

**International Roaming
BEREC Benchmark Data Report
October 2016 - March 2017**

Contents

1. Introduction	2
2. Regulatory evolution	3
3. Methodology for the data collection	5
4. Main Findings	9
5. Charts	12
5.1. Domestic services - ARRPUs and consumption patterns	13
5.1.1. Average Retail Revenue per User (ARRPU)	14
5.1.2. Consumption patterns for domestic retail services	16
5.2. The development of Roaming Services	21
5.2.1. Voice roaming services	21
5.2.1.1 RoW retail prices	21
5.2.1.2 Wholesale prices	24
5.2.1.3 Consumption patterns	34
5.2.2. SMS roaming services	47
5.2.2.1 RoW retail prices	47
5.2.2.2 Wholesale prices	49
5.2.2.3 Consumption patterns	57
5.2.3. Data roaming services	65
5.2.3.1 RoW retail prices	65
5.2.3.2 Wholesale prices	67
5.2.3.3 Consumption patterns	77
5.3. Wholesale roaming (outbound): Agreements applying Article 3 of the Roaming Regulation	83

1. Introduction

This BEREC Benchmark Report on International Roaming (the “Report”) presents the results of the 19th round of data collection on European international roaming services undertaken by the Body of European Regulators for Electronic Communications (BEREC). The Report covers the period 1 October 2016 - 31 March 2017, i.e. the 4th quarter 2016 and 1st quarter 2017. The Report also includes data from previous rounds of data collection conducted by BEREC and its predecessor, the European Regulators Group (ERG), to provide context for the current figures. The earliest data is from the 2nd quarter 2007, when the Roaming Regulation was about to enter into force.

The applicable regulatory framework for this data collection is Roaming Regulation (EU) No. 531/2012, as amended by Regulation (EU) No. 2120/2015¹, applied in the European Union (EU)², which includes new requirements for the retail and wholesale regulated tariffs for voice, SMS and data roaming. The assessment of the international roaming market was based on the requirements set out in Article 19 (4) of the Roaming Regulation. In order to assess the competitive developments in the Union-wide roaming markets, BEREC has to regularly collect data from national regulatory authorities on the development of retail and wholesale charges for regulated voice, SMS and data roaming services. On the basis of the collected data, BEREC also has to report regularly on the evolution of pricing and consumption patterns in the Member States for both domestic and roaming services and the evolution of actual wholesale roaming rates for unbalanced traffic between roaming providers.

BEREC is coordinating this process of data collection by pursuing the following objectives:

- simplifying the process not only for NRAs as BEREC acts as a central point for the data collection, but also for the Commission, as the data are received from a single source and following uniform data processing;
- coordinating the procedures of individual NRAs, as the data collection exercise uses a single and commonly agreed data collection model, and the process is synchronised and based on the same collection periods. BEREC consults the market players and the Commission before finalising the data collection templates;
- providing, as far as possible, a common response to the different questions posed during the collection process by operators and NRAs, as BEREC serves as the forum where these questions are commonly debated and addressed.

¹ Regulation (EU) No. 2120/2015, hereinafter ‘TSM Regulation’, available at: <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32015R2120>

² The amendments were incorporated in the EEA agreement 29 April 2016, but did not enter into force for the EEA/EFTA countries Norway, Liechtenstein and Iceland since the three countries had made reservations for approval by their respective Parliaments. However, in Norway the Electronic Communications Regulation was changed, and the amendments entered into force 1 June 2016.

2. Regulatory evolution

The ERG initially worked on the long-standing issue of high prices for international roaming services. Following its creation in January 2010, BEREC took over responsibility for this work from ERG.

The 2007 Regulation

In 2005, ERG undertook a study on international roaming that concluded that the EC Regulatory Framework did not provide the necessary tool-kit for NRAs to tackle the problems identified. ERG wrote to the Commission in December 2005 highlighting its concerns.

After significant debate, the first Regulation on international roaming services was published on 29 June 2007. The primary provisions capped wholesale and retail charges for voice calls under Eurotariff and set a number of transparency provisions to help to ensure that consumers were well informed. The provisions of the Regulation entered into force at different times, with retail and transparency provisions taking full effect by the end of September 2007 and wholesale provisions calculated annually from the end of August 2007³.

The 2009 amended Regulation

On 7 May 2008, the Commission launched a public consultation on the functioning of the 2007 Regulation. ERG's views expressed in response to the consultation were substantially reflected in the Commission's legislative proposals,⁴ published on 23 September 2008, to extend the 2007 Regulation in duration and scope.

On 22 April 2009, the European Parliament adopted Regulation (EC) No. 544/2009 at first reading, with a view to amending Regulation (EC) No. 717/2007. Subsequently, on 8 June 2009, the Council of EU Telecoms Ministers formally adopted the new EU roaming rules approved by the European Parliament. The definitive text of Regulation (EC) No. 544/2009 was published in the Official Journal of the European Union on 29 June 2009^{5,6}.

In particular, the Regulation introduced the following measures related to price control, applicable from 1 July 2009 to 30 June 2012:

- an extension of wholesale and retail price regulation for voice services, with yearly decreases in the levels of the caps;
- price regulation of SMS roaming services at both the wholesale and retail level;
- price regulation of data roaming services at the wholesale level.

And from July 2010 to June 2012:

³ In Norway and Iceland the 2007 Regulation was in force from the end of 2007 to the 2nd quarter 2010.

⁴ http://ec.europa.eu/information_society/activities/roaming/docs/regulation/reg_en.pdf

⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:167:0012:0023:EN:PDF>

⁶ From the 3rd quarter 2009 to the 1st quarter 2010, Regulation 544/2009 applied in the EU while the first Roaming Regulation (EC) No. 717/2007 remained in force in Norway, Iceland and Liechtenstein, with slightly higher voice caps, no SMS caps and no wholesale data cap.

- retail transparency measures to protect consumers from “bill shock” when data roaming.

The 2012 Regulation

On 29 June 2010, the Commission published an interim report⁷ on the functioning of the 2009 Regulation. The Commission’s Digital Agenda for Europe⁸ also included a target for roaming, where ‘the difference between roaming and national tariffs should approach zero by 2015’.

In accordance with the 2009 Regulation, BEREC provided advice to the Commission on the functioning of the Regulation and future regulatory options in its December 2010 Report⁹, supplemented by its February 2011 response to the Commission’s public consultation¹⁰.

The Commission then published a full review of the functioning of the Regulation and legislative proposals for a new Regulation in July 2011¹¹.

On 30 May 2012 the Council of the European Union approved the International Roaming Regulation III¹², which entered into force on 1 July 2012¹³.

The Regulation introduced the following measures, applicable from 1 July 2012:

- an extension of wholesale and retail price regulation for voice and SMS with yearly decreases in the levels of the caps until 30 June 2014 with those caps to remain in force until 30 June 2022 for wholesale services, and until 30 June 2017 for the Eurotariffs, subject to a further review by 30 June 2016;
- an extension of wholesale price regulation for data with yearly decreases in the levels of the caps until 30 June 2014 with those caps to remain in force until 30 June 2022;
- price regulation of data roaming services at the retail level with a yearly decrease in the level of the cap until 30 June 2014 with the cap to remain in force until 30 June 2017, being subject to a further review by 30 June 2016;
- the obligation for MNOs to meet all reasonable requests for wholesale roaming access, which comprises direct wholesale roaming access and wholesale roaming resale access under the rules set out in the Roaming Regulation. The Regulation also included provisions on the separate sale of roaming services which entered into force on 1 July 2014.
- safeguard mechanisms were extended. The Regulation requires providers to make available to their customers one or more maximum financial or volume limits on data roaming use during an agreed specified period, subject to the customer's consent to continue (“cut-off mechanism”). The safeguard mechanisms also apply to data roaming

⁷ http://ec.europa.eu/information_society/activities/roaming/docs/interim_report2010.pdf

⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF>

⁹ http://erg.eu.int/doc/berec/bor_10_58.pdf

¹⁰ http://ec.europa.eu/information_society/activities/roaming/docs/cons11/Berec.pdf

¹¹ http://ec.europa.eu/information_society/activities/roaming/index_en.htm

¹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:172:0010:0035:EN:PDF>

¹³ With regard to the EEA EFTA countries, it must be noted that the Roaming Regulation applies in these countries as from 7 December (Norway and Liechtenstein) and 21 December (Iceland) 2012.

services used by roaming customers travelling outside the EU except when the visited network operator in the visited country outside the EU does not allow the roaming provider to monitor its customer usage on a real-time basis. The cut-off limit should in principle be made available for all tariffs by default. However when a customer opts for an offer without a cut-off limit, customers are given the right to be provided with a cut-off limit within one working day at their demand.

The 2012 Regulation as amended by Regulation (EU) No. 2120/2015

On 3 April 2014, the European Parliament (EP) took up the position, within the framework of the procedure for the adoption of a Regulation for a European Single Market for Electronic Communications (TSM Regulation), to abolish retail roaming surcharges in order to allow customers to “Roam Like at Home” (RLAH) with a fair use limit.

Regulation (EU) No. 2015/2120¹⁴, adopted by the European Parliament on 27 October 2015 and published in the Official Journal of 26 November 2015, includes amendments to Roaming Regulation No. 531/2012¹⁵, the main one being the principle of Roam-Like-At-Home, i.e. requiring roaming providers not to levy any surcharge in addition to the domestic retail price on roaming customers as of 15 June 2017 (RLAH tariffs). But the Roaming Regulation allows providers to add a surcharge for regulated roaming services in addition to the domestic price during the transitional period (30 April until 14 June 2017). Furthermore, similar to the provisions set out in the third Roaming Regulation, roaming providers can also offer alternative roaming tariffs as an alternative to RLAH and RLAH+¹⁶ and customers may deliberately choose those alternative tariffs. The Roaming Regulation also allows, during the transitional period, tariff packages which provide roaming customers with a per diem, or any other fixed periodic roaming charge (hereinafter “fixed periodic roaming tariff”) and which contain a certain volume of regulated roaming services (Article 6e (1), subparagraph 4). Therefore, operators can offer fixed periodic roaming tariffs with a volume allowance as an option to their customers during the transitional period in addition to the regulated roaming tariffs. This means that these fixed periodic roaming tariffs cannot be the only tariff option available to roaming customers. A fixed periodic roaming tariff complies with Article 6e (1) Roaming Regulation - and should not be treated as an alternative tariff pursuant to Article 6e (3) - on condition that the consumption of the full amount of that volume leads to a unit price for regulated roaming calls made, calls received, SMS messages sent and data roaming services which does not exceed the sum of the domestic retail price and the maximum applicable surcharge as set out in 6e (1) first subparagraph.

The amendments to the Roaming Regulation resulted in an update of the BEREC Benchmark Report and the current Report includes RLAH, RLAH+, fixed period tariffs and alternative tariffs offered by operators.

3. Methodology for the data collection

Because of the broad scope and complexity of the new requirements stemming from the TSM Regulation, new key indicators have been developed for the data collection. In addition, while

¹⁴ Available at: <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32015R2120>

¹⁵ Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32012R0531>

¹⁶ RLAH + allows the roaming provider to apply a surcharge in addition to the domestic retail price during the transitional period (from 30 April 2016 until 14 June 2017)

the results are derived from the same questionnaire, the methodology used for some data from these new key indicators can differ between countries for a number of reasons, particularly relevant are the following:

- Differences in the methods used by operators to allocate volumes for the different roaming services. For instance, complex tariff structures in which different roaming plans apply (for example after exceeding roaming limits, the user is automatically switched to a different roaming tariff plan) can affect the interpretation of the results since there is not an harmonized methodology among operators for allocating the volumes between the different types of roaming tariffs (RLAH, RLAH+, fixed periodic tariffs and/or alternative tariffs).
- Difficulties in estimating the actual revenues for the roaming services and the mobile domestic services. As most of the operators provide domestic bundled services it is therefore difficult
 - to estimate how much of the bundle the user used for roaming services and
 - to allocate revenues to the domestic individual services (e.g.: fixed voice, mobile, internet, TV).

Therefore, in the report:

- all revenues resulting from bundles that include mobile services are allocated to domestic services regardless of whether the mobile service is provided in the domestic network or in a visited network. Any other type of revenue (such as those originating from fixed telephone service or fixed internet service, sale of mobile devices, the initial one-time charge for a new/renewed subscription, subscription fees to other non-telecommunication services, etc) was not considered. Revenues from international calls could also be included;
- for RLAH+ tariffs, the retail roaming revenues for RLAH+ tariffs, are only considered as relative to the revenues resulting from the surcharges (the domestic price component of the roaming service is excluded), which means that the EU/EEA retail roaming revenues reported herein are underestimated (the EU/EEA total retail roaming revenues include these revenues resulting from surcharges as well as the retail roaming revenues from fixed periodic charges and alternative tariffs).

Therefore, the results presented in the Report should be read with the aforementioned caveats in mind and taking into account the operators' problems with data reporting.

The assessment of the international roaming market was based on the requirements set out in Article 19 (4) of the Roaming Regulation. In order to assess the competitive developments in the Union-wide roaming markets, BEREC has to collect data regularly from national regulatory authorities (NRAs) on the development of retail and wholesale charges for regulated voice, SMS and data roaming services. On the basis of the collected data, BEREC also has to report regularly on the evolution of pricing and consumption patterns in the Member States for both domestic and roaming services and the evolution of actual wholesale roaming rates for unbalanced traffic between roaming providers.

While the changes to the Roaming Regulation refer to the RLAH regime, these requirements are applicable from 15 June 2017 and the current Report includes RLAH tariffs offered by the operators prior to the date set out in the Roaming Regulation. In this context, it is necessary to underline that the RLAH offers may include different restrictions or 'add-ons'. BEREC notes that there is much variation in how such offers are provided which resulted in monitoring general consumption patterns. A further assessment of RLAH tariffs within the Roaming Regulation framework will be considered in the future BEREC Reports.

Legislative amendments were also made to address the transitional period from 30 April 2016 until 14 June 2017. Article 6f (2) of the Roaming Regulation allows providers to add a surcharge for regulated roaming services in addition to the domestic price during the transitional period (RLAH+ tariffs). Where a roaming provider applies a surcharge for the consumption of regulated retail roaming services, the sum of the domestic retail price and any surcharge applied must not exceed the price cap set out in Article 6e (1) (b). For calls received, which are not charged domestically, Article 6e (1) (c) provides that any surcharge applied shall not exceed the weighted average of the maximum mobile termination rates set out in the Implementing Act¹⁷. For calls made, SMS sent and data used, Article 6e (1) (a) provides that any surcharge must not exceed the wholesale caps, which are currently 5 cents per minute, 2 cents per SMS and 5 cents per MB respectively¹⁸. Due to the complexity of such tariffs and operators reporting capabilities, the current BEREC Benchmark Report includes an assessment of RLAH+ tariffs with respect to consumption patterns.

Fixed periodic roaming tariffs are sometimes linked to other roaming tariff plans (for example after the caps of the domestic FUP are reached, the value of the roaming price is a daily tariff). As different tariffs are applied this results in some operators having problems to split traffic and revenues between roaming tariff plans. Due to this fact, this Report assesses the consumption patterns related to the fixed periodic tariffs.

BEREC also has to report about the evolution of actual wholesale roaming rates for unbalanced traffic between roaming providers. This requirement is also reflected in the current BEREC Benchmark Report.

Furthermore, BEREC also reports about the evolution of pricing and consumption patterns in the Member States for domestic services.

Over 164 providers of international roaming services provided information for this Report. This number includes virtually all of the mobile network operators in the EEA countries and Switzerland, as well as a significant number of MVNOs that provide EEA roaming services. BEREC estimates that this covers around 95% of EU consumers using international roaming services today.

Considering the aforementioned difficulties in obtaining reliable and comparable data, for some indicators, there is a limited number of countries which have opted for not supplying the data relative to those indicators. This is not at all unusual for a comprehensive data collection of this type. In most cases the NRA was able to work with the company to resolve or alleviate

¹⁷ Pursuant to Regulation (EU) No. 531/2012 the Commission is to review the weighted average of maximum mobile termination rates across the Union annually, available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L.2015.331.01.0007.01.ENG>

¹⁸ The prices do not include VAT.

the problem. In other cases, where system upgrades are necessary to comply with the new format of the data collection, the operator was asked to provide the best possible estimate currently available and to complete upgrades in time to provide high quality data for the next data collection. Some NRAs expressed major data quality challenges at the national operators' level as well as the use of different reporting systems by operators. In this context, the terminology for some elements of the questionnaire will be clarified in order to allow operators to make the necessary changes in the reporting systems¹⁹.

At the wholesale level, operators often receive discounts based on variables like volume of traffic, calculated at the end of a 12-month period. When providing data for these reports, operators may estimate the effect of such discounts on data for each quarter. Because the actual discount may vary from the estimate, there may be an apparently 'anomalous' result for the quarter when the discount is actually applied. This should be kept in mind when comparing wholesale figures for different quarters in the same year.

In a few cases the number of operators changed, which may cause an apparent change in prices between quarters. This can also lead to strong volume changes.

When wholesale prices are above the price caps, in most cases the reason is that the average price to comply with the Regulation is the annual price and not a quarterly one, and in such cases some quarters compensate for others. Another reason may also be inaccuracies in reporting for the data collection itself.

For ease of comparison, the Euro is used throughout this Report. Within the EEA, currency fluctuations between the Euro and other national currencies are likely to have affected the average prices reported for EEA countries outside the Euro zone.

Conversion of gigabytes to megabytes was done in line with Recital 17 of the Regulation (EU) 2017/920 of the European Parliament and of the Council of 17 May 2017 amending Regulation (EU) No 531/2012, which results in 1 gigabyte being equal to 1000 megabytes. Operators may apply a different formula which can slightly affect the accuracy of data.

All retail prices included in the charts below exclude VAT. They are an average of prices paid by postpaid and prepaid tariff plan customers. All averages are based on billed minutes of voice calls or billed megabytes of data, unless expressly stated otherwise.

With regard to wholesale roaming resale access according to Article 3 (4) of the Roaming Regulation, MNOs may charge fair and reasonable prices for components not covered by para. 3. Thus prices may be higher than the price caps given in Article 7 (1). Some data also include volumes and tariffs coming from roaming in non-EU countries in Europe. It should also be noted that the average wholesale roaming voice tariff for agreements applying Article 3 of the Roaming Regulation might be above the cap because the calculation is based on actual minutes (the Regulation permits to invoice 30 seconds for calls that are shorter).

The EU Roaming Regulation also applies to the EEA EFTA States Norway, Iceland and Liechtenstein.

¹⁹ ANACOM took the option not to ask the operators to adapt their systems before a common set of consistent assumptions is defined to be applied in all the countries for allocating revenues to roaming services and to mobiles domestic services and to allocate volumes for the different roaming tariff types.

In addition, Switzerland contributed to the data collections, although the 2007, 2009 and 2012 Roaming Regulation is not applicable there²⁰.

4. Main findings

The information gathered by BEREC continues to show a good level of compliance with the Roaming Regulation in EU Member States.

Wholesale rates

At the wholesale level, the voice, SMS and data roaming charges set between operators are in line with the declining regulated average caps. Some countries reported average prices slightly above the price caps.²¹

The applicable price caps and the related EEA average prices during the data collection period were:

Service at wholesale level (no VAT)	Q4 2016		Q1 2017	
	Price Cap	EEA Average	Price Cap	EEA Average
Wholesale voice (€/minute)	5	2.718	5	2.897
Wholesale SMS (€/SMS)	2	0.877	2	0.725
Wholesale data (€/MB)	5	1.018	5	0.822

Retail domestic prices (ARRPU)

BEREC has analysed the retail domestic prices and found that it is hard to disaggregate the different mobile communications services since they are often provided as part of a bundle. Operators are finding it difficult to organize their revenue data by individual service categories (ISCs), such as fixed telephony, mobile telephony, fixed broadband and others. Bundles challenge this practice as ISCs require allocating bundle revenues to their components. Therefore, BEREC examined the alternative of presenting data on the evolution of ARRPU. However, in the context of the BoR (16) 33 BEREC Report on the wholesale roaming market it was emphasized that the ARRPU depends on many different parameters (volumes, handset subsidies, sensitivity to the number of active SIM cards, etc.). In general, the ARRPU is quite a weak index for comparing domestic price levels. Further conclusions on price levels of mobile communications services can be made only by a thorough review of retail prices for mobile communications services. For the calculation of ARRPU, BEREC used the data submitted by operators²². The domestic monthly ARRPU for Q1 2017 varies considerably between the countries, ranging from € 1.951 per month to € 31.654 per month in Q1 2017,

²⁰ Figures from Switzerland are excluded from both “EEA” and “EEA EFTA” averages.

²¹ The reasons for most such cases are explained in the Methodology chapter. Moreover, NRAs are monitoring compliance with the provisions of the Regulation to gather further information on possible reasons for reported prices that are higher than the caps. BEREC will keep monitoring this issue closely.

²² The monthly ARRPU was calculated per country by dividing retail revenues (i.e total revenues related to mobile voice, SMS and data traffic. Any other type of revenue, such as those originating from mobile devices, subscription fees to services etc. are not included) in the respective quarters with the total number of domestic and roaming subscribers per country within the same period and dividing it by 3.

with a weighted EEA average of € 9.449, see Figure 1. Disproportion between individual ARRPU's could be caused by different methodologies used by operators.

Wholesale rates for calls made

At the wholesale level (Figures 10 -11), the EEA average Eurotariff was 2.718 Euro cents in Q4 2016 and 2.897 Euro cents in Q1 2017 compared to a cap of 5 Euro cents. The regulation has led to a constant reduction in the average EEA wholesale prices for intra-EEA roaming voice calls (Figure 12). BEREC also assessed also the prices for balanced and unbalanced traffic (Figure 8 – 9). The EEA average wholesale price for balanced traffic was 3.269 Euro cents during Q4 2016 and 3.134 Euro cents during Q1 2017. Meanwhile, the EEA average payments for unbalanced traffic were at 2.527 Euro cents during Q4 2016 and 2.423 Euro cents during Q1 2017.

Wholesale rates for SMS

At the wholesale level, the 2012 Regulation led to a reduction in the average EEA SMS price (Figures 30 - 35) to 0.877 Euro cents in Q4 2016 and 0.725 Euro cents in Q1 2017. In comparison, the EEA average price was 13.314 Euro cents in Q2 2009, before the 2009 Regulation came into force. The average price for the balanced traffic was 0.982 Euro cents in Q4 2016 and 0.816 Euro cents in Q1 2017. Over the same time, the average price for the unbalanced traffic was 0.857 Euro cents in Q4 2016 and 0.619 Euro cents in Q1 2017.

Wholesale rates for data

At the wholesale level, the average data cap of 5 Euro cents in Q4 2016 and Q1 2017 applies in the EEA under the 2012 Regulation. The EEA average price for wholesale data (Figures 47 - 48) fell to 1.018 Euro cents per MB in Q4 2016 and 0.822 Euro cents per MB in Q1 2017, compared to € 1.726 Euro cents and € 1.395 Euro Cents in Q4 2015 and Q1 2016. In the context of the wholesale inbound roaming costs, the EEA average cost of handling the balanced traffic was 1.230 Euro Cents per MB in Q4 2016 and 0.950 Euro Cents per MB in Q1 2017, whereas the EEA average price for handling the extra traffic was € 0.792 Euro Cents per MB in Q4 2016 and € 0.554 Euro Cents per MB in Q1 2017 (Figures 45 – 46).

Wholesale agreements (Article 3)

In the case of wholesale agreements based on Article 3 of the Roaming Regulation, only some operators submitted these data. BEREC's International Roaming Compliance Report²³ showed that operators negotiated roaming services at the wholesale level individually and that the provision of such services was based on commercial agreements. Some light MVNOs as well as resellers stated that these services continued to be provided on the basis of the existing contracts with national host MNOs.

Rest of the world (RoW) retail prices

²³ BEREC International Roaming Compliance Report (Regulation (EU) No 531/512 of the European Parliament and of the Council of 13 June 2012 on roaming), the link: http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1482-berec-international-roaming-compliance-report-regulation-eu-no-531512-of-the-european-parliament-and-of-the-council-of-13-june-2012-on-roaming

With regard to 'Rest of World' retail voice roaming calls (Figures 6 - 7), the EEA average RoW tariff for calls made was 81.971 Euro cents in Q4 2016 and 75.288 Euro cents in Q1 2017. The EEA average prices for calls received are given in Figure 7. Receiving calls when roaming outside the EEA area cost 42.803 Euro cents in Q4 2016 and 39.535 Euro cents in Q1 2017. At the same time, data from the operators reveals that the average price for data consumption outside EEA (Figure 44) cost 22.476 Euro cents per MB in Q4 2016 and 19.674 Euro cents per MB in Q1 2017.

EEA roaming consumption patterns

In respect of EEA volumes of voice, SMS and data roaming services (Figures 21 - 22, 27 – 28, 42 – 43 and 58-59), one particular issue stands out which is the significant difference between these services. While volumes for voice and SMS services show a minimal or small increase from 2012 (2.527 times for calls made, 2.546 times for calls received and 1.022 times for SMS sent comparing Q1 2017 and Q1 2012), data service volumes increased up to 40.647 times in Q1 2017 compared to Q1 2012 corresponding quarters²⁴.

The data shows that the consumption patterns and the used roaming tariff plans vary significantly between Member States. The minutes generated under RLAH+ tariffs account for the majority of voice traffic. Nevertheless customers opted for the RLAH tariffs and in Q1 2017, 31.78% of minutes of calls made and 20.07% of minutes of calls received were generated by subscribers of RLAH tariffs (Figures 17-18 and 23 - 24). For text messages sent while roaming within EEA countries RLAH tariffs accounted for 35.61% of the total volume in Q1 2017 (Figures 38-39). There is a significantly different trend in the case of data roaming services. In Q1 2017 around 53.71% of data traffic was based on the RLAH data tariff while roaming (Figures 54-55)²⁵. However, these results must be analysed with considerable caution due to the difficulties to split roaming traffic related to the tariff plans introduced under the new roaming regime (as explained in the Methodology chapter).

The average number of roaming call minutes, SMS and data consumption are given in Figures 20, 26, 41, 57. The average EEA subscriber spent only 10.902 minutes per month calling other mobile users in Q1 2017. The number of received call minutes for subscribers abroad amounted to 11.752 minutes per EEA average roaming subscriber per month in Q1 2017. Data roaming sessions ranged from 15.859 to 314.702 Megabyte per roaming subscriber per month. It should be noted that these figures include business traffic.

²⁴ It should be noted that the results displayed in the charts might take into account values from a different number of operators that submitted data in the relevant quarters. In this Report Croatia is also included which could affect total volumes as well.

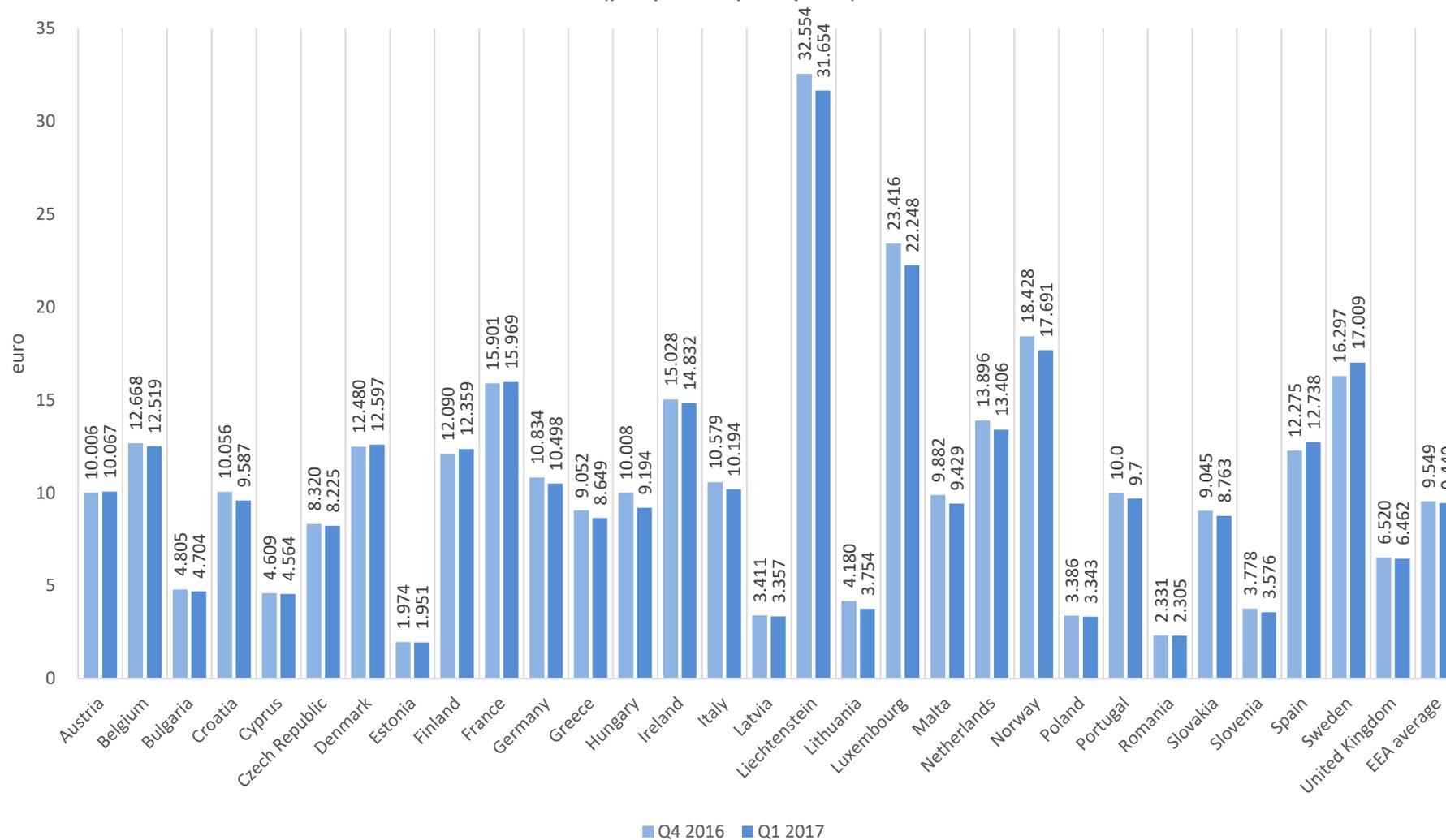
²⁵ It must be noted that not all countries provided data for prepaid or postpaid alternative tariffs and care should be taken when comparing percentages with voice and SMS services.

