# The case for lifting ex-ante regulation of wholesale local access in the Netherlands

A report for KPN

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**Table of Contents**

# Executive Summary

The ACM proposed regulation of wholesale access provided by KPN in March 2015. Following the expression of serious doubts by the European Commission in a letter of 30 April 2015, the ACM revised its draft decision in July 2015, but nevertheless concluded that KPN has SMP and proposes price controls on copper loops, fibre to the cabinet (VDSL) and fibre to home (FttH).

In this paper we consider the appropriate form of market governance given national competition from cable, a rapid transition from copper loops VDSL and FttH and the development of voluntary access terms including long-term (seven year) agreements with key access seekers.

The ACM have concluded that no player has single dominance and that there is no joint dominance. We agree with this conclusion. The relevant question is then is whether the market would remain effectively competitive absent regulation.

Absent regulation we conclude that the market would remain competitive, that joint dominance would not arise and that KPN would provide open access. Our reasons for this conclusion are as follows:

- The access market is competitive and dynamic with KPN deploying new technologies including VDSL and FttH, the cable networks expected to deploy DOCSIS 3.1 in 2016, and over-the-top providing an additional source of competition in relation to applications including voice and content.
- The market for voice communication would be competitive absent regulation and the business and residential and business access markets can be considered separately.
- It is in KPNs interests to provide open access on commercial terms in order to compete effectively with cable. In July 2015 KPN announced long-term agreements regarding VULA access for VDSL with Online, Tele2 and Vodafone. KPN also offer active access to FttH on voluntary terms. These products are used by many WBA customers and there are long-term agreements in place in some cases.
- A rapid transition from copper loops to VDSL and fibre is planned (and facilitated by the agreements). Copper loop prices will therefore have limited relevance for a short transitional period. If concern remained regarding copper loop prices they could be subject to a safeguard cap.
- The ACM would, absent *ex ante* regulation, continue to monitor market developments and, as required, conduct market reviews. The market will be subject active to *ex post* supervision.

We therefore conclude that joint dominance, and harm arising from joint dominance, is unlikely to arise. Coupled with this conclusion we consider that voluntary agreements are likely to be superior to *ex ante* price controls as a form of market governance on investment and competition grounds.

In relation to investment long term voluntary agreements provide greater predictability and commitment whilst also allowing greater scope for efficient pricing. In relation to competition, improved prospects for investment will act as a competitive spur whilst flexibility to adapt allows KPN and downstream retailers to compete more effectively with cable. If anything, competition would in our view be more vigorous absent *ex ante* regulation.

We therefore propose that access regulation be lifted and that the ACM focus on *ex post* supervision. This transition may be facilitated by a strategic review of the functions and organisation of the ACM given the required change in role from price setter to market supervisor.

# 1 Introduction

## 1.1 Background to our analysis

At the end of March 2015 ACM notified the European Commission of its draft decision to regulate the wholesale local access (WLA) market in the Netherlands[1]. The Commission expressed serious doubts about this draft decision in a letter of 30 April 2015[2] and ACM revised its draft decision[3]. In summary ACM now argues as follows:

- There is no risk of single dominance by either KPN or UPC/Ziggo in the retail market for fixed Internet access (Paragraph 686 of ACM draft decision)
- There is too much uncertainty to state that there is a risk of joint dominance in this market but KPN and UPC/Ziggo are inclined to compete with each other less intensely in the absence of alternative providers (in this market) and this will cause consumer harm (Para 743)
- There is a risk that KPN has SMP in the PSTN retail market in the absence of regulation (Para 39)
- There is a risk that KPN will have SMP in the retail market for business network services in the next market review period (Para 41)
- Given this combination of circumstances ACM should regulate the wholesale local access (WLA) market
- This WLA market is national in geographic scope
- This WLA market comprises MDF, SDF and ODF access (for FttH) from KPN but excludes self-supply by the cable operators
- KPN has SMP in this market and should therefore be required to supply:
  - Unbundled copper loops at existing cost oriented prices with upward adjustments for inflation
  - VULA priced at the copper loop price plus embedded direct costs of supply - unless KPN can reach a voluntary agreement with access seekers
  - FttH passive loops priced with the intention of giving KPN a return on capital employed at its weighted average cost of capital plus a mark-up for the asymmetric regulatory risk

## 1.2 The objectives of our analysis

KPN asked Plum to assess the value of these arguments and, based on its assessment, to propose measures for regulating the Dutch market for fixed broadband access in a way which would both be in the best public interest and align with the requirements of the Commission's regulatory framework and associated recommendations.

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[1] Market 3a of the European Commission's 2014 Recommendation on relevant markets

[2] CASE NL/2015/1727: *Wholesale local access provided at a fixed location in the Netherlands,* 30 April 2015 http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=9437

[3] *Consultatie nieuw marktanalysebesluit ontbundelde toegang*, ACM, July 2015 https://www.acm.nl/nl/publicaties/publicatie/14504/Consultatie-nieuw-marktanalysebesluit-ontbundelde-toegang/

## 1.3 Structure of our report

With this objective in mind we consider:

- Whether the retail market for Internet access in the Netherlands is effectively competitive (Sections 2)
- The prospects of joint SMP emerging (Section 3)
- Whether ACM should withdraw access regulation (Sections 4 and 5)
- Whether withdrawal of WLA regulation would lead to consumer harm (Section 6)
- Whether long-term voluntary agreements offer a better way of dealing with competition problems in the retail Internet access markets than ex-ante regulation of the WLA market (Section 7).

We consider other arguments raised by ACM in its draft decision, but which are not relevant to this core debate, in annexes. In Annex A we consider whether the WLA market should include self-supply by cable and in Annex B we consider whether KPN would have SMP in a WLA market which includes self-supply by cable.

# 2 There is no individual SMP in the retail market for fixed Internet access

To establish that this market is effectively competitive we would need to show that there is neither a single operator with SMP (or dominance) in this market nor joint SMP in this market. We consider single SMP here and joint SMP in Section 3. ACM concludes in its draft decision (Para 685) that there is no operator with single dominance.

> *Given that the positions of KPN and UPC/Ziggo on the market for fixed internet access are approximately the same, and any competitive advantage is not, in the opinion of ACM, of sufficient extent to enable the parties to act independently of each other, ACM concludes that there is no risk of any individual SMP of KPN or UPC/Ziggo.* (Para 35)

Based on market share indicators in Table 2-1, we consider that individual SMP is highly unlikely over the next market review period.

