

**Report on**

**Telecoms Price Developments**

**from 1998 to 2003**

Produced for:

**European Commission**  
**Directorate General for Information Society**

**The opinions expressed in this Study are those of the authors and do not necessarily reflect the views of the European Commission.**  
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## Table of contents

<b><u>0. INTRODUCTION.....</u></b>	<b><u>8</u></b>
0.1. BACKGROUND .....	8
0.2. EXCHANGE RATES.....	9
<b><u>1. PSTN MINIMUM AND INITIAL CHARGES .....</u></b>	<b><u>10</u></b>
1.1. NATIONAL CALLS.....	12
1.2. INTERNATIONAL CALLS.....	31
<b><u>2. NATIONAL PSTN BASKET.....</u></b>	<b><u>36</u></b>
2.1. NATIONAL RESIDENTIAL BASKET.....	38
2.2. NATIONAL BUSINESS BASKET .....	57
<b><u>3. COMPOSITE OECD BASKETS .....</u></b>	<b><u>76</u></b>
3.1. RESIDENTIAL COMPOSITE BASKET .....	77
3.2. BUSINESS COMPOSITE BASKET.....	78
<b><u>4. INTERNATIONAL PSTN BASKET .....</u></b>	<b><u>79</u></b>
4.1. RESIDENTIAL INTERNATIONAL PSTN BASKET .....	80
4.2. BUSINESS INTERNATIONAL PSTN BASKET .....	84
<b><u>5. NATIONAL PSTN CALLS.....</u></b>	<b><u>88</u></b>
5.1. PRICES FOR COMPETITORS .....	101
<b><u>6. INTERNATIONAL PSTN CALLS .....</u></b>	<b><u>104</u></b>
6.1. INTERNATIONAL PRICES FOR COMPETITORS.....	116
<b><u>7. MONTHLY RENTAL FOR PSTN .....</u></b>	<b><u>118</u></b>
<b><u>8. NATIONAL MOBILE SERVICES .....</u></b>	<b><u>120</u></b>
8.1. LOW USAGE BASKET .....	121
8.2. MEDIUM USAGE BASKET.....	124
8.3. HIGH USAGE BASKET .....	127
8.4. HANDSET SUBSIDY .....	130

<b>8.5.</b>	<b>INITIAL CHARGES AND CHARGING METHOD.....</b>	<b>131</b>
<b>9.</b>	<b><u>NATIONAL LEASED LINES .....</u></b>	<b><u>134</u></b>
9.1.	BELGIUM .....	137
9.2.	DENMARK .....	138
9.3.	GERMANY .....	139
9.4.	GREECE .....	140
9.5.	SPAIN .....	141
9.6.	FRANCE.....	142
9.7.	IRELAND .....	143
9.8.	ITALY .....	144
9.9.	LUXEMBOURG .....	145
9.10.	NETHERLANDS .....	146
9.11.	AUSTRIA .....	147
9.12.	PORTUGAL.....	148
9.13.	FINLAND .....	149
9.14.	SWEDEN .....	150
9.15.	UNITED KINGDOM .....	151
9.16.	USA.....	152
9.17.	JAPAN.....	154
9.18.	PRICE DEVELOPMENT FOR NATIONAL LEASED LINES .....	155
<b>10.</b>	<b><u>INTERNATIONAL LEASED LINES.....</u></b>	<b><u>159</u></b>
10.1.	INTERNATIONAL LEASED LINE PRICES FROM BELGIUM .....	175
10.2.	INTERNATIONAL LEASED LINE PRICES FROM DENMARK.....	176
10.3.	INTERNATIONAL LEASED LINE PRICES FROM GERMANY .....	177
10.4.	INTERNATIONAL LEASED LINE PRICES FROM GREECE .....	178
10.5.	INTERNATIONAL LEASED LINE PRICES FROM SPAIN .....	179
10.6.	INTERNATIONAL LEASED LINE PRICES FROM FRANCE .....	180
10.7.	INTERNATIONAL LEASED LINE PRICES FROM IRELAND .....	181
10.8.	INTERNATIONAL LEASED LINE PRICES FROM ITALY .....	182
10.9.	INTERNATIONAL LEASED LINE PRICES FROM LUXEMBOURG .....	183
10.10.	INTERNATIONAL LEASED LINE PRICES FROM NETHERLANDS .....	184
10.11.	INTERNATIONAL LEASED LINE PRICES FROM AUSTRIA .....	185
10.12.	INTERNATIONAL LEASED LINE PRICES FROM PORTUGAL.....	186
10.13.	INTERNATIONAL LEASED LINE PRICES FROM FINLAND .....	187
10.14.	INTERNATIONAL LEASED LINE PRICES FROM SWEDEN.....	188
10.15.	INTERNATIONAL LEASED LINE PRICES FROM UNITED KINGDOM .....	189
10.16.	INTERNATIONAL LEASED LINE PRICES FROM USA (AT&T).....	190
10.17.	INTERNATIONAL LEASED LINE PRICES FROM JAPAN .....	191

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## **APPENDICES:**

The numbers behind the tables and graphs in this report is provided to the European Commission in 5 spreadsheets, where the presentational formats can be altered.

**Important: These appendices are only available for use within the European Commission, and should not be distributed to other parties.**

Appendix A: PSTN Basket results (INFSO-TB-Results-2003.XLS)

Appendix B: PSTN Call results (INFSO-Call-Results-2003.XLS)

Appendix C: Mobile Basket results (INFSO-Mob-Results-2003.XLS)

Appendix D: Leased Line results (INFSO-LL-Results-2003.XLS)

Appendix E: PSTN Rental and minimum charges (INFSO-Minimum-2003.XLS)

## **List of Tables in this report:**

TABLE 0.1	STUDY COVERAGE.....	8
TABLE 0.2	EXCHANGE RATES, NATIONAL CURRENCY TO EURO.....	9
TABLE 1.1	CHARGING REGIME IN EACH COUNTRY.....	11
TABLE 2.1	NUMBER OF CALLS OECD PSTN BASKET, PER YEAR.....	36
TABLE 2.1	NATIONAL RESIDENTIAL PSTN BASKET.....	38
TABLE 2.2	NATIONAL RESIDENTIAL BASKET RESULT.....	40
TABLE 2.3	NATIONAL RESIDENTIAL BASKET RESULT.....	41
TABLE 2.4	NATIONAL RESIDENTIAL BASKET RESULT.....	42
TABLE 2.5	NATIONAL RESIDENTIAL BASKET RESULT.....	43
TABLE 2.6	NATIONAL RESIDENTIAL BASKET RESULT.....	44
TABLE 2.7	NATIONAL RESIDENTIAL BASKET RESULT.....	45
TABLE 2.8	NATIONAL RESIDENTIAL BASKET RESULT.....	46
TABLE 2.9	NATIONAL RESIDENTIAL BASKET RESULT.....	47
TABLE 2.10	NATIONAL RESIDENTIAL BASKET RESULT.....	48
TABLE 2.11	NATIONAL RESIDENTIAL BASKET RESULT.....	49
TABLE 2.12	NATIONAL RESIDENTIAL BASKET RESULT.....	50
TABLE 2.13	NATIONAL RESIDENTIAL BASKET RESULT.....	51
TABLE 2.14	NATIONAL RESIDENTIAL BASKET RESULT.....	52
TABLE 2.15	NATIONAL RESIDENTIAL BASKET RESULT.....	53
TABLE 2.16	NATIONAL RESIDENTIAL BASKET RESULT.....	54
TABLE 2.17	NATIONAL RESIDENTIAL BASKET RESULT.....	55
TABLE 2.18	NATIONAL RESIDENTIAL BASKET RESULT.....	56
TABLE 2.19	NATIONAL BUSINESS PSTN BASKET.....	57
TABLE 2.20	NATIONAL BUSINESS BASKET RESULT.....	59
TABLE 2.21	NATIONAL BUSINESS BASKET RESULT.....	60
TABLE 2.22	NATIONAL BUSINESS BASKET RESULT.....	61
TABLE 2.23	NATIONAL BUSINESS BASKET RESULT.....	62
TABLE 2.24	NATIONAL BUSINESS BASKET RESULT.....	63
TABLE 2.25	NATIONAL BUSINESS BASKET RESULT.....	64
TABLE 2.26	NATIONAL BUSINESS BASKET RESULT.....	65
TABLE 2.27	NATIONAL BUSINESS BASKET RESULT.....	66
TABLE 2.28	NATIONAL BUSINESS BASKET RESULT.....	67
TABLE 2.29	NATIONAL BUSINESS BASKET RESULT.....	68
TABLE 2.30	NATIONAL BUSINESS BASKET RESULT.....	69
TABLE 2.31	NATIONAL BUSINESS BASKET RESULT.....	70
TABLE 2.32	NATIONAL BUSINESS BASKET RESULT.....	71
TABLE 2.33	NATIONAL BUSINESS BASKET RESULT.....	72
TABLE 2.34	NATIONAL BUSINESS BASKET RESULT.....	73
TABLE 2.35	NATIONAL BUSINESS BASKET RESULT.....	74
TABLE 2.36	NATIONAL BUSINESS BASKET RESULT.....	75
TABLE 3.1	NUMBER OF CALLS NEW COMPOSITE OECD PSTN BASKET, PER YEAR.....	76
TABLE 3.2	RESIDENTIAL COMPOSITE OECD BASKET.....	77

TABLE 3.3	BUSINESS COMPOSITE OECD BASKET.....	78
TABLE 4.1	INTERNATIONAL PSTN, RESIDENTIAL BASKET RESULTS.....	80
TABLE 4.2	INTERNATIONAL PSTN, BUSINESS BASKET RESULTS .....	84
TABLE 5.1	CALL TYPES .....	88
TABLE 5.2	CHARGING REGIME IN EACH COUNTRY.....	89
TABLE 5.3	10 MINUTE CALL CHARGES FOR A 3 KM CALL AT WEEKDAYS 11:00.....	90
TABLE 5.4	10 MINUTE CALL CHARGES FOR A 50 KM CALL AT WEEKDAYS 11:00.....	90
TABLE 5.5	10 MINUTE CALL CHARGES FOR A 200 KM CALL AT WEEKDAYS 11:00.....	91
TABLE 5.6	COMPETITOR'S CALL CHARGES, 10 MINUTES, WEEKDAYS 11:00 .....	101
TABLE 5.7	COMPETITOR'S CALL CHARGES, 10 MINUTES, WEEKDAYS 11:00 .....	102
TABLE 5.8	COMPETITOR'S CALL CHARGES, 10 MINUTES, WEEKDAYS 11:00 .....	102
TABLE 6.1	INTERNATIONAL CALL TYPES .....	104
TABLE 6.2	DEFINITION OF DESTINATION COUNTRIES.....	104
TABLE 6.3	CALLS TO NEAR EU COUNTRY .....	105
TABLE 6.4	CALLS TO DISTANT EU COUNTRY.....	105
TABLE 6.5	CALLS TO USA .....	106
TABLE 6.6	CALLS TO JAPAN .....	106
TABLE 6.6	COMPETITOR'S 10 MINUTE CALL CHARGES TO NEAR EU COUNTRY.....	116
TABLE 6.7	COMPETITOR'S 10 MINUTE CALL CHARGES TO DISTANT EU COUNTRY.....	116
TABLE 6.8	COMPETITOR'S 10 MINUTE CALL CHARGES TO DISTANT USA .....	117
TABLE 6.9	COMPETITOR'S 10 MINUTE CALL CHARGES TO DISTANT JAPAN .....	117
TABLE 7.1	INCUMBENT'S BASIC MONTHLY PSTN RENTAL CHARGE FOR BUSINESS CUSTOMERS .....	118
TABLE 7.2	INCUMBENT'S BASIC MONTHLY PSTN RENTAL CHARGE FOR RESIDENTIAL CUSTOMERS ..	119
TABLE 7.3	COMPETITOR'S MONTHLY PSTN RENTAL CHARGE.....	119
TABLE 8.1	LOW USAGE BASKET RESULTS .....	121
TABLE 8.2	MEDIUM USAGE BASKET RESULTS.....	124
TABLE 8.3	HIGH USAGE BASKET RESULTS .....	127
TABLE 8.4	INITIAL CHARGES AND CHARGING METHOD FOR POST-PAID MOBILE PACKAGES .....	131
TABLE 10.1	INTERNATIONAL DESTINATIONS .....	159
TABLE 10.2	DEFINITION OF DESTINATION COUNTRIES.....	159
TABLE 10.3	64 KB/S HALF-CIRCUIT PRICES TO NEAR EU COUNTRY .....	161
TABLE 10.4	64 KB/S HALF-CIRCUIT PRICES TO DISTANT EU COUNTRY .....	162
TABLE 10.5	64 KB/S HALF-CIRCUIT PRICES TO USA .....	163
TABLE 10.6	64 KB/S HALF-CIRCUIT PRICES TO JAPAN.....	164
TABLE 10.7	2 MB/S HALF-CIRCUIT PRICES TO NEAR EU COUNTRY.....	165
TABLE 10.8	2 MB/S HALF-CIRCUIT PRICES TO DISTANT EU COUNTRY.....	166
TABLE 10.9	2 MB/S HALF-CIRCUIT PRICES TO USA .....	167
TABLE 10.10	2 MB/S HALF-CIRCUIT PRICES TO JAPAN.....	168
TABLE 10.11	34 MB/S HALF-CIRCUIT PRICES TO NEAR EU COUNTRY.....	169
TABLE 10.12	34 MB/S HALF-CIRCUIT PRICES TO DISTANT EU COUNTRY.....	170
TABLE 10.13	34 MB/S HALF-CIRCUIT PRICES TO USA .....	170
TABLE 10.14	34 MB/S HALF-CIRCUIT PRICES TO JAPAN.....	171
TABLE 10.15	155 MB/S HALF-CIRCUIT PRICES TO NEAR EU COUNTRY.....	171
TABLE 10.16	155 MB/S HALF-CIRCUIT PRICES TO DISTANT EU COUNTRY.....	172
TABLE 10.17	155 MB/S HALF-CIRCUIT PRICES TO USA .....	172
TABLE 10.18	155 MB/S HALF-CIRCUIT PRICES TO JAPAN.....	173

