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The New Media Economics of Video-on-Demand Markets: Lessons for Competition Policy

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Abstract: The markets for audiovisual content are subject to dynamic change. Where once “traditional” (free-to-air, cable, satellite) television was dominating, i.e. linear audiovisual media services, markets display nowadays strong growth of different types of video-on-demand (VoD), i.e. nonlinear audiovisual media services, including both Paid-for VoD like Amazon Prime and Netflix and Advertised-financed VoD like YouTube. Competition policy decisions in such dynamic markets are always particularly challenging. The German competition authority was presented such a challenge when, at the beginning of the 2010s, German television providers sought to enter online VoD markets with the help of cooperative platforms. We review the antitrust concerns that were raised back then in an ex post analysis. In doing so, we first discuss the dynamic development of the German VoD markets during the last decade. In the second part of this paper, we derive four aspects, in which the previous antitrust analysis cannot be upheld from today’s perspective. First, relevant implications of modern platform economics were neglected. Second, some inconsistencies in the assessment of the two projects appear to be inappropriate. Third, the emerging competitive pressure of international VoD providers was strongly underestimated. Fourth, the question of market power in online advertising markets looks very different at the end of the decade.

Keywords: video-on-demand, media economics, two-sided markets, competition, platform economics, commercial television, public service broadcasters, antitrust policy, YouTube, Amazon, Netflix

JEL-Codes: L40, L82, K21, L13, D40

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1 Introduction

Watching video on the internet is still on the rise not least due to broadband connections as well as technologies favoring video usage on mobile devices (*Crawford 2015; Kupferschmitt 2015*). According to the ARD/ZDF Onlinestudie 2017, 72 per cent of the German speaking population from 14+ years watch moving images¹ on the internet at least rarely, whereas 53 per cent do so at least once per week (*Koch & Frees 2017: 443; Kupferschmitt 2017: 448*). The latter figures are highest in the young(er) age groups (14-29 years: 88 per cent; 30-49 years: 70 per cent), whereas consumption decreases in the older age groups (50-69 years: 34 per cent; 70+ years: 17 per cent) (*Koch & Frees 2017: 443; see also table 1*). Altogether, consumption of video streaming services (e.g. Netflix, Amazon Prime Instant Video, Maxdome, etc.) has increased within one year by 11 percentage points (from 12 per cent at least once per week in 2016 to 23 per cent in 2017; *Koch & Frees 2017: 443*). Lower frequency consumption even increased by 20 percentage points to 38 per cent in 2017 (*Kupferschmitt 2017: 448-449*).

Video usage on the internet in 2016 and 2017 – at least once per week (German speaking population 14+ years in per cent)								
	2016 total	2017 total	women	men	14 - 29 years	30 - 49 years	50 - 59 years	70+ years
video online (net)	56	53	50	57	88	70	34	17
video platforms, for example YouTube, MyVideo, Clipfish	33	31	24	39	72	35	14	6
moving image on facebook (net)	22	21	19	24	48	29	9	1
video streaming services (net)	12	23	17	28	45	33	10	2
TV broadcasts live or delayed on the internet (net)	21	22	18	26	43	22	16	9
TV broadcast live on the internet	8	10	7	13	21	8	8	3
TV broadcast delayed on the internet	14	14	12	16	31	12	8	6
video podcasts	7	8	5	11	24	7	3	0
broadcasts in the online offers of the TV channels (net)*	22	18	19	17	28	20	15	8

* the six main TV channels were asked, "How often do you watch broadcasts online from XY?" and a total net value was calculated. Basis: German speaking population 14+ years (2017: n = 2017, 2016: n = 1508).
Source: ARD/ZDF online study 2016 and 2017.

Table 1: Video usage on the internet in 2016 and 2017 – at least once per week (German speaking population 14+ years in per cent)

Source: translated from *Koch & Frees (2017: 443)*.

¹ The term moving images or video usage includes – according to the ARD/ZDF-Onlinestudie 2017 the following: video portals such as YouTube, moving images on Facebook, video streaming services (e.g. Netflix); TV shows on the internet live or non-linear, Live TV on the internet, watching TV shows non-linear, video podcasts, shows in the online media centers of the TV stations (*Koch & Frees 2017*).

In line with consumption growth, the overall market for audiovisual online content in general and video-on-demand (VoD) in particular displays high dynamics. Among the various players are online media portals of traditional TV stations (both commercial TV providers and public service broadcasters), video portals such as YouTube as well as video streaming providers such as Netflix and Maxdome – just to mention a few. Particularly, the market for video streaming services is currently highly competitive. At the beginning of October 2015 Amazon, for instance, announced to remove devices of Apple (i.e. Apple TV) and Google (i.e. Google Chromecast) from their website, informing the market place providers that from October, 29th, 2015 on those devices cannot be sold anymore on Amazon (*Horizont* 2015).² Watchever, the German VoD player of the French media company Vivendi, by contrast, launched a new content concept in order to set itself apart from its competitors in October 2015 – however, at the end of 2016 Vivendi shut down Watchever (*W&V* 2015; *Meedia* 2016). In addition to this, new and well established players from abroad have entered the market, such as Amazon Prime Instant Video in February 2014 or Netflix in September 2014. Both have taken leading positions in the German VoD market throughout the past years. This year, in 2018, the traditional broadcaster such as ProSiebenSat.1 as well as RTL announced their plans to further expand their video-on-demand activities in order to compete with the dominant players Netflix and Amazon (*Meedia* 2018b; *Winterbauer* 2018). Also, Deutsche Telekom aims to play a role in the market and announced plans to start investing in own content production as well as to open up their streaming-service Entertain TV for non-Telekom customers, the latter effective from October 2018 on (*Meedia* 2018c).

Quite in contrast to old, rather sclerotic markets, new upcoming markets such as the VoD markets are usually not associated with existing market power that may be abused by dominating incumbents. Still, the German competition agency (Bundeskartellamt; Federal Cartel Office of Germany; FCO) already about eight years ago intervened into the market when Germany's leading commercial TV broadcasters planned to join forces to enter the VoD market – and public service broadcasters

² This sales ban is still on so that no Apple TV or Google Chromecasts can be purchased on Amazon. This still holds for Apple although Apple TV has started to include the Amazon Video app on Apple TV – once the reason behind Amazon's decision (*Pakalski* 2017).

pursued plans to launch a competing (but otherwise similar) project. Against the background of market power concerns, the FCO blocked the cooperative efforts by commercial television broadcasters to establish a new VoD platform (the so-called Amazonas project) and raised comprehensive antitrust concerns against the similar plan by the public service broadcasters (the so-called Germany's Gold project), leading to the project being abandoned.

In this paper, we first present recent developments in the German VoD markets including business models, market structure dynamics, and the (perhaps special) role of YouTube (section 2). Based upon the market development, we review the anti-competitive concerns of the FCO in the Amazonas- and Germany's Gold-cases from a modern media economics perspective (section 3). This ex post analysis reveals important insights into competition policy in dynamic markets. More specifically, with hindsight, some of the antitrust concerns, particularly raised against Amazonas but also against Germany's Gold, cannot be upheld.

In order to specify the term *video-on-demand*, we follow the 2010 Audiovisual Media Services Directive from the European Union (2010: L95/12). According to it, *linear audiovisual media services* are services delivered by a media service provider "[...] for simultaneous viewing of programmes on the basis of a programme schedule". Television broadcasting is, thus, falling under this definition. *Non-linear audiovisual media services* (also referred to as on-demand audiovisual media services) by contrast are services delivered by a media service provider "[...] for the viewing of programmes at the moment chosen by the user and at his individual request on the basis of a catalogue of programmes selected by the media services provider". The latter corresponds to the International Telecommunication Union (ITU) definition of VoD³: "A service in which the end-user can, on demand, select and view a video content and where the end-user can control the temporal order in which the video content is viewed (e.g. the ability to start the viewing, pause, fast forward, rewind, etc.)" (ITU 2009: 6). A report by the *European Commission* (2014: 7-9) classifies on-demand services as displayed in table 2. While we follow the understanding of the

³ For differing VoD definitions see, for instance, *NPA Council* (2007); *European Audiovisual Observatory & DDM* (2009); *Kuper* (2009); *Wippersberg & Scolik* (2009); *Martens & Herfert* (2013a, 2013b); *Woldt* (2014).

terms linear and non-linear audiovisual media services/video-on-demand in this paper, we do not want to preclude economic market delineation by these definitions, in particular as the dynamics of the markets imply ongoing endogenous changes of market definitions in this industry.

Classification	Subcategories
ODMAS On demand audiovisual media services according to the AVMS Directive	Catch-Up TV (also referred to as Replay TV), e.g. media centers of private or public service broadcasters
	Preview TV, i.e. users pay for a TV program to watch it prior to their broadcast release
	VoD, i.e. providing on demand access to a catalogue of audiovisual services, not being dependent on their broadcast on television. E.g. Netflix, Amazon Prime Video
	Branded services on sharing platforms
Other on demand audiovisual services not falling within the definition of the AVMS Directive	Video-sharing platforms, e.g. YouTube
	Social networks allowing video upload by users, e.g. Facebook
	Video pages of newspapers websites, e.g. website with video content on Spiegel Online
	Promotional websites with video content

Table 2: Classification of on-demand audiovisual services⁴
 Source: modified and extended from *European Commission* (2014: 9)

2 The Video-on-Demand Market in Germany

2.1 Business Models on the VoD Market

VoD providers use fairly diverse and different types of business models. Industry studies usually distinguish two main categories depending on the financing of the services – namely *user financed VoD models* from *advertising financed VoD models*.