**Table 2-1: Market shares in the retail Internet access market**

| Retail player | Q2 09 | Q2 11 | Q2 13 | Q2 15 |
|---|---|---|---|---|
| KPN retail | 45% | 42% | 41% | 40% |
| Alternative providers using KPN wholesale products | 17% | 15% | 13% | 12% |
| Cable | 38% | 42% | 46% | 47% |
| Other | 0.2% | 0.3% | 0.4% | 0.6% |

*Source: Plum analysis of Telecompaper reports on the broadband markets in the Netherlands*

We also note that the prospects of one player acquiring a major competitive advantage over the other during the next market review period are limited:

- Both KPN and UPC/Ziggo are capable of offering triple-play and quad-play bundles. UPC/Ziggo offers quad play via collaboration with a mobile operator and also holds mobile frequency spectrum
- Both KPN and UPC/Ziggo have networks capable of offering speeds in the hundreds of Mbps. Each network will have potential to offer speeds close to 1 Gbps (via FttH and DOCSIS 3.1 respectively).[4]
- Scale economies are not appreciably different between KPN and UPC/Ziggo
- Neither KPN nor UPC/Ziggo has any significant reputational advantage over the other.

We note that consumer outcomes in the Netherlands in the retail Internet access market are amongst the best in Europe in terms of levels of uptake,[5] below average prices,[6] and high download speeds.[7] As we discuss in Section 7, we believe that these outcomes would improve further in the absence of regulation.

[4] KPN's FttH network currently covers 25% of Dutch households. Cable operators are expected to deploy DOCSIS 3.1 in 2016.

[5] http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=2375

[6] ibid

[7] Akamai State of the Internet Report Volume 8/Number 1, Q1 2015

# 3 Joint dominance is unlikely to emerge

## 3.1 The concept of joint SMP

Joint (or collective) SMP (or dominance) refers to a situation where two or more firms together hold a dominant position in a market and the firms in question act together to exploit their collective market power. This could involve maintaining market prices above the competitive price level, or not competing in other areas such as product quality or market investment. Such coordination need not be the result of an explicit agreement to collude – that is a cartel. Rather, it could arise as a result of independent decision-making by firms, given conditions of interdependence in the market. This is termed tacit collusion. Regulators need to monitor markets for, and if necessary take steps to prevent, tacit collusion from damaging the competitive process.

The European Commission has published guidelines for the assessment joint dominance in the communications markets[8] to help NRAs here:

> *"When assessing ex-ante the likely existence or emergence of a market which is or could become conducive to collective dominance in the form of tacit coordination, NRAs, should analyse:*
>
> *(a) whether the characteristics of the market makes it conducive to tacit coordination; and*
>
> *(b) whether such form of coordination is sustainable that is, (i) whether any of the oligopolists have the ability and incentive to deviate from the coordinated outcome, considering the ability and incentives of the non-deviators to retaliate; and (ii) whether buyers/fringe competitors/potential entrants have the ability and incentive to challenge any anti-competitive coordinated outcome"*

Given this guidance we consider the prospects for tacit collusion between KPN and UPC/Ziggo in the retail Internet access markets and the prospects for these players sustaining this tacit collusion, given the activities of alternative providers whose presence is now guaranteed by KPN's voluntary agreements with them.

## 3.2 Tacit collusion in a regulated market

Our analysis of the risk of collective dominance in the retail internet access market is based on standard competition analysis. However, the counterfactual in this case involves a regulator who actively monitors the market. The presence of the ACM is therefore likely to provide additional deterrence to anticompetitive behaviour above and beyond that from ex post competition law alone.

## 3.3 The challenges of reaching tacit collusion

For tacit collusion to emerge KPN and UPC/Ziggo must arrive at a coordinated outcome without explicit communication. As ACM points out in its draft decision there are a number of market characteristics which could facilitate this. There are only two main market players - KPN and UPC/Ziggo (Para 709) which have similar market shares (Para 695); both players are vertically

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[8] Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ 165/6 of 11 July 2002. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF

 

integrated and face few (if any) capacity constraints (Paras 698 and 699); the market is now stable in terms of numbers of subscribers (Para 710); and the market elasticity of demand is low (Para 724).

But there are other factors which make a coordinated outcome difficult to achieve:

- There are too many differences between the technology and cost structures of the KPN and UPC/Ziggo networks for tacit collusion to be easily achieved. Broadband access is contended to a much greater degree in cable networks than in the KPN network and cable upgrades are significantly cheaper per connection than for KPN
- The market is not as transparent as ACM suggests. While prices and market shares are published there are a number of factors, listed in Figure 3-1, which make the market complex. This means that it is hard for one player to interpret the intent and likely consequences of initiatives by the other
- KPN and cable operators face uncertain choices about when and how to upgrade their access networks further. For KPN there is a choice between more vectoring, G.fast and expanding FttH coverage and for the cable operators there is a question about when to upgrade to DOCSIS 3.1.

**Figure 3-1: Factors which reduce market transparency**

- The products and price points offered are likely to reflect the underlying differences in KPN's and UPC/Ziggo's networks and what speeds each can provide to a given location – for example, in non-FTTH areas KPN may not be able to match the speeds on cable. Indeed, KPN's own offering is differentiated between FttH areas (25% of Dutch households) and other areas.
- KPN is also active with different brands, including the budget Telfort brand and the premium XS4ALL brand.
- Uncertainty about customer willingness to pay for higher speeds may make it hard to compare, say, a 20 Mbps connection with a 40 Mbps one (each party may have different market intelligence in this respect).
- The growth in quad-play bundles will also add complexity to price comparisons.
- Some discounts may not be readily transparent – for example retention deals offered over the widely-used online customer retention shops and the save desks (special 1-to-1 offers over the phone to customers who ask to leave).

RBB provides more detailed analysis of the challenges which KPN and UPC/Ziggo face in tacitly agreeing on a coordinated outcome[9].

## 3.4 Is a coordinated outcome sustainable?

To be sustainable, coordination requires a credible deterrence mechanism to dissuade firms from deviating from the coordinated outcome. Since firms can gain in the short term by deviating, the retaliation mechanism must be of sufficient strength to invalidate this strategy.