### **List of Figures in this report:**

FIGURE 2.1	NATIONAL RESIDENTIAL BASKET DEVELOPMENT 1998 – 2003 (“OLD” OECD BASKET)...	39
FIGURE 2.2	NATIONAL RESIDENTIAL BASKET RESULT.....	40
FIGURE 2.3	NATIONAL RESIDENTIAL BASKET RESULT.....	41
FIGURE 2.4	NATIONAL RESIDENTIAL BASKET RESULT.....	42
FIGURE 2.5	NATIONAL RESIDENTIAL BASKET RESULT.....	43
FIGURE 2.6	NATIONAL RESIDENTIAL BASKET RESULT.....	44
FIGURE 2.7	NATIONAL RESIDENTIAL BASKET RESULT.....	45
FIGURE 2.8	NATIONAL RESIDENTIAL BASKET RESULT.....	46
FIGURE 2.9	NATIONAL RESIDENTIAL BASKET RESULT.....	47
FIGURE 2.10	NATIONAL RESIDENTIAL BASKET RESULT.....	48

FIGURE 2.11	NATIONAL RESIDENTIAL BASKET RESULT .....	49
FIGURE 2.12	NATIONAL RESIDENTIAL BASKET RESULT .....	50
FIGURE 2.13	NATIONAL RESIDENTIAL BASKET RESULT .....	51
FIGURE 2.14	NATIONAL RESIDENTIAL BASKET RESULT .....	52
FIGURE 2.15	NATIONAL RESIDENTIAL BASKET RESULT .....	53
FIGURE 2.16	NATIONAL RESIDENTIAL BASKET RESULT .....	54
FIGURE 2.17	NATIONAL RESIDENTIAL BASKET RESULT .....	55
FIGURE 2.18	NATIONAL RESIDENTIAL BASKET RESULT .....	56
FIGURE 2.19	NATIONAL BUSINESS BASKET DEVELOPMENT 1998 - 2003 .....	58
FIGURE 2.20	NATIONAL BUSINESS BASKET RESULT .....	59
FIGURE 2.21	NATIONAL BUSINESS BASKET RESULT .....	60
FIGURE 2.22	NATIONAL BUSINESS BASKET RESULT .....	61
FIGURE 2.23	NATIONAL BUSINESS BASKET RESULT .....	62
FIGURE 2.24	NATIONAL BUSINESS BASKET RESULT .....	63
FIGURE 2.25	NATIONAL BUSINESS BASKET RESULT .....	64
FIGURE 2.26	NATIONAL BUSINESS BASKET RESULT .....	65
FIGURE 2.27	NATIONAL BUSINESS BASKET RESULT .....	66
FIGURE 2.28	NATIONAL BUSINESS BASKET RESULT .....	67
FIGURE 2.29	NATIONAL BUSINESS BASKET RESULT .....	68
FIGURE 2.30	NATIONAL BUSINESS BASKET RESULT .....	69
FIGURE 2.31	NATIONAL BUSINESS BASKET RESULT .....	70
FIGURE 2.32	NATIONAL BUSINESS BASKET RESULT .....	71
FIGURE 2.33	NATIONAL BUSINESS BASKET RESULT .....	72
FIGURE 2.34	NATIONAL BUSINESS BASKET RESULT .....	73
FIGURE 2.35	NATIONAL BUSINESS BASKET RESULT .....	74
FIGURE 2.36	NATIONAL BUSINESS BASKET RESULT .....	75
FIGURE 3.1	RESIDENTIAL COMPOSITE OECD BASKET 2003 .....	77
FIGURE 3.2	BUSINESS COMPOSITE OECD BASKET 2003 .....	78
FIGURE 4.1	EU15 WEIGHTED AVERAGE FOR INTERNATIONAL CALL CHARGES .....	79
FIGURE 4.2:	INTERNATIONAL PSTN, RESIDENTIAL BASKET RESULTS .....	81
FIGURE 4.3	INTERNATIONAL RESIDENTIAL PSTN BASKET (1) .....	82
FIGURE 4.4	INTERNATIONAL RESIDENTIAL PSTN BASKET (2) .....	82
FIGURE 4.5	INTERNATIONAL RESIDENTIAL PSTN BASKET (3) .....	83
FIGURE 4.6:	INTERNATIONAL PSTN, BUSINESS BASKET RESULTS.....	85
FIGURE 4.7	INTERNATIONAL BUSINESS PSTN BASKET (1).....	86
FIGURE 4.8	INTERNATIONAL BUSINESS PSTN BASKET (2).....	86
FIGURE 4.9	INTERNATIONAL BUSINESS PSTN BASKET (3).....	87
FIGURE 5.1	EU15 WEIGHTED AVERAGE PRICE FOR A LOCAL 10 MINUTE CALL .....	92
FIGURE 5.2	EU15 WEIGHTED AVERAGE PRICE FOR A NATIONAL 10 MINUTE CALL .....	92
FIGURE 5.3	10 MINUTE CALL CHARGES, BELGIUM .....	93
FIGURE 5.4	10 MINUTE CALL CHARGES, DENMARK .....	93
FIGURE 5.5	10 MINUTE CALL CHARGES, GERMANY .....	94
FIGURE 5.6	10 MINUTE CALL CHARGES, GREECE .....	94
FIGURE 5.7	10 MINUTE CALL CHARGES, SPAIN .....	95
FIGURE 5.8	10 MINUTE CALL CHARGES, FRANCE .....	95
FIGURE 5.9	10 MINUTE CALL CHARGES, IRELAND .....	96
FIGURE 5.10	10 MINUTE CALL CHARGES, ITALY .....	96
FIGURE 5.11	10 MINUTE CALL CHARGES, LUXEMBOURG .....	97
FIGURE 5.12	10 MINUTE CALL CHARGES, NETHERLANDS .....	97
FIGURE 5.13	10 MINUTE CALL CHARGE, AUSTRIA .....	98
FIGURE 5.14	10 MINUTE CALL CHARGES, PORTUGAL.....	98
FIGURE 5.15	10 MINUTE CALL CHARGES, FINLAND.....	99
FIGURE 5.16	10 MINUTE CALL CHARGES, SWEDEN .....	99
FIGURE 5.17	10 MINUTE CALL CHARGES, UNITED KINGDOM .....	100
FIGURE 5.18	10 MINUTE CALL CHARGES, USA (NEW YORK) .....	100
FIGURE 5.19	10 MINUTE CALL CHARGES, JAPAN .....	101
FIGURE 5.20	COMPARISON BETWEEN INCUMBENT AND COMPETITOR'S PRICES, LOCAL CALL .....	103
FIGURE 5.21	COMPARISON BETWEEN INCUMBENT AND COMPETITOR'S PRICES, LONG DISTANCE CALL	
	103	

FIGURE 6.1	CALLS FROM BELGIUM .....	107
FIGURE 6.2	CALLS FROM DENMARK .....	107
FIGURE 6.3	CALLS FROM GERMANY .....	108
FIGURE 6.4	CALLS FROM GREECE .....	108
FIGURE 6.5	CALLS FROM SPAIN .....	109
FIGURE 6.6	CALLS FROM FRANCE .....	109
FIGURE 6.7	CALLS FROM IRELAND .....	110
FIGURE 6.8	CALLS FROM ITALY .....	110
FIGURE 6.9	CALLS FROM LUXEMBOURG .....	111
FIGURE 6.10	CALLS FROM NETHERLANDS .....	111
FIGURE 6.11	CALLS FROM AUSTRIA .....	112
FIGURE 6.12	CALLS FROM PORTUGAL .....	112
FIGURE 6.13	CALLS FROM FINLAND .....	113
FIGURE 6.14	CALLS FROM SWEDEN .....	113
FIGURE 6.15	CALLS FROM UNITED KINGDOM .....	114
FIGURE 6.16	CALLS FROM USA .....	114
FIGURE 6.17	CALLS FROM JAPAN .....	115
FIGURE 8.1	LOW USAGE BASKET RESULTS .....	122
FIGURE 8.2	LOW USAGE BASKET 2002 - 2003 .....	123
FIGURE 8.3	MEDIUM USAGE BASKET RESULTS .....	125
FIGURE 8.4	MEDIUM USAGE BASKET 2002 - 2003 .....	126
FIGURE 8.5	HIGH USAGE BASKET RESULTS .....	128
FIGURE 8.6	HIGH USAGE BASKET 2002 - 2003 .....	129
FIGURE 9.1	AVERAGE PRICE CHANGE FOR 64 KB/S NATIONAL LEASED LINES IN USA AND THE EU COUNTRIES .....	155
FIGURE 9.2	AVERAGE PRICE CHANGE FOR 2 MB/S NATIONAL LEASED LINES IN USA AND THE EU COUNTRIES .....	156
FIGURE 9.3	AVERAGE PRICE CHANGE FOR 34 MB/S NATIONAL LEASED LINES IN USA AND THE EU COUNTRIES .....	157
FIGURE 9.4	AVERAGE PRICE CHANGE FOR 155 MB/S NATIONAL LEASED LINES IN USA AND THE EU COUNTRIES .....	158

Disclaimer: This report has been commissioned as an independent study to examine tariff developments in the European Community. The Commission does not accept any responsibility for the accuracy or completeness of the information contained herein.

The tariff information used in this study has in most cases been taken from the Teligen / OECD T-Basket spreadsheets. The information is collected by Teligen from the individual operators, and is believed to be correct as of 1 August 2003. Teligen will not accept responsibility for any decisions made on the basis of information in this report.

**The opinions expressed in this Study are those of the authors and do not necessarily reflect the views of the European Commission.**  
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## 0. Introduction

### 0.1. Background

This report is produced for DG INFSO of the European Commission by Teligen. The objective has been to analyse the price developments over the last 6 years, as expressed in the OECD basket comparisons, and as found in prices of single calls. The study uses the OECD basket results in a slightly adapted form, in order to maintain consistency over the 6 years.

