BEREC Analysis
Monitoring of measures in relation to the war in Ukraine

Contents

Executive Summary

Following the Russian invasion of Ukraine, BEREC has closely followed the telecommunications sector's response to the crisis and welcomed the measures voluntarily provided by EU operators. In order to get a full picture of what has been implemented by operators, BEREC in March started to collect information from NRAs and operators. In May, BEREC continued with a second data collection exercise, with the aim of gathering more detailed information covering not only the retail measures applied by EU and Ukrainian operators but also the relevant wholesale measures agreed in the Joint Statement. This Joint Statement establishes a stable framework to help people fleeing the war in Ukraine stay in touch with family and friends back home and maintain access to information. This data collection was launched after the signing of the Joint Statement[1] between some EU operators and the three Ukrainian mobile operators.

The EU signatories of the statement intend to reduce wholesale roaming charges and termination rates as well as to pass on the full benefits of the reduction of termination rates by Ukrainian operators to customers calling from the EU to Ukraine. On the other hand, the Ukrainian signatories intend to gradually reduce international termination rates for calls to Ukraine originated by EU numbers and calls to Ukraine originated by Ukrainian numbers roaming in the EU as well as to pass on the full benefits of the reduction of wholesale roaming charges by EU operators to their customers roaming in the EU.

This report includes data from 27 NRAs (26 BEREC members or participants without voting rights plus NCEC). In particular, the 26 BEREC member NRAs have received replies from 114 mobile and 76 fixed operators[2]. NCEC has received data from 3 mobile operators. According to this data, 52 mobile and 19 fixed EU operators have signed the joint statement as well as all three Ukrainian mobile operators.

In total, 80 of the responding EU[3] mobile operators stated that they offer free international calls to Ukraine, while 44 offer calls at a lower price. In some cases, mobile operators have also responded that they offer both free calls and calls at a lower price. As regards fixed operators, in total 37 of the responding fixed operators offer free calls to Ukraine, while 27 offer calls at a lower price. Some of these operators offer both.

In total, 55 of the European respondents provide free roaming (or RLAH) to subscribers travelling in Ukraine. This supports end-users engaged in different kinds of aid projects. Apart from the above retail measures, EU operators have also established Wi-Fi hotspots where refugee camps were constituted or near public transport locations where many refugees arrive. In total, they have distributed, from March to 15 May, more than 2.5 Million SIM cards to Ukrainian refugees. On the other hand, the three Ukrainian operators stated that they offer

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[1] Joint Statement by EU and Ukrainian operators to help refugees from Ukraine stay connected | Shaping Europe's digital future (europa.eu)

[2] BEREC did not take into account some data that arrived after the deadline due to the very short deadlines. In addition, in very few cases which contained implausible data, this data was excluded from the analysis.

[3] The questionnaire was distributed to the operators of all EU countries as well as countries represented in BEREC as members without voting rights. When the term EU operators is used in this report, it covers operators from all these countries.

free and reduced-charge international calls to EU as well as free roaming for their subscribers currently in the EU.

On the wholesale level, the results of BEREC's analysis shows that when focusing only on EU operators (fixed and mobile) that have signed the Joint Statement, the average termination rates (both for what it is paid and charged) are lower than the EU average of all respondents. For example, the average termination rate charged by EU signatories (mobile and fixed) to Ukrainian operators is about 70% lower than the relevant EU average on 15 May 2022. Similarly, the average wholesale voice roaming rate charged by EU signatories to Ukrainian operators is about 20% lower than the relevant EU average on 15 May 2022[4]. These differences show that it is more challenging for operators that have not signed the Joint Statements to offer retail measures. The same holds for the three Ukrainian mobile operators when having to exchange traffic with EU operators that have not signed the Joint Statement.

According to the EU mobile operators' data that have signed the Joint Statement, , EU operators paid on average, on 15 May 2022, 0.10 EUR/min to terminate to fixed Ukrainian networks (this has been quite stable since 31 March 2022) and 0.11 EUR/min to terminate to mobile Ukrainian networks (this represents a decrease of about 20% since 31 March 2022). EU mobile operators charged on average 0.02 EUR/min for termination in their networks on 15 May 2022 (this represents a decrease of about 70% since 31 March 2022). The relative values for EU fixed operators that have signed the joint statement are 0.10 EUR/min (almost stable since March 2022), 0.13 EUR/min (almost stable since March 2022) and 0.02 EUR/min respectively (almost stable since March 2022). The maximum termination rates that EU operators are allowed to charge each other for mobile and fixed termination services respectively are set in the Commission Regulation (EU) 2021/654 and are 0.0055 EUR/min for mobile and 0.0007 EUR/min for fixed termination rate.

