1). The fastest growing provider is Sky, the second largest operator.

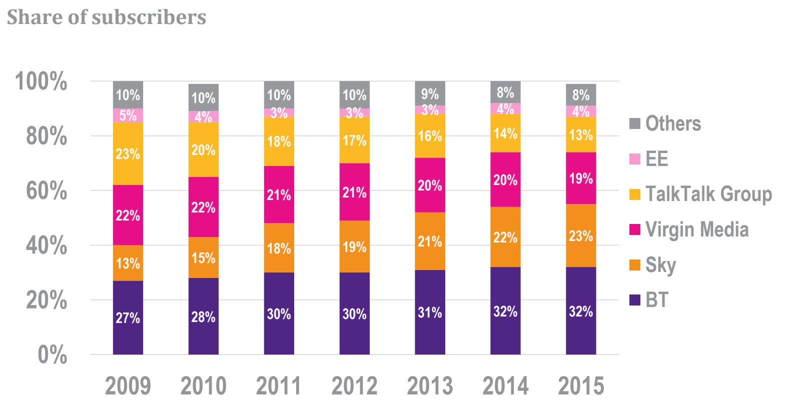
There are four major players in the UK's retail fixed broadband market, see Figure A-1.

[82] http://www.ispreview.co.uk/index.php/2015/03/bt-goes-quad-play-and-launches-cheap-uk-consumer-4g-mobile-service.html

[83] https://www.gov.uk/government/news/cma-clears-btee-merger

[84] http://shop.ee.co.uk/comingsoon/bt-sport-offer-register-your-interest

Figure A-1: Retail fixed broadband market share[85]



Source: Ofcom CMR, Plum Consulting

The legacy incumbent operator, BT has the lowest retail market share of any of its peers in the EU5 and the sixth lowest in the EU28[86]. Within the EU5[87], the UK ranks third behind France and Germany with 34 fixed broadband connections per 100 people but leads with 9 connections per 100 people where the broadband speed is 30Mbps or above.

At the wholesale level, leaving aside Virgin media's self-supply to 44% of the UK, BT functionally separated access network provider, Openreach provides regulated wholesale access nationwide to its copper and fibre (mostly fibre to the cabinet FTTC) network[88]. This includes access to ducts and poles, unbundled copper loops and FTTx based virtual unbundled local access (VULA). Regulated wholesale bitstream access has now been reduced to just 10.2% of the UK as the remaining 89.8% of premises are served by three or more 'principle operators'[89][90]

Deployment of next generation access (NGA) continue at pace with large fibre to the cabinet (FTTC) deployment by BT, a planned £3 million, 5 year, extension to its existing DOCIS 3.1 cable network announced by Virgin Media and numerous independent fibre network operators continuously increasing their coverage.

According to Ofcom's 2015 Communications Market Report[91]

- Four in five households now have fixed broadband and three in five adults access the internet through their mobile phone; and
- By May 2015 83% of UK premises were able to receive superfast[92] broadband and take up has increased over the reported 12 months from 23% to 30% of connections now being superfast.

[85] Ofcom (2016), "*Communications Market Report 2016*"

[86] Ofcom (2015), "*European Broadband scorecard February 2015*", p36

[87] EU5 = Germany, France, Italy, Spain and UK

[88] https://www.openreach.co.uk/orpg/home/products/products.do

[89] Ofcom (June 2014), *"Review of the wholesale broadband access markets"* Final Statement http://stakeholders.ofcom.org.uk/binaries/consultations/review-wba-markets/statement/WBA-Statement.pdf

[90] Principle operator is an operator who is likely to exert a substantial competitive constraint on the other operators, across the UK and include BT, Sky, Virgin Media and TalkTalk.

[91] Ofcom (2015), "*Communications Market Report 2015*"

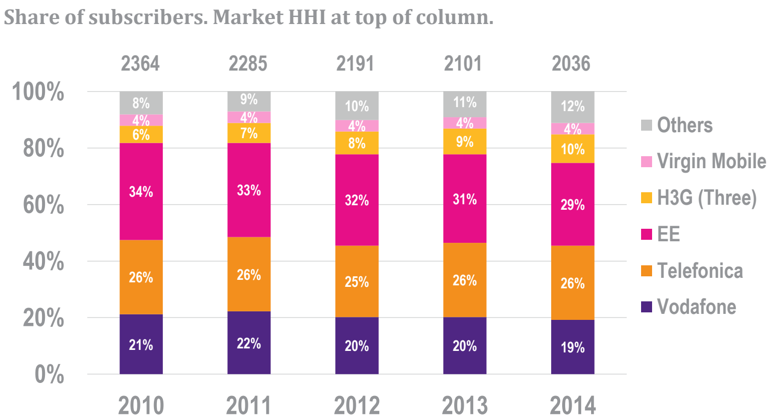
[92] Superfast broadband is currently defined by Ofcom to be 30Mbps and higher.

A.3 Mobile market

The UK has four Mobile Network Operators (MNOs) with market shares (as at June 2015) by number of subscribers of:[93]

- EE (recently acquired by BT): 32.9%
- O2: 20.9%
- Vodafone: 18.2%
- Three: 10%
- Other (MVNOs, including Tesco Mobile with 8.5%) 18.1%

Figure A-2: UK retail market share for mobile services



Source: Ofcom CMR, Plum Consulting

The UK has the highest number of mobile broadband connections[94] in the EU5 with 89 such connections per 100 people in December 2013.[95]

Within the EU5, the leading MNO in the UK had the second lowest percent of mobile connections in 2014 at 29% with Germany having the lowest at 27%. Italy had 32%, France 34% and Spain 36% market share. All leading MNOs lost market share.

According to Ofcom's 2015 Communications Market Report:[96]

- The proportion of premises with mobile outdoor coverage at May 2015 was 99.7% for 2G, 99.3% for 3G and 89.5% for 4G.
- Total 4G subscriptions jumped to 23.6 million in Q4 2014. Data from operators showed that 4G subscriptions made up 28% of total subscriptions in Q4 2014, compared with 3% in Q4 2013.

[93] http://www.statista.com/statistics/375986/market-share-held-by-mobile-phone-operators-united-kingdom-uk/

[94] A mobile broadband connections includes any subscription that: has connected to the internet within the last 90 days through a smartphone or web enabled handset; or are a dedicated data service over the mobile network that is purchased separately to a voice service either standalone or as an add on. Ofcom Broadband Score card p18

[95] Ofcom (February 2015), "*European Broadband score card February 2015*", p18

[96] Ofcom (2016), "*Communications Market Report 2016*"

- The total number of mobile data connections (including machine to machine (M2M)) increased by 13.6% to 62.6M.
- Smartphones have become the most widely owned internet-enabled devices, alongside laptops and over half (54%) of households now own at least one tablet.

A.4 Pay TV

Table A-1: Market shares for the retail pay TV market in the UK

Provider	2015 subs (m)[97]	2015 ARPU (£ per month)[98]	2015 revs (£m pa)	Market share by revenue
Sky UK	11.3	55	7460	68%
Virgin Media UK	3.9	49	2293	21%
TalkTalk	1.4	25	420	4%
BT	1.1	30	395	4%
Netflix	5.0	6	360	3%
Others	0.5[99]	15	96	1%
Total			11024	100%

The five major fixed broadband providers in the UK offer, or plan[100] to offer, quad play bundled offerings:[101]

[97] Data from Informitv (May 2015). Numbers reduced by 5% to exclude Ireland where appropriate. Netflix figure from BARB research - see http://www.barb.co.uk/tv-landscape-reports/netflix-taking-over/

[98] Data for Sky and Virgin Media from company reports. Other data taken from company price lists.

