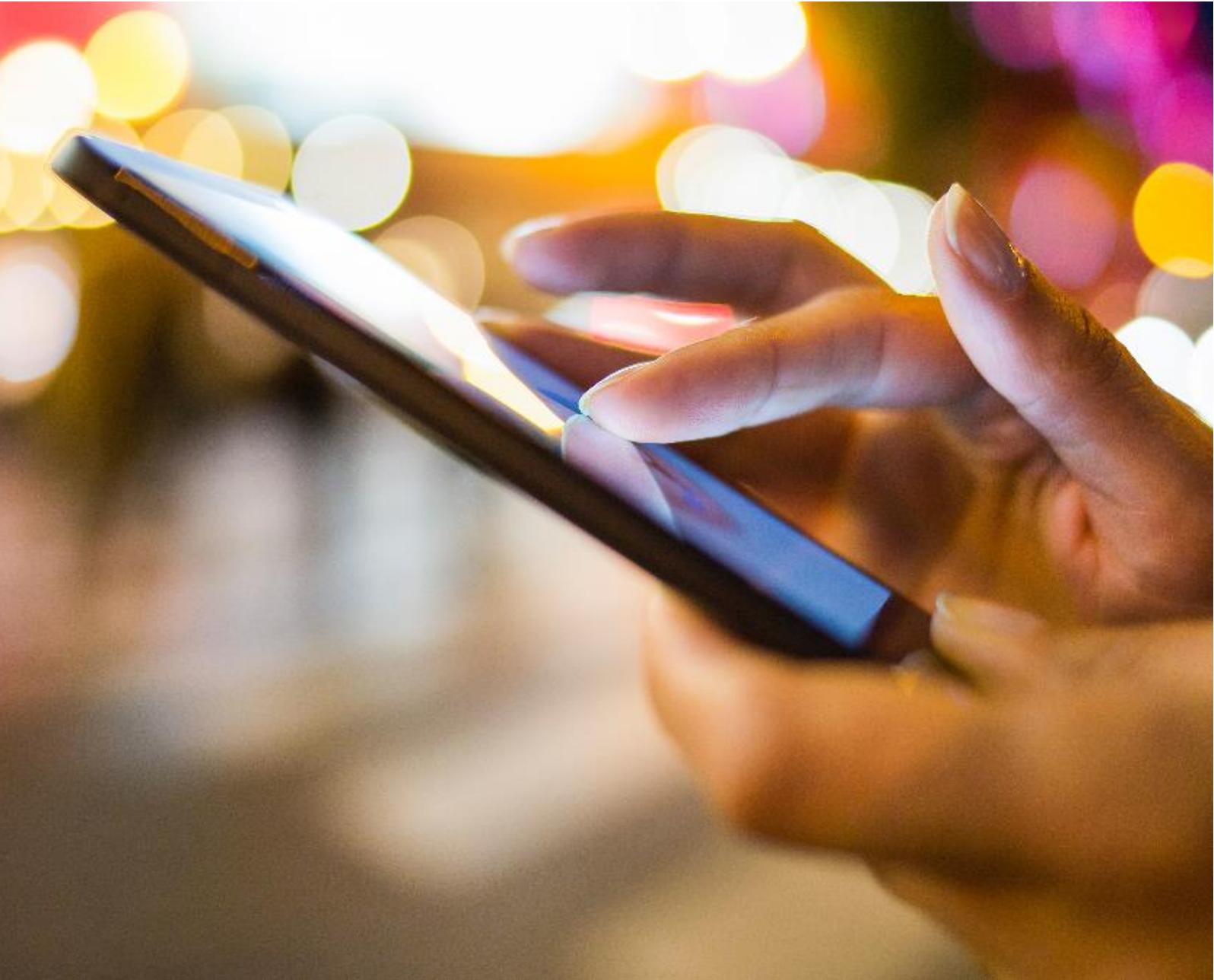


**Deloitte.**



## **Regulation of mandatory access of MVNOs in Georgia**

Addendum in response to GNCC's  
statement

October 2020

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## 1 Summary

The Georgian National Communications Commission (“GNCC”) published on December 31, 2019 a decision mandating existing Mobile Network Operators (MNOs) to grant MNVO applicants access to their (MNO’s) networks.

In this context, Deloitte TMT practice conducted a thorough analysis of the conditions in the Georgian market to assess, from an outside-in perspective, the impacts such regulation is likely to have on the broader mobile industry in Georgia.

Our analysis covered the dimensions we considered most relevant such as market structure and its pricing points, appeal for potential applicant MVNOs, investment needs and potential impact from a MVNO initiative, regulatory considerations and the status of the economy, post COVID-19, amongst others, leveraging for this exercise publicly available data. Our conclusions are the result of an independent reflection, based on our expertise in the sector, our detailed analysis and the specific situation of the Georgian mobile market.

In June 2020, MagtiCom submitted the previously mentioned report, along with the reports from five other firms that conducted similar analysis, to the National Communications Commission as well as to other government/administrative authorities. The GNCC released a statement on October 16<sup>th</sup>, 2020 written as a hard criticism on the reports provided by MagtiCom.

The aim of this addendum is to clarify and defend our work where applicable and to challenge GNCC arguments where we believe its criticisms are unjustified, be it for a lack of understanding or mis-interpretation of our work or for aiming to draw conclusions using methodologies and approaches that are, in our views, flawed.

Although GNCC does not nominate the specific reports from consultants in its list of criticisms, we believe there are four points that may refer to elements we covered in our report: i) our assessment that price points in Georgia are already relative cheap, ii) our read of the regulatory context, iii) the logic that lead us to conclude that the introduction of MVNO is likely to further concentrate infrastructure investment in the country and iv) our view that the COVID-19 crisis will make it harder for MVNOs to enter the market. We will cover these four points one by one in the following sections.

Our response can be summarized in the following points:

1. We have deep understanding on the Georgian mobile market – our analyses and assessments are based on that understanding and are backed by data and facts.
2. There is unequivocal evidence that mobile prices in Georgia are affordable and that the retail market is functioning well in general – we believe low portability is a consequence of these relatively low prices in the market and of the choices consumers in Georgia make.
3. We see service differentiation (obtained by offering different service quality, coverage and price combinations) as a structural component of the Georgian market. Therefore, any price benchmarking methodology that doesn't consider service quality and coverage levels or that excludes VEON services will not, in our view, reflect the reality of the Georgian market.
4. The Georgian market is not limited to legacy mobile voice services. Analyses from this this sub-segment of the market cannot be, in our view, extrapolated and generalized to the entire Georgian mobile market.
5. In addition, COVID has had an un-deniable effect on mobile service providers worldwide given it has imposed restrictions on people's ability to move and reduced people's ability to spend. MVNOs will be impacted in a similar way, and investors considering financing new MVNOs ventures will need to take into account the additional risks created by the COVID context.
6. Finally, we believe the GNCC might have mis-read or mis-understood some of our statements or points. We have clarified them in this document for the avoidance of any possible doubt.