As regards roaming, according to EU operators that have signed the Join Statement, the average EU wholesale roaming rate applied by EU operators was 0.109 EUR/min for voice and 1.05 EUR/GB for data on 15 May 2022 (these are almost stable since March 2022). The maximum wholesale roaming rates that EU operators are allowed to charge each other are set in the Roaming Regulation (EU) 531/2012 as amended and are 0.032 EUR/min for voice and 2.5 EUR/GB for data for the first half of 2022. The relative figures for the average wholesale roaming rates charged by Ukrainian operators to EU operators that signed the joint statement are 0.256 EUR/min for voice and 261 EUR/GB[5] for data respectively.

In total, 99,767,172 minutes have been terminated from Ukraine in all EU mobile networks reporting data and 480,704 minutes have been terminated from Ukraine in all EU fixed networks reporting data from Ukraine during the period March-April 2022. On the other hand, EU reporting operators (mobile and fixed) have in total terminated 956,741,901 minutes in Ukrainian mobile networks and 3,849,269 minutes have been terminated in Ukrainian fixed networks. Regarding roaming, in total, EU reporting operators have provided 88,913,932

[4] In general most operators (even those that have not signed the JS) are offering free or very low retail services to Ukraine. However, the relevant wholesale costs for non-signatories appear to be higher in average which might pose difficulties.

[5] This high number seems to be based on the fact that some operators might not have negotiated preferential rates with all operators in the Ukraine, and the wholesale data roaming price per GB costs several thousand Euros. As the analysis uses simple average, this has a big effect on the final figure.

minutes and 30,476,243 GB of total wholesale roaming to Ukrainian operators and have purchased 2,559,429 minutes and 6,359,160 GB of total wholesale roaming from Ukrainian operators.

As regards the results of the analysis, it seems that there are still some cases in which wholesale rates have remained stable since the adoption of the joint statement. This might have a number of reasons, such as the following obstacles mentioned by responding EU operators:

- lack of direct interconnection for some operators,
- the unwillingness of some transit operators to lower their rates towards Ukraine,
- the fact that the procedure requires extensive resources,
- the impact of different TRs across one country,
- a few cases of fraud, etc.

The data provided by Ukrainian operators differ significantly in some cases from the ones that EU operators have provided for the same indicators. This might happen because Ukrainian operators have reported weighted average termination and wholesale roaming rates and this might be impacted by the origin/destination of the actual consumption, whereas the EU averages are simple averages. In addition, part of the difference might also stem from the fact that some operators could not separate transit rates from termination rates and a single rate was reported in such cases.

According to Ukrainian mobile operators, the average termination rate charged to all EU operators decreased from 0.033 EUR/min on 31 March 2022 to 0,027 EUR/min on 30 April 2022. This represents a decrease of around 20%.

In addition, according to Ukrainian mobile operators, the average wholesale roaming rate they pay for voice services has remained relatively stable during these two months at 0.05 EUR/min[6] while for data roaming there has been a decrease from 0.329 EUR/GB to 0.221 EUR/GB. This represents a decrease of around 30%.

Finally, Ukrainian mobile operators have reported an increase in the volume of voice traffic terminated in their networks by EU operators. In particular, 416,853,767 minutes were terminated in March 2022 and 500,855,262 minutes in April 2022 (around 20% increase). When it comes to wholesale roaming traffic purchased from EU operators and used by Ukrainian subscribers roaming in Europe, the volumes decreased from 62,650,013 minutes in March to 49,919,602 minutes in April (around 20% decrease). For data roaming, the respective values are 2,057,776 GB in March 2022 and 2,407,221 GB in April 2022 (around 15% decrease).

Ukrainian mobile operators have reported the following issues as regards the measures:

- transit carriers are not reflecting the reductions in their rates, and
- loss of subscribers who purchase European SIM cards.

[6] In particular, the rate was 0.046 EUR/min on 31 March 2022 and 0.051 EUR/min on 30 April 2022

1. Introduction

1.1. Background

Following the Russian invasion of Ukraine, BEREC has followed closely the telecommunications sector's response to the crisis. BEREC, among other actions, launched a data collection through NRAs during March 2022 in order to gather information regarding the support provided by telco operators to the Ukraine (e.g. free international calls, free roaming, etc) and shared this information among its members and with the EC.

On 5 May 2022, BEREC launched a second data collection. The aim of this data collection was:

(a) to gather more detailed information covering not only retail measures applied by operators but also relevant wholesale measures applied between EU and Ukrainian operators and

(b) to understand the impact of the Joint Statement signed on 8 April 2022.

Apart from BEREC's members, NCEC and Ukrainian operators were also invited to contribute to this exercise. The current report presents the main output of this second data collection.

1.2. Joint Statement

With the support of the EC and the European Parliament, EU and Ukrainian operators signed on 8 April 2022 a Joint Statement to ensure they can sustain their voluntary measures and apply them as widely as possible throughout Europe. The Joint Statement establishes a stable framework to help people fleeing the war in Ukraine stay in touch with family and friends back home and have access to information.