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This report shows the prices as of August each year from 1998 to 2003. The prices are taken from the Teligen / OECD basket spreadsheets, as presented in the Teligen T-Basket product, and from the Teligen T-World database. Teligen has collected tariff data from primary sources, i.e. directly from the telecoms operators and Internet Service Providers. Data were validated by the NRAs so as to reinforce the reliability of the information. As a specialist in tariff information, Teligen maintains direct contacts with all the operators covered on a regular basis, using a unique network of personal contacts within the operators' organisations (so called liaison officers).

Not all years are covered in all sections, and the table below shows the coverage of the individual sections of the study:

**Table 0.1 Study coverage**

		Aug 1998	Aug 1999	Aug 2000	Aug 2001	Aug 2002	Aug 2003
1	National Bus. PSTN Basket	√	√	√	√	√	√
2	National Res. PSTN Basket	√	√	√	√	√	√
3	Composite Bus. PSTN Basket			√	√	√	√
4	Composite Res. PSTN Basket			√	√	√	√
5	International Bus. PSTN Basket	√	√	√	√	√	√
6	International Res. PSTN Basket	√	√	√	√	√	√
7	PSTN charging system						√
8	Monthly rental for PSTN	√	√	√	√	√	√
9	National PSTN calls	√	√	√	√	√	√
10	International PSTN calls	√	√	√	√	√	√
11	Mobile Basket					√	√
12	Mobile charging system						√
13	National Leased Lines	√	√	√	√	√	√
14	International Leased Lines	√	√	√	√	√	√

## 0.2. Exchange rates

The following table lists the exchange rates and the VAT rates used in this report. All exchange rates refer to August 2003, even for past years. This is done in order to reflect the actual price changes, not the changes in exchange rates. This does mean, however, that comparisons between countries will only be true for 2003, and other years may have minor discrepancies. Official EURO rates are used, referring to August 2003.

As the Commission required the results also to be available in EURO Purchasing Power Parities (EURO / PPP), these rates had to be calculated based on OECD's Comparative Price Levels information. These CPLs do however not take into account the Euro, so values relevant to the Austrian Shilling value, reflecting a country with low inflation rate, will be used for the conversion. This has been done for consistency with previous years.

**Table 0.2 Exchange rates, national currency to Euro**

	Exchange rate to euro <= 2001		Exchange rate to euro => 2002	
	EURO	EURO PPP	EURO	EURO PPP
Austria	0.07267	0.07267	1	1
Belgium	0.02479	0.02410	1	0.972222
Denmark	0.13458	0.10546	0.13458	0.105456
Finland	0.16819	0.14128	1	0.84
France	0.15245	0.14552	1	0.954545
Germany	0.51129	0.50647	1	0.990566
Greece	0.00293	0.00339	1	1.153846
Ireland	1.26974	1.05812	1	0.833333
Italy	0.00052	0.00055	1	1.071429
Japan	0.00737	0.00545	0.00737	0.00545
Luxembourg	0.02479	0.02479	1	1
Netherlands	0.45378	0.42165	1	0.929204
Portugal	0.00499	0.00631	1	1.26506
Spain	0.00601	0.00679	1.00000	1.129032
Sweden	0.10818	0.08944	0.10818	0.089441
UK	1.42816	1.36325	1.42816	1.363247
USA	0.88845	0.93288	0.88845	0.932877

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# 1. PSTN minimum and initial charges

The minimum and/or initial charges for the following types of calls are covered:

- Local
- Regional at approx. 30 km(where applicable)
- National
- Calls to mobile
- International to EU Member States and USA/Japan

There are different types of charges applied at the beginning of a call, either alone or in combination. The charging method used for the remainder of the call may not depend on the type of initial charge used. The types of charges are:

- Call setup charge raised at the start of the call (when the call is answered). This charge does not offer any call time.
- Initial charge that is used in the same way as call setup, but in addition includes a certain number of seconds call time before normal time-based charging starts.
- Unit charge does in effect work the same way as the Initial charge. A full unit is charged at the beginning of the call, providing a certain number of seconds call time until the next unit is charged. Depending on the principle used by the operator (synchronous / asynchronous) the number of seconds call time in the first unit may be less than the specified unit duration.
- Minimum charge is normally used with per second billing, to ensure the operator minimum revenue per call. If the call duration is short, the actual call charge may be less than the minimum charge. In such cases the minimum charge will be applied.

In the calculation of the minimum charge for calls using per second billing the first second of the call (after it is answered) is not included, even though this can also be perceived as part of the minimum cost.

The tables below show the use and development of these charges per country. As the principles and charges used vary a lot between countries a concise cross-country comparison is less valuable.

There are in principle 3 ways of charging calls. The fact that most operators tend to publish the duration charges on a per minute basis does not itself indicate which system is used. The 3 principles are:

1. Real time charging (also known as per second billing) allows the cost of the call will be calculated to the exact duration of the call (normally nearest second). Call setup charge, initial charge or minimum charge may be applied to this structure, in addition to the duration charge.
2. Unit based charging uses a fixed price unit. The duration of this unit will vary with the destination of the call and time of day. Call duration will always be raised to a multiple of whole units, so the user will nearly always pay for more time than is used. Call setup charge may be applied to this structure, but is relatively rare.

3. Fixed period charging uses a variable price, but fixed duration unit. The call is normally charged on a per minute basis, or per 6 seconds. The price for the period will vary with destination and time of day. The charged duration of the call will be raised to a multiple of whole periods. A call setup charge or initial charge is often implemented in the form of a higher charge for the first minute or period. This initial charge may vary with destination and time of day.

**Table 1.1 Charging regime in each country.**

	1998	1999	2000	2001	2002	2003
Belgium	Per second	Per second	Per second	Per second	Per second	Per second
Denmark	Per second	Per second	Per second	Per second	Per second	Per second
Germany	Units	Units	Units	Units	Units & per minute	Units & per minute
Greece	Units	Units	Units	Units	Units	Units
Spain	Units	Per second	Per second	Per second	Per second	Per second
France	Per second	Per second	Per second	Per second	Per second	Per second
Ireland	Units	Per second	Per second	Per second	Per second	Per second
Italy	Units	Units	Per second	Per second	Per second	Per second
Luxembourg	Units	Units	Units	Units	Units	Units
Netherlands	Per second	Per second	Per second	Per second	Per second	Per second
Austria	Units	Units	Units	Units	Per second & Units	Per second & Units
Portugal	Units	Units	Per second	Per second	Per second	Per second
Finland	Per second	Per second	Per second	Per second	Per second	Per second
Sweden	Per second	Per second	Per second	Per second	Per second	Per second
UK	Per second	Per second	Per second	Per second	Per second	Per second
USA	Per minute	Per minute	Per minute	Per minute	Per minute	Per minute
Japan	Units	Units	Units	Units	Units	Units

Note:

In USA the charging is either based on a unit of 1 minute or 6 seconds duration, where the price varies with destination and time of day. In other countries using unit based charging the price of the unit is constant, while the unit duration varies. The tariffs considered in this report are from Verizon, NY for national calls and AT&T for international calls.

In Austria there are several basic tariff packages to choose from, and no default package. Some of these (TikTak) use per second billing, while others (Standard, Business) use unit based billing. Since 2002 the most prominent residential package is TikTak Privat, while for businesses it is still the Business 1 package that dominate.

The real time charging method can be perceived to be the one fairest to the customer, as he will only pay for what is actually used. This does however not guarantee that this method will always be the cheapest. What has happened in some countries is that when going from a unit-based system to real time charging the average per minute price have been kept the same. The cost per call has then often been seen to go up because an additional (and new) call setup charge has been added. Especially medium duration calls may suffer, depending on the price structure before and after the change.

But it is no doubt that the real time charging method is more convenient to the user, as it is easier to understand and relate to.

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## **1.1. National calls**

Empty cells in the following tables mean that there is no charge or duration applicable. When unit based charging is used, the unit charge is presented as a minimum charge, and the “Including” column will show the duration of the unit in seconds. The first table covers the incumbent operator, while the second table covers the main competitor.

(Tables start on the next page)

### 1.1.1. Belgium

<b>Belgium</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998	0.1485			
1999	0.1485			
2000	0.1485			
2001		0.0495		
2002		0.0495		
2003		0.0500		
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.1737			
1999	0.1737			
2000	0.1737			
2001		0.0495		
2002		0.0495		
2003		0.0500		
Calls to mobile	euro	euro	seconds	Comment
1998	0.1983			
1999	0.1983			
2000	0.1983			
2001		0.0993		
2002		0.0991		
2003		0.1000		

Notes:

Charges in euro, including VAT

#N/A: Call type not used in tariff

National calls are now the same price as local calls

<b>Belgium</b>		<b>Telenet</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.0496		
2003		0.0496		
National calls	euro	euro	seconds	Comment
2002		0.0496		
2003		0.0496		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0972		
2003		0.0972		

## 1.1.2. Denmark

<b>Denmark</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998		0.0168		
1999		0.0168		
2000		0.0168		
2001		0.0336		
2002		0.0336		
2003		0.0336		
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998		0.0168		
1999		0.0168		
2000		0.0168		
2001		0.0336		
2002		0.0336		
2003		0.0336		
Calls to mobile	euro	euro	seconds	Comment
1998		0.0336		
1999		0.0336		
2000		0.0336		
2001		0.0336		
2002		0.0336		
2003		0.0336		

Notes:

Charges in euro, including VAT

#N/A: Call type not used in tariff

National calls are now the same price as local calls

<b>Denmark</b>		<b>Tele2</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.0336		
2003		0.0336		
National calls	euro	euro	seconds	Comment
2002		0.0336		
2003		0.0336		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0336		
2003		0.0336		

### 1.1.3. Germany

<b>Germany</b>				
<b>Minimum Call setup Including</b>				
Local calls	euro	euro	seconds	Comment
1998	0.0614		90	unit
1999	0.0614		90	unit
2000	0.0614		90	unit
2001	0.0614		90	unit
2002	0.0600		90	unit
2003	0.0600		90	unit
Regional calls	euro	euro	seconds	Comment
1998	0.0614		26	unit
1999	0.0614		30	unit
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.0614		13	unit
1999	0.0614		20	unit
2000	0.1227		60	per min.
2001	0.1227		60	per min.
2002	0.1230		60	per min.
2003	0.1220		60	per min.
Calls to mobile	euro	euro	seconds	Comment
1998	0.0614		8	unit
1999	0.0614		8	unit
2000	0.2454		60	per min.
2001	0.2454		60	per min.
2002	0.2460		60	per min.
2003	0.2460		60	per min.

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

#N/A: Call type not used in tariff

Calls to mobile are to the T-Mobile network.

#### **Germany** **Arcor** **Minimum Call setup Including**

Local calls	euro	euro	seconds	Comment
2002	0.0920		60s	60s unit
2003	0.0450		60s	60s unit
National calls	euro	euro	seconds	Comment
2002	0.0920		60s	unit
2003	0.0920		60s	unit
Calls to mobile	euro	euro	seconds	Comment
2002	0.2454		60s	unit
2003	0.2454		60s	unit

## 1.1.4. Greece

<b>Greece</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998	0.0450		180	unit
1999	0.0208		60	unit
2000	0.0312		60	unit
2001	0.0364		60	unit
2002	0.0307		60	unit
2003	0.0307		60	unit
Regional calls	euro	euro	seconds	Comment
1998	0.0450		13	unit
1999	0.0208		8	unit
2000	0.0312		14	unit
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.0450		9	unit
1999	0.0208		5	unit
2000	0.0312		14	unit
2001	0.0970		60	per min.
2002	0.0307		25	unit
2003	0.0307		25	unit
Calls to mobile	euro	euro	seconds	Comment
1998	0.0450		no info	unit
1999	0.0208		3	unit
2000	0.0312		5	unit
2001	0.3809			unit
2002	0.3422			unit
2003	0.1534		34	Minimum

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

#N/A: Call type not used in tariff

<b>Greece</b>		<b>Forthnet</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002				
2003	0.0283			60s unit
National calls	euro	euro	seconds	Comment
2002				
2003				Per second
Calls to mobile	euro	euro	seconds	Comment
2002				
2003	0.1353			Per second

### 1.1.5. Spain

<b>Spain</b>		<b>Minimum</b>	<b>Call setup</b>	<b>Including</b>	
Local calls		euro	euro	seconds	Comment
	1998	0.0397	0.0397		unit
	1999		0.0795	160	
	2000		0.0795	160	
	2001		0.0795	160	
	2002		0.0795	160	
	2003		0.0795	160	
Regional calls		euro	euro	seconds	Comment
	1998	0.0397	0.0795		unit
	1999		0.1046		
	2000		0.1046		
	2001		0.1046		
	2002		0.0966		
	2003		0.0966		
National calls		euro	euro	seconds	Comment
	1998	0.0397	0.1192		unit
	1999		0.1046		
	2000		0.1046		
	2001		0.1046		
	2002		0.0966		
	2003		0.0966		
Calls to mobile		euro	euro	seconds	Comment
	1998	0.0397	0.1192		unit
	1999	0.3068	0.0795	60	
	2000	0.3068	0.0795	60	
	2001	0.2719	0.0795		
	2002	0.2697	0.0795		
	2003	0.2257	0.0795		1 minute minimum

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

For calls to mobile there is both a minimum call period of 1 minute and a call set up charge. The actual minimum cost of a call will be the sum of these two.