## 2 Issues addressed

### 2.1 Our assessment that price points in Georgia are already relative cheap

*GNCC in Question 1 states that, our view position that “In terms of price, the Georgian mobile communications market is quite affordable” is unsubstantiated and incorrect*

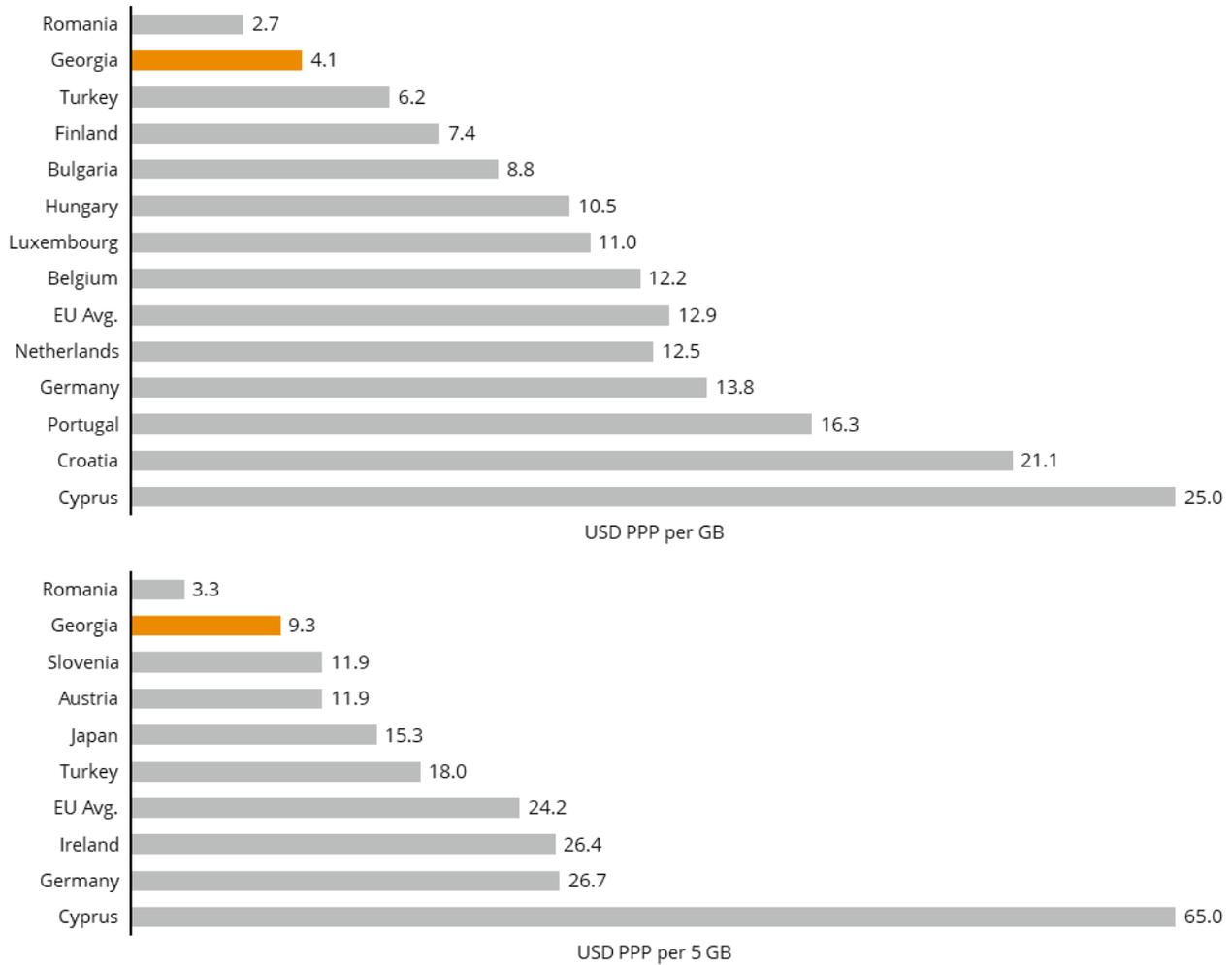
*Summary of our position on GNCC statement:*

- 1. Our conclusion that mobile prices in Georgia are already relatively cheap was based on recent benchmarks build and published by the GNCC itself. The conclusions from these benchmarks is un-equivoqual: prices in Georgia are cheap. We have also conduced other analyses and used other sources that further confirm this point.*
- 2. In its statement, the GNCC is now refering to a different methodology for benchmarking mobile prices in the market – this change of methodology could be, in our view, opportunistic and done with the purpose of reaching a different conclusion from the one GNCC’s previously reached as, indeed, the assessment of price levels in the country is probably the most important argument with regards to MVNO regulation. Furthermore, we believe that GNCC new apporach is flawed as it compares prices assuming full commoditisation of mobile services, which is, in our opinion, incorrect as the Georgian market is very differentiated at quality levels (i.e. prices are based on the quality being offered to the customer in terms of call drops, time to setup calls, data speeds, packet loss, coverage, congestion, etc.). A proper balance of “high quality and low quality services” needs to be relected to benchmark average prices in Georgia with other countries, something that the GNCC is not doing by only including Magticom and Silknet services and ignoring VEON’s services.*
- 3. Finally, the GNCC further argues that prices for mobile voice services in the country have not declined and therefore concludes that the retail mobile market in Georgia is not functioning. This conclusion is, in our view, based on a flawed logic: GNCC is cherry-picking mobile voice (a legacy product, declining in volume and value that is not representative anymore of the mobile market as a whole) and is conveniently leaving out mobile data (a fast growing product that already represents about 60% of the market and that is at the heart of battle for customer share at retail level between the mobile operators). Mobile data prices are falling at a pace of 40% per annum since May 2018. To us, this suggests that the market is functioning indeed very well with price-based competition working at its fullest.*

*Point 1: Our conclusion that mobile prices in Georgia are already relatively cheap was based on recent benchmarks build and published by the GNCC itself. The conclusions from these benchmarks is un-equivoqual: prices in Georgia are cheap. We have also conduced other analyses and used other sources that further confirm this point.*

To conclude that mobile prices in Georgia are low, we have used pricing benchmarks published by GNCC, in the following report “August, 2019 GNCC Report – Mobile and fixed communication services price analysis”. These benchmarks rank Georgia in 2019 as one of the markets with the lowest prices for mobile data, when compared to the European market at PPP prices. Please refer to our report section 2.1

Figure 1 – Mobile data price benchmark (2019)



