

Gigabyte price development in 4 to 3 consolidated versus 4-MNO European markets – September 2013 to March 2018

As we asserted back in 2015 the merger mandated so called 'capacity' MVNOs did not become effective competitors

Key questions answered

- Did the gap between gigabyte prices in the 4 to 3 consolidated markets and 4-MNO markets widen further?
- Did the entry of Tele2 as a 4th MNO in the Dutch market push gigabyte prices much lower?
- Do the merger-mandated so called 'capacity' MVNOs offer more competitive prices than commercial MVNOs?
- Did the merger-mandated so call 'capacity' MVNOs remedy the loss of the competitive pressure that is typically exerted by the 4th MNO?

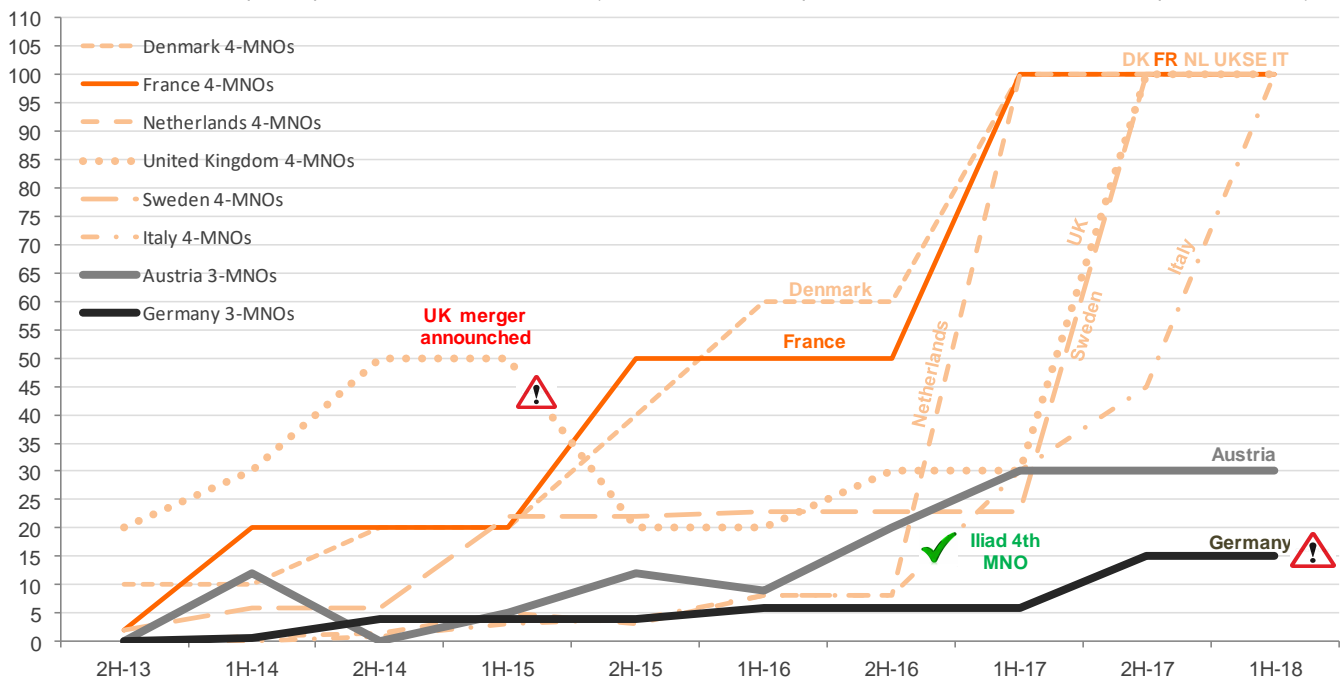
Rewheel research PRO study, 12th April 2018

Key findings

- In September 2013, few months after the Austrian 4 to 3 merger and prior to the 2014 German 4 to 3 merger, €30 bought roughly the same 4G gigabytes in Germany, Austria and most European 4-MNO markets
- By March 2018 gigabyte prices in 4 to 3 consolidated German and Austrian markets have fallen considerably behind the Netherlands and all other 4-MNO European markets

How many gigabytes €30 bought in 4 to 3 consolidated German & Austrian vs. in 4-MNO markets the last 5 years?