<b>Spain</b>		<b>Auna</b>			
		<b>Minimum</b>	<b>Call setup</b>	<b>Including</b>	
Local calls		euro	euro	seconds	Comment
	2002		0.0800		
	2003		0.7946		
National calls		euro	euro	seconds	Comment
	2002		0.1000		
	2003		0.0966		
Calls to mobile		euro	euro	seconds	Comment
	2002		0.0800		
	2003		0.7946		

## 1.1.6. France

<b>France</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998		0.1131	180	
1999		0.1131	180	
2000		0.1121	180	
2001		0.0915	60	
2002		0.0909	60	
2003		0.0909	60	
Regional calls	euro	euro	seconds	Comment
1998		0.1131	111	74 or 47
1999		0.1131	111	74 or 47
2000		0.1121	111	
2001		0.1121	111	
2002		0.1124	111	
2003		0.1124	111	
National calls	euro	euro	seconds	Comment
1998		0.1131	39	
1999		0.1131	39	
2000		0.1121	39	
2001		0.1121	39	
2002		0.1124	39	
2003		0.1124	39	
Calls to mobile	euro	euro	seconds	Comment
1998	0.3622			
1999	0.3622			
2000	0.3592			
2001	0.3592			
2002		0.2500	50	
2003		0.2296	40	

Notes:

Charges in euro, including VAT

For regional calls in 1998 and 1999 there were 3 different zones, with 111, 74 and 47 seconds call allowance included in the call setup.

<b>France</b>		<b>Cegetel</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.1220	60s	
2003		0.1220	60s	
National calls	euro	euro	seconds	Comment
2002		0.1220	20s	
2003		0.1220	20s	
Calls to mobile	euro	euro	seconds	Comment
2002		0.2480	20s	
2003		0.2480	20s	

### 1.1.7. Ireland

<b>Ireland</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998	0.1460			unit
1999	0.1460			
2000	0.1460			
2001	0.0629			
2002	0.0629			
2003	0.0635			
Regional calls	euro	euro	seconds	Comment
1998	0.1460			unit
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.1460			unit
1999	0.1460			
2000	0.1460			
2001	0.0629			
2002	0.0629			
2003	0.0635			
Calls to mobile	euro	euro	seconds	Comment
1998	0.1460			unit
1999	0.1460			
2000	0.1460			
2001	0.0629			
2002	0.0629			
2003	0.0635			

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

#N/A: Call type not used in tariff

<b>Ireland</b>		<b>Esat</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.0381		
2003	0.0605			
National calls	euro	euro	seconds	Comment
2002		0.0381		
2003	0.0605			
Calls to mobile	euro	euro	seconds	Comment
2002	0.0381			
2003				

## 1.1.8. Italy

<i>Italy</i>				
	<i>Minimum</i>	<i>Call setup</i>	<i>Including</i>	
Local calls	euro	euro	seconds	Comment
1998	0.0787		220	unit
1999	0.0787		220	unit
2000		0.0620		
2001		0.0620		
2002		0.0619		
2003		0.0619		
Regional calls	euro	euro	seconds	Comment
1998	0.0787		40	unit
1999	0.0787		40	unit
2000		0.0787		
2001		0.0787		
2002		0.0787		
2003		0.0787		
National calls	euro	euro	seconds	Comment
1998	0.0787		20	unit
1999	0.0787		27	unit
2000		0.0787		
2001		0.0787		
2002		0.0787		
2003		0.0787		
Calls to mobile	euro	euro	seconds	Comment
1998	0.0787		no info	unit
1999	0.0787		6	unit
2000		0.0787		
2001		0.0787		
2002		0.0787		
2003		0.1200		

Notes:

Charges in euro, including VAT  
 Unit: Unit based charging used  
 No info: No information available on unit duration

<i>Italy</i>				
	<i>Minimum</i>	<i>Call setup</i>	<i>Including</i>	
Local calls	euro	euro	seconds	Comment
2002		0.0620	60s	
2003		0.0620	60s	
National calls	euro	euro	seconds	Comment
2002		0.0775	60s	
2003		0.0775	60s	
Calls to mobile	euro	euro	seconds	Comment
2002		0.1250		
2003		0.1250		

## 1.1.9. Luxembourg

### **Luxembourg Minimum Call setup Including**

Local calls	euro	euro	seconds	Comment
1998	0.1240		240	unit
1999	0.1240		240	unit
2000	0.1240		240	unit
2001	0.0310		60	per min.
2002	0.0309		60	per min.
2003	0.0309		60	per min.
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.1240		240	unit
1999	0.1240		240	unit
2000	0.1240		240	unit
2001	0.0310		60	per min.
2002	0.0309		60	per min.
2003	0.0309		60	per min.
Calls to mobile	euro	euro	seconds	Comment
1998	0.1240		17	unit
1999	0.1240		25	unit
2000	0.1240		40	unit
2001	0.1859		60	15s unit
2002	0.1860		60	15s unit after 1st minute
2003	0.1860		60	15s unit after 1st minute

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

#N/A: Call type not used in tariff

National calls are the same price as local calls

### **Luxembourg Tele2 Minimum Call setup Including**

Local calls	euro	euro	seconds	Comment
2002	0.0290		60s	Initial minute
2003	0.0290		60s	Initial minute
National calls	euro	euro	seconds	Comment
2002	0.0290		60s	Initial minute
2003	0.0290		60s	Initial minute
Calls to mobile	euro	euro	seconds	Comment
2002	0.1485		60s	Initial minute
2003	0.1485		60s	Initial minute

### 1.1.10. Netherlands

<b>Netherlands Minimum Call setup Including</b>				
Local calls	euro	euro	seconds	Comment
1998		0.0454		
1999		0.0454		
2000		0.0454		
2001		0.0454		
2002		0.0414		
2003		0.0427		
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998		0.0454		
1999		0.0454		
2000		0.0454		
2001		0.0454		
2002		0.0500		
2003		0.0518		
Calls to mobile	euro	euro	seconds	Comment
1998		0.0454		
1999		0.0454		
2000		0.0454		
2001		0.0454		
2002		0.0500		
2003		0.0518		

Notes:

Charges in euro, including VAT

#N/A: Call type not used in tariff

<b>Netherlands Tele2 Minimum Call setup Including</b>				
Local calls	euro	euro	seconds	Comment
2002		0.0390		
2003		0.0390		
National calls	euro	euro	seconds	Comment
2002		0.0490		
2003		0.0490		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0500		
2003		0.0500		

### 1.1.11. Austria

<b>Austria</b>				
<b>Minimum Call setup Including</b>				
Local calls	euro	euro	seconds	Comment
1998	0.0802		no info	unit
1999	0.0767		72	unit
2000	0.0767		72	unit
2001	0.0767		72	unit
2002	0.0276		30	Minimum
2003	0.0280		30	Minimum
Regional calls	euro	euro	seconds	Comment
1998	0.0802		no info	unit
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.0802		no info	unit
1999	0.0767		25	unit
2000	0.0767		25	unit
2001	0.0767		25	unit
2002	0.0336		30	Minimum
2003	0.0335		30	Minimum
Calls to mobile	euro	euro	seconds	Comment
1998	0.0802		no info	unit
1999	0.0767		20	unit
2000	0.0767		20	unit
2001	0.0767		20	unit
2002	0.0960		30	Minimum
2003	0.0960		30	Minimum

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

#N/A: Call type not used in tariff

No info: No information available on unit duration

The minimum price will vary with the chosen tariff package. The charges given here are for the "Standard-tarif" up to and including 2001, and for the "TikTak Privat" from 2002 onwards.

### **Austria** **UTA**

**Minimum Call setup Including**

Local calls	euro	euro	seconds	Comment
2002				Per second
2003				Per second
National calls	euro	euro	seconds	Comment
2002				Per second
2003				Per second
Calls to mobile	euro	euro	seconds	Comment
2002				Per second
2003				Per second

## 1.1.12. Portugal

<b>Portugal</b>				
	<i>Minimum</i>	<i>Call setup</i>	<i>Including</i>	
Local calls	euro	euro	seconds	Comment
1998	0.0496		180	unit
1999	0.0537	0.0537	180	unit
2000		0.0934	60	
2001		0.0934	60	
2002		0.0950	60	
2003		0.0950	60	
Regional calls	euro	euro	seconds	Comment
1998	0.0496		33	unit
1999	0.0537	0.0537	37	unit
2000		0.0934	20	
2001		0.0934	20	
2002		0.0950	20	
2003		0.0950	20	
National calls	euro	euro	seconds	Comment
1998	0.0496		12	unit
1999	0.0537	0.0537	16	unit
2000		0.0934	10	
2001		0.0934	10	
2002		0.0950	10	
2003		0.0950	10	
Calls to mobile	euro	euro	seconds	Comment
1998	0.0496		no info	unit
1999	0.0537	0.0537	10	unit
2000	0.1897			
2001	0.3793			
2002	0.3798			1st minute
2003	0.1660		60	1st minute

Notes:

Charges in euro, including VAT

Unit: Unit based charging used

No info: No information available on unit duration

### **Portugal Oni**

*Minimum Call setup Including*

Local calls	euro	euro	seconds	Comment
2002	0.0710		60s	Initial minute
2003	0.0710		60s	Initial minute
National calls	euro	euro	seconds	Comment
2002	0.1188		60s	Initial minute
2003	0.1188		60s	Initial minute
Calls to mobile	euro	euro	seconds	Comment
2002	0.3451		60s	Initial minute
2003		0.1428	60s	Initial minute

### 1.1.13. Finland

<b>Finland</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998		0.1005		
1999		0.1005		
2000		0.1005		
2001		0.1252		
2002		0.1261		
2003		0.1261		
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998		0.1005		
1999	0.0739	0.0595		
2000	0.0739	0.0595		
2001	0.0739	0.0739		
2002	0.0739	0.0756		
2003	0.0739	0.0756		
Calls to mobile	euro	euro	seconds	Comment
1998		0.1005		
1999		0.0595		
2000		0.0595		
2001		0.0739		
2002		0.0756		
2003		0.0756		

Notes:

Charges in euro, including VAT

#N/A: Call type not used in tariff

Tariffs for Sonera.

National calls have a minimum period of 1 minute at the national call charge, plus the local network charge that includes the call setup charge. Both charges apply. The included 60 seconds refer to the initial minute charge (minimum), while the local network charge will add a small charge on a per second basis on top of the minimum charge.