It is difficult to identify such a mechanism in the Dutch retail Internet access market. ACM suggests (Para 731) that one player might punish the other for deviation through aggressive introductory offers to win the other party's customers, and then quickly revert to coordination. This does not seem to us a

[9] *It takes two to tango: Is there a risk of joint dominance in the Dutch broadband market?* RBB Economics, October 2014 https://www.acm.nl/nl/download/bijlage/?id=12297

credible mechanism in that the costs of deviation would appear relatively slight, since the coordinated outcome (with higher profits in the longer-term) is quickly restored. If both firms follow this logic (or expect the other to do so) the result is competition.

Perhaps more importantly ACM does not suggest any retaliatory mechanism if one party invests in network upgrades to deviate from the coordinated outcome. Indeed as RBB (2014) points out there is an asymmetry between KPN's and UPC/Ziggo's networks: UPC/Ziggo has more scope to increase the speeds it offers (at least compared to the DSL-based parts of KPN's network). KPN would appear to lack any retaliation mechanism in this situation.

Coordination could also be undone by an existing market player or new entrant destabilising the coordination. There are several reasons to think that competitors (both existing and potential) could constrain any coordination:

- KPN and UPC/Ziggo are constrained in their activities in the retail market by other operators – such as T-Mobile, Vodafone, Online and Tele2 - making tacit collusion more difficult. We note that the voluntary agreements now make it impossible for KPN to foreclose on these alternative providers for many years
- These alternative providers rely to some extent on KPN for WLA in order to compete. But they also bring other competitive strengths to the retail market – for example in terms of their customer base, their access to content and their supply of mobile services. This is especially important in the Netherlands where quad-play is prevalent.[10]
- Mobile is a credible alternative for some customers. In Italy, Spain and the UK, 17%, 13% and 10% of households respectively are mobile-only for voice and data services.[11] Although the corresponding number for the Netherlands is only 1% of households, data from elsewhere in Europe suggest that a competitive constraint from mobile might emerge in future
- OTT content providers, like Netflix, could constrain the pricing of bundles. Faced with price rises, consumers have the option of unbundling and purchasing internet access as a standalone service, relying on OTT to provide content.

## 3.5 Conclusion

Our analysis implies that the prospect of KPN and UPC/Ziggo exercising joint dominance are slim given:

- The presence of a regulator in the market
- The difficulty of arriving at a coordinated outcome
- The lack of a credible retaliatory mechanism if there is deviation from this outcome
- The presence of competitive constraints from existing market players, supported by long term access agreements
- Potential entrants and alternative technologies, which will destabilise any coordinated outcome.

[10] *Competition between internet providers has shifted to all-in-one packages,* ACM press release, 7 August 2015

[11] Special Eurobarometer e-Communications Household Survey, March 2014. https://ec.europa.eu/digital-agenda/en/news/special-eurobarometer-414-e-communications-household-survey

# 4 The retail market is effectively competitive and ACM should withdraw access regulation

## 4.1 The effect of withdrawing existing regulation

While there is no SMP in the retail Internet access market now, it is possible that withdrawal of existing ex-ante regulation by ACM would lead to SMP. However we consider this unlikely for the following reasons:

- Hypothetically, and based on the results of a survey commissioned by ACM,[12] if KPN were to refuse wholesale access to the alternative providers, cable operators would still have a bigger share. In any case this is no longer a possibility given long term access agreements.
- KPN and the main alternative providers (Online, Tele2 and Vodafone) reached long-term voluntary agreements in July 2015. Under these agreements KPN will supply VULA (for local access) and WBA (for national access) products for the next seven years (with tacit renewal for an indefinite period) at agreed wholesale prices. **Figure 4-1** lists some of the key characteristics of these agreements
- These contractual agreements make it impossible for KPN to foreclose on the alternative providers in the way ACM fears over the next seven years
- KPN has made a reference offer to all other alternative providers.[13] This is closely based on the agreements negotiated with the three main alternative providers
- Now that these agreements are in place KPN plans to move its copper network over to VDSL based access in the next 18 months. Such a move should lead to greater cost efficiency and higher speeds for end users
- As a result of this development demand for unbundled copper loops could drop very substantially within the next two years
- KPN also offer active access to FttH on voluntary terms. These products are used by many WBA customers and there are long-term agreements in place in some cases.

The ACM would, in any case, continue to monitor the market, conduct market reviews as required, and to intervene if justified. We consider this point further in Section 5.

[12] *Consumer research: purchase and switch behaviour fixed Internet*, B16511-3, Blauw, March 2014

[13] http://www.kpn-wholesale.com/media/612624/20150529_wba_annex-4__pricing__cm_v3_17b__geldig_per_1_jul_2015_.pdf

**Figure 4-1: Characteristics of the long-term voluntary agreements between KPN and the main alternative providers**

The agreements cover VULA and WBA services using VDSL from the central office or cabinet. They do not cover use of FttH or unbundled copper loops for ADSL services

The agreements are no longer contingent on ACM withdrawing regulation (as KPN proposed for previous voluntary agreements)

The agreements have been concluded for seven years with tacit renewal for an indefinite period.

The agreement set price conditions for the next seven years under which

- KPN cannot raise prices by more than CPI but
- There are provisions for negotiated price adjustments as and when KPN offers significantly higher speeds through technology changes such as vectoring or G.fast deployment

The agreements allow KPN to limit the use of unbundled copper loops in areas where it rolls out VDSL or G.fast, provided it offers a suitable VDSL-based product as a substitute

A substantial proportion of the migration costs of an alternative provider, when moving a customer from an ADSL service based on unbundled copper loops to a higher speed VULA based service, are borne by KPN

The agreements give KPN greater freedom to price-product differentiate at the wholesale level than under the cost oriented price regulation proposed by ACM.

In relation to FttH, FttH based WBA services have been (and will continue to be) part of KPN's voluntary WBA portfolio. This service is used by many WBA customers. In some cases long term arrangements are in place.

Finally, we note that the ACM: *"welcomes the arrangements made between Dutch telecom company KPN and rival companies Tele2, Online and Vodafone about access to KPN's network."*[14]

Given this analysis we conclude that withdrawal of ACM's proposed regulation of the WLA market would not lead to SMP over the next market review period.