(i) *Advertising Financed VoD Models (AVoD)*

To start with the latter, video-on-demand providers can (partly) finance their services through advertising revenues, also referred to as *AVoD (advertising financed or ad-supported video-on-demand)* (inter alia, *Bitkom* 2017b; *Goldmedia* 2018). In this

⁴ See *European Commission* (2014: 9-11) for further details on the classification and subcategories.

model, the VoD provider offers the streaming of videos to the user “for free”, more precisely without monetary payment from the user. In return, the user “pays” with her “attention” while watching the videos by being exposed to particularly different in-stream-video ad formats such as pre-, mid-, postroll-advertising.⁵ Advertising financed VoD Models show the characteristics of a platform market⁶ as do advertising-financed media markets in general (inter alia, *Dewenter* 2003; *Anderson & Gabszewicz* 2006; *Gabszewicz et al.* 2006; *Kaiser & Wright* 2006; *Crampes et al.* 2009; *Lindstädt* 2010; *Seamans & Zhu* 2010; *Reisinger* 2012; *Anderson & Jullien* 2015; *Crawford* 2015; *Gabszewicz et al.* 2015; *Gimpel* 2015; *Peitz & Reisinger* 2015; *Budzinski & Kuchinke* 2018; *Tichem & Tuinstra* 2018). Video-on-demand providers as platforms serve two distinct customer groups – namely users and advertisers – through internalizing the indirect network externalities that occur between those two customer groups. An increasing presence of users on an AVoD-platform increases the utility for each advertiser placing advertising on this platform because of the increased reach and the subsequently increased probability to turn advertising into turnover. This represents a positive indirect network externality. The other way around, however, is more ambiguous: an increasing amount of advertising need not necessarily increase utility of each user; for some user it will actually represent a disutility. Altogether, the indirect network externality in this direction may be positive or negative but it certainly will be lower than the one from users to advertisers. Consequently, the platform experiences incentives to subsidize the user side (monetary price of zero) and shift the financing of the service on the advertising side (efficient asymmetric price structure). Managing the indirect network externalities like this can be an important growth factor for a VoD-platform and promote profitability. Since the platform character of a VoD-service is not natural (i.e. alternative, non-platform business models exist as well, see below), AVoD is an artificial platform, i.e. a strategically chosen business model (profit maximization).

⁵ These in-stream video ads have to be distinguished from in-page video ads that are video ads embedded in banners (*Bundeskartellamt* 2018a: 1).

⁶ Platform economics or the theory of two-sided markets has its origin in economic analyses of the credit card industry in the context of antitrust law suits filed against MasterCard and Visa. See for platform economics in general *Evans* (2002, 2003, 2004); *Caillaud & Jullien* (2003); *Rochet & Tirole* (2003, 2006); *Evans & Schmalensee* (2005, 2007); *Roson* (2005); *Armstrong* (2006); *Haucap & Stühmeier* (2016).

AVoD can be viewed as a special variant of data-based services (*Budzinski 2016; Budzinski & Grusevaja 2018; Budzinski & Kuchinke 2018; Budzinski & Stöhr 2018*). Personalized user data has become an important factor particularly when it comes to modern digital online services: the user “pays” with the provision of her personal data. The platform element of the AVoD-business model actually runs on so-called targeted advertising where the platform employs personalized user data in order to provide each user individually with tailor-made advertising according to her stated (e.g. comments on goods at Amazon, Facebook-likes, etc.) or revealed (e.g. cookie-tracked or account-based data on her individual search, movement and consumption history on the internet) preferences. In combination with the indirect network externality, targeted advertising further increases the effectiveness of advertisements and, thus, further increases the willingness-to-pay of advertisers. A second way of utilizing personalized user data are individualized services like algorithm-based individualized recommendation and search services on the platform. Based upon the individual history of videos watched and positive comments, each user receives her own individual recommendations which other videos she might like. And when she searches within the platform, search results are listed according to her preferences as the algorithm has concluded them from the available personalized data. Both individualized services benefit the user and, c.p., increase her video consumption on the platform, thus, at the end of the day, increasing turnover and profits of the platform. Thus, the volume and the quality of personalized data influence competitiveness.⁷

Providers using this type of AVoD business model are, for instance, YouTube, MSN Movies as well as Hulu (a provider in the United States).

(ii) *User Financed VoD Models (PVoD)*

User financed VoD models, by contrast, refer to the situation where the user directly pays with money for consuming VoD content. Currently, this is the most common financing model among leading commercial VoD providers (e.g. *Bitkom 2017a, 2017b*) – with the notable exception of video portals à la YouTube. We distinguish

⁷ Other data-based business models include data-based price discrimination, data trading and data technologies, which currently do not appear to be relevant in the prevailing AVoD business models. See generally *Budzinski (2017), Budzinski & Grusevaja (2018), Budzinski & Kuchinke (2018), and Budzinski & Stöhr (2018)*.

two different subcategories (modified from *Berthelmann* 2018: 16). Both can be applied to streaming and downloading.

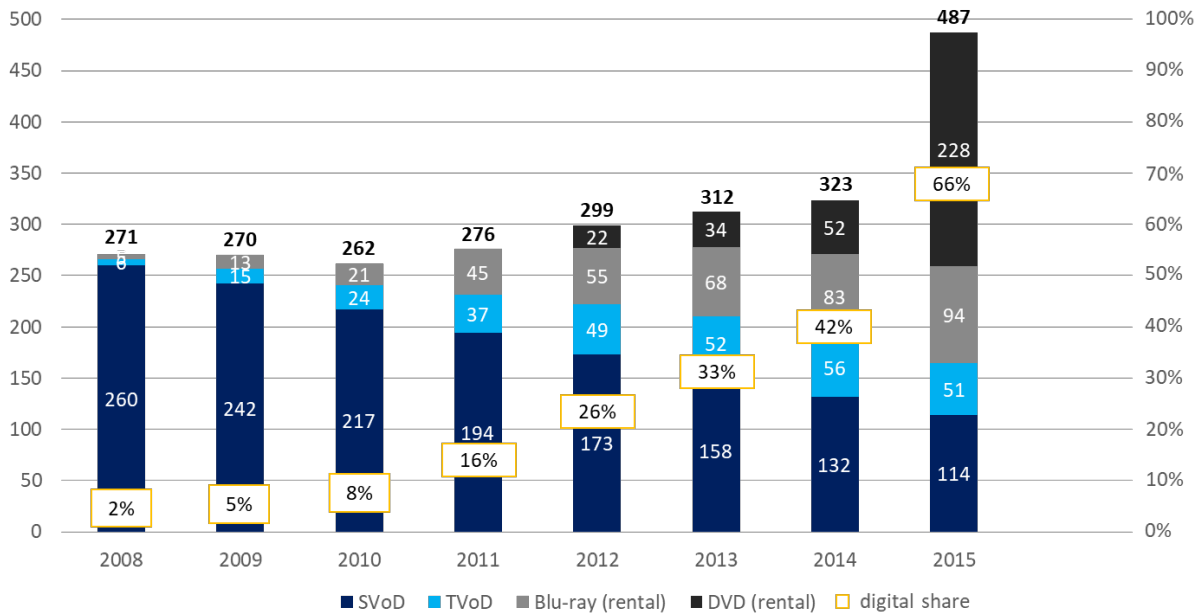
- **Pay-Per-View:** this type is also referred to as transactional video-on-demand (TVoD). It refers to a time-limited access to the video content wherefore the user has to make a one-time payment. The content is available only for a limited time period (e.g. 24 hours). An example is, for instance, the iTunes store where videos can be rented.
- **Flatrate-Pricing:** this service is also known as subscription-based video-on-demand (SVoD). By paying a flatrate subscription fee (e.g. monthly) the user has unlimited access to the video content offered by the provider. Examples are, for instance Netflix or Amazon Prime Video.

In the following, we summarize both the TVoD and the SVoD model under the term *paid-for video-on-demand* (PVoD). Examples include Maxdome, Netflix, Amazon Prime Video, Google Play, Apple iTunes, and Sky Online (*Bitkom* 2017a).

2.2 Germany's VoD Market – Structure, Dynamics, and Relevant Players

The digital distribution of video content has become increasingly important within the German video rental market. Figure 1 shows the developments of the revenues and the digital share in the video rental market in Germany from 2008 until 2015. In 2015, already 66 per cent of the revenues have been generated through digital video.