5. Charts

5.1. Domestic services - ARRPU and consumption patterns

5.1.1. Average Retail Revenue per User (ARRPU)

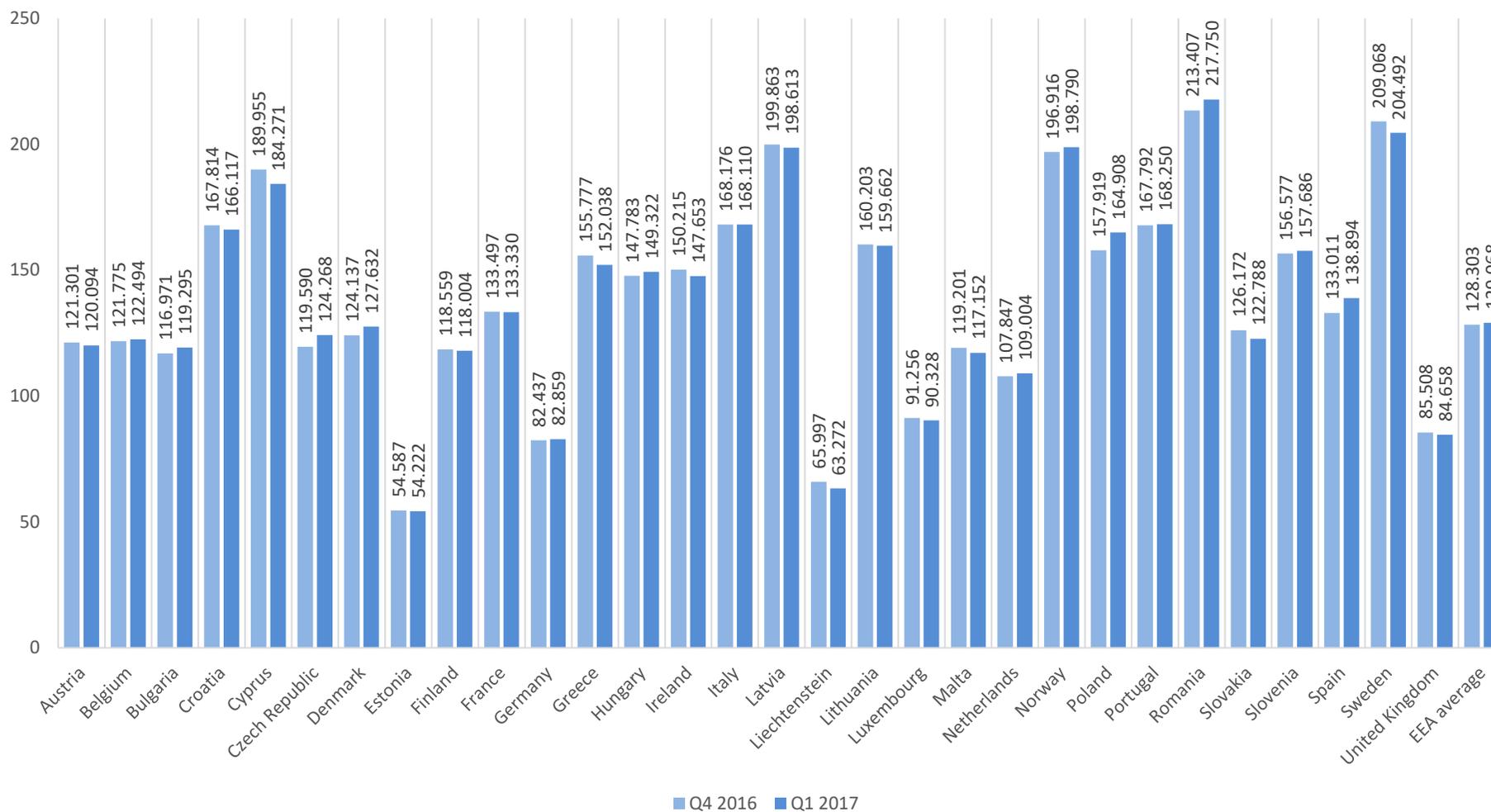
Figure 1: Domestic service: monthly retail revenue per subscriber (ARRPU)
(prepaid+ postpaid)



Portugal: estimates for monthly retail revenue per subscriber excluding the subscribers of bundles
EEA average excludes: Iceland, Portugal

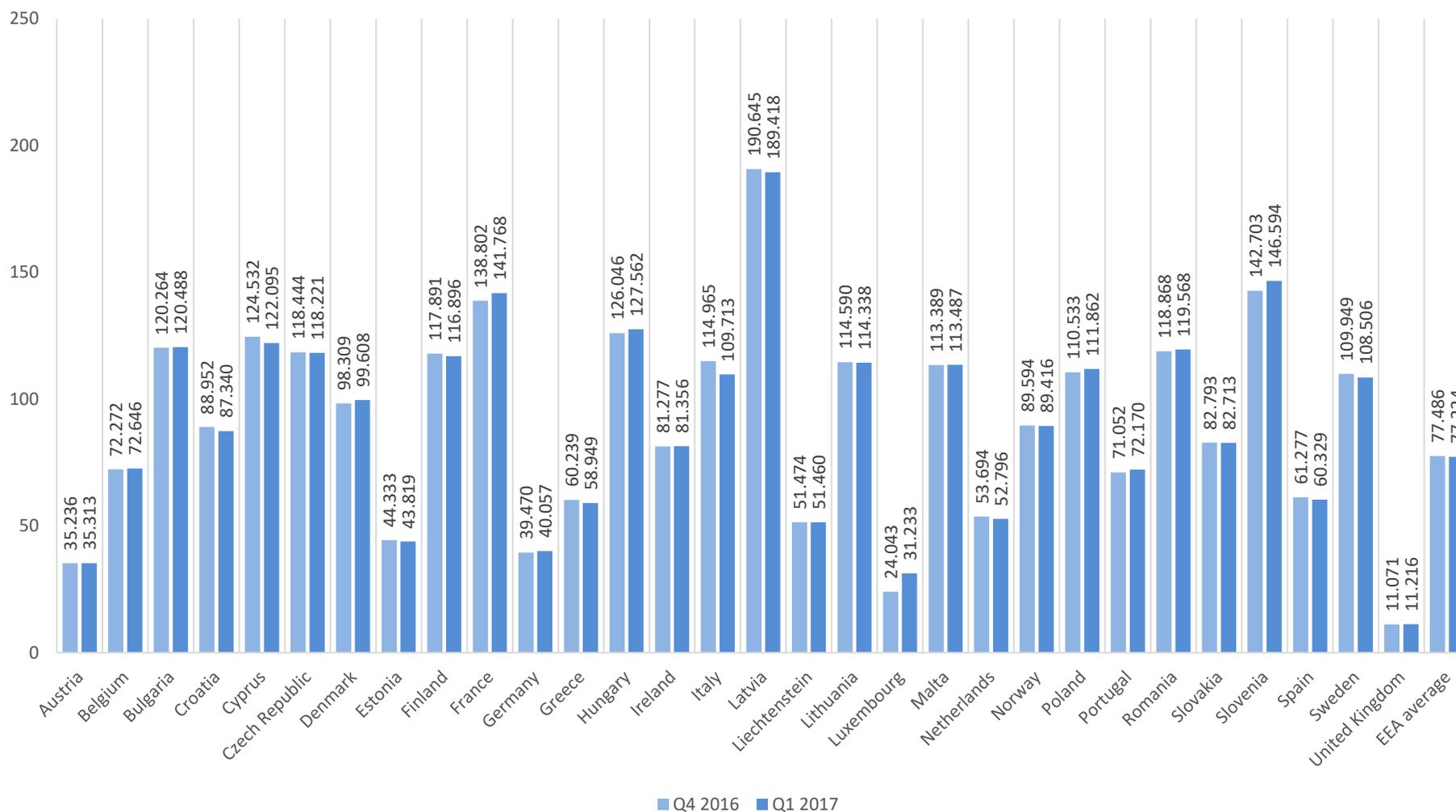
5.1.2. Consumption patterns for domestic retail services

Figure 2: domestic calls made
Average number of minutes per month per subscriber (prepaid+ postpaid)
Q4 2016 and Q1 2017



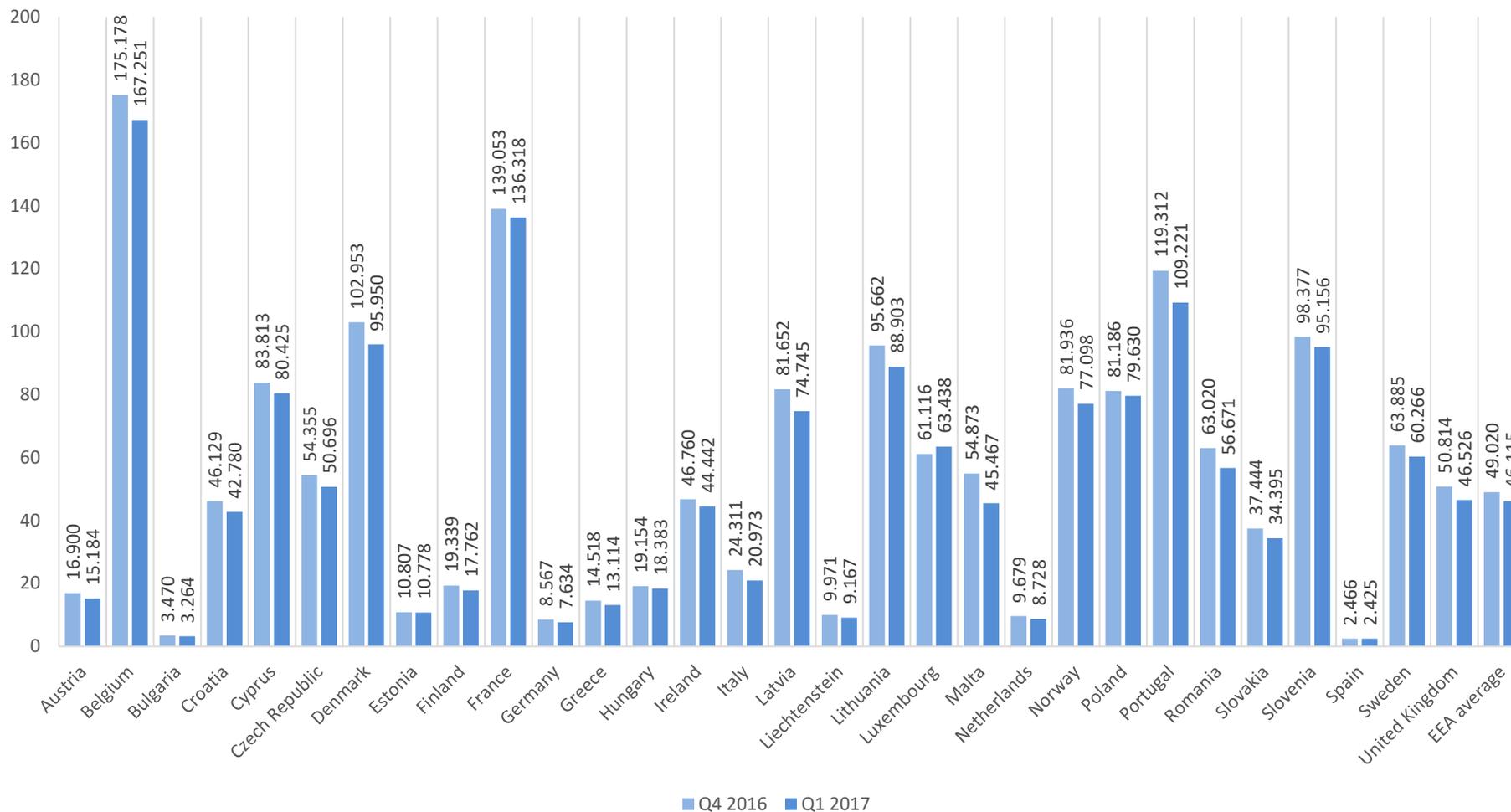
EEA average excludes Iceland

Figure 3: domestic calls received
Average number of minutes per month per subscriber (prepaid+ postpaid)
Q4 2016 and Q1 2017



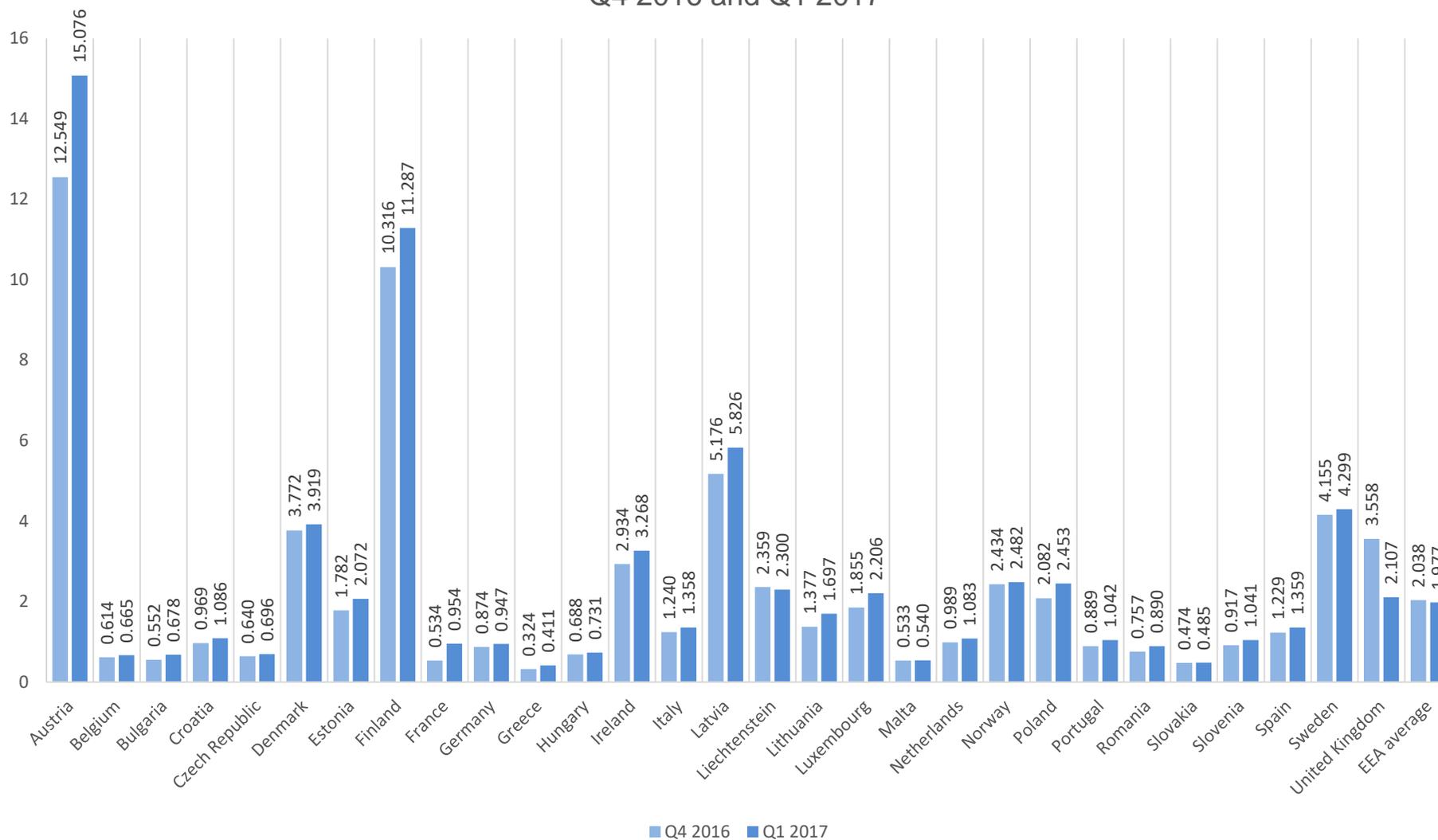
EEA average excludes Iceland

Figure 4: domestic SMS
Average number of SMS per month per subscriber (prepaid+ postpaid)
Q4 2016 and Q1 2017



EEA average excludes Iceland

Figure 5: domestic data services
Average consumption per subscriber per month (Gb, prepaid+ postpaid)
Q4 2016 and Q1 2017



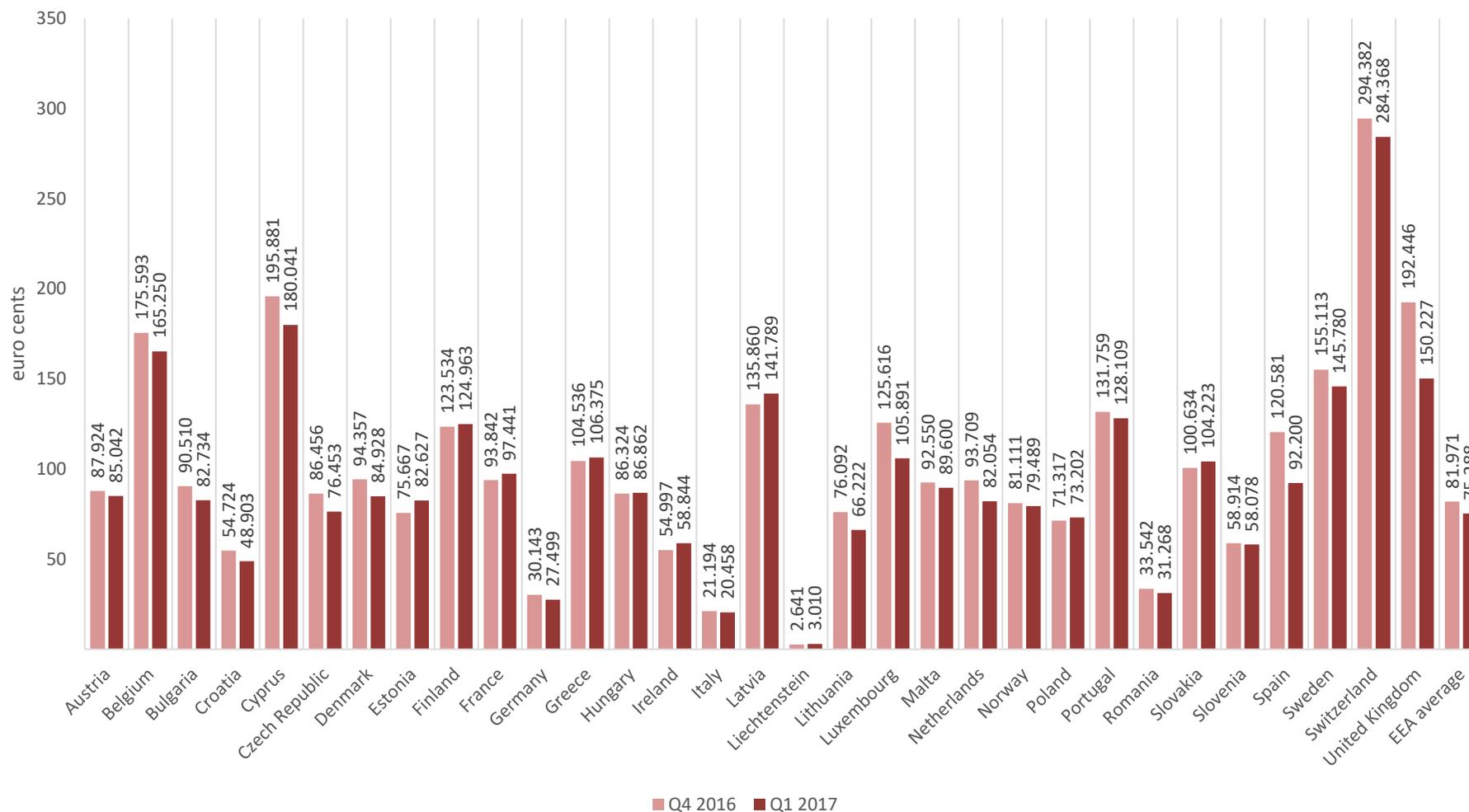
EEA average excludes Cyprus, Iceland

5.2. The development of Roaming Services

5.2.1. Voice roaming services

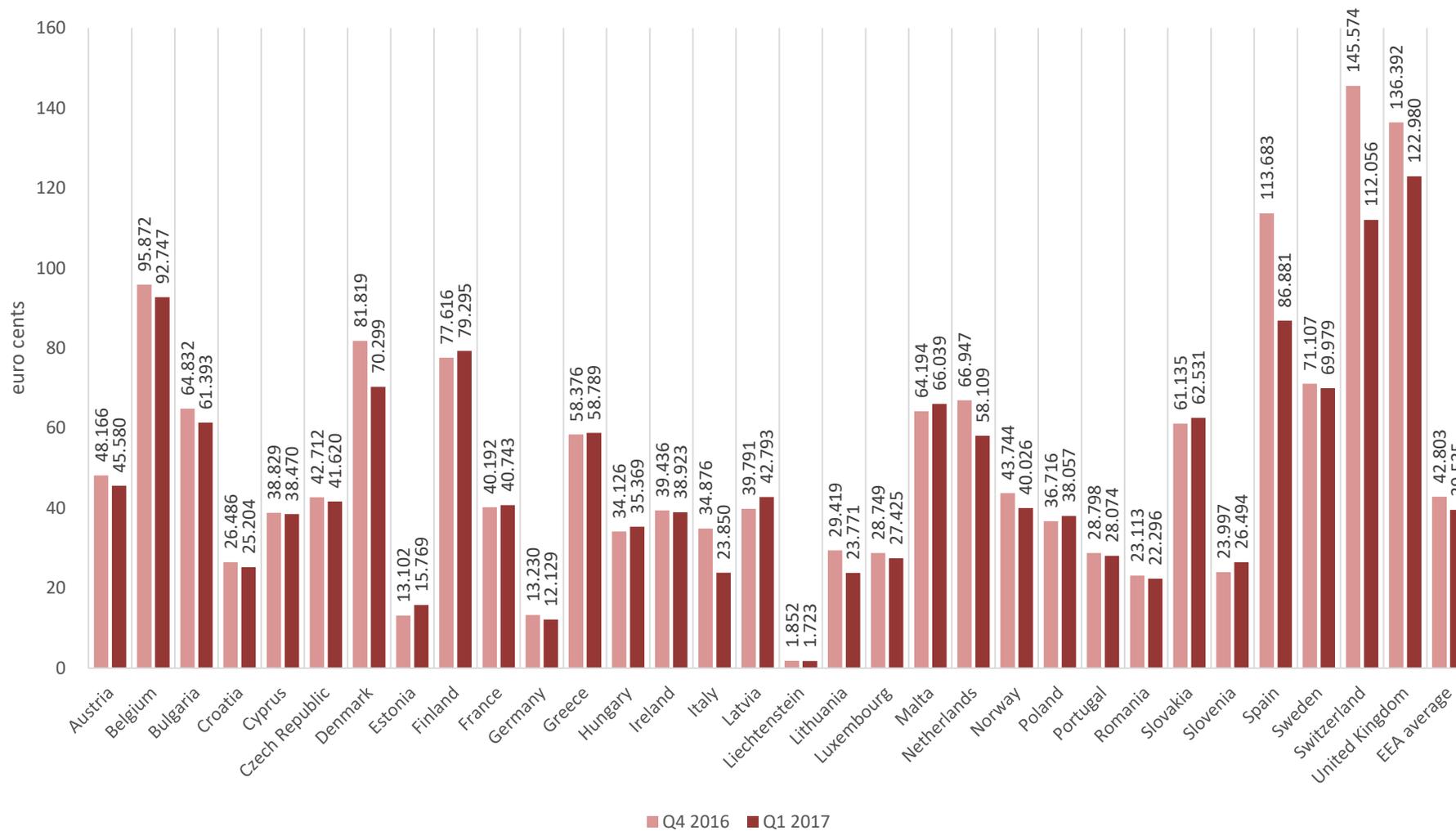
5.2.1.1 RoW retail prices

Figure 6: RoW
Average retail price per minute for RoW roaming voice calls made
(billed minutes, prepaid+ postpaid)
Q4 2016 and Q1 2017



EEA average excludes Iceland

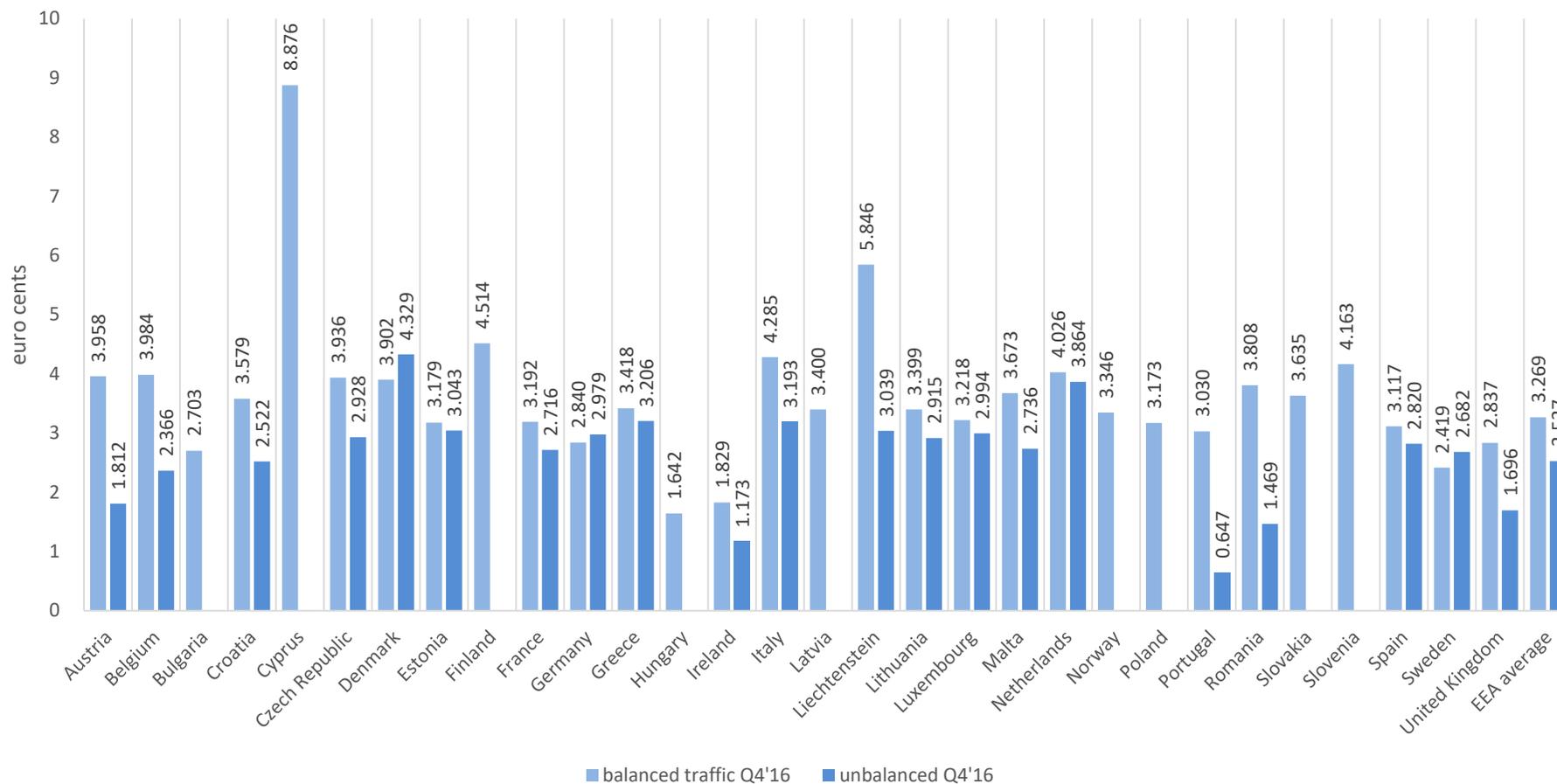
Figure 7: RoW
Average retail price per minute for RoW roaming voice calls received
(billed minutes, prepaid+ postpaid)
Q4 2016 and Q1 2017



EEA average excludes Iceland

5.2.1.2 Wholesale prices

Figure 8: Average wholesale price per minute for intra EEA roaming voice calls:
charges for balanced and unbalanced traffic (wholesale roaming inbound)
Q4 2016



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

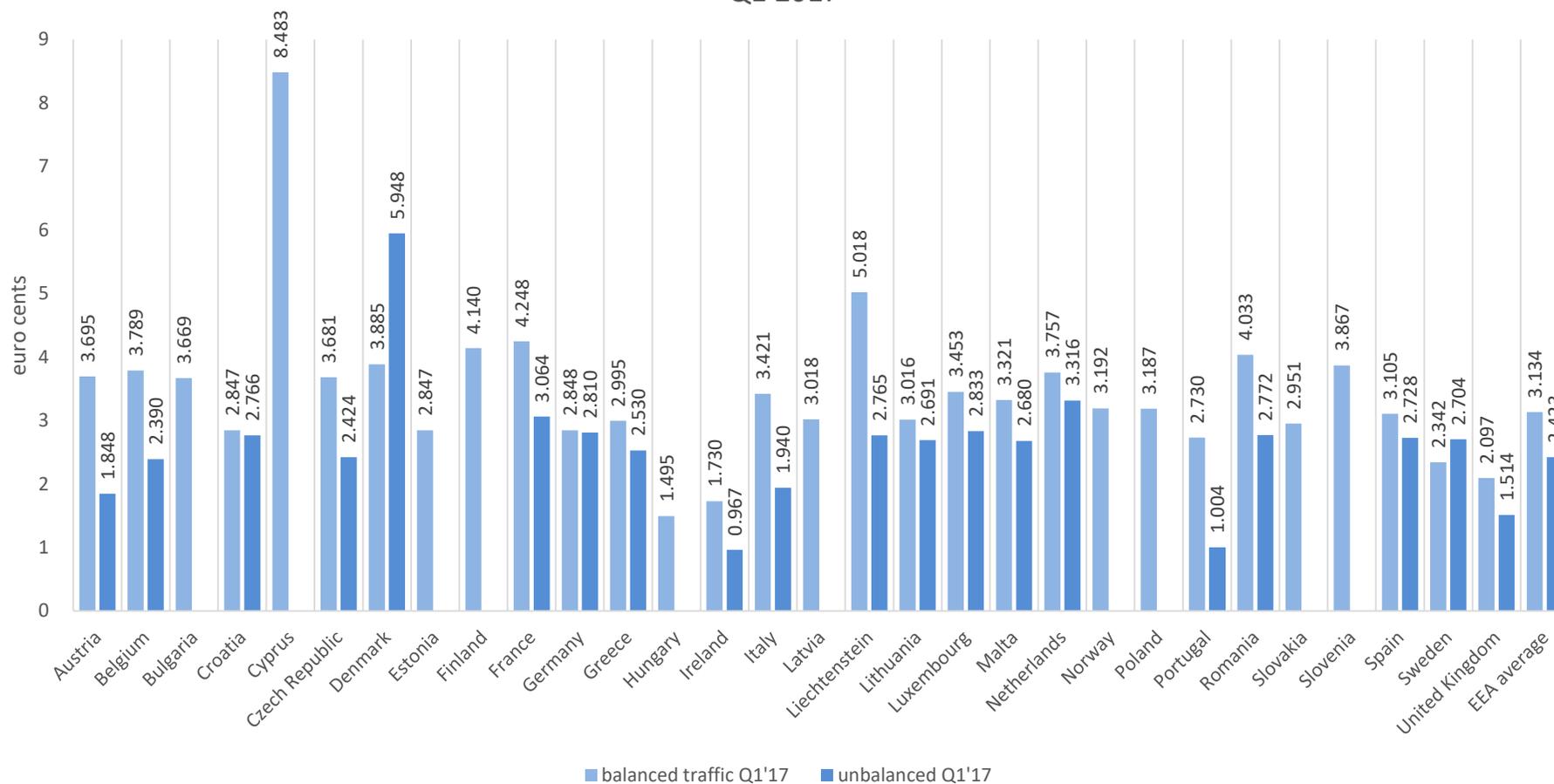
Cyprus, Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 10 and 11.

EEA average (balanced traffic) excludes Iceland

EEA average (unbalanced traffic) excludes Cyprus, Iceland

Figure 9: Average wholesale price per minute for intra EEA roaming voice calls: charges for balanced and unbalanced traffic (wholesale roaming inbound)

Q1 2017



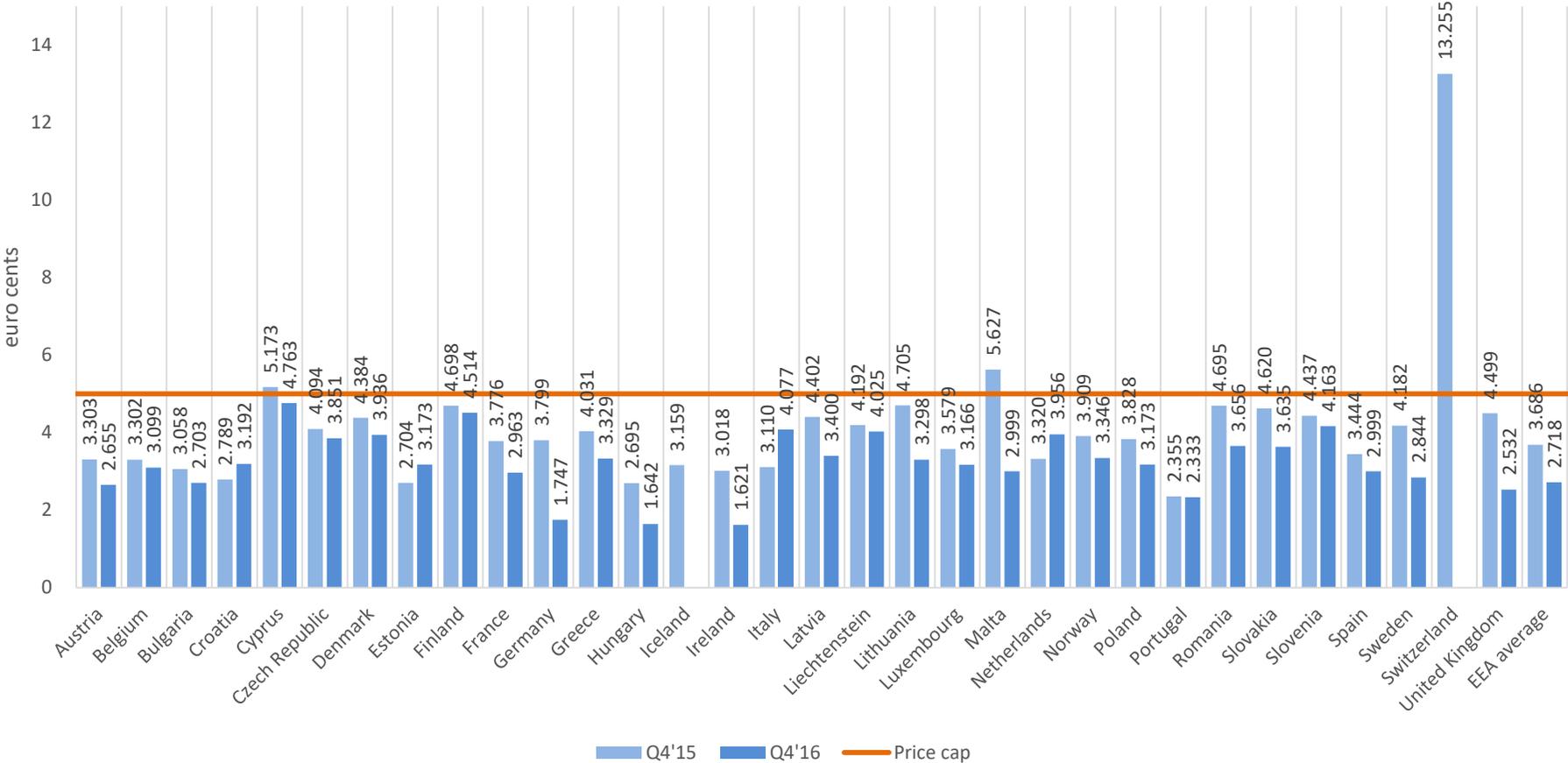
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Cyprus, Germany, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 10 and 11.