The EU signatories of the statement intend to reduce wholesale roaming charges and termination rates as well as to pass on the full benefits of the reduction of termination rates by Ukrainian operators to customers calling from the EU to Ukraine. On the other hand, the Ukrainian signatories intend to gradually reduce international termination rates for calls to Ukraine originated by EU numbers and calls to Ukraine originated by Ukrainian numbers roaming in the EU as well as to pass on the full benefits of the reduction of wholesale roaming charges by EU operators to their customers roaming in the EU.

The number of mobile and fixed operators that have signed the joint statement varies from zero to eight per country. BEREC would like to note that in many cases, the statement is signed on group level and might therefore appear in the statistics more than once. Some respondents are also light MVNOs without direct wholesale agreements.

According to the BEREC data collection, in total, 52 mobile and 19 fixed respondents have signed the Joint Statement (including also the three Ukrainian operators).

1.3. Operators contributing to the monitoring

In total, 26 EU NRAs have contributed to the monitoring with information from 114 mobile operators and 76 fixed telephony operators. The three Ukrainian mobile operators have also provided relevant input.

2. Retail Measures – EU operators

The questionnaire circulated to BEREC members included ten questions about the offerings to end-users on behalf of EU operators. Ukrainian operators' questionnaire included five relevant questions. The following sub-sections include the main findings of the data collection.

2.1. International calls

In almost all countries, one or more mobile operators offer free international calls to Ukraine. In addition, there are operators offering calls at a lower price (e.g. domestic prices). In some cases, mobile operators have also responded that they offer both free calls and calls at a lower price. In total, 80 mobile operators responded that they offer free international calls to Ukraine, while 44 mobile operators offer calls at a lower price.

In total, 37 of the responding fixed operators offer free calls to Ukraine, while 27 offer calls at a lower price. Some of these operators offer both. BEREC also notes that some respondents stated that they will consider stopping the inclusion of free calls at some point, but that decisions have not been made yet. In addition, some of the respondents have mentioned that certain number ranges are billed differently (either intra-EU level, free calls or excluded from discounts). One fixed operator has restricted the free calls to consumers only, and some fixed operators exclude certain number ranges from their free offer.

In case a lower price is charged, operators often said that the prices for calls to the Ukraine have been lowered according to the price caps of intra-EU communication.[7] Therefore, some of the operators included Ukraine into the EU Zone in the framework of their pricing schemes.

As an alternative to applying intra-EU caps or lowered prices, respondents also mentioned that there are special tariff plans with an included volume of voice minutes to UA. It could also be observed that in some cases, there is a distinction between prepaid and postpaid tariff plans, meaning for example that prices only for prepaid plans are discounted.

2.2. International SMS

In total, 65 mobile operators responded that they offer free SMS to Ukraine, while 28 mobile operators offer SMS at a lower price

[7] Voice 0,19€ / min (excl. VAT, SMS 0,05 € / SMS (excl. VAT)

There are cases in which tariffs for SMS differ depending on whether the underlying tariff is prepaid or postpaid. In case of free international SMS to Ukraine, it was mentioned by some respondents that free international SMS are solely included in postpaid plans.

2.3. Free roaming for subscribers travelling in Ukraine

In total, 55 of the European respondents (32 of them have signed the JS) provide free roaming (or RLAH) to subscribers travelling in Ukraine. This supports especially end-users engaged in different kinds of aid projects.

2.4. Other measures

Across the respondents, 70 of the responding operators are providing free SIM cards to refugees from Ukraine. The volumes of voice, SMS and data included for each SIM card vary amongst the respondents. From March to 15 May 2022, overall more than 2.5 million SIM cards were distributed by operators to Ukrainian refugees in Europe.

In addition to distributing free SIM cards, some operators also established free Wi-Fi access in regions where refugee camps were established or near public transport locations where many refugees arrive. In total, 25 of the responding mobile and 13 of the responding fixed operators have established free Wi-Fi access. Some mobile operators said that prepaid cards with high volumes (i.e. 100 GB) have been used for mobile routers to provide connectivity for Ukrainians. Another mobile operator mentioned having established around 2,000 Wi-Fi fixed mobile access points (Hot-spots) in areas where Ukrainians arrive into the country.

In general, the vast majority of respondents said that extra network capacity is not necessary. Some operators identified congestion but within a normal range. Nevertheless, especially operators in countries which have a border to Ukraine have taken measures to increase the capacity in border regions. For example, one operator said that it has rolled out 4G in a border region to ensure enough capacity for connectivity.

3. Measures by Ukrainian operators

Ukrainian operators have replied that they offer free and/or lower international calls to EU. However, this is not the case for international SMS to EU. In addition, they have replied that they offer free roaming or roaming at domestic prices for their subscribers currently in the EU.

4. Wholesale Measures – EU operators

The data collection has included an extensive list of questions as regards wholesale charges (termination and roaming) between EU and Ukrainian operators. The following sections include the main results of the analysis done based on the inputs received by EU operators.