4G smartphone plans with at least 1,000 mins (2018 - 2017 min 3Mbps for HD video, 2016 - 2013 min 1Mbps for SD video)



Source: research.rewheel.fi ©

Effect of the Commission's 4 to 3 (de-facto) merger prohibition on Danish gigabyte prices

- The Commission's swift prohibition of the planned Telenor and Telia 4 to 3 merger ensued minimum disruption in Danish effective competition
- Denmark was among the first markets in Europe where consumers could buy for €20 or less 100 or unlimited gigabytes

Effect of the Commission's 4 to 3 merger prohibition on UK gigabyte prices

- In the UK the contemplated 4 to 3 merger between Telefonica-O2 and Hutchison-3 announced in 2015 pushed the maximum gigabytes that €30 could buy lower for a brief period (2H2015 to 2H2016) but after the Commission blocked the merger the market repair was swift: by the second half of 2017 €30 bought 100 or unlimited gigabytes

Effect of the Commission's 4 to 3 merger approval (with Iliad as new 4th MNO) on Italian gigabyte prices

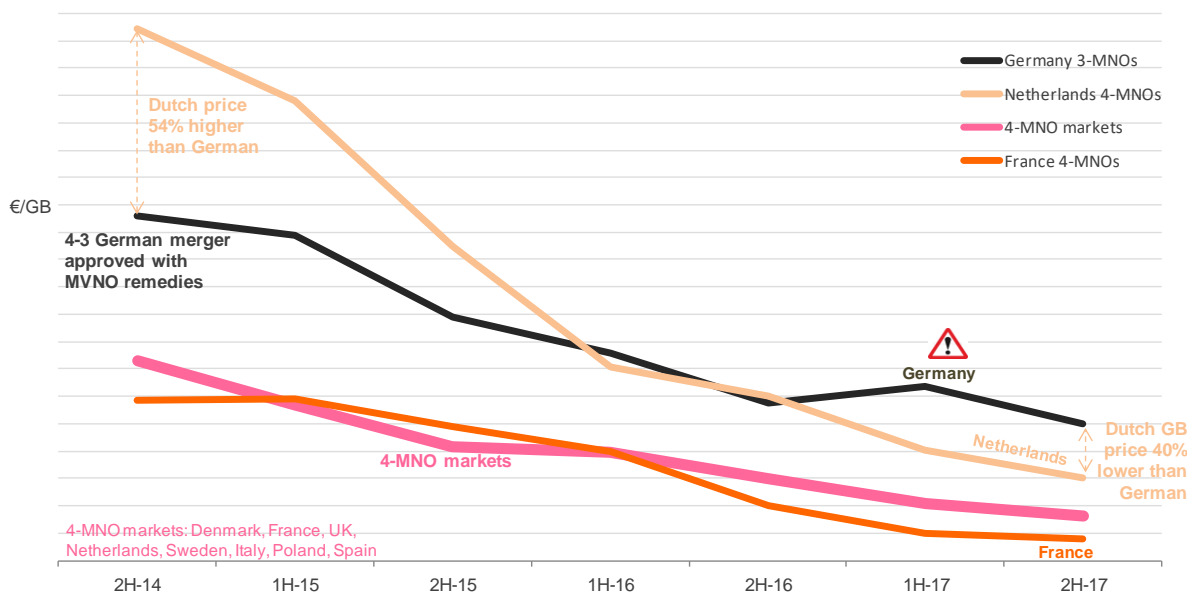
- Gigabyte price competition intensified and allowances more than doubled after the Commission approved the 4 to 3 merger by mandating a new 4th entrant (Iliad)
- In March 2018, few months before Iliad's imminent market entry, Italy joined the club of 4-MNO markets where €30 buys consumers 4G smartphone plans with 100 or unlimited gigabytes

Dutch 4-MNO versus German 4 to 3 consolidated market

- The entry of Tele2 as 4th MNO pushed Dutch gigabyte prices lower and much closer to the competitive 4-MNO market prices
- In the Netherlands the effect of Tele2’s entry on gigabyte prices reached an inflection point when Tele2 launched a smartphone plan with unlimited data for €25 during the first half of 2017
- In the second half of 2014, prior to Tele2’s entry, the Dutch median fully allocated gigabyte price was 54% higher than the German median fully allocated gigabyte price
- By the second half of 2017 the Dutch median fully allocated gigabyte price had become 40% lower than the German price!