[99] Assumed

[100] Vodafone, the global mobile operator considers the UK its home market. In August 2015 it launched a fixed broadband service, utilising the assets of Cable and Wireless purchased in 2012. In February 2016 Vodafone announced it would launch a pay TV offering later in 2016 in the UK, having launched pay TV in Ireland a month earlier. This will enable it to provide a quad play offering similar to its major competitors. https://recombu.com/digital/article/vodafone-tv-uk-launch-date

[101] http://www.digitaluk.co.uk/__data/assets/pdf_file/0010/88462/Pay_TV_platforms_key_trends_and_developments_-_Jon_Watts,_MTM_London.pdf

Figure A-3: UK quad play providers

	sky	Virgin media	BT	TalkTalk	vodafone
TV subscriber base (2014)	• 10.6m (1)	• 3.8m	• 1.1m	• 1.0m	• -
Distribution	• DSat	• Cable	• DTT / IPTV	• DTT / IPTV	• IPTV
TV/broadband bundle?	• TV + broadband	• Broadband + TV			• -
Netflix availability?	• No	• Yes			• -
Growth strategy (2)	• Quad play (MVNO from O2) • Now TV • Sky Europe	• Quad play • Network roll out • OTT apps • Potential acquisitions	• Quad play • Focus on sports • OTT apps • 4K	• Quad play • Value play • OTT apps • TVOD premium packages	• Quad play (IPTV) • Potential acquisitions or investment in content

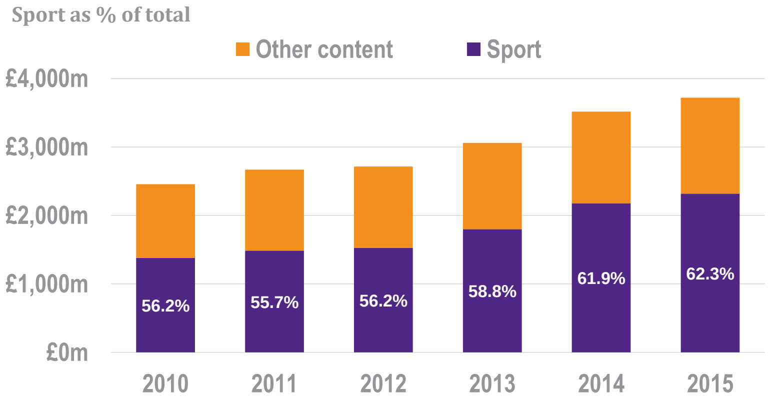
According to Ofcom's most recent Communications Market Review, the pay TV market continues to grow with a March 2015 tally of 16.6 million households. This represents growth of over one million households from the same period the year before. Also noted in the Review:

- 99% of households are able to receive digital terrestrial television (DTT) and 98% can receive digital satellite TV (DST).
- The number of minutes of broadcast TV watched has declined for the second year by 4.9% or 11 minutes per day with the average proportion of the population who watch TV each week also declining slightly.
- Time shifted viewing increased slightly, but not enough to compensate for the fall in minutes of watching of broadcast TV, with a 13% net gain in use of digital video recorders (DVRs)
- Just under 70% of total time spent watching audio-visual content is to traditional (live) television, with marked differences between age groups.
- Take-up and use of VoD services continues to grow, with almost six in ten adults saying that they have used at least one VoD service in the past 12 months.
- 'Over the top' (OTT) services, providing content streamed over the internet, are increasing in popularity. Since its launch in the UK in 2012, Netflix has increased its subscriptions to 5 million households, while 1.2 million households now have a subscription to Amazon Prime Instant (formerly LoveFilm). The most popular reason cited for using either of these subscription VoD services was to access the back catalogue of movies.
- Over half (56%) of UK TV homes had a TV connected to the internet, either via a set-top box or a smart TV, at the end of 2014. However, this figure is likely to be higher when other devices such as games consoles are included
- Pay TV subscription revenue increased 1.9% year on year with a compound annual growth of 5.2% over the last five years.

A.5 Content provision

The investment in sports content and its importance to the pay TV market continues to increase. Sport represents a steadily growing proportion of UK multichannel content spend, which itself is growing rapidly.

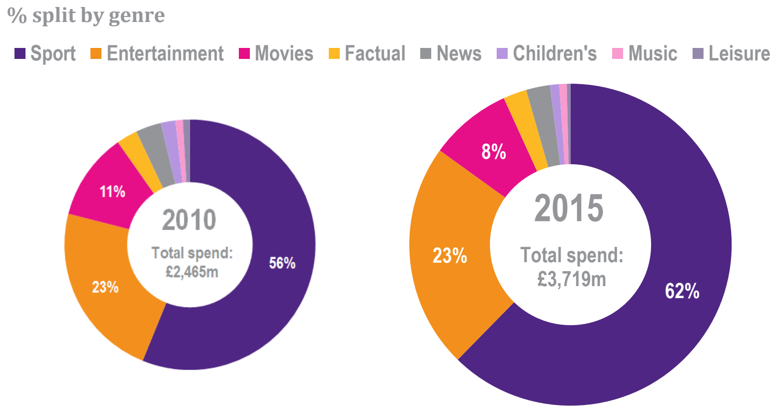
Figure A-4: Genre split of UK multichannel content spend



Source: Plum Consulting, Ofcom CMR

Spend on sports rights topped £2bn in 2014, and is set to rise further. In February 2015, BT and Sky signed a deal with the Premier League for rights to 168 matches over the next three seasons, for a total of over £5bn. BT also agreed to pay £897m for live broadcast rights for the next three seasons of UEFA Champions League and Europa League matches. This means that Sky and BT will be spending over £2bn on these competitions alone, on top of purchasing the rights to golf and rugby.[102]

Figure A-5: Total UK multichannel spend on content by genre



Source: Plum Consulting, Ofcom

Box A-2 illustrates the importance of sports rights in the UK market.

[102] Ofcom (2015), "*Communications Market Report 2015*"

Box A-2: The rise and fail of Setanta Sports

Setanta Sports provides a graphic illustration of the power of premium sports rights. The entrepreneurial Irish sports channel dared to challenge the dominance of Sky UK's hold on the English Premier Leagues (EPL) and lost. It acquired its first EPL rights in 2006 on the back of a European Commission decision that the EPL must not sell all of its TV rights to one broadcaster, ending Sky's monopoly. Leveraging this 'must see' content, Setanta went on and signed a number of other major sports rights, again breaking Sky's monopoly by acquiring the US PGA Golf and a deal to show FA cup matches. However its private equity investors wanted results and as it noted:

"It is very hard to launch a pay TV channel and then consolidate, particularly when you have someone like Sky who is so dominant."