Development of revenues (in billion Euros) and digital share (in per cent) in the video rental market in Germany from 2008-2015

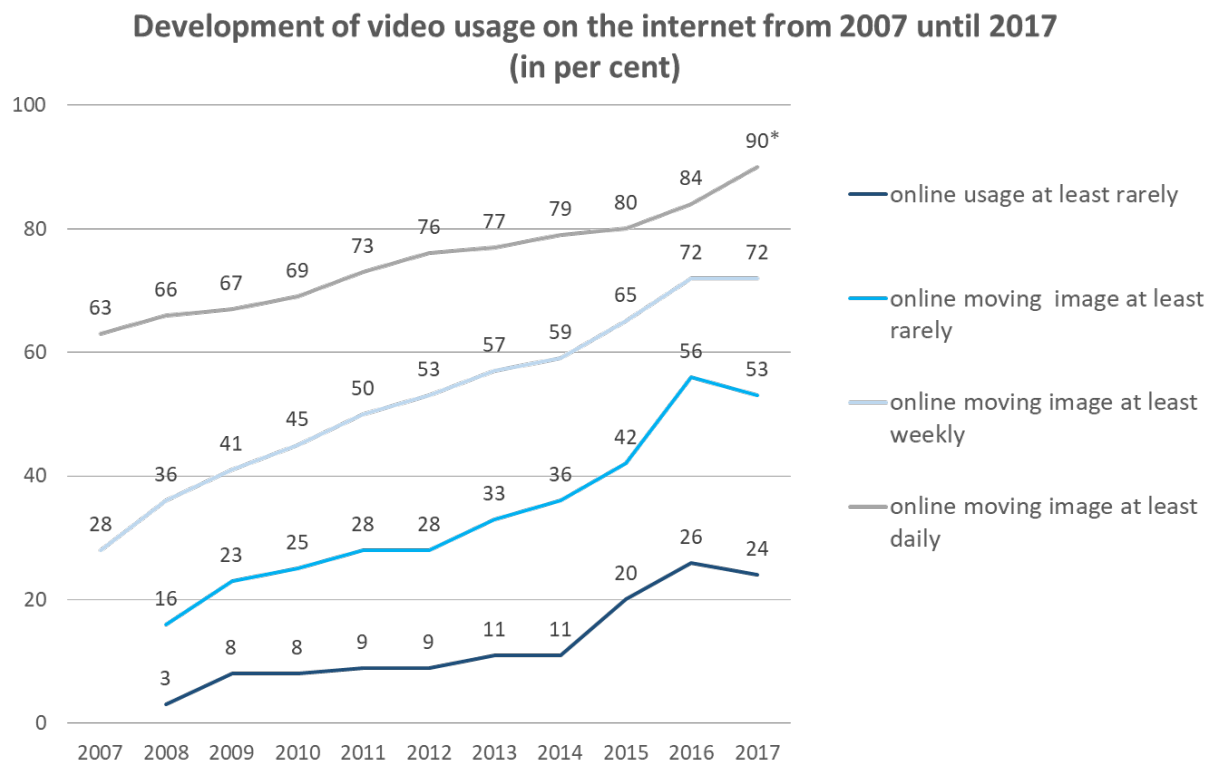


Source: GfK (2016) on behalf of the FFA: The video market in 2015, method change between 2014 and 2015 for the survey of SVoD sales, so that the figure are not directly comparable

Figure 1: Development of revenues (in billion Euros) and digital share (in per cent) in the video rental market in Germany from 2008-2015

Source: translated from *BMWI* (2017: 112)

The media market for audiovisual online content in Germany is highly dynamic – not least due to the recipients’ increasing interest of video usage on the internet throughout the past years. Figure 2 shows the developments of video usage from 2007 until 2017. According to this figure, video consumption at least on a rarely base increased from 28 per cent of all users in 2007 up to 72 per cent in 2017. Weekly video consumption rocketed from 16 per cent in 2008 up to 56 per cent in 2016, however, then for the first time dropped 3 percentage points from 2016 to 2017 resulting in 53 per cent of the German speaking population 14+ years using video content on the internet on a weekly base (*Kupferschmitt* 2017: 448).



*Net value of the internet users after consultation of concrete activities (only surveyed in 2017), until 2016 blanket request "internet used".
 Basis until 2009: German population 14+ years (2007: n = 1822, 2008: n = 1802, 2009: n = 1806). Basis since 2010: German-speaking population 14+ years (2010: n = 1804, 2011 to 2015: n = 1800, 2016: n = 1508, 2017: n = 2017).
 Source: ARD/ZDF online study 2007-2017.

Figure 2: Development of video usage on the internet from 2007 until 2017 (in per cent)

Source: translated from *Kupferschmitt* (2017: 448)

According to a *Bitkom* (2017a) survey, 77 per cent of the German internet users (14+ years) stream TV shows, movies, or other types of video over the internet. The younger the target group, the more attractive video streaming gets (14-29-years old: 88 per cent; 30-49-years old: 90 per cent) (*ibid.*; see also table 1). According to the *2017 Digitization Report*, 42.2 per cent (plus 9 percentage points compared to the previous year) of the population in Germany (14+ years) use OTT⁸ content at least once a month (*Medienanstalten* 2017: 32f.). Heavy consumption (i.e. at least once a week and several times a week) experienced even greater increases (*ibid.*). The most popular platforms are AVoD platforms such as YouTube⁹ that have been the key drivers of the market throughout the past years (*Koch & Frees* 2017: 443; see also table

⁸ OTT (over-the-top) services include: television content via live streaming or via media libraries; video-on-demand offers accessible via video portals, social media platforms or online video libraries (*Medienanstalten* 2017: 29).

⁹ According to *Medienanstalten* (2017: 33), YouTube ist the most used platform among video portals for VoD content consumption.

1). The *BVDW* (2017) survey shows that AVoD portals so far are used more often than PVoD services. However, whereas the latter increased from 2016 to 2017 the usage frequencies of AVoD decreased during this time frame.

The importance of mobile video consumption has increased owing to faster mobile internet connections making it attractive and affordable to stream videos on smartphone and tablets (*Bitkom* 2017a)¹⁰, wherefore mobile is now the key driver in the market for moving images (*Adzine* 2017) due to allowing video consumption independent of time and location (*Chip* 2017). This strengthens users' incentives for using non-linear over linear services.

According to *Adzine* (2017), the German VoD market is revenue-wise the third largest within Europe after Great Britain and France. Figure 3 illustrates the development of AVoD and PVoD revenues in Germany 2010-2016 with a forecast for 2017 (*Bitkom* 2017a, 2017b). PVoD revenues (432 billion in 2016) exceed AVoD revenues with the SVoD model forecasted to head TVoD for the first time in 2017.¹¹ The strong increase of SVoD revenues since 2014 coincides with the market entry by the two major PVoD player Amazon Prime Instant Video and Netflix, both offering a SVoD model (*Goldmedia* 2016).

¹⁰ According to *Nielsen* (2016), already 41 per cent of the Germans stream VoD on the tablet.

¹¹ In 2015 a PWC study showed that TVoD was still favored by the respondents (age 18+; n= 1,023). With specific view to age groups the TVoD model was favored by the 31-45-years old and the age group 46+. The 18-30-years old, however, already favored the SVoD model in 2015 (*Statista* 2017: 20).

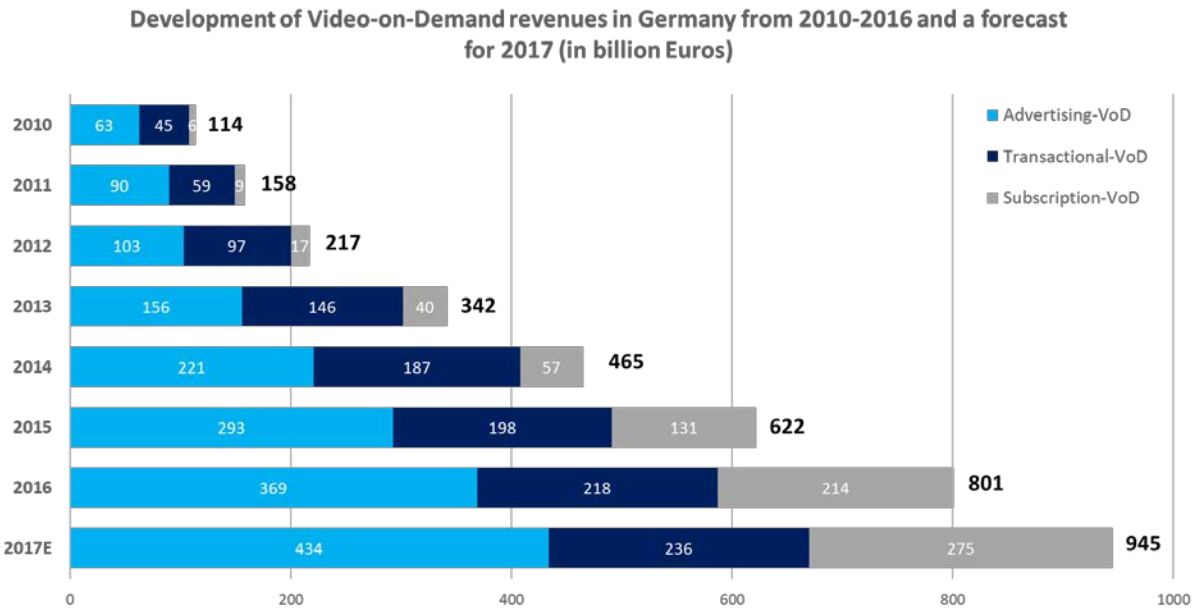


Figure 3: Development of Video-on-Demand revenues in Germany from 2010-2016 and a forecast for 2017 (in billion Euros)

Source: translated from *Bitkom* (2017b)

The growth of VoD is predicted to continue. According to Goldmedia's market forecast 2018-2023 an increase of gross revenues up to € 2.5 billion in 2023 (coming from € 1.1 billion Euros) is expected (*Absatzwirtschaft* 2018; *Hein* 2018; *Herrmann* 2018b).

In 2016, 38 PVoD providers were competing for users and market shares in the German VoD market (*BMWI* 2017: 187; *Goldmedia* 2016). This market segment is characterized by relevant market entries (*Herrmann* 2018b)¹² but also exits like the shut-down of the VoD service Watchever at the end of 2016 (*Meedia* 2016). Recent entries most prominently include Netflix¹³ and Amazon Prime Instant Video¹⁴, accompanied by increased and expanded activities of Sky and Maxdome¹⁵ (*BMWI* 2017: 187).

¹² For 2019, for instance, Disney plans on launching a VoD service for their films and series in the United States (*Horizont* 2017). The question is how long it will take until Disney expands its activities to other geographical markets as well. In addition to this, CBS revealed plans on expanding their streaming services internationally (*ibid.*).

¹³ In the United States, Netflix – a provider that originally started in 1997 as an online video rental store sending DVDs and Blue Rays by postal service to its customers – has been operating in the VoD market since 2007 (*Ünal* 2015: 15, 23). Netflix entered the VoD market in September 2014.

