

BEREC International Roaming Benchmark Data Report for April 2009 – December 2009

April 2010

Contents**Section**

1	Executive summary	2
2	Introduction	7
3	Overall data summary	11
4	Further issues	39

Annex

1	List of respondents	42
----------	----------------------------	-----------

Section 1

Executive summary

1.1 This BEREC Benchmark Report on International Roaming (the “Report”) presents the results of the fifth round of data collection on European international roaming services undertaken by the European Regulators Group (ERG). The Report covers the period 1 April 2009 – 31 December 2009, i.e. quarter 2 – quarter 4 2009. The Report also includes data from previous rounds of data collection to provide a context for the current figures. Following its creation in January 2010, the Body of European Regulators in Electronic Communications (BEREC) has taken over responsibility for this work from ERG.

1.2 Regarding the applicable regulatory framework, during quarter 2 2009, the provisions of Roaming Regulation (EC) No 717/2007 were in force in the EU¹, with requirements for a retail and wholesale regulated tariff for voice roaming. Then, for quarters 3 and 4 2009, the amended Roaming Regulation (EC) No 544/2009² applied in the EU, with requirements for retail and wholesale regulated tariffs for voice and SMS roaming, and a wholesale regulated tariff for data roaming. For Norway, Iceland and Lichtenstein, Regulation 717/2007 applied throughout the data collection period³.

BEREC Benchmark Report on International Roaming

1.3 This and subsequent Reports will provide information on the evolution of wholesale and retail prices for voice, SMS and data roaming services. This Report covers the first full peak travel season with the 2009 amended Regulation in force, providing comparator data for summers 2008 and 2007. In particular, this gives the first opportunity to compare SMS and data prices and volumes from the first six months after implementation of the 2009 Regulation, with the same period in previous years. The Reports are intended to provide a sound evidence base for the Commission’s interim and full reviews of the amended Regulation due by 30 June 2010 and 30 June 2011, respectively.

1.4 The information gathered by ERG suggests a high level of compliance with the applicable Roaming Regulations in all EU Member States. At the retail level, all consumers have access to a Eurotariff, with regulated maximum rates. From 1 July 2009, EU consumers also have access to a Euro-SMS tariff, with regulated maximum rates. At the wholesale level, the voice roaming charges set between operators are in line with the declining regulated caps. This is also the case for SMS and data roaming caps from 1 July 2009.

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:171:0032:0032:EN:PDF>

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:167:0012:0023:EN:PDF>

³ Regulation 544/2009 will enter into force in Norway, Lichtenstein and Iceland during the next data collection period

1.5 During the data collection period, the applicable caps were:

Service and Price Cap (ex VAT)	Q2 09	Q3 – Q4 09
Wholesale voice (€/minute)	28	26
Eurotariff voice (making call) (€/minute)	46	43
Eurotariff voice (receiving call) (€/minute)	22	19
Wholesale SMS (€/SMS)	-	4
Euro-SMS sent (€/SMS)	-	11
Euro-SMS received (€/SMS)	-	0
Wholesale data (€/MB)	-	100

1.6 In general, average Eurotariff voice roaming rates remained at or near the regulated caps in many Member States, but overall fell slightly during the data collection period. For calls made, the average Eurotariff fell from €0.425 in Q2 2009 (compared to a cap of €0.46) to €0.381 in Q4 2009 (with a cap of €0.43). The average Eurotariff rate was nearer the caps for calls received, but also fell slightly from €0.201 in Q2 2009 (with a cap of €0.22) to €0.165 in Q4 2009 (with a cap of €0.19).

1.7 In the same period, the average unregulated voice tariff for calls made fell from €0.363 in Q2 2009 to €0.341 in Q3 2009 and then increased to €0.374 in Q4 2009. For calls received, it fell slightly over the period from €0.152 in Q2 2009 to €0.148 in Q 4 2009.

1.8 As a result, the difference in the average EU price for regulated and unregulated voice prices is fairly small, although there is a notable variation in the average price for individual countries for unregulated voice tariffs.

1.9 Regarding the effects of billing unitisation for Eurotariff calls, the 2009 amended Regulation requires per second billing for Eurotariff calls made, with the possibility of up to a 30 second minimum charge to cover the costs of setting up the call. This has led to a significant drop in the average surcharge for calls made, from around 26% in Q2 2009 to 11% and 10% in quarters 3 and 4 2009, respectively. The Regulation requires per second billing only for Eurotariff calls received, to result in a surcharge of 0%, from around 18% before the 2009 Regulation. As there is no longer a price trend to measure, this metric has not been included in this Report. If a surcharge for Eurotariff calls received seems greater than 0%, NRAs are responsible for investigating whether the operator is complying with the Regulation. (BEREC published an ad hoc Roaming Compliance Report in March 2010⁴)

⁴ BEREC Roaming Compliance Report, para 2.2: 'Nearly all operators implemented [the billing units] requirement on time. 13 out of 126 operators replied that they intended to implement it as soon as

which showed a good level of compliance, and will repeat the compliance survey in autumn 2010).

1.10 At the wholesale level, average voice prices are below the regulated wholesale cap, at €0.216 in Q2 2009 compared to a cap of €0.28, and €0.224 in Q4 2009, with a cap of €0.26.

1.11 Under the 2009 Regulation, the average wholesale voice charge must be calculated on a per second basis, adjusted to take account of the possibility for the operator of the visited network to apply up to a 30 second minimum charge for retail calls made. This has led to a significantly lower surcharge in EU countries, from around 21% in Q2 2009 to around 5% in Q4 2009.

1.12 Considering 'Rest of World' retail voice roaming calls, typical prices are significantly greater than for calls wholly within EU/EEA. Over time, no clear price trend in average country prices can be seen for calls made or received. Average prices (across the whole EU/EEA) for calls made have fallen slightly between the same quarters of 2008 and 2009 (Q1 €1.319 to €1.419, Q2 €1.447 to €1.332, Q3 €1.330 to €1.270, Q4 €1.441 to €1.337). A similar trend applies for calls received. There are no clear indications that operators have tended to raise the prices of unregulated roaming calls to make up for lost revenue due to the regulated price caps. Although individual increases have been reported, the averages have tended to decrease slightly.

1.13 The introduction of the Euro-SMS in the EU in accordance with the 2009 Regulation has led to an average Euro-SMS price of €0.10, compared to a cap of €0.11. The EU average price of unregulated SMS is slightly higher at €0.111 in Q3 2009 and €0.136 in Q4 2009 (but see 'Definition of Euro-SMS' in Section 4). Before the 2009 Regulation, the average EU/EEA SMS price was around €0.27 - €0.24 (Q1-Q2 2009).

1.14 At the wholesale level, the 2009 Regulation has led to a reduction in the average EU price to the level of the cap (€0.04). In comparison, the EU/EEA average price was €0.136 - €0.133 in Q1 – Q2 2009.

1.15 Regarding volumes of voice and SMS roaming services, there is a similar trend for both services that is largely seasonal with a peak in Q3 of each year, but with a slightly larger growth in volumes for SMS sent and voice calls received than for calls made.

1.16 Considering data roaming services, off-net retail prices (prices charged where the home network and foreign host network are not owned by companies within the same group) continue to follow the downward trend noted in previous Reports, from €3.623 in Q1 2009 to

possible but had not been able to meet the 1 July deadline. In such cases, all of operators said that consumers had been or would be compensated for this. Three operators indicated that they used per second billing without a minimum charge for voice calls made'. See http://erg.eu.int/doc/berec/bor_10_12.pdf

€2.668 in Q4 2009. A considerable variation in average price between countries remains, but appears to be getting smaller.

1.17 At the wholesale level, an average cap of €1.00 applies in the EU in accordance with the 2009 Regulation. The EU average price has fallen to €0.554 in Q4 2009 (around 45% lower than the cap), compared with an EU/EEA average of €1.906 in Q1 2009. The non-EU states of the EEA, where the regulated cap did not apply at the time of this data collection, also saw a fall in the average price to around €1.00 per MB.

1.18 This data collection found continued growth in volumes of roaming data services, to around 50% higher in Q4 2009 than Q4 2008. A seasonal peak in Q3 is also visible, although this does not hold true for all countries.

1.19 In response to the data collection, no operators reported circumstances under which traffic steering can lead to consumers paying higher rates for roaming. No significant problems of inadvertent roaming were identified.

Evidence of market forces at work

1.20 For voice roaming services, average EU/EEA prices are near the regulated caps but with a slightly greater gap than we have seen in the past, particularly for unregulated voice services, although there is a significant variation between countries.

1.21 For SMS, the 2009 amended Regulation has brought a significant reduction in the average EU price for regulated and unregulated SMS. For the first six months of regulation, prices were near the caps. BEREC will look closely at the evolution of SMS prices in its next Report, to complete data for a full year under the 2009 Regulation, and in subsequent Reports to provide comparable year-on-year data.

1.22 The picture is different for data roaming, in that the average wholesale and retail charges have fallen significantly between the fourth quarter of 2007 and the fourth quarter of 2009. But BEREC also notes that a sizeable margin remains between the average wholesale and retail prices, the average wholesale price also fell more in both absolute terms and relative terms than the average retail price over the year 2009, and the average retail price is at or above twice the EU average in a few countries.

1.23 In responding to the Commission's 2008 public consultation to inform the amended 2009 Regulation, ERG⁵ identified some arguments to support the proposition that market forces would be stronger for data roaming than had proved to be the case for voice and SMS. Subsequent data collections tend to confirm the validity of this analysis, although it is not clear how effective these forces will be in further reducing prices in future, especially in some countries. In its consultation response, ERG also noted that it would be difficult to assess the extent to which threats of regulatory intervention had stimulated the price cuts.

⁵ http://erg.eu.int/doc/publications/erg_08_35rev1_resp_intern_roaming_cons_080729.pdf

1.24 BEREC will study the trends in wholesale and retail data roaming prices closely in its next Benchmark Reports, in particular to see to what extent lower wholesale prices are passed through to the retail level within a reasonable time period if market forces were working. BEREC will also examine this question in its submission to the Commission's full review of the 2009 Regulation.

Section 2

Introduction

2.1 The European Regulators Group (ERG) was at the forefront of tackling the long-standing issue of high prices for international roaming services. Following its creation in January 2010, the Body of European Regulators in Electronic Communications (BEREC) has taken over responsibility for this work from ERG.

The 2007 Regulation

2.2 In 2005, ERG undertook a study of 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.

2.3 On 8 February 2006, Commissioner Reding announced an intention to regulate international roaming services with a “call for input” on how this might be undertaken⁶. ERG responded⁷ to the Commission’s proposals.

2.4 After significant debate, the first Regulation on international roaming services was published on 29 June 2007. The primary provisions capped wholesale and retail charges 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 2007.

The 2009 amended Regulation

2.5 On 7 May 2008, the Commission launched a public consultation on the functioning of the 2007 Regulation. ERG’s⁸ views expressed in response to the consultation were substantially reflected in the Commission’s legislative proposals,⁹ published on 23 September 2008, to extend the 2007 Regulation in duration and scope.

2.6 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 June 8 2009 the Council of EU Telecoms Ministers formally adopted the new EU roaming rules

⁶http://ec.europa.eu/information_society/activities/roaming/roaming_regulation/first_phase/index_en.htm

⁷http://www.erg.eu.int/doc/whatsnew/erg_response_22_march_2006.pdf and http://www.erg.eu.int/doc/whatsnew/erg_response_11_may_2006.pdf

⁸http://erg.eu.int/doc/publications/erg_08_35rev1_resp_intern_roaming_cons_080729.pdf

⁹http://ec.europa.eu/information_society/activities/roaming/docs/regulation/reg_en.pdf

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 2009¹⁰.

2.7 In particular, the Regulation introduced the following measures from 1 July 2009 to 30 June 2012:

- extended wholesale and retail price regulation for voice, with a yearly decrease in the level of the caps
- price regulation of SMS roaming services at both the wholesale and retail levels
- safeguard price regulation of data roaming services at the wholesale level

And from July 2010 to July 2012:

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

This Report

2.8 This Report is the fifth in a series of reports, previously produced by ERG, providing an overview of international roaming across the EU. This Report covers the period 1 April 2009 – 30 December 2009.

2.9 Individual NRAs are required “...to monitor developments in wholesale and retail charges” for voice roaming services under the 2007 Regulation, and for voice, SMS and data roaming services under the 2009 Regulation (Art. 7(3)). This monitoring is in preparation for the Commission’s interim and full reviews of the functioning of the amended Regulation required by 30 June 2010 and 30 June 2011 respectively, and should also include information on inadvertent roaming and traffic steering (Art.11).

2.10 BEREC believes that the information collected in existing and subsequent reports should provide a sound basis for the Commission’s reviews of the 2009 Regulation, and for any decisions regarding future regulation. In addition, BEREC considers it important to collect and publish a wider range of information than that explicitly set out in Articles 7 and 11 in order to give a better picture of the effect of the Regulation and the state of evolution of the roaming market.

2.11 BEREC has also included data from previous reports for comparison. BEREC considers that the data collected from just before the implementation of the 2007 Regulation for voice and the 2009 Regulation for SMS and wholesale data, can serve as a “benchmark” against which data can be assessed after implementation. However, due to the highly seasonal nature of the roaming market, due care must be taken when comparing different

¹⁰ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:167:0012:0023:EN:PDF>

periods of time; comparing subsequent periods without taking seasonality into account could lead to invalid conclusions.

2.12 While the monitoring obligations are addressed to individual NRAs, ERG and now BEREC considers that it can add value by pursuing the following objectives:

- Simplify 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 is received from a single source and following data processing, which gathers all the information and checks it for inconsistencies
- Coordinate the actions 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. ERG has consulted the market players and the Commission before finalising its data collection templates
- As far as possible, provide 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

2.13 Following publication of previous reports,¹¹ some operators have provided their national NRA with more accurate data for one or more of the previous periods. These updates have been incorporated into the data used in this Report, which may create some inconsistencies with previous reports. In such cases, the data from the most recent report takes precedence. Similarly, it is possible that certain data in this Report might be updated in a subsequent report.

2.14 This Report also includes data for Norway and Iceland, where the 2007 Regulation was in force throughout the collection period, and some data regarding Switzerland (where the Regulations do not apply), collected by the Federal Office of Communications on behalf of the Swiss NRA ComCom.

Methodology for data collection

2.15 ERG first consulted on a draft version of its data questionnaire during September 2007. Following comments received, ERG amended the data questionnaire sent to providers¹², with an accompanying Explanatory Memorandum in October 2007. Information gathered as part of this exercise has been used in the formulation of this Report. Market players and the Commission have been informally consulted on subsequent revisions of the template.

¹¹ http://erg.eu.int/doc/publications/2009/erg_09_01_intern_roaming_rep3_090112.pdf

¹² http://www.erg.eu.int/doc/publications/erg_07_47_rev1_data_model_spec_roaming_reg.xls
http://www.erg.eu.int/doc/publications/erg_07_47_rev1b_data_model_spec_on_roaming_reg_exp_mem.pdf

2.16 The information gathered for this Report covers both retail and wholesale prices and volumes for voice, SMS and data roaming services. In addition, information was gathered on traffic steering and inadvertent roaming. Each NRA aggregated individual provider data to provide a national aggregate to BEREC. Therefore, only national aggregated data appears in this Report.

2.17 Over 135 providers of international roaming services provided information for this Report. These include virtually all of the mobile operators in the EU, as well as a significant number of MVNOs that provide roaming services in the EU. BEREC estimates that this covers around 95% of EU consumers using international roaming services today.

Format of the Report

3.18 The main body of this Report is set out in Section 3 below, which provides an overview of the data gathered to date. Section 4 gives explanations for some “anomalous” results, which in some cases may not be a fair reflection of reality. Annex 1 lists the providers that supplied information to NRAs for inclusion in this Report.

Section 3

Overall data summary

3.1 All EU countries took part in this data gathering exercise; Iceland and Norway also participated, given the extension of the 2007 Regulation to those countries from December 2007. In addition, Switzerland contributed to this data collection, although they have not adopted the 2007 or the 2009 Regulations. A comprehensive range of information was requested by NRAs from their national providers of international roaming services.

3.2 The data presented below represents the results of both the current and previous ERG data collections, and provides an overview of international roaming for the period 1 April 2009 to 31 December 2009, split by calendar quarter.

3.3 For ease of comparison, all retail prices included in the charts below exclude VAT. They are an average of prices paid by post-pay and pre-pay customers, including business users with standard business or consumer tariffs. Prices paid by “special corporate” customers¹³ are not included. All averages are based on billed minutes of voice calls or billed megabytes of data, unless expressly stated otherwise. Tariff plans with no clients were not taken into account, as there will be no volume or revenue associated with these.