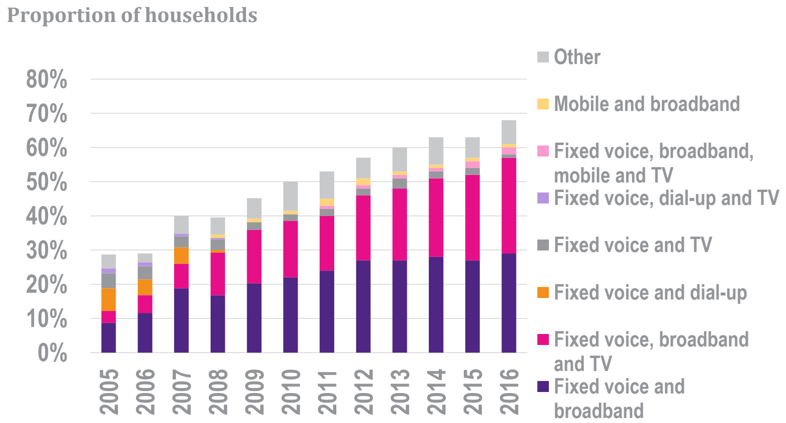
It took a body blow when in 2009 it only managed to secure one of the two rights packages of EPL games for the next three years, even though it had 1.4 million customers. Sky UK took the other package. Without the additional rights Setanta had no hope of growing its subscribers to a number sufficient to at least break even . Setanta GB went into administration in 2009, with its EPL rights going to ESPN, who immediately secured a wholesale deal with Sky UK (in 2012 ESPN failed to retain the 2 packs of EPL rights, losing them to BT. Shortly thereafter BT bought ESPN's GB and Ireland sports channel and they became part of the BT Sports offering)

Eventually in 2015 the remained of the business was bought by eir, the Irish telecommunications incumbent.

A.6 Trend to purchasing communications services in bundles

Just over six in ten consumers (63%) reported that they had bought at least two of their communications services together in a bundle in Q1 2015, the same as the previous year's figure (60%). This builds on a constantly increasing trend with a doubling over the last ten years of the proportion of households purchasing their communications in bundles, up from just 29% in 2005. From Figure A-6[103] it can be seen that the largest proportion of bundles (29%) now include pay TV, and this is increasing year on year by 4%.

Figure A-6: Take up of bundled services in the UK



Source: Plum Consulting, Ofcom CMR

[103] Ofcom (2015), "*Communications Market Report 2015*" Figure 1.14

A.6.1 The launch of 4G and bundling

The launch of 4G in the UK is instructive. EE was first to market due to it being granted permission to use its existing spectrum, ahead of its competitors gaining suitable spectrum in a subsequent auction. It launched in October 2012. EE charged a premium and, in the absence of competitors to be compared to, was criticised for the pricing and data bundles it offered.[104]

O2 and Vodafone were the next to launch in August 2013.[105] Both bundled some content into their 4G offer – O2's customers would gain "*access to O2's 4G Tracks and its upcoming music video service, Priority Sports and some free games from Gameloft, including Modern Combat 4: Zero Hero and Zombiewood*".

Vodafone[106] was the most generous, packaging its 4G with Sky Sports, including more than 150 hours of Premier League football,[107] or 20m songs from streaming music service Spotify. This bundling was designed to differentiate the offering from EE, as well as providing consumers some justification for the price premium.

Three was the last of the MNOs to launch is 4G service in December 2013. Its unique selling proposition was that, unlike the other operators, it did not charge a premium (and provided a free upgrade for existing customers). It also claimed to be the first to launch voice over LTE (VoLTE) in the UK.

BT[108], who had been out of the UK mobile market since its sale of Cellnet – later renamed O2 – to Spanish Telefonica in 2005, re-entered the mobile market in June 2015 with an MVNO deal with EE (which it later acquired). Its launch proposition included the bundling of its mobile offering with access to its 5 million Wi-Fi hotspot network and the BT Sports app, which (as of 2016) included Champions League football exclusive content. *"The main challenge for BT was to bring something different to a mature mobile market and it has certainly done this with BT Sport and BT Wi-Fi"*.

Sky announced plans in 2015 to launch a mobile service as an MVNO on the O2 network and is due to go live any time soon.

A.7 Regulation of access to content

In the UK Ofcom has a number of mechanisms for regulating access to and wholesale price of content, including:

- Anti-siphoning rules – code on sports and other designated events, s104 of the Broadcasting Act 1996;
- the imposition of a wholesale must offer requirement – Section 316 of the Communications Act; and
- the application of an ex-ante margin squeeze test including the pricing of content when sold in a bundle including broadband – via its ability under the Communications Act to impose price

[104] http://www.bbc.co.uk/news/technology-20121025
[105] http://www.theinquirer.net/inquirer/news/2290561/uk-4g-gets-competitive-as-o2s-and-vodafones-networks-go-live
[106] http://www.techweekeurope.co.uk/workspace/vodafone-4g-smartphones-operators-lte-124102
[107] http://www.ft.com/cms/s/0/1b557fb4-ff6d-11e2-8f25-00144feab7de.html#axzz4FhR474zW
[108] http://www.knowyourmobile.com/ee/ee/22887/bt-mobile-launches-ahead-of-bt-ee-buyout

regulation to address BT's significant market power ('SMP') it was found to have in the Wholesale Local Access market.

These measures are in addition to Ofcom's ability to exercise its ex-post assessment of an alleged abuse of dominance, under the Competition Act.

A.7.1 Anti-siphoning

Section 104 of the Broadcasting Act 1996 requires Ofcom to maintain a list and give advice to the Secretary of State for Culture Media and Sport to designate key sporting and other events as 'listed events'. The purpose of these arrangements is to ensure that key sporting events are made available to all television viewers, particularly those who cannot afford the extra cost of subscription television.[109]

The rights to the listed events must be offered to qualifying broadcasters. Qualifying broadcasters are those whose channels are available without payment to at least 95% of the UK population. Qualifying broadcasters are not obliged to bid for these rights, so it is possible that on some occasions listed events may not be shown by a qualifying broadcaster, or if no qualifying broadcaster chooses to take up a right to broadcast a listed event, another broadcaster may apply to Ofcom for consent to do so.

Table A-3: Listed events in the UK

Group A (Full Live Coverage Protected)	Group B (Secondary Coverage Protected)
The Olympic Games	Cricket Test Matches played in England
The FIFA World Cup Finals Tournament	Non-Finals play in the Wimbledon Tournament
The European Football Championship Finals Tournament	All Other Matches in the Rugby World Cup Finals Tournament
The FA Cup Final	Six Nations Rugby Tournament Matches Involving Home Countries
The Scottish FA Cup Final (in Scotland)	The Commonwealth Games
The Grand National	The World Athletics Championship
The Derby	The Cricket World Cup - the Final, Semi-finals and Matches Involving Home
The Wimbledon Tennis Finals	Nations' Teams
The Rugby League Challenge Cup Final	The Ryder Cup
The Rugby World Cup Final	The Open Golf Championship

Qualifying broadcasters: Channel 3 (ITV1), Channel 4, BBC 1, BBC 2, Channel 5 (Five)

109 Ofcom, *"Code on Sports and Other Listed and Designated Events"*, accessed 5th August 2015 http://stakeholders.ofcom.org.uk/broadcasting/broadcast-codes/code-sports-events/

A.7.2 Wholesale must offer

In 2010 Ofcom imposed a wholesale must offer (WMO) obligation on Sky[110] to offer to wholesale Sky Sports 1 and 2 at prices set by Ofcom. This followed a multiyear investigation under section 316 of the Communications Act 2003, which imposes a duty on Ofcom to ensure fair and effective competition in the provision of licensed broadcasting services.