¹⁴ Amazon Prime Instant Video started in Germany in February 2014, giving subscribers of Amazon Prime the opportunity of an unlimited streaming-access of more than 12,000 movies and TV shows (*Heise* 2014).

¹⁵ Maxdome is the VoD offer of the ProSiebenSat.1 group.

Up to now, Amazon and Netflix take the leading role in the German PVoD market (*Absatzwirtschaft* 2018). According to *Goldmedia*¹⁶ (2016), the most consumed PVoD service in Germany is Amazon. Figure 4 shows that in 2016 32 per cent of the VoD consumers used Amazon Prime Instant Video (this corresponds to 22 per cent of all internet users in Germany¹⁷), followed by Netflix (17 per cent of the VoD users, corresponding to 11 per cent of all internet users in Germany). Limited to consumers between 14 and 75 years old, a study by Deloitte displays Amazon with 37 per cent and Netflix with 25 per cent market share as PVoD market leaders in Germany in 2017 (*Statista* 2017: 28). Notably, the German TV station providers (linear audiovisual media services) considerably lack behind in the PVoD market. While pay-TV provider Sky follows the leading duo with a 12 per cent market share, the free-TV companies are only present with ProSiebenSat.1 (Maxdome, 11 per cent). The other big commercial TV-provider, RTL, as well as the public service providers (ARD, ZDF) stick with VoD market shares below 2 per cent each. ProSiebenSat.1, RTL, ARD and ZDF are the companies whose attempts to establish VoD platforms raised antitrust concerns by the FCO some eight years ago (see section 3). As of now, only one of them enjoys a relevant market position, however, with considerable distance to the top players.

Amazon's leading position may partly be due to a bundling strategy, including its video streaming service into the Amazon Prime subscription fee, i.e. bundling video streaming with premium delivery services for other goods bought from Amazon. So far, this strategy was not challenged by the FCO. The position of the two market leaders, Amazon and Netflix, may be further strengthened if forecasts based on GfK data analysis claiming that further market growth is likely to concentrate on these two players prove to be adequate (*Adzine* 2017). Among the reasons may be their investments into own content productions and exclusive content rights.¹⁸ Netflix, for instance, is intensively generating original content and aiming to hold exclusive rights

¹⁶ Goldmedia focuses on PVoD only and does not include AVoD such as YouTube.

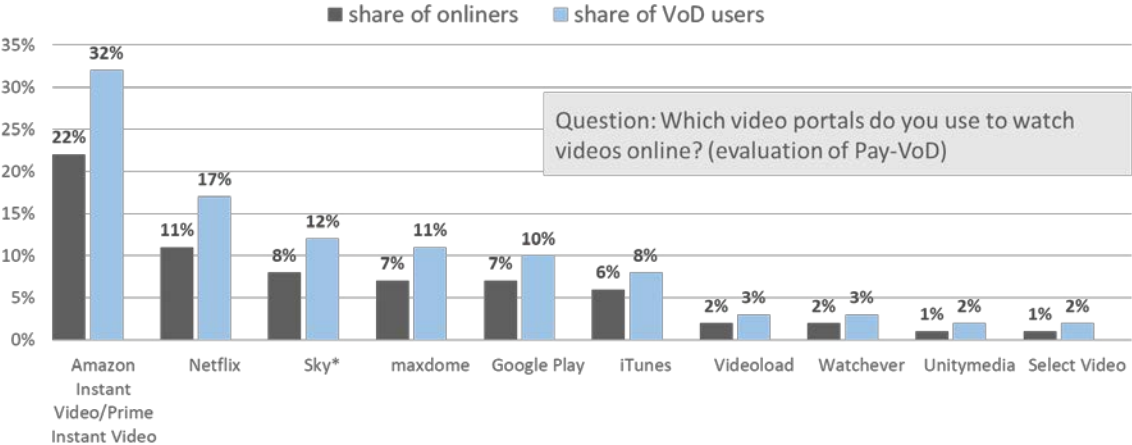
¹⁷ The ARD/ZDF-Onlinestudie 2017 showed similar figures – 22 per cent using video content on Amazon at least on a rarely base (*Kupferschmitt* 2017: 451).

¹⁸ The issue of the vertical integration of content production and content provision marks an upcoming trend in the industry with content producers starting to seek powerful positions in the video market (*Gimpel* 2015).

to movies and television shows (Aguilar & Waldfogel 2018). Just recently Netflix announced that it is planning to offer its users over 1,000 own productions (i.e., films, series, documentaries) in their archives by the end of 2018 (Jacobsen 2018). Amazon also invests in its own content productions (W&V 2018), markedly in the German market (Herrmann 2018a).

Paid VoD Usage in Germany in April 2016 (in per cent)

Usage of paid VoD offers among onliners vs. VoD users in Germany, April 2016



32 per cent of the VoD consumers used Amazon Prime Instant Video, this corresponds to 22 per cent of all internet users in Germany

Source: Goldmedia Analysis 2016: Supported online survey, n = 2058, internet users aged 14+ in Germany, multiple answers possible, April 2016. Question: Which video portals do you use to watch videos online? Only paid films and series on demand were evaluated. *Sky on demand services: Sky Online, Sky On Demand, Sky Go, Sky Select

Figure 4: Paid VoD Usage in Germany in April 2016 (in per cent)

Source: translated from Goldmedia (2016)

2.3 Is YouTube a Relevant Market Player on the VoD Market in Germany?

As already mentioned in the introduction, different studies use strongly varying market delineations for VoD markets. Some studies focus on PVoD only (e.g. Goldmedia 2018), other studies and reports (e.g. Medienanstalten 2017) include AVoD portals (e.g. YouTube), media libraries (e.g. ARD Mediathek), social networking sites distributing video content (e.g. Facebook), TV platform providers (e.g. Sky) or gaming video platforms (e.g. Twitch). In this paper, we cannot provide a well-derived market delineation. Lack of data is one reason but it is also controversial how helpful market delineation actually is when it comes to heterogeneous and dynamic markets (Farrell & Shapiro 2010; Kaplow 2011, 2015). For our purposes it suffices to single out YouTube (originally a video sharing platform), the largest AVoD platform in Germany

(*SevenOneMedia* 2017: 28-29), and to discuss the pros and cons of YouTube exerting competitive pressure on (i) (other) non-linear audiovisual media service providers like Amazon and Netflix and (ii) linear audiovisual media service providers like TV stations. According to a survey conducted by the BVDW (2017) on Digital Trends with focus on VoD 51 per cent of the respondents (n=1,049) stated that they use AVoD portals such as YouTube, MyVideo, Clipfish at least once a week. PVoD services such as Netflix, Maxdome or Amazon Prime Video are used by 30 per cent of the respondents at least once a week. Even though the ARD-ZDF Onlinestudie shows different numbers (video usage – at least once a week – in percent for 2017: 31 per cent for video portals and 23 per cent for video streaming services) the quintessence is the same (*Koch & Frees* 2017: 443). AVoD is currently used more often than PVoD and, thus, plays a decisive role in overall video consumption. Also *Medienanstalten* (2017: 33-34) reveals that concerning VoD content, AVoD portals, and particularly YouTube (29.5 per cent), are the most used ones by the population in Germany for consuming professional VoD content at least once a month – compared to media libraries of TV channels with 28.4 per cent and online video libraries (e.g. Netflix) with 23 per cent. It gets even more interesting when looking at age specific usage patterns. Both, the ARD-ZDF Onlinestudie 2017 as well as the BVDW survey reveal that the younger the consumers are the more they use AVoD portals (*Kupferschmitt* 2017: 450; *BVDW* 2017: 7).¹⁹ Also, they use AVoD more often than PVoD (*ibid*).

With respect to YouTube, the Social Media Atlas 2017/2018 revealed that 100 per cent of the 14-19-years old and 96 per cent of the 20-29-years old internet users consume video contents from YouTube (*Statista* 2018a). Consequently, this video platform is obviously highly relevant, especially for the younger generation. As figure 5 shows, however, even with the older age groups YouTube seems to be a fairly relevant media tool. When it comes to entertainment consumption, the attention of the user is viewed to be the relevant scarce resource (attention economics; *inter alia*, *Falkinger* 2008). Since users have only limited (media) time during the day to spend

¹⁹ In the ARD study: usage of AVoD portals in total: 57 per cent; for the 14-29-years old: 91 per cent; for the 30-49-years old: 79 per cent (*Kupferschmitt* 2017: 450). In the BVDW survey: usage of AVoD portals in total: 51 per cent; for the 16-24-years old: 74 per cent; for the 25-34-years old: 66 per cent (*BVDW* 2017: 7).

on video consumption one can argue that they can spend time either on AVoD portals (e.g. YouTube) or on PVoD services (e.g. Netflix). This limitation may differ considerably between different age groups (and life circumstances) as adults often have stronger limits to the time they can spend for entertainment (job, family, etc.) than teenagers. Still, every minute spent on watching audiovisual content can be either devoted to a PVoD offering or to an AVoD offering. In line with this reasoning, YouTube might serve as a substitute for PVoD services and, thus, should exert competitive pressure on PVoD providers such as Amazon or Netflix.