4.1. Termination

Comparison of EU average termination rates paid and charged for operators that have signed the Joint Statement (in EUR/min)

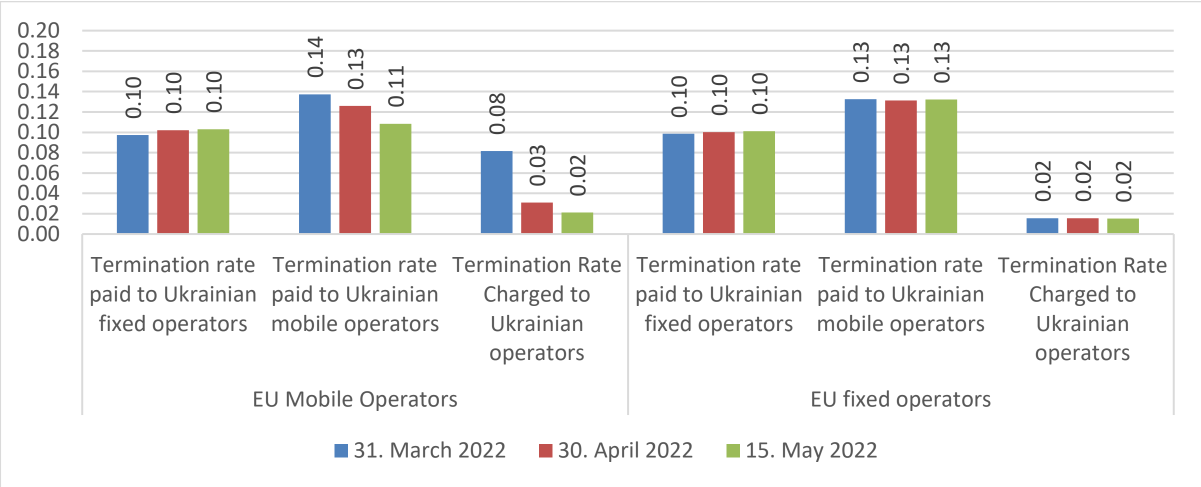

Figure 1: Average termination rates paid and charged for EU operators that have signed the Joint Statement (in EUR/min)

Comparison of EU average termination rates paid and charged for all EU operators reporting data (in EUR/min)

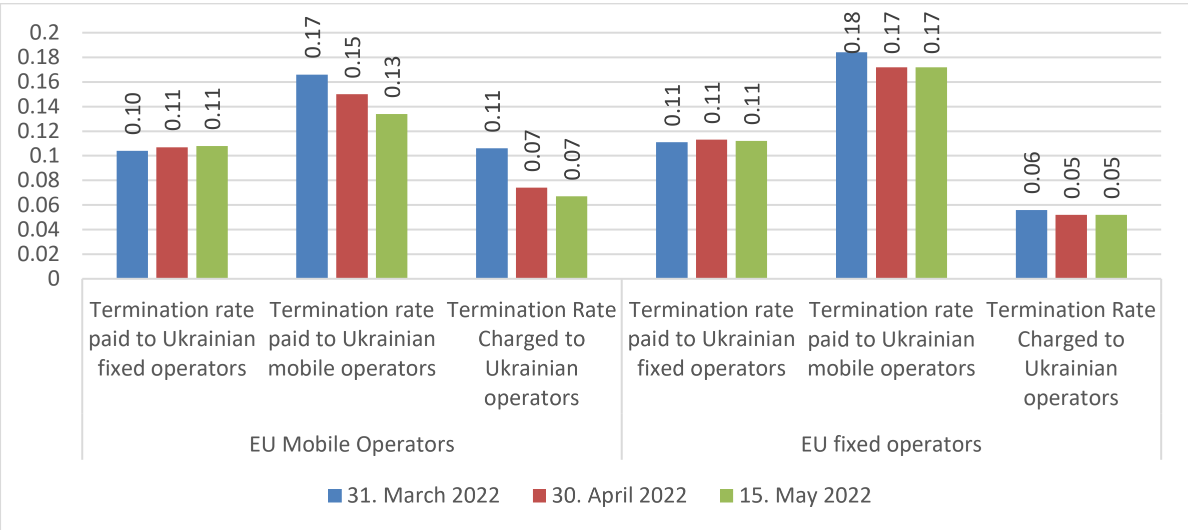

Figure 2: Average termination rates paid and charged for all EU operators reporting data (in EUR/min)

According to the above figures, we can see that the relevant termination rates are lower for the EU operators that have signed the Joint Statement. This is the case for both termination rates paid to UA mobile operators and termination rates charged by EU operators that have signed the Joint Statement. For example, the average termination rate charged by EU signatories (mobile and fixed) to Ukrainian operators is about 70% lower than the relevant EU average on 15 May 2022. These differences show that it is more challenging for operators that have not signed the Joint Statement to offer retail measures. The same holds for the three Ukrainian mobile operators when exchanging traffic with EU operators that have not signed the Joint Statement.

It is noted that the maximum termination rates that EU operators are allowed to charge each other for mobile and fixed termination services respectively are set in the Commission Regulation (EU) 2021/654 and are 0.0055 EUR/min for mobile and 0.0007 EUR/min for fixed termination rate.