Sky objected to the WMO on the grounds that it already voluntarily wholesaled its channels at prices that at least met a margin squeeze test established in a 2002 ruling by the Office of Fair Trading (following a Competition Act investigation). The prices and margins imposed by Ofcom are shown in Table A-4. Ofcom used a retail-minus approach to establish the regulated wholesale price and determined that the margin for each wholesale product should be specified as a fixed absolute amount (in real terms) and wholesale prices should track Sky's retail prices, regardless of whether these prices increase or decrease.[111]

Table A-4: Wholesale prices and margins under the 2010 WMO[112]

Channel	Existing rate card price (£/sub/month)	Regulated Wholesale price (£/sub/month)	Retail Price (£/sub/month)	Regulated Retail Margin (%)
Sky Sports 1	13.88	10.63	16.74	61.2%
Sky Sports 2	13.88	10.63	17.03	61.6%
Sky Sports 1&2	19.15	17.14	18.91	52.5%

Source: Plum and Ofcom

WMO has been the subject of appeals to the Competition Appeal Tribunal, and then onto the Court of Appeal. In 2014 Ofcom launched a review of the WMO and following consultations, determined in November 2015 to lift the WMO on the basis that Sky "*is now widely supplying these channels to other pay TV providers on commercial terms*".[113]

A.7.3 Ex-ante margin squeeze test

While finding BT has significant market power (SMP) in the supply of wholesale superfast broadband, Ofcom has chosen to provide BT with a high degree of price flexibility for its newly introduced fibre-based (both FTTC & FTTH) VULA broadband services. Through its 2014 Fixed Access Market

[110] Ofcom (March 2010) *"Pay TV Statement"*
http://stakeholders.ofcom.org.uk/binaries/consultations/third_paytv/statement/paytv_statement.pdf

[111] Ofcom (March 2010) *Pay TV Statement*, para 10.230

[112] Ofcom (March 2010) *Pay TV Statement*, Figures 1 and 137

[113] Ofcom, (November 2015), *"Review of the pay TV wholesale must-offer obligation"*
http://stakeholders.ofcom.org.uk/binaries/consultations/wholesale-must-offer/statement/review_of_wmo_sStatement.pdf

Review[114] Ofcom determined that it would impose an ex-ante margin squeeze test on VULA and bundles of services including VULA, which it did in March 2015.[115]

Included in the statement is guidance as to how Ofcom would allocate the costs of BT Sport content to each superfast broadband subscriber, given BT's strategy of bundling BT Sports content with superfast broadband for no additional charge. Such a strategy was noted by Ofcom to "*increases both the attractiveness of BT's retail packages and BT's costs*".

A.8 Further regulatory interventions in content markets

Ofcom for a number of years has been reviewing the switching processes of a range of communications products including fixed voice and broadband and mobile services. In the case of fixed voice and broadband on the BT copper network it implemented a new harmonised switching process in 2013. In March of this year it proposed new switching processes to make it easier for consumers to change their mobile operator.

At the time of announcing the mobile proposals Ofcom noted that it was progressing its work on consumers' experience of switching bundled services - landline, broadband and pay TV - between providers using the Openreach, Virgin Media cable or Sky satellite networks. Ofcom expects to publish next steps, including any proposals for change as necessary, in the summer of 2016.[116]

A.9 Net neutrality policy

The UK's approach to net neutrality has been based on a voluntary code of practice to reinforce transparency and competition, rather than legislation. All major UK communications providers are signatories to *The Open Internet Code of Practice*, a series of practical commitments on how content should be delivered to consumers.[117] The code is based around three core principles:

- Users should be able to access all lawful content
- No discrimination against content providers on the basis of commercial rivalry; and
- Traffic management policies should be clear and transparent

In 2015 the European Parliament and Council enacted measures[118] concerning open internet access. These have now come into effect and the Body of European Regulators for Electronic Communications (BEREC) is presently finalising its guidelines[119] for implementation of the regulations. The new regulations are considered to be a close match to the UK voluntary code.

[114] Ofcom (June 2014), "*Fixed Access Market Reviews 2014",* Statement, http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/specific-conditions-entitlement/market-power/fixed-access-market-reviews-2014/statement/

[115] Ofcom (March 2015), "*Fixed Access Market Reviews: Approach to VULA margin"* Final Statement, http://stakeholders.ofcom.org.uk/binaries/consultations/VULA-margin/statement/VULA_margin_final_statement.pdf

[116] http://media.ofcom.org.uk/news/2016/switching-for-mobile-customers/

[117] http://www.broadbanduk.org/wp-content/uploads/2016/06/BSG-Open-Internet-Code-2016.pdf

[118] Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2120&from=EN

[119] BEREC, (June 2016) *"Draft BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules, consultation"* http://berec.europa.eu/eng/document_register/subject_matter/berec/public_consultations/6075-draft-berec-guidelines-on-implementation-by-national-regulators-european-net-neutrality-rules

The practice of zero-rating[120] has recently given concern and is explicitly addressed in the BEREC guidelines, where it identifies particular implementations of zero-rating that would be concerning, including:

- the simple act by the by the internet access service of differentiating one particular application or content over another, could be interpreted as a practice where an "*end-users' choice is materially reduced in practice*", a contravention of the principles; and
- what practice the mobile operator choses to implement when a data cap is exceeded. A blocking or throttling of all traffic typically breaches a key net neutrality principle.

Zero-rating also potentially gives rise to competition effects. Where the access provider (typically a mobile operator) and/or pay TV provider has significant market power this would likely distort the retail market for mobile data.

[120] Zero-rating is where an ISP applies a price of zero to the data traffic associated with a particular application or category of applications (and the data does not count towards any data cap in place on the internet access service).

Appendix B: Australia case study

B.1 Overview

Australian telecommunications are regulated by both the Australian Communications and Media Authority (ACMA) and the Australian Competition and Consumer Commission (ACCC). The ACMA is a converged regulator with responsibility for telecommunications, broadcasting, media and the internet. The ACCC is responsible for economic regulation of the communications sector, including the setting of price and terms of access to regulated services, under Part XIC of the Competition and Consumer Act 2010.

Telstra, the former incumbent, is the dominant player in Australian telecommunications markets, with 41% of the retail broadband market and 45% of the mobile market. Telstra also owns a 50% stake in Foxtel, the dominant pay TV company (News Corp owns the other half). Despite this, triple-play take-up is relatively low in Australia, with only 4% taking a bundle of fixed voice, broadband and pay TV.

Telecommunications in Australia have been dominated by the issue of the National Broadband Network, a national wholesale broadband network being developed with funding by the Federal Government. Construction and operation of the network is managed by nbn, a publicly owned corporation. The NBN has proved controversial due to delays in deployment and cost overruns,[121] and the appropriate technology mix for the NBN has become a highly politicised issue.[122]

B.2 Fixed broadband

In April 2009 the Government announced the creation of a national broadband network (NBN) – an ambitious plan for fibre to the home (FTTH) for 93% of Australians, with the most rural 7% of the population reached by a fixed wireless LTE-based network or satellite. nbn, an enterprise owned[123] and run by the state until completion of the rollout, was established to manage the rollout. While it is envisaged that nbn will eventually become the only broadband wholesaler, for the moment other providers continue to prove wholesale broadband, including Telstra which continues to wholesale its copper services.