Country median fully allocated¹ gigabyte price in the 4 to 3 consolidated German vs. 4-MNO markets the last 4 years?

4G smartphone plans with at least 1,000 mins (2013 - 2016 1Mbps min speed, 2017 3Mbps min speed for HD video)



Source: research.rewheel.fi ©

¹ Fully allocated GB price of 4G LTE smartphone plans (with at least 1,000 mins)
Fully allocated GB price = tariff retail monthly price (incl. VAT) divided by included gigabyte allowance

4-MNO markets vs. Germany

- After the 4 to 3 merger the gap between the German median fully allocated gigabyte price and the median fully allocated gigabyte price across eight 4-MNO markets has almost doubled
- During the second half of 2017 the German median fully allocated gigabyte price was 3 times higher than the median fully allocated gigabyte price across eight 4-MNO markets

Max gigabytes for:	4G smartphone plans with at least 1,000 mins and at least 3Mbps for HD video, March 2018							4 to 3 consolidated	4 to 3 consolidated
	4-MNO market	4-MNO market	4-MNO market	4-MNO market	4-MNO market	4-MNO market	4-MNO market		
€ 10	1	0	0	2	4	10	10	2	
€ 15	100	20	2.5	6	5	20	20	3	
€ 20	100	Unlimited	27	12	10	20	30	8	
€ 30	100	Unlimited	Unlimited	100	100	100	30	15	
€ 40	Unlimited	Unlimited	Unlimited	Unlimited	100	100	30	20	
€ 50	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	100	30	25	
€ 60	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	100	50	28	
€ 70	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	100	60	28	
€ 80	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	100	60	Unlimited	

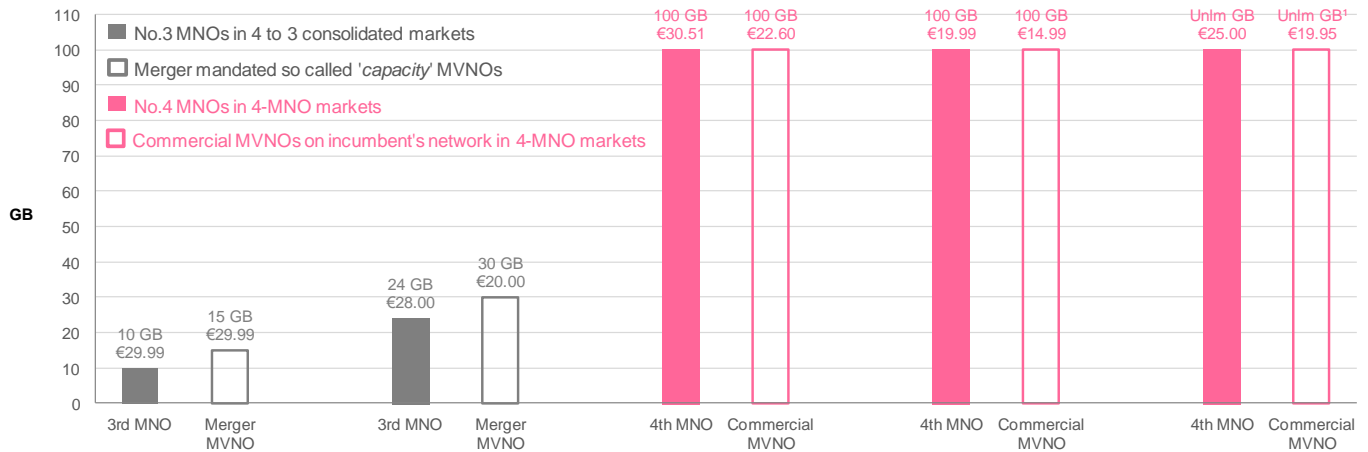
Do merger mandated so called 'capacity' MVNOs offer lower prices or higher gigabyte allowances than commercial MVNOs?