## 4.2 Compliance with Commission requirements

At the core of the European Commission's regulatory framework for electronic communications networks and services are the principles of delivering services through market mechanisms wherever possible and restricting ex-ante regulation to the minimum which is required to remedy market failures and competition problems. The Commission's Recommendation on relevant markets of 2014[15] is explicit on what should be done in these circumstances:

> *"It should be assessed whether retail markets are effectively competitive from a forward-looking perspective in the absence of regulation based on a finding of significant market power" (*Recital 8)
>
> *"If the retail market concerned is not effectively competitive from a forward-looking perspective in the absence of ex ante regulation, the corresponding wholesale market(s) susceptible to ex ante*

[14] ACM, 28 July 2015. "ACM gives Dutch telecom companies room for making arrangements". https://www.acm.nl/en/publications/publication/14547/ACM-gives-Dutch-telecom-companies-room-for-making-arrangements/

[15] *Commission staff working document explanatory note accompanying the document: Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation*, October 2014

*regulation in line with Article 16 of Directive 2002/21/EC should be assessed […] On the other hand, if the retail market concerned is effectively competitive from a forward looking perspective in the absence of ex ante wholesale regulation on the corresponding relevant market(s), this should lead the national regulatory authority to conclude that regulation is no longer needed at wholesale level"* (Recital 10).

The analysis set out in Sections 2 and 3 suggests that the retail Internet access market in the Netherlands has now developed in a way which comes close to meeting these requirements. In particular there is no single or joint SMP in this market and withdrawal of economic regulation would not change this situation. So the market is effectively competitive absent regulation.

In its draft decision ACM argues that it does not need to consider conditions in the retail Internet access market before considering requirements for regulation of the WLA market. According to the Commission's serious doubts letter of 30 April:

*"ACM explains in the response to the RFI [from the Commission] that a single/joint dominance analysis at retail level is not a legal requirement in the Netherlands to start the wholesale analysis and impose obligations"*

However, the Commission places emphasis on analysis of conditions in retail markets. In particular the 2014 Recommendation on relevant markets states that:[16]

> *"…if the retail market concerned is effectively competitive from a forward looking perspective in the absence of ex ante wholesale regulation on the corresponding relevant market(s), this should lead the national regulatory authority to conclude that* ***regulation is no longer needed at wholesale level****"* (Recital 10 with emphasis added)
>
> *"If [...] a national regulatory authority concludes that, absent regulation at the wholesale level, the retail market(s) as defined display(s) sustainable competition, it should also conclude that ex ante regulation is no longer needed at the wholesale level."* (Recital 19)

We have already established in Section 2 and 3 that the retail Internet access market in the Netherlands is "*effectively competitive from a forward looking perspective in the absence of ex ante wholesale regulation."* We conclude that, if it wishes to comply with the requirements of the Framework Directive and the 2014 Recommendation on relevant markets, ACM should withdraw its regulation of the WLA market.

## 4.3 Is regulation of the WLA market required because of SMP in other markets?

ACM argues that KPN probably has SMP in the retail fixed telephony market and the business network services market and, if so, this provides further justification for regulating the WLA market. ACM does not offer definitive analysis or conclusions here because it has still to complete its review of these markets. We suggest that there are strong arguments against regulating the WLA market to deal with competition problems raised by any SMP in these two retail markets.

[16] We note that prior to the 2014 recommendation, the Commission received two notifications, one from Spain in relation to mobile and one from Malta relation to fixed, both of which sought to find joint SMP in the wholesale market while holding that the retail market was competitive. The Commission responded by stating that a finding of SMP in the retail market was "*not indispensable*" to a finding of SMP in the wholesale market. Source: *Oligopoly analysis and regulation: comments to BEREC*, Richard Feasey, 2015.

### 4.3.1 The voice telephony market

In the case of the voice telephony market:

- No relevant PSTN services are offered based on ULL. Instead access seekers use WLA inputs to provide voice over broadband in conjunction with broadband Internet access. This means that decisions on whether to regulate WLA should be based on competitive conditions in the retail Internet access market and not on conditions in the retail PSTN/ISDN market
- The 2014 Recommendation on relevant markets has dropped voice telephony from the list of markets susceptible to ex-ante regulation. The onus is therefore on ACM to demonstrate that it should deviate from this recommendation
- It is debatable whether the supply of PSTN/ISDN services constitutes a separate market or whether other products such as mobile voice telephony, OTT communication services (including services targeted at the enterprise market such as 'Slack'), and voice over broadband services should either be included in the voice telephony market alongside PSTN/ISDN, or treated as competitive constraints when deciding whether to regulate this market. This is especially true in the Netherlands where use of PSTN/ISDN has already fallen to low levels[17]
- On the assumption that PSTN/ISDN is a separate retail market it is important to recognise that PSTN is a shrinking, legacy, retail market where regulation at the wholesale level to stimulate competition at the retail level is likely to be economically inefficient. If the public interest is to be met then the focus here should be on taking measures to enable an efficient migration away from PSTN/ISDN to voice over broadband. This would enable the closure of PSTN/ISDN services and substantial cost savings to be made.
- We note that, in its current strategic review[18], Ofcom has identified the emergence of OTT personal communication services as a reason to relax regulation of the voice telephony market in the UK. See Figure 4-2 below

**Figure 4-2: Extracts from Ofcom discussion document on its digital communications review**

14.28: "Taking a forward view, OTT communications services may reduce the need to impose competition regulations on retail communications services. Where OTT services represent a close substitute for traditional services they could weaken the need for wholesale regulation."

14.29: "A particular example might be voice services, where OTT based communications services can substitute more traditional services for broadband enabled customers. This might reduce the need for some more traditional service based regulation, such as fixed and mobile call termination and fixed call origination regulation."

14.32: "In addition to growing OTT voice substitution, we expect growing substitution of fixed voice calls with calls made from mobiles due to increasing consumer demand for mobility (including nomadic wireless). This may also enable deregulation of voice services in future."

[17] According to Telecompaper *Dutch fixed telephony market Q1 2015* the proportion of voice services subscribers using PSTN/ISDN fell from 17% in Q1 of 2014 to 14% 12 months later

[18] *Strategic Review of Digital Communications Discussion Document,* Ofcom, 16 July 2015 http://stakeholders.ofcom.org.uk/consultations/dcr-discussion/

### 4.3.2 Business services market

In the case of the business network services market there are questions of market definition. ACM defines the business network services retail market as "*the national market for traditional leased lines, closed VPNs, dark fibre and light paths, and open VPNs*" (Para 40) and concludes that this market cannot be divided by product features such as speed and quality of service. This definition is somewhat different from the product scope defined by the European Commission for Market 4 - wholesale high-quality access provided at a fixed location. This market is differentiated from the mass-market for broadband connections and is characterised by:

- Products which offer dedicated and contented connections with symmetric upload and download speeds; or
- Asymmetric products which offer guaranteed availability and minimum service characteristics.