<b>Finland</b>		<b>Elisa</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.1200		
2003		0.1200		
National calls	euro	euro	seconds	Comment
2002		0.0900		
2003		0.0900		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0900		
2003		0.0900		

## 1.1.14. Sweden

<b>Sweden</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998		0.0433		
1999		0.0433		
2000		0.0487		
2001		0.0487		
2002		0.0487		
2003		0.0487		
Regional calls	euro	euro	seconds	Comment
1998	#N/A	#N/A	#N/A	
1999	#N/A	#N/A	#N/A	
2000	#N/A	#N/A	#N/A	
2001	#N/A	#N/A	#N/A	
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998		0.0433		
1999		0.0433		
2000		0.0487		
2001		0.0487		
2002		0.0487		
2003		0.0487		
Calls to mobile	euro	euro	seconds	Comment
1998		0.0433		
1999		0.0433		
2000		0.0487		
2001		0.0487		
2002		0.0487		
2003		0.0487		

Notes:

Charges in euro, including VAT

#N/A: Call type not used in tariff

National calls are the same price as local calls

<b>Sweden</b>		<b>Tele2</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.0487		
2003		0.0487		
National calls	euro	euro	seconds	Comment
2002		0.0487		
2003		0.0487		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0487		
2003		0.0487		

### 1.1.15. United Kingdom

<b>UK</b>		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
1998	0.0705			
1999	0.0705			
2000	0.0705			
2001	0.0705			
2002	0.0705			
2003	0.0705			
Regional calls	euro	euro	seconds	Comment
1998	0.0705			
1999	0.0705			
2000	0.0705			
2001	0.0705			
2002	#N/A	#N/A	#N/A	
2003	#N/A	#N/A	#N/A	
National calls	euro	euro	seconds	Comment
1998	0.0705			
1999	0.0705			
2000	0.0705			
2001	0.0705			
2002	0.0705			
2003	0.0705			
Calls to mobile	euro	euro	seconds	Comment
1998	0.0705			
1999	0.0705			
2000	0.0705			
2001	0.0705			
2002	0.0705			
2003	0.0705			

Notes:

Charges in euro, including VAT

<b>UK</b>		<b>NTL</b>		
		<b>Minimum Call setup Including</b>		
Local calls	euro	euro	seconds	Comment
2002		0.0700		
2003		0.0700		
National calls	euro	euro	seconds	Comment
2002		0.0700		
2003		0.0700		
Calls to mobile	euro	euro	seconds	Comment
2002		0.0700		
2003		0.0700		

### 1.1.16. USA (Nynex / Bell Atlantic / Verizon)

<b>USA</b>				
<b>Minimum Call setup Including</b>				
Local calls	euro	euro	seconds	Comment
1998		0.1036		
1999		0.1036		
2000		0.1036		
2001		0.1036		
2002		0.1036		
2003		0.1036		
Regional calls	euro	euro	seconds	Comment
1998	0.1280		60	unit
1999	0.1280		60	unit
2000	0.0489		60	unit
2001	0.0489		60	unit
2002	0.0489		60	unit
2003	0.0489		60	unit
National calls	euro	euro	seconds	Comment
1998	0.1955		60	unit
1999	0.1955		60	unit
2000	0.0489		60	unit
2001	0.0489		60	unit
2002	0.0489		60	unit
2003	0.0880		60	unit
Calls to mobile	euro	euro	seconds	Comment
1998		0.1036		
1999		0.1036		
2000		0.1036		
2001		0.1036		
2002		0.1036		
2003		0.1036		

Notes:

Charges in euro, including VAT

Charges apply to New York Metro area

Local calls are untimed

Unit based charging used, with fixed unit duration (60 seconds)

Calls to mobile are normally charged as local calls, where the called party pays for the mobile portion of the call.

2000-2002 data use AT&T for Regional and National (Intra-State) calls, as these provide lower charges than the local operator (Verizon). This only became possible after the regulatory change in 1999.

### 1.1.17. Japan (NTT)

<b>Japan</b>				
	<b>Minimum</b>	<b>Call setup</b>	<b>Including</b>	
<b>Local calls</b>	euro	euro	seconds	Comment
1998	0.0759		180	unit
1999	0.0759		180	unit
2000	0.0759		180	unit
2001	0.0759		180	unit
2002	0.0645		180	unit
2003	0.0645		180	unit
<b>Regional calls</b>	euro	euro	seconds	Comment
1998	0.0759		45	unit
1999	0.0759		45	unit
2000	0.0759		45	unit
2001	0.0759		45	unit
2002	0.0759		60	unit
2003	0.0759		60	unit
<b>National calls</b>	euro	euro	seconds	Comment
1998	0.0759		20	unit
1999	0.0759		20	unit
2000	0.0759		20	unit
2001	0.0759		20	unit
2002	0.0759		45	unit
2003	0.0759		45	unit
<b>Calls to mobile</b>	euro	euro	seconds	Comment
1998	0.0759		12	unit
1999	0.0759		12	unit
2000	0.0759		17	unit
2001	0.0759		17	unit
2002	0.0759		23	unit
2003	0.0759		23	unit

Notes:

Charges in euro, including VAT

Unit: Unit based charging used



## 1.2. International calls

Initial charges for international calls will normally follow similar rules as for national calls. In the case of Greece no minimum or call setup charges are reported by the operator.

Where unit based charging is used the initial period duration covered by the first unit may change with the destination.

Prices are for most countries the same for business and residential customers. Differences may occur in France and USA.

All charges are in euro, including VAT, and show the initial price for a call from one country to all the others.

### Belgium

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum		0.2250	0.2250	0.3215	0.3215	0.2250	0.3000	0.3000	0.2250	0.2250	0.3000	0.3215	0.3215	0.3215	0.2250	0.3000	0.5999
1999	Minimum		0.2232	0.2232	0.2976	0.2976	0.2232	0.2976	0.2976	0.2232	0.2232	0.2976	0.2976	0.2976	0.2976	0.2232	0.2976	0.5951
2000	Minimum		0.2232	0.2232	0.2976	0.2976	0.2232	0.2976	0.2976	0.2232	0.2232	0.2976	0.2976	0.2976	0.2976	0.2232	0.2976	0.5951
2001	Call setup		0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993	0.0993
2002	Call setup		0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991
2003	Call setup		0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000

### Denmark

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Call setup	0.0168		0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168
1999	Call setup	0.0168		0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168
2000	Call setup	0.0168		0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168
2001	Call setup	0.0336		0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336
2002	Call setup	0.0336		0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336
2003	Call setup	0.0336		0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336	0.0336

### Germany

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (unit based)	0.0614	0.0614		0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614
1999	Minimum (unit based)	0.1227	0.1227		0.0614	0.1227	0.1227	0.0614	0.0614	0.1227	0.1227	0.1227	0.0614	0.0614	0.0614	0.1227	0.1227	0.0614
2000	Minimum (unit based)	0.1227	0.1227		0.2454	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.0614
2001	Minimum (unit based)	0.1227	0.1227		0.2454	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.1227	0.0614
2002	Minimum (unit based)	0.1230	0.1230		0.2460	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.0613
2003	Minimum (unit based)	0.1230	0.1230		0.2460	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.1230	0.7900

**Greece**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998																		
1999																		
2000																		
2001																		
2002																		
2003																		

**Spain**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Call setup	0.1987	0.1987	0.1987	0.1987		0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987	0.1987
1999	Call setup	0.1394	0.1394	0.1394	0.1394		0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394
2000	Call setup	0.1394	0.1394	0.1394	0.1394		0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394
2001	Call setup	0.1394	0.1394	0.1394	0.1394		0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394	0.1394
2002	Call setup	0.1377	0.1377	0.1377	0.1377		0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377
2003	Call setup	0.1377	0.1377	0.1377	0.1377		0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377	0.1377

**France**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J	
1998	Time for (F)	0.6150	21.0000	20.0000	21.0000	18.0000	21.0000		18.0000	21.0000	21.0000	20.0000	18.0000	18.0000	18.0000	20.0000	24.0000	20.0000	8.0000
1999	Time for (F)	0.6150	24.0000	22.0000	24.0000	20.0000	24.0000		20.0000	24.0000	24.0000	22.0000	20.0000	20.0000	20.0000	22.0000	24.0000	22.0000	10.0000
2000	Time for (F)	0.6150	27.0000	27.0000	27.0000	27.0000	27.0000		27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	10.0000
2001	Time for (F)	0.6150	27.0000	27.0000	27.0000	27.0000	27.0000		27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	27.0000	10.0000
2002	Seconds for	€ 0.094	15.0000	27.0000	15.0000	27.0000	15.0000		27.0000	15.0000	15.0000	15.0000	27.0000	27.0000	27.0000	27.0000	15.0000	15.0000	5.0000
2003	Seconds for	€ 0.094	15.0000	27.0000	15.0000	27.0000	15.0000		27.0000	15.0000	15.0000	15.0000	27.0000	27.0000	27.0000	27.0000	15.0000	15.0000	5.0000

**Ireland**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998																		
1999																		
2000																		
2001	Minimum	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629		0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629
2002	Minimum	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629		0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629	0.0629
2003	Minimum	0.0635	0.0635	0.0635	0.0635	0.0635	0.0635		0.0635	0.0635	0.0635	0.0635	0.0635	0.0635	0.0635	0.0635	0.0635	0.0635

**Italy**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148		0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148
1999	Minimum	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148		0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148	0.3148
2000	Call setup (2 sec free)	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099		0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099
2001	Call setup (2 sec free)	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099		0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099	0.3099
2002	Call setup (2 sec free)	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098		0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098
2003	Call setup (2 sec free)	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098		0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098

**Luxembourg**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (unit based)	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240		0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240
1999	Minimum (unit based)	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240		0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240
2000	Minimum (unit based)	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240		0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240	0.1240
2001																		
2002	Minimum 1st minute	0.1436	0.1436	0.1436	0.2429	0.1436	0.1436	0.1436	0.1436		0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.2429
2003	Minimum 1st minute	0.1436	0.1436	0.1436	0.2429	0.1436	0.1436	0.1436	0.1436		0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.2429

**Netherlands**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Call setup	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454		0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454
1999	Call setup	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454		0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454
2000	Call setup	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454		0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454
2001	Call setup	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454		0.0454	0.0454	0.0454	0.0454	0.0454	0.0454	0.0454
2002	Call setup	0.0452	0.0452	0.0452	0.0452	0.0452	0.0452	0.0452	0.0452	0.0452		0.0452	0.0452	0.0452	0.0452	0.0452	0.0452	0.0452
2003	Call setup	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000		0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000

**Austria**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (unit based)	0.0802	0.0802	0.0802	0.0802	0.0802	0.0802	0.0802	0.0802	0.0802	0.0802		0.0802	0.0802	0.0802	0.0802	0.0802	0.0802
1999	Minimum (unit based)	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767		0.0767	0.0767	0.0767	0.0767	0.0767	0.0767
2000	Minimum (unit based)	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767		0.0767	0.0767	0.0767	0.0767	0.0767	0.0767
2001	Minimum (unit based)	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767	0.0767		0.0767	0.0767	0.0767	0.0767	0.0767	0.0767
2002	Minimum 1st half min.	0.1524	0.1524	0.1236	0.1884	0.1524	0.1524	0.1884	0.1236	0.1524	0.1524		0.1884	0.1524	0.1524	0.1524	0.1884	0.1884
2003	Minimum 1st half min.	0.1524	0.1524	0.1236	0.1884	0.1524	0.1524	0.1884	0.1236	0.1524	0.1524		0.1884	0.1524	0.1524	0.1524	0.1884	0.1884

**Portugal**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (unit based)	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496		0.0496	0.0496	0.0496	0.0496	0.0496
1999	Minimum +18.40/call	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537	0.0537		0.0537	0.0537	0.0537	0.0537	0.0537
2000	Call setup (5 sec free)	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167		0.1167	0.1167	0.1167	0.1167	0.1167
2001	Call setup (5 sec free)	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167	0.1167		0.1167	0.1167	0.1167	0.1167	0.1167
2002	Call setup (5 sec free)	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188		0.1188	0.1188	0.1188	0.1188	0.1188
2003	Call setup (5 sec free)	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188	0.1188		0.1188	0.1188	0.1188	0.1188	0.1188