- No they do not: in 4-MNO markets the competitive pressure exerted by the 4th MNO forces the incumbent operators to respond by offering very competitive commercial deals to MVNOs which are far superior from the deals that the merger mandated so called 'capacity' MVNOs secured

Did the merger mandated so called 'capacity' MVNOs remedy the loss of the competitive pressure that is typically exerted by a 4th MNO?

- No they did not: gigabyte prices in the German and Austrian 4 to 3 consolidated markets are much higher today than gigabyte prices in 4-MNO markets and the gap keeps widening

Gigabyte prices of commercial MVNOs in 4-MNO markets are up to 13x lower than prices of merger mandated so called 'capacity' MVNOs in the German and Austrian 4 to 3 consolidated markets
 4G smartphone plans with at least 1,000 mins and 3Mbps speed for HD vid



Merger mandated so called 'capacity' MVNOs sell at most as many gigabytes as their MNO hosts for similar prices!

MVNOs on incumbent networks with commercially negotiated deals sell at most as many gigabytes as the no.4 MNOs for lower prices!

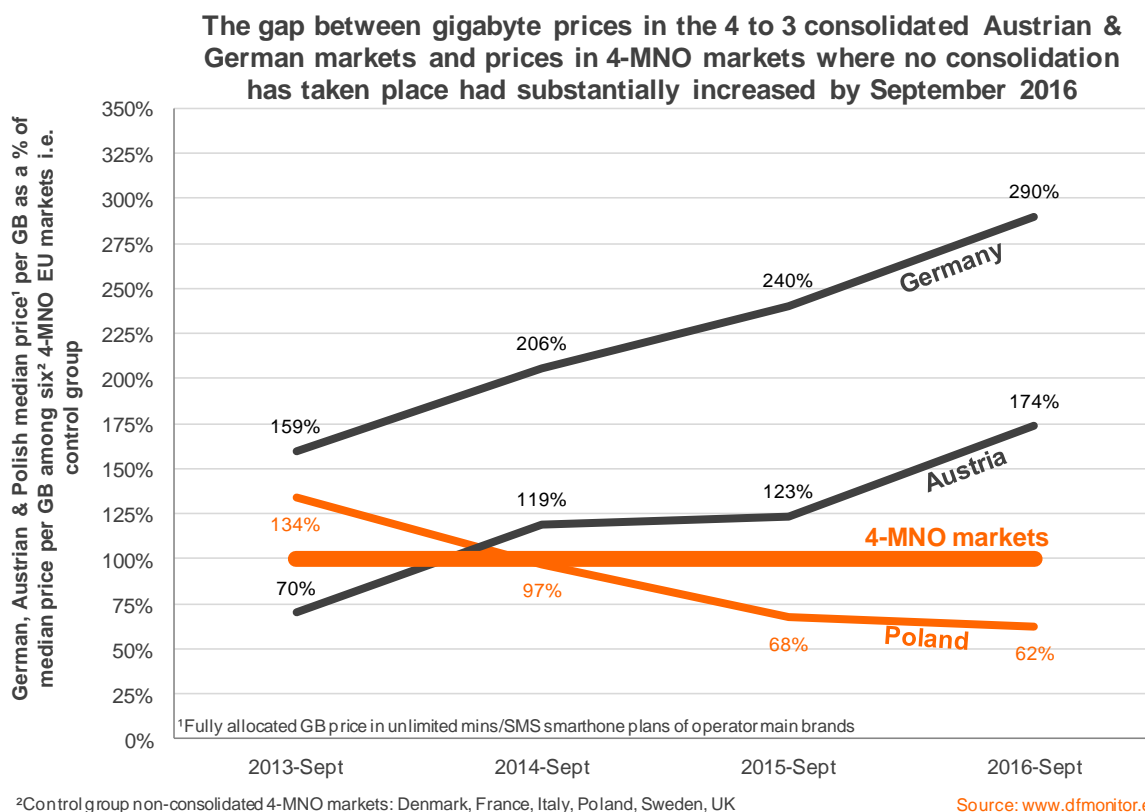
Prices: March 2018, source: research.rewheel.fi ©
¹27 GB full speed and then unlimited GB for 1 Mbps