ACM has estimated that there are around 134,000 business network service connections. This compares with over 7 million mass market broadband connections. At the passive wholesale level KPN supplies about 80% of these business network service connections.

There is now a general trend by businesses to use mass market broadband products.[19] This reflects:

- The higher speeds and better (if best efforts) quality of service offered by such products at significantly lower retail prices than dedicated connections
- The move towards business applications which are designed to be accessed by a range of devices at a variety of locations - including devices used at home and on the move.

According to confidential information supplied by KPN to ACM in April 2015 the proportion of business network service connections which use mass market products is growing rapidly and has now reached over half of the total.

Given these market characteristics ACM has two main options for regulation:

- It can define the retail business network services markets as the set of broadband connections used by business organisations, assess this retail market for SMP and then regulate at the wholesale level to deal with any competition problems. Under this approach ACM might conclude that there is a need to regulate KPN in the WLA market
- Alternatively it can take the approach of defining the product scope of this market in terms of high-quality access. It would then exclude use of mass market broadband products from this market, analyse the narrower market for SMP, and impose appropriate remedies. Under this approach ACM would consider the mass-market of over 7 million connections, and the high-quality access market of less than 100,000 connections[20], independently.

It is clear from the Explanatory Note to the Commission's 2014 Recommendation on relevant markets that it prefers the latter approach. We also note that this is the approach adopted by Ofcom in its recent business connectivity market review[21]. We suggest that ACM should consider adopting this approach in the Netherlands.

[19] This trend has also been observed by ACM. See paragraph 609 and Chapter B.6 of the draft decision.

[20] Once mass-market connections used by business organisations are excluded

[21] *Business Connectivity Market Review*, Ofcom, May 2015 http://stakeholders.ofcom.org.uk/consultations/bcmr-2015/

# 5 If joint dominance does emerge then ACM has the powers to act

Telecommunications is a sector which is characterised by high sunk costs and major barriers to entry in the provision of fixed access networks. In the case of the Netherlands there were two (near) nationwide access networks which were suitable for the delivery of electronic communications services at the beginning of the 1980s – the coaxial cable network built by the (then) local cable companies to deliver analogue television services and the copper access network built by the (then) monopoly PTT to deliver voice telephony services.

Both of these networks represent very substantial sunk costs; both have been upgraded over the years to deliver digital communication services; and it is not surprising that, together, they now form the basis of a near duopoly in the provision of wholesale fixed broadband services aimed at the consumer market. In consequence there is always a risk that joint dominance in the retail Internet access market might develop in future. The key question is how best to safeguard against such joint dominance in the public interest.

ACM appears to agree with us that there is little chance of joint dominance emerging over the next market review period. Yet it proposes to regulate KPN in the WLA market as a way of preventing such a possibility. This does not appear to us to be a proportionate response, given that:

- The risk of joint dominance is slight
- The benefits of relaxing regulation in the WLA market are likely to be substantial – as we argue in Section 7
- ACM will monitor the market and can, at any time, initiate a fresh market review to reconsider the case for regulating the WLA market, if and when it sees concrete evidence of joint dominance emerging in the retail Internet access market as it indeed already has considered in the case of the SMS (mobile texting) termination market.

We also note that such an approach, in which ACM forbears from regulation of the WLA market but monitors market conditions for evidence of consumer harm, gives KPN strong incentives to ensure that its voluntary long-term agreements with the alternative providers work in a satisfactory manner.

# 6 Withdrawal of access regulation will not lead to consumer harm

Even though ACM downplays the likelihood of joint dominance in the retail Internet access market, it argues that:

- KPN and UPC/Ziggo would be incentivised to compete with each other less in the absence of alternative providers in the retail Internet access market (Para 743)
- This would cause consumer harm
- Regulation of the WLA market is required to ensure alternative providers remain in the market so as to avoid this consumer harm.

However, in view of the following, and particularly the subsequent long term open access agreements, we consider the ACM concerns misplaced:

- KPN has reached commercial negotiated agreements with the main alternative providers - Vodafone, Online and Tele2 - to provide them with key products in the WLA market for the next seven years or more. These agreements make it impossible for KPN to foreclose on the access providers for a considerable period of time
- KPN and the alternative providers entered voluntarily into long-term contracts in July 2015 at a time when the parties were fully aware of the alternative regulatory proposals on offer from ACM. In other words KPN and the alternative providers both see the voluntary agreements as preferable to ACM's proposals for regulating the WLA market. Through these agreements KPN foregoes profits in the retail market which it might generate if it foreclosed on the alternative providers. But it also generates additional profits through its wholesale products provided that the alternative providers can help it win more customers from the cable operators. The fact that KPN has entered into voluntary agreements suggests that it sees the alternative providers as retail distributors which can help it compete more profitably with cable operators rather than as retail players which should be driven from the market
- KPN has incentives to offer open access – both as a way to measure the efficiency of its retail business and as a way to create incentives for this retail business to improve its efficiency through competition with the alternative providers. Such a competitive process should enable KPN as a whole to compete more effectively with the cable operators
- As ACM acknowledges, there is little chance of single or joint dominance over the next market review period in the retail Internet access market. Without such dominance, it is reasonable to assume, as the European Commission does in its Framework Directive, that KPN and UPC/Ziggo will continue to compete vigorously in the retail market for Internet access and that, as a result, consumer harm will not rise as ACM suggests.

Given this analysis we conclude that:

- KPN would not foreclose on the alternative providers
- The consumer harm which might arise if the alternative providers were to exit the market is therefore very unlikely to rise
- Regulation of the WLA market is not required to prevent the access providers leaving the market.

# 7 Long-term voluntary agreements are superior to ACM's proposed access regulation

## 7.1 Voluntary long-term agreements

The three main alternative providers, which rely on KPN's wholesale products as inputs to their own retail services, have entered into voluntary long-term agreements[22] with KPN to purchase VDSL-based wholesale products for both local and national access. Figure 4-1 presents a brief description of some of the main characteristics of these agreements. In particular we note that the agreements cover VDSL-based services but not ADSL services based on unbundled copper loops or FttH-based services.