**Finland**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Call setup	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005	0.1005		0.1005	0.1005	0.1005	0.1005
1999	Call setup	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595		0.0595	0.0595	0.0595	0.0595
2000	Call setup	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595	0.0595		0.0595	0.0595	0.0595	0.0595
2001	Call setup	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759	0.0759		0.0759	0.0759	0.0759	0.0759
2002	Call setup	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756		0.0756	0.0756	0.0756	0.0756
2003	Call setup	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756	0.0756		0.0756	0.0756	0.0756	0.0756

**Sweden**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Call setup	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433		0.0433	0.0433	0.0433
1999	Call setup	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433		0.0433	0.0433	0.0433
2000	Call setup	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487		0.0487	0.0487	0.0487
2001	Call setup	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487		0.0487	0.0487	0.0487
2002	Call setup	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487		0.0487	0.0487	0.0487
2003	Call setup	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487	0.0487		0.0487	0.0487	0.0487

**UK**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705
1999	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705
2000	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705
2001	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705
2002	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705
2003	Minimum	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		0.0705	0.0705

**USA**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (for 60 sec)	1.5930	1.4953	1.2803	2.0035	1.6614	1.3682	1.3878	1.5441	1.4562	1.3487	1.4757	1.5148	1.5148	1.3487	1.1141		1.4855
1999	Minimum (unit based)	0.2541	0.2541	0.2541	0.2736	0.2541	0.2541	0.2541	0.2541	0.2541	0.2541	0.2541	0.2541	0.2541	0.2541	0.1075		0.3127
2000	Minimum (unit based)	0.2834	0.2834	0.1661	0.2834	0.1661	0.1661	0.1661	0.1661	0.2834	0.2443	0.2834	0.2443	0.2834	0.1955	0.0977		0.1564
2001	Minimum (unit based)	0.2834	0.2834	0.1661	0.2834	0.1661	0.1661	0.1661	0.1661	0.2834	0.2443	0.2834	0.2443	0.2834	0.1955	0.0977		0.1564
2002	Minimum (unit based)	0.2834	0.2834	0.1661	0.2834	0.1661	0.1661	0.1661	0.1661	0.2834	0.2443	0.2834	0.2443	0.2834	0.1955	0.0977		0.1564
2003	Minimum (unit based)	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.1173	0.0782		0.0977

**Japan**

	to:	B	DK	D	EL	E	F	IRE	I	L	NL	A	P	SF	S	UK	USA	J
1998	Minimum (first 6 sec)	0.2581	0.2581	0.2505	0.2581	0.2581	0.2505	0.2581	0.2581	0.2581	0.2581	0.2581	0.2581	0.2581	0.2581	0.2505	0.1594	
1999	Minimum (first 6 sec)	0.2505	0.2505	0.1670	0.2505	0.2505	0.1670	0.2505	0.2505	0.2505	0.2505	0.2505	0.2505	0.2505	0.2505	0.1442	0.0607	
2000	Minimum (first 6 sec)	0.2353	0.2353	0.1518	0.2353	0.2353	0.1518	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.1139	0.0455	
2001	Minimum (first 6 sec)	0.2353	0.2353	0.1518	0.2353	0.2353	0.1518	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.1139	0.0455	
2002	Minimum (first 6 sec)	0.2353	0.2353	0.1518	0.2353	0.2353	0.1518	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.1139	0.0455	
2003	Minimum (first 6 sec)	0.2353	0.2353	0.1518	0.2353	0.2353	0.1518	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.2353	0.1139	0.0455	

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## 2. National PSTN basket

The OECD basket methodology allows the calculation of the annual cost for a typical business or residential telephone user. The user is assumed to be using national PSTN service from the incumbent operator, and any fixed charges are also included.

The OECD national PSTN basket structure covers 14 distances (3 km to 490 km) and 6 times of day (4 at weekdays and 2 at weekends), all with individual weights. Call duration is varied over the distances and time of day. Fixed charges are included with the appropriate annual rental charge, and 1/5 of the installation charge.

The national PSTN basket as defined by the OECD has been used directly. As there is a new set of OECD baskets as of May 2000, the “old” baskets have been used for consistency with previous years. The results using the new OECD baskets are shown in chapter 3 of this report.

In order to maintain consistency across all years a fixed number of calls is defined for each basket. The old OECD baskets require this change, as the number of calls was adjusted each update.

**Table 2.1** Number of calls OECD PSTN basket, per year

	<b>Old National basket</b>
	<b>National calls</b>
<b>Business basket</b>	3,567
<b>Residential basket</b>	1,215

Data is presented for the incumbent operator in each country. Standard tariffs are used, excluding any discount packages. This means that lower costs can be achieved if the user selects another operator or another tariff package.

USA and Japan is included, with Nynex/Bell Atlantic/Verizon in New York for USA and NTT for Japan. In the USA the prices vary a lot with the operator and locale chosen. Verizon may not be the cheapest, but has been used because it has been chosen by the OECD to represent USA, and provides the only consistent data available over time.

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The graphs and tables below will present the data with these parameters:

- Values presented in Euro/PPP per year
- Including VAT for the Residential basket
- Excluding VAT for the Business basket
- Average call prices are calculated for “old” National baskets, real call prices are calculated for “new” Composite baskets.

The average call prices means that the charges for individual calls are calculated using average per minute charges, while the real call prices take the price of full units into account, where applicable.

## 2.1. National Residential basket

The basket value for each country and each year is summarised in the table and graph below.

**Table 2.1 National Residential PSTN basket**

	1998	1999	2000	2001	2002	2003
Belgium	424	424	424	406	408	416
Denmark	289	298	292	288	283	286
Germany	436	358	336	336	343	346
Greece	458	413	362	367	356	356
Spain	589	494	405	423	413	398
France	359	365	347	367	371	371
Ireland	333	365	353	318	335	358
Italy	397	380	415	392	365	365
Luxembourg	261	261	261	322	322	322
Netherlands	340	320	311	313	327	339
Austria	494	494	425	432	349	349
Portugal	591	566	477	530	539	527
Finland	307	319	334	347	347	347
Sweden	251	244	239	260	260	256
UK	352	348	322	318	301	297
USA	349	390	432	311	351	428
Japan	464	408	394	332	325	263
EU15 weighted	413	382	360	362	356	355

**Note:**

All values in euro/PPP per year, including VAT

Standard tariffs for the incumbent operators are used throughout (New York area in USA)

Values shown are total values, i.e. include both the fixed and usage components of the basket

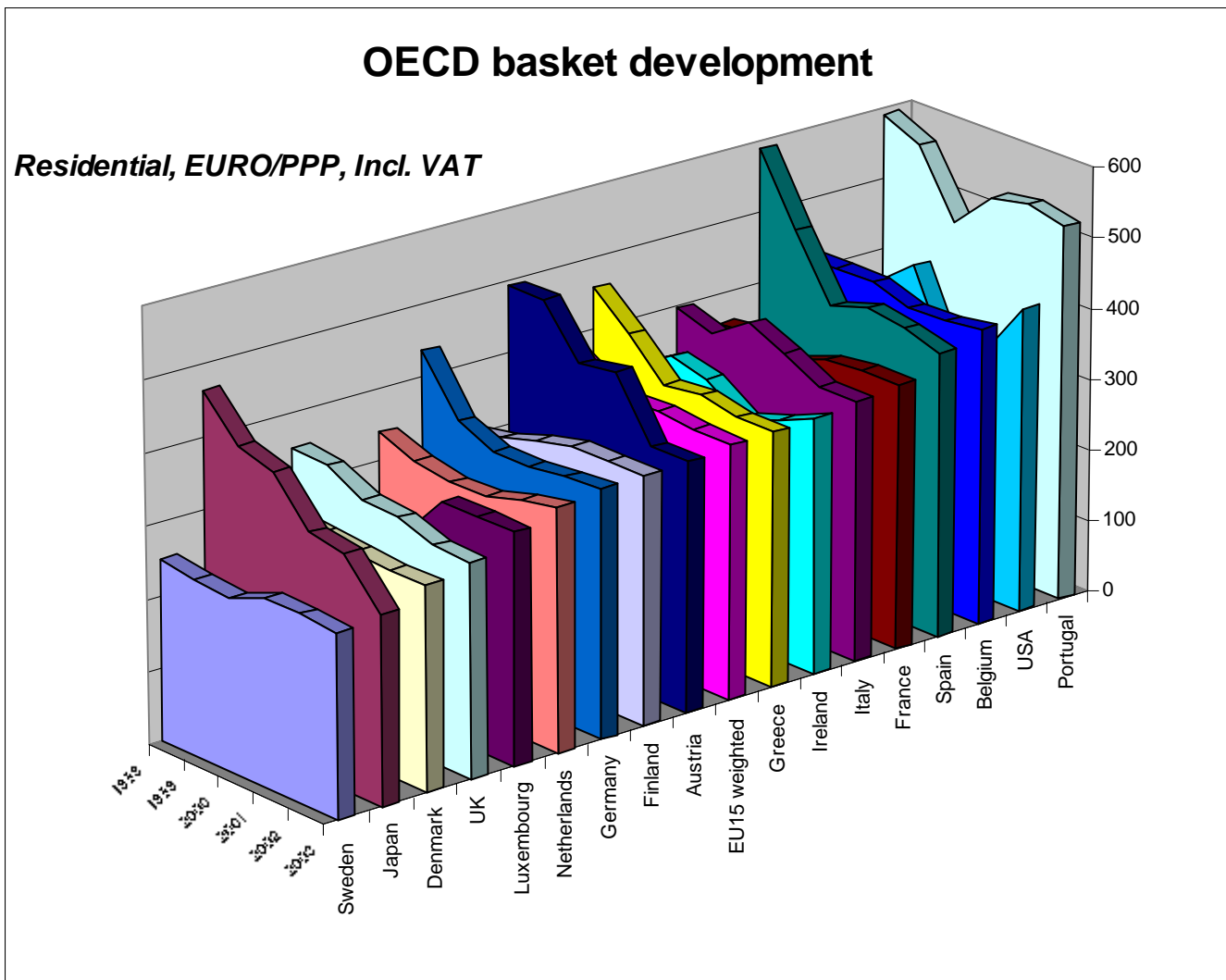
The average value is a weighted average across EU Member States using population as weight.

Certain variations in the prices may seem strange, where prices go up and down over a period of a couple of years. This may happen when the operator changes from unit based to per second based billing. An example here is Italy, where the year 2000 shows a sharp increase. This is due to the fact that the OECD basket contains a relatively large number of short duration (2.5 minutes) local calls.

An attempt has been made to display all countries together in the graph below. Individual graphs for each country will follow.

In the individual graphs the lower thick line (red) shows the values of the fixed charges. The upper thick line (green) shows the total value, fixed plus usage. The thin (blue) line shows the EU average. The usage portion of the basket is then found as the difference between the upper and lower thick lines.

Figure 2.1 National Residential basket development 1998 – 2003 (“old” OECD basket)



Note:  
 For more details on each country, see the individual tables and graphs below.  
 Countries appear in sorted order, according to the 2003 value.