EEA average (balanced traffic) excludes Iceland

EEA average (unbalanced traffic) excludes Cyprus, Iceland

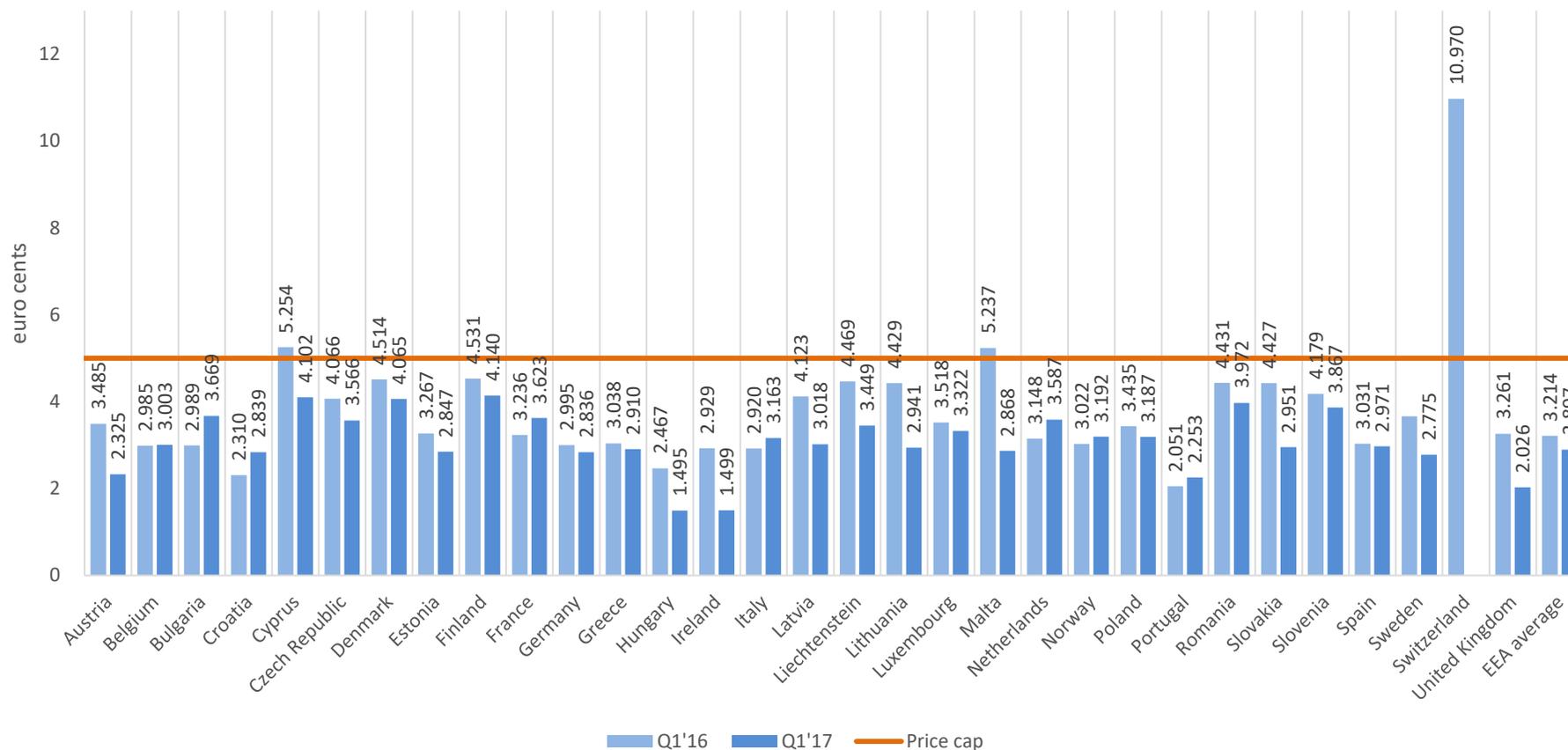
Figure 10: Total wholesale traffic (wholesale roaming inbound)
 Average wholesale price per minute for intra EEA roaming voice calls
 Q4 2015 and Q4 2016



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Cyprus, Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 8 and 9
 EEA average (Q4 2016) excludes Iceland

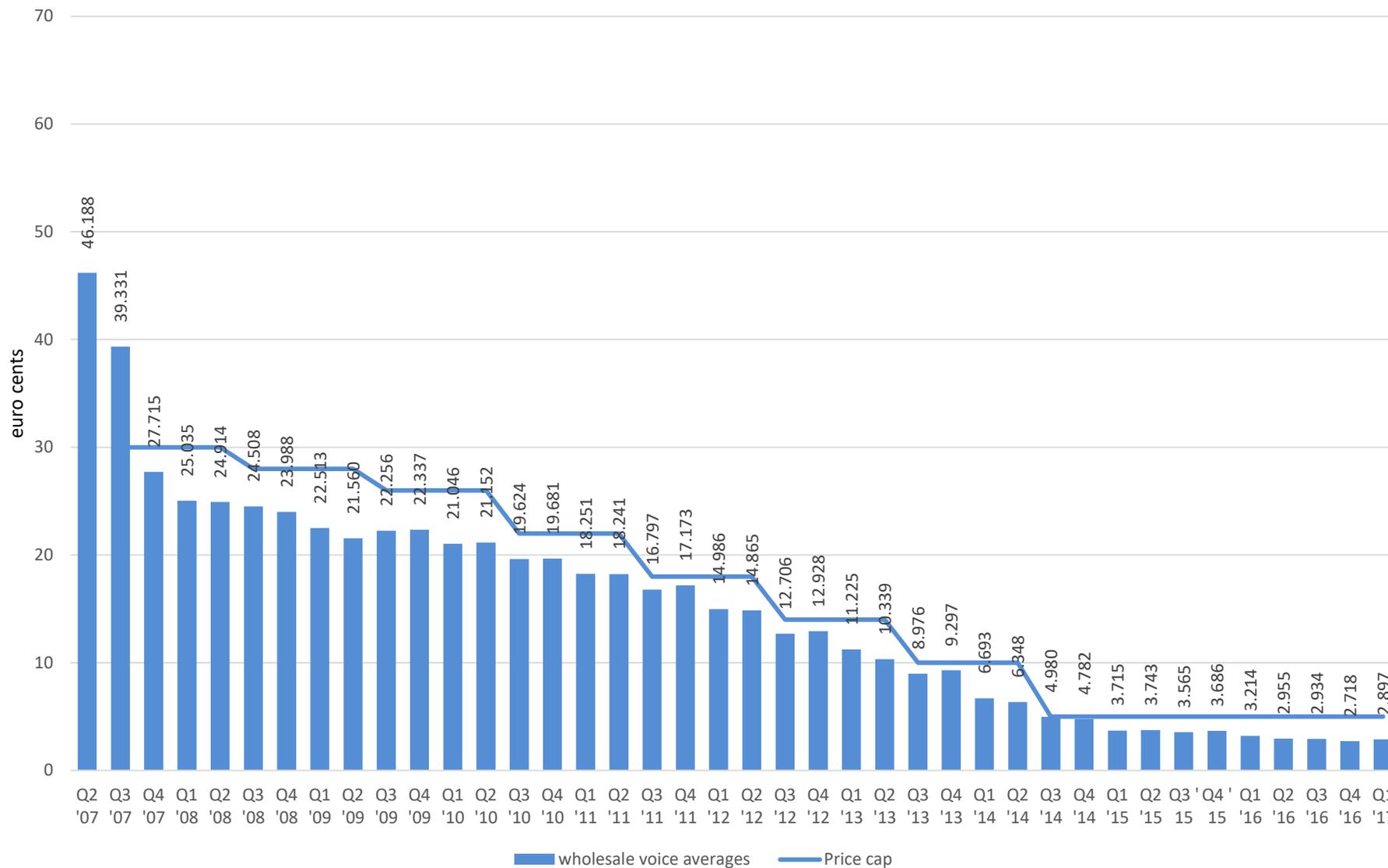
Figure 11: Total traffic (wholesale roaming inbound)
Average wholesale price per minute for intra EEA roaming voice calls
Q1 2016 and Q1 2017



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

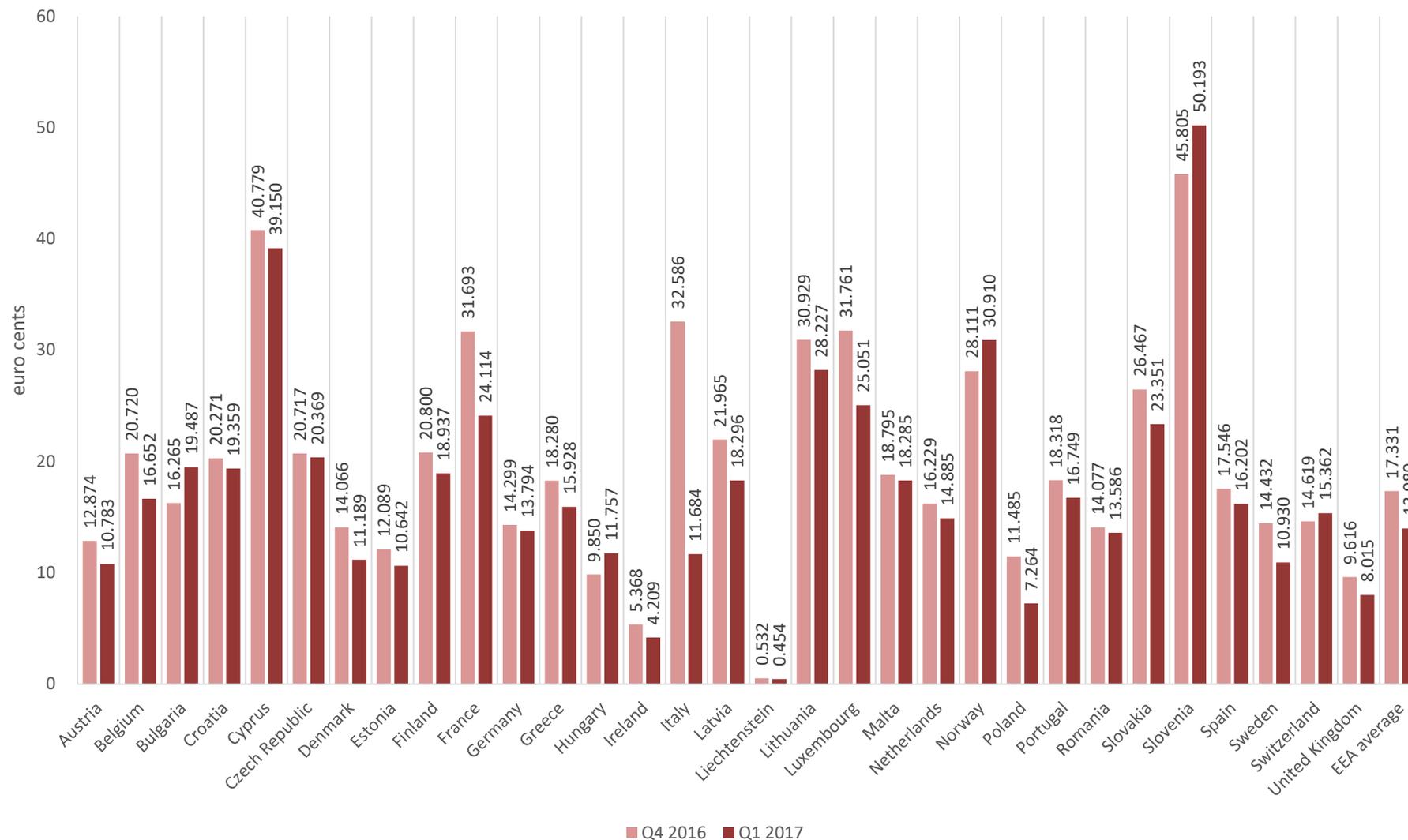
Cyprus, Germany, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 8 and 9
EEA average (Q1 2016) excludes Iceland

Figure 12: EEA average wholesale price per minute for wholesale roaming voice calls



EEA average (Q4 2016) excludes Iceland
 EEA average (Q1 2017) excludes Iceland

Figure 13: Average wholesale price per minute in Q4 2016 and Q1 2017 (prepaid+postpaid)
RoW traffic



EEA average (Q4 2016 and Q1 2017) excludes Iceland

Figure 14: EEA and RoW average wholesale price per minute

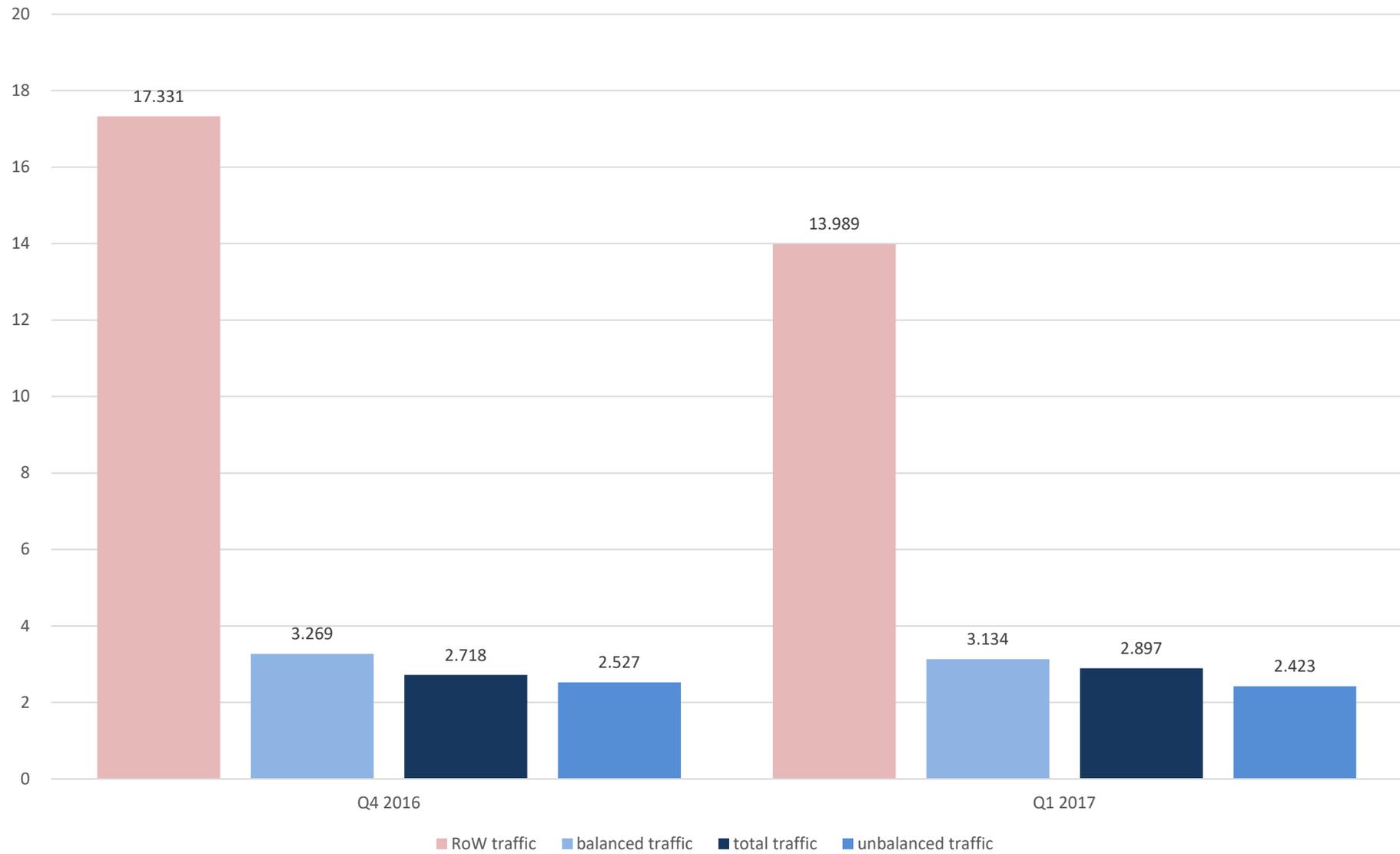
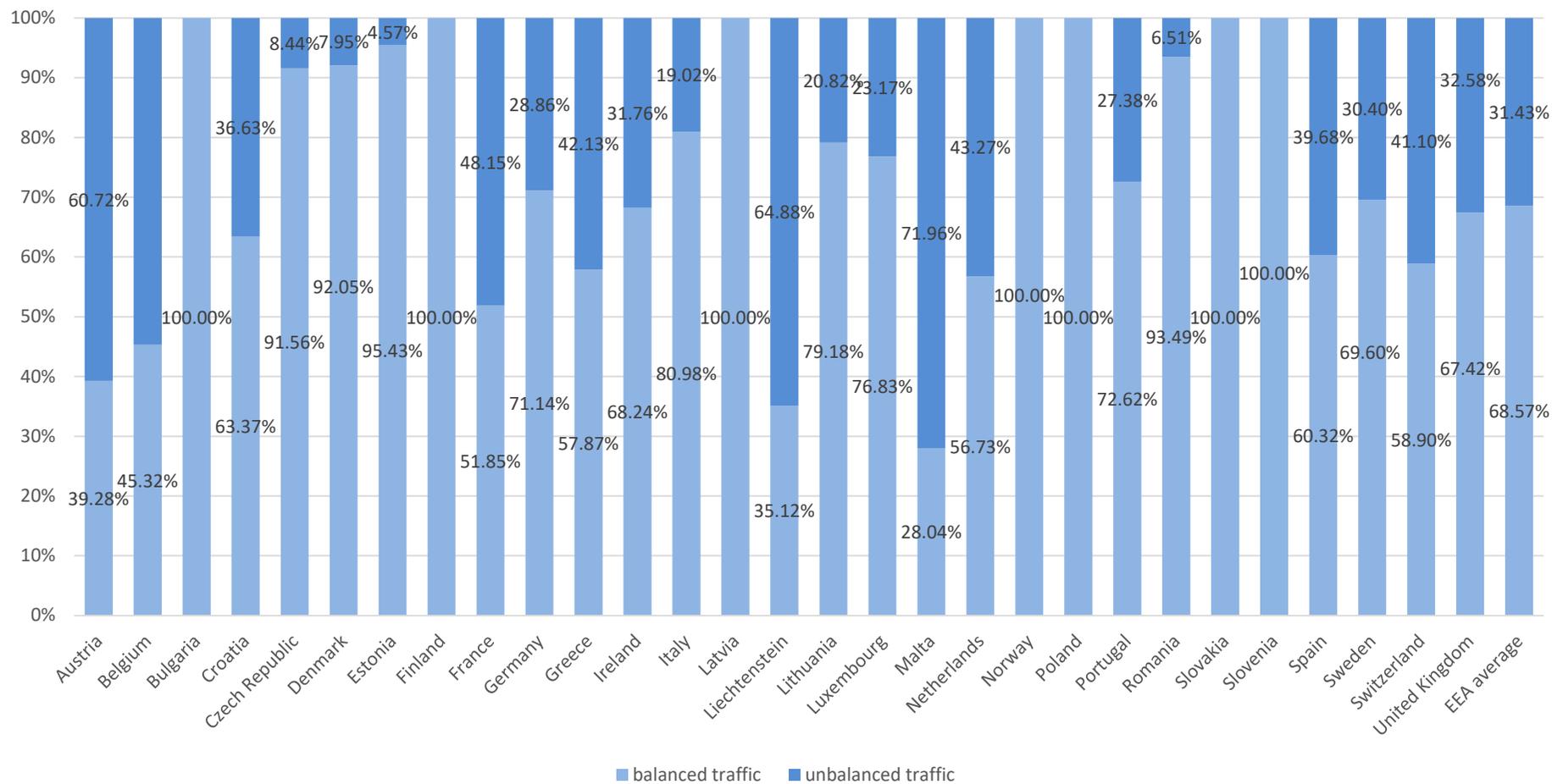
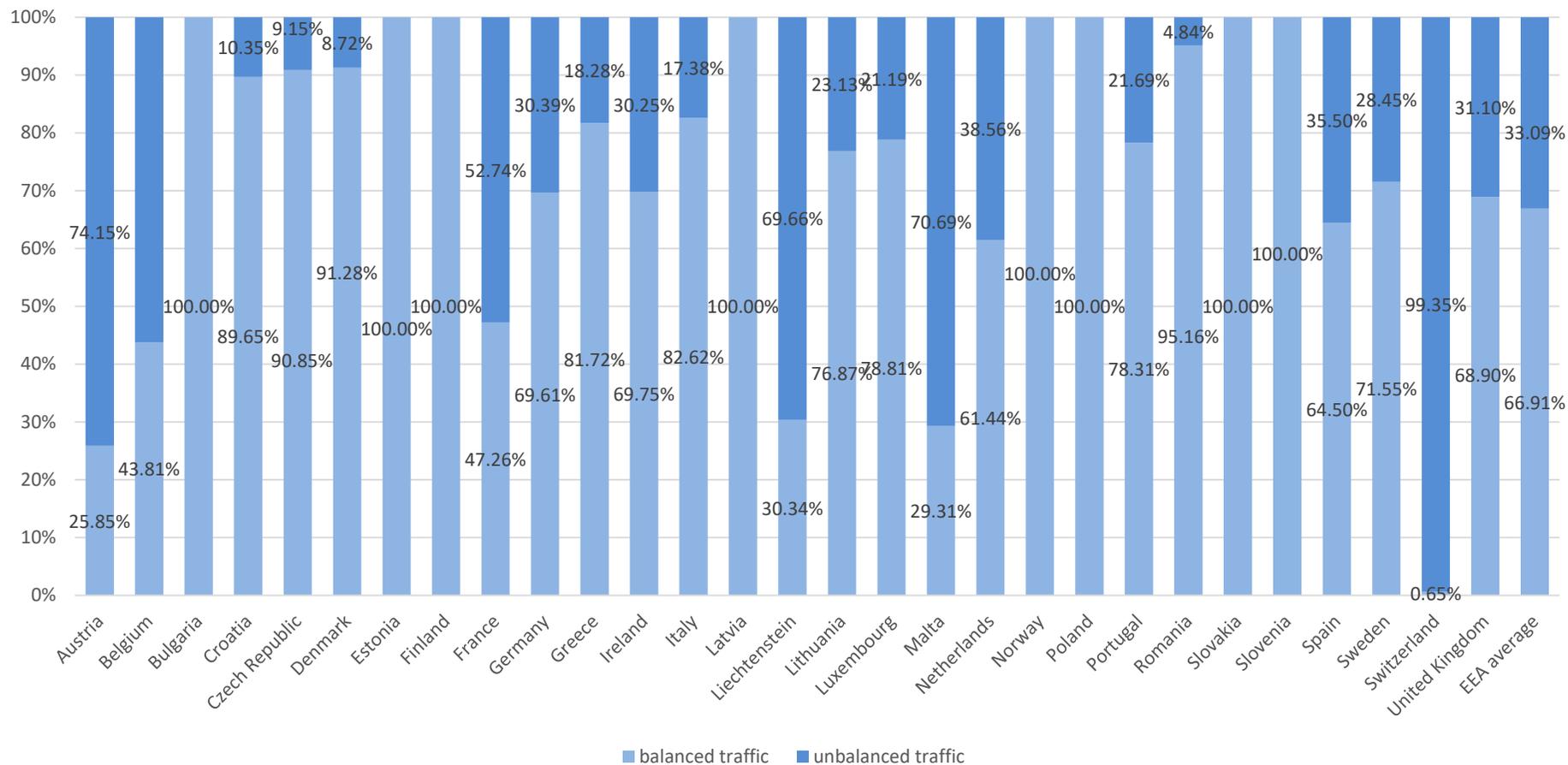


Figure 15: Wholesale roaming inbound
Proportion of balanced/unbalanced traffic within EEA countries
Q4 2016



While the measure of balanced/unbalanced traffic should include volumes from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6. Portugal: estimates are based on partial information provided by two operators
EEA average excludes Iceland, Cyprus

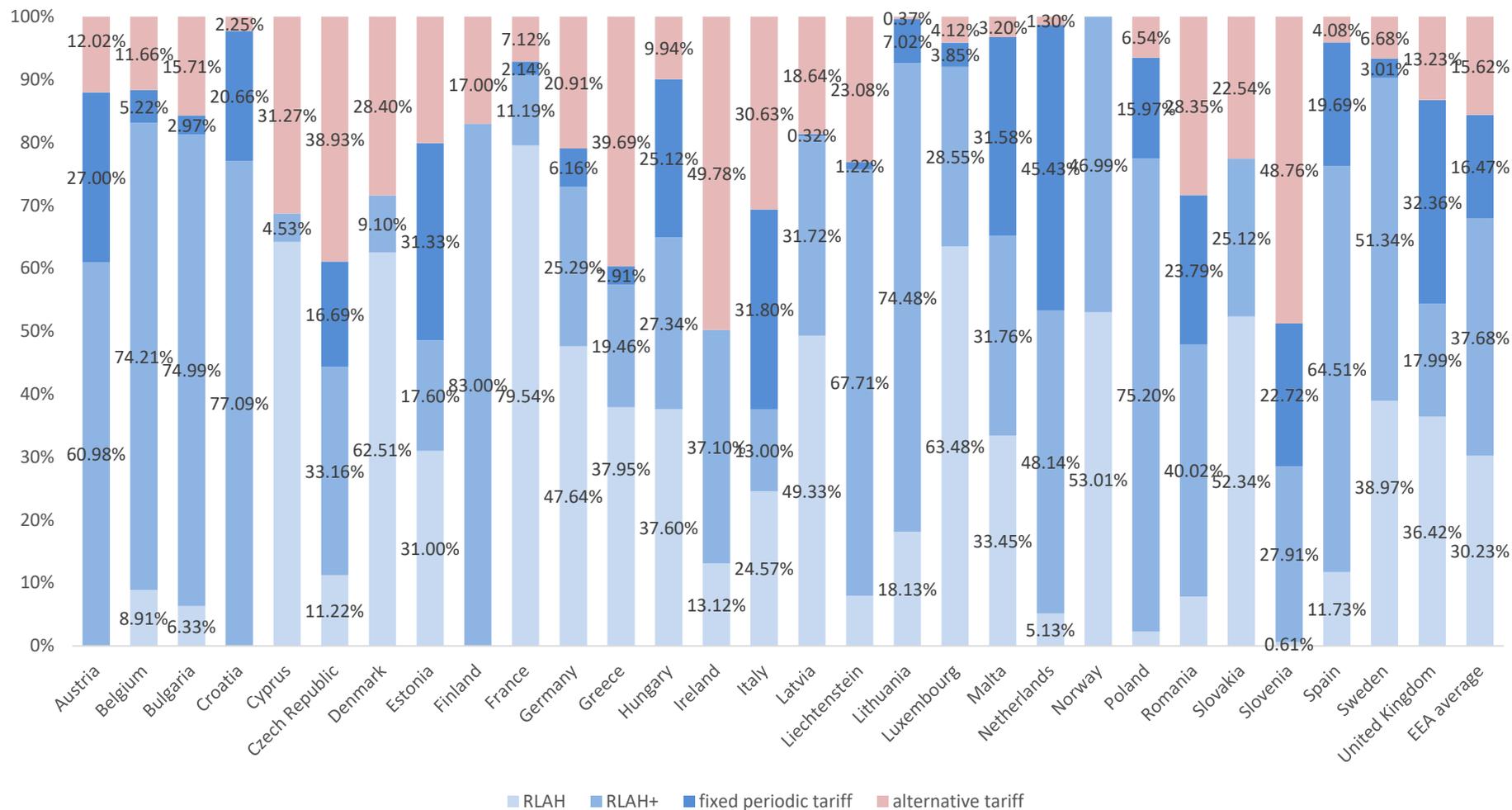
Figure 16: Wholesale roaming inbound
Proportion of balanced/unbalanced traffic within EEA countries
Q1 2017



While the measure of balanced/unbalanced traffic should include volumes from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6. Portugal: estimates are based on partial information provided by two operators
EEA average excludes Iceland, Cyprus

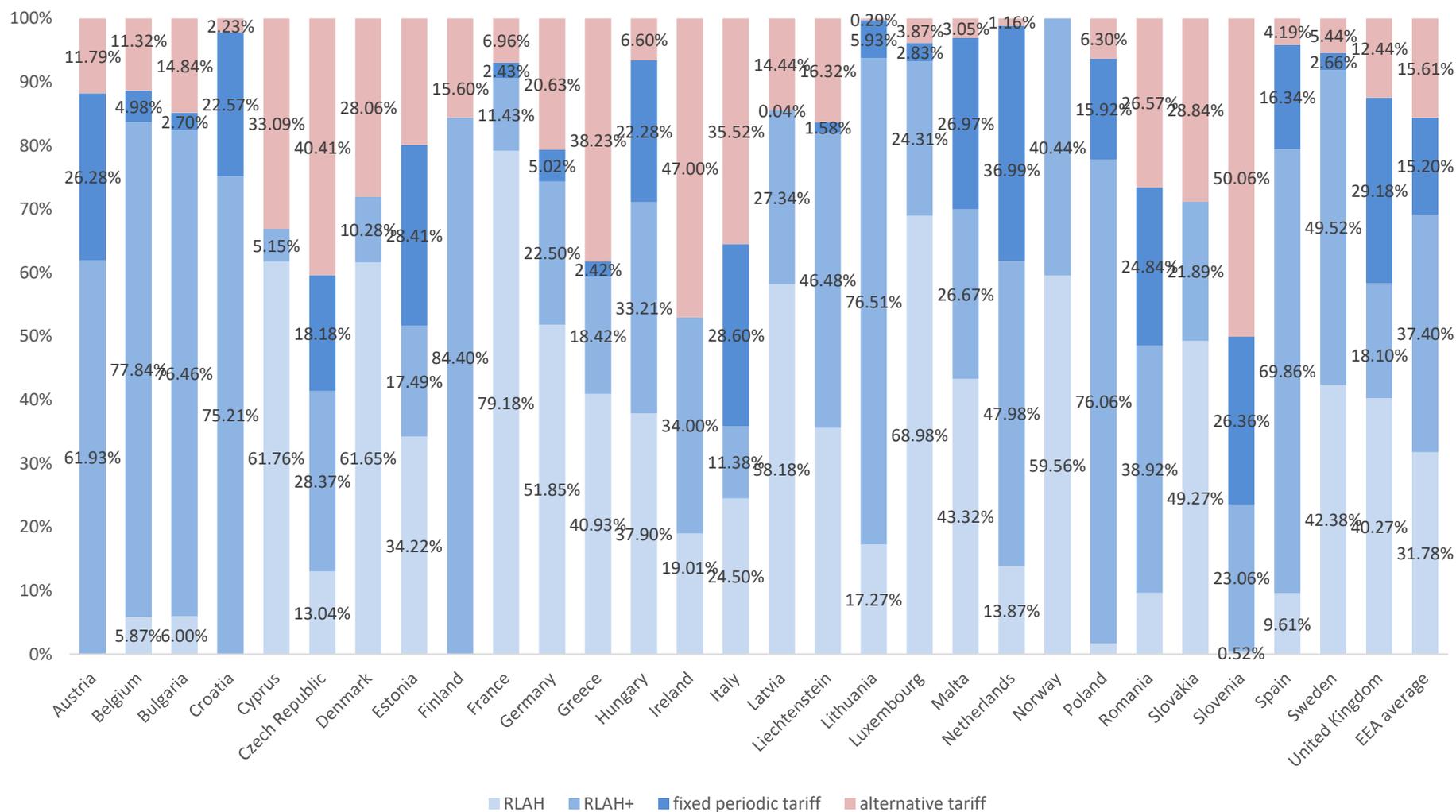
5.2.1.3 Consumption patterns

Figure 17: Percentage of total minutes of calls made: RLAH, RLAH +, fixed periodic tariff, alternative tariff
Q4 2016



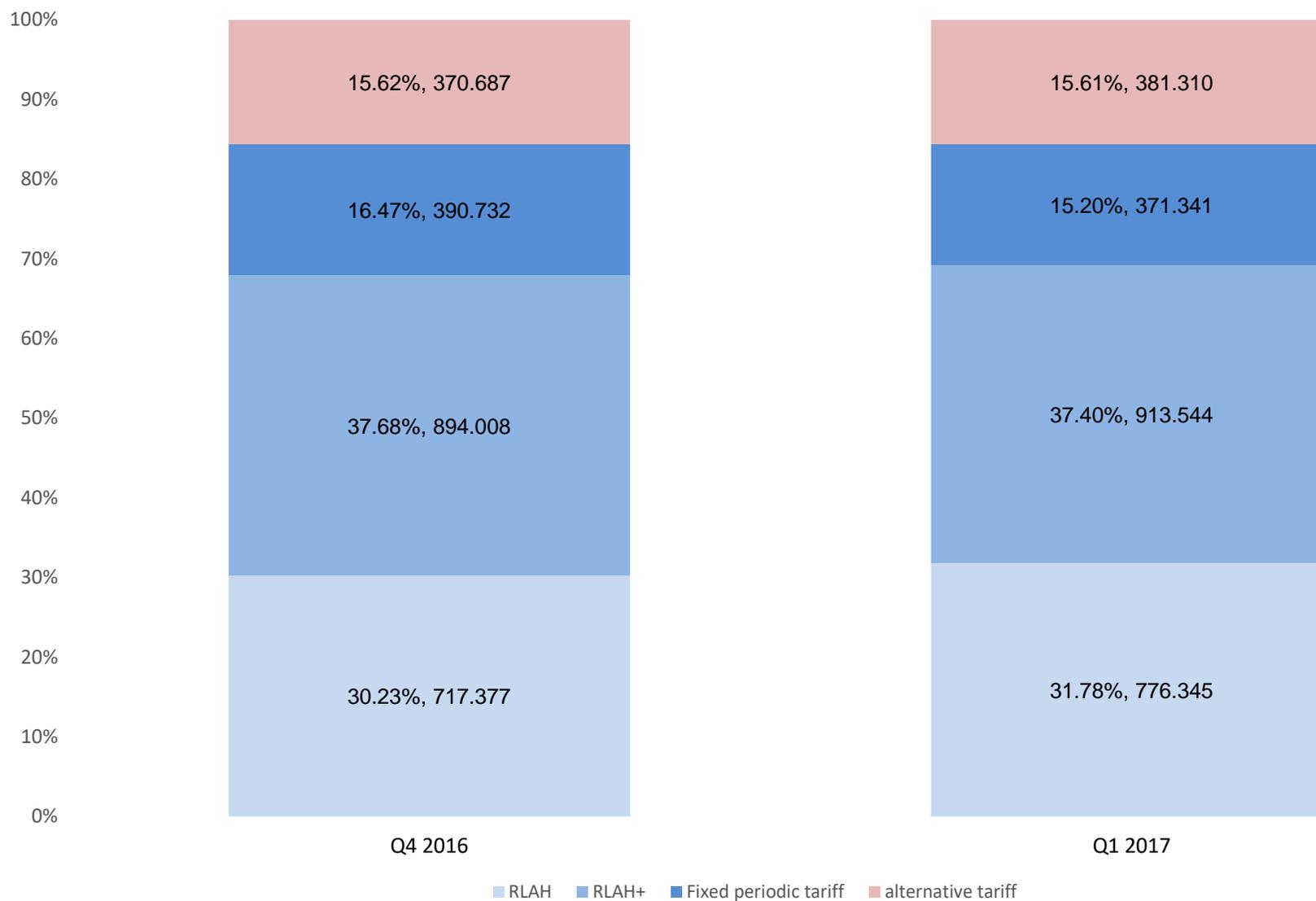
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
EEA average excludes Cyprus, Finland, Portugal

Figure 18: Percentage of total minutes of calls made: RLAH, RLAH +, fixed periodic tariff, alternative tariff
Q1 2017



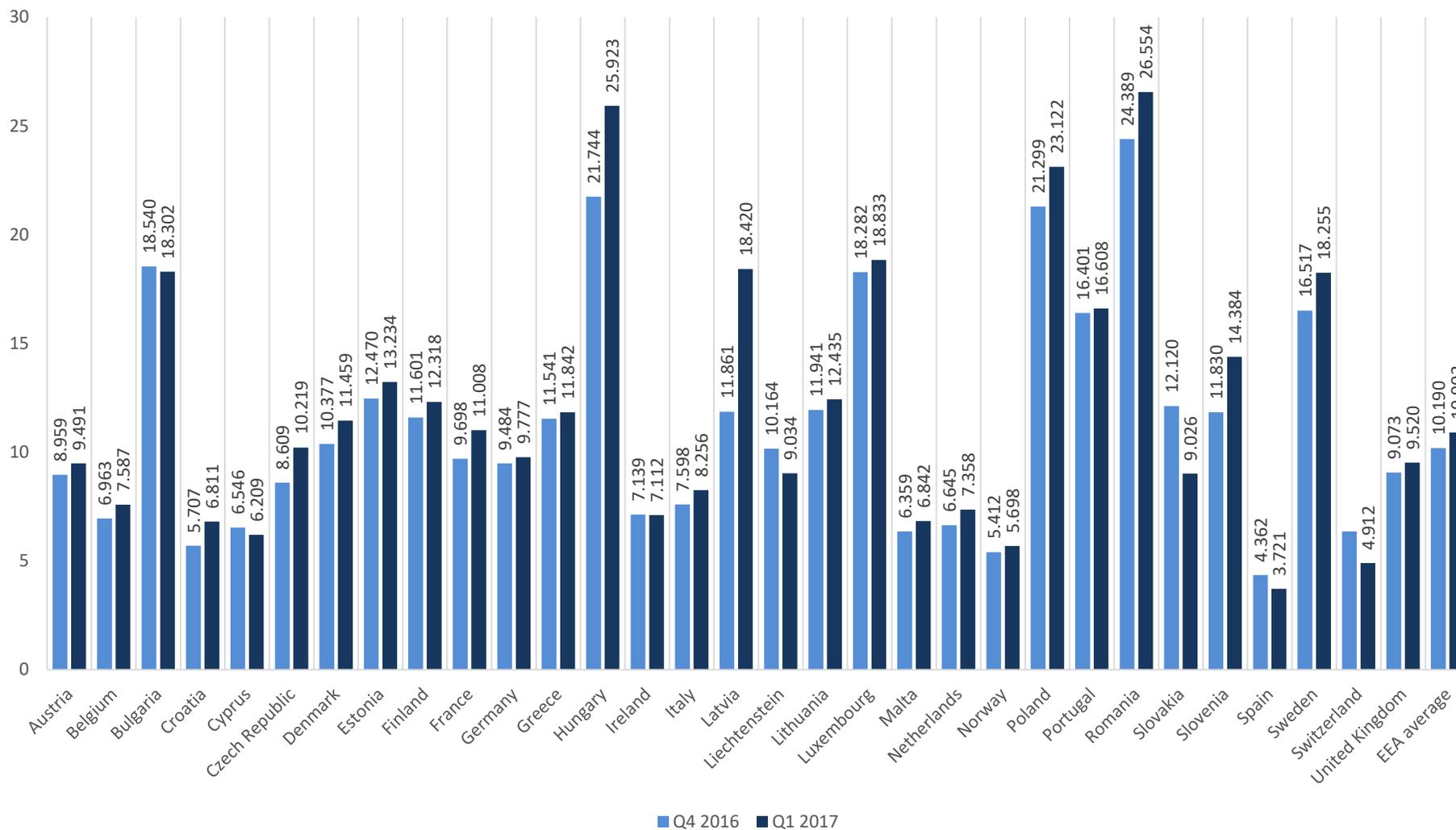
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
EEA average excludes Cyprus, Finland, Portugal