These agreements were reached by the parties in full knowledge of ACM's proposals for cost oriented price regulation of KPN's VDSL-based VULA products. This indicates that both KPN and its retail partners, the alternative providers, see these voluntary agreements as superior to ACM's regulatory proposals from a commercial perspective. The most likely explanation for this preference is that:

- KPN and its retail partners see voluntary long-term agreements as a more profitable way to compete with cable than relying on ACM's regulatory proposals
- KPN is attracted to these agreements because they give it greater freedom to upgrade its networks to deliver better and more cost-effective broadband services than ACM's proposals
- The retail partners are attracted to the agreements because they offer a better way to meet their need to offer retail customers high-speed broadband services so as to halt their declining market share (as illustrated in Table 2-1).

The behaviour of KPN and its retail partners suggest that the voluntary long-term agreements are better from a commercial perspective then ACM's regulatory approach. But are they in the public interest?

We note that a recent paper proposed reconsideration of ex ante regulation in the Dutch market. The paper noted concluded that: [23]

> *"…access regulation in its current form is not the most effective model to respond to the change in the market";* and that
>
> *"In a competitive market, such as the Dutch market, negotiation is a plausible model to increase dynamic efficiency if it is accompanied by regulatory threat when negotiation fails."*

The ACM also noted that:[24]

> *"These arrangements create certainty in the telecommunications sector for an extended period of time, which is positive for investments in telecom networks."*

We consider this question below by considering four issues:

- The impact on possible foreclose on access seekers

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[22] The agreements are for seven years with tacit renewal for an indefinite term

[23] *Reconsidering ex ante Regulation in the Dutch Electronic Communications Market,* Kocsis *et al*. 2015, Digiworld Economic Journal, no 98(2).

[24] ACM, 28 July 2015. "ACM gives Dutch telecom companies room for making arrangements". https://www.acm.nl/en/publications/publication/14547/ACM-gives-Dutch-telecom-companies-room-for-making-arrangements/

- The impact on investment incentives
- The impact on efficient migration from legacy services
- The impact on competition.

## 7.2 Foreclosure

From a public interest perspective we can see little difference here between the voluntary agreements and ACM's proposed regulation in terms of foreclosure. In either case KPN cannot refuse to supply the alternative provider. In one case it is bound to supply through a legal contract; in the other it is bound by ex-ante obligations imposed by ACM.

## 7.3 Investment incentives

Long-term voluntary agreements offer stronger incentives for efficient investment by both KPN and its retail partners than ACM's regulatory proposals. There are two main differences.

First the voluntary agreements for VDSL-based wholesale products offer greater investment certainty than the standard market review process. A seven-year voluntary agreement offers investment certainty for more than two market review periods. In comparison, based on behaviour to date, NRAs find it difficult to commit to maintaining the same regulations from one review period to another. We note here that, in its Recommendation on non-discrimination and costing methodologies, the European Commission seeks the kind of investment certainty offered by the voluntary agreements. For example:

> *"The aim of this Recommendation is to improve the regulatory conditions needed to promote effective competition, enhance the single market for electronic communications networks and services, and foster investments in next-generation access (NGA) networks…..It also aims to increase legal certainty and regulatory predictability in view of the long-term horizons for investment in NGA networks"* (Para 1 of the recommendation); and

> *"This Recommendation will be reviewed once its impact can be fully assessed, which is not expected to be the case before seven years following entry into force."* (Para 60)

Long term agreements, by supporting predictability and offering contractual commitment, should help promote efficient investment including investments with a longer-term payoff. Such investments should lead to both productivity and dynamic efficiency gains when compared with the counterfactual of ACM regulation. This is clearly in the public interest.

Second the voluntary agreements offer greater scope for price-product differentiation at the wholesale level than ACM's proposed regulation. This should enable both KPN Retail and the alternative providers to tailor retail service offerings so as to more precisely meet the needs of different segments of the consumer market. This should increase both economic welfare and take-up of high-speed broadband services. Again this is a principal that is central to the Commission's Recommendation on non-discrimination and costing methodologies:

> *"…pricing flexibility at wholesale level is necessary to allow both the access seeker and the SMP operator's retail business to introduce price differentiation on the retail broadband market in order to better address consumer preferences and foster penetration of very high-speed broadband services"* (Para 49)

## 7.4 Efficient transition from legacy services

The Netherlands is currently in a process of transition from legacy broadband services, based on unbundled copper loops, to high-speed broadband services based on VDSL, FttH and DOCSIS 3.1. A key part of this transition is the process of retiring legacy services without damaging the competitive process or the quality of services available to end users. Retirement of legacy services is important as a way of enabling network rationalisation and greater cost efficiency - which in turn provides an additional motivation for investment.

The voluntary agreements include, for those currently reliant on legacy copper service inputs, support in achieving transition together with flexibility over retirement of legacy services. This approach aligns the interests of KPN and their retail partners - both in terms of cost reductions and the ability to retain and acquire customers in the face of cable competition.

In the past NRA's, including ACM, have been reluctant to foster rapid transition and network rationalisation. Instead they have maintained obligations in relation to legacy service provision alongside regulated access to new services.[25] Yet flexibility is required for efficient migration.[26]

## 7.5 Competition at the retail level

When compared with the counterfactual, in which VDSL-based wholesale products are supplied to conform to ACM's proposed regulation, the effect of the long-term voluntary agreements is to increase competition at the retail level between the unregulated cable operators on the one hand and KPN and its retail partners on the other. Voluntary agreements do this by:

- Improving investment certainty and investment incentives for KPN and its retail partners
- Giving greater flexibility to KPN for price-product differentiation at the wholesale level
- Enabling KPN to make a faster and more efficient transition away from legacy broadband products to high-speed broadband and as a result
- Allowing KPN and its retail partners to better retain and acquire customers from cable
- Stimulating cable operators to invest in DOCSIS 3.1 earlier than they otherwise would.

Such increased competition should generate significant benefits for end-users in terms of faster innovation, more value for money (e.g. upgrades for the same price) and increased take-up of high-speed broadband.

## 7.6 Unbundled copper loops and FttH

The analysis set out above suggests that moving to long-term voluntary agreements on supply of wholesale VDSL services is likely to be in the public interest. However these agreements do not apply to unbundled copper loops or wholesale products using KPN's FttH access network. What arrangements are likely to be in the best public interest here?