Table of Contents

1	Gigabyte price development in the 4 to 3 consolidated vs. 4-MNO markets	8
1.1	Gigabytes that €30 bought in 4 to 3 consolidated vs. 4-MNO EU markets – September 2013 - March 2018	8
1.2	Gigabytes that €10, €15, €20, €30 €40 or €50 bought – September 2013 - November 2017	10
1.3	Development of country median fully allocated gigabyte price in smartphone plans	14
2	Country briefs	17
2.1	Germany: 4 to 3 consolidated market	17
2.2	Collateral damage caused by the Commission's so called 'capacity' MVNO 4 to 3 merger remedies	21
2.3	Austria: 4 to 3 consolidated market	25
2.4	So called 'capacity' merger mandated MVNOs – More competitive than commercial MVNOs?	31
2.5	France and Netherlands: markets with a 4 th MNO entry	33
2.6	Denmark and UK: 4-MNO markets where 4 to 3 consolidation was blocked	35
2.7	Italy: 4-MNO market where 4 to 3 consolidation was allowed subject to Iliad becoming the new 4 th MNO	40
2.8	Sweden, Poland and Spain: 4-MNO markets where 4 to 3 consolidation has not been attempted	42

Context of study

In January 2017 we published¹ a four year comparative study of unit (gigabyte) prices in 4-MNO and in the 4 to 3 consolidated German and Austrian markets. Therein we showed that the gap between gigabyte prices in the 4 to 3 consolidated Austrian & German markets and prices in 4-MNO markets where no consolidation has taken place had substantially increased by September 2016 as seen below.



The motivation for our January 2017 study was to invalidate the baseless claims made by GSMA² and Frontier Economics³ with respect to whether the 4 to 3 merger made Austrian consumers better off because unit prices (e.g. price per megabyte) continued to fall after the merger while average data consumption continued to rise. As we wrote back in January 2017 the right question to ask is not whether unit prices continued to fall after a 4 to 3 merger but rather has the merger resulted in a significantly lower rate of decrease than the projected rate of decrease absent of the merger.

In industries where unit prices are in a falling trajectory due to structural reasons (e.g. near-zero⁴ marginal mobile data cost), a 4 to 3 mobile merger could lead to a significant impediment of effective competition despite falling post-merger unit prices if the rate of decrease is significantly lower than the projected rate of decrease absent of the merger (i.e. assuming a 4-MNO market). Paraphrasing a point⁵ we made regarding the Austrian mobile merger back in June 2015 the right question to ask is not whether unit prices will increase or fall after a 4 to 3 mobile merger but rather how much lower unit prices (i.e. €/gigabyte) would have been if there were four rather than three mobile network operators left in the market?

In our January 2017 study, by using a four year (2013 – 2016) comparative analysis of country median fully allocated gigabyte prices of unlimited (>1,000) minute & SMS smartphone plans (i.e. unit prices) we showed that the gap between prices in the German and Austrian 4 to 3 consolidated markets and prices in 4-MNO markets where no consolidation has taken place (i.e. control group Denmark, France, Italy, Poland, Sweden and UK) had substantially increased by 2016.