## 2.1.1. Belgium

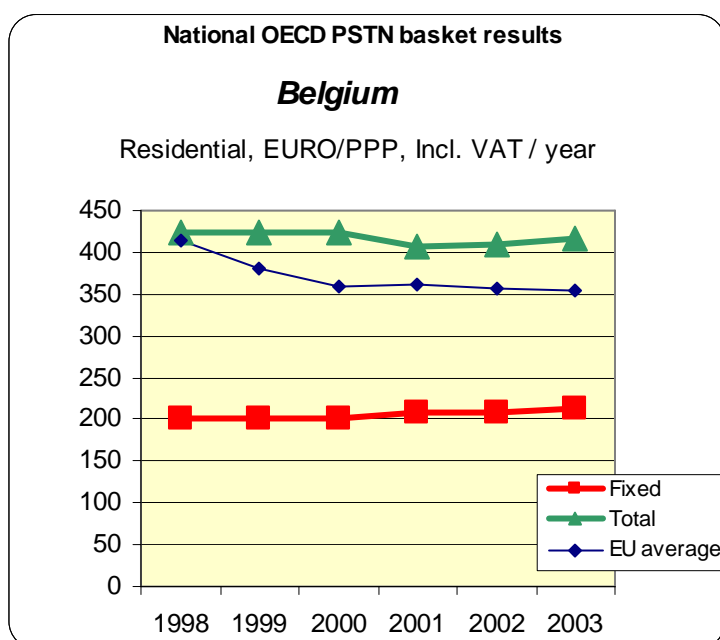
Table 2.2 National Residential basket result

<b>Belgium</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	202	222	424
1999	202	222	424
2000	202	222	424
2001	208	198	406
2002	209	200	408
2003	212	204	416

Note:

All values in EURO/PPP, including VAT

Figure 2.2 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.2. Denmark

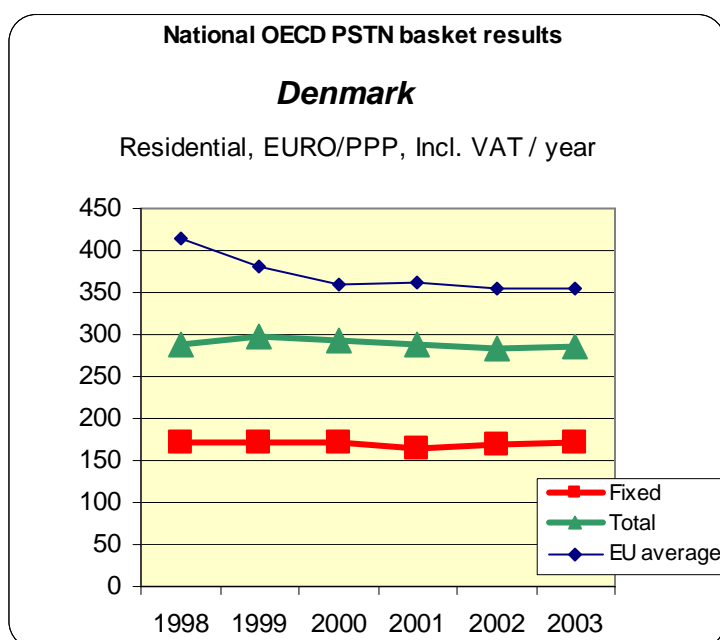
Table 2.3 National Residential basket result

Denmark	Fixed	Usage	Total
1998	172	117	289
1999	172	126	298
2000	172	120	292
2001	163	125	288
2002	168	115	283
2003	171	115	286

Note:

All values in EURO/PPP, including VAT

Figure 2.3 National Residential basket result



Note:

The EU average values are weighted with population

### 2.1.3. Germany

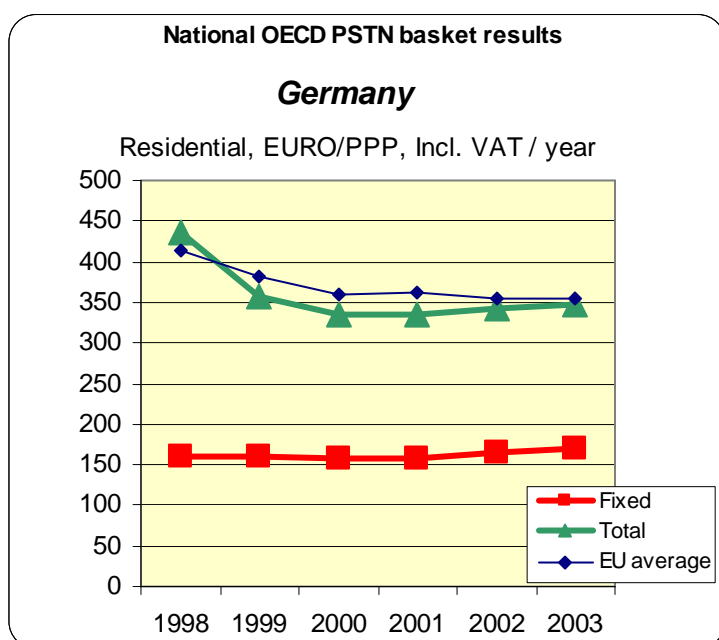
Table 2.4 National Residential basket result

Germany	Fixed	Usage	Total
1998	161	275	436
1999	161	197	358
2000	159	178	336
2001	158	178	336
2002	166	176	343
2003	171	176	346

Note:

All values in EURO/PPP, including VAT

Figure 2.4 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.4. Greece

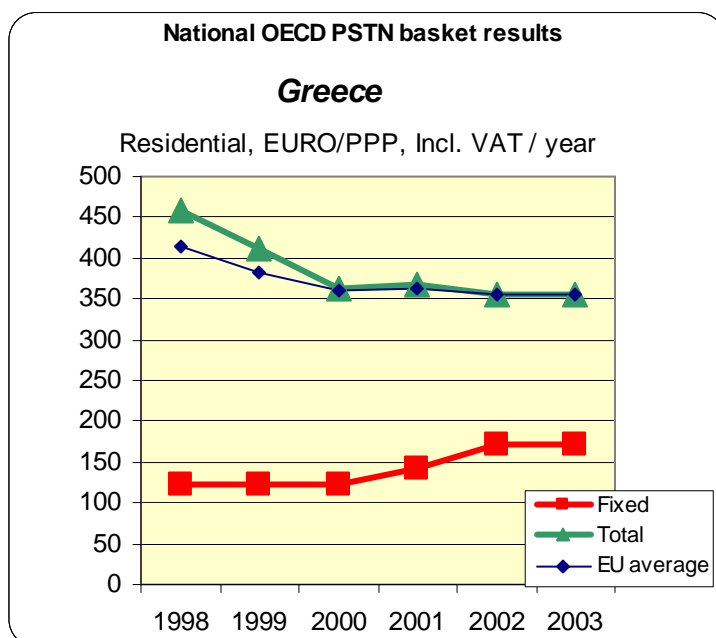
Table 2.5 National Residential basket result

Greece	Fixed	Usage	Total
1998	122	336	458
1999	122	290	413
2000	123	239	362
2001	142	225	367
2002	171	185	356
2003	171	185	356

Note:

All values in EURO/PPP, including VAT

Figure 2.5 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.5. Spain

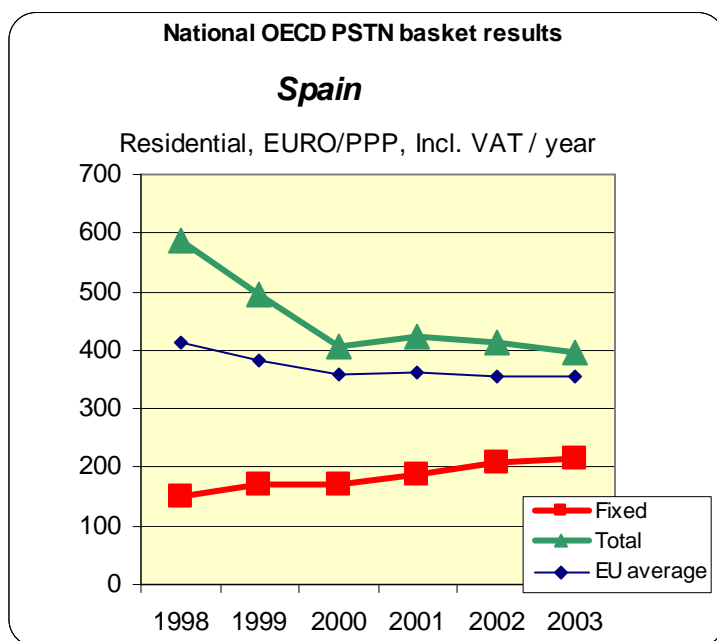
Table 2.6 National Residential basket result

<i>Spain</i>	Fixed	Usage	Total
1998	151	438	589
1999	170	324	494
2000	170	236	405
2001	189	234	423
2002	208	205	413
2003	214	184	398

Note:

All values in EURO/PPP, including VAT

Figure 2.6 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.6. France

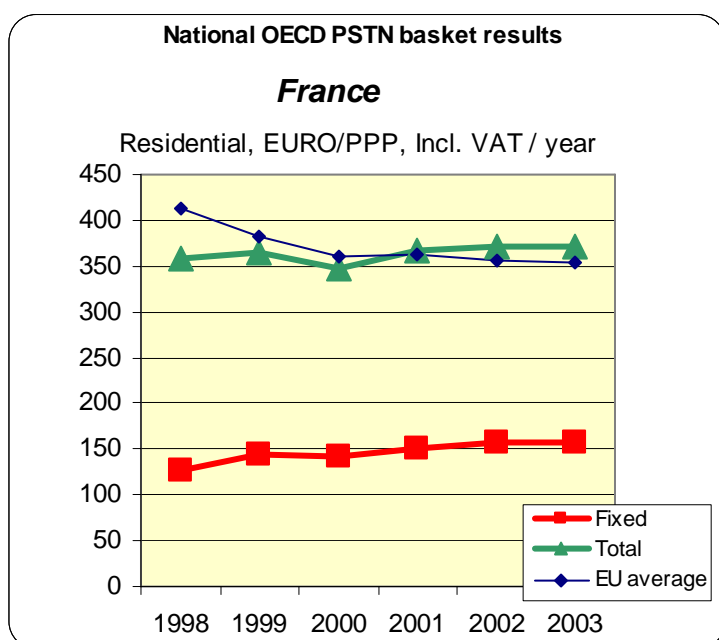
Table 2.7 National Residential basket result

France	Fixed	Usage	Total
1998	128	231	359
1999	145	220	365
2000	142	205	347
2001	151	216	367
2002	156	215	371
2003	156	215	371

Note:

All values in EURO/PPP, including VAT

Figure 2.7 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.7. Ireland

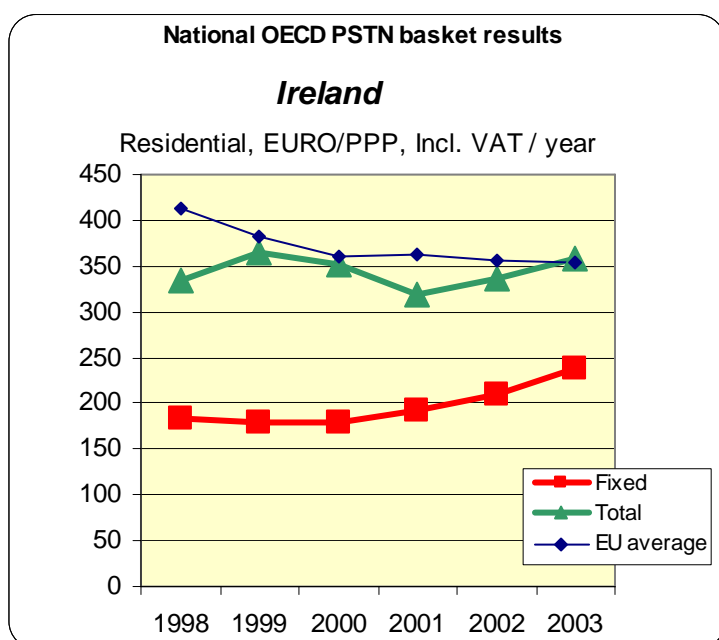
Table 2.8 National Residential basket result

<i>Ireland</i>	Fixed	Usage	Total
1998	184	149	333
1999	178	187	365
2000	180	172	353
2001	193	125	318
2002	209	126	335
2003	238	120	358

Note:

All values in EURO/PPP, including VAT

Figure 2.8 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.8. Italy

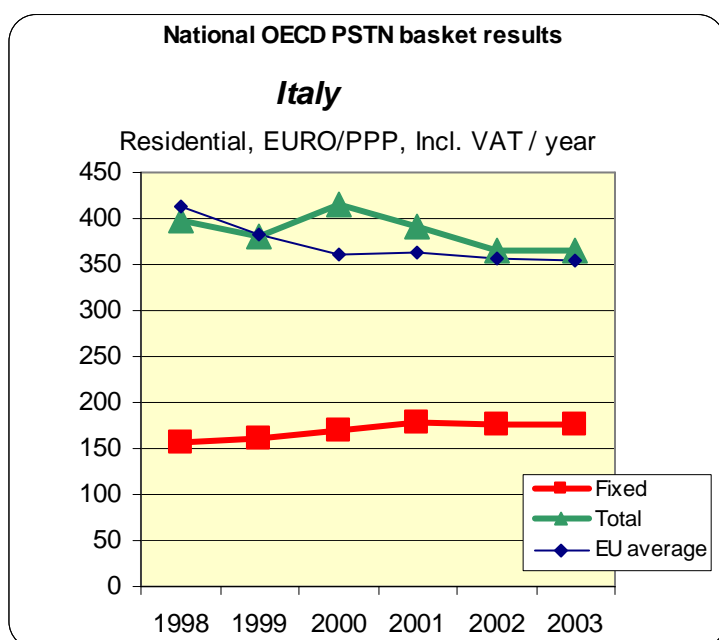
Table 2.9 National Residential basket result

<i>Italy</i>	Fixed	Usage	Total
1998	156	241	397
1999	160	219	380
2000	169	246	415
2001	178	214	392
2002	176	189	365
2003	176	189	365

Note:

All values in EURO/PPP, including VAT

Figure 2.9 National Residential basket result



Note:

The EU average values are weighted with population

Telecom Italia changed to per second billing late 1999, and also introduced a call setup charge.