Figure 19: EEA percentage and volumes of total minutes of calls made: RLAH, RLAH+, fixed periodic tariff, alternative tariff (millions of minutes)



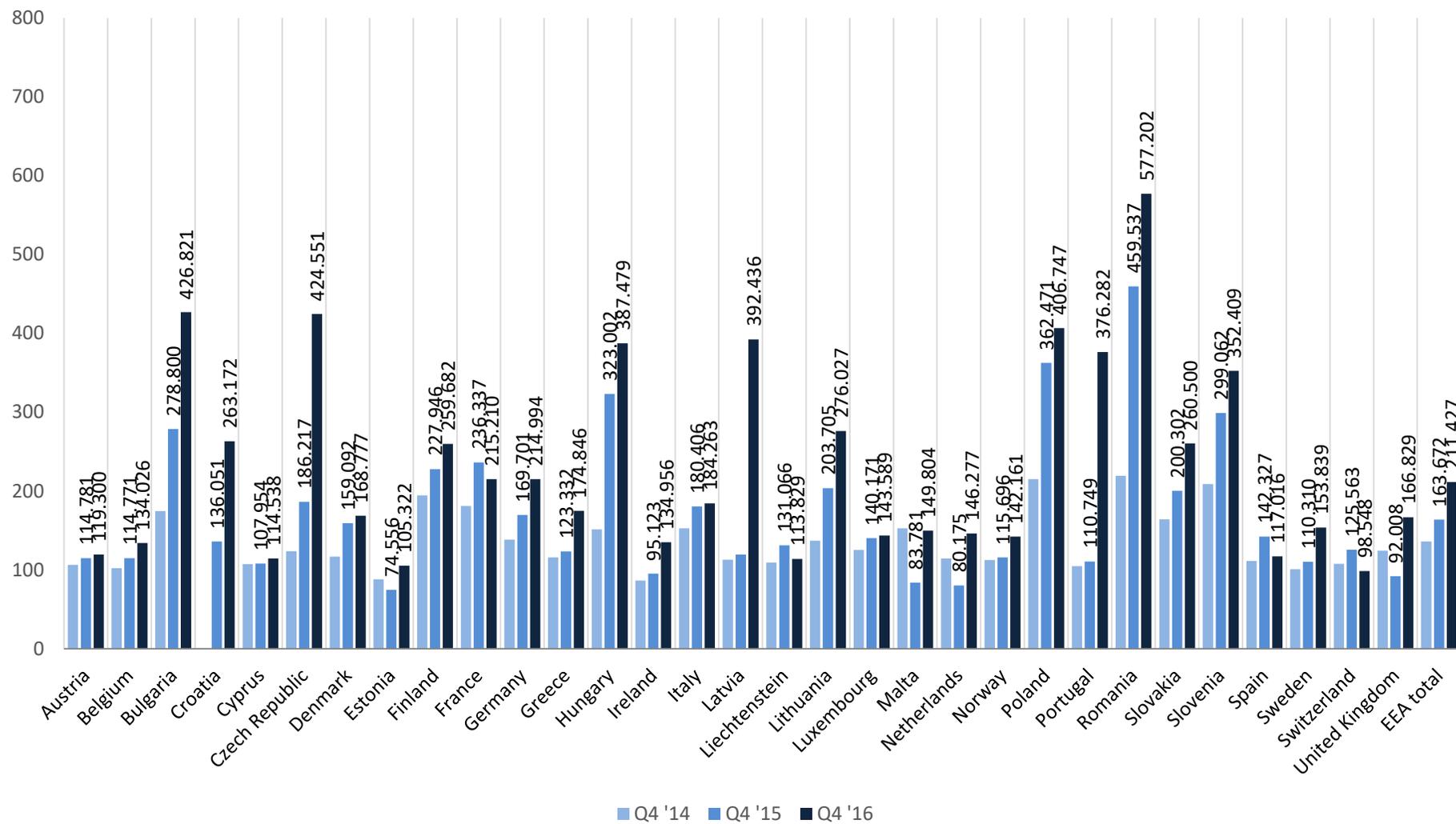
EEA average excludes Cyprus, Finland, Portugal

Figure 20: roaming calls made
Average number of minutes per month per roaming subscriber
Q4 2016 and Q1 2017



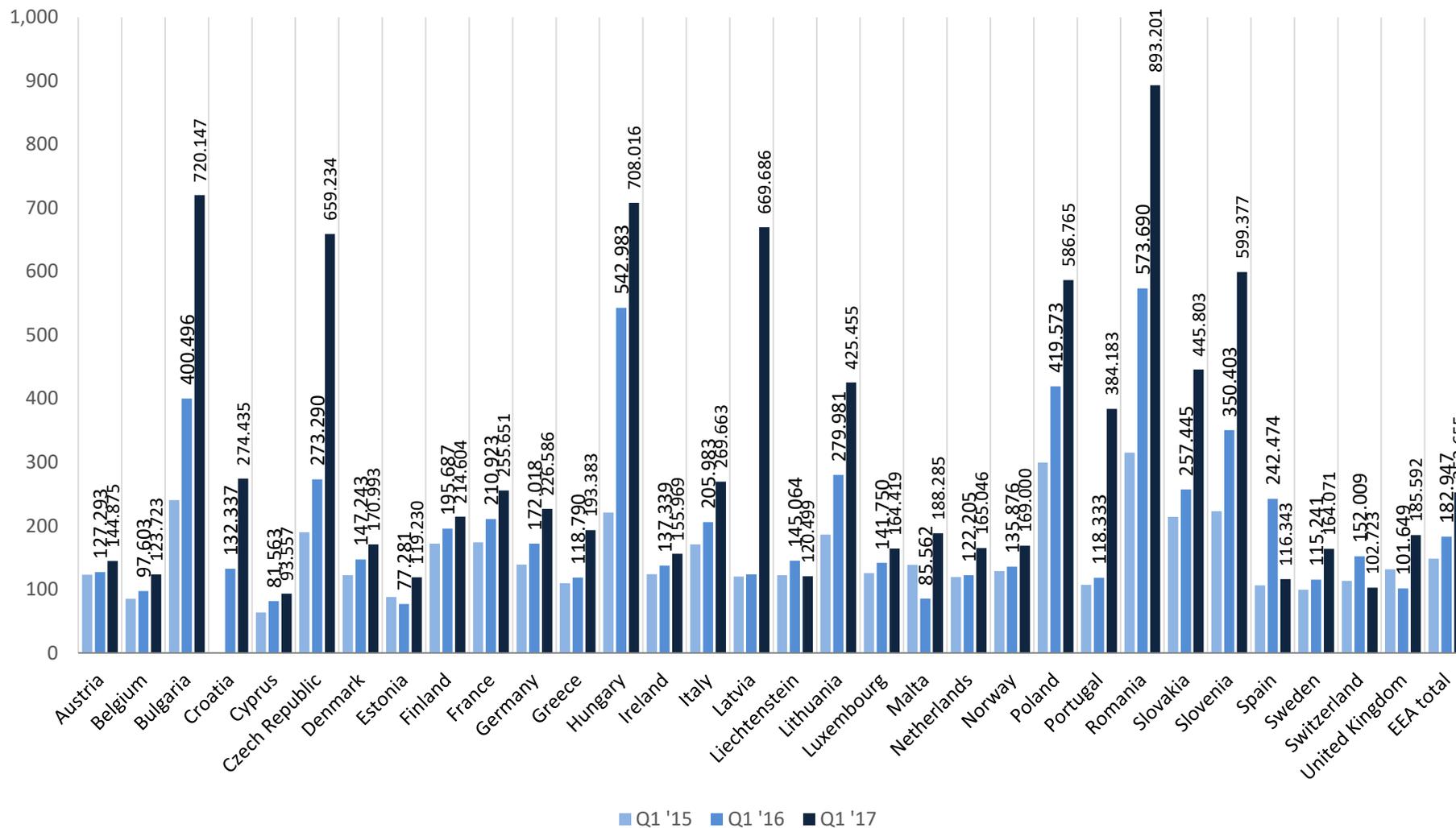
EEA average excludes Iceland

Figure 21: Outgoing international roaming traffic Index, intra-EEA roaming calls in Q4 2016
(Q4 2012 = 100, Croatia Q4'13 = 100)



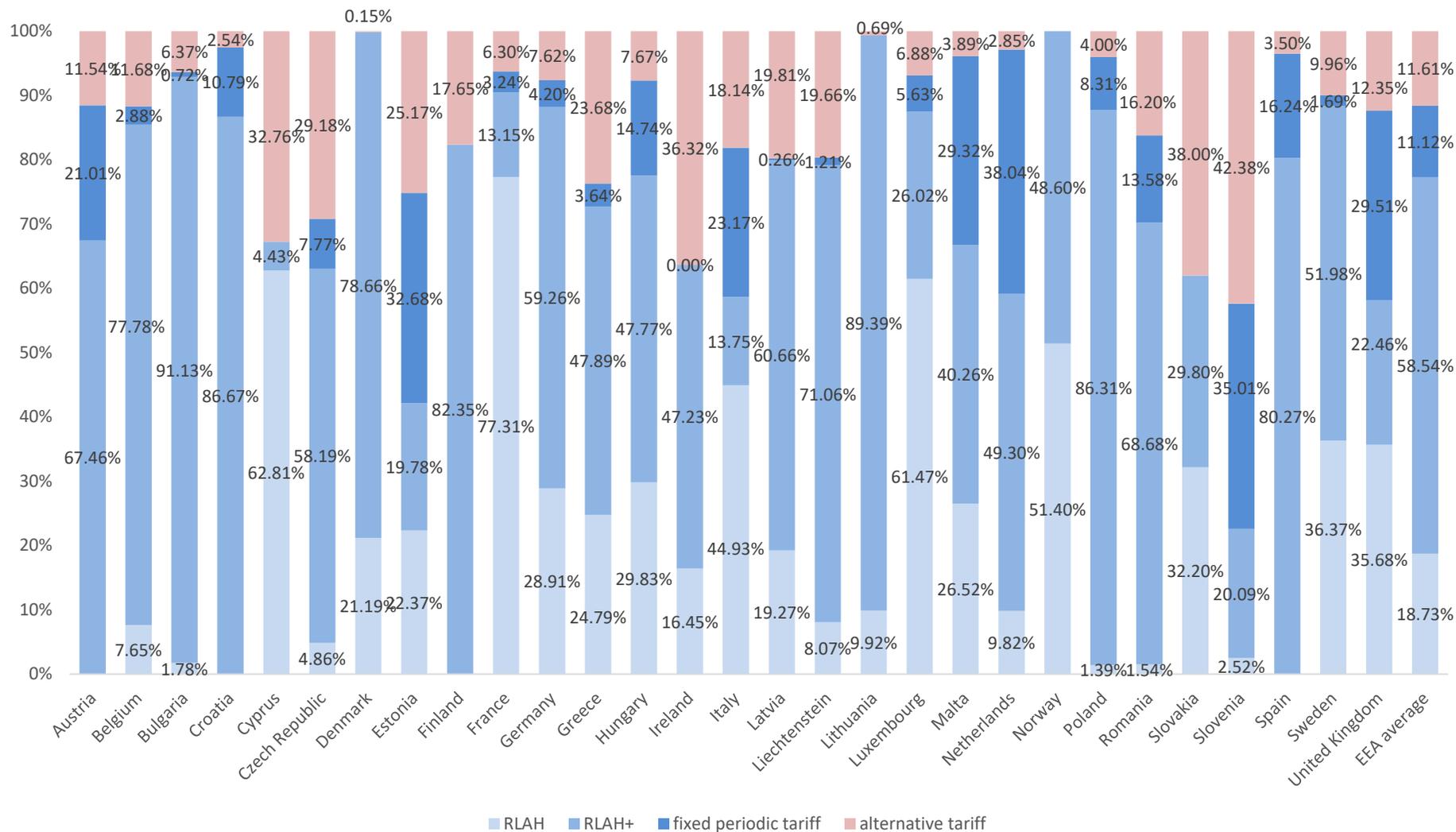
EEA average Q4 2016 excludes Iceland

Figure 22: Outgoing international roaming traffic Index, intra-EEA roaming calls in Q1 2017 (Q1 2012 = 100, Croatia: Q1'14 = 100, Liechtenstein: Q1'13 = 100)



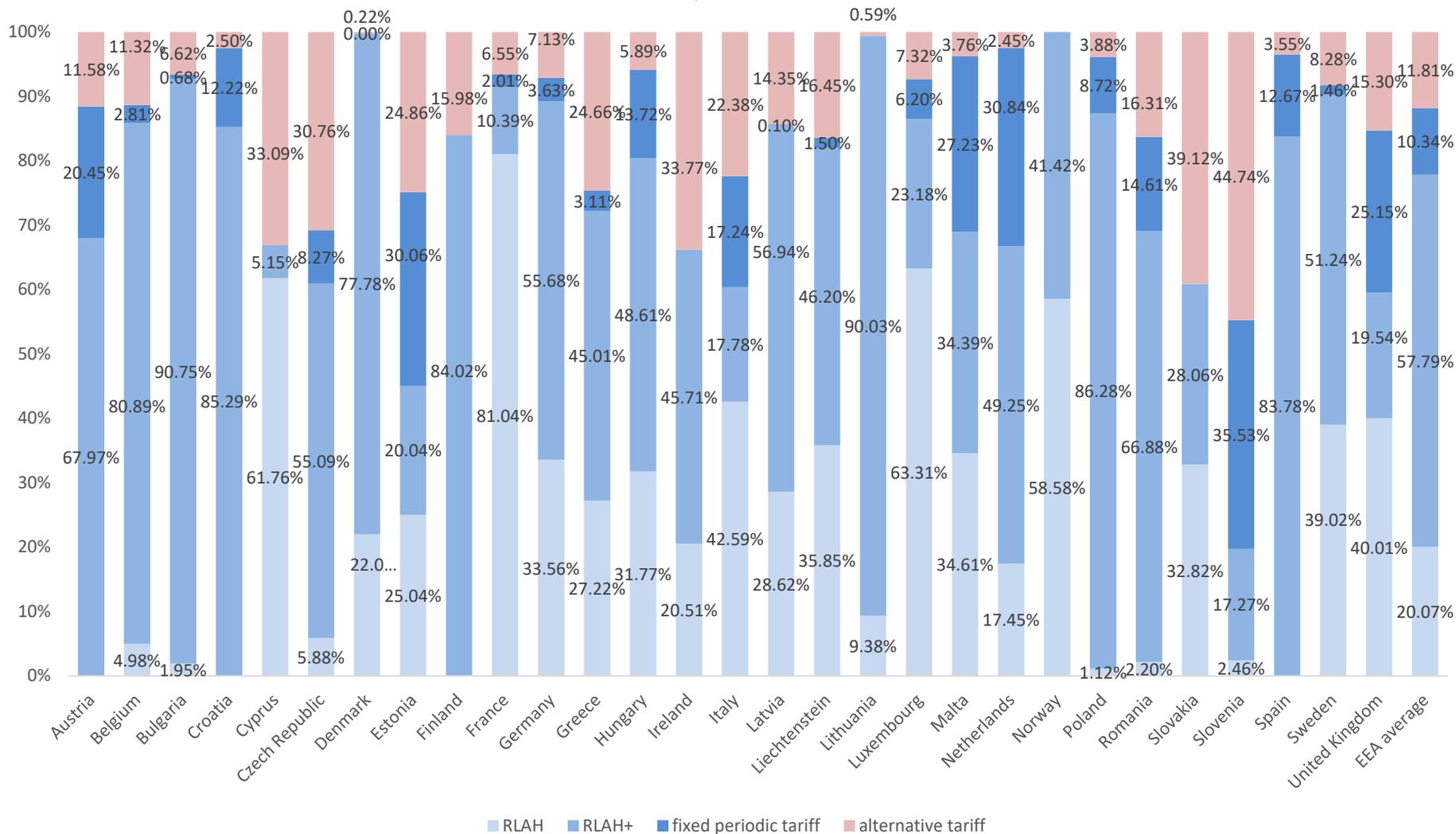
EEA average Q3 2016 excludes Iceland

Figure 23: Percentage of total minutes of calls received: RLAH, RLAH+, fixed periodic tariff and alternative tariff Q4 2016



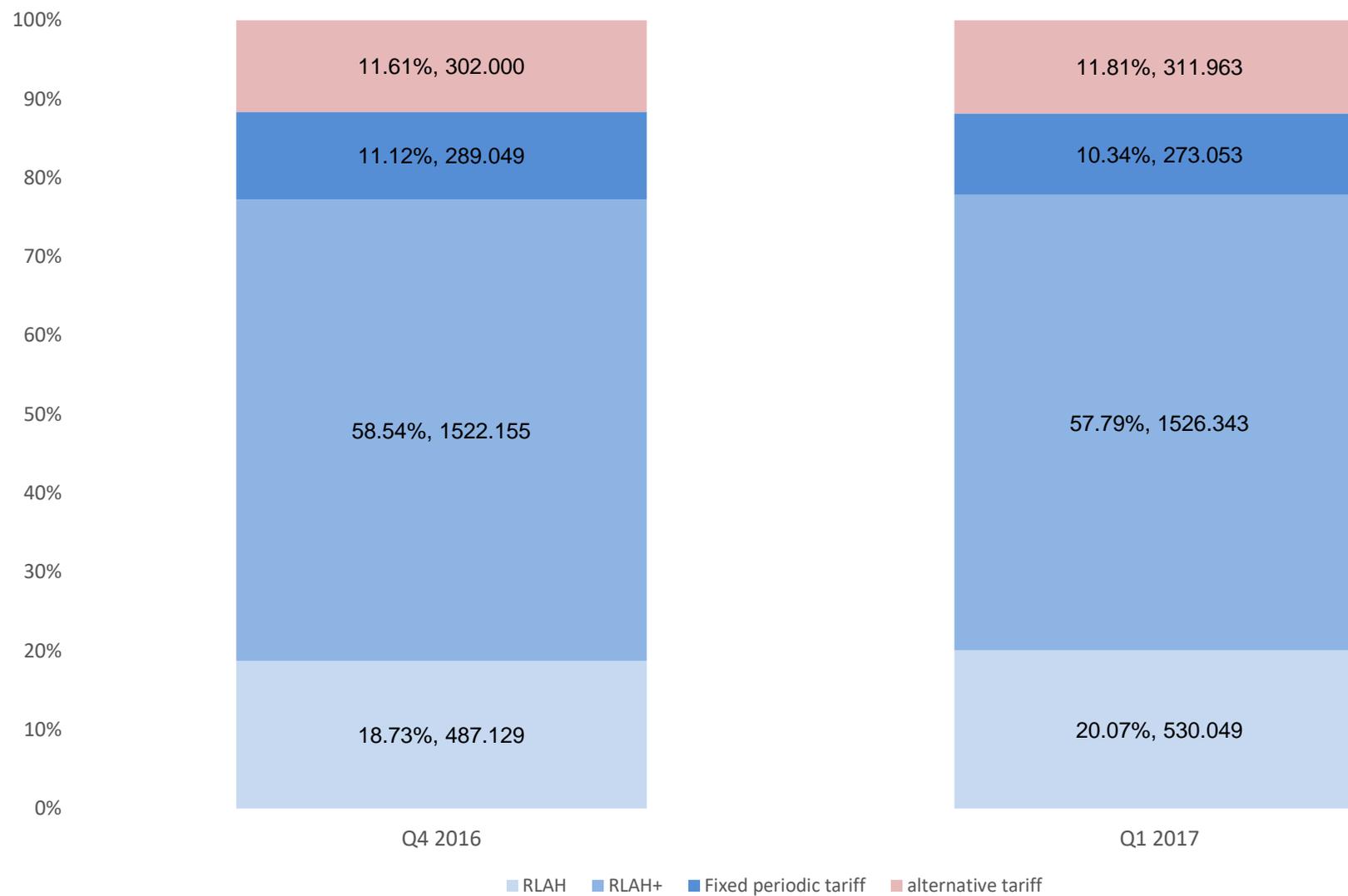
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
 EEA average excludes Cyprus, Iceland, Finland, Portugal

Figure 24: Percentage of total minutes calls of received: RLAH, RLAH+, fixed periodic tariff and alternative tariff Q1 2017



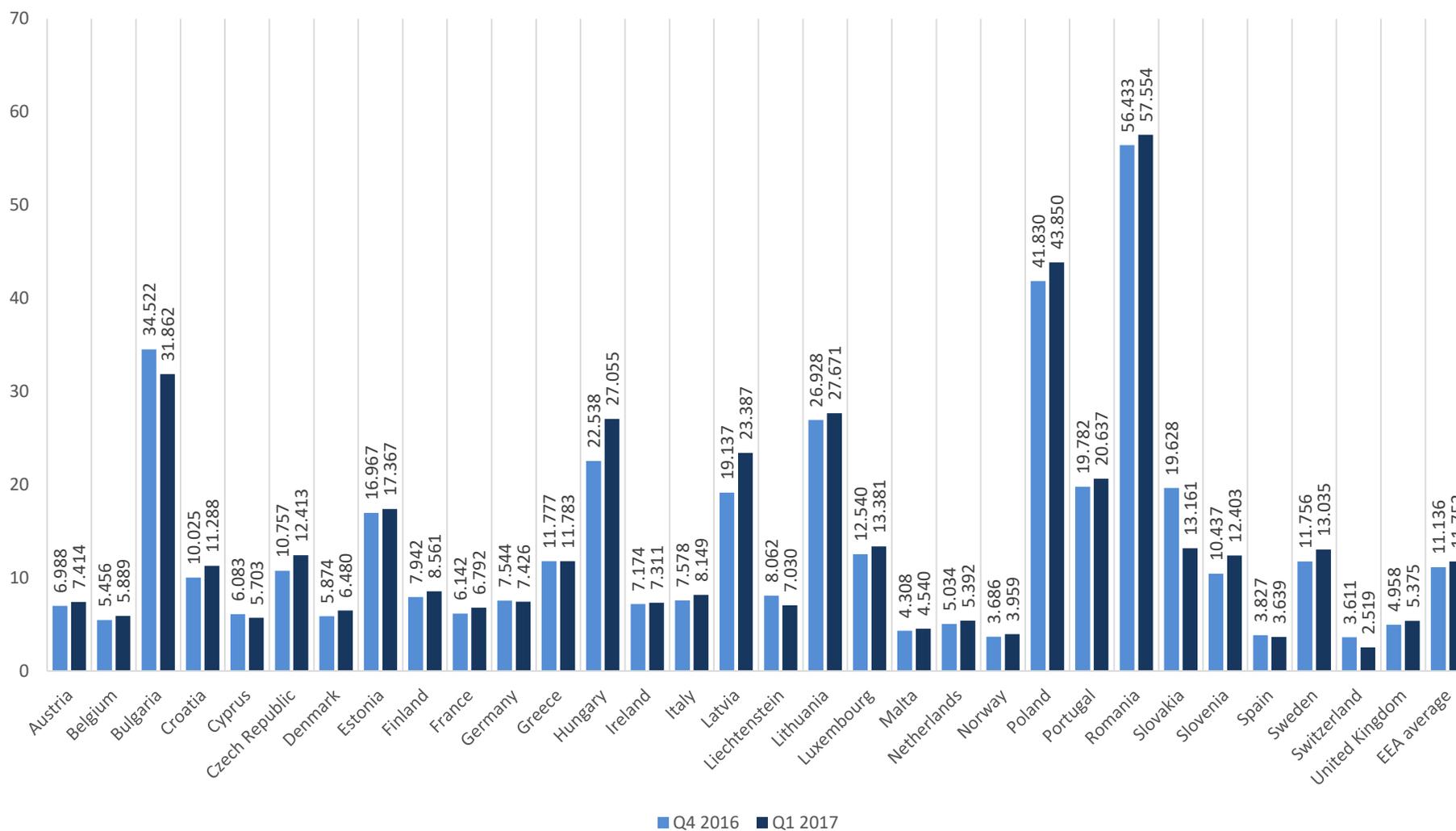
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
 EEA average excludes Cyprus, Iceland, Finland, Portugal

Figure 25: EEA Volumes and percentage of total minutes calls received: RLAH, RLAH+, fixed periodic tariff and alternative tariff (millions of minutes)



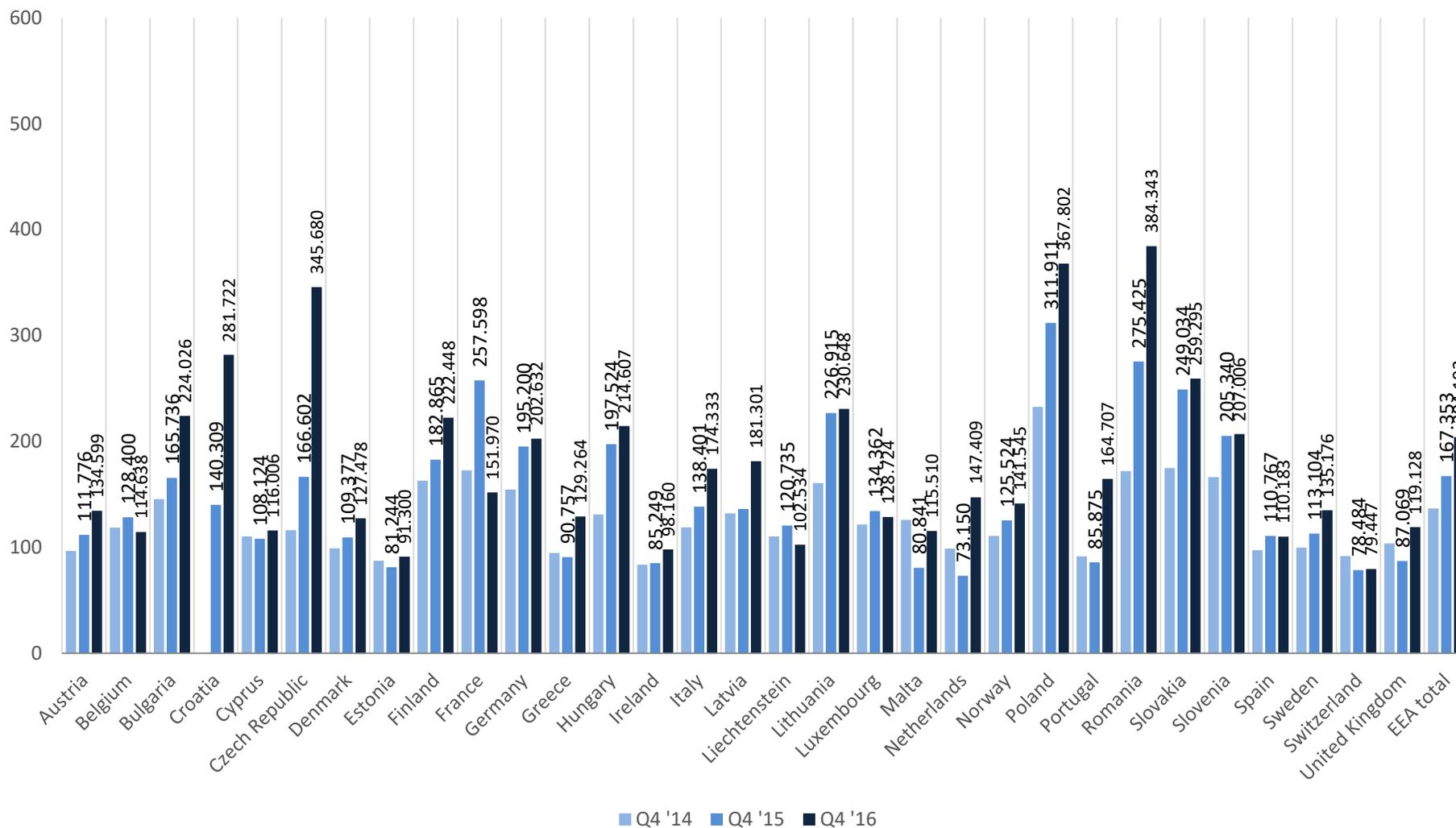
EEA average excludes Cyprus, Iceland, Finland, Portugal

Figure 26: roaming calls received
Average number of minutes per month per roaming subscriber
Q4 2016 and Q1 2017



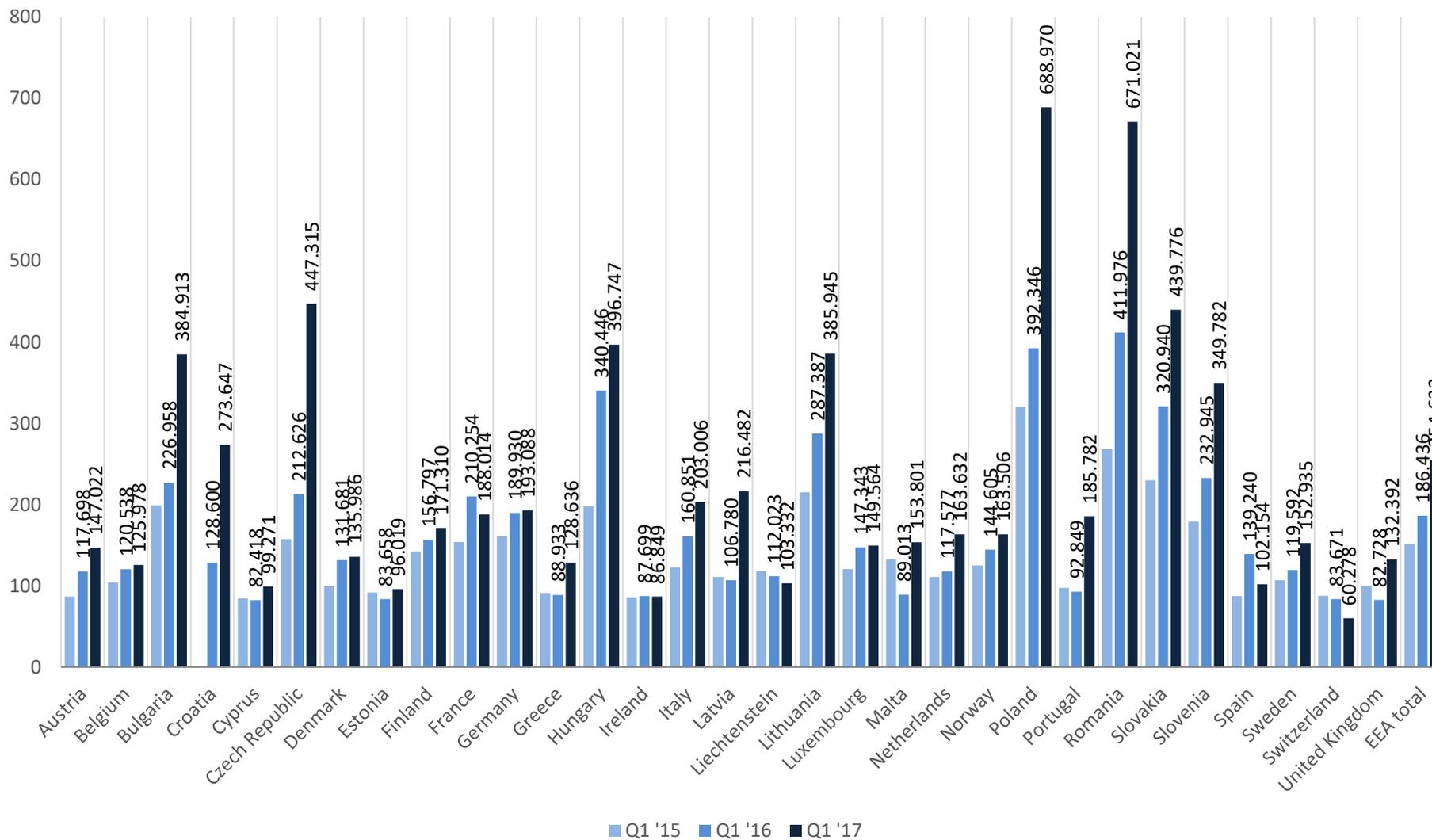
EEA average excludes Iceland

Figure 27: Incoming international roaming traffic Index, intra-EEA roaming calls in Q4 2016 (Q4 2012 = 100, Croatia: Q4'13 = 100)



EEA average excludes Iceland

Figure 28: Incoming international roaming traffic Index, intra-EEA roaming calls in Q1 2017
(Q1 2012 = 100, Croatia: Q1'14 = 100, Liechtenstein: Q1'13 = 100)