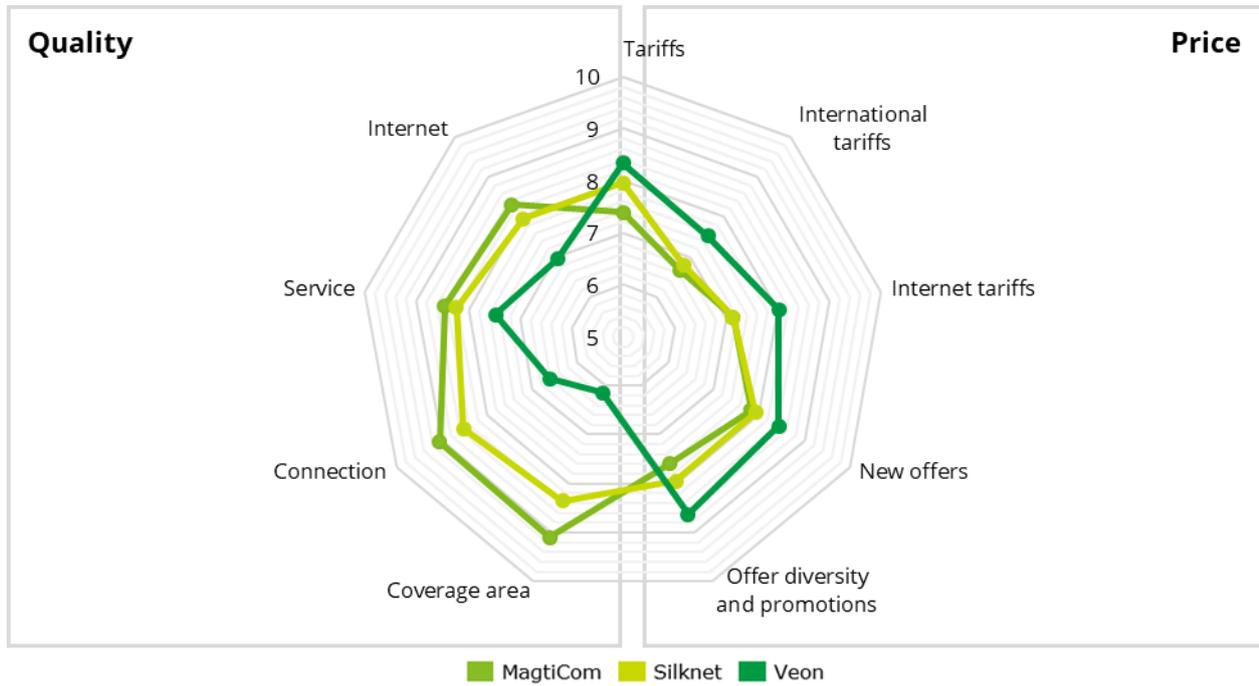
Source: GNCC

In section 2.1, we have made references to other sources beyond GNCC, namely a study published on cable.co.uk which ranks countries based on mobile data affordability. This study shows that Georgia moved from position 71 in 2018 to position 33 in 2019 (out of 230 countries), i.e. that prices in Georgia are now in line with the most affordable countries.

*Point 2: In its statement, the GNCC is now referring to a different methodology for benchmarking mobile prices in the market – this change of methodology could be, in our view, opportunistic and done with the purpose of reaching a different conclusion from the one GNCC’s previously reached as, indeed, the assessment of price levels in the country is probably the most important argument with regards to MVNO regulation. Furthermore, we believe that GNCC new approach is flawed as it compares prices assuming full commoditisation of mobile services, which is, in our opinion, incorrect as the Georgian market is very differentiated at quality levels (i.e. prices are based on the quality being offered to the customer in terms of call drops, time to setup calls, data speeds, packet loss, coverage, congestion, etc.). A proper balance of “high quality and low quality services” needs to be reflected to benchmark average prices in Georgia with other countries, something that the GNCC is not doing by only including Magticom and Silknet services and ignoring VEON’s services.*

The Georgian market is not commoditized – indeed, there are significant differences between the quality/price propositions what Magticom, Silknet and VEON offer.

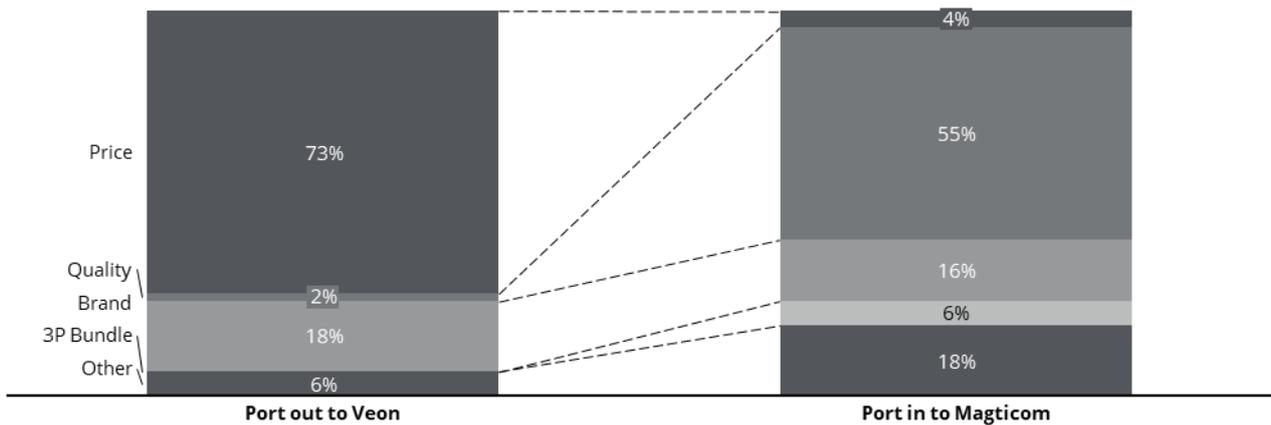
Figure 2 – Market research data (June 2019)



Source: MagtiCom market research

When looking reasons why customers are porting in or porting out, it is also extremely clear that mobile services in Georgia are not commoditized: customers come to Magticom when looking for quality, they port out to VEON when looking for cheap prices.

Figure 3 – MagtiCom customers - reasons to switch (June 2019)<sup>1</sup>

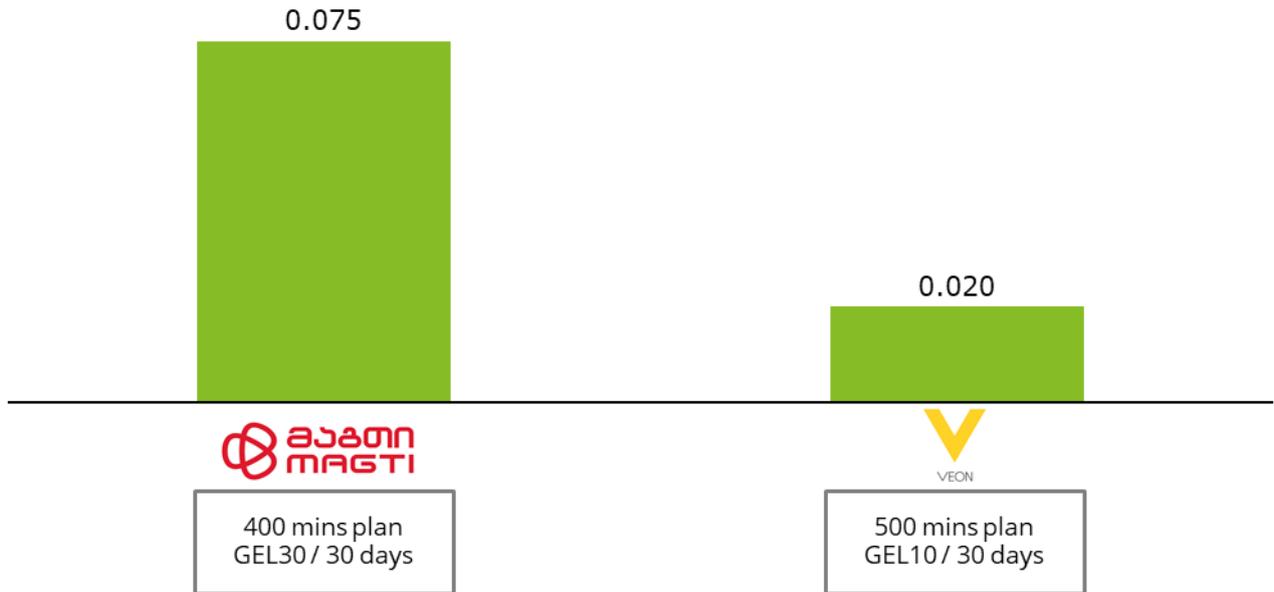


Source: MagtiCom

The quality differential between different levels of service quality is (as it should be) reflected in the price. Magticom and VEON prices are very different because both offer very different levels of service.