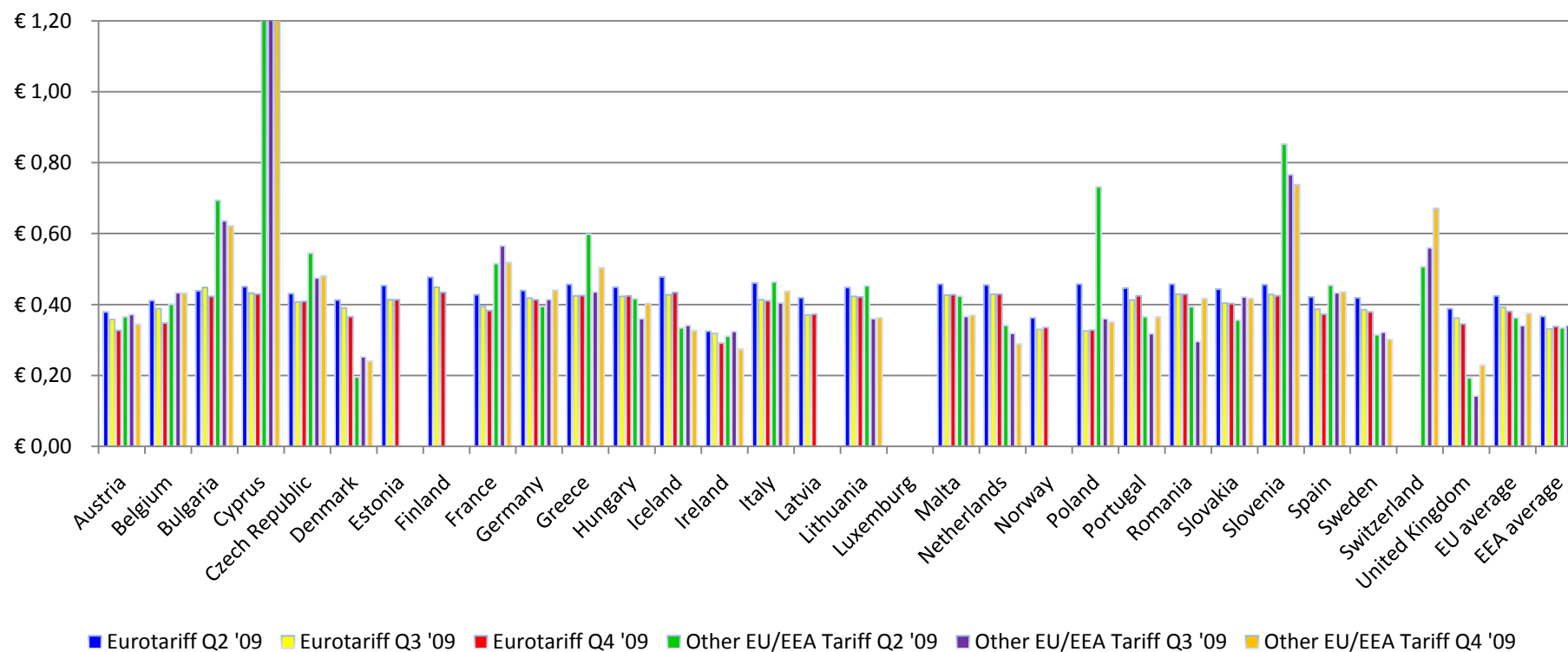
3.4 For data services, a distinction is made between group and non-group at the wholesale level and on-net and off-net at the retail level. 'Group' means the data pertains to traffic between entities within the same group where such entities are fully-owned or majority-owned by the group. 'Non-group' traffic is that which does not fall under the group definition. At the retail level, 'on-net' traffic concerns traffic that would be qualified as group traffic at the wholesale level and 'off-net' traffic is the retail equivalent of non-group traffic.

3.5 In order to show the impact of the 2009 amended Roaming Regulation, which had entered into force in the EU but not the EEA at the time of this data collection, this Report contains separate averages for the EU and the EEA. In some figures, only EU averages are shown for the period 1 April 2009 to 31 December 2009. Where this is the case an * at the end of the title notes this distinction.

¹³ This means undertakings that have negotiated a bespoke tariff for international roaming that is not available to individual customers.

Retail voice

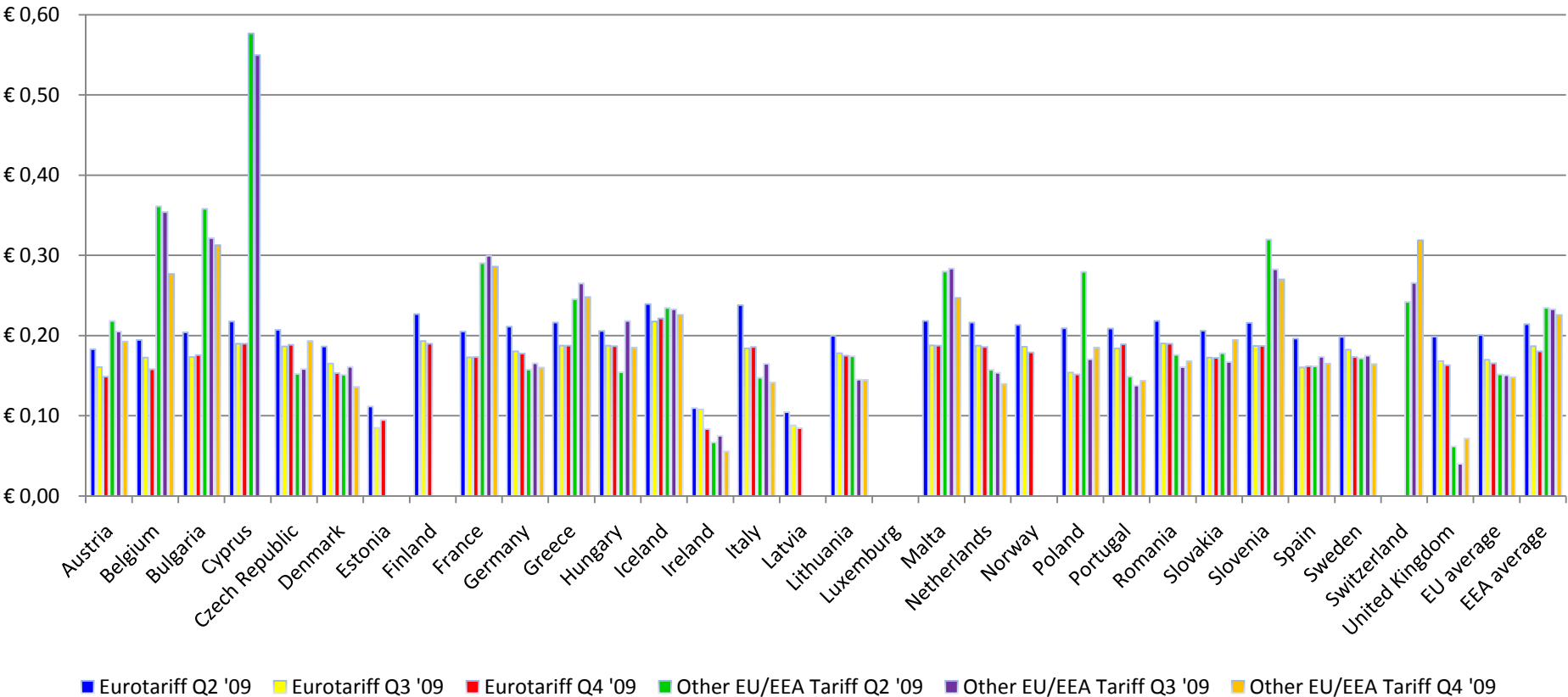
Figure 1: Average retail price per minute voice call made for all consumers (excluding special corporate): Eurotariff and other EU/EEA tariffs (based on billed minutes)



EU average: Eurotariff Q2 2009 = € 0.425; Eurotariff Q3 2009 = € 0.393; Eurotariff Q4 2009 = € 0.381; Other EU/EEA tariffs Q2 2009 = € 0.363; Other EU/EEA tariffs Q3 2009 = € 0.341; Other EU/EEA tariffs Q4 2009 = € 0.374.

Figure 1 indicates that for calls made, the EU average Eurotariff was 4 - 5 cents below the cap of €0.43 in force from Q3 2009. The EU average price for other EU/EEA tariffs was 5 - 6 cents lower than the EU average Eurotariff in Q2 and Q3 2009 (peak travel season), before the gap narrowed to 1 cent in Q4 2009.

Figure 2: Average retail price per minute voice call received for all consumers (excluding special corporate): Eurotariff and other EU/EEA tariffs (based on billed minutes)



EU average: Eurotariff Q2 2009 = € 0.201; Eurotariff Q3 2009 = € 0.170; Eurotariff Q4 2009 = € 0.165; Other EU/EEA tariffs Q2 2009 = € 0.152; Other EU/EEA tariffs Q3 2009 = € 0.151; Other EU/EEA tariffs Q4 2009 = € 0.148.

Figure 2 indicates that for calls received, the EU average Eurotariff was below the regulated cap of €0.19 in force from Q3 2009. The EU average price for other EU/EEA tariffs was around 5 cents lower than the EU average Eurotariff in Q2 2009, with the gap narrowing to around 2 cents in Q3 and Q4 2009, and considerable variation in average price by country.

**Figure 3: EU/EEA average prices per minute for retail voice calls made
(based on billed minutes)
(EU only for Q2, Q3 and Q4 2009)***

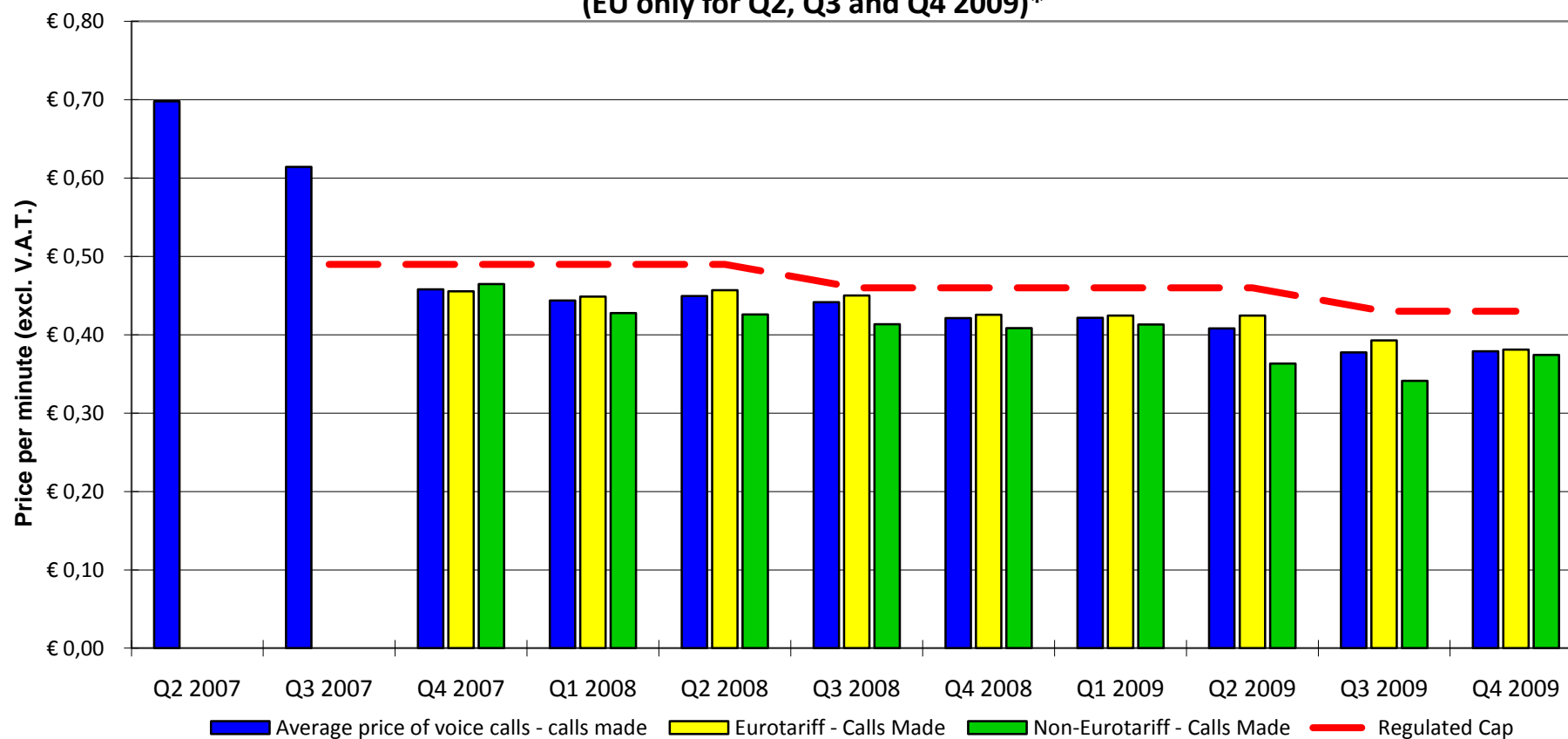


Figure 3 demonstrates how the average price for calls made has come down since introduction of the Regulation in Q3 2007 and that both Eurotariff and non-Eurotariff averages are below the Eurotariff cap. Comparing the same quarters year on year, the difference between the average EU price for the Eurotariff and for other EU/EEA tariffs for calls made is greatest in Q2 and Q3, the peak travel season, and narrows in Q4 and Q1.

* See paragraph 4.7

**Figure 4: EU/EEA average prices per minute for retail voice calls received
(based on billed minutes)
(EU only for Q2, Q3 and Q4 2009)***

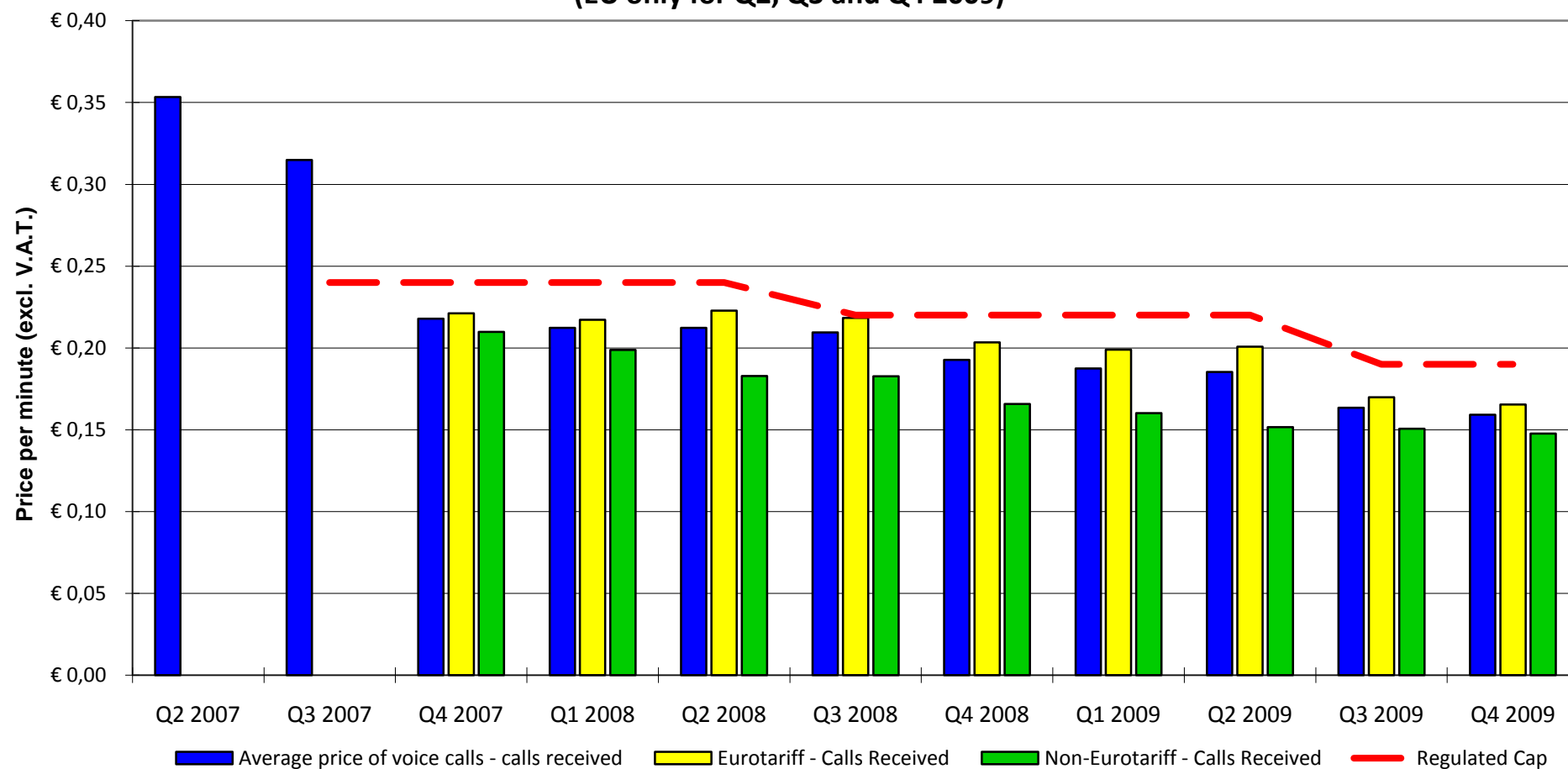
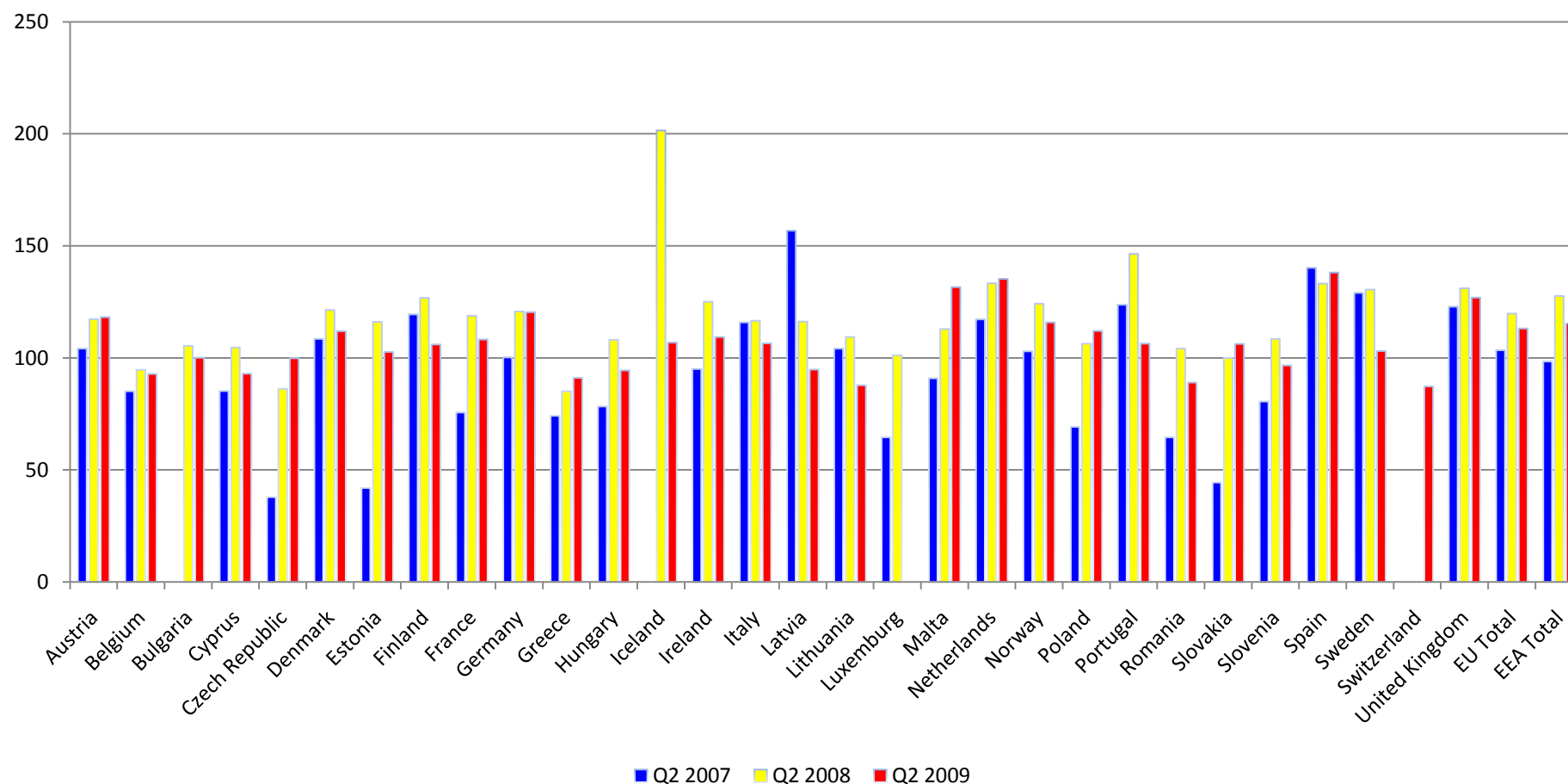