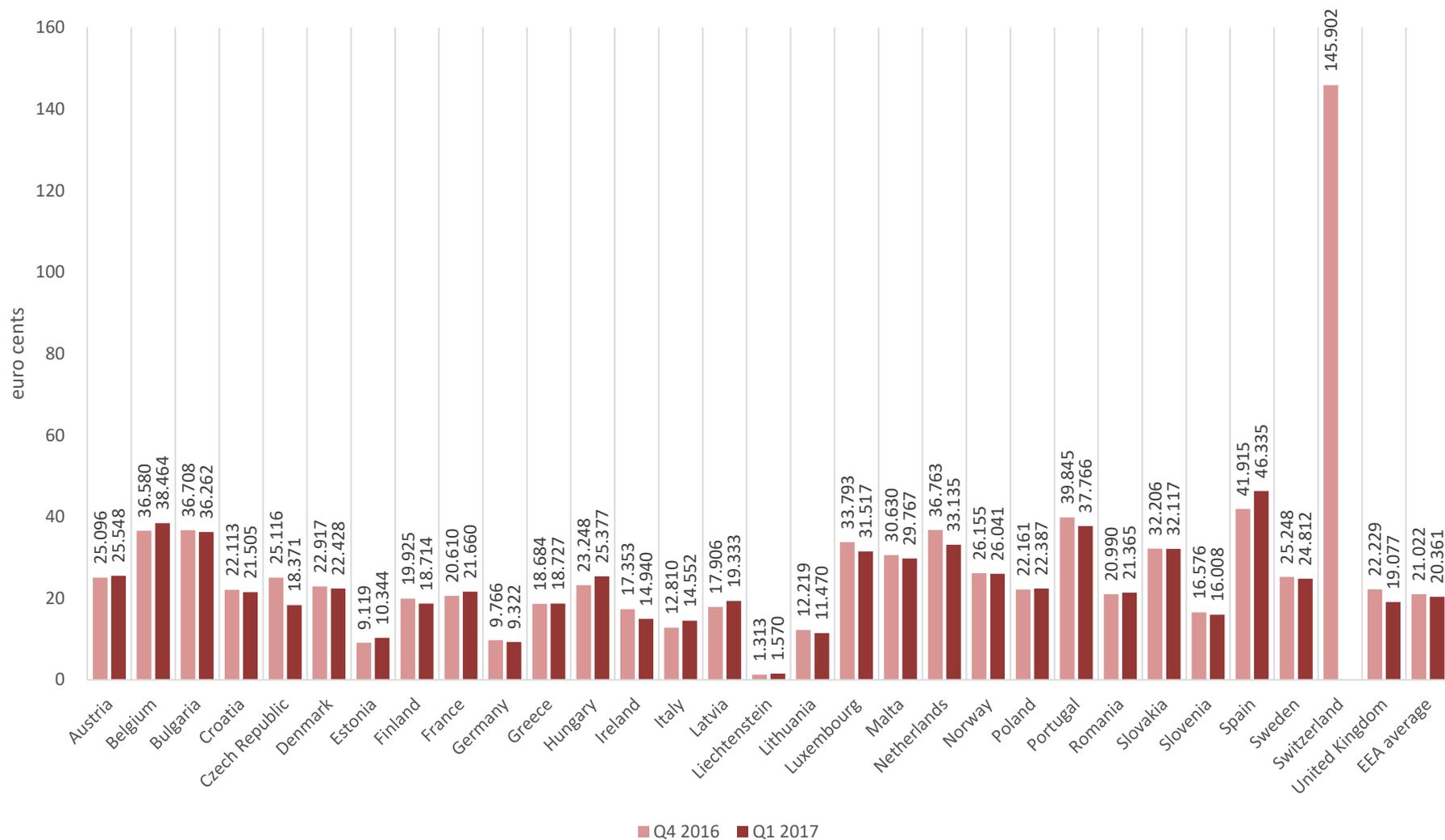


EEA average excludes Iceland

5.2.2. SMS roaming services

5.2.2.1 RoW retail prices

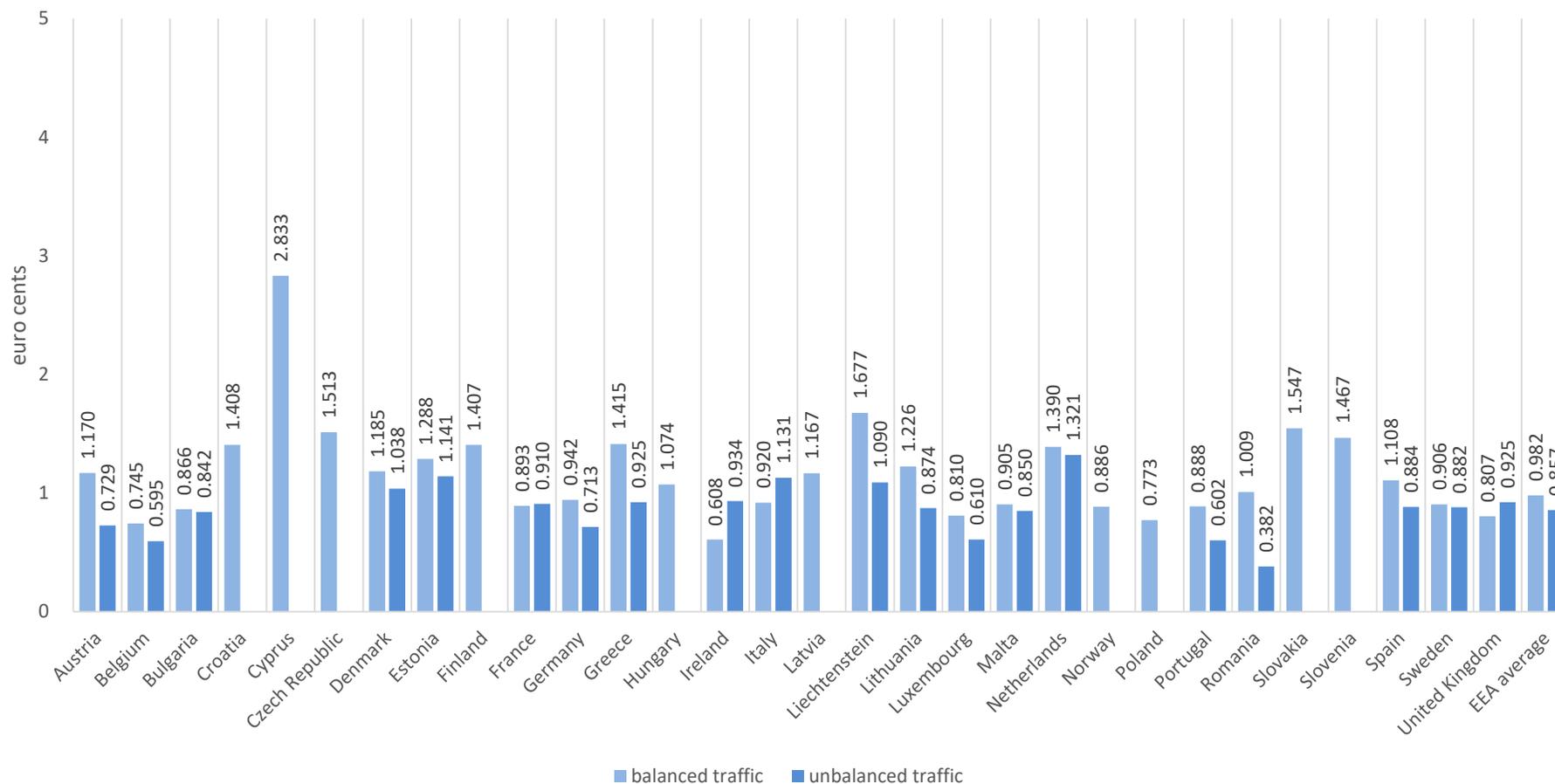
Figure 29: RoW
Average retail price per SMS for RoW roaming SMS services (prepaid+postpaid)
Q4 2016 and Q1 2017



EEA average excludes Cyprus, Iceland

5.2.2.2 Wholesale prices

Figure 30: Average wholesale price per intra EEA roaming SMS charges for balanced and unbalanced traffic
Q4 2016



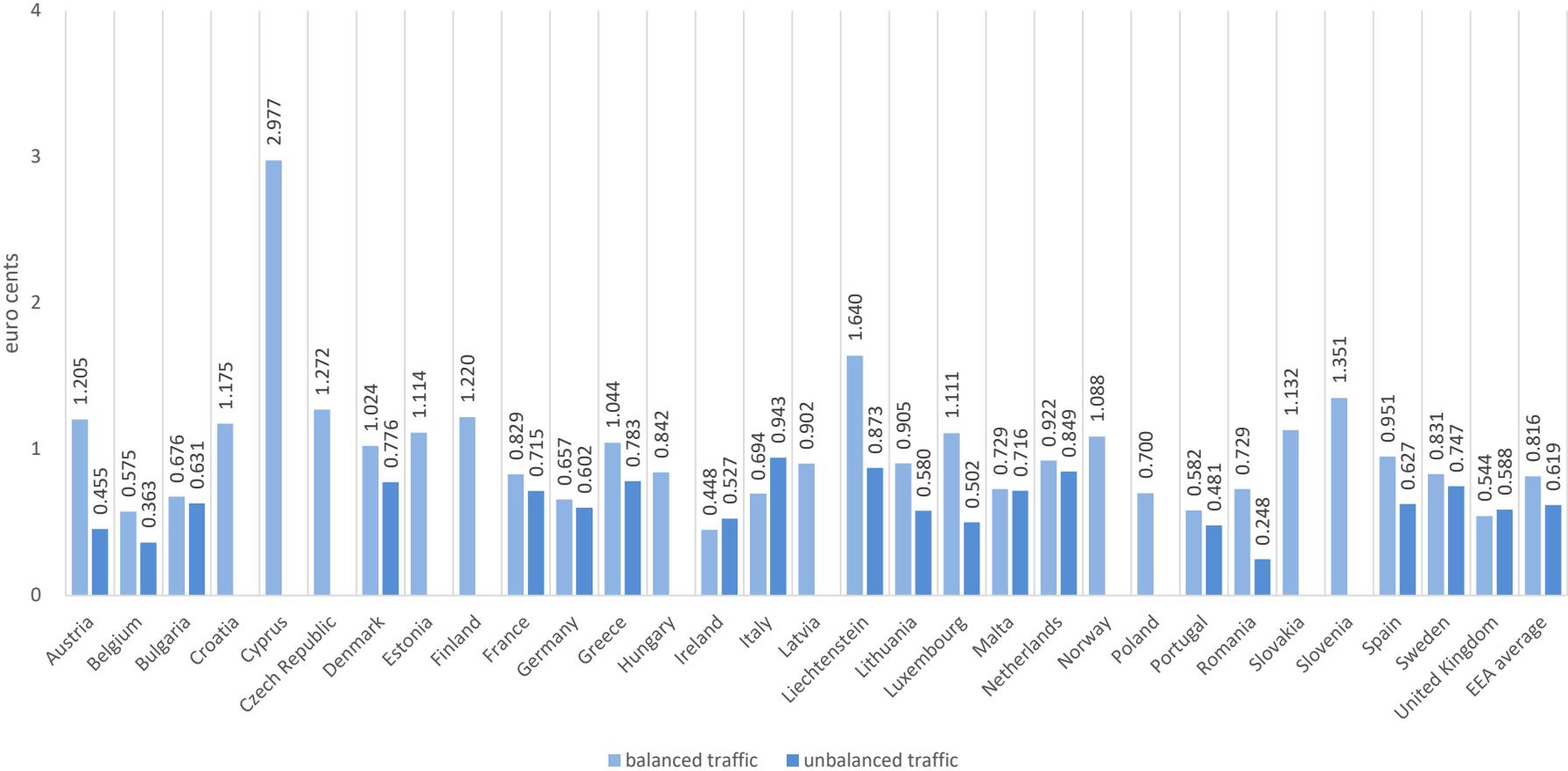
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 32 and 33

EEA average (balanced traffic) excludes Iceland

EEA average (unbalanced traffic) excludes Cyprus, Hungary, Iceland

Figure 31: Average wholesale price per intra EEA roaming SMS charges for balanced and unbalanced traffic Q1 2017



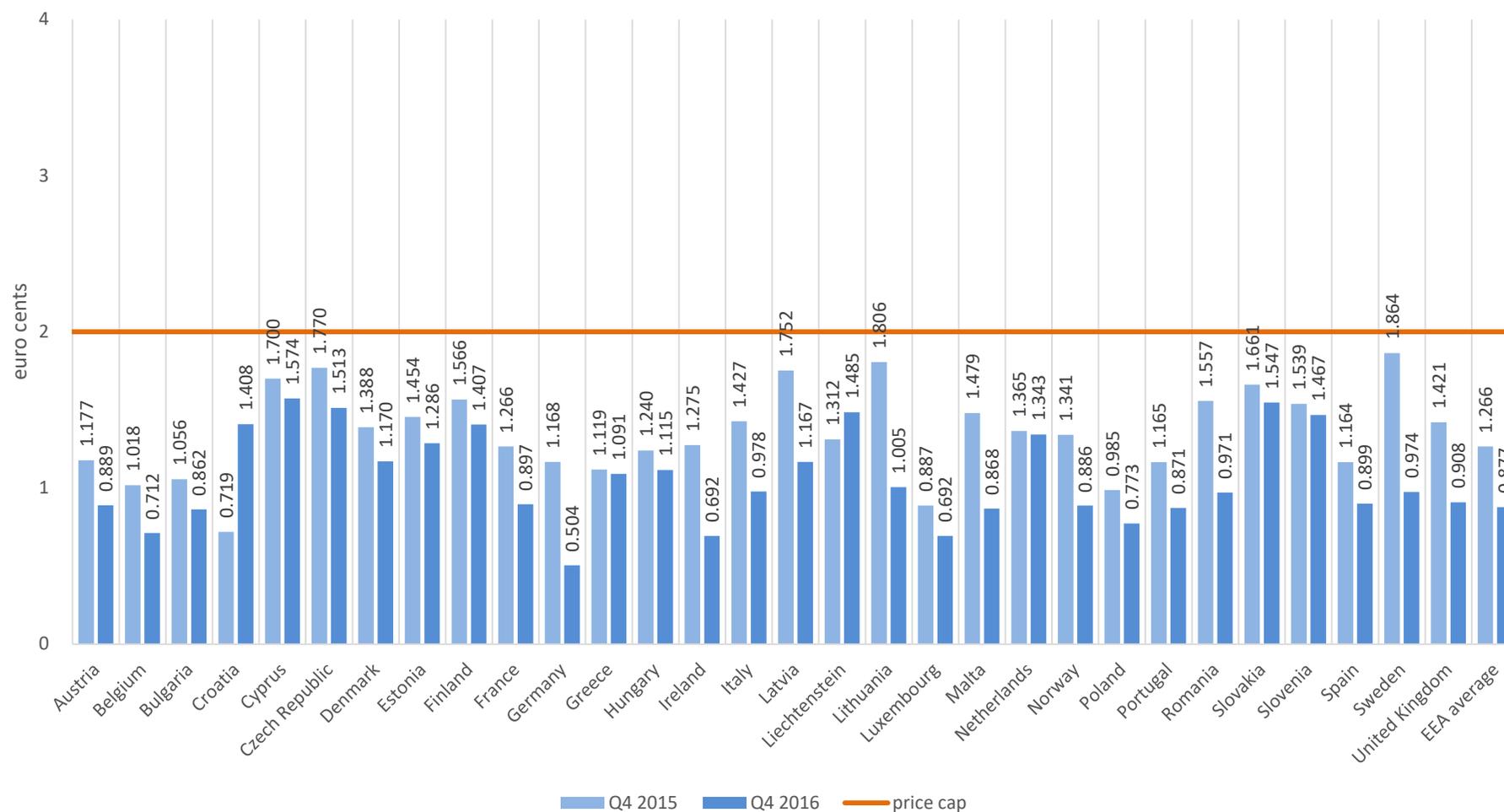
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 32 and 33

EEA average (balanced traffic) excludes Iceland,

EEA average (unbalanced traffic) excludes Cyprus, Hungary, Iceland

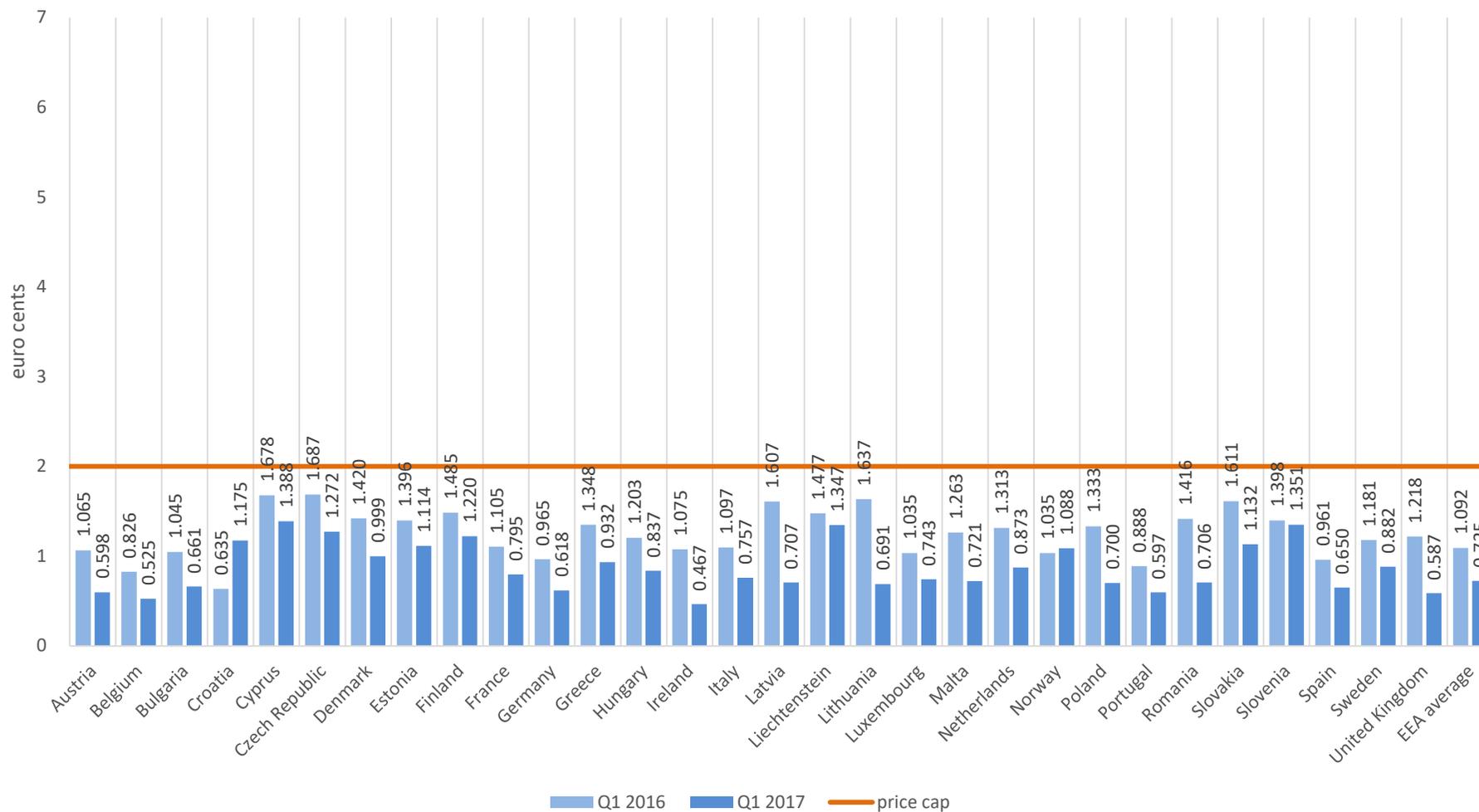
Figure 32: Average wholesale price per intra-EEA roaming SMS (Total traffic)
Q4 2015 and Q4 2016



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 30 and 31
EEA average (Q4 2016) excludes: Iceland

Figure 33: Average wholesale price per intra-EEA roaming SMS (Total traffic)
Q1 2016 and Q1 2017



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Malta, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 30 and 31

EEA average excludes: Iceland

Figure 34: EEA average wholesale price per SMS (balanced, unbalanced, total traffic)

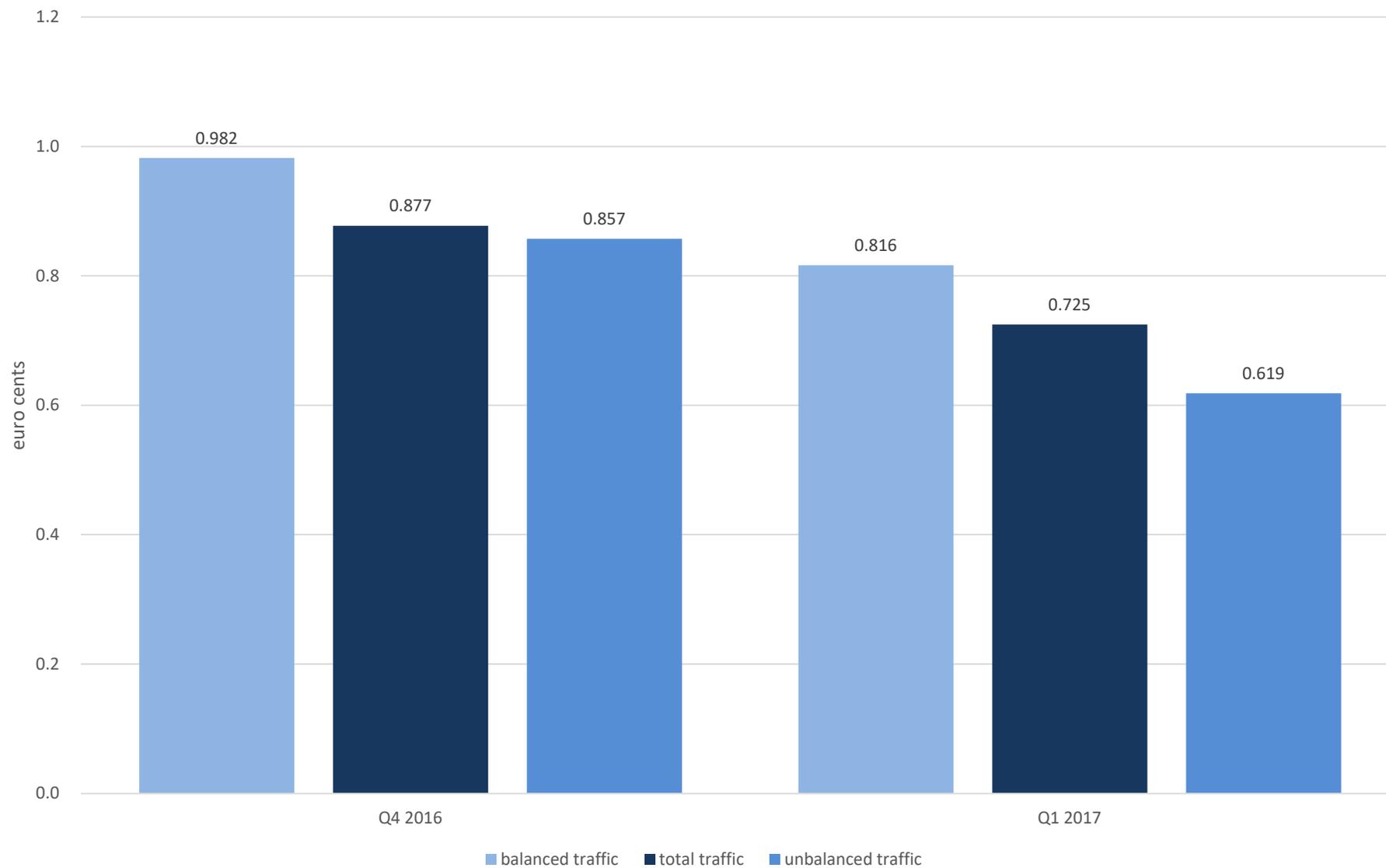


Figure 35: Average wholesale price per intra-EEA roaming SMS
(Q2 2007 - Q1 2016 - charges to non groups only)

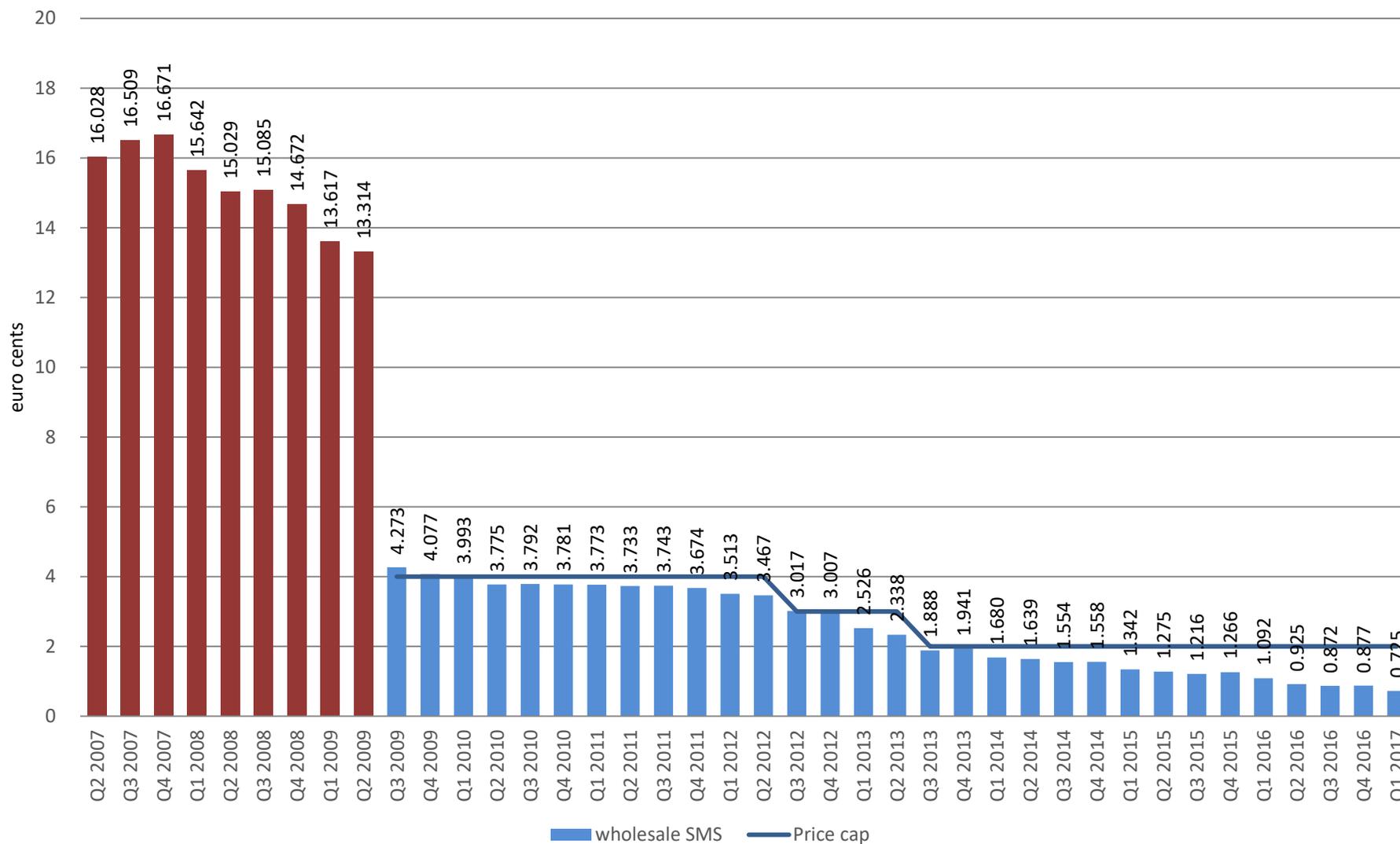
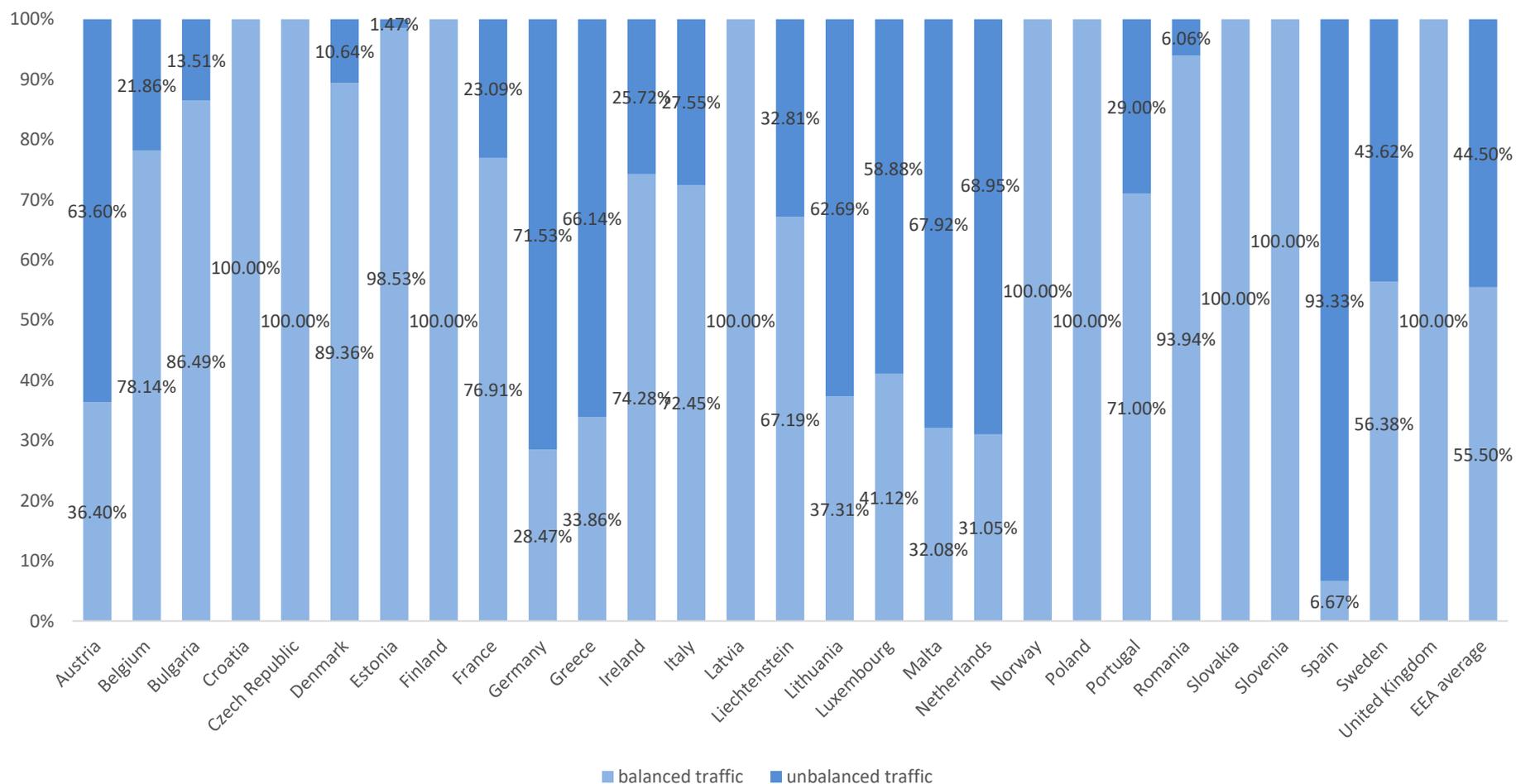
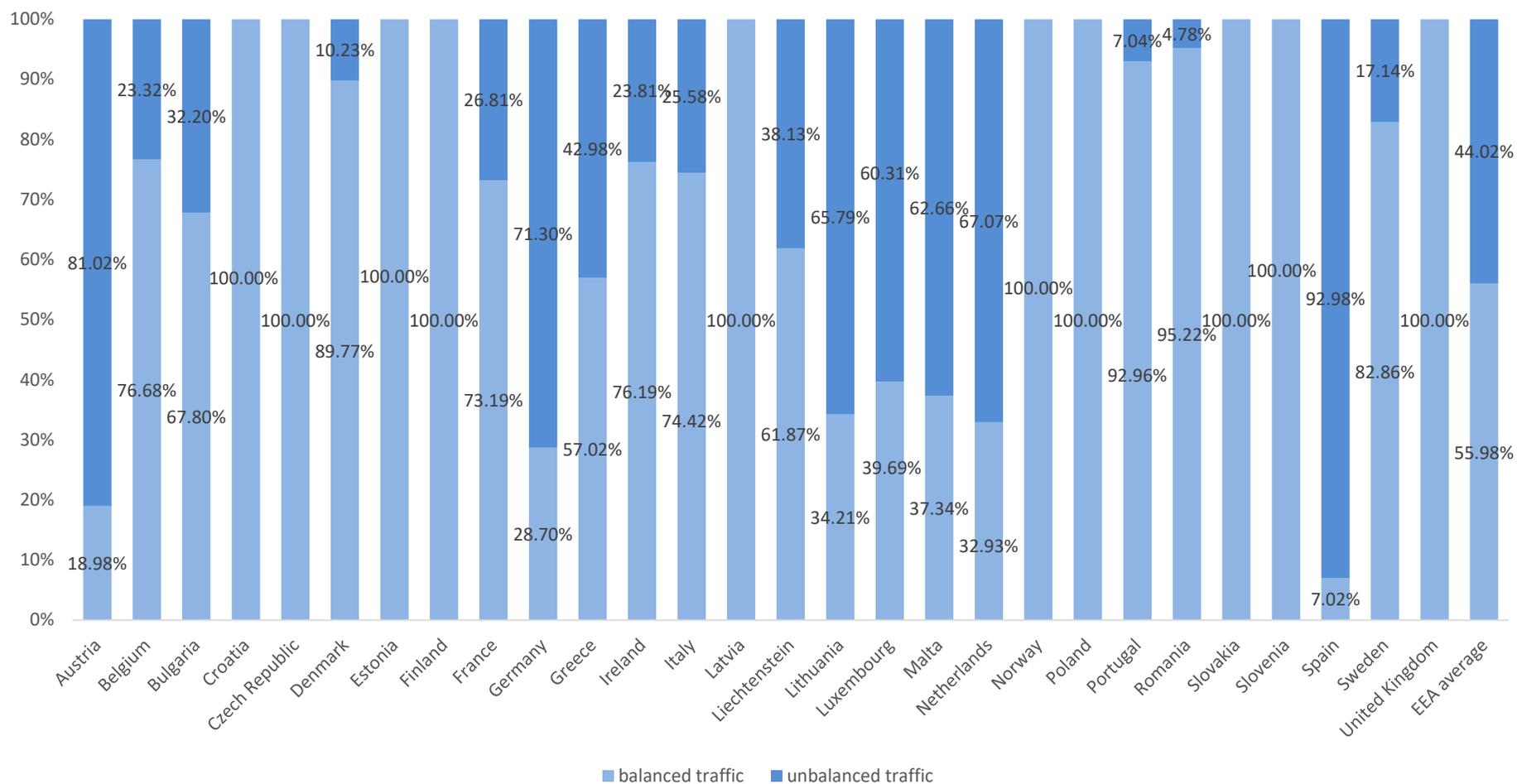


Figure 36: Proportion of balanced/unbalanced traffic within EEA countries
Wholesale roaming inbound
Q4 2016



While the measure of balanced/unbalanced traffic should include volumes from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6. Portugal: estimates for balanced and unbalanced traffic are based on partial information provided by two operators
EEA average excludes Iceland, Cyprus