<sup>1</sup> Brand (Dissatisfied with prev. brand, returns, loves this brand & family/friends use), Other (temporarily relocating, corporate cancellation)

Figure 4 – Example of price per minute of existing packages (GEL/min; March 2019)



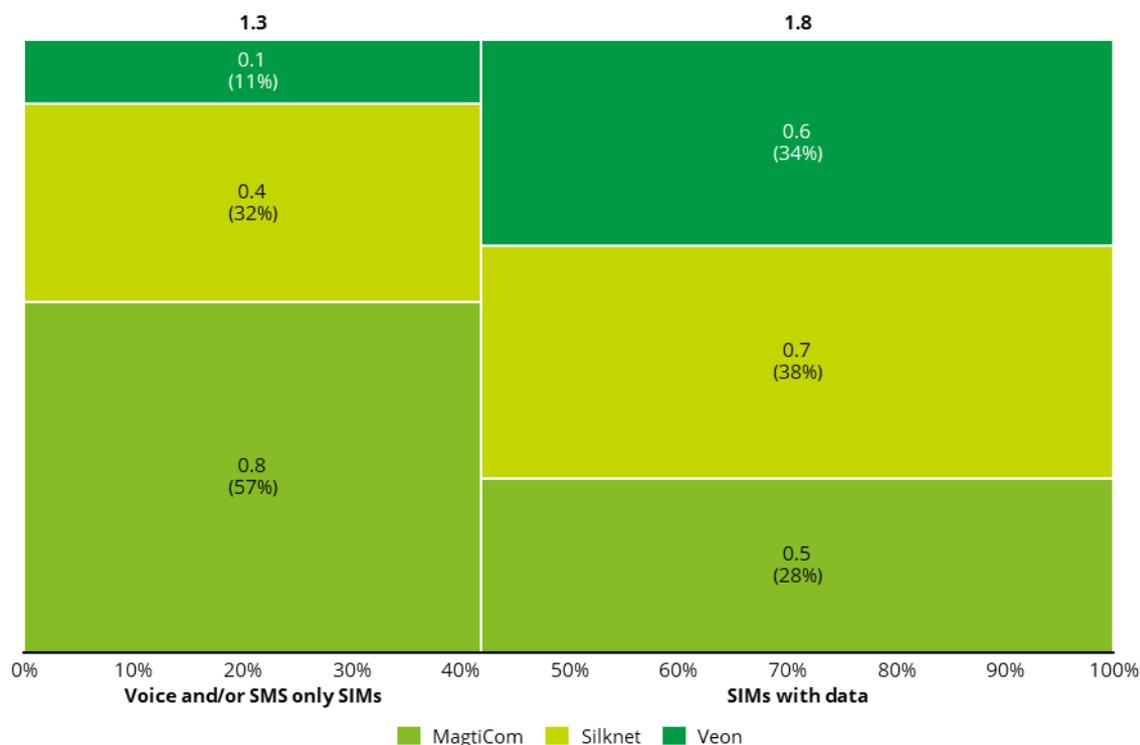
Source: Companies websites, Deloitte analysis

We believe that performing a market benchmark based on a methodology that only considers the “premium” service providers and that excludes the lower-quality service providers cannot reflect the reality of the market situation in Georgia.

*Point 3: Finally, the GNCC further argues that prices for mobile voice services in the country have not declined and therefore concludes that the retail mobile market in Georgia is not functioning. This conclusion is, in our view, based on a flawed logic: GNCC is cherry-picking mobile voice (a legacy product, declining in volume and value that is not representative anymore of the mobile market as a whole) and is conveniently leaving out mobile data (a fast growing product that already represents about 60% of the market and that is at the heart of battle for customer share at retail level between the mobile operators). Mobile data prices are falling at a pace of 40% per annum since May 2018. To us, this suggests that the market is functioning indeed very well with price-based competition working at its fullest.*

GNCC is cherry-picking mobile voice retail prices (a legacy service which is declining in volume and in value) while mobile data remain the most important service in the market today, representing almost 60% of the volume of SIMs (see figure 5).

Figure 5 – B2C market: segmentation by SIM type and operator  
 (# of SIMs in million, market share within the segment; March 2020)



Source: GNCC, MagtiCom market research

Prices for mobile data are declining very rapidly in the market as noted by the GNCC (-60% for Magticom and Silknet, -25% for VEON between Q1 2019 and Q1 2020)

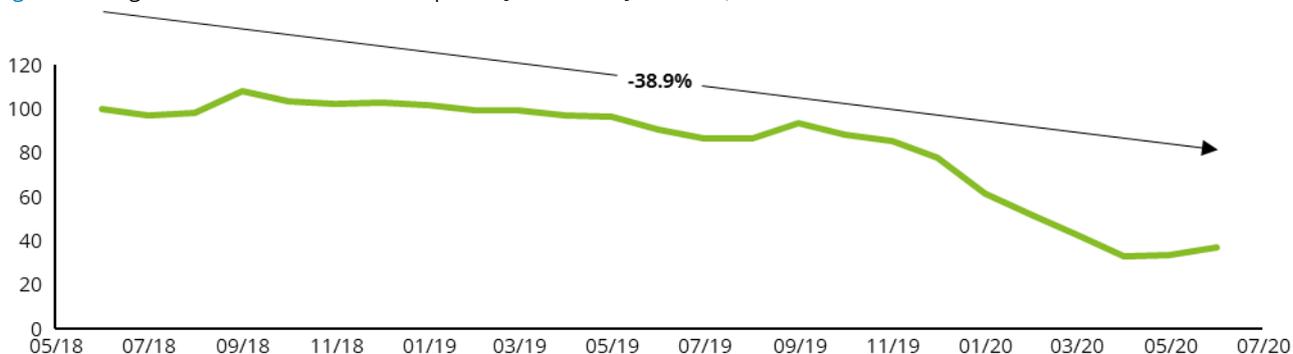
Figure 6 – GNCC statement: Table N2

	Q1 20019			Q1 2020		
APPGB**	Magti	Silknet	Veon	Magti	Silknet	Veon
Unit	17.47	29.67	63.27	16.53	39.42	65.07
Homogenous	3.00	3.77	1.45	1.01	1.37	1.16
Mixed	1.27	3.11	2.28	0.46	0.80	1.31
Average	2.79	4.38	1.91	1.01	1.58	1.43

Source: GNCC

This is also true on a longer-run basis: Effective mobile data prices at Magticom have been declining at c.40% per annum since June 2018.

Figure 7 – MagtiCom’s mobile data effective prices (June 2018 – June 2020)



Source: MagtiCom commercial and billing data

Concluding that “...the mobile service market competition is not strong.... there is no essential competition in terms of prices” as GNCC does on its statement based on looking only at mobile voice services and ignoring the price action in mobile data appears to us a flagrant confirmation bias where GNCC cherry picks data point that supports the conclusions it wants to draw and carefully avoids to mention the data points that would invalidate them.

On the basis...

- that mobile voice services are “legacy”, in decline in both volume and value, and are being substituted by data-based voip applications,
- that mobile data services are the present and the future on the mobile market in Georgia,
- and that mobile data prices are declining at extremely high pace in Georgia (25-60% per annum),...

... we can only conclude that price competition in Georgia is indeed working extremely well

## 2.2 Our read of the regulatory context

**GNCC, in Question 2 states that “The advisory documents assert that the regulatory framework was defined incorrectly”**

**Summary of our position on GNCC statement:**

We believe GNCC has mis-read or mis-interpreted our report.

For the avoidance of doubt and mis-understanding:

1. Our report did not state that MVNOs regulation has almost ceased – it mentioned that there are examples of countries discarding or dropping MVNOs Regulation.
2. Our report did not state that there was no MVNO regulation practice in Europe and nor did it state that the regulatory framework was incorrectly defined - it mentioned that the European Regulation dropped the recommendation to national telecom regulators to examine the competitiveness of the market for wholesale access (but that this European regulation does not force individual regulators to remove existing regulation)

**Point 1: Our report did not state that MVNOs regulation has almost ceased – it mentioned that there are examples of countries discarding or dropping MVNOs Regulation**

The GNCC states that “...consulting companies put forward a claim that the regulation to grant MVNOs mandatory access has almost ceased to exist in the world, therefore, there had been no need to introduce it in Georgia”.