The Vertigan report,[124] an independent cost-benefit study published in August 2014, argued that nbn should move from implementing FTTH to a 'Multi Technology Mix' approach. In practice this meant focusing on a Fibre to the Node (FTTN) approach, with the last link to the consumer premise using the existing copper or cable connection. The report's recommendation was approved by the Coalition government in December 2014.

The development of the NBN to date has had little impact on the retail fixed broadband market, with market shares relatively static. With 41% of the market, Telstra remains the dominant provider, with TPG (26%) and Optus (15%) respectively in second and third place as at December 2015 (Figure B-1).

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121 http://www.brisbanetimes.com.au/it-pro/government-it/nbn-rollout-was-too-ambitious-stephen-conroy-20131011-hv244.html

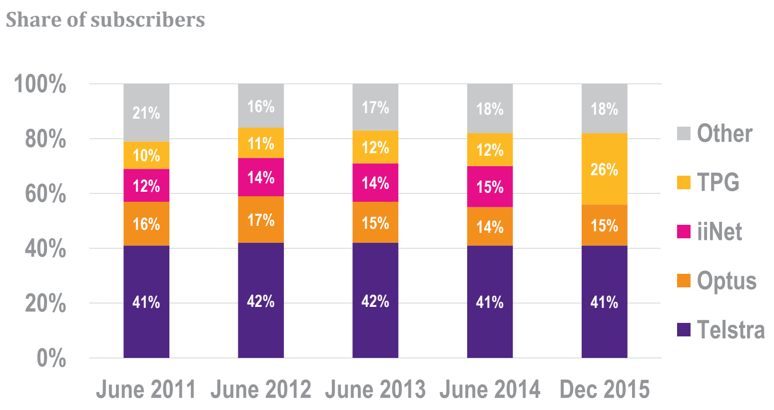
122 https://delimiter.com.au/2015/11/05/quigley-releases-detailed-evidence-showing-mtm-nbn-cost-blowout/

123 Private funding was to be limited so that state ownership remained at least 51% until the rollout was finished.

124 http://www.communications.gov.au/broadband/national_broadband_network/cost-benefit_analysis_and_review_of_regulation

Consumers' thirst for data, driven largely by the growth of on-demand TV services, has made data caps in broadband plans a key area of competition, with more service providers offering 'unlimited' data plans.[125] As the NBN rolls out, it is expected that providers will also compete more intensively on broadband speeds given the ability of the NBN to offer consumers different download speeds.[126]

Figure B-1: Retail fixed broadband market share



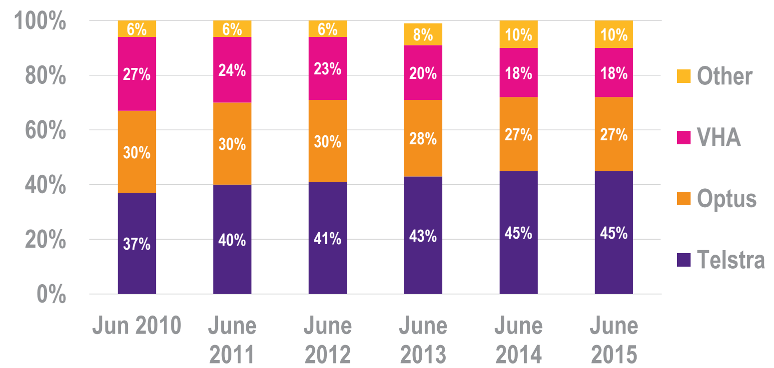
Source: ACMA Plum Consulting

Note: TPG acquired iiNet in 2015

B.3 Mobile market

Telstra's share of the mobile market has grown steadily since 2010, reaching 45% of subscribers in June 2015, followed by Optus (27%) and Vodafone (18%).[127]

Figure B-2: Retail market share for mobile services



Source: ACCC, Plum Consulting

[125] ACCC (February 2016) *"Competition in the Australian Telecommunications Sector"* , p25

[126] ACCC (February 2016) pp25-26

[127] ACCC (February 2016) p29

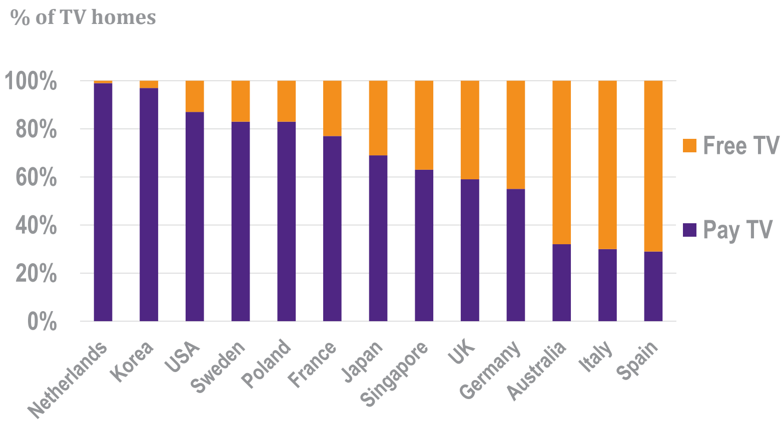
Telstra has gained 5% market share since 2011.[128] Telstra's growth, despite its higher prices, is likely to reflect consumer demand for quality data services – customers perceive that Telstra has the most developed 4G network, and is able to offer superior 3G and 4G coverage and quality of service.

Key areas of competition in the mobile market have been data allowances and subscriptions to media and entertainment services.[129] During the year to 30 June 2015, the average monthly data inclusions for pre-paid plans increased from 1.4GB to 2GB, and for post-paid plans from 2.1GB to 3GB.[130] Service providers have also sought to differentiate themselves by offering data sharing, data rollover and free subscriptions to media and entertainment services. A good example is the recent English Premier League service unveiled by Optus.[131]

B.4 Pay TV

28% of Australian TV households took pay TV in 2014[132] – a low level of take-up compared to other developed countries such as the UK (59%) or the US (87%). This has been attributed to lack of effective infrastructure competition (due to Telstra's 50% shareholding in Foxtel),[133] high prices for pay TV services, and tough anti-siphoning laws (which means most sports content is available on free-to-air platforms).[134] The vast majority of the remainder are Digital Terrestrial Television (DTT) homes.