Figure 4 is similar to Figure 3, but now for calls received. Similar to figure 2 it appears that for calls received, average prices for other EU/EEA tariffs are consistently lower than average Eurotariff prices.

* See paragraph 4.7

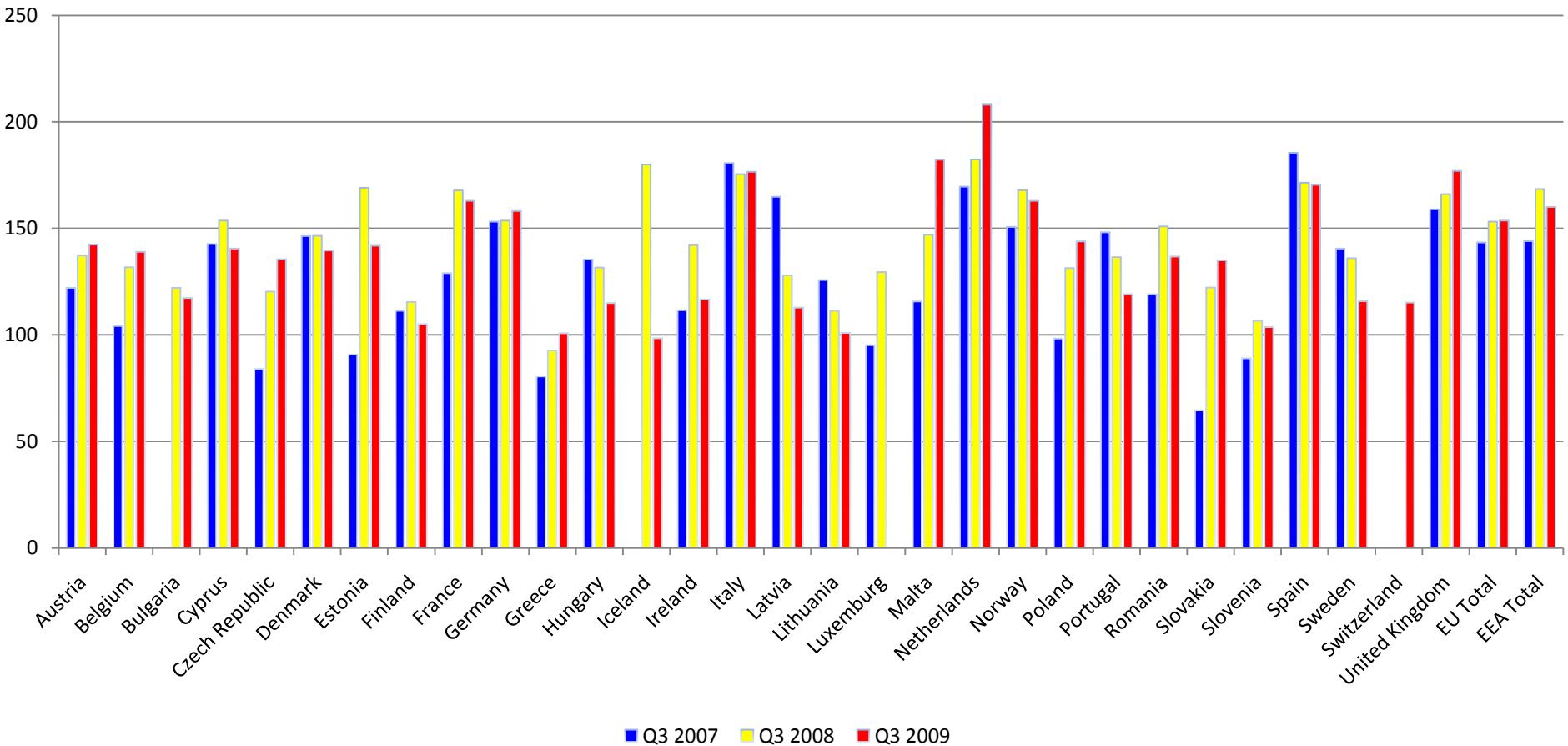
Figure 5a: Volumes of EU/EEA calls made (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q2 2007 = 103.4; Q2 2008 = 119.8; Q2 2009 = 113.1.

Figure 5a illustrates the year on year trend for calls made during Q2 for 2007, 2008 and 2009.

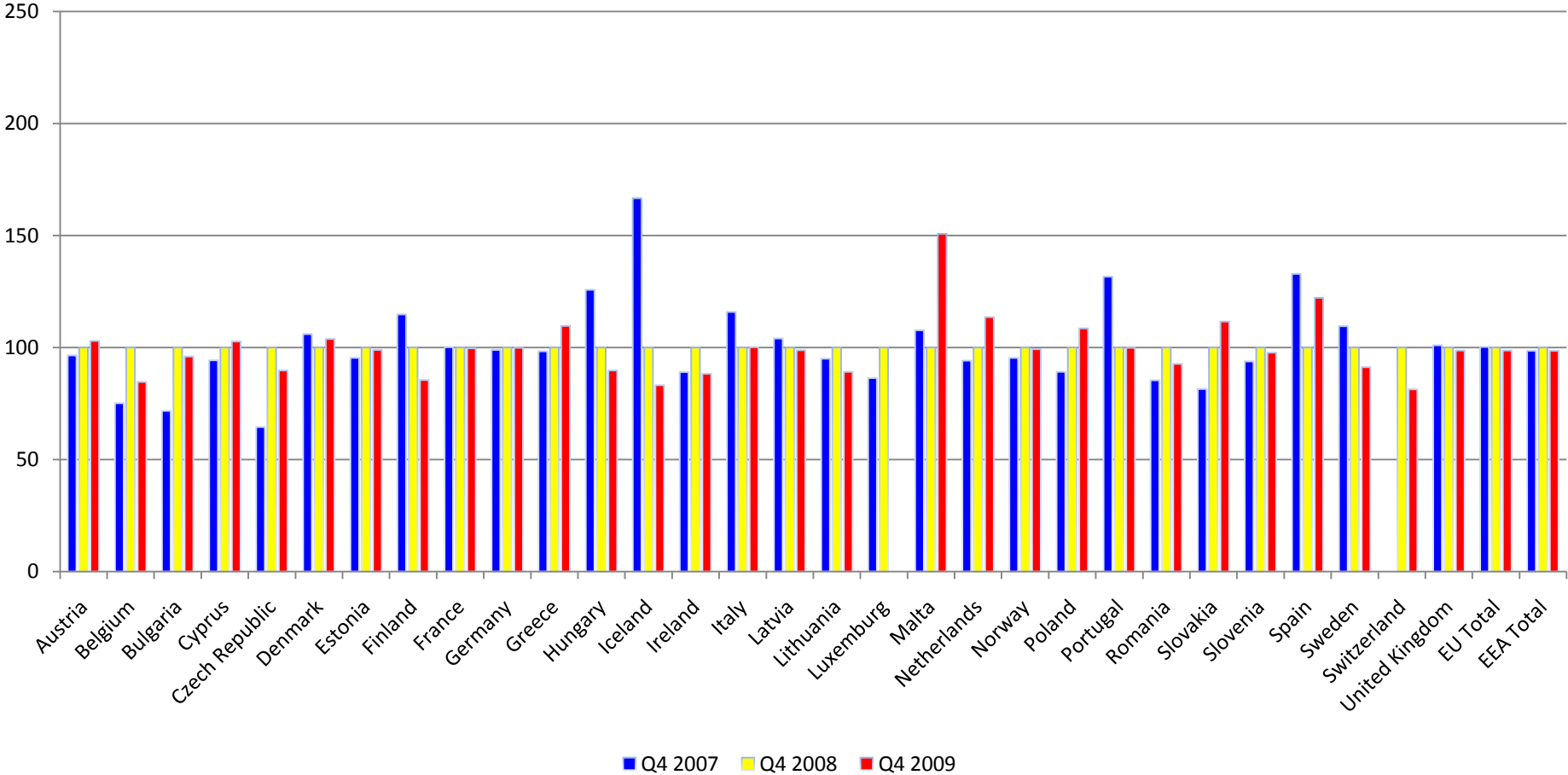
Figure 5b: Volumes of EU/EEA calls made (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q3 2007 = 143.4; Q3 2008 = 153.1; Q3 2009 = 153.7.

Figure 5b illustrates the year on year trend for calls made during Q3 for 2007, 2008 and 2009. When compared with figures 5a and 5c, this clearly shows the seasonal peak during Q3.

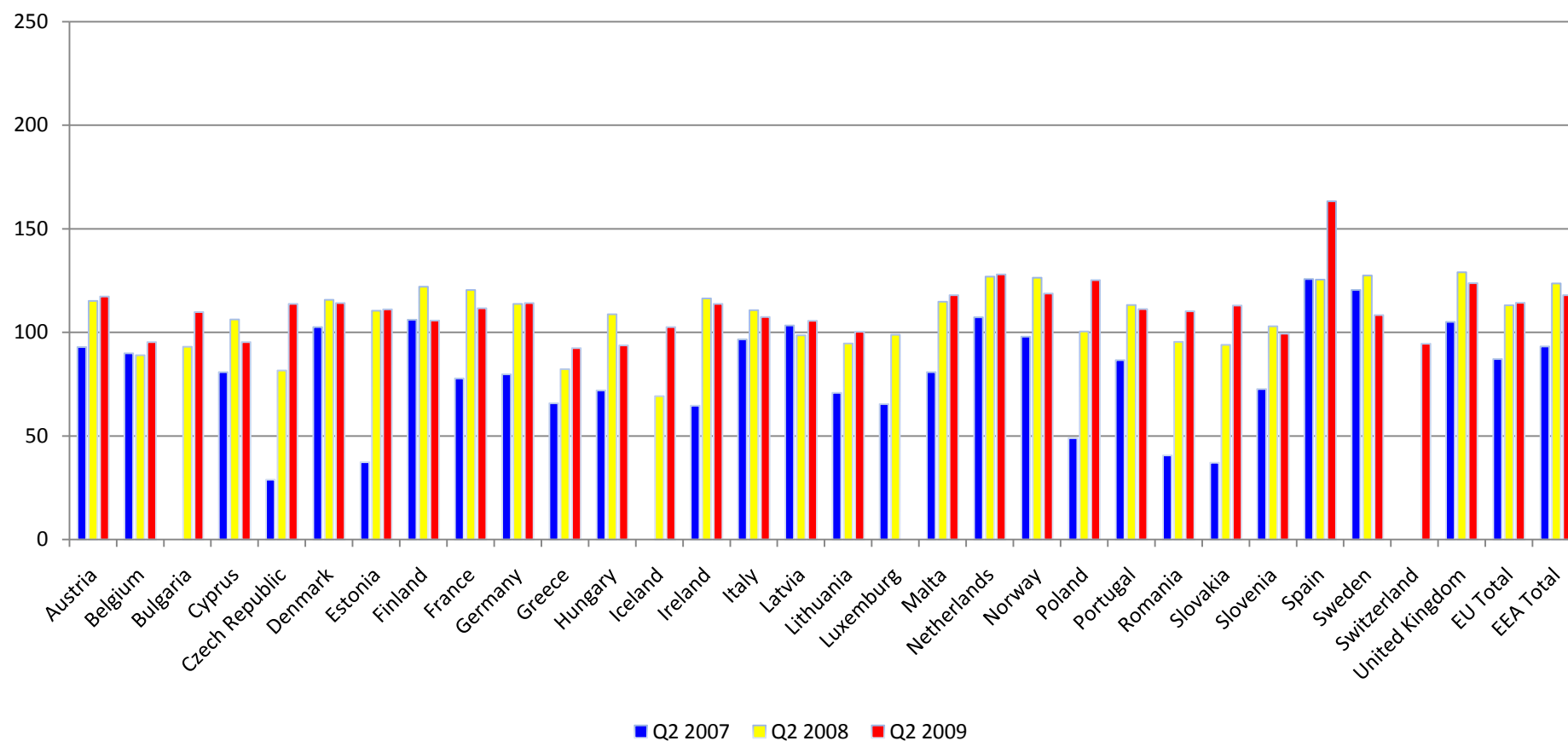
Figure 5c: Volumes of EU/EEA calls made (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q4 2007 = 100.3; Q4 2008 = 100; Q4 2009 = 98.7.

Figure 5c illustrates the year on year trend for calls made during Q4 for 2007, 2008 and 2009.