For the clarification of the doubt, our report did not mention that the MVNOs regulation has almost ceased, but it stated that there are examples of countries discarding or dropping MVNOs Regulation. For example:

- Although in 2003 the European Commission issues a Recommendation to national telecom regulators to examine the competitiveness of the market for wholesale access, this Recommendation was dropped in 2007 (which does not force individual regulators to remove existing regulation)<sup>2</sup>
- Based on the study of 12 April 2017 from the CNMC<sup>3</sup> (The National Commission on Markets and Competition), in Spain, one of the European countries with wholesale regulation since 2006, the CNMC approved the de-regulation of MVNOs market
- According to the previous study from CNMC, this Organism observed that in Europe only two countries (Cyprus and Norway) had ex ante regulation
- In other regions, for example New Zealand, the Commerce Commission published a study<sup>4</sup> on 26 September 2019, claiming that regulatory intervention for MVNOs was not required

Additionally, within this context, our report did not conclude that there had been no need to introduce MVNOs regulation in Georgia, but our report mentioned that the revision of the Recommendation from the European regulation should be considered by the GNCC due to Georgia's aspiration to become part to the European Union.

*Point 2: Our report did not state that there was no MVNO regulation practice in Europe and nor did it state that the regulatory framework was incorrectly defined - it mentioned that the European Regulation dropped the recommendation to national telecom regulators to examine the competitiveness of the market for wholesale access (but that this European regulation does not force individual regulators to remove existing regulation)*

At the end of the Question 2, the GNCC comments that "...the assertion made in the advisory documents as if there was no such practice in Europe or as if the regulatory framework was incorrectly defined is a far cry from reality". To avoid any doubt, our report did not mention that there was no such practice in Europe (referring to the MVNOs regulation) and neither that the regulatory framework was incorrectly defined. As commented before, our report stated that European Regulation dropped the Recommendation to national telecom regulators to examine the competitiveness of the market for wholesale access, clarifying in the document that this Recommendation do not force individual regulators to remove existing regulation.

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<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32007H0879>

<sup>3</sup> <https://www.cnmc.es/eu/node/232550>

<sup>4</sup> [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0022/177331/Mobile-Market-Study-Findings-report-26-September-2019.PDF](https://comcom.govt.nz/_data/assets/pdf_file/0022/177331/Mobile-Market-Study-Findings-report-26-September-2019.PDF)

## 2.3 The logic that lead us to conclude that the introduction of MVNO is likely to further concentrate infrastructure investment in the country

*GNCC states in Question 4 that “The advisory document alleges that: at this point there are no investment needs on the Georgian telecom market and the entry of MVNO will have a negative impact”*

*Summary of our position on GNCC statement:*

- 1. We believe GNCC has mis-read or mis-interpreted part of our report: As detailed in section “2.3 Appeal for new entrants”, we indeed agree that the introduction of the MVNO regulation, in general, opens up opportunities on value added services and new niches, which we believe may be small in Georgia*
- 2. However, we fully refute the point that our assumptions that the entry of MVNOs could impede investments are hypothetical and groundless – the point we made, which we stand by, was that the introduction on MVNOs will further increase the imbalances between the quality of the mobile infrastructures of MagtiCom and Silknet and that of VEON. Our logic is fully grounded: (i) VEON mobile infrastructure currently is far behind that of MagtiCom and VEON, (ii) VEON financial situation is weak and fragile, (iii) MVNOs will target VEON’s customer base more that that of MagtiCom and Silknet as VEON has a disproportionate share of price-sensitive/low-quality segment – this will further weaken VEONs retail economics, (iii) as a result, VEON may find it even harder to catch-up with MagtiCom and Silknet on network infrastructure quality, (iv) therefore we would expect to see an increase (and not a decrease) of the imbalances between the infrastructure quality of MagtiCom and Silknet versus that of VEON (an outcome that might be or might not be desirable for the GNCC).*

*Point 1: We believe GNCC has mis-read or mis-interpreted part of our report: As detailed in section “2.3 Appeal for new entrants”, we indeed agree that the introduction of the MVNO regulation opens up opportunities on value added services and new niches*

In response to the several GNCC points about that the introduction of the MVNO regulation opens up opportunities for niche services, we agree with all of this as we detail in our document in the section 2.3 Appeal for new entrants. However, these opportunities are not related with our position that the introduction on MVNOs will further increase the imbalances between the quality of the mobile infrastructures of MagtiCom and Silknet and that of VEON

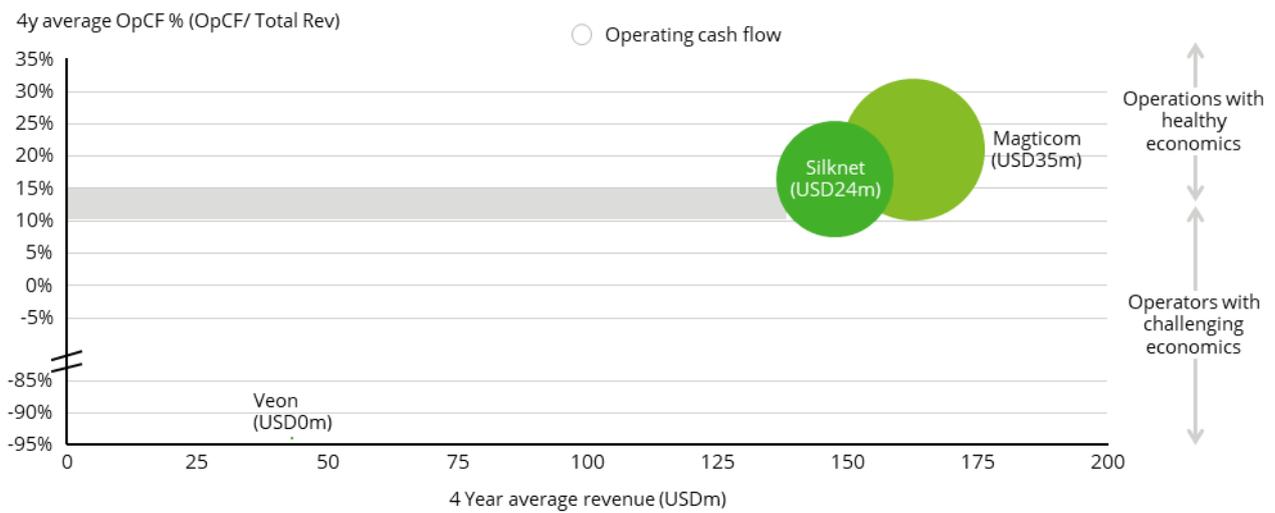
*Point 2: However, we fully refute the point that our assumptions that the entry of MVNOs could impede investments are hypothetical and groundless – the point we made, which we stand by, was that the introduction on MVNOs will further increase the imbalances between the quality of the mobile infrastructures of MagtiCom and Silknet and that of VEON. Our logic is fully grounded: (i) VEON mobile infrastructure currently is far behind that of MagtiCom and VEON, (ii) VEON financial situation is weak and fragile, (iii) MVNOs will target VEON’s customer base more that that of MagtiCom and Silknet as VEON has a disproportionate share of price-sensitive/low-quality segment – this will further weaken VEONs retail economics, (iii) as a result, VEON may find it even harder to catch-up with MagtiCom and Silknet on network infrastructure quality, (iv) therefore we would expect to see an increase (and not a decrease) of the imbalances between the infrastructure quality of MagtiCom and Silknet versus that of VEON (an outcome that might be or might not be desirable for the GNCC).*

We fully refuse the point from GNCC that our assumptions related to the entry of MVNOs to the Georgian market could impede investments, are hypothetical and groundless.