¹http://research.rewheel.fi/insights/2017_jan_premium_4y_comparative_prices/

²https://www.gsma.com/publicpolicy/wp-content/uploads/2015/05/Assessing_the_case_for_in-country_mobile_consolidation.pdf

³<http://www.frontier-economics.com/news/mobile-prices-in-austria/>

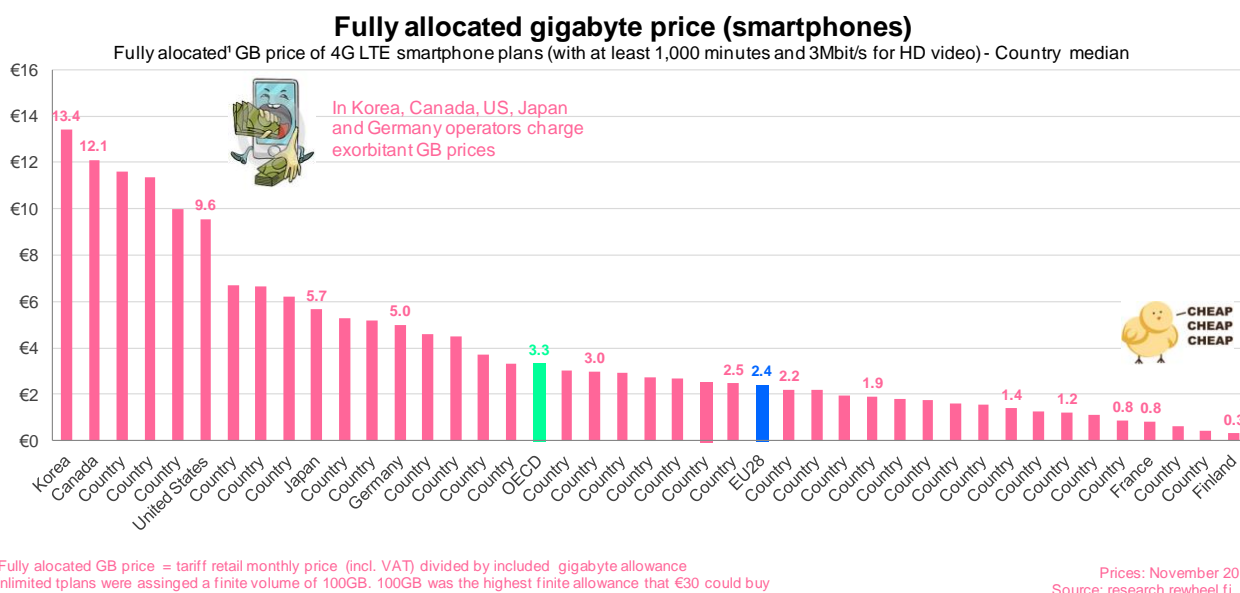
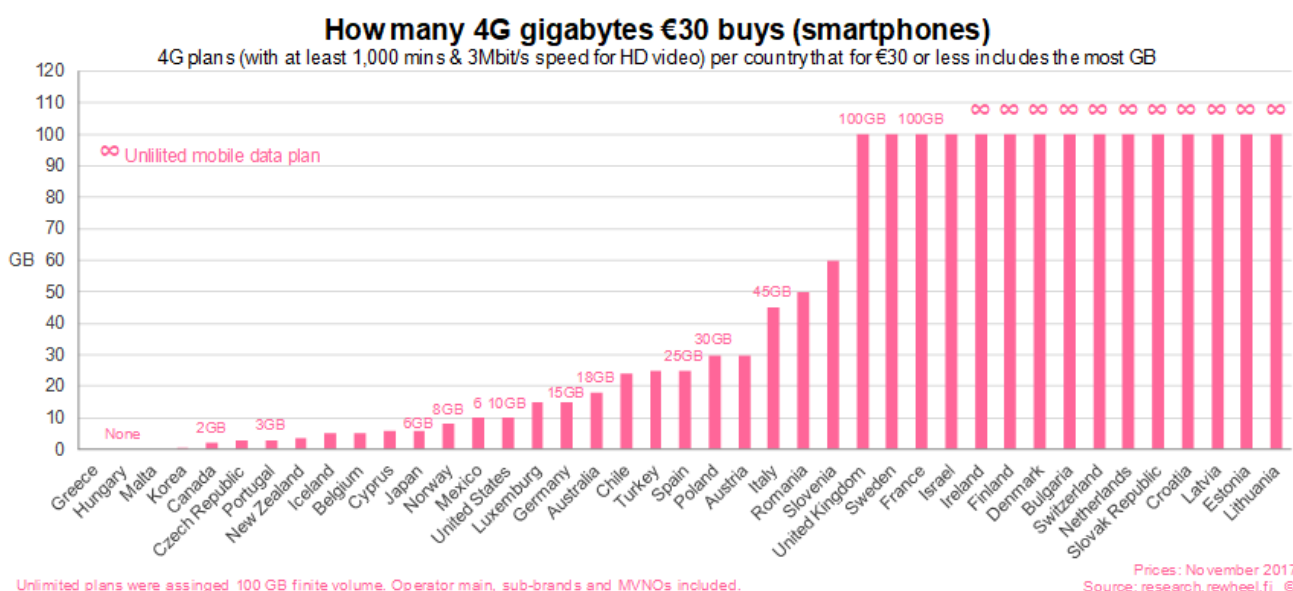
⁴http://research.rewheel.fi/insights/2017_sep_pro_near_zero_marginal_cost/