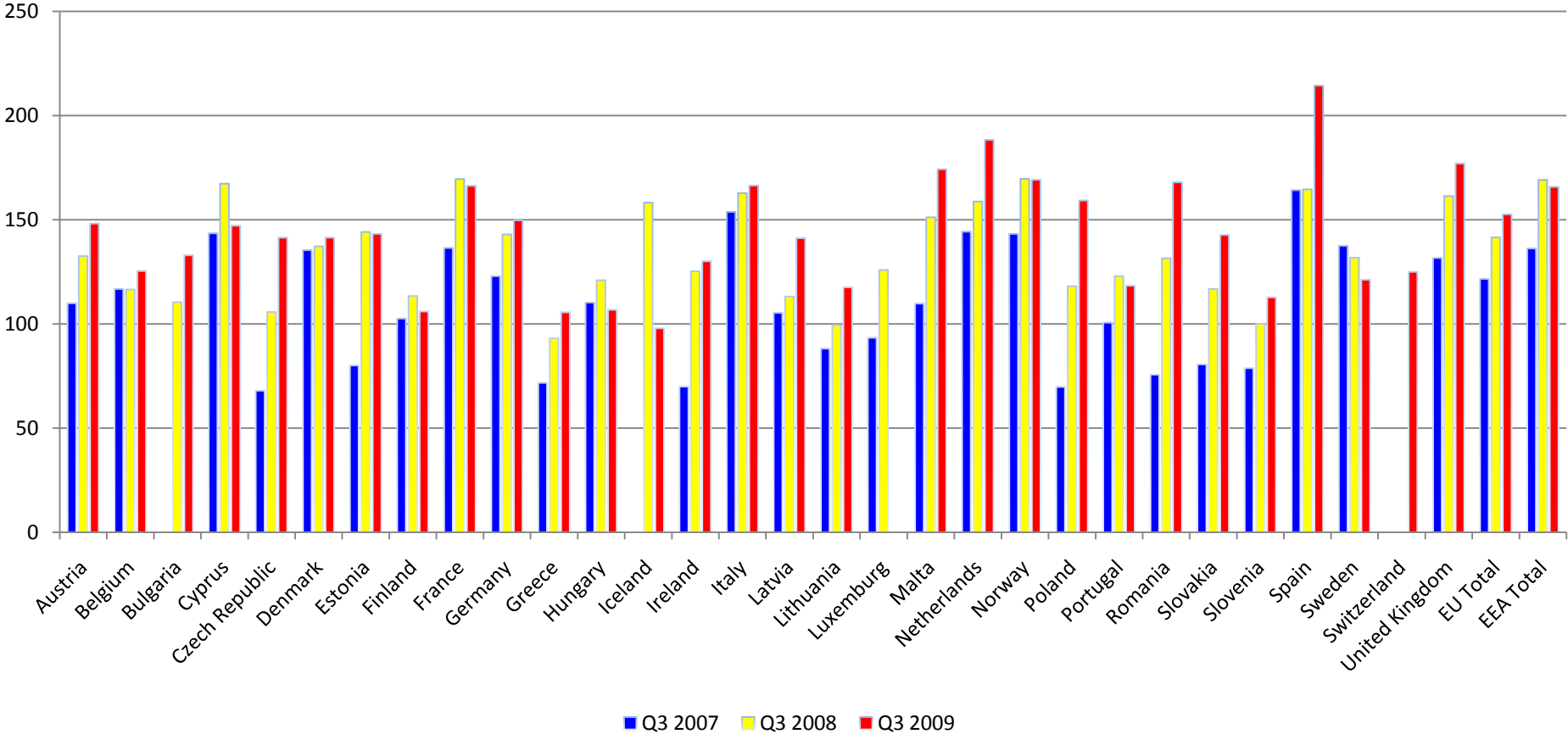
Figure 6a: Volumes of EU/EEA calls received (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q2 2007 = 87.1; Q2 2008 = 113.0; Q2 2009 = 114.2.

Figure 6a illustrates the year on year trend for calls received during Q2 for 2007, 2008 and 2009. The data suggests that volumes have increased in the course of the three years for most countries.

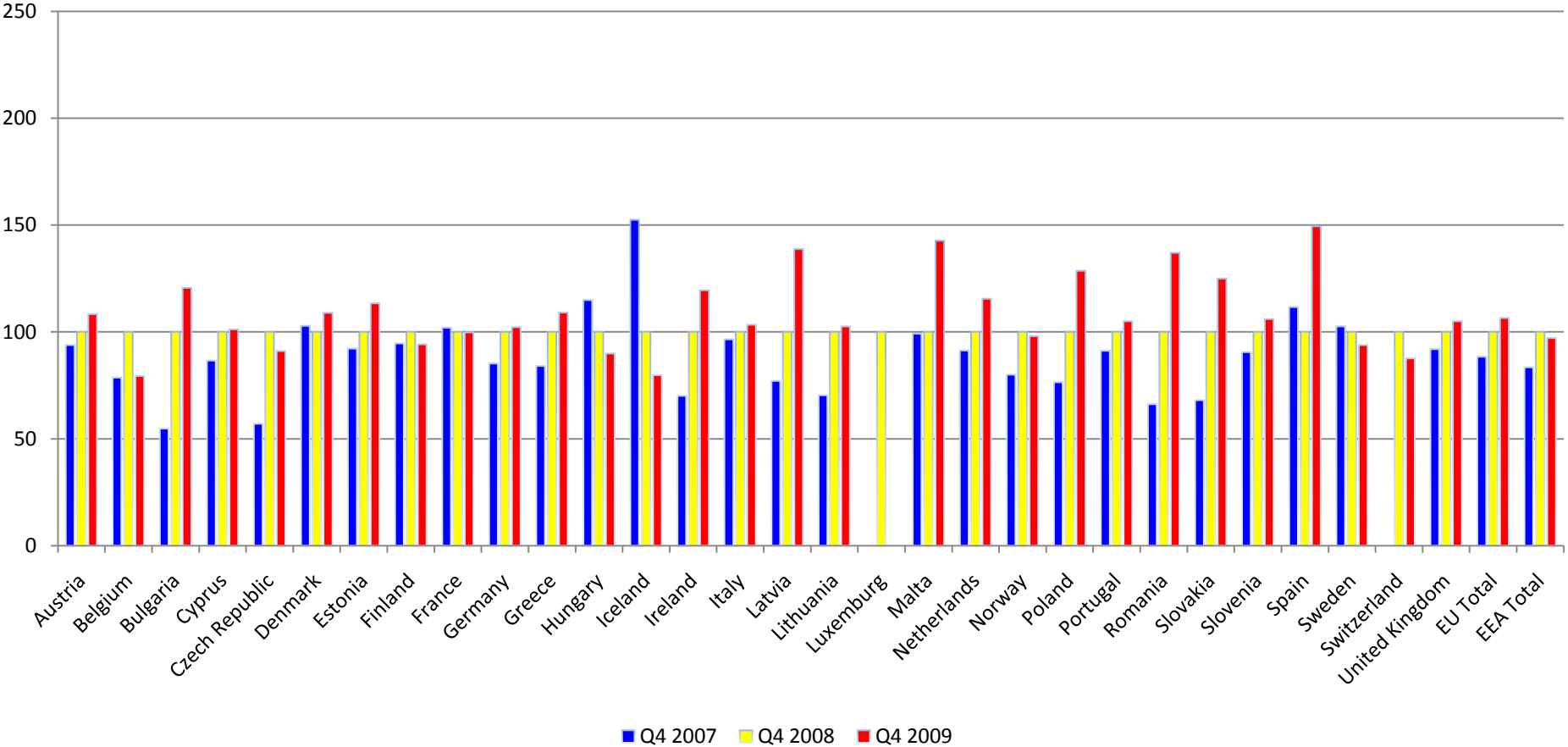
Figure 6b: Volumes of EU/EEA calls received (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q3 2007 = 121.5; Q3 2008 = 141.5; Q3 2009 = 152.5.

Figure 6b illustrates the year on year trend for calls received during Q3 for 2007, 2008 and 2009. As with figure 5b, this figure shows the seasonal peak. In addition there appears to be a trend towards increasing volumes in the peak holiday season for most countries.

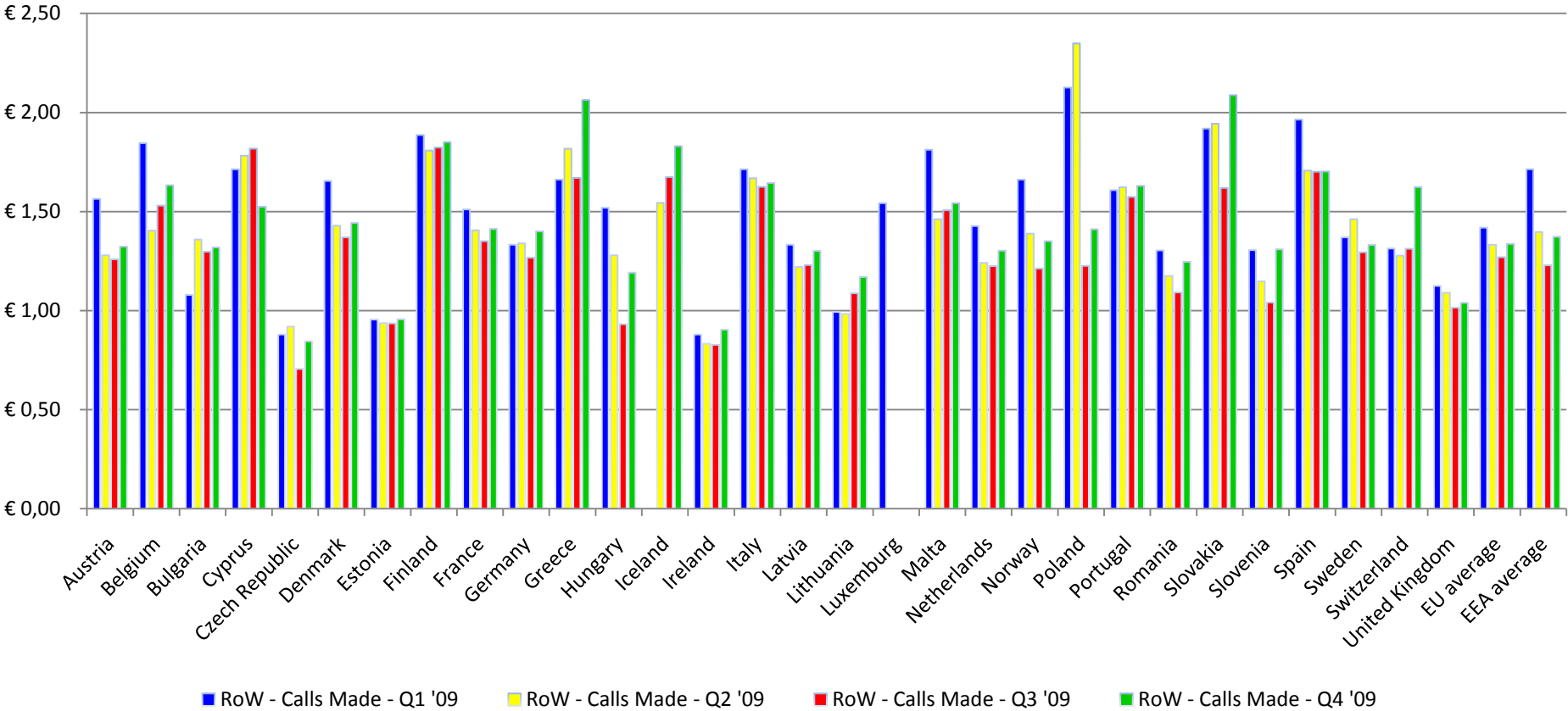
Figure 6c: Volumes of EU/EEA calls received (all consumers excluding special corporate)
(Actual minutes, Q4 2008 = 100)



EU average: Q4 2007 = 88.3; Q4 2008 = 100; Q4 2009 = 106.6.

Figure 6c illustrates the year on year trend for calls received during Q4 for 2007, 2008 and 2009. Similar to 6a and 6b, there appears a trend of increasing volumes for most countries.

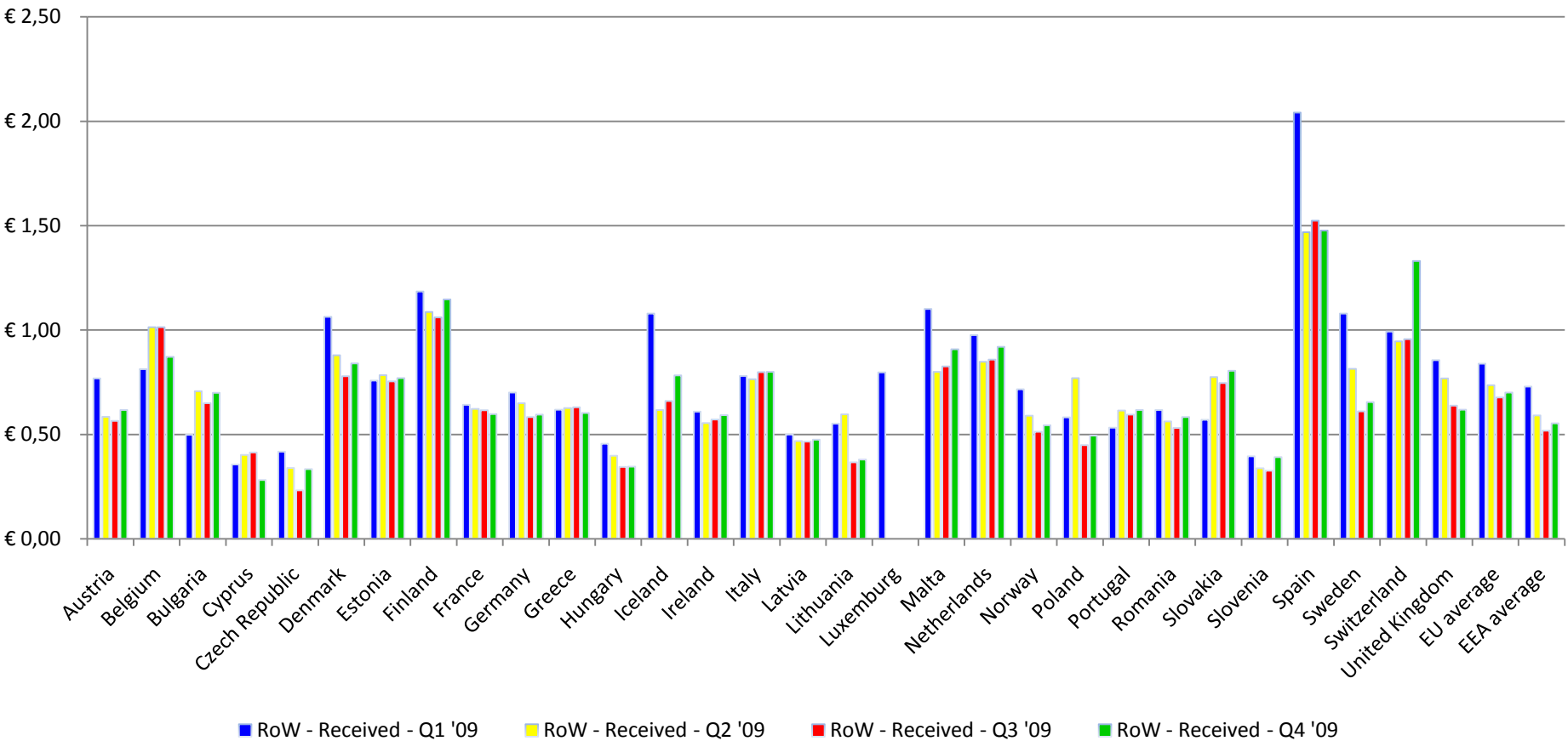
Figure 7: Average retail price per minute voice call made for all consumers (excluding special corporate): Rest of World tariffs (based on billed minutes)



EU average: Q1 2009 = € 1.419; Q2 2009 = € 1.332; Q3 2009 = € 1.270; Q4 2009 = € 1.337.

Figure 7 gives an overview of developments in average prices for making calls from the EU/EEA to non-EU/EEA countries, from non-EU/EEA countries to the EU/EEA, or between non-EU/EEA countries. There does not appear to be a clear discernable trend. BEREC considers fluctuations in average prices by country are likely to be influenced by seasonal effects.

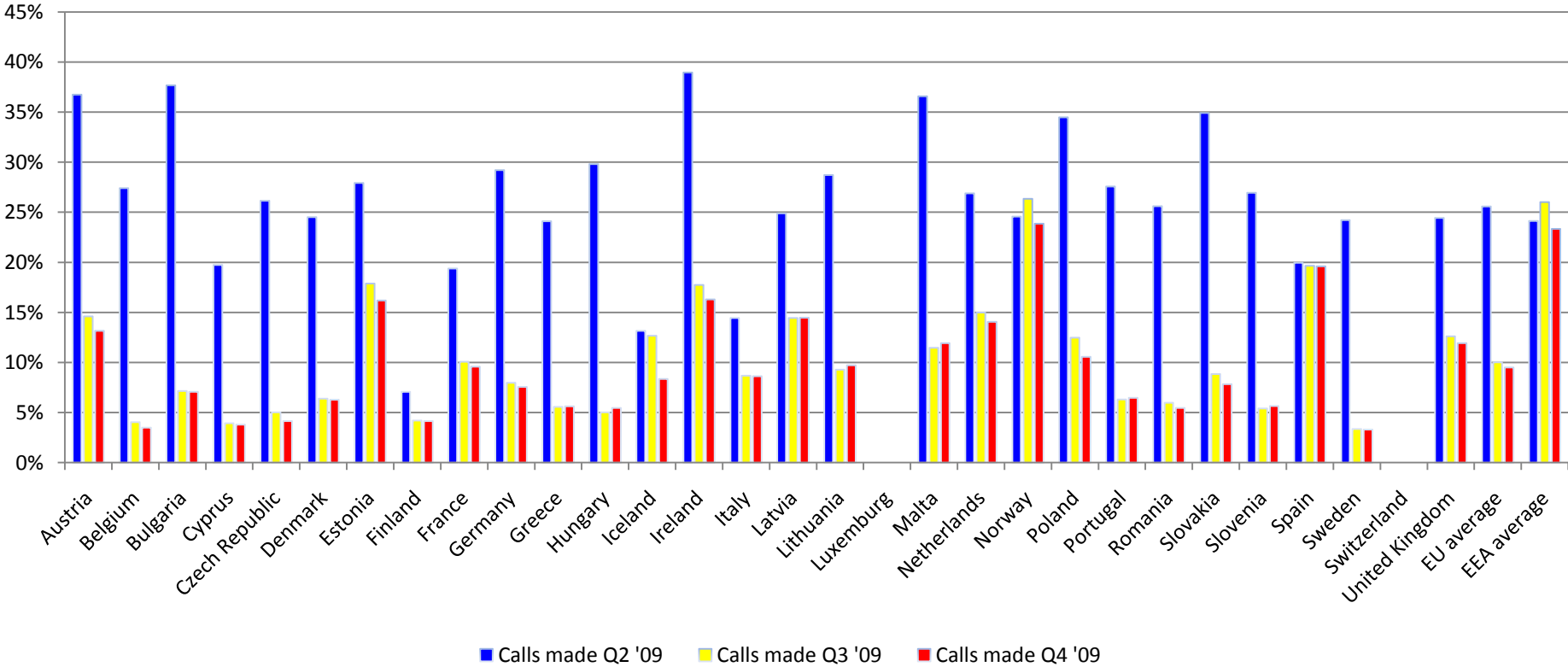
Figure 8: Average retail price per minute voice call received for all consumers (excluding special corporate): Rest of World tariffs (based on billed minutes)



EU average: Q1 2009 = € 0.838; Q2 2009 = € 0.736; Q3 2009 = € 0.678; Q4 2009 = € 0.701.