Our logic, which has not been challenged by the GNCC, is fully grounded in facts. It works as follows:

- i. As supported by the evidence showed in section 2.1 of this document, there is currently a high level of imbalances at infrastructure level between Silknet/Magticom and VEON – which is also reflected in price differentials.
- ii. MagtiCom and Silknet are cash generating. They can (and are likely to) invest to preserve their network quality advantage and premium quality market positioning. VEON, however, is in a very un-healthy financial position, which will limit its ability to invest in infrastructure to catch-up with Magticom and Silknet. These dynamics will sustain the current market structure (high price / high quality services versus low price / low quality services).

Figure 8 – OpCF vs Revenue<sup>5</sup>



Source: Operators website, and Deloitte analysis

<sup>5</sup> Included GeoCell and FY16-18 for VEON

- iii. New MVNOS will start by targeting price-sensitive customers in the market (as they always do). While all MNOs retail bases will be affected, VEON will be hurt disproportionately for 2 reasons:
  - o Given its positioning as the low price / low quality service provider, VEON has a disproportionate share of the price-sensitive customers
  - o Given its weak financial situation, VEON cannot retain these customers well while Magticom and Silknet will have much more room to retain the customers tempted to switch to an MVNO
- iv. As a result, VEON's already ability to invest in its network infrastructure to catch-up with Magticom and Silknet is likely to be further weakened

## 2.4 Our view that the COVID-19 crisis will make it harder for MVNOs to enter the market

*GNCC states in Question 6 that our COVID related risk analysis is unfunded because it is not aligned with ITU and BEREC view that COVID is accelerating the digital economy*

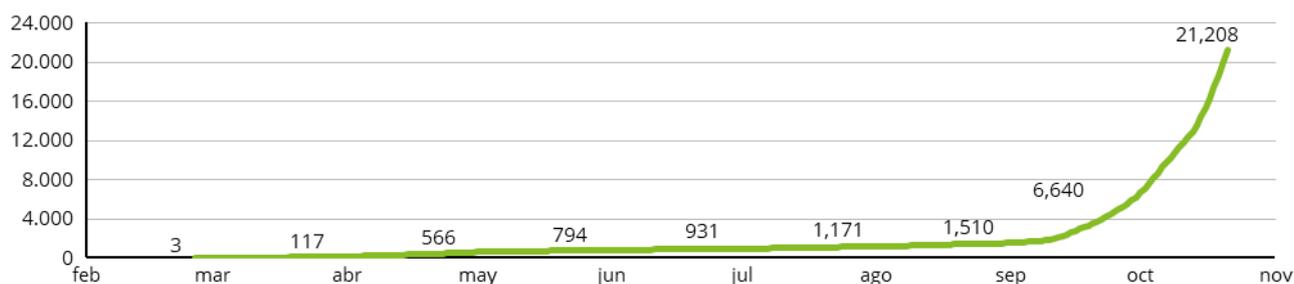
**Summary of our position on GNCC statement:**

1. *There is very clear evidence that COVID-19 has affected negatively businesses worldwide, with governments and central banks having to put in place extraordinary measures to support them.*
2. *The COVID crisis – because it restricts people’s mobility – is having a strong negative effect on services that depend on mobility, such as the ones offered by MNOs or MNVOs (mobile voice and mobile data). We do indeed expect demand for MVNO services to be negatively affected by the COVID crisis in the same way as demand for MNOs services is currently being affected. The failure of Quibi – a high profile mobile content venture – also confirms how difficult it is to launch new mobility-focused services in a mobility-restricted period, even with a USD 1,7 billion of funding secured pre-COVID.*
3. *In addition, our analysis shows that, in normal economic conditions, new MVNOs tend to have difficult launches with about half of them not making it in the long term. Given this and the of above-mentioned point, we would indeed expect investors considering financing new MVNOs to be more cautious than normal until a full resolution of the COVID crisis has been found.*

**Point 1: There is very clear evidence that COVID-19 has affected negatively businesses worldwide, with governments and central banks having to put in place extraordinary measures to support them.**

Nowadays, it is a reality and not subject to debate that COVID-19 is negatively affecting business in general. The magnitude of the COVID-19 shock on the productive activity is something the world economy has not experienced since the Great Depression in the 1930s and the impact is far more severe than the recession that Europe experienced during the recent sovereign debt crisis. Therefore, it is an unprecedented crisis that has created an uncertain economic scenario, which is reflected both in the GDP hit, where the World Bank estimates that in Georgia it will decline -4.8% in 2020, and in the number of cases (detected and deaths), in which today Georgia is registering its worst figures and the trend indicates that it will evolve to worse.

Figure 8 – Evolution of COVID-19 cases in Georgia (February 2020 – October 2020)