⁵<http://www.reuters.com/article/us-mobile-europe-m-a-idUSKBN0OP11Q20150609>

In this follow up study, having two more years of comparative historic pricing data at hand (i.e. 2017 and 1H2018), we repeat the analysis with special focus on the gigabyte price evolution in the Dutch market in light of the proposed 4 to 3 consolidation between T-Mobile (no.3 MNO) and Tele2 (no.4 MNO).

In addition to the country median fully allocated gigabyte price metric we used in our January 2017 study to compare the historic price development in each market, herein we analyse the historic tariff plans by using one more metric: the maximum gigabytes that a certain monthly retail price point (e.g. €30) bought in each market under investigation. The maximum gigabytes for a given retail price point such as €30, while less broad than the country median fully allocated price per gigabyte (median of all the eligible tariffs offered by the market participants), is more robust because it is not prone to distortions from sample size. Moreover, in this study we have broadened the scope of the gigabytes for a certain monthly price by analyzing a wide range of price points (€10, €15, €20, €30, €40, €50, €60, €70 and €80).

How many gigabytes each operator sells for a given mass market affordable retail price point (e.g. €30) is a key metric that is easy to understand even by consumers, easy to apply, well characterizes the overall price competitiveness of a given market and it is very robust. As seen below countries where €30 bought 100 or unlimited gigabytes during November 2017 (e.g. Finland and France) had very low median fully allocated gigabyte prices while the opposite is true for countries where €30 bought very few gigabytes (e.g. Korea, Canada Unites States and Germany).



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*New radio spectrum bands, 4.5G and 5G technology, unlimited mobile data plans and the Internet of Things radically change mobile network operators' cost, revenue and profitability dynamics. **Rewheel's mission is to help prepare for the paradigm shift in network and spectrum strategy, spectrum valuation, network sharing, M&A, MVNO economics and mobile data pricing.***

Founded in 2009, Rewheel is a Finland based boutique management consultancy. Our clients are mainly European mobile network operators, telco groups, MVNO groups, sector regulators, governments, global internet firms, mobile data-centric start ups, PE and VC investors.

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Since 2010 we have been supporting a number of European challenger mobile operators in multiband (700, 700 SDL, 800, 900, 1400 SDL, 1800, 2600, 3.5 GHz) auctions with spectrum valuation and strategic advisory services.

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⇒ http://research.rewheel.fi/insights/2017_nov_pro_2h2017_release/

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⇒ http://research.rewheel.fi/insights/2017_mar_pro_network_utilisation_mimo/

Effective structural remedies for Hutchison-WIND 4 to 3 Italian mobile merger

⇒ http://research.rewheel.fi/insights/2016_sept_premium_italy_hutch_wind_merger/

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⇒ http://research.rewheel.fi/insights/2016_apr_premium_telenor_denmark_turnaround/

The approval of the 4 to 3 Telefonica E-Plus merger with Mickey Mouse MVNO remedies made Germany the least competitive market in EU28

⇒ http://research.rewheel.fi/insights/2016_feb_premium_denmark_germany/

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