Figure 8 shows a similar picture to Figure 7, calls received in non-EU/EEA countries and originating inside or outside the EU/EEA. Again, there is no obvious trend.

Figure 9: Surcharge as a result of billed minutes for voice calls made for all consumers (excluding special corporate): Eurotariff

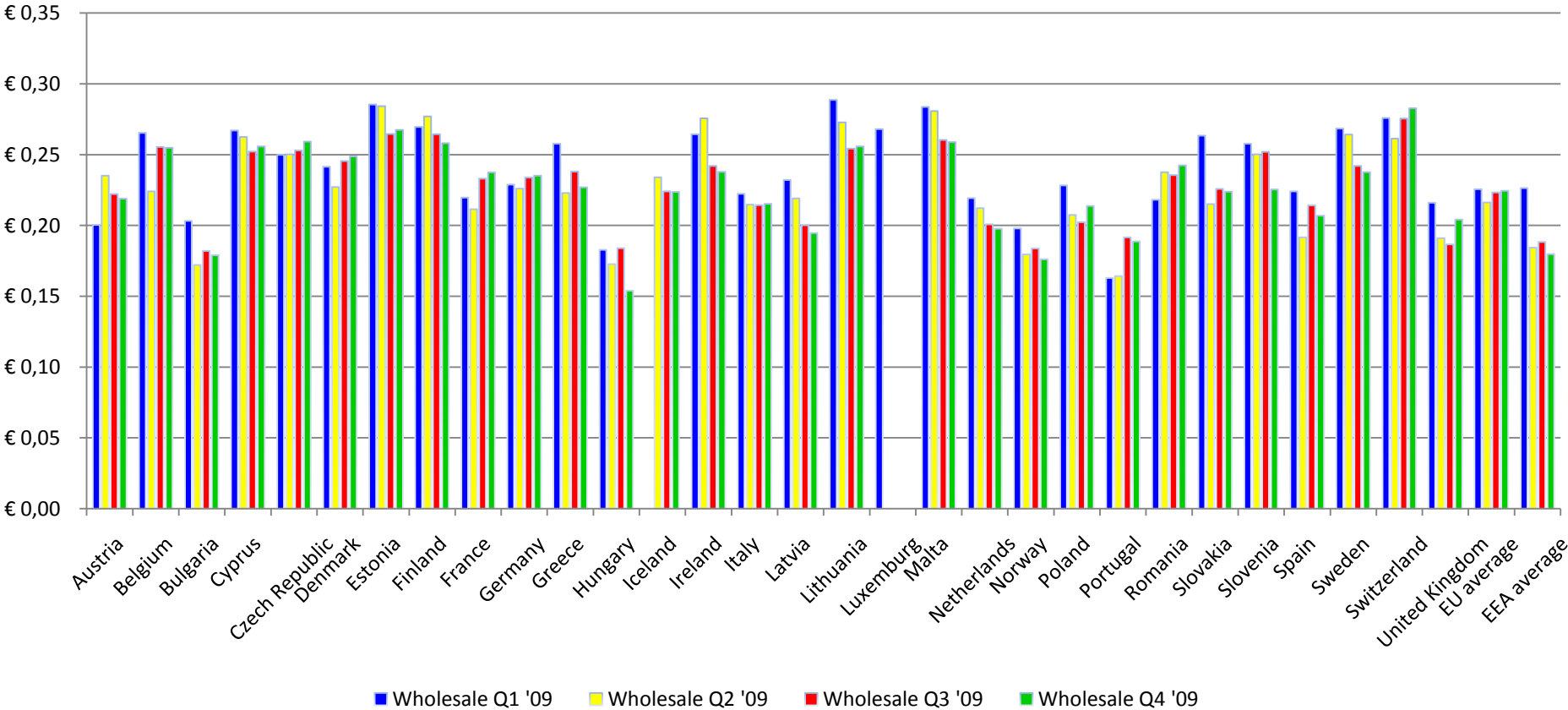


EU average: Calls made Q2 2009 = 25.6%; Calls made Q3 2009 = 10.0%; Calls made Q4 2009 = 9.5%.

Figure 9 illustrates the effects of billing unitisation, whereby the average price calculated on the basis of billed minutes is lower than that calculated on the basis of actual minutes. The effect of the amended Regulation is quite pronounced, and in line with the intentions behind it. As the Regulation requires a 0% surcharge for Eurotariff calls received, this has not been included in the figure.

Wholesale voice

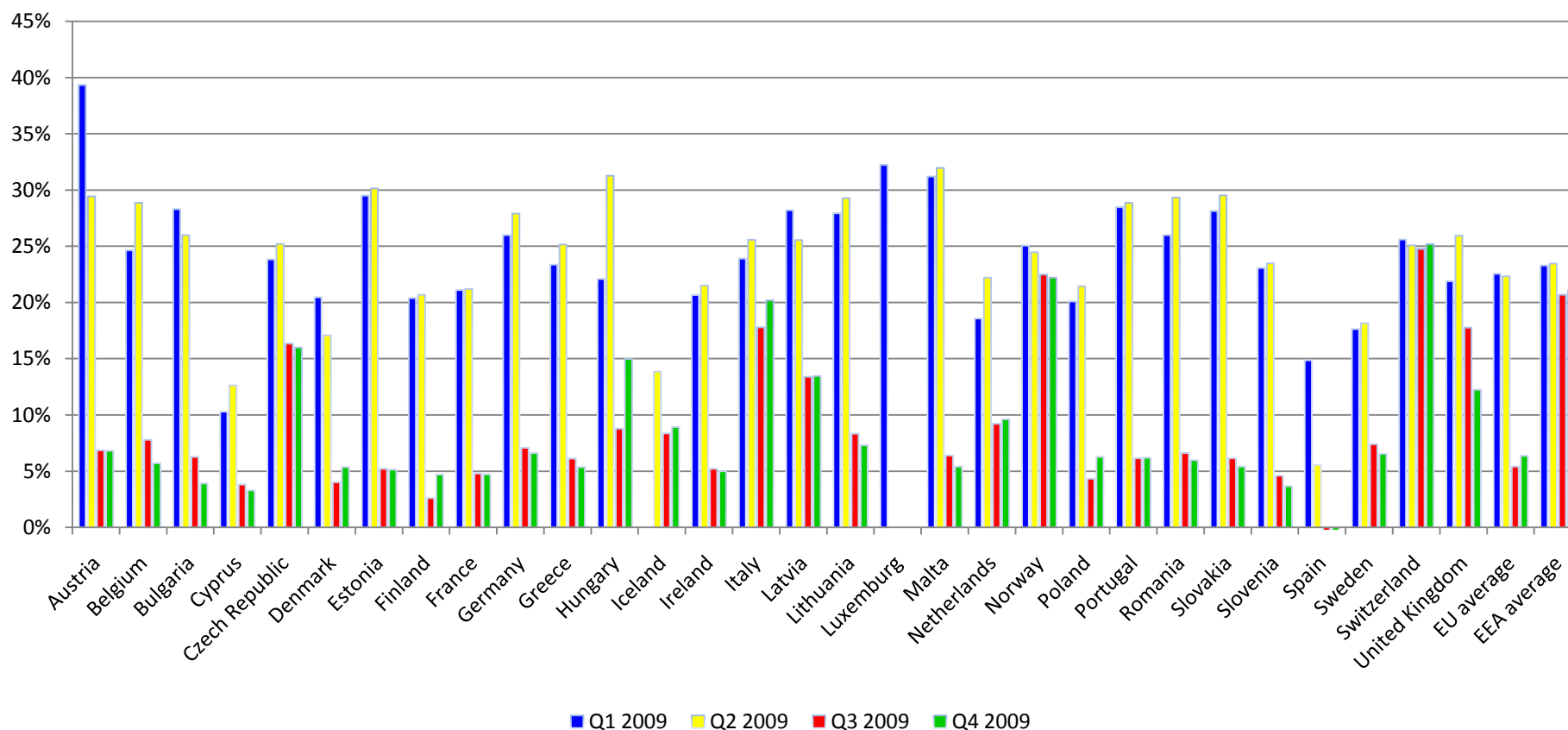
**Figure 10: Average wholesale price per minute voice call: EU/EEA, non-group companies
(based on billed minutes)**



EU average: Q1 2009 = € 0.226; Q2 2009 = € 0.216; Q3 2009 = € 0.223; Q4 2009 = € 0.224.

Figure 10 illustrates average prices for voice minutes at the wholesale level. All averages are below the regulated wholesale price cap.

**Figure 11: Surcharge as a result of billed minutes for wholesale voice calls
(EU/EEA, non-group companies)**



EU average: Q1 2009 = 22.6%; Q2 2009 = 22.3%; Q3 2009 = 5.4%; Q4 2009 = 6.4%.

Figure 11 illustrates the effects of billing unitisation at the wholesale level. Similar to figure 9 for the retail level, there is a noticeable trend towards a much lower surcharge in EU countries, due to the 2009 amended Regulation.

**Figure 12: EU/EEA averages prices per minute for wholesale non-group voice calls
(based on billed minutes)
(EU only for Q2, Q3 and Q4 2009)***

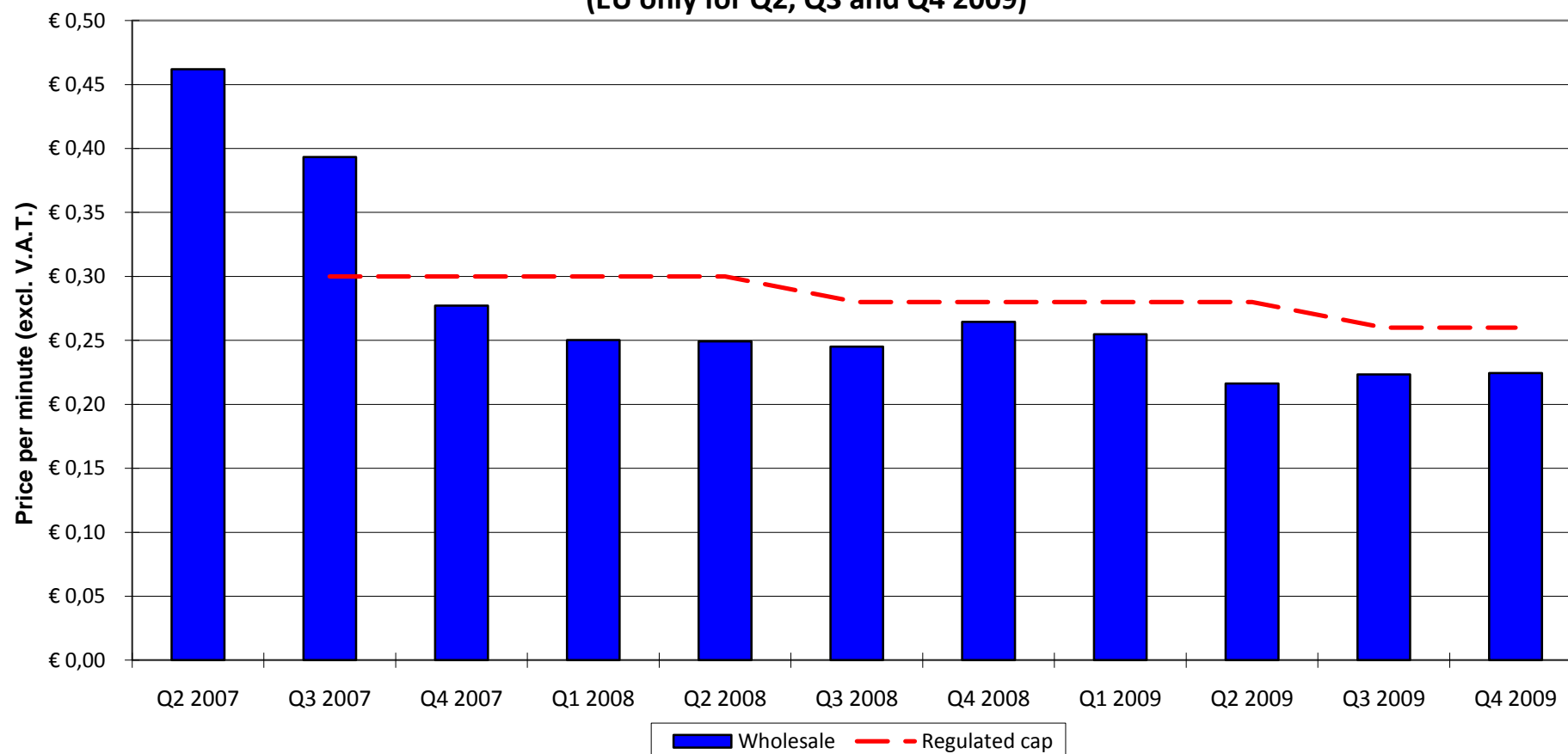
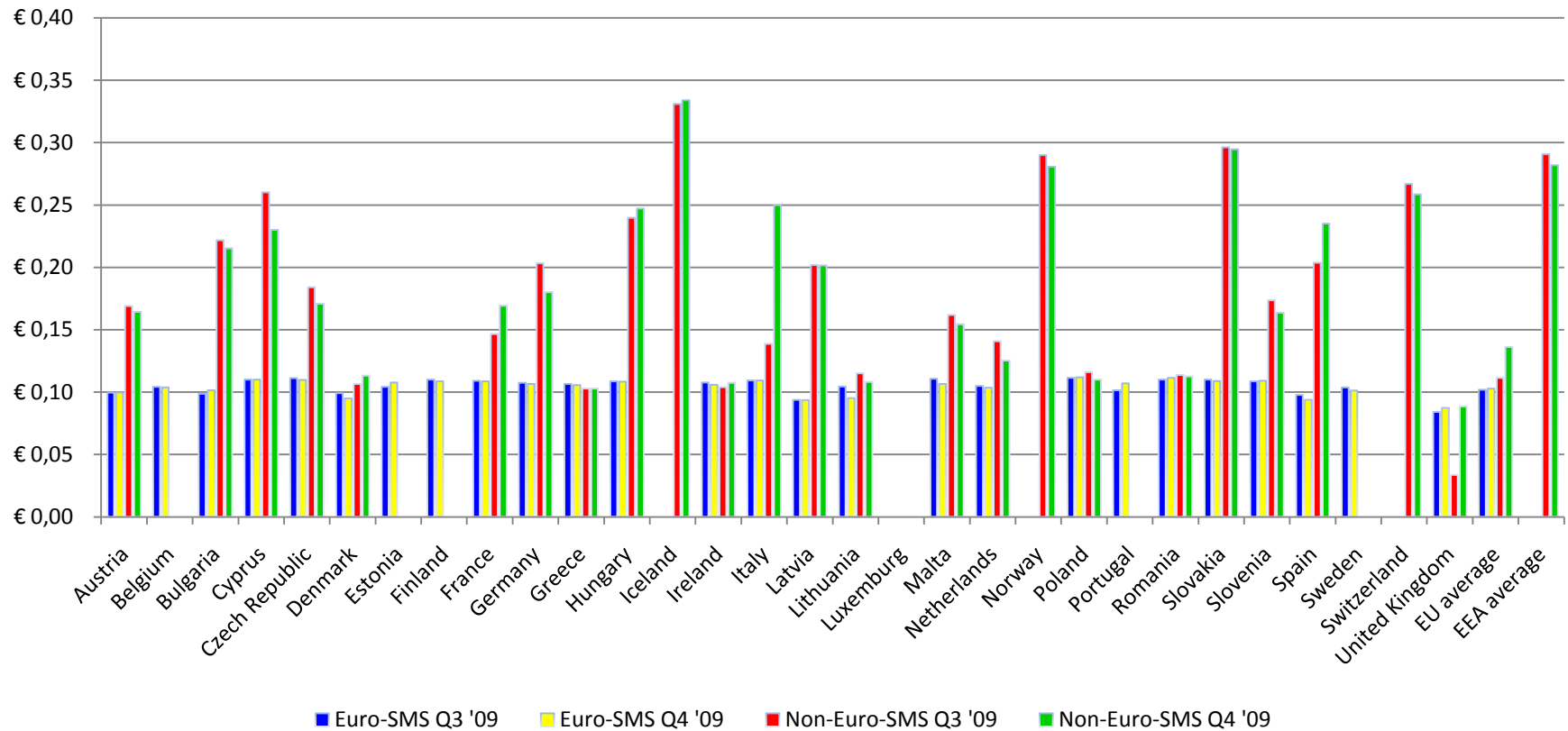


Figure 12 illustrates the EU/EEA average price at the wholesale level from Q2 2007 until Q4 2009 (with the EU-only average for Q2, Q3 and Q4 2009). It illustrates the clear drop in the average soon after the implementation of the 2007 Regulation. Since then, the average wholesale price has been below the regulated cap with a varying margin.