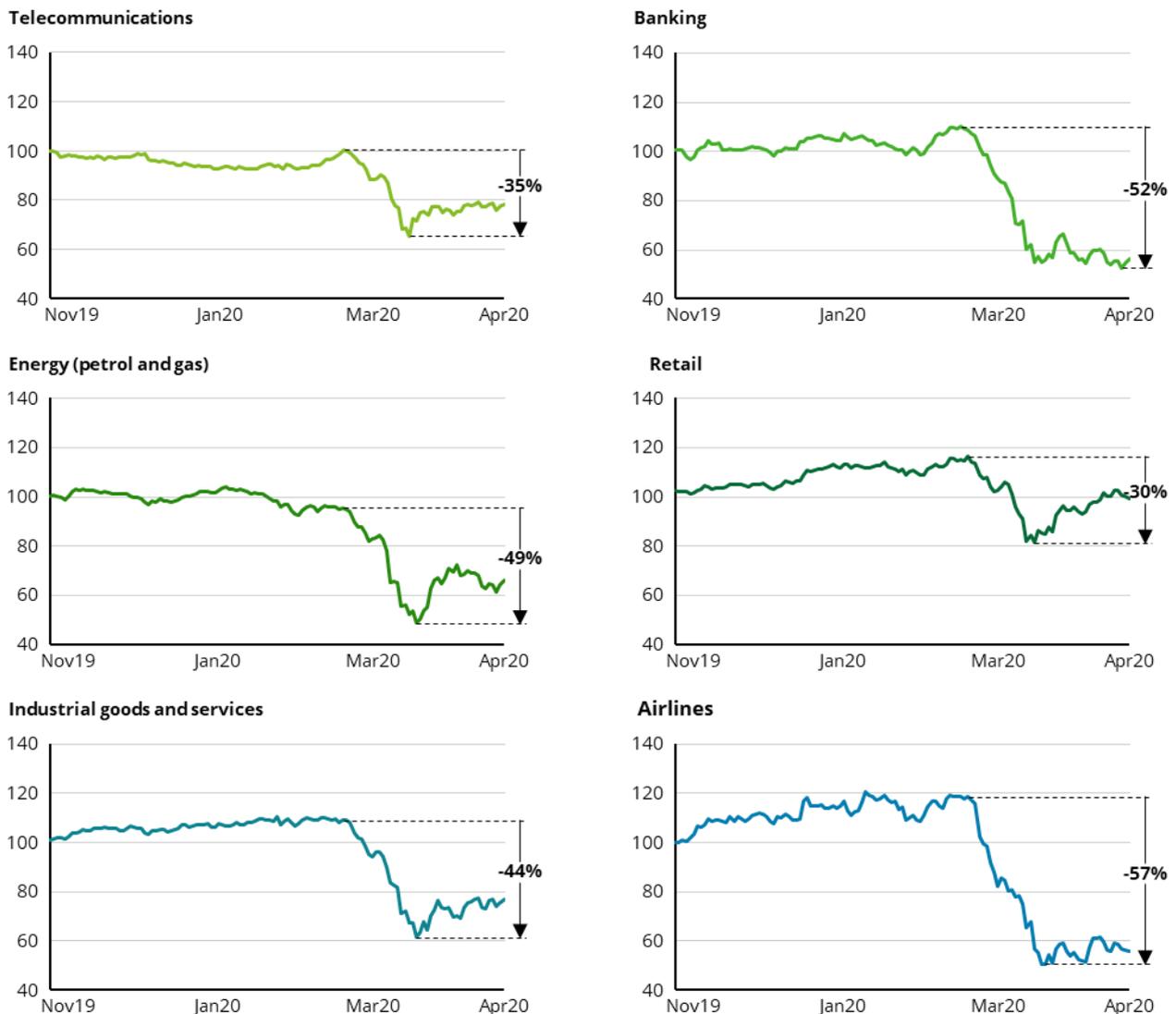
Source: Johns Hopkins University

For the abovementioned reasons, governments are sizing up recovery and resilience plans to alleviate the economic consequences of the COVID-19 crisis and avoid the bankruptcy of businesses. A clear example is the Next Generation Plan from the European Union which will count with 750 EURm funds.

*Point 2: The COVID crisis – because it restricts people’s mobility – is having a strong negative effect on services that depend on mobility, such as the ones offered by MNOs or MNVOs (mobile voice and mobile data). We do indeed expect demand for MVNO services to be negatively affected by the COVID crisis in the same way as demand for MNOs services is currently being affected. The failure of Quibi – a high profile mobile content venture – also confirms how difficult it is to launch new mobility-focused services in a mobility-restricted period, even with a USD 1,7 billion of funding secured pre-COVID.*

While some sectors have been impacted more than others, the Telecom industry has been markedly affected by the COVID crisis. The Telecom index in Europe has dropped 35%, reflecting investors views that Telecoms are not only “not immune” but also “very effected” by the COVID crisis. In our view, this is due mainly to the mobile component (people do not need mobility when they are locked at home) and the fact that fixed-based service to not compensate for the losses in mobile (fixed spend is relatively usage independent).

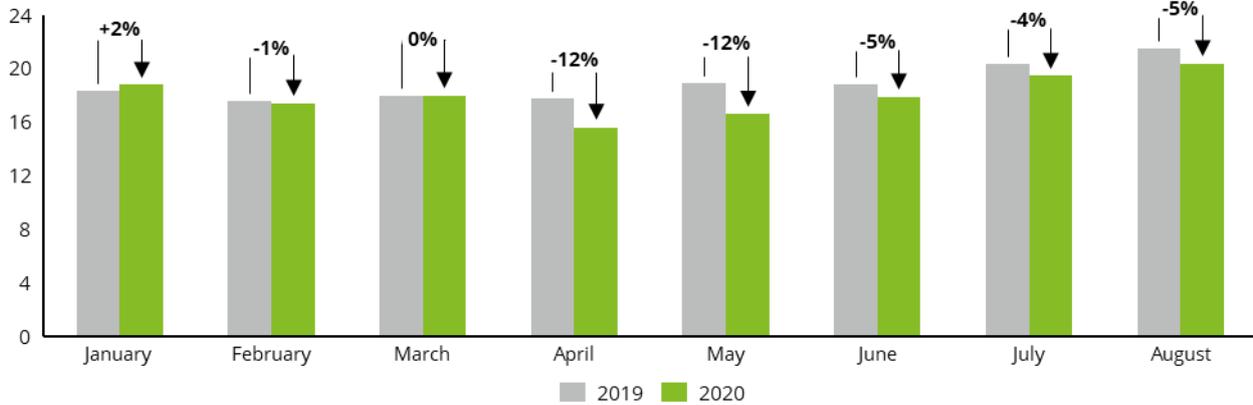
Figure 9 – COVID-19 impact on the main EuroStoxx indexes (Price on 24/10/2019=100)



Source: Stoxx, Deloitte analysis

In Georgia, there is clear evidence that Mobile operators have been hit, and not “accelerated” by the crisis. Magticom’s YoY monthly revenues highlight a sudden drop of -12% in April and May revenues during the height of the lockdown period and a stabilization at -5% since June suggesting that the crisis is having durable effect on customer spend.

Figure 10 – COVID-19 impact on Magticom’s retail mobile revenues (GELm, January – August 2019 vs 2020)



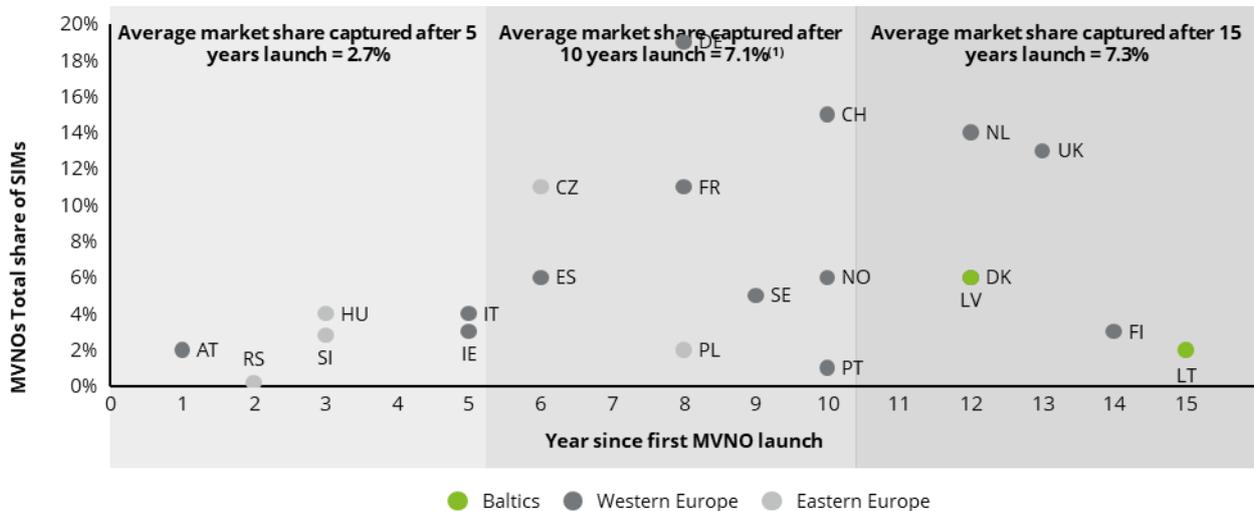
Source: Magticom, Deloitte analysis

Quibi is also a very good example that highlights how difficult it is to launch new mobility-centric services during a mobility-restricted period: the would-be streaming video giant which raised USD 1,7 billion of funding, is calling it a day just six months after debuting its service. Quibi’s app, debuted in April, shortly after the coronavirus pandemic forced the U.S. and many other regions into shutdown. Jeffrey Katzenberg, the chairman and former Disney and DreamWorks executive who concocted the startup, claimed in an interview with the New York Times that the pandemic wrecked the launch and have not been able to find their way through these unprecedented challenges.

*Point 3: Our analysis shows that, in normal economic conditions, new MVNOs tend to have difficult launches with about half of them not making it in the long term. Given this and the of above-mentioned point, we would indeed expect investors considering financing new MVNOs to be more cautious than normal until a full resolution of the COVID crisis has been found*

In normal conditions, historical MVNO trajectory in other countries show that getting commercial traction for MVNOs is hard. After 5 years, MVNOs take about 3% of the market volume and about 2% of the market revenues.