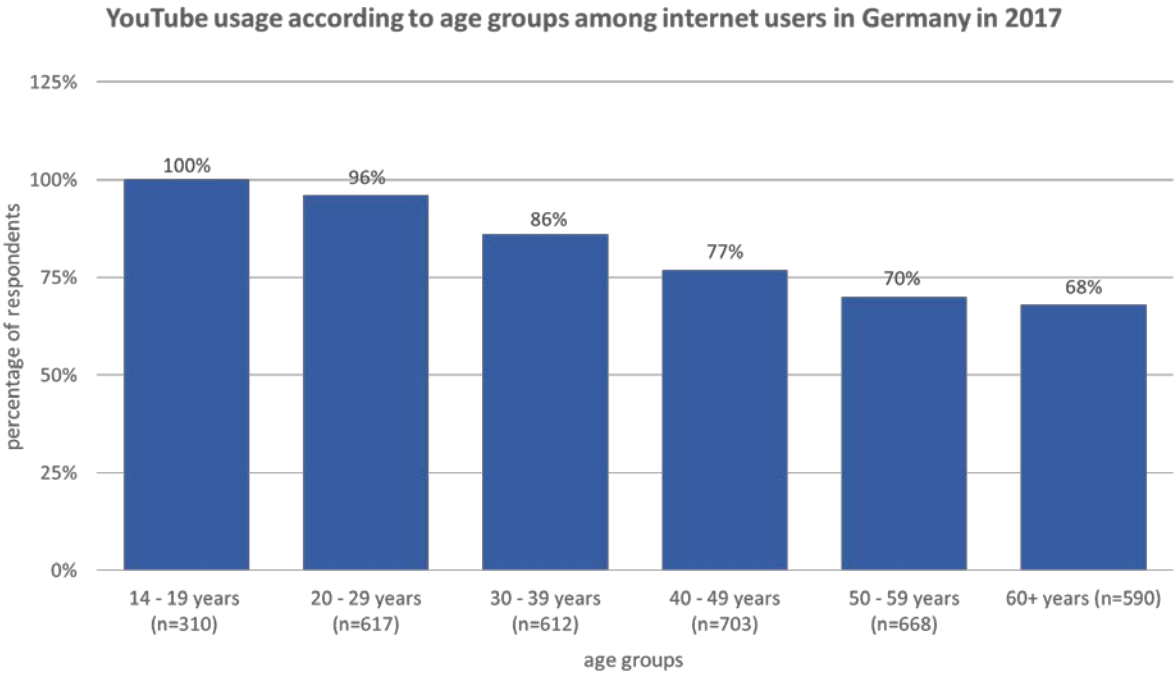


Figure 5: YouTube usage according to age groups among internet users in Germany in 2017
 Source: translated from Statista (2018a)

An argument that would speak against considering YouTube as a relevant competitor to PVoD services is that a lot of YouTube content was non-commercial, i.e. content like a private cat video, a funny observation, your own dancing performance, etc. uploaded by users without commercial intent.²⁰ This non-commercial content might not be comparable to the professional programs provided by PVoD providers like

²⁰ The term *user generated content* has become popular for this type of non-commercial videos. However, on the ambiguities and widespread problematic (mis-)use of this term see *Budzinski & Gaenssle (2018b)*.

Amazon or Netflix. However, while a lot of YouTube content may still be non-commercial, there is also a lot of commercial content on YouTube. Actually, the platform has become increasingly professionalized and commercial during the last decade or more (*Döring 2014; Ross & Weghake 2015*) and its most popular contents is rather commercial, purpose-created and business-strategically uploaded. Next to advertising-purpose YouTube channels of business companies, this includes commercial YouTube channels from traditional entertainment industries (using it as an additional distribution channel for music, movies, broadcastings, comedy, sports, etc. – and thus in direct competition with other online and offline distribution channels) as well as more YouTube-specific entertainment contents like fitness videos, styling and lifestyle videos, or gaming and e-sports video content. This latter area of social media stars is a highly commercial multimillion dollar business generating big money from advertising revenues as well as from product placements (so-called influencer) and merchandising (*Budzinski & Gaenssle 2018a*). As such, the largest part of the most popular YouTube contents is directly comparable in terms of commercialization and professionalism to the contents of other non-linear and linear audiovisual media services like PVoD à la Netflix, Amazon, Sky – or traditional TV stations.

In addition to this, viewing habits – concerning consumption time and content types might differ. One would assume that the consumption time of YouTube videos is usually shorter (even though people might watch several videos in a row). The PVoD content, by contrast, might usually be watched for a longer time period. The assumed differences could go along with the different types of videos aired on AVoD portals à la YouTube and PVoD platforms. Whereas YouTube contains a lot of short(er) videos, music videos, etc. the users on PVoD platforms can watch whole movies, episodes of series²¹ or documentaries. On the other hand, consumers may also watch considerable long chains of videos on YouTube, fuelled by the website's individualized algorithmic recommendation service.

Looking at actual figures, however, we can observe the following: according to the ViewTime Report 2017, YouTube is watched on average 8 minutes/day by the 14-69-

²¹ Particularly with PVoD platforms (especially with SVoD providers) a typical viewing pattern especially of the younger viewers is binge watching – i.e. watching several episodes or even a whole series in a row (*SevenOne-Media 2017: 42-45*).

year old users in Q2/2017 (*SevenOneMedia* 2017: 28f.).²² PVoD is – according to that report – used on average for 9 minutes/day by the 14-69-years old and on average 14 minutes/day by the 14-49-years old in Q2 2017 (*SevenOneMedia* 2017: 9). Thus, the differences in viewing time are marginal and hardly conclusive²³. In particular, for the young generation, however, YouTube (as well as other AVoD portals) may be a close substitute for other ways of watching audiovisual content, be they linear or non-linear.

Furthermore, there are differences in the content types of consumed videos. The most favored content types on YouTube have been in Q2/2017 for the 14-69-years old: music videos (32 per cent), social media stars (27 per cent), news/documentaries/sports (14 per cent), series/movies/TV shows (7 per cent), and private videos (6 per cent) (*SevenOneMedia* 2017: 29). On the one hand, viewing habits depart from (other) linear and non-linear audiovisual media services where series, movies and TV shows dominate. On the other hand, there is some overlap hinting to direct competitive pressure at least for some niches. Moreover, the degree of substitution is determined by the subjective utility of the individual user, i.e. what she thinks are close alternatives for dedicating her media time. Watching a gamer playing a popular video game or an e-sports event (all falling into the category social media stars) may be a close substitute to watching a tennis game or a traditional sports event as well as watching YouTube lifestyle stars to watching a TV show. It appears to be plausible that the degree of substitution between YouTube (AVoD) and PVoD-contents as well as TV will be wildly varying across consumers but in general it may be higher for young consumers than for old consumers. While this all hints to YouTube not being a perfect competitor to PVoD and TV, it also appears to be very plausible that it does exert imperfect competitive pressure – and that this will increase with the changing generations.

Very recently, on June, 18th, 2018, YouTube has started its new subscription-based service *YouTube Premium*²⁴ in Germany (*Pimpl* 2018). With this service the user gets

²² The average usage time for free online videos in total is 15 minutes/day in Q2 2017 (*SevenOneMedia* 2017: 9).

²³ It has to be noted, however, that within 30 months, the PVoD usage has increased from on average 3-9 minutes/day among the 14-69-years old and, thus, shows remarkable growth (*SevenOneMedia* 2017: 10).

²⁴ The VoD service originally started in the US and has been formerly known as YouTube Red (*Pimpl* 2018).

the opportunity to watch advertising-free on-demand videos for € 11.99 per month. The videos can be streamed or downloaded for 30 days for being watched offline (*YouTube Premium* 2018). This service is bundled with YouTube Music – a paid-for, advertising-free music streaming service.²⁵ This new YouTube service directly competes with PVoD services such as Netflix. YouTube Premium offers YouTube originals (films and series) and thereby also competes in the field of own productions with Netflix and Amazon Prime Video (YouTube Premium 2018).

The preceding discussion focused on the question if YouTube is a relevant market player for the VoD market in Germany with respect to the audience side. Surely, it is also interesting to assess YouTube's direct market relevance on the advertising side. A recent study by the British market researcher WARC, for instance, has shown that large parts of advertising spending worldwide are invested in social media channels such as YouTube and Facebook (*Nötting* 2018). In this context, it will furthermore be interesting to observe how Facebook's video platform *Facebook Watch* that has started in the United States last year and worldwide at the end of August 2018 (*Perez* 2018) will perform.

3 The Antitrust Cases against Amazonas and Germany' Gold

In Germany, both the publicly-financed TV producers and the market-leading commercial TV enterprises planned to enter the VoD market, each with a cooperative project – “Germany's Gold” in the case of the public service broadcasters, “Amazonas” in the case of the leading commercial TV stations. For the purpose of realizing these two projects, the parent companies planned to create a commonly owned subsidiary that was to be responsible for running the cooperative platform. Since the TV stations are competitors in the same market, the creation of a common VoD subsidiary constitutes either a horizontal merger through the common subsidiary (effectively a syndicate) or a horizontal cartel run by the common subsidiary – depending on organizational details. However, the economic effects are likely to be very similar. Since horizontal mergers as well as horizontal collusion may reduce the incentive of

²⁵ The music streaming service is also available separately to YouTube Premium as YouTube Music Premium for € 9.99 per months (*Pimpl* 2018).

the merging or colluding companies (here: the owners of the common subsidiary) to compete with each other (also in other markets), such projects are typically subject to the approval of the competent competition authority. Mergers are only allowed according to German competition law if they do not create or strengthen a dominant market position and/or do not significantly impede effective competition. Horizontal collusion is generally prohibited with exceptions. Both is assessed by the FCO, which, in cases of concerns, launches an in-depth investigation and eventually decides to block the project, to clear the project or to clear the project subject to conditions. After thorough investigations of the Amazonas project and the Germany's Gold project, the cartel office raised severe concerns regarding potential anticompetitive effects which eventually led to both projects being abandoned. Before we assess these decisions and developments in the light of the insights from the first two sections of this paper (section 3.3), we describe the projects and the related antitrust cases (sections 3.1 and 3.2).