* See paragraph 4.7

Retail SMS

Figure 13: Average price for Euro-SMS and Non-Euro-SMS



EU average: Euro-SMS Q3 2009 = € 0.102; Euro-SMS Q4 2009 = € 0.103; Non-Euro-SMS Q3 2009 = € 0.111; Non-Euro-SMS Q4 2009 = € 0.136.

Figure 13 shows the difference in average price for a regulated Euro-SMS and the price for SMS messages as part of an alternative tariff, where the Euro-SMS appears to be the better deal in most EU countries (See para. 4.13 on definition issues with respect to Euro-SMS).

**Figure 14: EU/EEA average price per retail SMS
(EU only for Q2, Q3 and Q4 2009)***

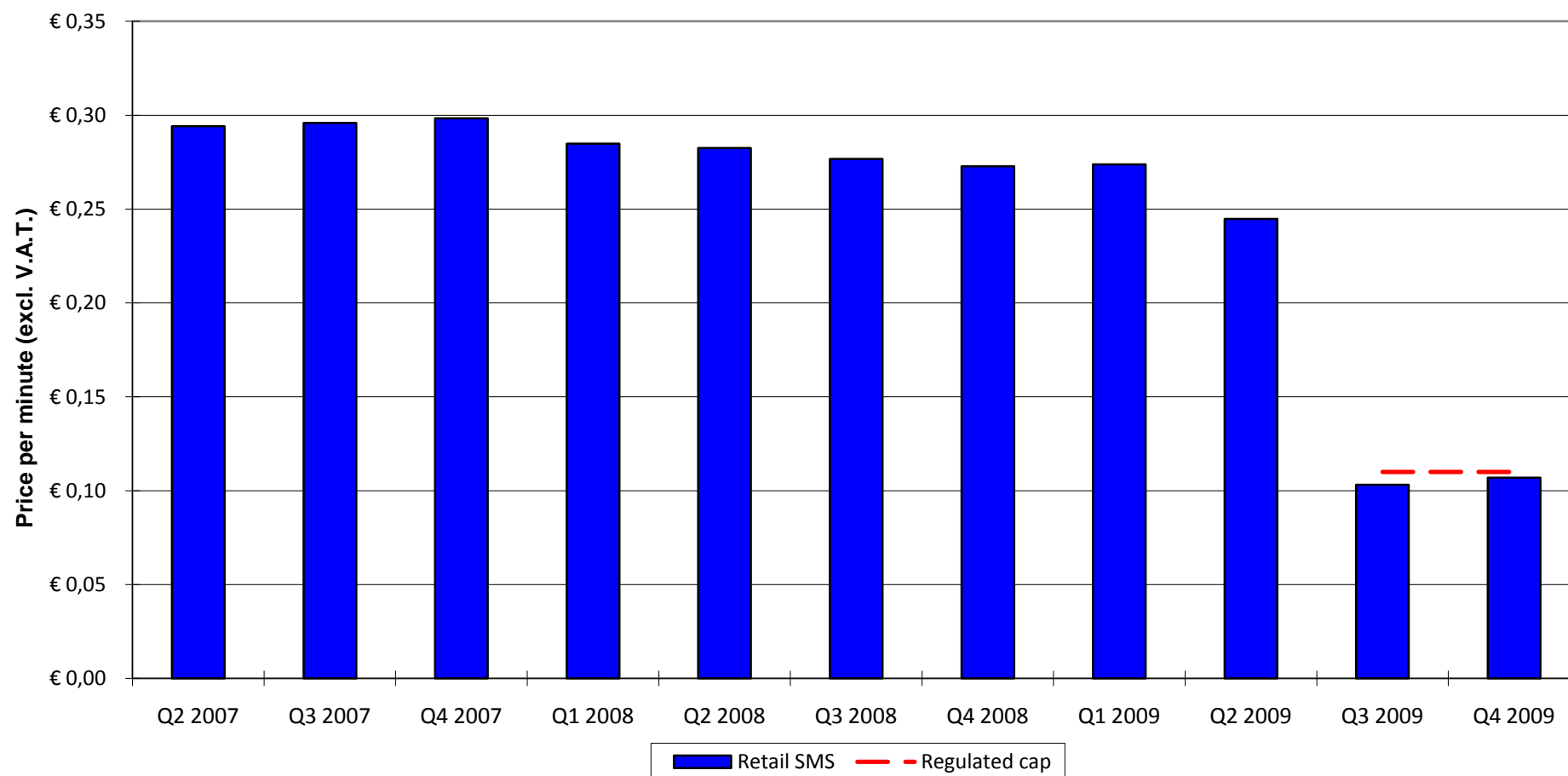
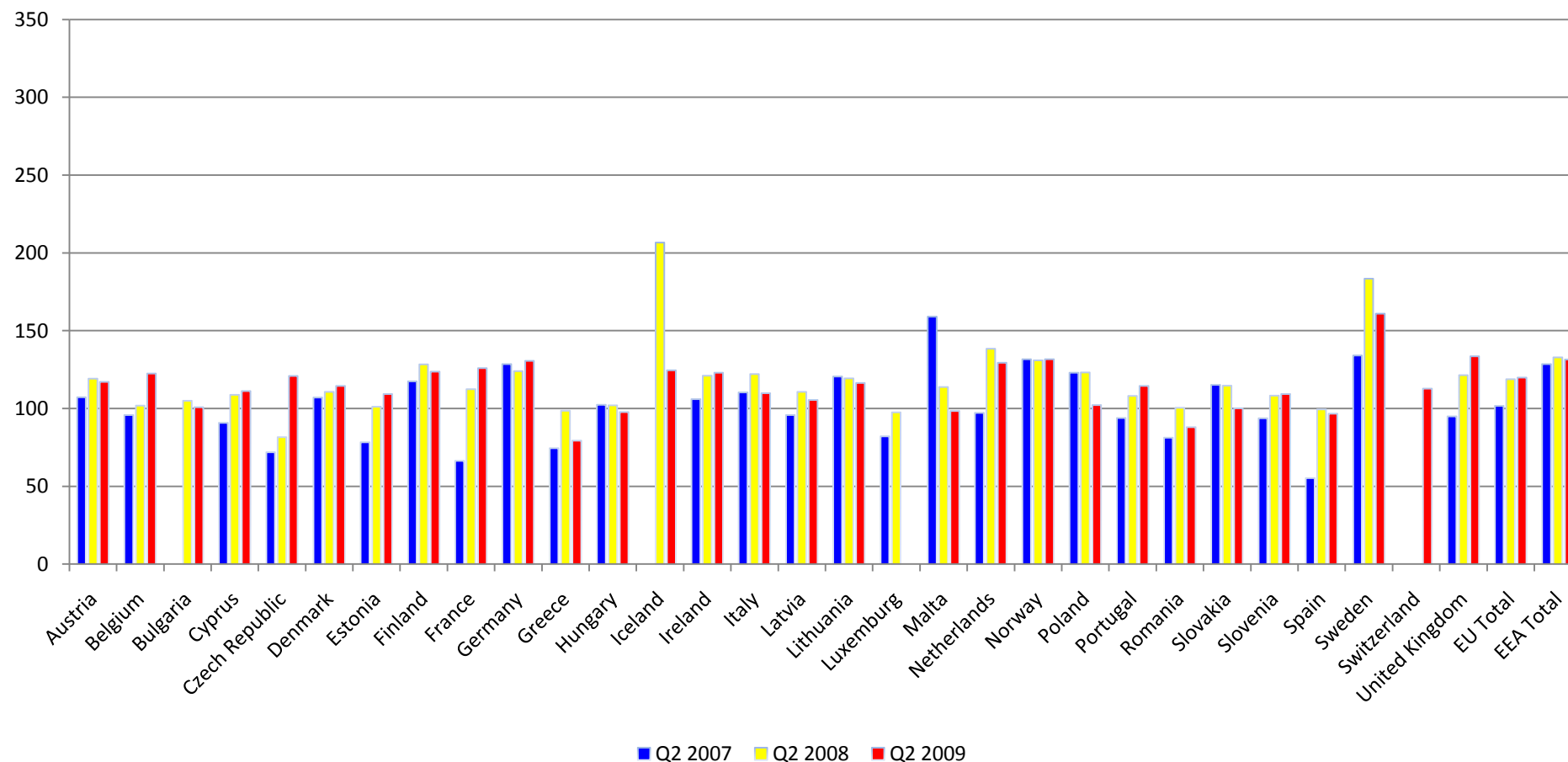


Figure 14 gives an overview of the EU/EEA average price for SMS messages (with the EU-only average for Q2, Q3 and Q4 2009), and the subsequent introduction of the regulated Euro-SMS in Q3 2009.

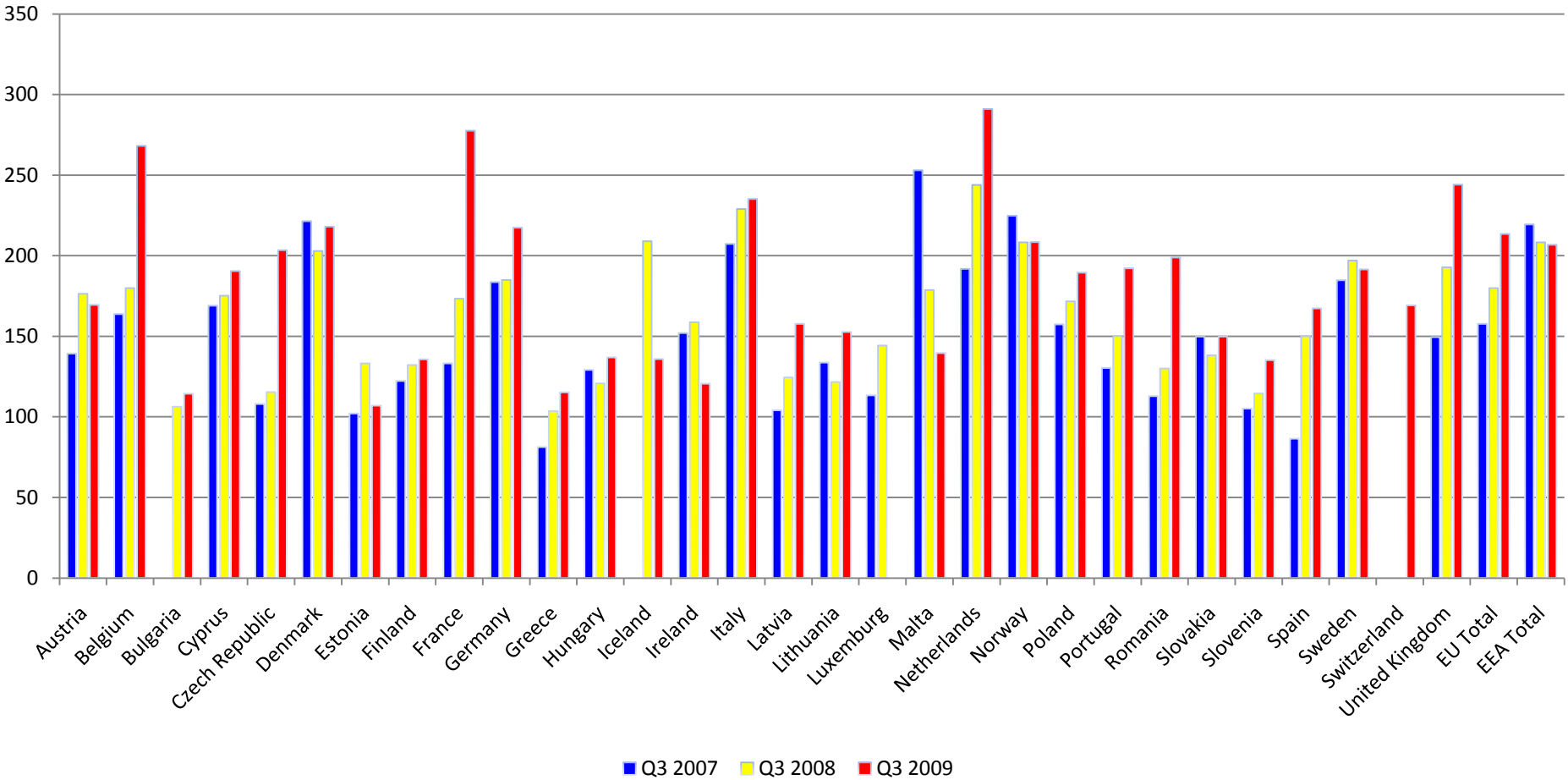
* See paragraph 4.7

Figure 15a: Volumes of retail EU/EEA SMS sent (Q4 2008 = 100)

EU average: Q2 2007 = 101.8; Q2 2008 = 118.9; Q2 2009 = 119.9.

Figure 15a shows the development of SMS volumes for Q2 2007, 2008 and 2009. Similar to figures 5 and 6 for voice, there appears to be an increase in volumes for most countries.

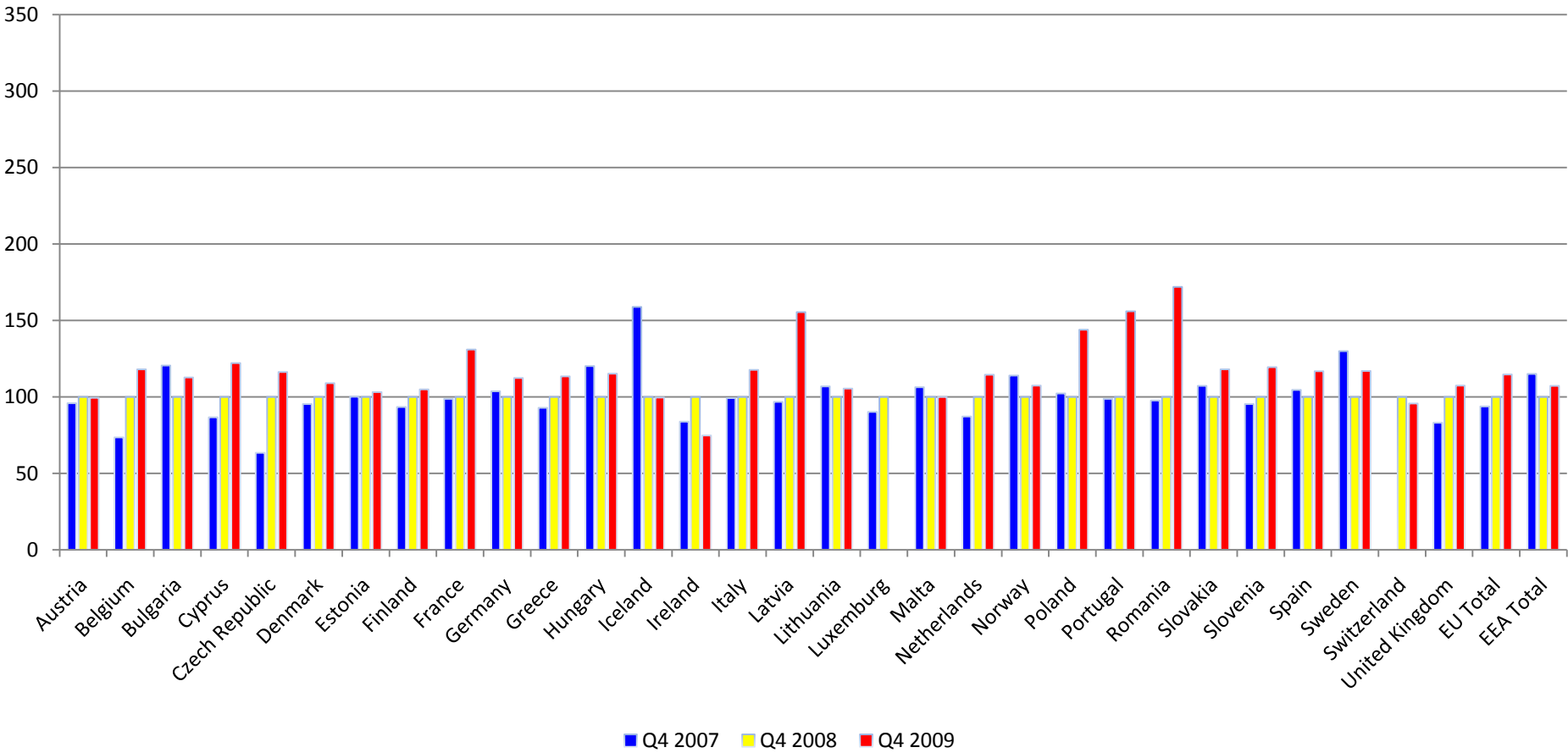
Figure 15b: Volumes of retail EU/EEA SMS sent (Q4 2008 = 100)



EU average: Q3 2007 = 157.6; Q3 2008 = 179.8; Q3 2009 = 213.5.