Figure 11 – MVNO market share evolution benchmark (since MVNO launch)<sup>6</sup>

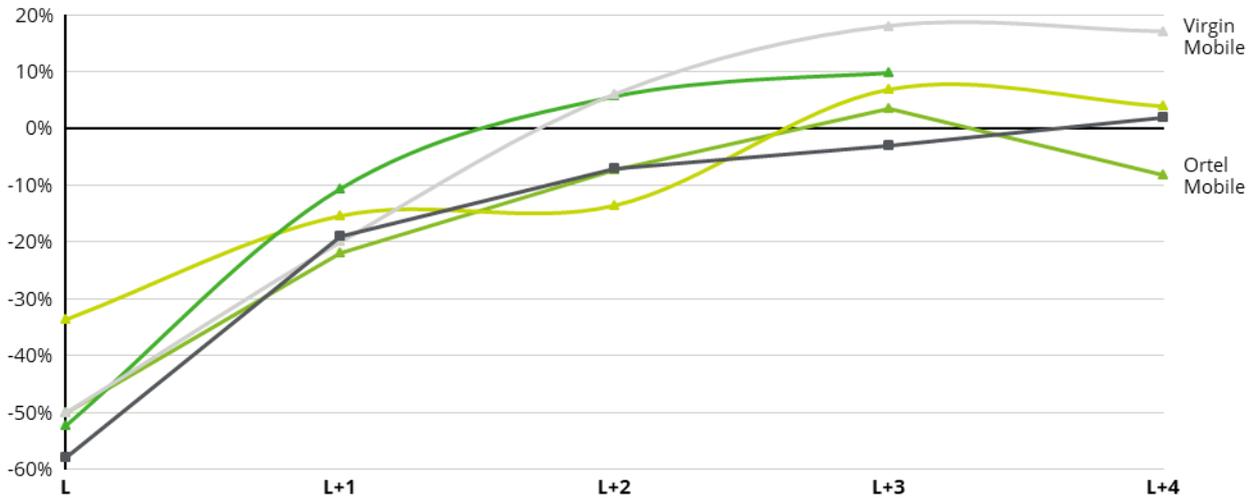


<sup>6</sup> Germany has been excluded for the calculation

Source: Countries regulator, Operator websites, Deloitte analysis

Reaching EBITDA neutrality takes about 4 years.

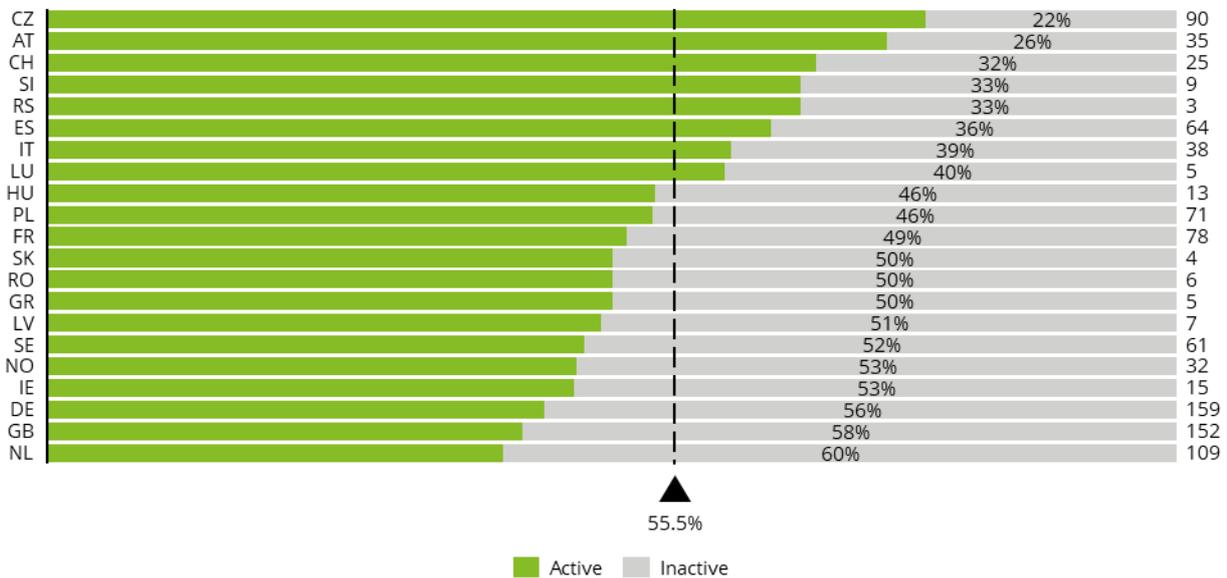
Figure 12 – EBITDA margin evolution after launch (since MVNO launch)



Source: Wireless Intelligence, Deloitte analysis

In the end, only about 45% on average of the MVNOs launched do not make it in the long run.

Figure 13 – Share of inactive MVNOs over total (June 2020)



Source: Telecompaper, Deloitte analysis

Given the additional challenges the COVID situation puts on MVNOs, we believe the current conditions are “worse” than normal – the risks to launch MVNOs are higher in a COVID context and investors willingness to finance these ventures will need to reflect the increased risks.

## 3 Appendix

### 3.1 Abbreviations and acronyms

AI: Artificial Intelligence	IS: Iceland
AL: Albania	IT: Italy
AM: Armenia	JP: Japan
APAC: Asia Pacific	KG: Kyrgyzstan
ARPU: Average Revenue Per User	KR: South Korea
AT: Austria	KW: Kuwait
AU: Australia	KZ: Kazakhstan
AZ: Azerbaijan	LB: Lebanon
BA: Bosnia and Herzegovina	LT: Lithuania
BE: Belgium	LTE: Long Term Evolution 4G
BG: Bulgaria	LU: Luxembourg
BH: Bahrain	LV: Latvia
BN: Brunei	MB: Megabyte
BY: Belarus	MD: Moldova
CAGR: Compound annual growth rate	ME: Montenegro
CH: Switzerland	MK: Macedonia
CIS: Commonwealth of Independent States	MNO: Mobile Network Operator
CNMC: The National Commission on Markets and Competition in Spain	MT: Malta
CSP: Communication Service Providers	MVNE: Mobile Virtual Operator Enabler
CZ: Czech Republic	MVNO: Mobile Virtual Network Operator
DE: Germany	NL: Netherlands
DK: Denmark	NO: Norway
DZ: Algeria	OECD: Organization for Economic Co-operation and Development
EBITDA: Earning Before Interests, Taxes, Depreciation and Amortization	OM: Oman
EE: Estonia	PK: Pakistan
EG: Egypt	PL: Poland
ES: Spain	PPP: Purchasing Power Parity
EU: European Union	PT: Portugal
FI: Finland	QA: Qatar
FR: France	QoS: Quality of Service
FTTH: Fiber To The Home	RO: Romania
GB: Gigabyte	ROIC: Return on invested capital
GB (as a country): United Kingdom	RS: Serbia
GDP: Gross domestic product	RU: Russia
GE: Georgia	SA: Saudi Arabia
GEL: Georgian Lari	SE: Sweden
GNCC: Georgian National Communications Commission	SG: Singapore
GR: Greece	SI: Slovenia
HHI: Herfindahl-Hirschman Index	SK: Slovakia
HR: Croatia	SME: Small and Medium Enterprise
HU: Hungary	TJ: Tajikistan
ID: Indonesia	TM: Turkmenistan
IE: Ireland	UA: Ukraine
IMF: International Monetary Fund	UK: United Kingdom
IN: India	USD: American Dollar
IOT: Internet Of Things	UZ: Uzbekistan
IR: Iran	VAS: Value-Added Service
	VN: Vietnam
	VPN: Virtual Private Network

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