As regards termination data provided by EU operators, the following should be noted:

a) In case EU operators have provided a range of values as regards the rate charged or paid (for example differentiations depending on the volume), the lowest rate provided has been used for producing the graphs/averages. Very few operators included also averages in such cases and these were used.
b) Some operators mentioned that the termination rates paid include also transit charges as they do not have direct interconnection agreements with Ukrainian operators. These operators were not also able to provide data about transit charges
c) Some operators offering both retail mobile and fixed services could not split the volumes between these two segments and included all the volumes in the column referring to their mobile operation.

Termination Volumes covering data from all reporting EU operators

	Number of minutes from mobile EU operators terminated in a fixed **network in Ukraine**	Number of minutes from EU mobile operators terminated in a mobile network **in Ukraine**	Number of minutes received by EU mobile operators **from Ukraine networks**	Number of minutes from fixed EU operators terminated in a fixed network **in Ukraine**	Number of minutes from EU fixed operators terminated in a mobile network **in Ukraine**	Number of minutes received by EU fixed operators **from Ukraine networks**
March 2022	1,704,630	367,924,277	61,257,027	232,344	1,119,620	138,082
April 22	1,792,033	587,211,219	38,510,144	120,262	486,785	342,622

Table 1: Wholesale termination volumes for all EU operators reporting data

4.2. Roaming

Comparison of EU average roaming rates charged to Ukrainian operators and paid to Ukrainian operators, including only operators that have signed the Joint Statement (in EUR/min for voice and EUR/GB for data)

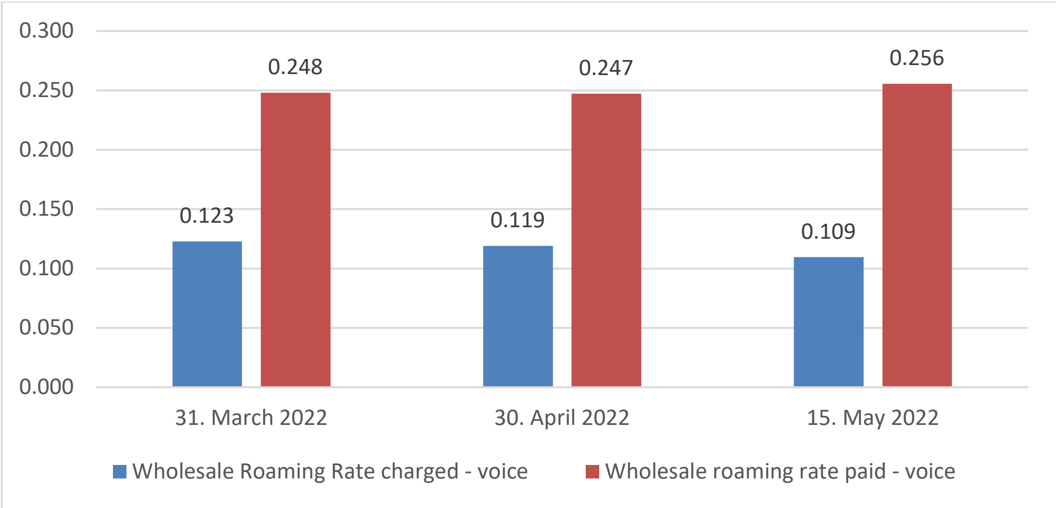

Figure 3: Wholesale roaming rates charged and paid for EU signatories – voice (in EUR/min)

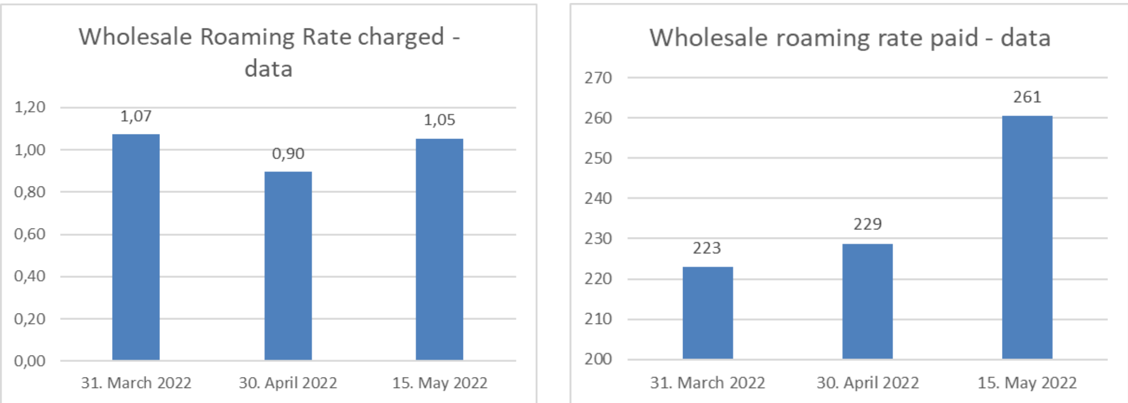

Figure 4: Wholesale roaming rates charged and paid for EU signatories – data (in EUR/GB)