Figure 15b shows the development of SMS volumes for Q3 2007, 2008 and 2009. When compared with 15a and 15c, there is a clear seasonal peak during Q3 of each year.

Figure 15c: Volumes of retail EU/EEA SMS sent (Q4 2008 = 100)



EU average: Q4 2007 = 93.7; Q4 2008 = 100; Q4 2009 = 114.6.

Figure 15c shows the development of SMS volumes for Q4 2007, 2008 and 2009. Most countries show an increase in volumes from Q4 2007 to Q4 2009.

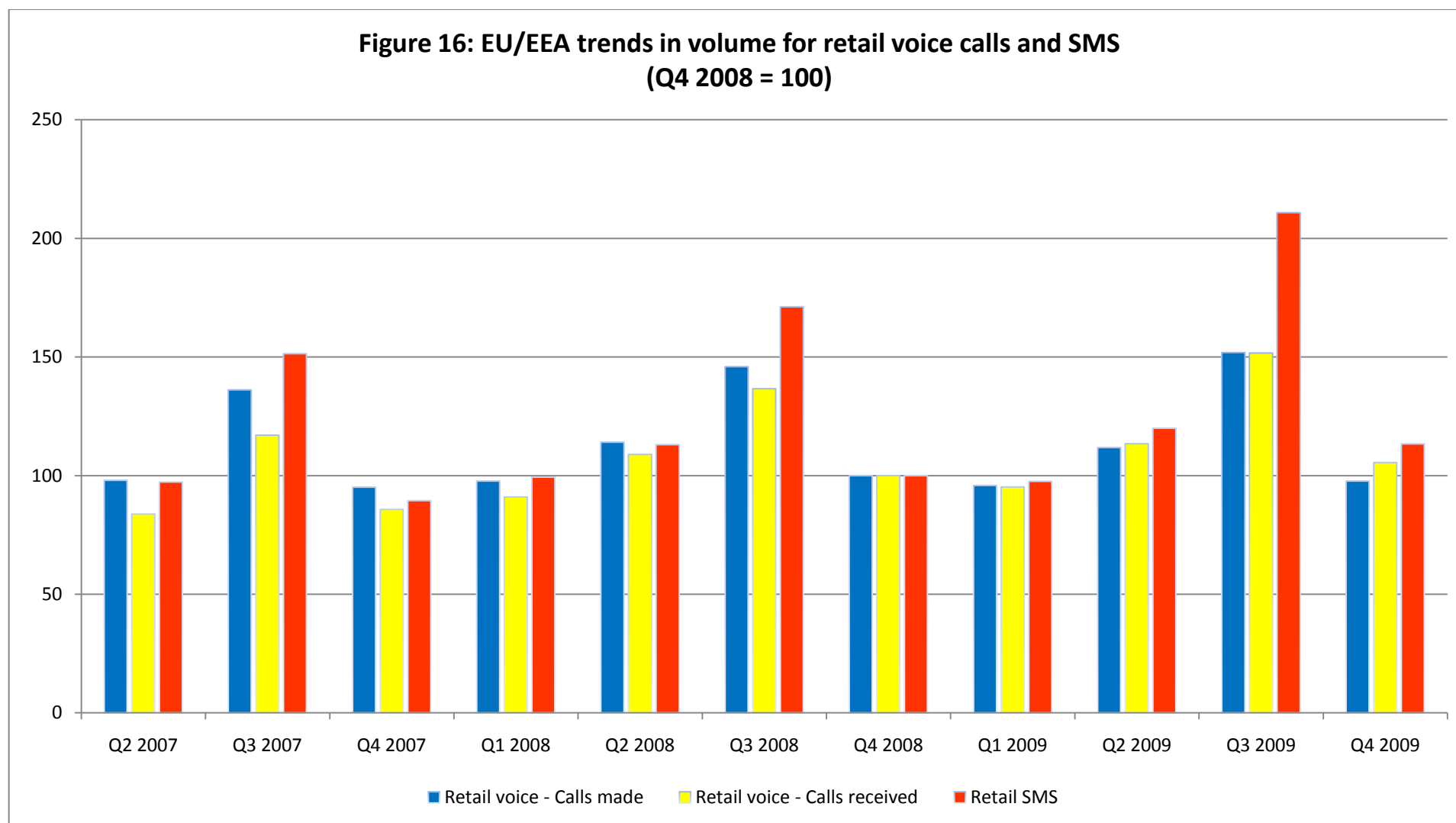
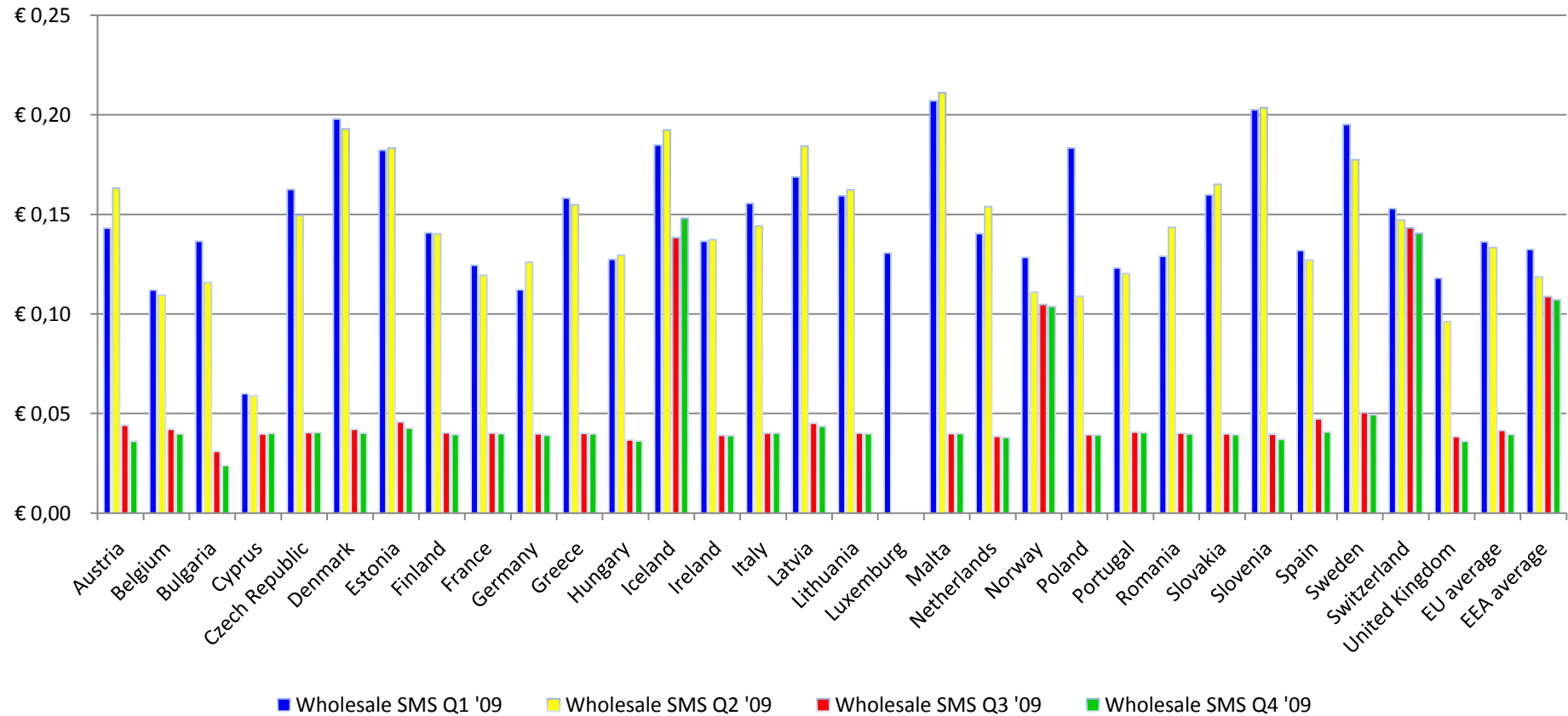


Figure 16 compares the changes in EU/EEA volumes for retail voice calls made and received and the volumes of SMS messages sent. It shows a similar trend for both services, largely seasonal, with a slightly larger growth in volumes for SMS sent and calls received than for calls made.

Wholesale SMS

Figure 17: Average wholesale price per SMS: EU/EEA, non-group companies

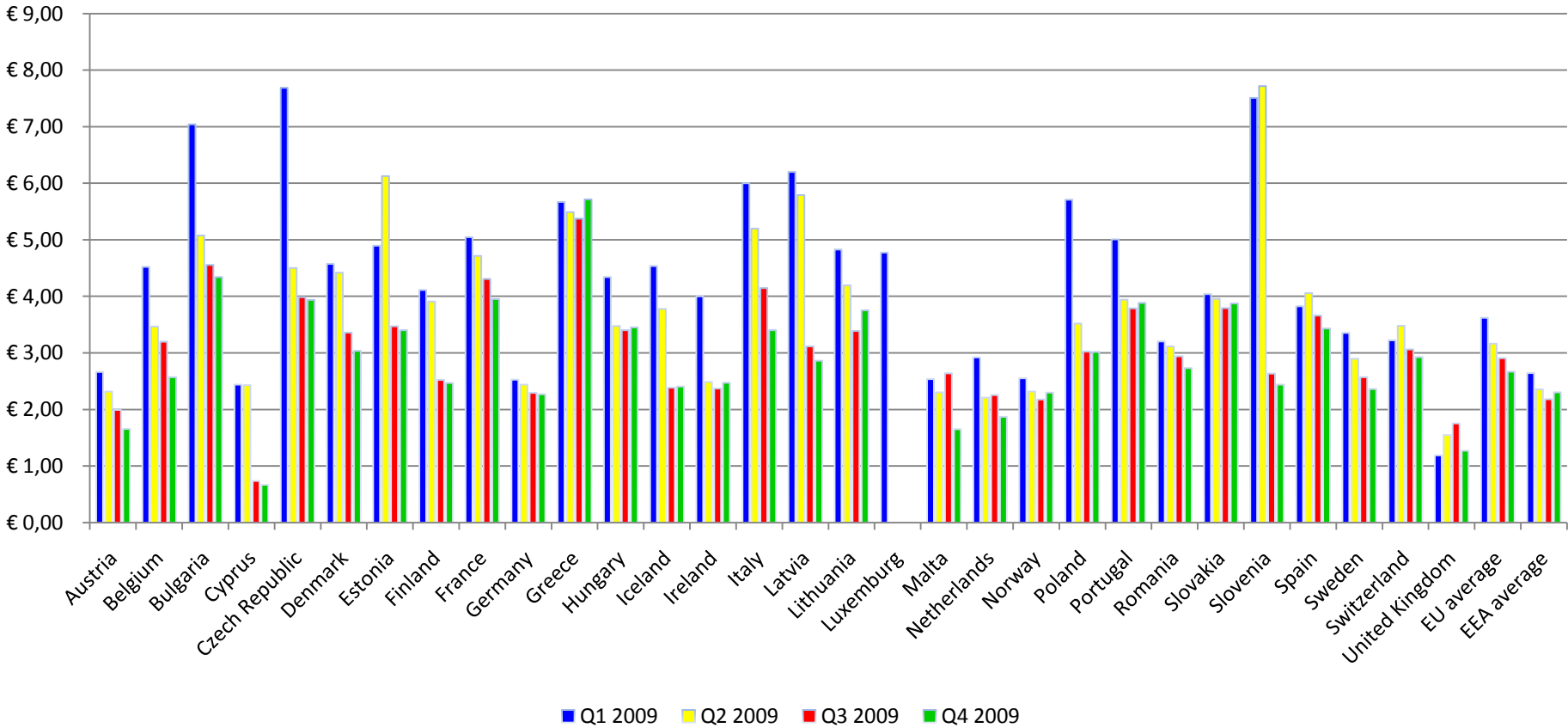


EU average: Q1 2009 = € 0.136; Q2 2009 = € 0.133; Q3 2009 = € 0.042; Q4 2009 = € 0.039.

Figure 17 shows the changes in the average price per SMS at the wholesale level. The effect of the amended Regulation is clearly visible in Q3 and Q4 2009 for EU countries.

Retail data

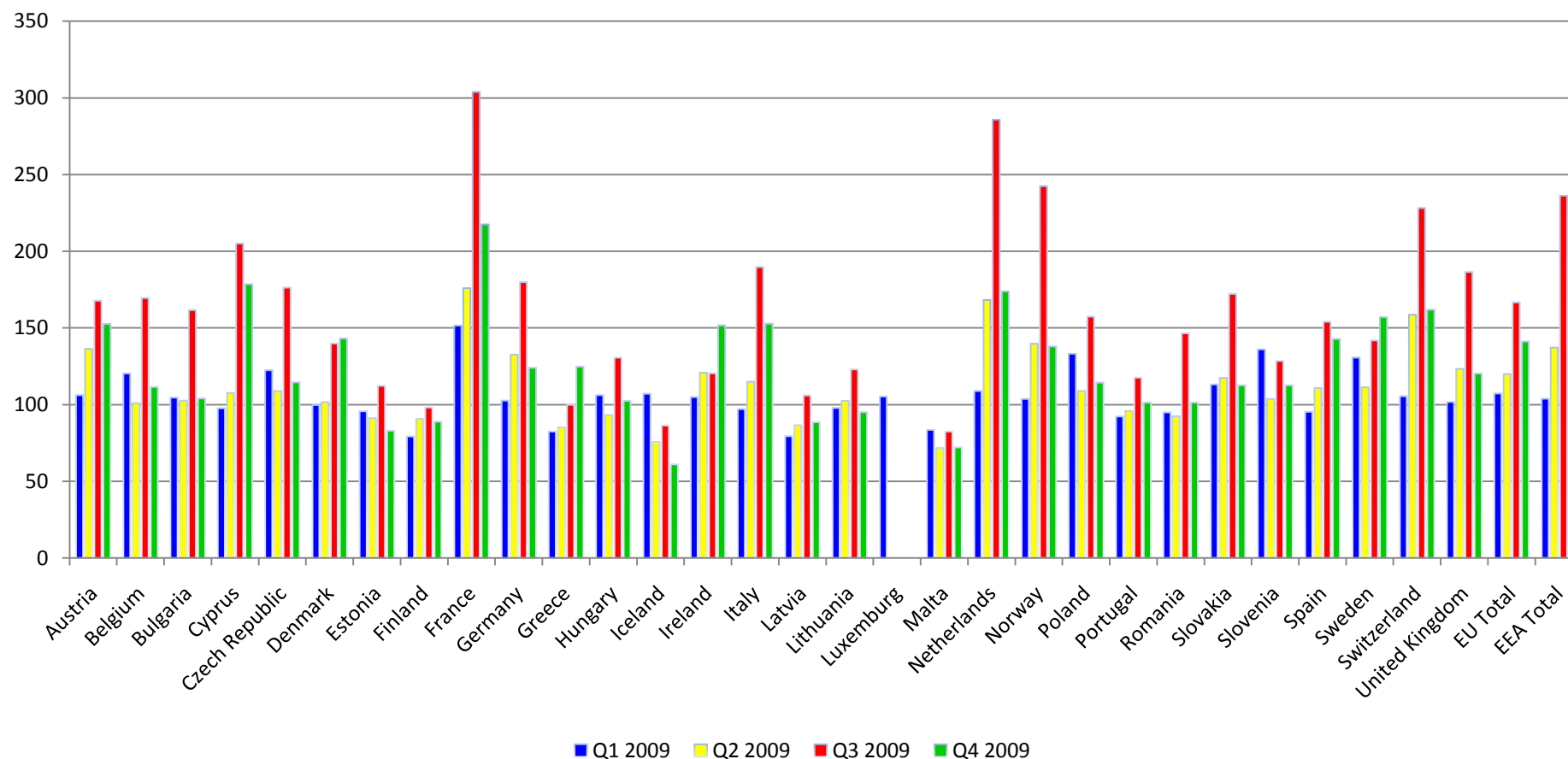
Figure 18: Average EU/EEA off-net retail price per data MB (based on billed megabytes)



EU average: Q1 2009 = € 3.623; Q2 2009 = € 3.165; Q3 2009 = € 2.909; Q4 2009 = € 2.668.

Figure 18 shows the trend in off-net retail prices for data services. The downward trend noted in previous reports continues to be present. The variation between countries remains, but appears to be getting smaller.