[25] The FCC has proposed a supportive approach to transition, provided an equivalent service is available on the new platform. https://www.fcc.gov/blog/advancing-technology-transitions-protecting-consumers-competition-and-public-safety-ip-world

[26] *Leaving a Legacy: enabling efficient network transition,* Plum, February 2015 http://www.plumconsulting.co.uk/pdfs/Plum_February_2015_Leaving_a_legacy.pdf

### 7.6.1 Unbundled copper loops

At the infrastructure level KPN currently supplies around 3.6 million broadband connections for use by Dutch households. Of these around 500,000 retail connections, mainly from Online and Tele2, use unbundled copper loops to provide basic broadband. Now that the voluntary long-term agreements for VDSL connections are in place, KPN expects this number to reduce to fewer than 150,000 (or just over 4% of KPN's wholesale broadband connections) over the next two years.

Given these developments it may be in the public interest for ACM to lift regulation on the price of copper loops, so as to give KPN the opportunity to manage an efficient transition to new high-speed services, perhaps subject to a safeguard price cap of CPI + X% per annum.

### 7.6.2 FttH-based wholesale products

KPN's FttH access network now passes more than 2 million households (out of 7.2 million). Around 700,000 households use this access network for active services. A very substantial majority of FttH services are provided to end users by KPN Retail, and most of the remaining FttH connections are used by access seekers choosing active rather than passive wholesale products[27].

Our analysis suggests that ACM's requirement for passive fibre loops is unlikely to be in the public interest in that:

- This ruling, in which fibre loops are sold by KPN at (essentially) a single price to access seekers, reduces the scope for price-product differentiation in the market[28]
- This weakens the investment case for KPN expanding its FttH footprint
- It also reduces the ability of KPN and its retail partners to compete with cable operators for customers wanting very high-speed broadband services.

The net result is to distort KPN's investment incentives - against investment in FttH and in favour of investment in lower functionality VDSL-based services.

It is likely that the public interest would be better served by ACM lifting its regulatory requirements for passive fibre loops. Access seekers would still have a choice of active wholesale products based on FttH. We note for example that KPN already offers active access to FttH on voluntary terms. These products are used by many WBA customers and there are long-term agreements in place in some cases.

## 7.7 Why can ACM not mimic voluntary agreements?

It is illuminating to consider why ACM cannot mimic the effect of voluntary agreements through regulation. Our answer, and one shared by the Noble Laureate Jean Tirole[29] is that market

[27] Which are price regulated on a cost oriented basis by ACM

[28] Passive access allows access seekers to differentiate their product offerings at the retail level through use of different technologies on the fibre loop. But it substantially reduces scope for price-product differentiation - in that arbitrage by competing access seekers drives retail prices towards the (single) wholesale price of the passive loop plus a mark-up. Price-product differentiation at the active wholesale level is needed to sustain retail price differentiation and so deliver the range of retail products and prices needed by different segments of the retail market. See for example: http://www.plumconsulting.co.uk/pdfs/Plum_Insight_May2012_Fibre_investment_-_what_when_where.pdf

participants are better informed regarding what is required – both to meet customers' needs and to compete effectively against cable. In other words they are better placed to address the information asymmetries that handicap a regulator's ability to set optimal access supply conditions.

## 7.8 Safeguards and confidence building measures

Our analysis suggests that a shift from ACM regulated price controls to flexible long term agreements would promote the public interest. However such a move is a departure from a long established approach and necessarily involves some uncertainty regarding future developments. With time we would expect confidence in the new approach to grow. However stakeholders may wish to consider additional confidence-building measures. In particular market participants and the ACM may want to see independent means of verifying that long term agreements work and for resolving any disputes.

There are a range of options here, should additional confidence-building measures be considered desirable. In particular alternative dispute resolution services are available, and parties can also appoint arbitrators. Establishing a mechanism in advance is also a possibility. For example, in the UK the broadband transmission market (in which Arqiva is the sole upstream provider) is governed predominantly by long term contracts supplemented by statutory adjudication[30]

## 7.9 A future role for ACM

It is likely that the approach proposed in this paper would not have been possible had ex ante regulation not fostered the emergence of access based competition. However, if future market governance is to be based primarily on competition and contract, the role of ACM would need to be redefined. For example:

- Rather than setting prices, the ACM might focus on market monitoring and identifying the circumstances in which a return to ex ante regulation would be in the public interest - given a counterfactual of voluntary safeguards and competition and applying the principles of the European Commission's regulatory framework.
- In this new role the ACM might use the threat of regulation to help minimise the likelihood that ex ante intervention would be required in future, since market participants would have incentives to ensure that the more efficient mechanism of competition and contract continues to perform well.
- Market participants might continue to have the option of continuing with their own voluntary governance arrangements if these are considered superior to any reinstated ex-ante remedies. Ex ante regulation could then be thought of as a backstop reference offer against which longer term arrangements might be negotiated.

Whilst the ACM would continue to play an important role, it is rather different to the present role - especially in relation to price setting. It may be that a strategic review of the role of the ACM would be required to implement such a change. We note that Ofcom in the UK has undertaken such fundamental reviews in 2005 and 2015, so there is precedent for this sort of reassessment.

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[29] *Market power and regulation*, Jean Tirole, October 2014 http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2014/advanced-economicsciences2014.pdf

[30] http://adjudicator-bts.org.uk/adjudicator.htm

# Annex A: The case for including self-supply by cable in the WLA market

The analysis in our report suggests that there are strong arguments not to regulate the WLA market in the Netherlands from now on. But on the assumption that such regulation should be considered there are questions about the scope of the WLA market and whether it should include self-supply by cable operators. ACM argues that cable self-supply should be excluded from the WLA market on the grounds that:

- It is not a ***direct*** substitute for unbundled local access because it is not technically or economically feasible to provide unbundled local access over a cable network (Paras 77 to 81)
- It is not an ***indirect*** substitute in that the retail prices charged by the cable operators do not exert sufficiently strong indirect pricing constraints on KPN's WLA prices as to make wholesale price rises unprofitable (Paras 82 to 85).