3.1 The Amazonas Case

In 2010, the two leading commercial TV broadcasters in Germany, the RTL group and the ProSiebenSat.1 group, intended to create a common video-on-demand internet platform under the working title "Amazonas". Through this platform, users would have been able to access professional video content online, which had been broadcasted on traditional TV (cable, satellite, free-to-air) before. A common subsidiary of the online companies of the two groups (RTL interactive GmbH and ProSiebenSat.1 Media AG, each holding 50 per cent of the shares) was to be established and assigned with the tasks of content storage, content delivery and streaming services. Editorial and marketing services, however, would have operated by the broadcasting companies themselves for their own content. The platform was planned to be open for third-party content as long as the third party provided its own editorial and marketing services. Users would have been able to access the Amazonas content for free (price = 0) with revenues from online advertising sought to be financing the platform. While advertising revenues were to go to the content providers, each content

provider (RTL, ProSiebenSat.1, third parties) was to pay a fee to Amazonas for its services (hosting, storage, streaming).

The two parent companies are the two – by a substantial margin – leading commercial TV broadcasters in Germany. At the time of the planned VoD platform, the RTL group (RTL) ran the TV stations RTL, Vox, SuperRTL (all full programs) and n-tv (news station) as well as several pay TV channels (RTL Crime, RTL Living, RTL Passion).²⁶ Furthermore, RTL holds a 35.9 per cent-share in the full program channel RTL2. Altogether, in 2009, RTL accumulated a market share of roughly 26 per cent in terms of viewership and approximately 45 per cent of the TV advertising revenues. The ProSiebenSat.1 group (P7S1) comprised the TV channels Sat.1, ProSieben, Kabel 1, Sixx (all full programs) and 9live (advertising and sales channel; until August 2011) as well as several pay TV channels (kabel eins classics, Sat.1 Comedy/emotions, ProSieben Fun, wetter.com TV).²⁷ Furthermore, the group owns the VoD platform *maxdome*. ProSiebenSat.1 reached a market share of about 22 per cent in the audience market and up to 45 per cent in the advertising market.

The two companies notified their plans to create a common video-on-demand platform to the merger control of the European Commission on August 5th, 2010. However, the European Commission delegated the case to the FCO because the dominant core of the economic activities of the project lied within Germany.²⁸ The FCO investigated the case and eventually enjoined the project due to expected anticompetitive effects on March 17th, 2011 (*Bundeskartellamt* 2011a). The anticompetitive concerns leading to the block of the Amazonas project by the FCO rest on the following assessment: *the merger of the VoD-activities of RTL and P7S1 would have strengthened their already dominant duopoly on the market for TV advertising (Bundeskartellamt 2011a).*

The FCO defines an extended market for TV advertising as audiovisual advertising irrespective of the broadcasting medium (free-to-air, cable, satellite – or now internet). Therefore, so-called in-stream advertising – advertising within the stream of

²⁶ In 2012, an additional full program channel, RTL Nitro, was added.

²⁷ In 2012 and 2013 respectively, the channels Sat.1 Gold and ProSieben Maxx were added.

²⁸ For an analysis of the referral rules between the European Commission and national competition agencies within the European Union see *Budzinski* (2006).

audiovisual contents, in a way similar to traditional TV commercials (*Pellikan* 2010: 262; *Bell* 2013: 50) – is viewed to belong to the so-defined market for TV advertising. In contrast, so-called in-page advertising (via banners, pop-ups, overlays, etc.) is not viewed to be part of the same market due to its different character (*Bundeskartellamt* 2011a: 15-23).

Due to the high market shares on the traditional TV advertising market (without internet) – RTL and P7S1 combine up to 90 per cent of the market – the FCO established a duopoly market structure. Moreover, the FCO argues that this duopoly already lack effective competition before the creation of the common VoD-subsi-dary of the duopolists. Instead, the FCO assumes a rather collusive equilibrium between RTL and P7S1 on the advertising market based upon several indications like (i) a high symmetry of the duopolists, (ii) high market transparency facilitating implicit/tacit collusion, (iii) rather homogenous goods (an advertising minute is an advertising minute), (iv) the existence of an effective sanctioning mechanism for deviations from the collusive equilibrium (discounts on advertising prices may be followed by an immediate response from the other duopolist so that any competitive advantage is instantly countered), and, in particular, (v) the absence of effective competition in the past, evidenced by constant market shares over several years as well as virtually no deviations between the advertising prices of the two companies (and the absence of discount campaigns) (*Bundeskartellamt* 2011a: 25-47). Furthermore, the collusive duopoly is stabilized because of the lack of outside competition by close substitutes. According to the FCO (*Bundeskartellamt* 2011a: 47-55), in 2010 existing VoD platforms or alternative in-stream advertising were neither big enough nor growing fast enough to exert competitive pressure on RTL and P7S1. For instance, Google’s YouTube was not counted as a competitor because of a notorious lack of professional contents and the preference of the advertising industry to place ads in the environment of professional contents (*Bundeskartellamt* 2011a: 54-55). High entry barriers further stabilize the dominant duopoly (*Bundeskartellamt* 2011a: 49-52).

According to the analysis of the FCO, RTL and P7S1 enjoy a (tacitly) collusive duopoly even before the creation of a common subsidiary and do not effectively compete with each other on the advertising market. The common VoD-subsi-dary, thus, would further strengthen the dominant position by extending the collusive equilibrium to

the new channel for TV contents, the internet – according to the reasoning of the FCO (*Bundeskartellamt* 2011a: 55-76). Inter alia, the symmetry of the duopolists, market transparency, the harmonization of technological competition parameters (video player, digital rights management-technologies, etc.) as well as the incentives for tacitly collusive behavior and for foreclosure towards competing contents are further extended and strengthened.

From the perspective of the FCO, several aspects of the case (as described) do not only violate the rules of merger control but also the anti-cartel rules (*Bundeskartellamt* 2011a: 81-100). Through the common subsidiary, RTL and P7S1 may be viewed to organize an anticompetitive cartel. Therefore, the FCO prohibited the Amazonas project both on the grounds of an anticompetitive concentration (merger control) and against the background of the cartel prohibition.

3.2 Germany's Gold Case

Roughly at the same time as RTL and P7S1, the two leading commercial TV providers, Germany's two public service broadcasters (PSBs), the ARD group and ZDF, planned a similar VoD-online platform, labeled "Germany's Gold" (*Bundeskartellamt* 2011b; *Martini* 2012). Their VoD-subsi-dary was also conceptualized to provide former TV content, both from the PSBs and from third parties. Unlike Amazonas, however, not all contents would have been offered for a zero price (and financed by advertising). Additionally, subscription and pay-per-view models were considered. Furthermore, next to hosting, storage and streaming services, Germany's Gold would have provided editorial and marketing services.

While the specific ownership construct was more complicated (WDR media group 2012), at the end of the day, the parents would have been the two German PSB groups. The ARD group consists of regional broadcasting corporations. With its more than 10 national and local TV channels, it reached an audience market share of about 28 per cent – a that-time market leading figure. The other PSB, ZDF, broadcasts 4 nationwide channels (ZDF, ZDFinfo, ZDFneo, ZDFkultur²⁹), with which it reached an

²⁹ At the time of the case, the names of the channels were ZDF infokanal, ZDF dokukanal and ZDFtheaterkanal.

audience share of 14 per cent. Furthermore, ARD and ZDF share the ownership of the TV channels 3sat (ARD and ZDF 32.5 per cent each), Phoenix (50 per cent each), KiKa (50 per cent each) and ARTE (25 per cent each). The audience market share of these channels was below 3 per cent, though. While ARD and ZDF reach significant market shares in the audience market, also vis-à-vis the two leading commercial groups (2004: ARD/ZDF 45 per cent vs. RTL/P7S1 48 per cent), the picture looks different in the advertising market. The PSB are mainly financed by a special tax and are only allowed to broadcast advertising under strict restrictions. Consequently, they reach comparably low market shares in the TV advertising market – in 2009 about 8 per cent with ARD about 5 per cent and ZDF about 3 per cent.

ARD and ZDF notified their intent to create a common VoD platform in October 2010 to the FCO (*Bundeskartellamt* 2011b). Due to the low shares of the PSBs on the TV advertising market, the FCO found that the project did not create or strengthen a dominant market position. Thus, in contrast to the similar project of the two leading commercial broadcasters, the German competition agency did not block the common VoD-subsi-dary of the two PSBs on the grounds of merger control (*Bundeskartellamt* 2011b, 2013a). However, the FCO found anticompetitive concerns that the project would constitute a cartel. In particular, the intended coordination of prices (subscription model, pay-per-view model, marketing services) as well as the influence on the platform on contents (editorial services) would set incentives for foreclosure and further extend the distortion of competition between commercial TV broadcasters and PSBs that results from the tax revenues of the latter (*Bundeskartellamt* 2013a). Consequently, the FCO outlined that the project could only be cleared if the platform would be restricted to hosting, storage and streaming services – and would abstain from editorial and marketing services. However, ARD and ZDF were not willing to comply with such conditions and abandoned the project (*Bundeskartellamt* 2013b).