**Figure 19: Volumes of EU/EEA retail data (on-net and off-net combined)
(Q4 2008 = 100)**

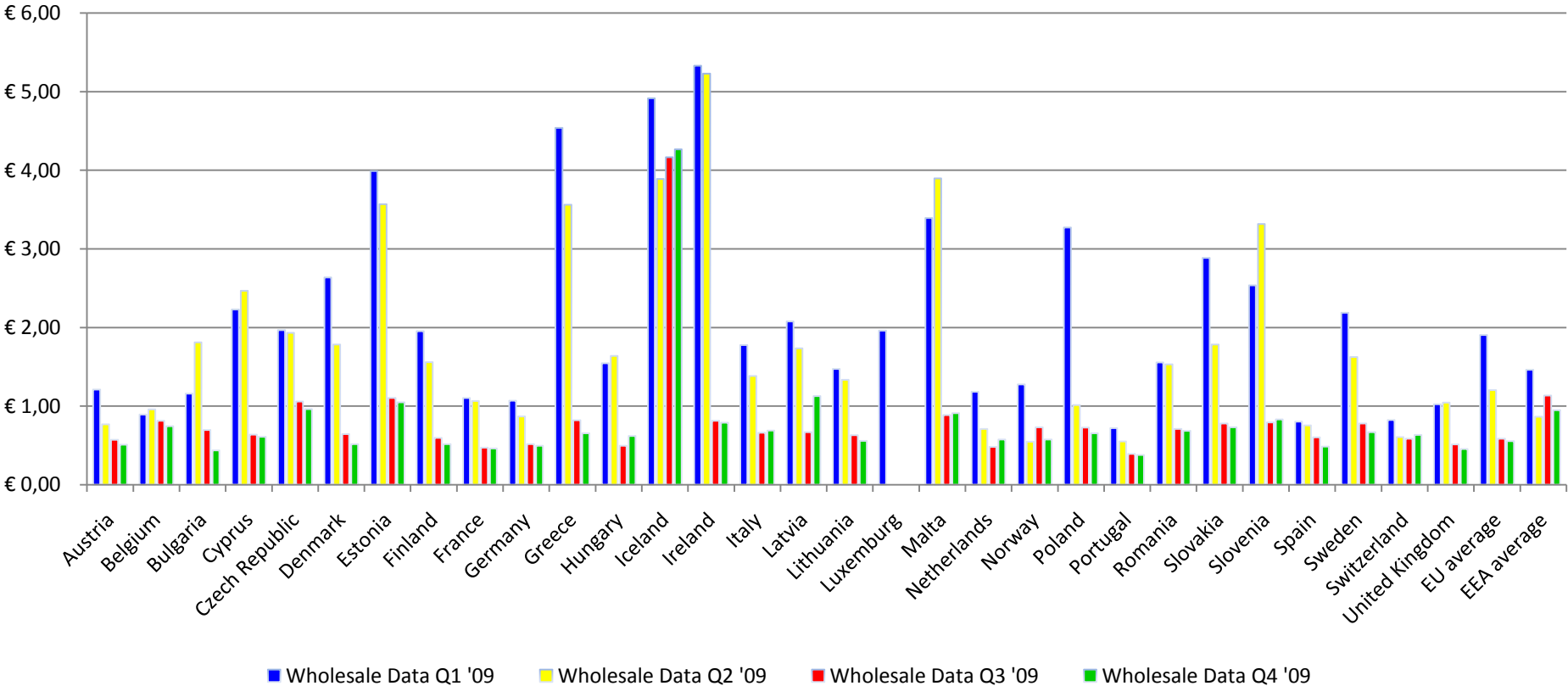


EU average: Q1 2009 = 107.8; Q2 2009 = 120.0; Q3 2009 = 166.6; Q4 2009 = 141.2.

Figure 19 shows the continued growth in the volumes of retail data services. The seasonal peak in Q3 is also visible for most countries.

Wholesale data

**Figure 20: Average wholesale price per data MB for inbound roaming:
EU/ EEA, non-group companies (based on billed megabytes)**



EU average: Q1 2009 = € 1.906; Q2 2009 = € 1.205; Q3 2009 = € 0.585; Q4 2009 = € 0.554.

Figure 20 illustrates the variation in price that existed between countries before the adoption of the amended Regulation and how the Regulation has caused the average wholesale price to drop by over half.

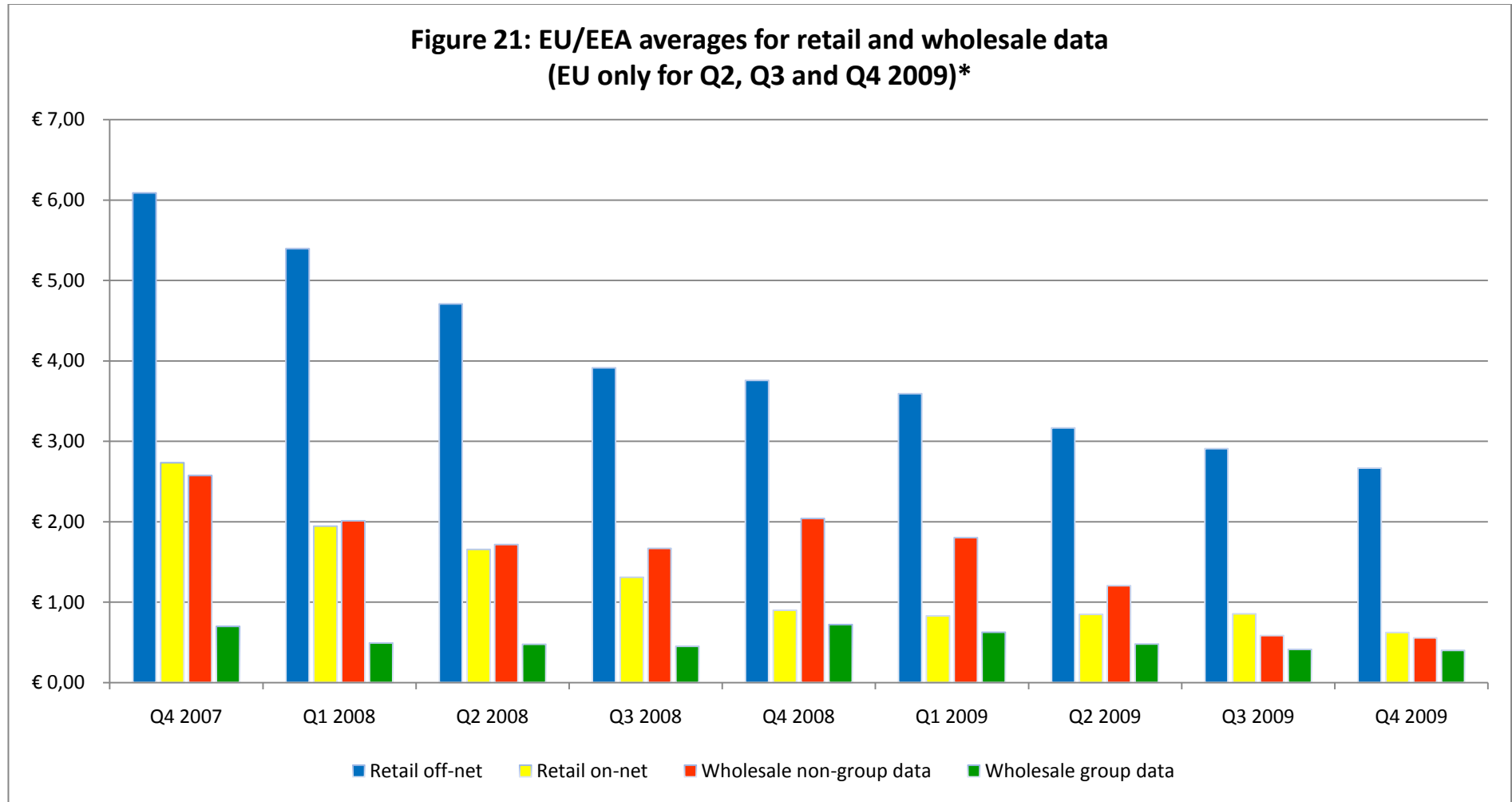


Figure 21 compares the average EU/EEA price trends for retail and wholesale data services (EU-only averages were used for Q2, Q3 and Q4 of 2009). It shows the continued downward trend in the average price for data services at both the retail and wholesale level. The impact of the Regulation on wholesale non-group data prices is clearly visible.

* See paragraph 4.7

Section 4

Further issues

4.1 ERG also gathered information in relation to traffic steering and inadvertent roaming, as required under Article 7 of the 2007 and the 2009 Roaming Regulations.

Traffic steering

4.2 Traffic steering is a technique used by mobile operators to steer traffic on to a preferred or partner network. There are a number of methods used to achieve this, but the result is that the consumer will roam onto the foreign network of their home network's choice. Evidence suggests that this is used to provide an enhanced or lower priced service to the roaming consumer. None of the providers that responded to the information request stated that traffic steering was used to the disadvantage of consumers through higher charges.

Inadvertent roaming

4.4 Inadvertent roaming can occur near international borders. When a consumer is close to a border it is possible that they will pick-up a foreign mobile operator's network signal even if they are not actually located in the country of the foreign operator. In such cases, the consumer may be charged as if they were internationally roaming when in fact they are still physically located in their home country.

4.5 Most respondents to the data collection did not identify this as a significant problem, with apparently relatively few consumers adversely affected. One operator reported a few problems with laptop dongles connecting to foreign networks near borders, as consumer take-up of mobile data services became more common.

4.6 BEREC understands that providers operate a number of mechanisms to deal with the issue of inadvertent roaming: information is generally available on provider websites; where a particular issue has been identified providers have generally taken additional steps to ensure consumers are aware of the issue; in some cases operators offer specific bespoke tariffs for neighbouring countries; some operators have developed network coverage in border areas to tackle the problem.

Providers also reported that where roaming has occurred inadvertently, they investigate the complaints and may offer compensation or refund the roaming charges as a goodwill gesture.

Implementation in EEA-only Member States

4.7 The 2007 Regulation entered into force in Norway, Iceland and Lichtenstein on 22 December 2007, meaning that in those countries, data for the regulated wholesale rate and the Eurotariff is available from quarter 1 2008 only. (Note that one operator in Norway introduced the Eurotariff during quarter 1, meaning that the 'other EU/EEA tariff' data for quarter 1 2008 also includes data from that operator (Figure 1)). The 2009 Regulation had not yet entered into force in Norway, Iceland and Lichtenstein during the period of this data collection. Therefore the regulated SMS and data caps did not apply, and the voice caps were at the slightly higher levels required by the 2007 Regulation. To reflect this, separate EU and EEA averages are shown in Figures 3, 4, 12, 14 and 21.

4.8 Not all operators were able to split their data between EU and EEA countries, leading at times to averages that appear to be higher than the regulated cap. The Latvian NRA indicated that this is the case for the higher average price for wholesale SMS in figure 17.

Summary of data ‘gaps’ and apparently ‘anomalous’ results

4.9 This round of data collection revealed that there remains a limited number of operators that have some problems supplying reasonable quality data. 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 the problem. In others cases, where system upgrades will be necessary to comply with the data collection or where systems failures were the source of the problem, the company was asked to provide the best possible estimate currently available and to complete upgrades in time to provide high quality data for the next collection.

4.10 The above is especially true for Switzerland as this Report only marks the second time that Switzerland has supplied data for the Benchmark Report. As operators in Switzerland do not fall under the Roaming Regulation, some information is not available for collection. In particular, data for Switzerland is not included in charts featuring the Eurotariff and the Euro-SMS tariff, which do not exist in Switzerland, or in charts with data going back further than Q4 2008.

Unusually high/low averages

4.11 In figures 1 and 2 there appear to be relatively high averages for non-Eurotariff in Slovenia. This is due to a tariff plan from one operator that applies to neighbouring countries that are not part of the EU as well as EU countries.

Actual/billed minutes

4.12 Although NRAs have strongly encouraged their operators to supply the figures for actual and billed minutes for voice roaming services, a small number of operators still had problems supplying the requested data. Overall, BEREC feels the differences between actual and billed minutes indicated by this Report are a fair reflection of actual practices.

Definition of Euro-SMS

4.13 This is the first Report to include data on the new Euro-SMS. Some operators reported all SMS volumes and revenues for SMS messages with a price below or at the regulated cap in the Euro-SMS category, leading to a higher average price for non-Euro-SMS in figure 16. BEREC will clarify its definition of Euro-SMS for the next round of data collection and expects this will lead to a lower average price for non-Euro-SMS.

Wholesale discounts

4.14 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.

Varying response rate

4.15 A further issue that may cause an apparent change in price between quarters, when tariffs have remained the same, is a variance in the operators that provide reliable data for a particular data category in a quarter. This can also cause strong volume changes.

Exchange rate issues

4.16 For ease of comparison the Euro is used throughout this Report.

4.17 Due to fluctuating exchange rates with countries outside the EU, some of the RoW averages have increased strongly, as they have increased in the local currency. The Polish regulator, UKE, considers that the IOT¹⁴ + 15% method of calculating prices for RoW calls made is an additional cause of the rather large increases, particularly for Poland (Figure 9).

4.18 Within the EU, currency fluctuations between the Euro and other national currencies are also likely to have affected the average prices reported for EU/EEA countries outside the Eurozone.

Overview of compliance issues

4.19 As stated elsewhere in this Report, overall compliance with the provisions of the 2007 and the 2009 Regulations has been very good. All mobile operators offer their consumers a Eurotariff, compliant with the rates set down in Article 4 of the 2007 and 2009 Regulations, wholesale rates appear to have fallen in line with the requirements set out in Article 3 of the Regulations, and consumer transparency has improved.

Future data collection

4.20 BEREC intends to continue to collect data on a regular basis, with data split by quarter. The next period for data collection will be from 1 January 2010 to 30 June 2010. BEREC expects to report on this data in the early autumn.

¹⁴ Inter-Operator Tariff

Annex 1

List of respondents

Below are the operators that provided data for the period 1 April 2009 – 31 December 2009.

Austria
Hutchison 3G Austria
Mobikom Austria
Orange Austria
Telekom Austria
Tele Select Manser
T-Mobile Austria
Yesss!

Belgium
Belgacom Mobile
Mobistar
One Base

Bulgaria
BTC Mobile EOOD
Cosmo Bulgaria Mobile
Mobitel EAD

Cyprus
Cytamobile-Vodafone
EAD MTN Cyprus (Areeba Ltd)

Czech Republic
Telefónica O2 Czech Republic
T-Mobile Czech Republic
Vodafone Czech Republic

Denmark
3
TDC
Telenor
TeliaSonera

Estonia
AS EMT
Elisa Eesti AS
OÜ Top Connect
ProGroup Holding OÜ
TELE 2 Eesti AS

Finland
Alands Mobiltelefon Ab
DNA Networks Ltd
Elisa Corporation
TeliaSonera Finland Oyj

France

Bouygues Telecom
Orange Caraïbe
Orange France
SFR
SRR
OMER Telecom

Germany
E-Plus Mobilfunk GmbH & Co. KG
Telefónica-O2 Germany GmbH & Co.
OHG
T-Mobile Deutschland GmbH
Vodafone D2 GmbH

Greece
COSMOTE Mobile
Telecommunications S.A.
Vodafone Panafon S.A.
Wind HellasTelecommunications S.A.

Hungary
Pannon GSM Távközlési Zrt
T-Mobile
Vodafone Magyarország Zrt

Iceland
Nova
Síminn hf.
Vodafone Iceland

Ireland
Eircom Mobile
Hutchison 3G Ireland
Meteor Mobile Communications
O2 Communications Ireland
Tesco Mobile
Vodafone Ireland

Italy
Carrefour Italia Mobile
Coop Voce
Daily Telecom Mobile
Fastweb
H3G Italia
PLDT Italy
Poste Mobile
Telecom Italia
Tiscali Italia
Vodafone Omnitel

Wind Telecomunicazioni

Latvia
 Bite Latvia
 Latvijas Mobilais Telefons
 Tele2

Lithuania
 Bitė Lietuva
 Eurocom
 Omnitel
 Tele2

Malta
 Mobisle Communications Ltd (GO Mobile)
 Redtouch Fone Ltd
 Vodafone Malta Ltd

Netherlands
 KPN B.V.
 Lebara B.V.
 Lycamobile Netherlands Ltd
 Ortel Mobile B.V.
 Rabo Mobiel B.V.
 Tele2 Netherlands B.V.
 T-Mobile Netherlands B.V.
 Vodafone Libertel B.V.

Norway
 Telenor
 NetCom
 Network Norway
 Tele2
 Chess
 Lebara
 Ventelo
 OneCall

Poland
 P4 Sp. z.o.o.
 Polkomtel S.A.
 PTC Sp. z.o.o.
 PTK Centertel Sp. z.o.o.

Portugal
 CTT – Correios de Portugal, S.A
 Sonaecom - Serviços de Comunicações,
 SA
 TMN - Telecomunicações Móveis
 Nacionais, SA
 Vodafone Portugal - Comunicações
 Pessoais, SA
 ZON TV Cabo Portugal, S.A.

Romania
 Cosmote RMT

Orange Romania
 Vodafone Romania

Slovak Republic
 Telefónica O2 Slovakia
 Orange Slovensko
 T-Mobile Slovensko

Slovenia
 Debitel d.d.
 IZI mobil d.d.
 Mobitel d.d.
 i.mobil d.d.
 T-2 d.o.o.
 Tušmobil d.o.o.

Spain
 Euskaltel
 Orange
 Telefónica Móviles de España
 Vodafone
 Yoigo

Sweden
 Hi3G Access AB
 Tele2 Sverige AB
 Telenor Sverige AB
 TeliaSonera AB

Switzerland
 Orange Communications AG
 Sunrise Communications AG
 Swisscom (Schweiz) AG

United Kingdom
 3 UK
 Asda Mobile
 BT Mobile
 O2 UK
 Orange UK
 Tesco Mobile
 T-Mobile UK
 Vodafone UK
 Virgin Mobile