In terms of direct substitutes we note that:

- UPC, Caiway and several other cable operators have voluntarily offered wholesale access to their networks. So it is technically feasible, and can be economically viable, for cable operators to offer wholesale broadband access
- The architecture of cable networks means that cable operators would find it challenging to offer pure VULA functionality[31]. But this does not mean that they cannot provide other forms of wholesale broadband access (WBA) services to access seekers at both local and national levels. If offered, this would create substantial competitive constraints on the prices which KPN could charge for WLA services and it would be logical to include these services within the scope of the WLA market
- UPC/Ziggo has compelling strategic reasons not to offer WBA over its network. Offering WBA would require ACM to expand the scope of the wholesale market to include cable self-supply. This might:
  - Require ACM to lift its findings of SMP by KPN in the WLA market. This would be against UPC/Ziggo's commercial interests in that it would allow KPN to compete more effectively with UPC/Ziggo in the retail broadband market (as discussed in Section 7 above)
  - Lead ACM to regulate both KPN and UPC/Ziggo in the WLA market (if it can demonstrate joint dominance).
- If we accept ACM's reasoning that cable self-supply should be excluded from the WLA market because it is technically and economically infeasible then this could lead to perverse outcomes. ACM's argument would apply regardless of the cable retail market share. So, applying ACM's logic to a (hypothetical) situation in which UPC/Ziggo enjoyed (say) a 70% share of the retail market we would find that:
  - UPC/Ziggo would have SMP in the retail Internet access market and KPN would not
  - KPN would be regulated at the wholesale level

[31] As defined by the European Commission on Page 43 of its explanatory note on the 2014 Recommendation on relevant markets.

- By refusing to supply alternative providers, UPC/Ziggo, as the dominant operator in the retail market, would be guilty of anti-competitive conduct but would escape ex-ante regulation.

In combination these points suggest that ACM should:

- Include cable self-supply in the WLA market
- Consider the extent to which the WBA offered over the KPN network and over the cable networks differ and how these differences might effect SMP assessments and any remedies required.

KPN is responding to ACM's analysis of indirect pricing constraints and we do not comment on this matter.

# Annex B: Is KPN dominant in a WLA market which includes cable self-supply?

If ACM could justify regulating the WLA market and accepts that cable self-supply is part of this market, would it find KPN dominant in the WLA market? ACM argues that it would (Paras 142 to 150) given that:

- KPN has a significantly bigger market share at the wholesale level than the cable operators (Para 139). Our estimates of Figure 2-1 lead us to question this statement. In mid-2009 KPN enjoyed a 62% share and cable a 38% share of the wholesale market by broadband connections. Today the numbers are 52% and 47% respectively. So there is now little difference in market shares and the gap is steadily disappearing
- KPN has 100% coverage of the market whilst UPC/Ziggo has only a 90% coverage (Para 143). This is a minor difference and a comparison which ignores the fact that KPN faces competition from cable operators in 98% of the Dutch market[32]
- KPN has much more extensive coverage of the business market (Para 144). We discuss this point in Section 3.2 and conclude that the WLA and business network services markets should be analysed independently of each other
- KPN's (wholesale) market share exceeds that of UPC/Ziggo (Para 145) and this gives it greater economies of scale. This argument may be fallacious in that there is no evidence as to when the economies of scale in WLA provision are exhausted. More importantly it is significantly cheaper for a cable operator to upgrade its network to offer high-speed broadband than for KPN to do the same. Based on discussions with KPN, and drawing on previous confidential work done by Plum to develop business cases for NGA rollout, we estimate that (excluding CPE costs):
  - It will cost UPC/Ziggo around €40 per home connected[33] to upgrade to DOCSIS 3.1 (assuming that UPC/Ziggo connects one in two homes passed)
  - It costs KPN around €200 per home connected to upgrade from copper based ADSL services to VDSL from the cabinet (assuming that KPN connects one in two homes passed)
  - It costs KPN over €1000 per home connected to upgrade from copper to FttH.

  The higher unit costs of KPN far outweigh any possible economy of scale advantages it may have
- KPN's network can offer superior unbundled access to access seekers through FttH (Para 147). This is true. But ACM ignores the fact that KPN must incur substantially higher costs to do so, as indicated above
- KPN offers a wider range of retail products than UPC/Ziggo (Para 148) and this helps lower the unit costs of a wholesale connection. Again this argument ignores the fact that KPN's unit costs of supply for VDSL and FttH connections are significantly greater than the unit costs of a cable operator using DOCSIS 3.0. It also ignores the fact UPC/Ziggo has a strong advantage over KPN in the TV markets of a country where the majority of households take TV and broadband bundles
- There are substantial switching costs for an access seeker in moving from KPN to cable access (Para 149). This may impact the competitive constraints on KPN in the WLA market. But it is

[32] http://nlkabel.nl/wp-content/uploads/2014/01/infographicKabelsector_v3.jpg.

[33] http://www.telecompaper.com/news/liberty-global-ceo-expects-dutch-turnaround-in-h2--1096316

questionable whether this justifies the ACM statement that "*this makes it unlikely that the presence of cable operators in the wholesale market for unbundled access will have a disciplinary effect in the form of healthy competition"* (Para 149)

There are also other factors, which ACM has largely ignored, that give UPC/Ziggo a competitive advantage in the WLA market. In particular:

- UPC/Ziggo is not burdened by the wide range of legacy products which KPN currently supplies and which it is constrained from phasing out by regulatory obligations
- UPC/Ziggo does not face the regulatory constraints with which KPN must currently comply and which restrict how it can act in competing with UPC/Ziggo. See Section 7 of our report
- As ACM acknowledges (Para 146) UPC/Ziggo has greater procurement power than KPN through its position as a subsidiary of Liberty Global[34].
- UPC/Ziggo is the incumbent provider of TV services with established access to content and the option to leverage the procurement power of Liberty Global in acquiring content. KPN is the main challenger in this market. Table B-1 shows how market shares of digital TV subscribers have evolved over time. We can see that cable operators have maintained their share of this market over the past six years whilst KPN and the alternative providers have gained market share at the expense of satellite providers.

**Table B-1: Market shares for digital TV subscribers**

| Retail player | Q2 09 | Q2 11 | Q2 13 | Q2 15 |
|---|---|---|---|---|
| Cable | 54% | 57% | 56% | 54% |
| KPN and alternative providers | 25% | 27% | 31% | 33% |
| Satellite | 21% | 15% | 12% | 11% |
| Other | 0% | 2% | 1% | 1% |

*Source: Plum analysis of Telecompaper Q2 2011 and Q2 2015*

In combination this analysis suggests that the case for ruling KPN dominant in a WLA market which includes cable self-supply is weak.

[34] In the 2014 financial year Liberty Global's annual revenues were more than double those of KPN.
http://www.libertyglobal.com/Annual-Report-2014/downloads/Liberty-Global-Annual-Report-2014.pdf
http://corporate.kpn.com/annual-report-2014/downloads.htm