3.3 Critical Reflection in the Light of New Media Economics

From today's perspective, the reasoning of the FCO only partially fits to the empirical picture and the modern economic theory of both the TV and the VoD market. Of

course, hindsight is a benefit, in particular in dynamic markets. Thus, it remains open for assessment whether the current development could have been expected about eight years ago when the FCO conducted its investigations and made its decisions. Notwithstanding, ex post analysis of competition policy decisions represents an important tool for policy learning and for improving future decisions in comparable cases (*Budzinski* 2013). Thus, pointing out the ex post problems and flaws of FCO's analysis and conclusions may help to guide future decisions regarding VoD- and related markets. The dynamics and current developments in the German VoD market indicate that collaborations and partnerships are highly attractive, particularly for the traditional broadcasters in order to position against the dominant players Amazon and Netflix. In June 2018, for instance, ProSiebenSat.1 and the US-media company Discovery announced to expand their joint video platform 7TV³⁰ with their video streaming services Maxdome and Eurosport-Player that shall offer movies, series and live sports (*Winterbauer* 2018).³¹ Max Conze, CEO of ProSiebenSat.1, in this context wants to establish the "leading streaming platform for Germany" and invited the RTL group as well as the public service broadcasters ARD and ZDF to join these plans (*Winterbauer* 2018, *Meedia* 2018a).

The analysis of the FCO some eight years ago focused strongly on an alleged market dominant duopoly in the German TV advertising market and the negative verdict on the proposed Amazonas project rested predominantly on an increase of this collective dominance. This assessment stands in line with earlier cases tackling the German TV advertising market, in particular the (also prohibited) Springer/ProSiebenSat.1-merger (*Bundeskartellamt* 2006). In both cases, the FCO identifies a considerable number of market characteristics that facilitate a collusive equilibrium (*Bundeskartellamt* 2006: 29-38, 2011a: 25-55).³² The conclusion that German TV advertising market actually finds itself in such a collusive equilibrium with coordinated effects (an uncompetitive duopoly), and its underlying economic analysis, however,

³⁰ 7TV was set up in 2017 and had been cleared by the FCO (*Bundeskartellamt* 2018b).

³¹ On 23 July 2018 the FCO approved the project plans to expand 7TV (*Bundeskartellamt* 2018b).

³² Economic theory identifies several market characteristics that facilitate the emergence of tacitly collusive structures, namely (i) a limited number of competitors, (ii) a high degree of homogeneity in terms of products and cost structures, (iii) a high level of market transparency, (iv) significant barriers to entry, (v) the absence of significant buyer power, (vi) a low probability of detection and legal sanctions, (vii) multi-market contacts, (viii) past experience with coordination, and (ix) a stable economic environment. See *Aigner* et al. (2006: 312-319) for a review of the economic theory and competition policy of so-called coordinated effects.

have received critical review by the economic literature (*Budzinski & Wacker 2007: 291-295; Dewenter 2007b*). In this paper, we do not want to repeat this discussion because, from an ex post point of view, other factors and developments may have put its relevance into perspective. In particular, we discuss (i) the relevance of the audience market for advertising competition in the light of modern media economics, (ii) potential competitive pressure by new market entries of linear audiovisual media services, (iii) potential competitive pressure by nonlinear audiovisual media services, and (iv) competitive pressure by non-TV online advertising.

(i) *The Relevance of the Audience Market for Advertising Competition in the Light of Modern Media Economics*

From the perspective of modern media economics, platform economics play a prominent role in analyzing business models in the VoD market (see section 2.1). However, the theory of two-sided markets is neither mentioned, nor applied to the Amazonas case – despite its obvious fit to an advertising-revenue based online platform offering free content. Furthermore, the core business of the commercial broadcasters creating Amazonas – advertising-revenue based free commercial TV – also fits the definition and characteristics of two-sided market theory. Even though modern platform economics are quite a new theoretical framework, its application in competition policy cases is already widespread accepted.³³ The FCO applied it in several cases as well, some of them dating back to the time of the Amazonas-decision and beyond (*Dittmann et al. 2018*), but surprisingly ignored it when it came to analyzing television and linear audiovisual media markets (irrespective of the broadcasting medium). The non-application of platform economics leads to neglecting important aspects. In particular, the interrelation of the advertising market and the audience market plays an important role for competition intensity here. When deriving its claim of an uncompetitive duopoly on the German TV advertising market (linear audiovisual media services), the FCO ignores the competitive forces on the audience market and concentrates on the shares, pricing strategies and other characteristics of the advertising

³³ The competition law reform in Germany in 2017 explicitly requires considering platform economics in anti-trust cases involving platforms (*Budzinski 2017; Budzinski & Stöhr 2018*).

market. However, on two-sided markets the strategies towards the two distinct demand groups (viewers/users on one side and advertisers on the other) are interrelated: due to the strong network externality from viewers/users towards advertisers, the ability to exert market power on the advertising side crucially depends on the number of viewers and users – on the audience figures (absolute and relative). Consequently, the market shares on the audience market matter more than in the assessment of the FCO.

If the commercial TV broadcasters, for instance, lose audience share, it negatively affects their ability to set high prices on the advertising market. This is true for losing audience to other commercial TV broadcasters (which may be said to be directly reflected in the shares of the advertising market). However, this is also true for losing audience to PSBs. Thus, despite their strong restrictions on the advertising market, the PSBs (ARD group and ZDF) exert competitive pressure on the commercial TV broadcasters (RTL and P7S1) through their strong presence on the audience market. Keep in mind that the German PSBs altogether reached more than 40 per cent audience market share, whereas the RTL group reached 26 per cent and P7S1 about 22 per cent (see sections 3.1 and 3.2). From a two-sided market perspective, the advertising duopoly between RTL and P7S1 is restricted in its ability to abuse its market position (anticompetitive pricing strategies) by the competitive pressure from the audience market where there is clearly no such dominant duopoly. The same is true for non-price strategies which also depend on both sides of the market and its interplay. Furthermore, taking a two-sided market perspective into consideration casts doubt on the different treatment of the Amazonas project and the Germany's Gold project from the dominance point of view – like the FCO did led by a single-sided view on the advertising market.

(ii) Competitive Pressure by New Entries of Linear Audiovisual Media Services

Next to the issue of competitive pressure within the market, i.e. from incumbent linear audiovisual media service suppliers (irrespective of the broadcasting medium), the question of competitive pressure from new market entries needs to be discussed. Regarding potential newcomers, the FCO holds without much reasoning that they

will find it hard to compete with the established stations because of substantial barriers to entry and barriers of mobility in the German TV market (*Bundeskartellamt* 2006: 36-37, 41; 2011a: 49-52; similar: *Rott* 2003: 161). However, one must wonder whether this is still valid. One prominent reason for entry barriers has always been frequency scarcity. In the face of satellite TV and the increased role of digital technologies in terrestrial and cable broadcasting as well as the increasing relevance of internet broadcasting, this problem lost much if not all of its previous significance.³⁴ Another remarkable entry barrier is represented by the ability to offer a full-range program, which in the first place is restricted by the availability and price of intellectual property rights (shows, concepts, etc.). However, existing entry barriers must be compared to the abilities and resources of potential entrants in order to assess their deterrence effect. At the time of the FCO investigation, internationalisation activities by big media companies accelerated (*Nikolinakos* 2004; *Idot* 2006) and potential entrants into the German TV market included big European and American TV networks, which dispose over substantial financial resources as well as comprehensive broadcasting rights, etc. The decision of the German competition agency does not sufficiently clarify why entry barriers should be too high for such potential competitors. The FCO merely hints to the fact that no successful major entry has taken place in the last couple of years (*Bundeskartellamt* 2006: 37-38) – and, in hindsight, it has been effectively right in its assessment as actually no major newcomer (linear audiovisual media service) scored relevant market shares since then (neither offline nor online).

³⁴ Besides, the need for a broadcast licence from one of the regional authorities (Landesmedienanstalten) constitutes some kind of an institutional barrier to entry. In fact, the conditions that must be met in order to get a licence can be characterized as general minimum requirements that are the same for all market participants and their fulfilment constitutes a claim for the licence. Thus, the licensing procedure is not *per se* discriminatory. Furthermore, the KEK must consider possible risks for the diversity of opinion (e.g. caused by concentration of ownership). For detailed information see the relevant wording of the law in the RStV (Rundfunkstaatsvertrag), available at http://www.lfm-nrw.de/downloads/rstv_8.pdf, and in addition for example in the Landesmediengesetz NRW, available at <http://www.lfm-nrw.de/recht/landesmediengesetz/>. In Germany, even some social media stars need to acquire a broadcast licence if their video portal based “program” matches the criteria of linear audiovisual media services (*Böhler* 2017).

(iii) Competitive Pressure by Nonlinear Audiovisual Media Services

New competitive pressure on the incumbents may not only arise from newcomers to the narrow TV market (linear audiovisual media services). Instead, changing consumer habits and technological development may create scope for innovative type of services exerting competitive pressure on the TV incumbents by luring away consumers with services that better match consumers' preferences. The emergence of nonlinear audiovisual media services (section 2) with their various types of VoD business models is certainly the most probable competitor to traditional TV services. From the perspective of modern economics, it matters more if these "new" services exert competitive pressure on "traditional" TV than whether they formalistically belong to the same market.

As our discussion in section 2 demonstrates, the 2010 assessment by the FCO that VoD platforms were neither big enough nor growing fast enough to exert competitive pressure on RTL and P7S1 (*Bundeskartellamt* 2011a: 47-55) cannot be upheld with hindsight. Firstly, the growth of VoD in the past decade as well as its reach has clearly reached areas of relevance to traditional TV. Although, to our best knowledge, there is a lack of empirical studies directly tracing substitution effects and elasticities between linear and nonlinear audiovisual media services is lacking, it cannot be denied that TV incumbents experience competitive pressure by VoD alternatives, in particular with respect to young consumers (*Kupferschmitt* 2017). Secondly, the leading players in the PVoD market – Amazon and Netflix – represent new competitors and the VoD market positions of the TV incumbents, both commercial and PSB, are far away from market-leading. Next to online retailers and specialized VoD firms, in particular big telecommunication companies represent new players in the market. It is difficult to assess whether this development could have been anticipated by the FCO some eight years ago. On the one hand, the dynamics were already visible (see figure 2 and generally section 2). For instance, the TV stations already experienced audience losses among younger target groups and their changing video consumption behavior when they brought their VoD projects back in 2010 (*Zubayr & Gerhard* 2016: 142-144). On the other hand, today's market-leading players in PVoD were not relevant

in Germany back then (Netflix started VoD services in 2007, in Germany 2014; Amazon in 2006 and 2014, respectively). Still, there already visible potential may have been underestimated.