Figure B-3: Take-up of pay and free-to-air TV, 2014



Source: Ofcom ICMR 2015, Plum Consulting

Foxtel controls 97% of the Australian pay TV market, providing cable and satellite television.[135] Foxtel had 2.8 million subscribers in the financial year ending 30 June 2015.[136] Most households are served

[128] ACCC (February 2016) p29

[129] ACCC (February 2016) p26

[130] ACCC (February 2016) p26

[131] https://media.optus.com.au/media-releases/2016/optus-unveils-plans-for-the-english-premier-league/

[132] Ovum (November 2014) *"Australian OTT Video – Creating a New TV Market"*, http://www.nbnco.com.au/content/dam/nbnco2/documents/ott-video-in-australia-creating-a-new-market.pdf p8

[133] ACCC (June 2003), *"Emerging market structures in the communications sector"* pp28-29 https://www.accc.gov.au/system/files/Emerging%20market%20structures%20in%20the%20communications%20sector.pdf

[134] https://www.crikey.com.au/2012/07/10/we-dont-love-pay-tv-like-the-rest-so-whats-foxtel-really-worth/

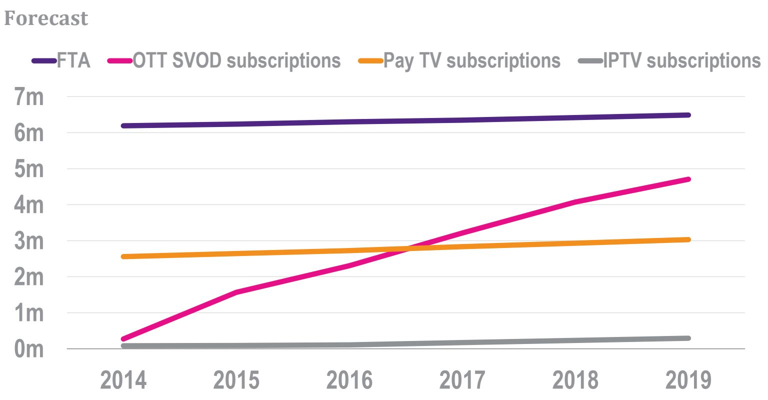
[135] Ovum (November 2014) p8

by satellite, where Foxtel is the sole provider, but some are served through the Optus and Telstra cable networks. Telstra and Optus resell TV services from the Foxtel platform.

Pay TV subscriptions are growing, but only slowly, with a compound annual growth of 1% between 2009 and 2014.[137] Ovum predicts that pay TV will continue to grow, but the real growth area will be in OTT services, where Ovum forecasts a 17-fold increase in the number of subscriptions by 2014. Ovum's forecasts for the growth of different methods of TV delivery are given in Figure B-4, as per the following definitions:

- Traditional free-to-air terrestrial broadcasting, now using digital multi-channel technology since the closure of analogue TV services in 2013.
- Traditional pay TV services delivered over cable and satellite, also using digital technology.
- IPTV services being delivered over the telecommunications network, defined as TV delivered over a closed IP network (some Fetch TV services work this way)
- Over-the-top (OTT) video services, including video-on-demand (VOD) and streaming video on demand (SVOD) services, using the open Internet.

Figure B-4: TV subscriptions in Australia



Source: Ovum

There is already some indication that Ovum's forecast may be an underestimate. Netflix, after officially[138] launching in Australia in March 2015, has an estimated 5 million subscribers as at May 2016.[139] Its closest rival in the Australian market, Stan (launched by DTT operator Nine[140]) has nearly 900,000 subscribers.[141] Another service, Presto, launched by broadcasting network Seven in

[136] ACMA (November 2015), *"Communications Report 2014-15"*, p68 http://www.acma.gov.au/~/media/Research%20and%20Analysis/Report/pdf/ACMA%20Communications%20report%202014-15%20pdf.pdf

[137] Ovum (November 2014) p7

[138] Netflix was previously available to Australian consumers via VPNs, and was estimated to have up to 200,000 unofficial subscribers. http://www.theaustralian.com.au/business/media/more-netflix-pirates-on-board/story-fna045gd-1226842998214

[139] http://www.roymorgan.com/findings/6839-netflix-stan-presto-subscription-video-on-demand-may-2016-201606141025

[140] Nine is also the majority shareholder in Australian streaming company Quickflix

[141] http://www.roymorgan.com/findings/6839-netflix-stan-presto-subscription-video-on-demand-may-2016-201606141025

partnership with Foxtel, has 350,000.[142] Telstra has also launched Telstra TV, an IPTV service, using its streaming device connected to the consumer's broadband connection.

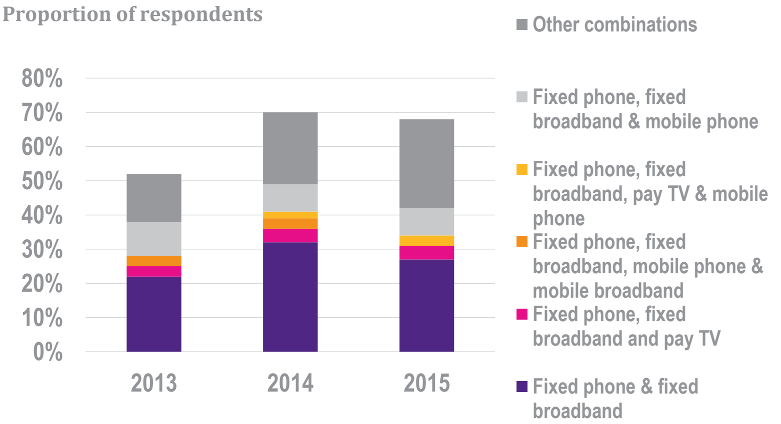
Ovum make two interesting observations regarding the importance of premium sports to pay TV:

- a major barrier to the mass market OTT video providers is the superior ability for live TV to deliver sports;[143] and
- DTT networks will continue to compete with each other and with new entrants to win broadcasting rights for key sporting events, live events, and reality shows. Free TV will do its best to protect itself from pay TV attempts to remove major sporting events from the country's anti-siphoning law list, which pay TV groups are constantly lobbying.[144]

B.5 Trend to purchasing communications services in bundles

Take-up of pay TV bundles is relatively low in Australia – 4% of households take a triple-play pay TV bundle, and 3% take a quad-play. This is likely to reflect the relative unattractiveness of pay TV packages in Australia (see above).[145]

Figure B-5: Australian consumers buying telecoms bundles



Source: Plum Consulting, Ofcom ICMR

In February 2015, Foxtel launched a triple-play bundle using Telstra's copper network (though it may make use of the NBN in time). This launch came just ahead of Netflix's official launch in Australia in March. In bundles with a data cap, Foxtel zero-rates its own VOD streaming services Foxtel Go & Anytime.[146]

142 http://www.roymorgan.com/findings/6839-netflix-stan-presto-subscription-video-on-demand-may-2016-201606141025

143 Ovum (November 2014) p7

144 Ovum (November 2014) p9

145 Ofcom (2015), *"International Communications Market Report 2015"*

146 https://www.foxtel.com.au/get/broadband-bundles.html

B.6 Regulation of access to content

Australian broadcasting regulations include anti-siphoning laws that cover most major sporting events.[147] The regulations prevent pay TV broadcasters buying the rights to these events before free-to-air broadcasters have an opportunity to buy the rights. An event is automatically removed from the anti-siphoning list if no one has bought the rights 12 weeks before the event is due to start.[148]

Commercial free-to-air broadcasters are also subject to minimum quotas of Australian-originated content. Between 6am and midnight on their primary channel, these broadcasters must air a minimum of 55% Australian programming, with additional stipulations for drama, documentary and children's programs.[149] 80% of advertising time between these hours must be used for Australian-produced advertisements.[150]

B.7 Net neutrality policy

Australia does not currently have any net neutrality regulation.

[147] Section 115, *Broadcasting Services Act* (Cth) 1992, Broadcasting Services (Events) Notice (No. 1) 2010.

[148] Section 115(1AA), *Broadcasting Services Act* (Cth) 1992

[149] Section 121G, *Broadcasting Services Act* (Cth) 1992; Broadcasting Services (Australian Content) Standard 2016.