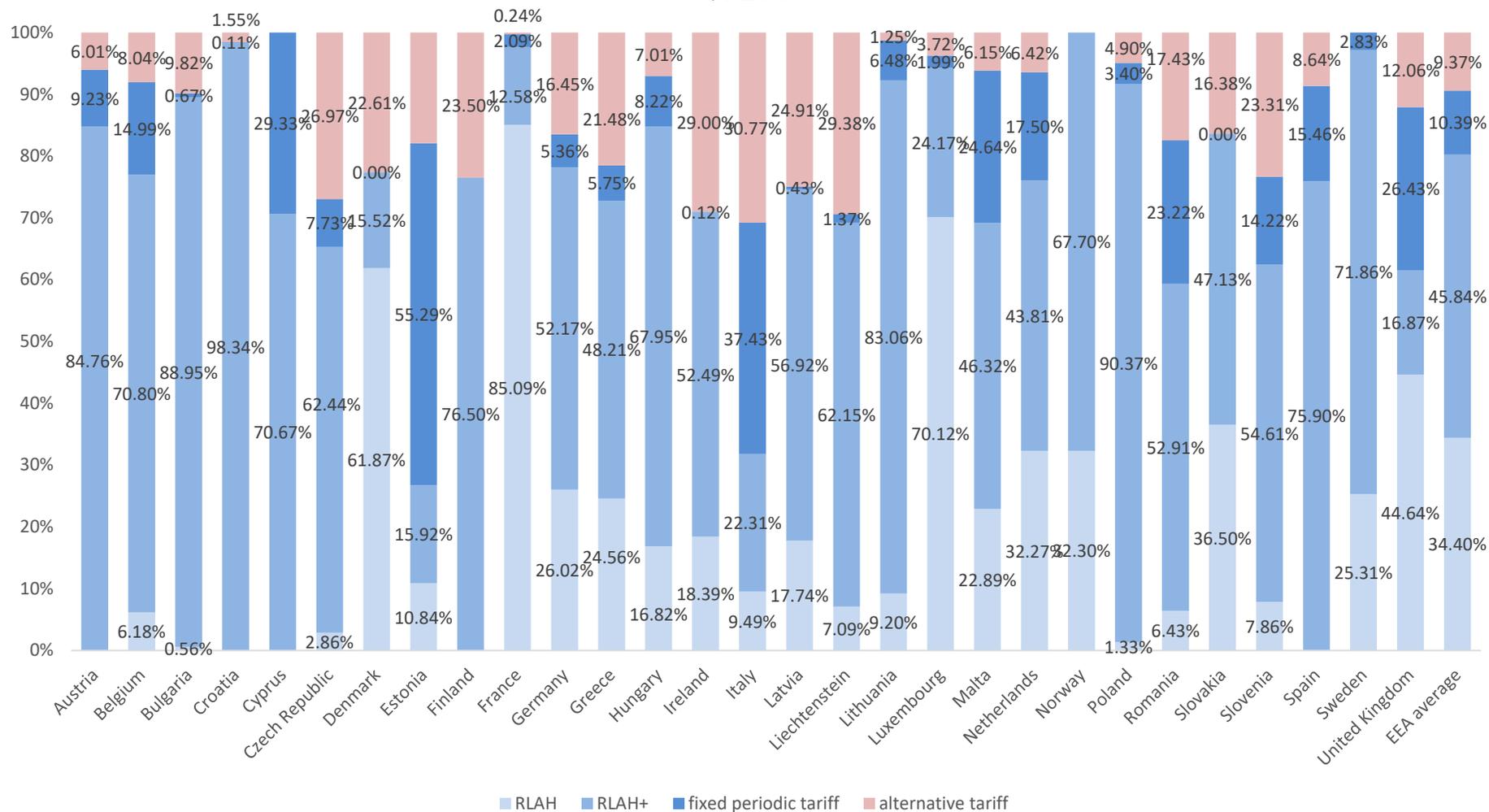
Figure 37: Proportion of balanced/unbalanced traffic within EEA countries
Wholesale roaming inbound
Q1 2017



While the measure of balanced/unbalanced traffic should include volumes from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6. Portugal: estimates for balanced and unbalanced traffic are based on partial information provided by two operators
EEA average excludes Iceland, Cyprus

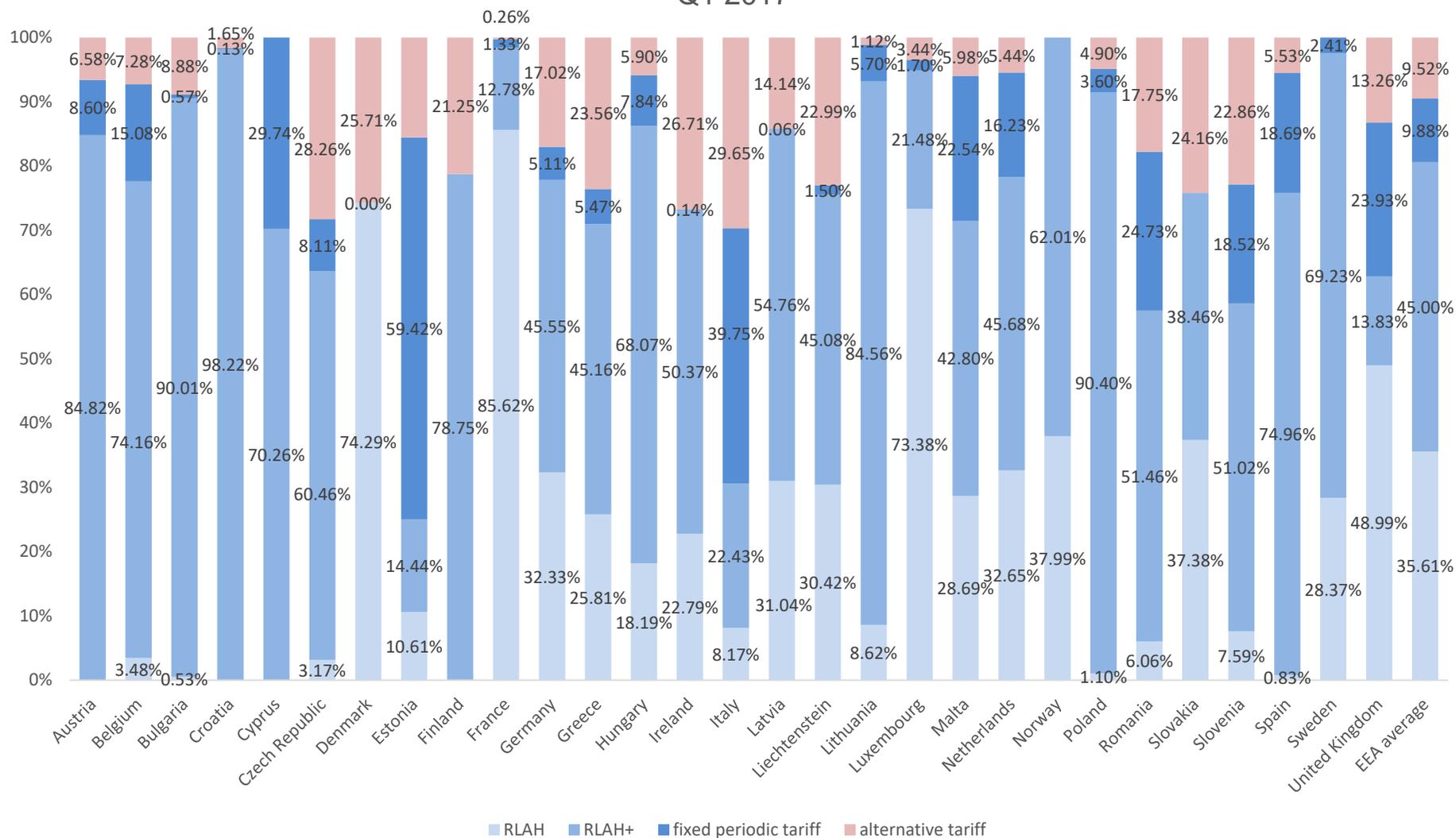
5.2.2.3 Consumption patterns

Figure 38: Percentage of EEA roaming SMS: RLAH, RLAH +, fixed periodic tariff, alternative tariff Q4 2016



Finland: fixed periodic tariff data has been combined with alternative tariff data
 EEA average excludes Iceland, Finland, Portugal

Figure 39: Percentage of EEA roaming SMS: RLAH, RLAH +, fixed periodic tariff, alternative tariff Q1 2017



Finland: fixed periodic tariff data has been combined with alternative tariff data
 EEA average excludes Iceland, Finland, Portugal

Figure 40: EEA percentage of SMS sent: RLAH, RLAH+, fixed periodic tariff, alternative tariff
(millions of minutes)

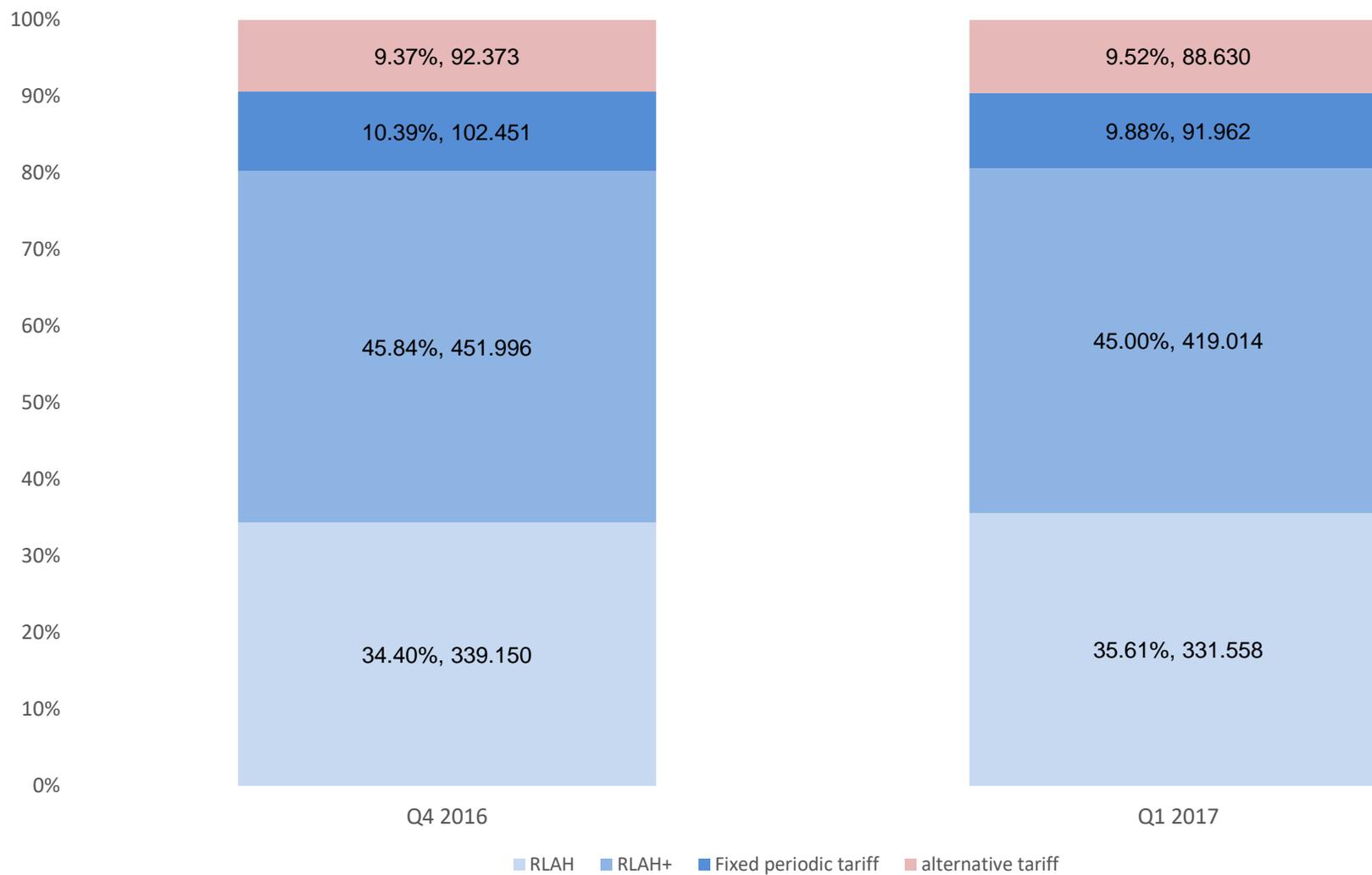
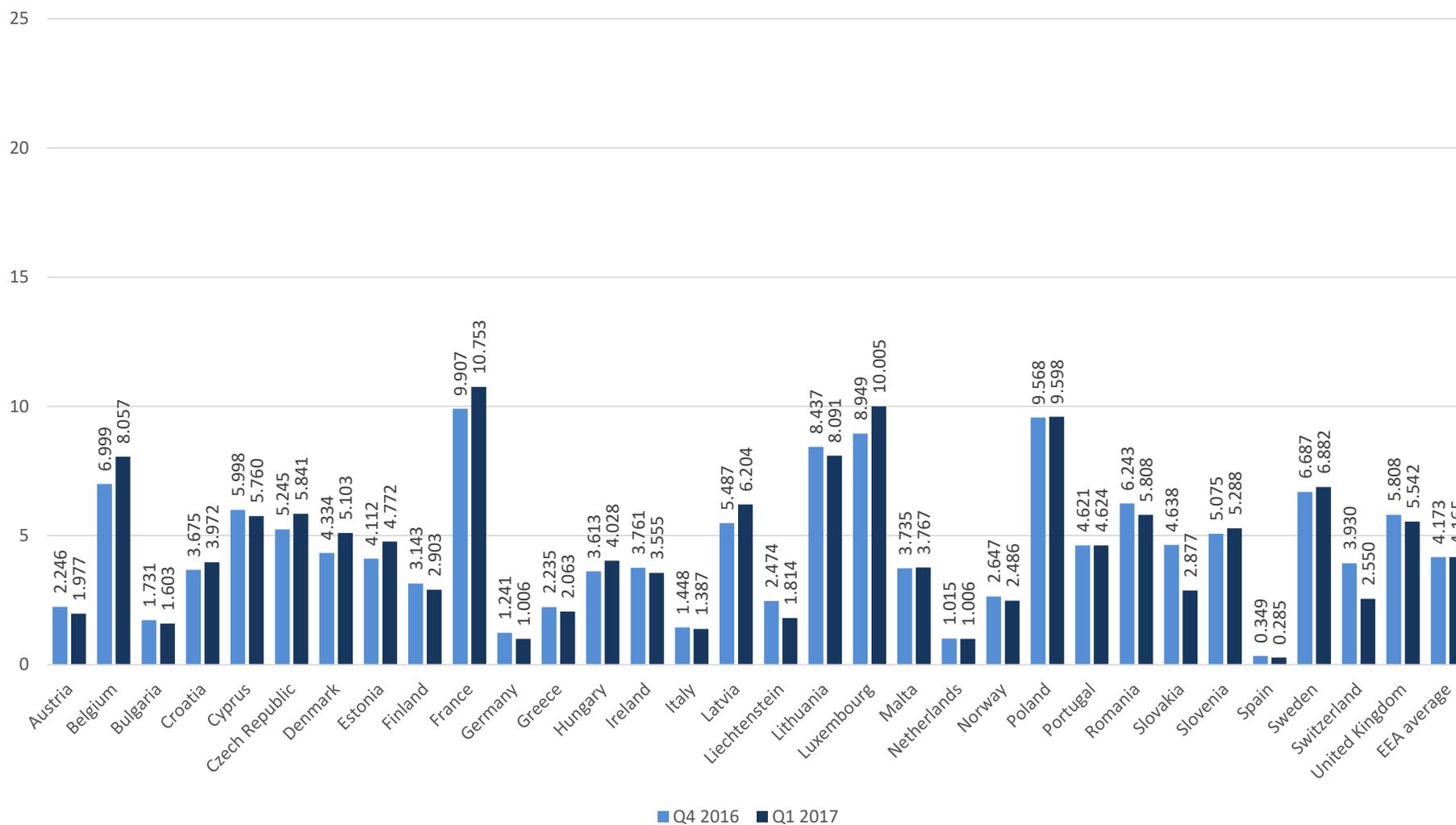
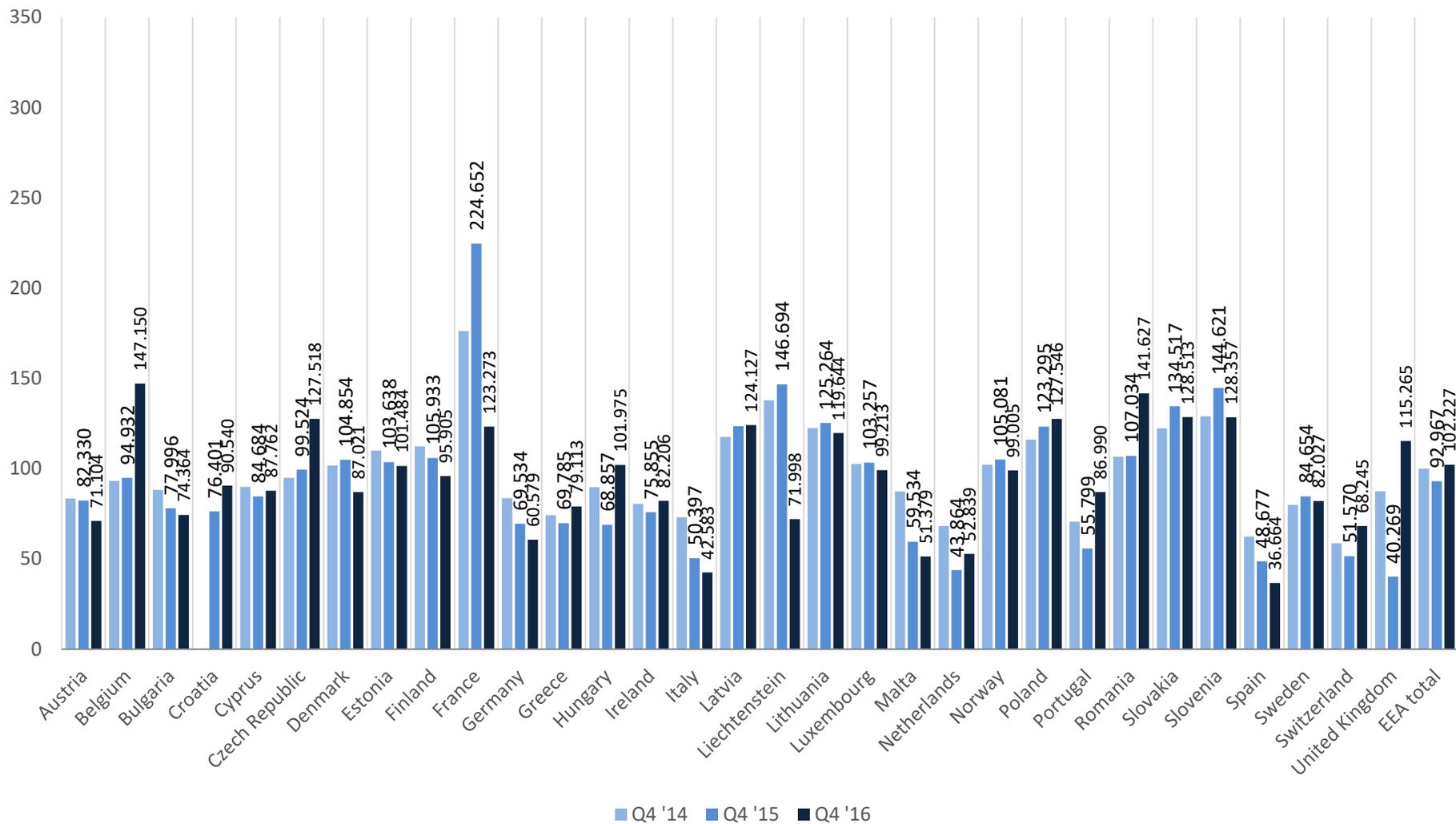


Figure 41: SMS
Average number of SMS per month per roaming subscriber
Q4 2016 and Q1 2017



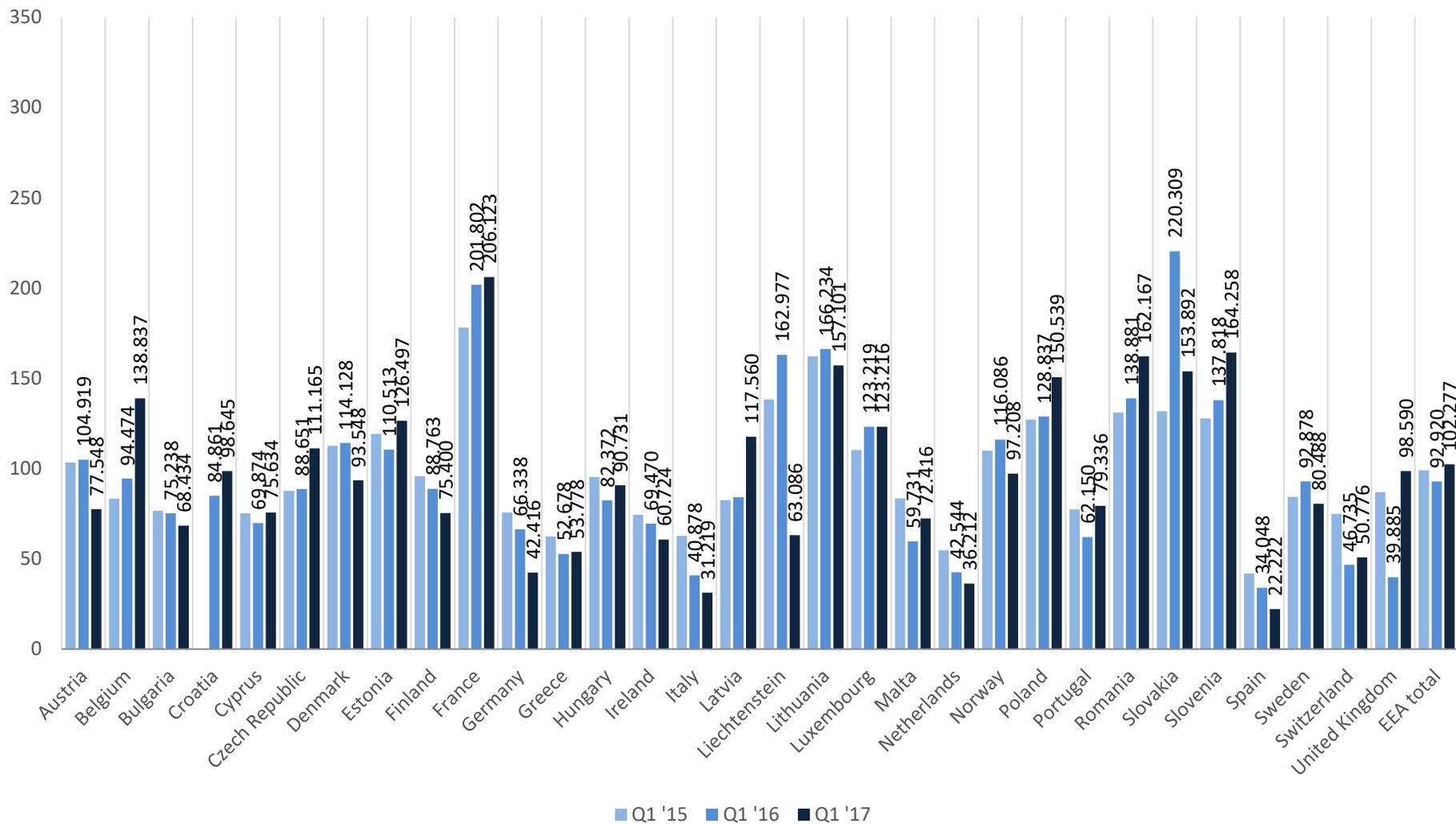
EEA average excludes Iceland

Figure 42: Retail SMS traffic Index, intra-EEA roaming calls in Q4 2016 (Q4 2012 = 100, Croatia Q4'13 = 100)



EEA average excludes Iceland

Figure 43: Retail SMS traffic Index, intra-EEA roaming calls in Q1 2017
(Q1 2012 = 100, Croatia Q1'14 = 100, Liechtenstein Q1'13)

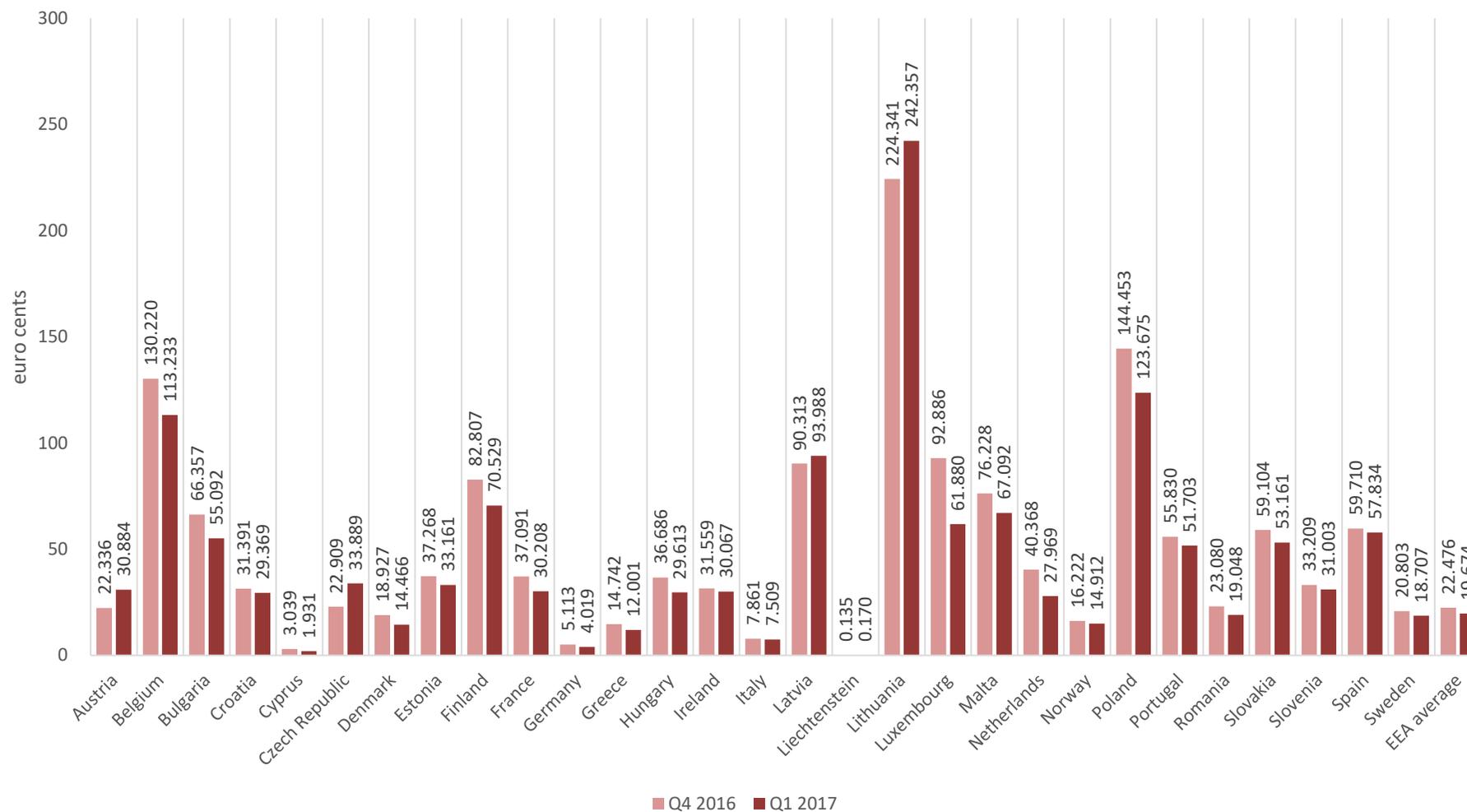


EEA average excludes Iceland

5.2.3. Data roaming services

5.2.3.1 RoW retail prices

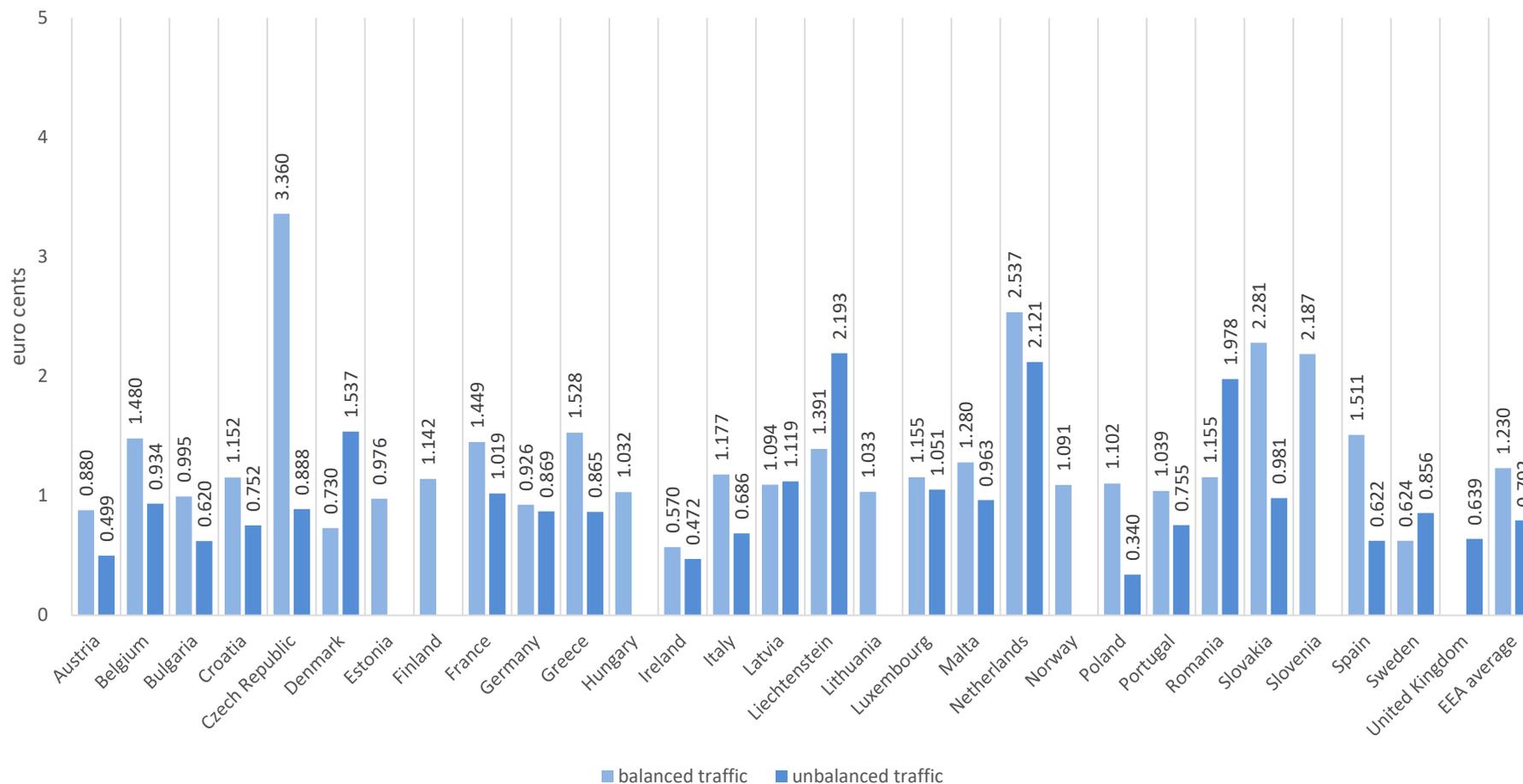
Figure 44: RoW
Average retail data price per Mb for RoW roaming data services in Q4 2016 and Q1 2017
(prepaid +postpaid)



EEA average excludes Iceland, UK

5.2.3.2 Wholesale prices

Figure 45: Average wholesale data price per Mb in Q4 2016 (prepaid+postpaid) balanced traffic and unbalanced traffic



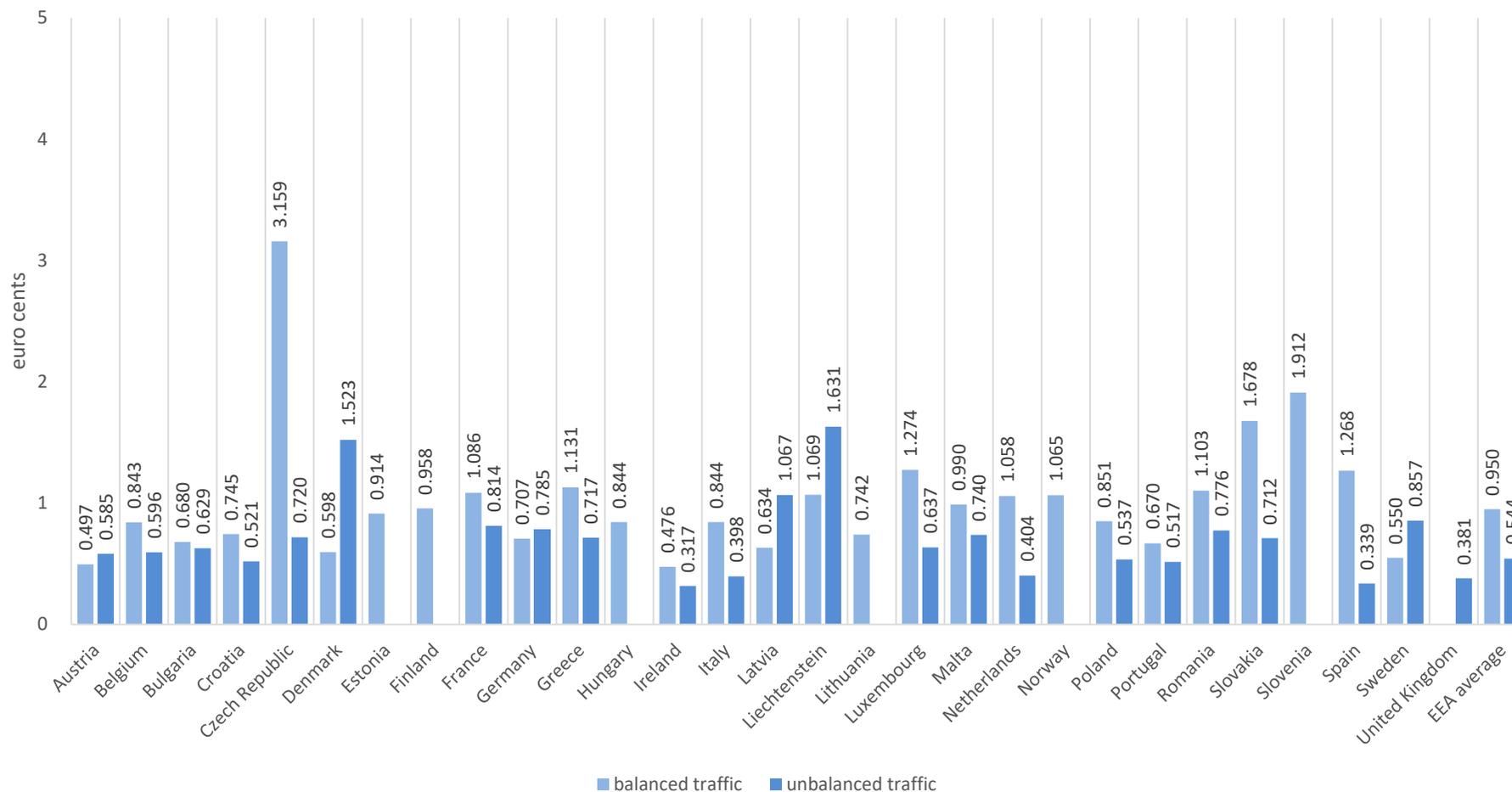
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 47 and 48