From an ex post perspective and in the light of section 2.3, it also seems inappropriate to discount YouTube as a competitive force due its alleged lack of professional contents (*Bundeskartellamt* 2011a: 54-55). Firstly, the commercialization of YouTube contents renders this assessment obsolete with hindsight. It may play a role here that commercially highly successful new content types – for instance in the context of so-called YouTube stars (see section 2.3) – were underestimated because their producers were true newcomers and did not origin from within the incumbents of the media sphere, causing an ignorance-based badmouthing of them being “non-professional” by previous (antiquated?) journalistic standards and habits. From an economics perspective, the impressive commercial success of this million dollar business speaks a different language (*Budzinski & Gaenssle* 2018a, 2018b). Secondly, however, YouTube’s attractiveness to the audience matters irrespective of the degree of professionalism of its contents since it creates competitive pressure on the audience side of the market and through this channel influences advertising competition as well (platform economics, see above). Changing video consumption patterns – away from linear TV towards nonlinear video portals (including both PVoD and AVoD) – matter for the assessment of competition and market power.

In general, competition policy tends to neglect “free” services in the online world and focuses too much on paid-for services. The underlying economics of advertising-based platforms but especially also data-based services (see section 2.1) are just becoming popular in antitrust analysis nowadays. For instance, Germany has recently (June 2017) reformed its competition law in order to consider non-turnover-based values and zero-price-services along with more traditional measures and goods (*Budzinski* 2017; *Budzinski & Stöhr* 2018). Notwithstanding, it must be noted that zero-price services are also prevalent in the traditional TV markets with its free-to-air commercial TV stations – and they exactly were the object of the Amazonas case and decision.

Altogether, an ex post discussion reveals that competitive pressure from upcoming nonlinear audiovisual media services – both PVoD and AVoD à la YouTube – qualified most of the anticompetitive concerns regarding the intended VoD-platforms. With the benefit of hindsight, it is difficult to see either Amazonas or Germany's Gold in market-dominant positions nowadays. Nor does it look likely that they may have stabilized any (anyway controversial) TV duopoly. Obviously, it is much more difficult to assess how much of the empirical development could have been anticipated or was already on the horizon some eight years ago when the FCO had to make its decisions.

(iv) Competitive Pressure by Non-TV Online Advertising

Eventually, the FCO concerns in the Amazonas case centre on the advertising market and market power towards advertisers. The question whether the VoD project Amazonas would have increased market power towards advertisers points to the question of competitive pressure by non-TV online advertising and the players on the online advertising markets. The FCO considers (offline and online) audiovisual advertising and includes in-stream advertising, in particular by Amazonas itself, whereas in-page advertising is discarded (*Bundeskartellamt 2011a: 15-23*). While this may be debatable, it needs to be conceded that market definition in online advertising is notoriously difficult (*Ratliff & Rubinfeld 2010*). Again, however, Google's YouTube was not considered to represent a competitive force because advertisers allegedly did not see it as an alternative to TV advertising due to their preference to place ads in the environment of professional contents (*Bundeskartellamt 2011a: 54-55*).

Some eight years later, this assessment cannot be upheld at all. The empirical development has clearly revealed that advertisers care about their target groups more than about the – perceived, ostensible – professionalism of the content their advertising is placed in. If the relevant target groups for advertisers change their consumption behavior and mass-consume YouTube videos, then the advertising industry follows suit. Today, social media stars including so-called influencers earn million dollar incomes from advertising revenues of their videos (*Budzinski & Gaenssle 2018a, 2018b*). The main revenue sources are (a) from the participation of Google's YouTube

advertising revenue, (b) from in-video product placement directly paid-for by the advertisers (in particular in so-called how-to-and-style videos), as well as (c) from direct sponsorship of social media stars (e.g. gamer, e-sports). Advertisers clearly appear to be more than happy to place their ads in this context while at the same time advertising revenues in traditional TV are declining. The British market researcher WARC just published that spending for online video advertising worldwide is forecasted to increase to 30 billion US-dollars in 2018 and that particularly YouTube and Facebook will profit from this (*Nötting* 2018). Advertisers, thus, follow the changed usage patterns by the consumers, and in particular the increased video usage on mobile devices (*ibid.*). Looking at the net advertising revenues in Germany in 2017 spending on "television" increased only slightly (+0.7% to 2016) whereas the overall spending for "online and mobile"³⁵ increased by +8% at the same time (*ZAW*2017). According to *Statista* (2018b) the gross revenues in video advertising (desktop and mobile) in Germany were at 435 million Euros in 2017 and are forecasted to increase up to 849 million Euros in 2022.

Furthermore, market power has indeed become a relevant problem in the online advertising industry. However, none of the traditional TV companies plays a role here. Instead, the *European Commission* (2018) very recently claimed that YouTube's parent company Google enjoys Europe-wide (and probably beyond that) market power in online advertising. More precisely, a statement of objections against Google's AdSense service targets practices in advertising management for third-parties, which is the most relevant element of the modern online advertising supply chain and in which Google's AdSense is leading. In the face of this antitrust case, it seems highly doubtful that German commercial TV stations can exert relevant market power on advertisers against or independent from Google's grip on the online advertising world.

Altogether, an ex post view on the Amazonas decision and the parallel Germany's Gold case indicates that the actual development has considerably departed from the expectations some eight years ago. Market dynamics have eroded the anticompetitive concerns of the time and, in hindsight, it is difficult to uphold that Amazonas

³⁵ Online and Mobile thereby exclude search advertising and affiliate marketing (*ZAW*2018).

and/or Germany's Gold would have generated considerable anticompetitive effects. Given the importance that YouTube already had at the time and further extended since then as well as the might of PVoD entrants (Amazon, Netflix, telecommunication giants), it also appears to be highly implausible that Amazonas and Germany's Gold could have erected a duopoly with sufficient entry barriers to keep international VoD platforms outside the market (and prevent the changes in video consumption patterns towards video portals like YouTube). Quite in contrast, domestic media appears to play no significant role in the new world of nonlinear audiovisual media services. However, it is difficult to assess the role of the FCO's decision some eight years ago regarding today's lack of competitiveness of German media in VoD markets.

4 Conclusion

The markets for audiovisual content are subject to dynamic change. Where once "traditional" (free-to-air, cable, satellite) television was dominating, i.e. linear audiovisual media services, displays nowadays strong growth of different types of video-on-demand, i.e. nonlinear audiovisual media services, including both PVoD like Amazon Prime and Netflix and AVoD like YouTube. Competition policy decisions in such dynamic markets are always particularly challenging, in particular in the areas of competition policy that require considering and estimating effects happening in the future (merger control, abuse of dominance). The FCO was presented such a challenge when at the beginning of the 2010s German television providers sought to enter online VoD markets with the help of cooperative platforms: one for the commercial advertising-financed stations (called Amazonas) competing with one for the PSBs (Germany's Gold). Back then, online PVoD was in its infancy, whereas AVoD already attracted massive audiences – with both VoD-types displaying dynamic growth. Focusing on PVoD and dismissing significant entry threats, the FCO concluded severe antitrust concerns and outright prohibited the Amazonas project while confronting the Germany's Gold project with demand for strict and far-reaching obligations and commitments, eventually leading to the project being abandoned.

Some eight years later, we review the assessment of the FCO in an ex post analysis with the benefit of hindsight. In doing so, we first discuss the dynamic development of the German VoD markets during the last decade with a special focus on the role of AVoD portals like YouTube. In the second part of this paper, we confront our results with the 2011-analysis of the FCO. We find four aspects, in which the previous assessments cannot be upheld from today's perspective (with the benefit of hindsight). First, the FCO neglected relevant implications of modern platform economics casting doubt on the stability and power of the alleged uncompetitive duopoly in the German TV advertising market. Second, in terms of an effects-based analysis including platform economics, the differences in the assessment of the two projects appear to be inappropriate. Third, and more importantly, the emerging competitive pressure of nonlinear audiovisual media service providers was and became significantly more relevant and stronger than accounted for in the Amazonas- and Germany's Gold-cases. The entry of powerful new international players in the PVoD market, like Amazon, several telecommunication giants, and international market leader Netflix eroded possibly remaining elements of market power by German television providers. Quite in contrast, one could fundamentally question the future competitiveness of German television providers in the changing market. Furthermore, the exclusion of AVoD portals as competitors neither fits to changing video consumption patterns, nor to the commercial importance and character of YouTube and co. In particular, the assumption that AVoD content is non-professional and an inadequate environment for advertisers is spectacularly wrong an ex post perspective – and probably was already doubtful some eight years ago. Fourth, the question of market power on advertising markets including online advertising nowadays rather points to internet giants (e.g. the Google AdSense case) than to a special position of television companies.

With the benefit of hindsight, things naturally may look very different than at the time of the case analysis by the competition authority. Therefore, the merit of ex post analyses lies not so much in detecting mistakes in analysis or judgment. Rather, their merit is to create knowledge about mismatches of expected/predicted and actual developments in order to improve competition policy learning. Our paper intends to contribute to the creation of this type of knowledge.

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