Comparison of EU average roaming rates charged to UA operators and paid to UA operators for all EU operators reporting data (in EUR/min for voice and EUR/GB for data)

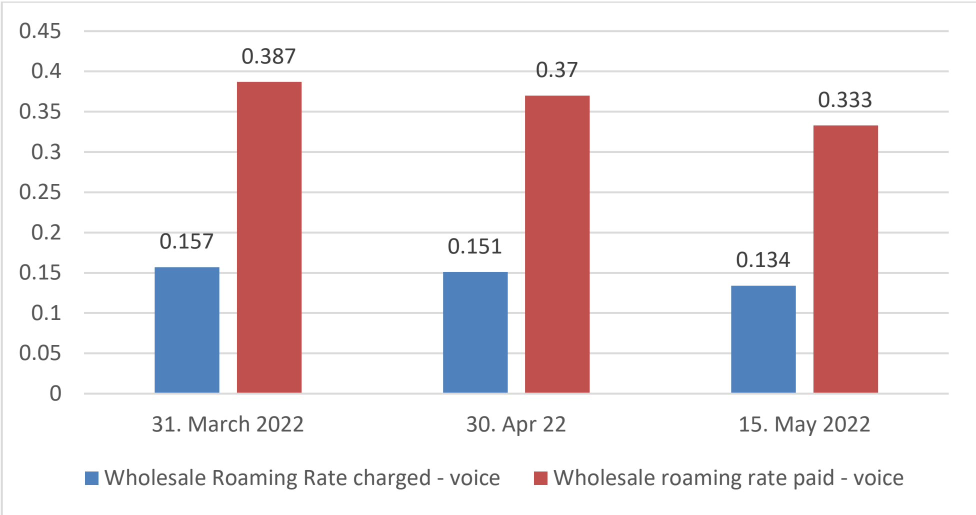

Figure 5 Wholesale roaming rates charged and paid for all EU operators reporting data – voice (in EUR/min)

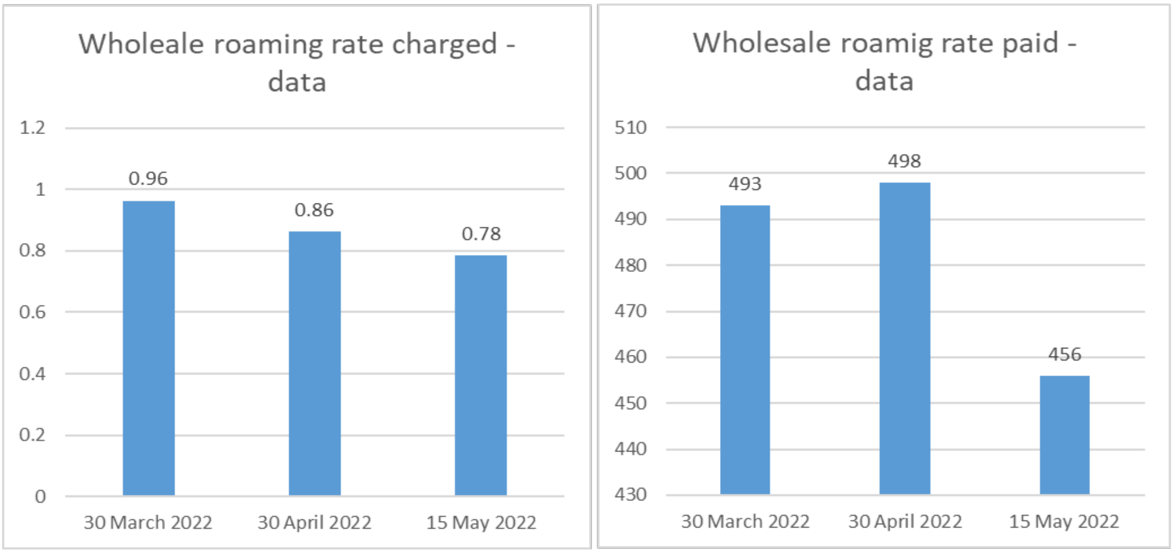

Figure 6: Wholesale roaming rates charged and paid for all EU operators reporting data – data (in EUR/GB)

According to the above figures, the relevant wholesale roaming rates are in general lower for the EU operators that have signed the Joint Statement. This is the case for both wholesale roaming rates paid to Ukrainian mobile operators and wholesale roaming rates charged by EU operators that have signed the Joint Statement. For example, the average wholesale voice roaming rate charged by EU signatories to Ukrainian operators is about 20% lower than the relevant EU average on 15 May 2022. These differences show that it is more challenging for operators that have not signed the Joint Statement to offer retail measures. The same holds true for the three Ukrainian mobile operators when having to exchange traffic with EU operators that have not signed the Joint Statement.