EEA average (balanced traffic) excludes Cyprus, UK

EEA average (unbalanced traffic) excludes Cyprus, Hungary, Estonia

Figure 46: Average wholesale data price per Mb in Q1 2017 (prepaid+postpaid) balanced and unbalanced traffic



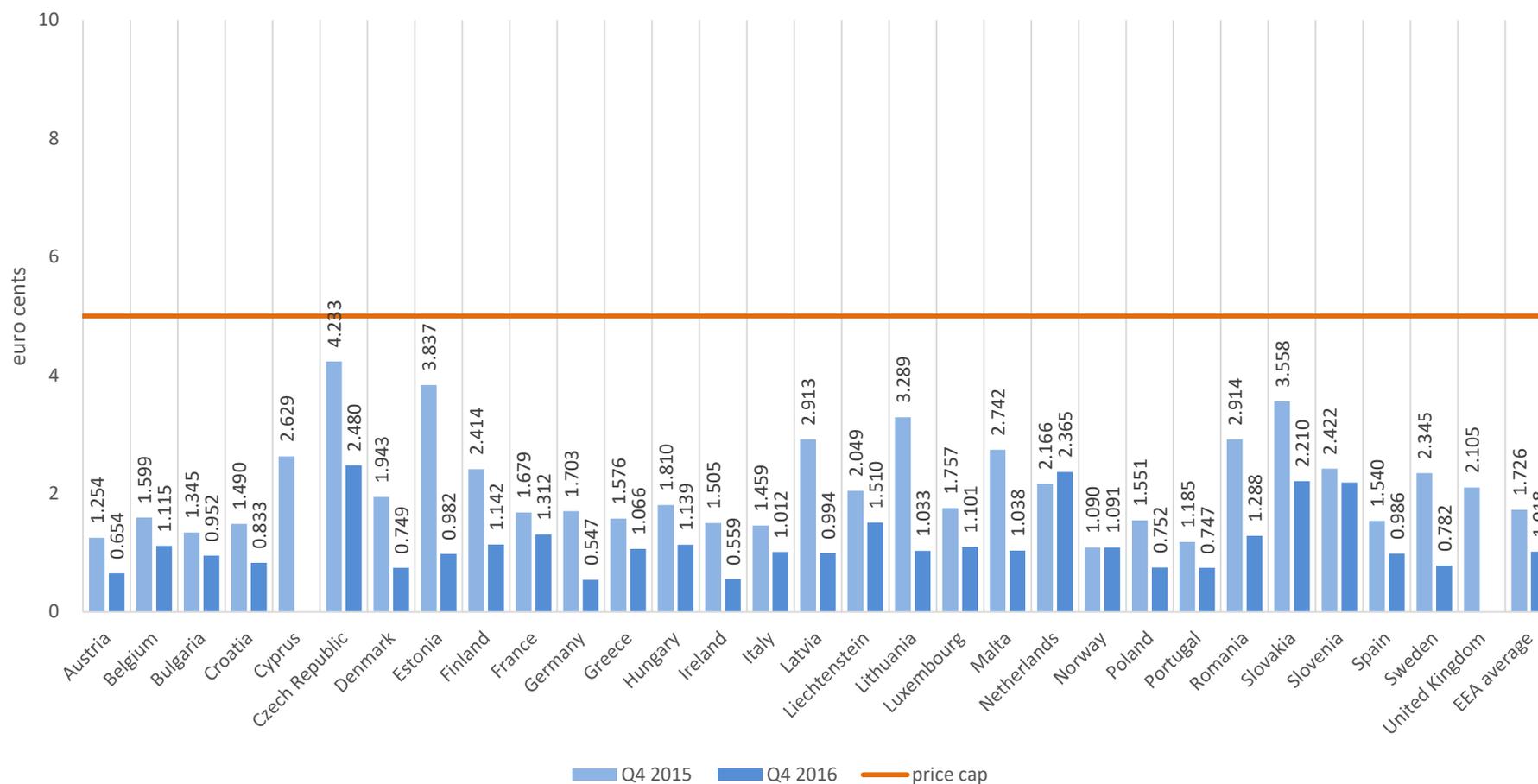
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Germany, Portugal, UK: estimates are based on data from different number of operators than estimates in Figure 47 and 48

EEA average (balanced traffic) excludes Cyprus, UK

EEA average (unbalanced traffic) Cyprus, Estonia, Hungary

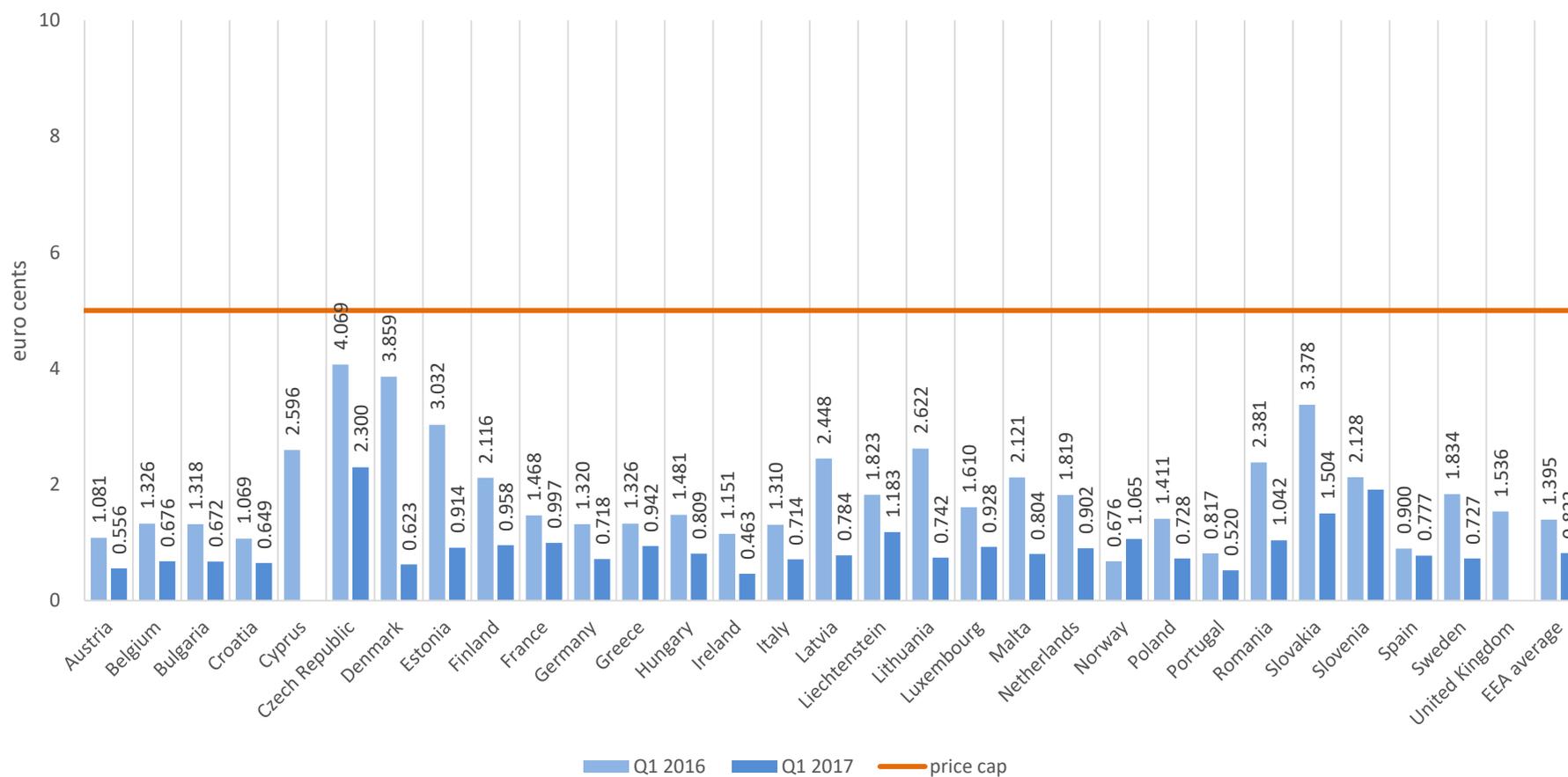
Figure 47: Average wholesale data price per Mb in Q4 2015 and Q4 2016
(prepaid+postpaid)
Total traffic



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Czech Republic, Greece Latvia, Portugal, Romania, Slovakia: estimates are based on data from different number of operators than estimates in Figure 45 and 46
EEA average (Q4 2016) excludes Cyprus, Iceland, UK

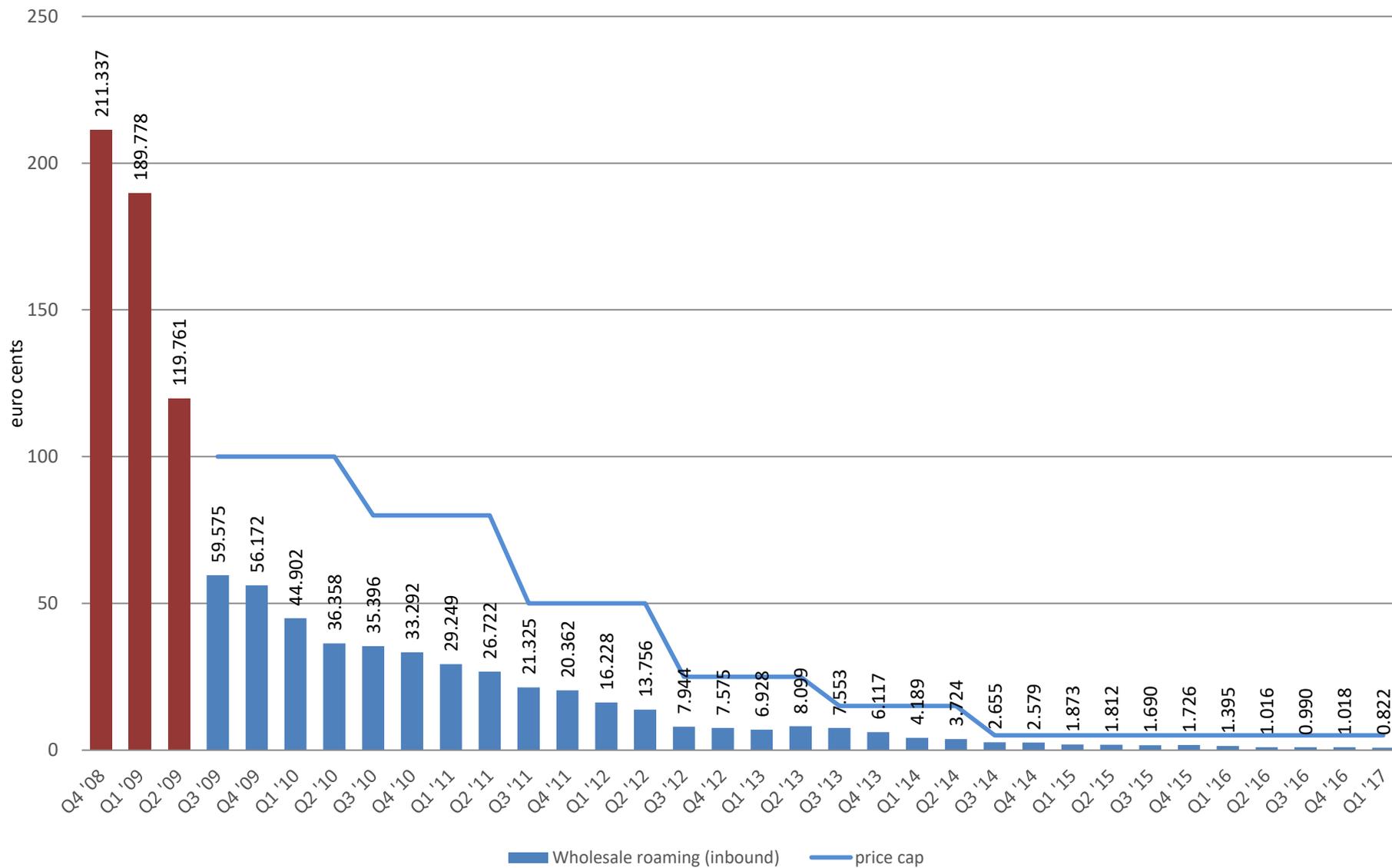
Figure 48: Average wholesale data price per Mb in Q1 2106 and Q1 2017
(prepaid+postpaid)
Total traffic



While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

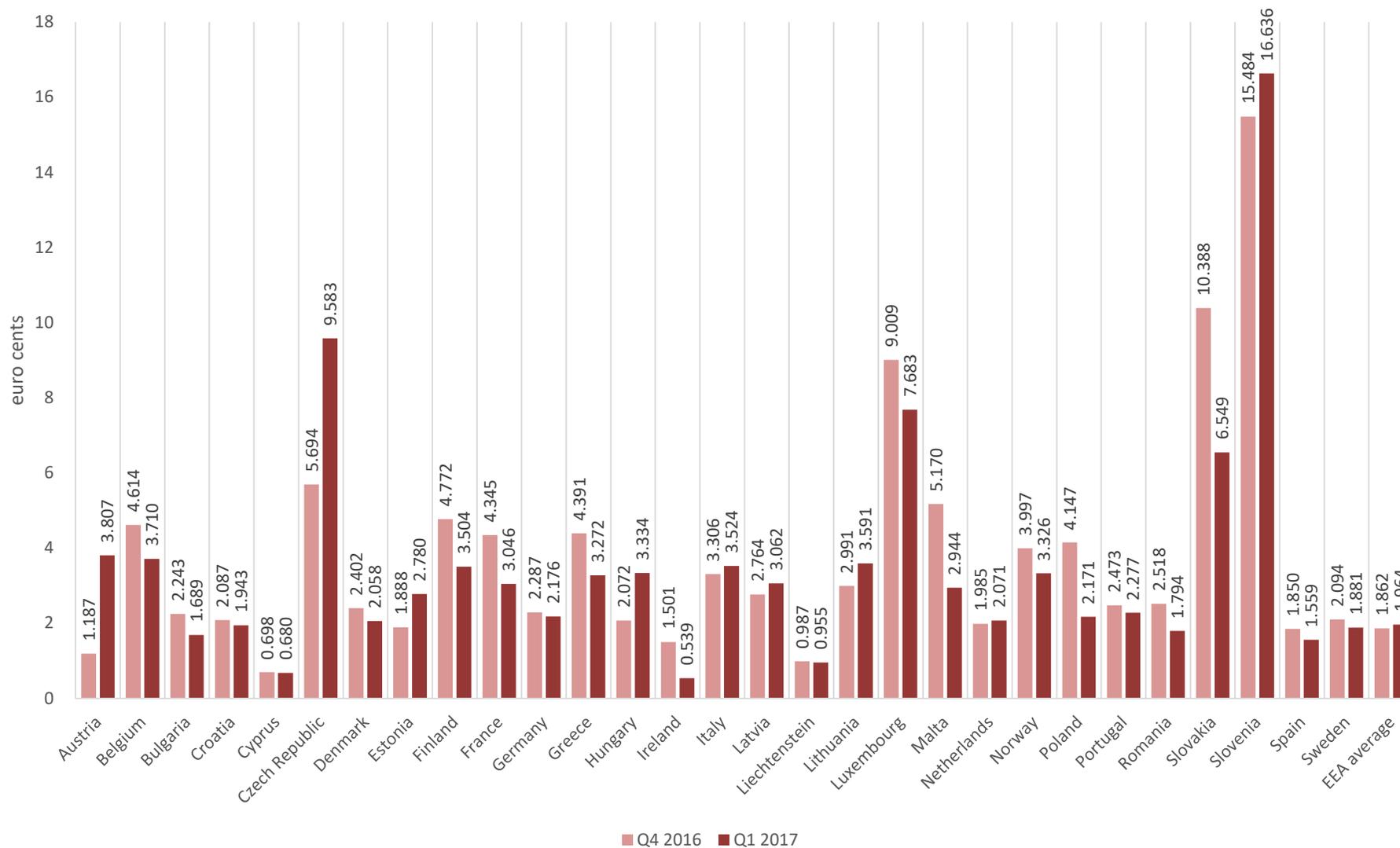
Czech Republic, Greece Latvia, Portugal, Romania, Slovakia: estimates are based on data from different number of operators than estimates in Figure 45 and 46
EEA average (Q1 2017) excludes Cyprus, Iceland, UK

Figure 49: EEA average: average wholesale data price per Mb (prepaid+postpaid)



EEA average (Q4 2016 and Q1 2017) excludes Cyprus, Iceland, UK

Figure 50: Average wholesale data price per Mb in Q2 and Q1 2017 (prepaid+postpaid)
RoW traffic



EEA average excludes Iceland, UK

Figure 51: EEA average wholesale data price per Mb in Q2 and Q1 2017
(prepaid+postpaid) (balanced, unbalanced, total traffic, RoW traffic)

euro cents

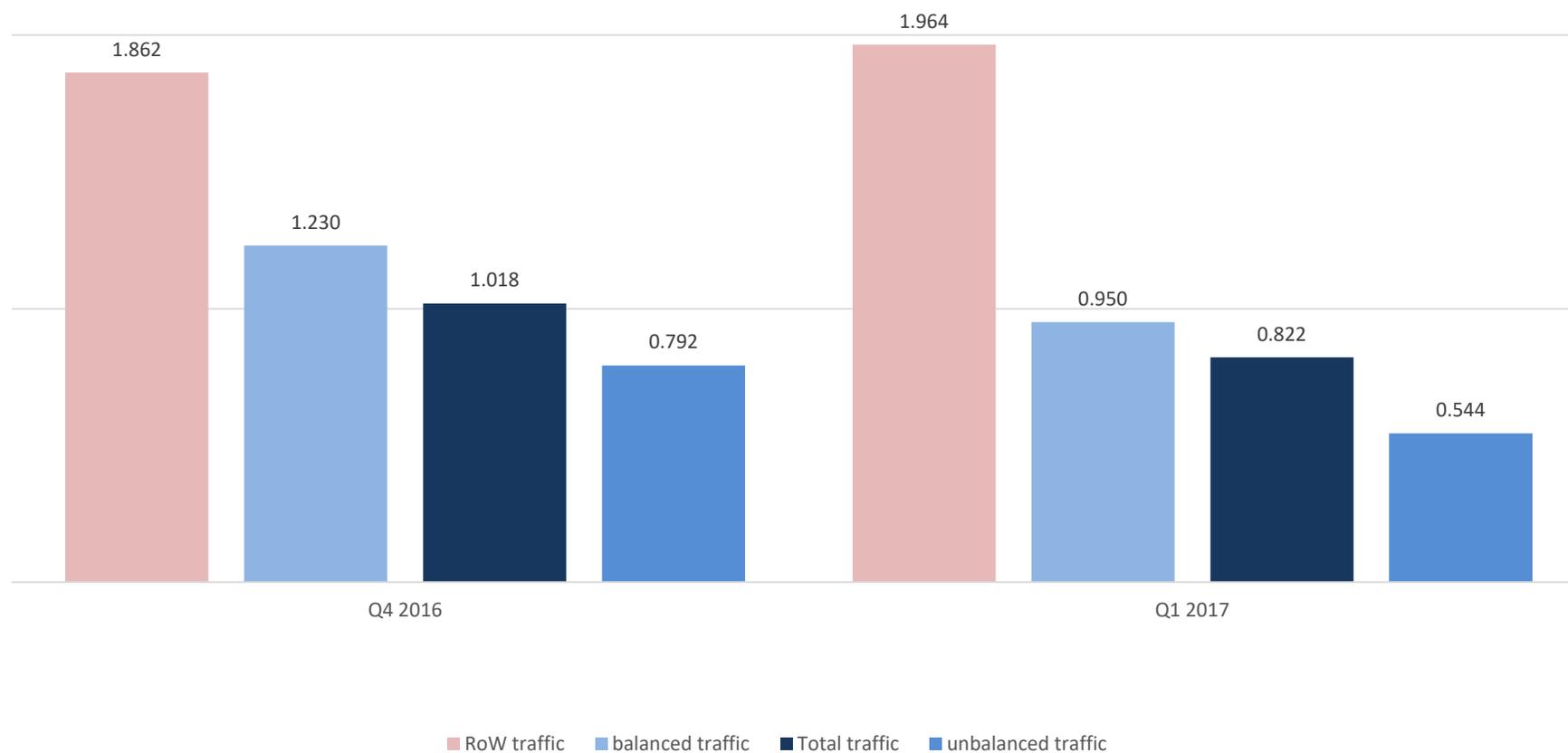
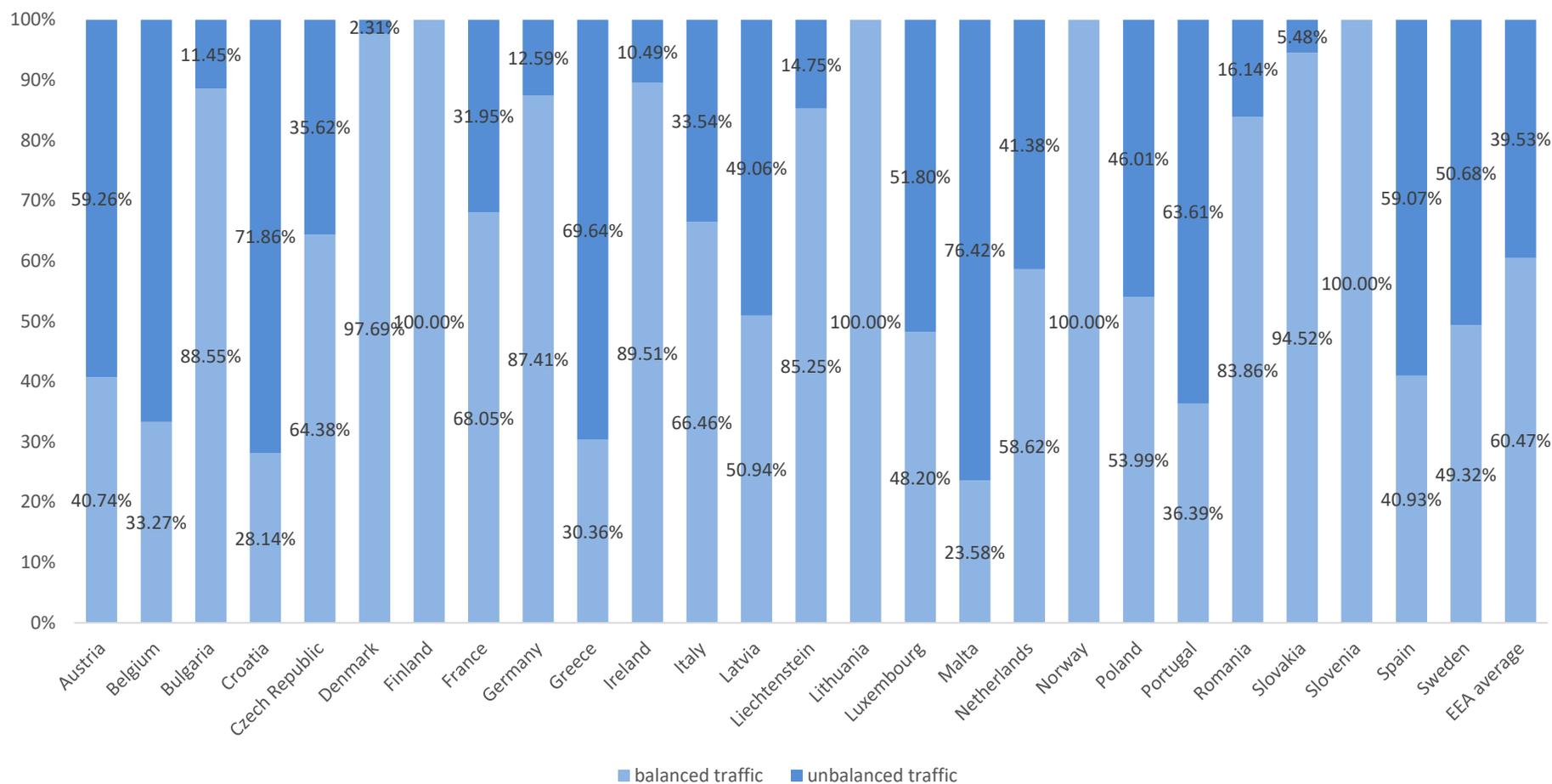


Figure 52: Proportion of balanced/unbalanced traffic within EEA countries
Wholesale roaming inbound
Q4 2016

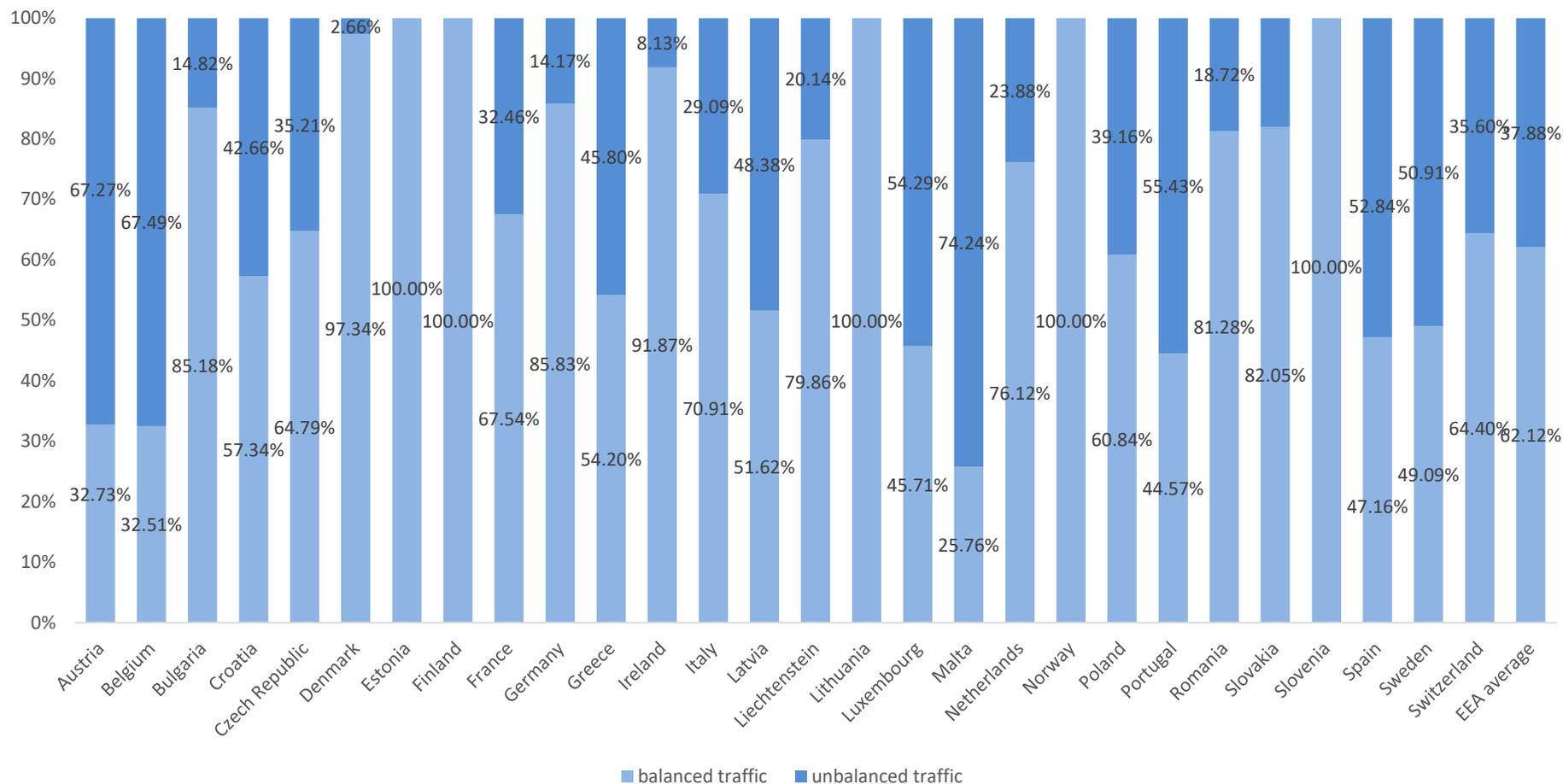


While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Portugal: estimates for balanced and unbalanced traffic are based on partial information provided by two operators.

EEA average excludes Cyprus, Estonia, UK

Figure 53: Proportion of balanced/unbalanced traffic within EEA countries
Wholesale roaming inbound
Q1 2017



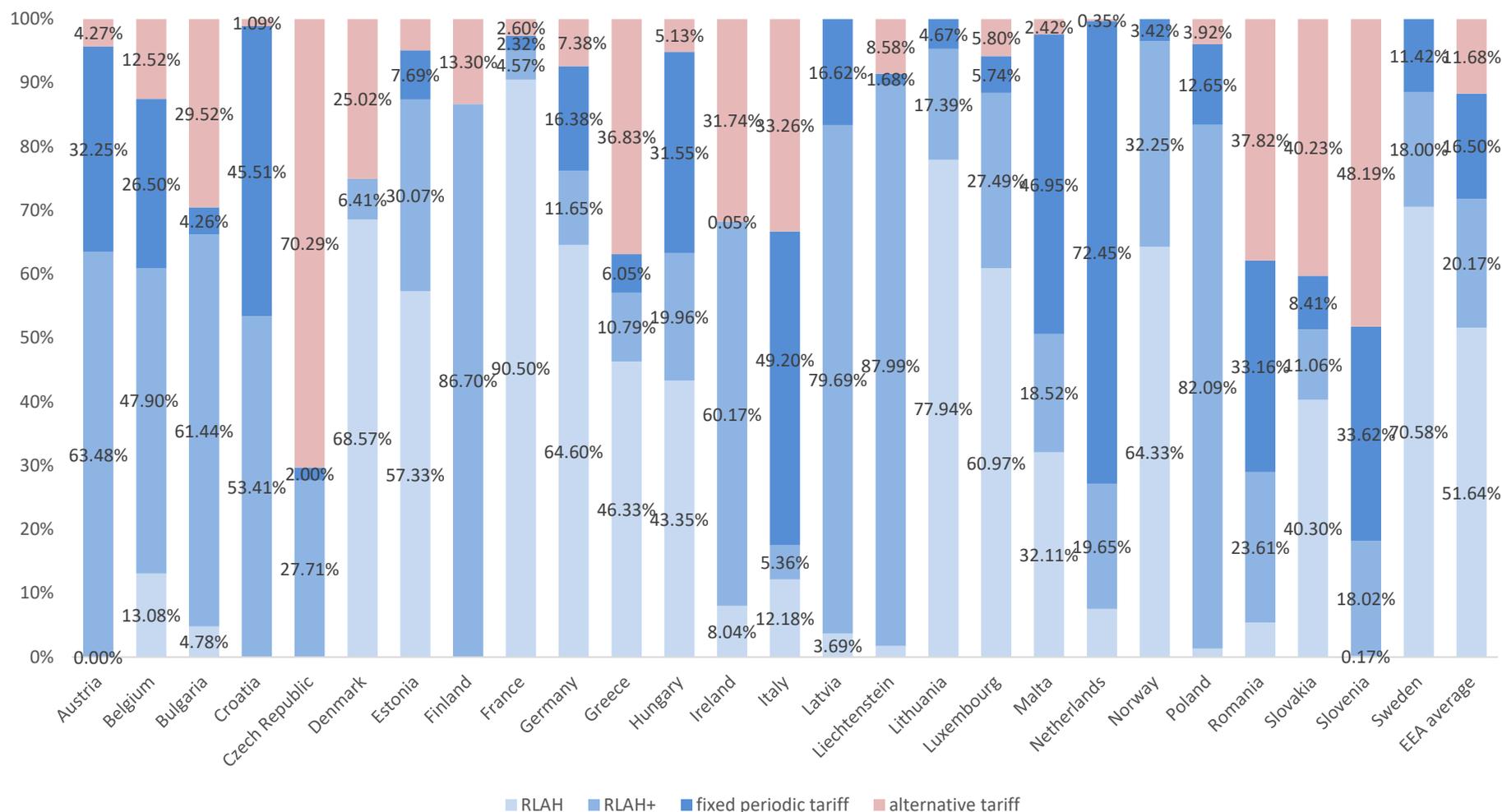
While the measure of balanced/unbalanced traffic should include volumes and revenues from all operators per country, such information is currently available for a limited number of NRAs. For some countries, even if a data set is available, not all operators are included. Please also read carefully Chapter on the methodology for the data collection on page 6.

Portugal: estimates for balanced and unbalanced traffic are based on partial information provided by two operators.