[150] Section 122, *Broadcasting Services Act* (Cth) 1992; Television Program Standard 23 - Australian Content in Advertising.

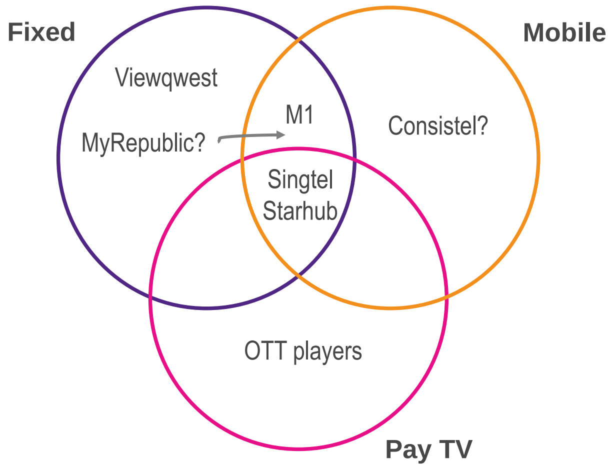
Appendix C: Singapore case study

C.1 Overview

The Infocomm Development Authority of Singapore (IDA) has regulatory oversight over telecommunications in Singapore. The IDA regulates mobile and fixed telecommunications markets and manages spectrum, and acts as a champion for the country's IT and telecoms sectors. A different body, the Media Development Authority (MDA), regulates Singapore's media and broadcasting markets. In January 2016 it was announced that the two agencies would be restructured to form the Info-communications Media Development Authority of Singapore (IMDA) and the Government Technology Organisation (GTO)[151]. The IMDA will be in charge of developing and regulating the converging telecoms and media sectors – in effect, a converged regulator – while the GTO will focus on digital transformation of the public sector. The restructuring is expected to be completed by the end of 2016.

SingTel, the former incumbent, is the largest operator in both the fixed and mobile markets. It also owns SingTel TV, a pay TV service that transmits through an IPTV. SingTel's main competitors are StarHub and M1. StarHub offers pay TV over cable and IPTV but it trails SingTel in both the fixed broadband and mobile sectors[152]. The third player, M1, is active in the mobile services and fixed broadband markets[153], but does not offer pay TV, despite trying over the past decade to develop a TV service (in 2013 it launched its own set-top box offering OTT content[154] although it now appears to have abandoned its ambitions in this area). M1 found it difficult to compete against SingTel and Starhub due to its inability to offer triple and quad play bundles.

Figure C-1: Participation in Singapore's fixed, mobile and pay TV markets



Source: Plum Consulting

[151] https://www.mci.gov.sg/web/corp/press-room/categories/press-releases/content/formation-of-infocomm-media-development-authority-and-government-technology-organisation

[152] Based on respective operators' latest quarterly results (March 2016).

[153] M1 started off as a pure mobile network operator but it now also provides fibre broadband services over the national FTTH network.

[154] https://www.m1.com.sg/AboutM1/NewsReleases/2013/M1%20launches%20Internet%20TV%20service%20-%20MiBox.aspx

C.2 Fixed broadband

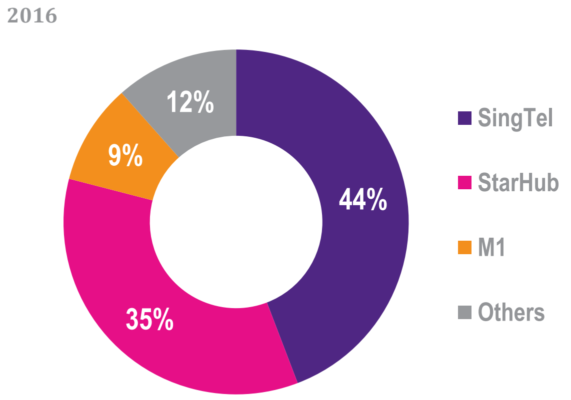
In 2005 Singapore developed a 10-year master plan, iN2015, to grow the telecommunications sector and encourage growth and innovation in other sectors of the economy. To achieve this, the Government directed the building of a national FTTH network to cover 100% of the population and deliver speeds of 1 Gbps or more. To ensure that the Next Generation NBN met the targets of iN2015, the IDA designed a three-layer industry structure to benefit all industry players:

- The Network Company (NetCo) builds and operates the passive infrastructure, including ducts and dark fibre from the central office to premises and other distribution points (i.e. mainly in the last mile). The NetCo tender was awarded to OpenNet (of which SingTel owns 30%).
- The Operating Company (OpCo) operates the active infrastructure, including switches and transmission equipment. The OpCo tender was awarded to Nucleus Connect.
- Retail Service Providers (RSPs) provide services to end consumers and businesses.

Singtel is vertically integrated across the three layers of the fibre broadband value chain, by virtue of its ownership of OpenNet (via CityNet, a SingTel-owned business trust), which runs the passive infrastructure. However, the market is competitive at both the OpCo and RSP layers and the IDA hold ultimate approval over wholesale prices. Copper and cable providers were also left free to continue to run their legacy networks.

As of the start of 2016, SingTel had around 600,000 fixed broadband customers, the majority of whom were using fibre broadband. SingTel's rival, StarHub, had 473,000 customers, while M1 was a distant third with 128,000.

Figure C-2: Share of retail fixed broadband subscriptions in Singapore

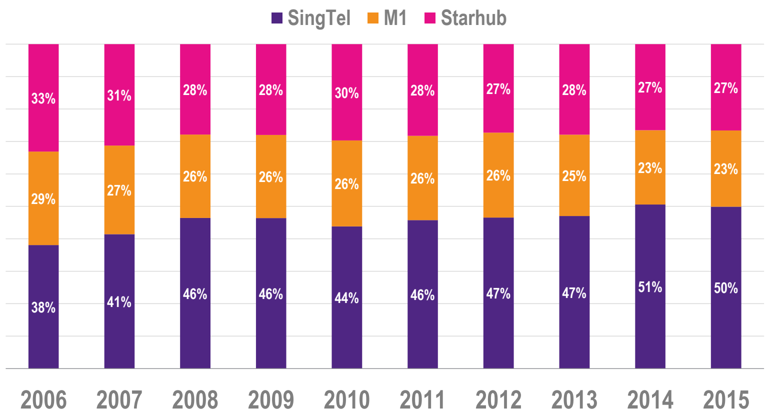


Source: Plum Consulting, operators, IDA

C.3 Mobile market

SingTel's share of Singapore's mobile market has grown over the past ten years to reach 50% of the market in 2015. This growth has come at the expense of both the other two mobile operators: StarHub's and M1's share of the market have each fallen six percentage points since 2006.

Figure C-3: Singapore mobile market share by subscriber numbers



Source: Plum Consulting, operators

C.4 Pay TV

The broadcasting sector in Singapore comprises three main nationwide licensees. These comprise one terrestrial free-to-air licencee (MediaCorp) and two pay TV licensees:

- StarHub TV, which relies on its cable network to deliver its services; and
- SingTel TV, which transmits via an IPTV platform.

StarHub TV is the largest player in the Singaporean pay TV market, with 528,000 subscribers as of the start of 2016.[155] SingTel TV (initially branded as SingNet) had 424,000 subscribers at the start of 2016.[156] StarHub's customer base dwindled over 2015, while SingTel's showed a slight increase.