It should be noted that the maximum wholesale roaming rates that EU operators are allowed to charge each other are set in the Roaming Regulation (EU) 531/2012 as amended and are 0.032 EUR/min for voice and 2.5 EUR/GB for data for the first half of 2022.

As regards roaming data provided by EU operators, the following should be noted:

a) In case EU operators have provided a range of values as regards the rate charged or paid (for example differentiations depending on the volume), the lowest rate provided has been used for producing the graphs/averages.
b) Some operators, although included rates for March and April, mentioned that for 15 May negotiation is still in place and no rate was reported.

Wholesale roaming volumes

	Number of wholesale roaming volumes from Ukrainian customers roaming in the EU **– voice**	Number of retail volumes for EU customers roaming in the Ukraine **– voice**	Number of wholesale roaming volumes from Ukrainian customers roaming in the EU – data in **GB**	Number of retail volumes from roaming on Ukrainian networks – data in **GB**
March 2022	52,238,701	1,843,344	21,333,810	2,541,580
April 2022	36,675,231	716,085	9,142,433	3,817,580

Table 2: Wholesale roaming volumes for all EU operators reporting data

5. Wholesale Measures – Ukrainian mobile operators

The data collection for Ukrainian operators has included questions as regards wholesale charges (termination and roaming) between EU and Ukrainian operators. The following sections include the main inputs received by Ukrainian operators. Ukrainian operators were able to provide data for March and April 2022.

As regards data provided by UA operators it should be noted the following:

a) Operators, although including rates for end of March and April, mentioned that for 15 May negotiation is still in place and no rate was reported.
b) Ukrainian operators provided data related to all European operators and not only to the ones that singed the Joint Statement.
c) The figures reported by Ukrainian operators are weighted averages and not simple averages.

5.1. Termination

The average mobile termination rates charged by Ukrainian operators to EU operators for calls originated from the EU have dropped by around 20% from 31 March 2022 to 30 April 2022.

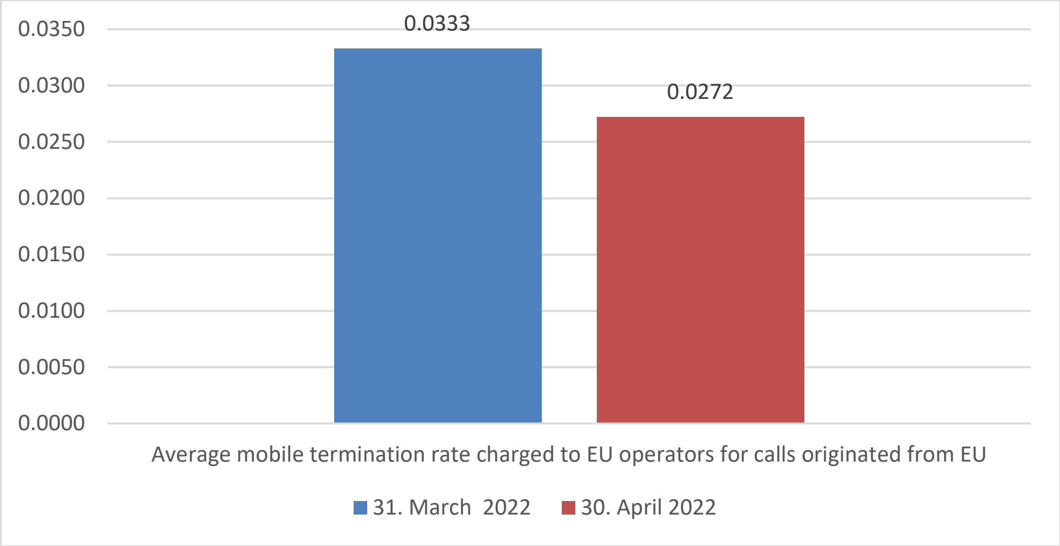

Figure 7 Termination rates charged by Ukrainian operators – in EUR/min

Termination volumes in Ukrainian mobile networks from EU operators:

March 2022: 416,853,767 minutes

April 2022: 500,855,262 minutes

5.2. Roaming

The average wholesale roaming rates paid to EU operators for voice calls has slightly increased between 31 March 2022 and 30 April 2022 while for data, it has decreased by around 30%[8].