EEA average excludes Estonia, Cyprus

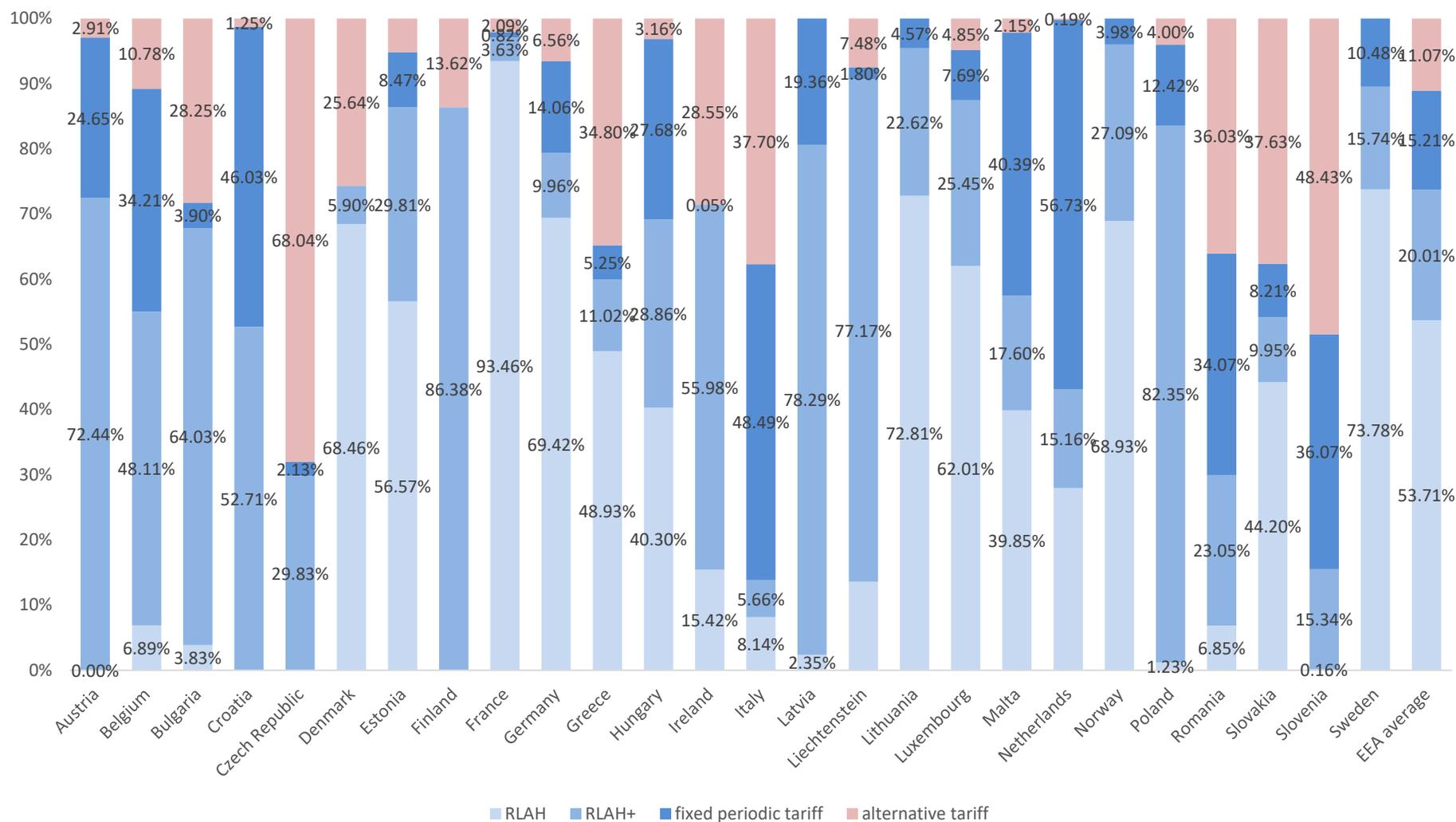
5.2.3.3 Consumption patterns

Figure 54: Percentage of retail data roaming services: RLAH, RLAH +, fixed periodic tariff, alternative tariff Q4 2016



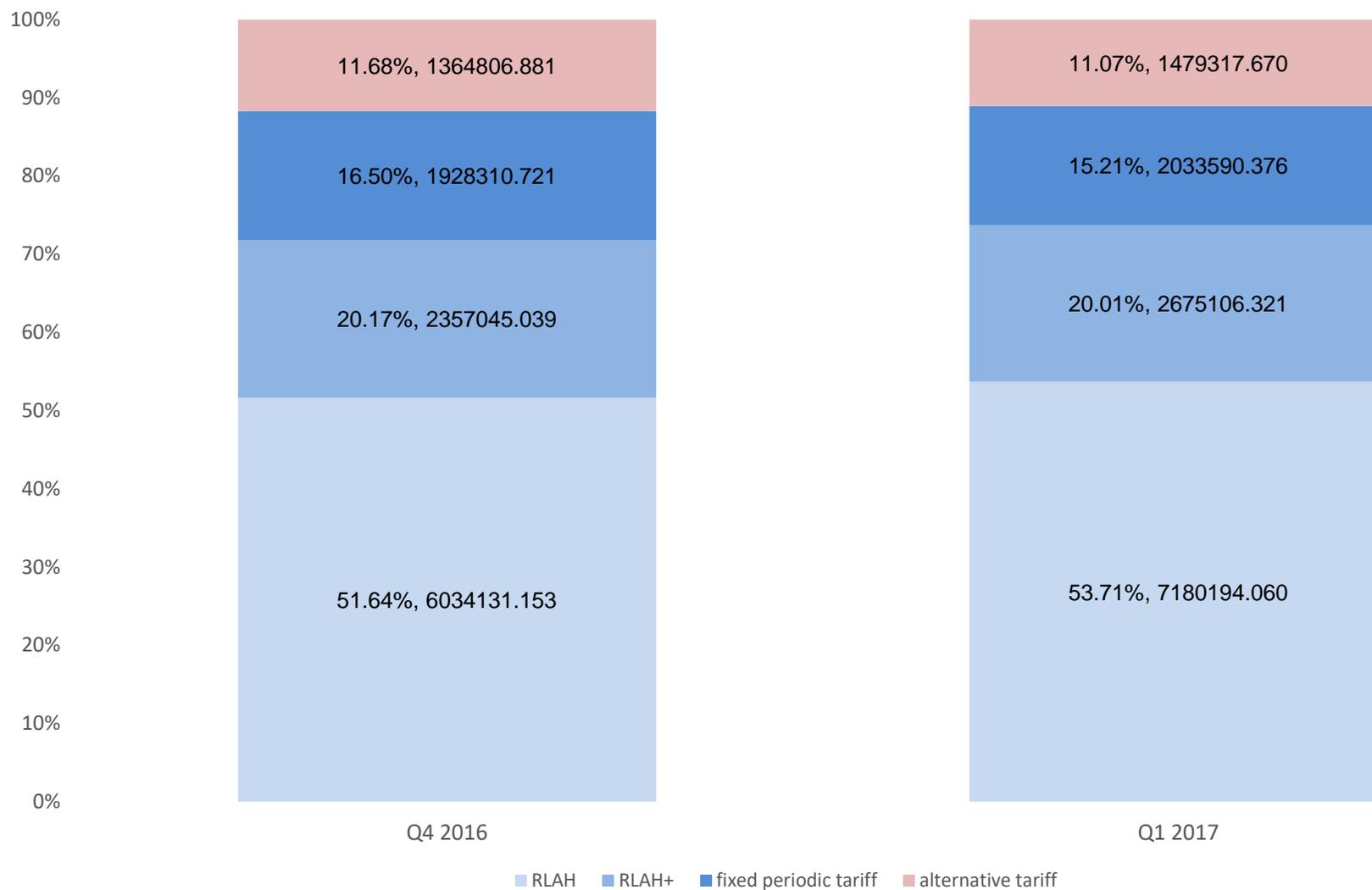
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
 EEA average excludes Cyprus, Iceland, Finland, Portugal, Spain, UK

Figure 55: Percentage of retail data roaming services: RLAH, RLAH +, fixed periodic tariff, alternative tariff
Q1 2017



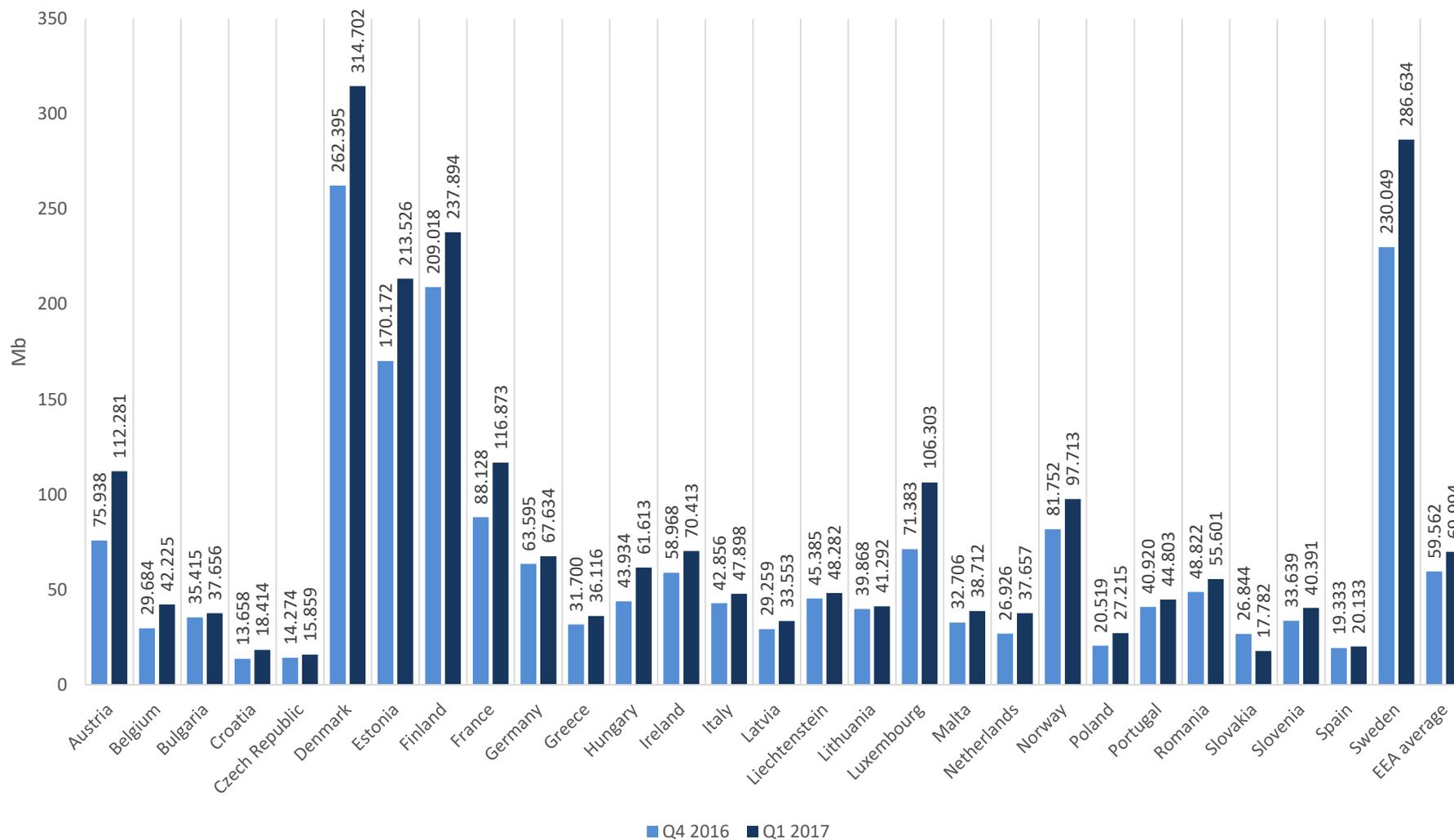
Finland: fixed periodic tariff data has been combined with alternative tariff data, RLAH has been combined with RLAH+
EEA average excludes Cyprus, Iceland, Finland, Portugal, Spain, UK

Figure 56: EEA percentage of data roaming services: RLAH, RLAH+, fixed periodic tariff, alternative tariff (in Gb)



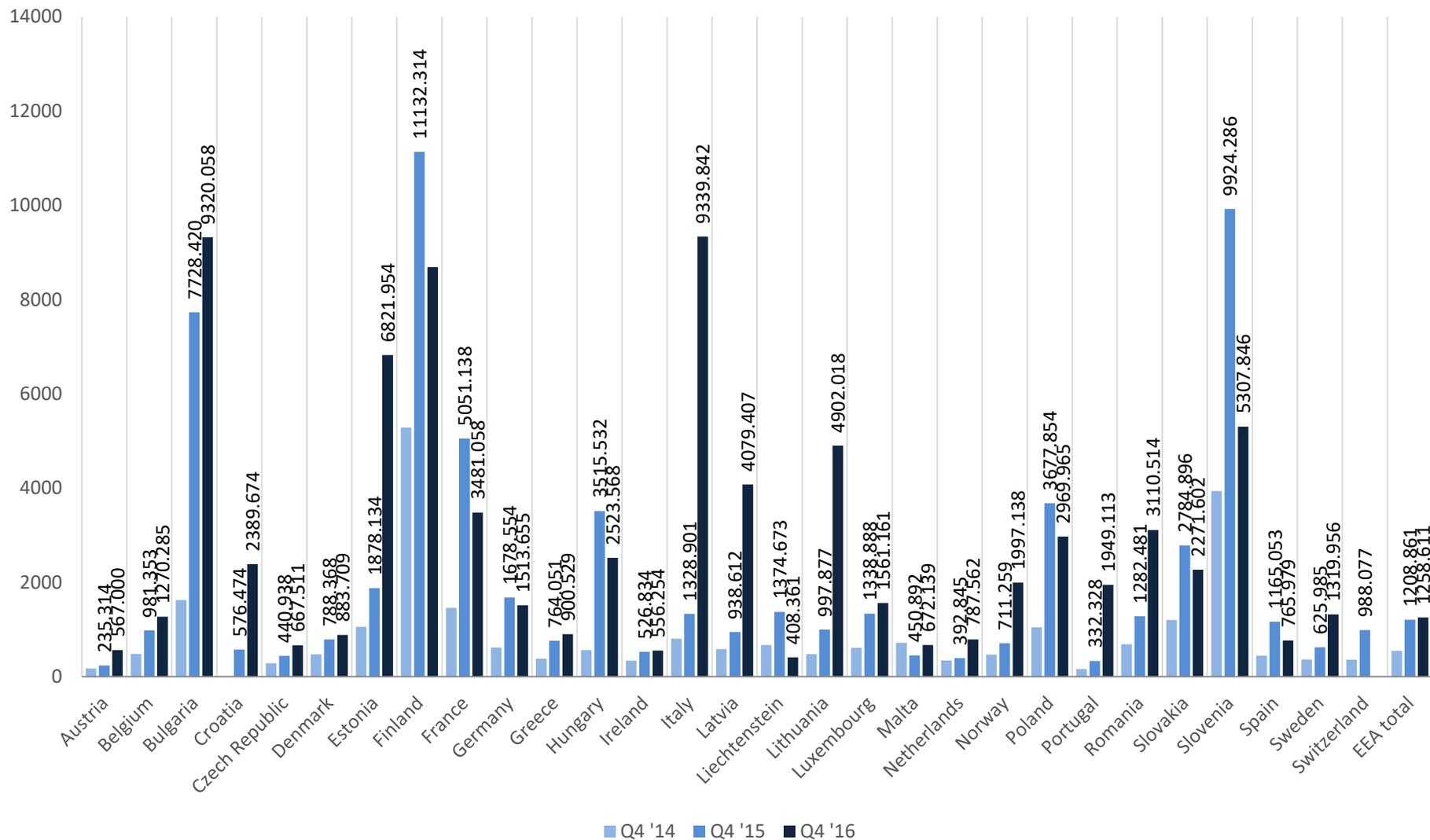
EEA average excludes Cyprus, Iceland, Finland, Portugal, Spain, UK

Figure 57: data services
Average consumption per month per roaming subscriber (in MB)
Q4 2016 and Q1 2017



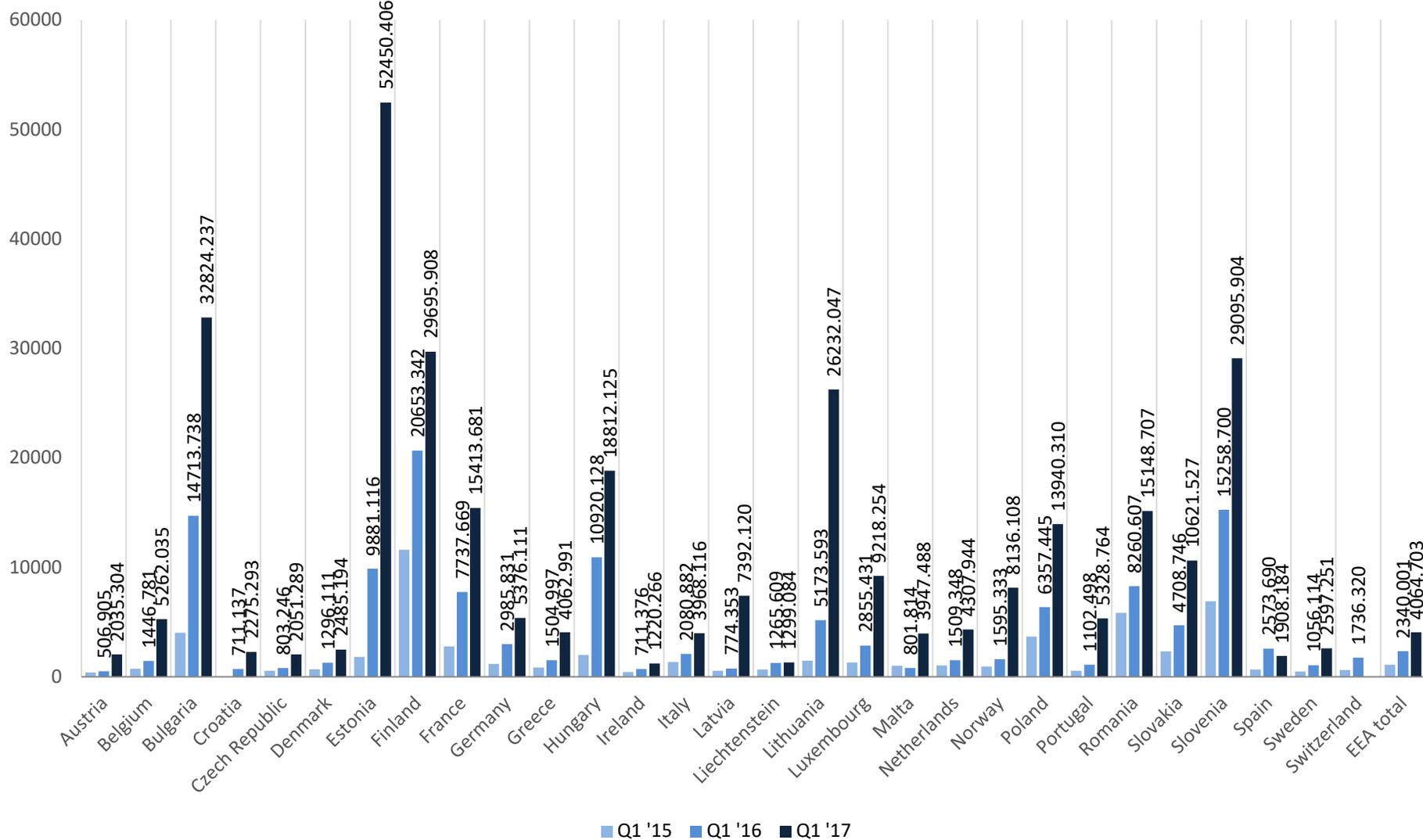
EEA average excludes Cyprus, Iceland, UK

Figure 58: Retail Data traffic Index, (Q4 2012 = 100, Croatia Q4'13 = 100)



EEA average excludes Cyprus, Iceland, UK

Figure 59: Retail Data traffic Index,
 (Q1 2012 = 100, Croatia, Liechtenstein: Q1'13 = 100, Liechtenstein Q1'13 = 100)



EEA average excludes Cyprus, Iceland, UK

5.3. Wholesale roaming (outbound): Agreements applying Article 3 of the Roaming Regulation

Figure 60: Wholesale averages outbound roaming: Voice: Agreements applying Article 3
Roaming Regulation

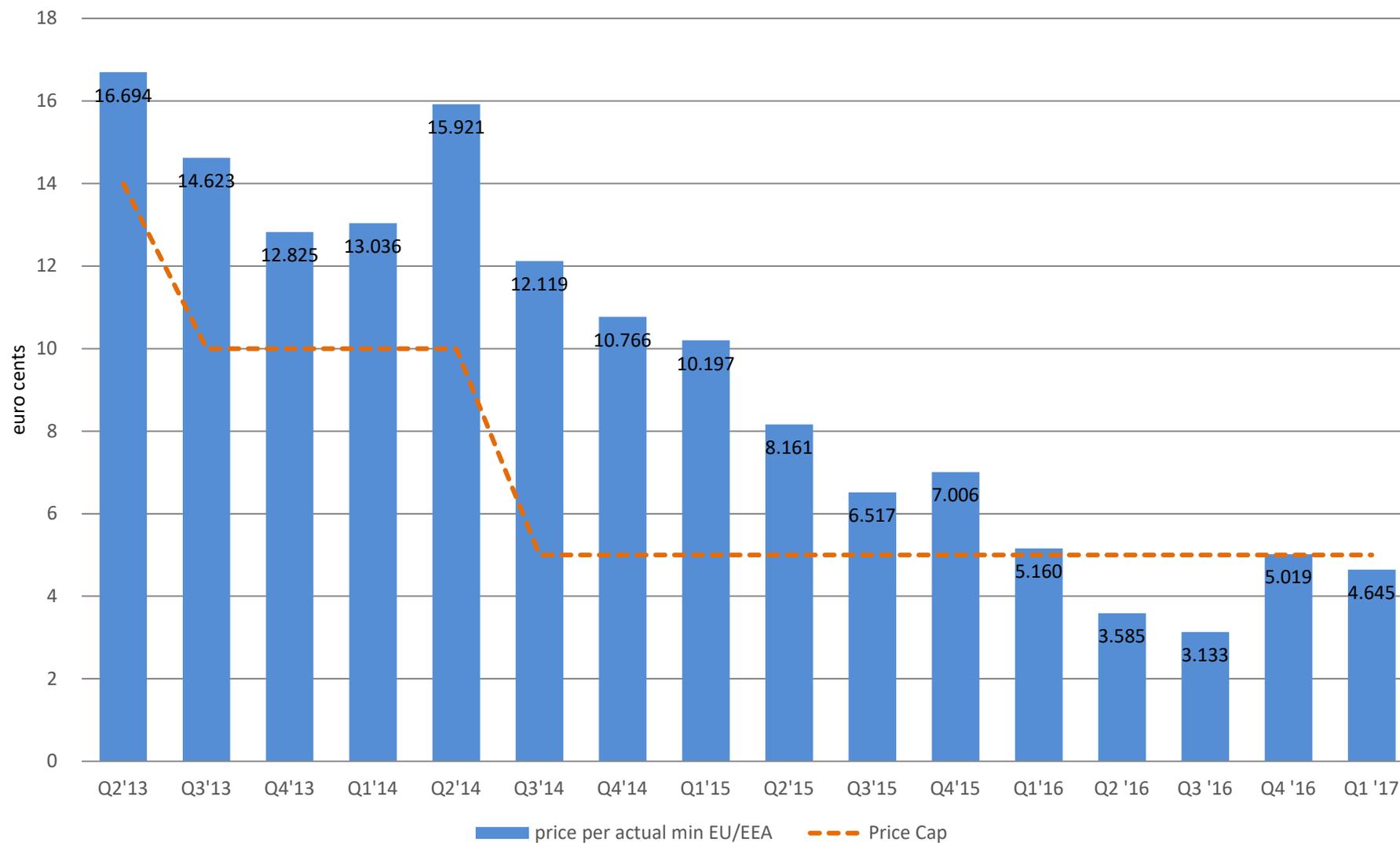


Figure 61: Wholesale averages outbound roaming: SMS Agreements applying Article 3
Roaming Regulation

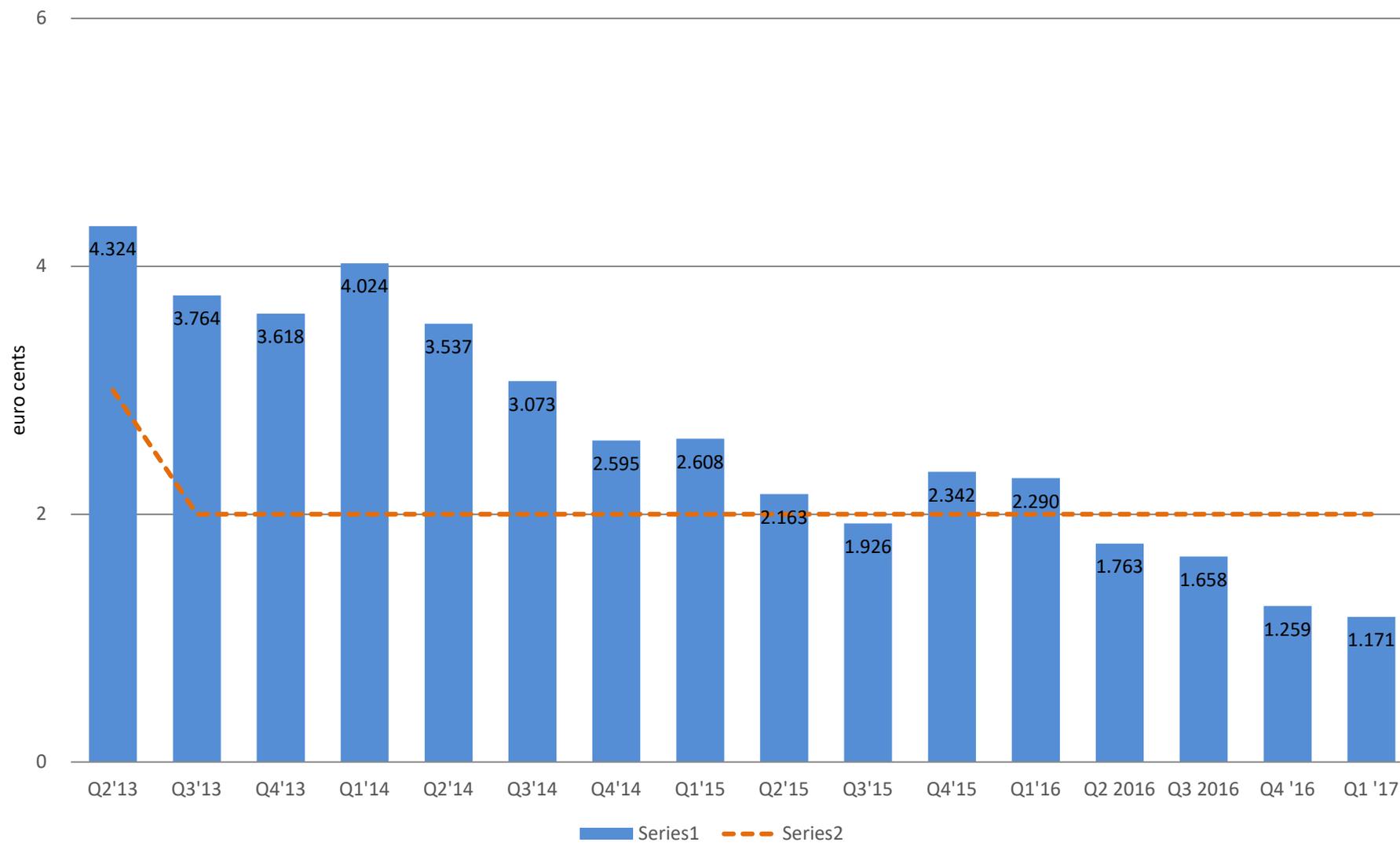
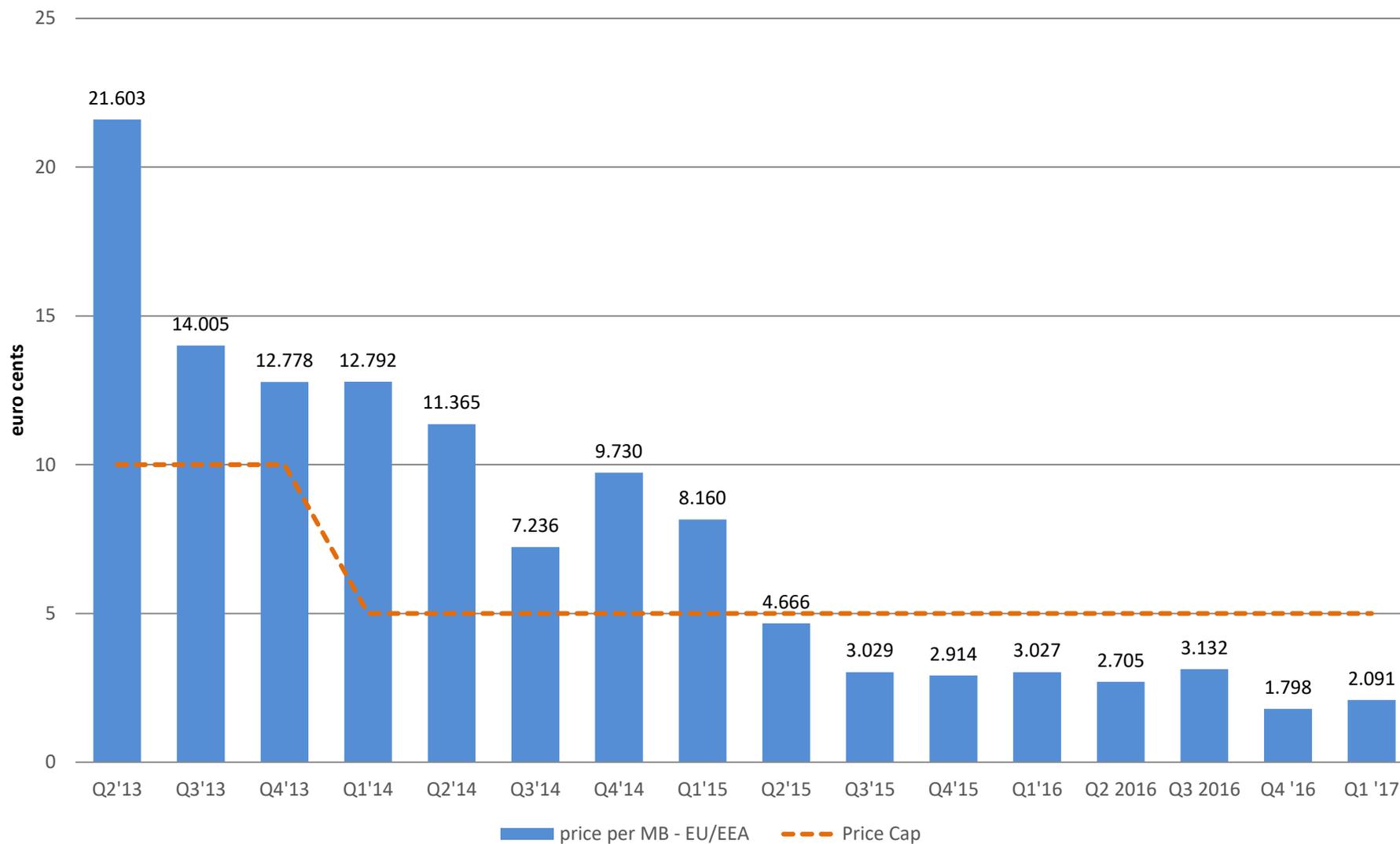


Figure 62: Wholesale EEA average outbound roaming: DATA, Agreements applying Article 3 Roaming Regulation



EEA average excludes UK

List of respondents

Operators that provided data for the period 1 October
2016 – 1 April 2017:

Austria

A1 Telekom Austria
ATK
HoT Telekom
Hutchison 3G Austria
LTK
Mass Response
MMS-Mobil
Mtel Austria
RTK
Russmedia
Tele2
T-Mobile Austria
UPC

Belgium

Belgacom Mobile
KPN Group Belgium (Base)
Mobistar

Bulgaria

Bulgarian Telecommunication Company
(Vivacom)
Telenor Bulgaria
Mobiltel

Croatia

Hrvatski Telekom
Vipnet
Tele2

Cyprus

Cyta
MTN Cyprus
Primetel

Czech Republic

O2 Family
Air Telecom
ČEZ Prodej
DH Telecom
O2 Czech Republic
SAZKA

TERMS

Tesco Mobile ČR
T-Mobile Czech Republic
Vodafone Czech Republic

Denmark

Hi3G Denmark
TDC
Telenor
TeliaDanmark

Estonia

AS EMT
Elisa Eesti
OÜ Top Connect
TELE 2 Eesti

Finland

Ålands Telekommunikation
DNA
Elisa Corporation
Telia Finland

France

SFR
Bouygues Telecom
Orange Caraïbe
Orange France
Free Mobile
EI Telecom
Lycamobile
SRR

Germany

E-Plus Mobilfunk
Telefónica Germany
Telekom Deutschland
Vodafone D2

Greece

COSMOTE Mobile
Vodafone Panafon

Wind HellasTelecommunications
CYTA HELLAS TILEPIKINONIAKI SA

Hungary

Telenor Magyarország
T-Mobile
Vodafone Magyarország
UPC Mobile

Iceland

Nova
Síminn
Vodafone Iceland

Ireland

Eircom Limited/E Mobile
Hutchison 3G Ireland
Meteor Mobile Communications
Telefónica Ireland Limited/(O2)
Tesco Mobile Ireland
Vodafone Ireland

Italy

Coop Voce
Digi Italy
ERG Mobile
Fastweb
Green
Tre
Lycamobile
Poste Mobile
Tim
Tiscali
Vodafone
Wind

Latvia

Bite Latvia
LatvijasMobilaisTelefons
Tele2

Liechtenstein

Salt (Liechtenstein)
Telecom Liechtenstein
Swisscom (Schweiz)

Lithuania

BitėLietuva

Eurocom
Omnitel
Tele2
Teledema

Luxembourg

Entreprise des postes et télécommunications
Post Télécom
Tango
Orange Communications Luxembourg
Luxembourg Online Mobile
Transatel Lux.

Malta

Melita Mobile,
Mobisle Communications (GO Mobile)
Vodafone Malta

Netherlands

KPN
Lebara
Lycamobile Distribution
Tele2 Netherlands
T-Mobile Netherlands
Vodafone Libertel

Norway

Lycamobile
Phonero
Telenor
TeliaSonera Norge

Poland

P4
Polkomtel
T-Mobile Polska
Orange Polska

Portugal

CTT – Correios de Portugal
NOS Comunicações, S.A
MEO – Serviços de Comunicações e Multimédia,S.A.
Vodafone Portugal – Comunicações Pessoais.S.A.
NOWO Communications, S.A
ONITELECOM - Infocomunicações, S.A

Romania

Telekom RMC
Orange Romania
RCS&RDS
Vodafone Romania
Telekom RC
Lycamobile

Slovak Republic

O2 Slovakia
Orange Slovensko
Slovak Telekom
SWAN Mobile

Slovenia

Telekom Slovenije
Si.mobil
Telemach
T-2
Izi mobil
Mega M

Spain

Euskaltel
Orange
TelefónicaMóviles de España
Vodafone
Yoigo

Sweden

Hi3G Access
Telenor Sverige
Telia Company
Tele2 Sverige

Switzerland

Orange Communications
Sunrise Communications
Swisscom (Schweiz)

United Kingdom

3 UK
O2 UK
Everything Everywhere
Vodafone UK
Tesco Mobile
Virgin Mobil