The entry of the second nationwide subscription TV licensee, SingNet, in 2007, saw both nationwide pay TV licensees adopt an exclusive content strategy which resulted in a high degree of content fragmentation unique to Singapore. All the top multi-national channel-producing companies sold their channels exclusively to subscription TV licensees in Singapore – by far the highest percentage compared to other benchmark countries.

C.5 Trend to purchasing communications services in bundles

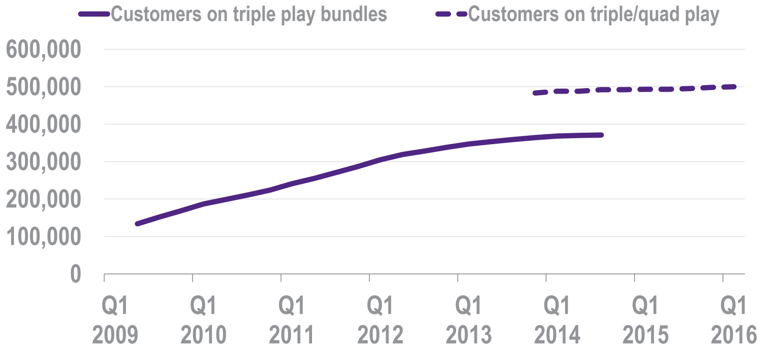
Although the data is limited, it suggests that bundling is common in Singapore. SingTel's quarterly results indicate that bundling has been increasing. SingTel customers taking triple play bundles grew to 2013 then started to level off; recently, the number of customers on triple and quad play bundles has remained steady at 500,000 customers. Today 61% of Singaporean Households take a triple or quad play bundle.[157]

[155] StarHub Q1-2016 Results Report http://ir.starhub.com/Investors/?page=Results---Announcements

[156] http://www.digitaltvnews.net/?p=27048

[157] SingTel and StarHub Quarterly Reports (Q4 FY2016), Singapore Department of Statistics.

Figure C-4: SingTel customers taking bundles



Source: Plum Consulting, SingTel

Note: SingTel changed its reported metric at the end of 2014

Singapore's operators are also branching out into the OTT space, with StarHub unveiling its StarHub Go service[158] and SingTel entering into a partnership with OTT video service Viu.[159]

C.6 Regulation of access to content

In March 2010, the MDA observed that *"competition centred around exclusive content has resulted in content fragmentation and rising prices for consumers, as well as increasing content costs for pay TV retailers".*[160] To remedy content fragmentation, the MDA introduced the Cross Carriage of Qualified Content Obligation.[161] The MDA argued that this move would shift competition in the market from an exclusive content-centric strategy to a focus on service differentiation and competitive packaging.

Under the obligation, a subscription TV licensee that has acquired exclusive content ("Qualified Content") would need to ensure that the content is available on all relevant platforms of the Receiving Qualified Licensee (RQL) in an unmodified and unedited form, to be made available at the same price, terms and conditions to any subscriber. RQLs must also carry the content on all relevant platforms.

The parties are expected to reach their own commercial agreement on the terms and conditions of cross carriage. Where a Supplying Qualified Licensee (SQL) and an RQL are unable to reach a mutually acceptable cross-carriage agreement, the parties may request dispute resolution by the MDA.

The measure does not require the subscription TV licensees to share the content, and the contractual relationship remains between the subscription TV licensee with the exclusive rights and the consumer. The other subscription TV licensee is only required to provide its platform to cross-carry the content to the consumer.

[158] http://www.starhub.com/about-us/newsroom/2015/august/starhub-unveils-new-online-streaming-service.html

[159] http://www1.singtel.com/about-Us/news-releases/singtel-expands-content-suite-with-launch-of-cast-ot-video-portal-ap.html

[160] http://www.mda.gov.sg/RegulationsAndLicensing/Policies/Documents/Conducive%20Media%20Environment/Closing%20Note.pdf

[161] http://statutes.agc.gov.sg/aol/search/display/view.w3p;query=CompId%3A90ec21fb-6dd2-4770-b436-484c0ee9a898%20ValidTime%3A20100115000000%20TransactionTime%3A99991231000000;rec=0

Regulated entities, both SQL and RQL, may seek an exemption from the cross carriage obligation. An exemption may be granted by the MDA if:[162]

- the exemption will benefit the public and the media industry;
- a technical constraint prevents or restricts a party from fulfilling its obligations;
- the channel or content provider does not have the relevant broadcast rights for Singapore and other neighbouring countries; and
- an RQL seeks an exemption and the SQL has failed to comply with its obligations.

It is likely that the cross-carriage obligation has helped to equalise the market shares of the two pay TV licensees, by making pay TV services more substitutable. Despite only launching its TV service in 2007, SingTel's TV customer base has grown rapidly to 424,000, while StarHub's has remained steady.

In 2013 SingTel sought an exemption from the cross carriage obligation for Barclays Premier League (BPL) live content, for which it had secured the rights for seasons 2013/2014 and 2015/2016. The MDA granted the exemption for channel packages containing BPL content – only requiring SingNet to offer standalone BPL content for cross- carriage. The exemption was granted on public interest grounds. The MDA continues to monitor SingTel's channel packages.[163]

Anti-siphoning regulation was introduced in 2003 under the MDA's Media Market Conduct Code to restrict pay TV operators from acquiring exclusive broadcast rights for certain programmes deemed to be of public interest and national significance. This is to ensure that these programmes are available to a wide audience on free TV services.

The anti-siphoning list was reviewed by the MDA in 2012 and includes rights to a variety of sports events including the Olympic Games, F1 Singapore, the SEA Games and World Cup matches involving the Singapore team.[164]

C.7 Net neutrality policy

In 2011, the IDA set out its policy approach to net neutrality.[165] The approach has three objectives:

- to enable a competitive internet access market, to reduce incentives for ISPs to engage in discriminatory conduct;
- to improve information transparency so that consumers can make a better informed choice of broadband package. One example of this would be the IDA's requirement that ISPs publish information on their network management practices; and
- to ensure consumers experience a reasonable quality of service. ISPs must meet the IDA's QoS requirements on network availability and latency. ISPs and network operators are also prohibited

[162] http://www.mda.gov.sg/RegulationsAndLicensing/Policies/Documents/Conducive%20Media%20Environment/Closing_Note_Consultation_on_CrossCarriageMeasure.pdf

[163] http://www.mda.gov.sg/AboutMDA/NewsReleasesSpeechesAndAnnouncements/Pages/NewsDetail.aspx?news=686

[164] http://www.mda.gov.sg/RegulationsAndLicensing/Consultation/Documents/Consultation%20Papers/Anti-Siphoning%20Closing%20Note%20to%20Public%20Consultation%20%2811%20Jan%202013%29.pdf

[165] https://www.ida.gov.sg/~/media/Files/PCDG/Consultations/20101111_Neteutrality/NetNeutralityExplanatoryMemo.pdf

from blocking legal internet content, but have flexibility to *"manage their network and offer niche or differentiated Internet service offerings".*

In 2014 SingTel told Mobile World Live that it had asked the IDA to allow it to charge OTT players for using its network. In response, the IDA said that the country's operators will not be allowed to block or charge OTT services.[166]

[166] http://www.mobileworldlive.com/singapores-regulator-warns-operators-ott-services