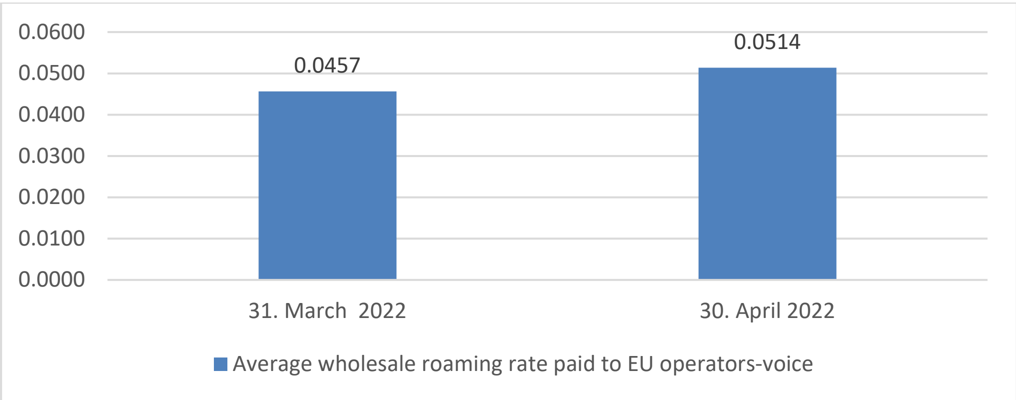

Figure 8 Wholesale voice roaming rates paid to EU operators – voice in EUR/min

[8] Although questions as regards the wholesale roaming rates charged to EU operators were included in the questionnaire, not all operators have replied and due to confidentiality, these averages are not included in the report.

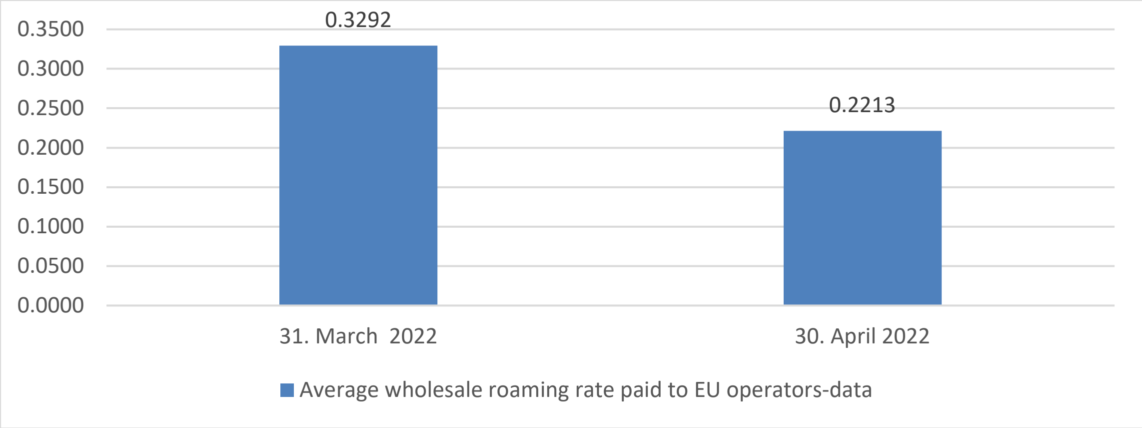

Figure 9 Wholesale roaming rates paid to EU operators - data in EUR/GB

Retail roaming volumes that have been used by Ukrainian subscribers in the EU (minutes for voice and GBs for data):

March 2022: 62,650,013 minutes

March 2022: 2,057,776 GBs

April 2022: 49,919,602 minutes

April 2022: 2,407,221 GBs

6. General comments raised by operators

Both questionnaires (EU and UA) included a question for operators to provide input on any obstacles (related to technical aspects, negotiations etc.) they are facing in lowering wholesale termination rates or wholesale roaming rates as well as a question about any other measures implemented by operators. EU operators were also requested to provide information about any issues they face in offering the measures they have mentioned.

6.1. Obstacles in lowering wholesale termination rates or wholesale roaming rates

The following input was mainly provided by EU operators:

1. International carriers are not lowering their rates towards Ukraine.
2. No direct interconnection agreements with Ukrainian operators exist.
3. There are issues in the reductions for some cases/scenarios of termination to Ukrainian networks. This entails financial risks for EU operators when providing retail measures.

4. None of the fixed operators in Ukraine provides reduction of termination rates from the standard (high) level to any kind of call scenario. Setting up the reduced rates with operators in Ukraine is long lasting, purely bilateral and entails tough business negotiation.

Ukrainian operators have provided the following input:

1. Ukrainian subscribers are becoming subscribers of European operators and this leads to Ukrainian operators losing their subscribers.

2. Transit carriers, including those who signed the Joint Statement, have not reflected new rates in their offers. This leads to additional costs for Ukrainian operators, including traffic on MSRN ranges.

6.2. Other measures implemented by operators

EU operators have reported the following additional measures:

1. Donation of network hardware, food, medicine, transport services, trainings, schooling, accommodation and clothing,

2. Financial contributions organised by employees,

3. Money donations to several NGOs,

4. Free-to-call helplines,

5. Free access to Ukrainian TV,

6. Job opportunities for Ukrainian professionals,

7. Customer services and web pages in Ukrainian language,

8. Various cybersecurity measures.

6.3. Other issues identified by EU operators

EU operators have also identified the following issues:

1. A few fraud cases have been detected,

2. SIM cards issued to Ukrainian refugees while in transit to other EU countries are now in permanent roaming,

3. MVNOs do not have control over wholesale charges,

4. With regard to the reduction of prices or other measures in favour of the Ukrainian population, operators need to implement internal IT developments and the underlying costs are not proportionate to the expected result considering the low percentage of Ukrainian customers in some countries.