## 2.1.9. Luxembourg

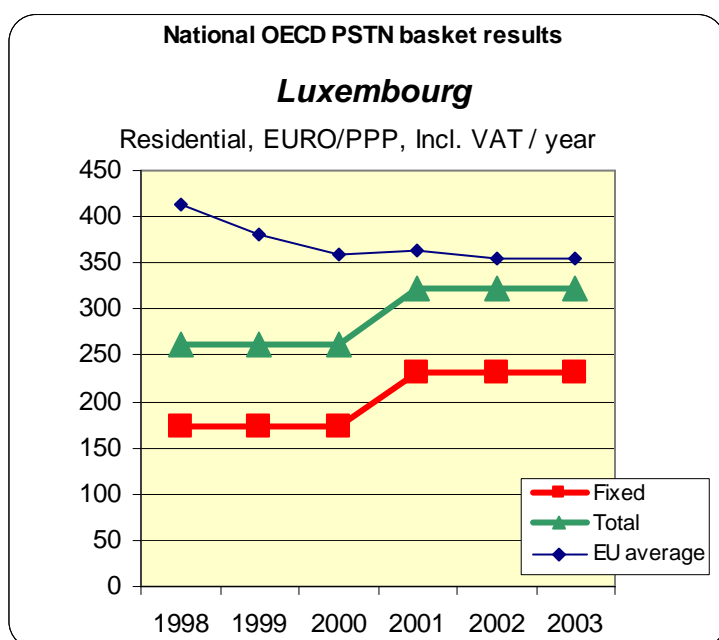
Table 2.10 National Residential basket result

<i>Luxembourg</i>	Fixed	Usage	Total
1998	173	88	261
1999	173	88	261
2000	173	88	261
2001	232	90	322
2002	232	89	322
2003	232	89	322

Note:

All values in EURO/PPP, including VAT

Figure 2.10 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.10. Netherlands

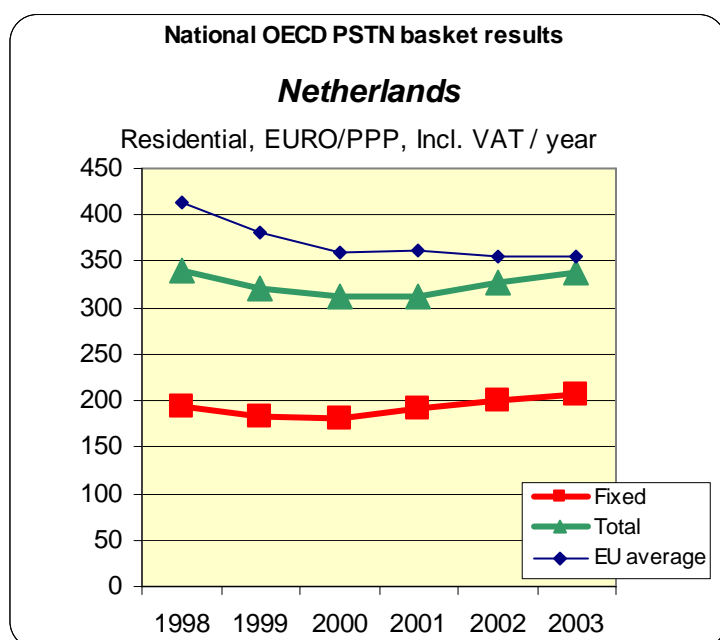
Table 2.11 National Residential basket result

<b>Netherlands</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	194	145	340
1999	183	137	320
2000	181	130	311
2001	192	122	313
2002	200	127	327
2003	207	132	339

Note:

All values in EURO/PPP, including VAT

Figure 2.11 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.11. Austria

Table 2.12 National Residential basket result

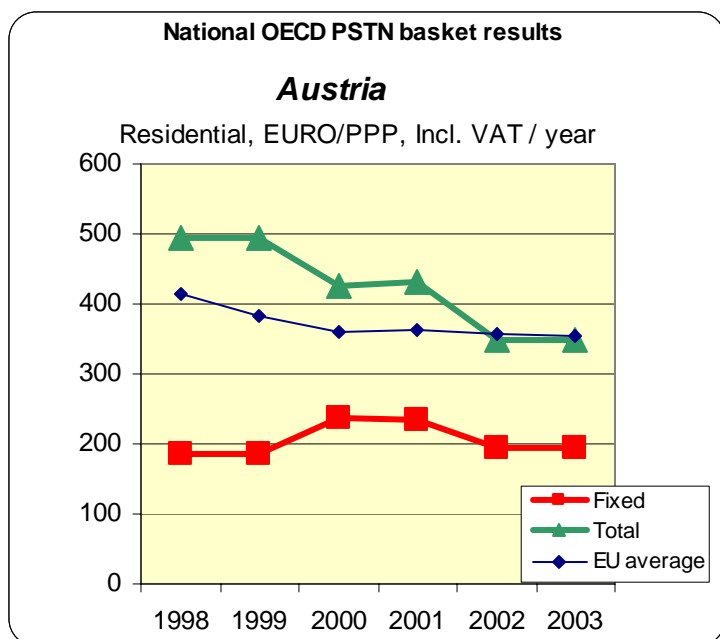
<b>Austria</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	185	309	494
1999	185	309	494
2000	237	188	425
2001	235	197	432
2002	193	156	349
2003	193	156	349

Note:

All values in EURO/PPP, including VAT

Values from 2002 onwards come from the TikTak Privat package, which is the dominant tariff in the residential market.

Figure 2.12 National Residential basket result



Note:

The EU average values are weighted with population

Values from 2002 onwards come from the TikTak Privat package, which is the dominant tariff in the residential market.

## 2.1.12. Portugal

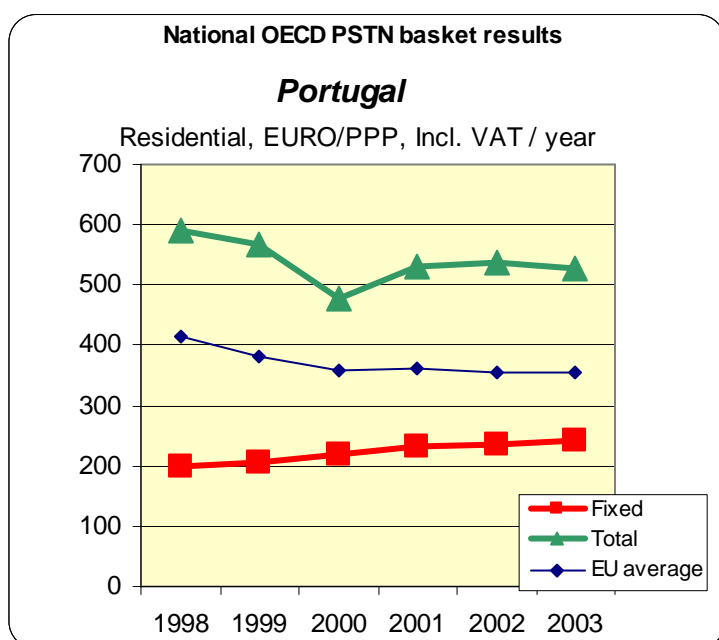
Table 2.13 National Residential basket result

<i>Portugal</i>	Fixed	Usage	Total
1998	199	392	591
1999	207	359	566
2000	220	257	477
2001	232	298	530
2002	236	303	539
2003	244	283	527

Note:

All values in EURO/PPP, including VAT

Figure 2.13 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.13. Finland

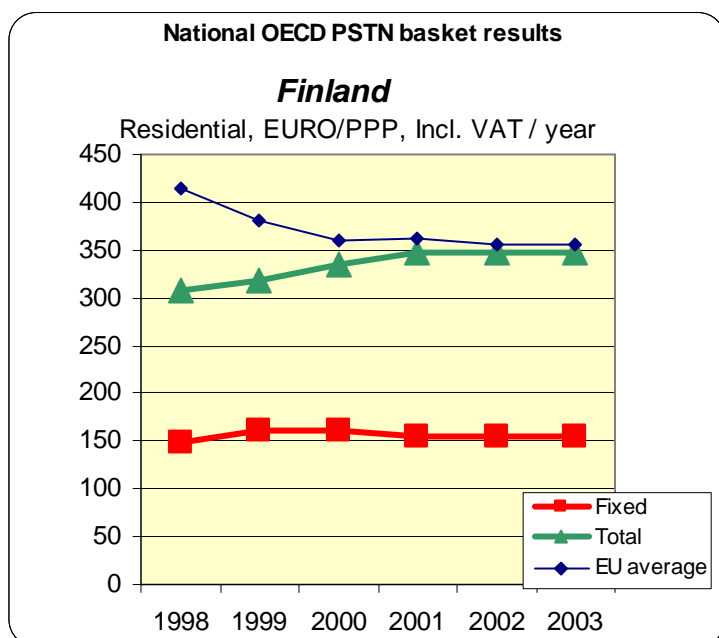
Table 2.14 National Residential basket result

<i>Finland</i>	Fixed	Usage	Total
1998	148	159	307
1999	162	157	319
2000	162	172	334
2001	156	191	347
2002	156	191	347
2003	156	191	347

Note:

All values in EURO/PPP, including VAT

Figure 2.14 National Residential basket result



Note:

The EU average values are weighted with population  
Tariffs for Sonera.

## 2.1.14. Sweden

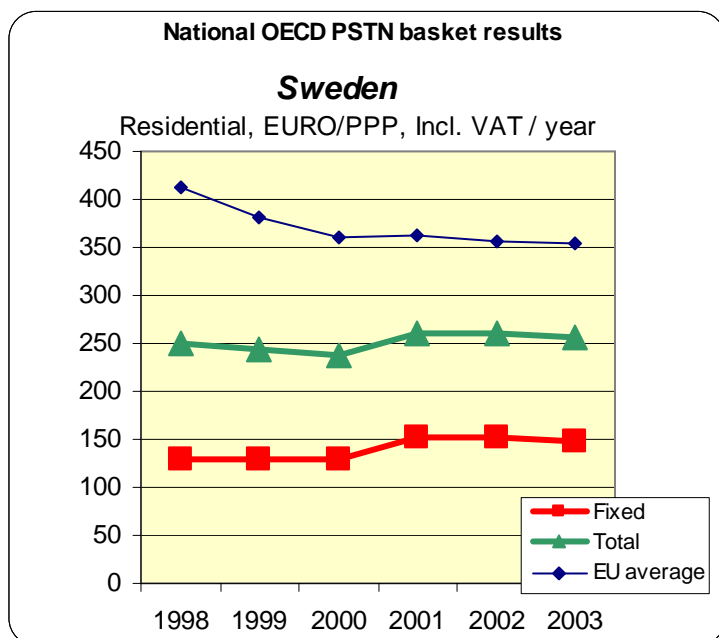
Table 2.15 National Residential basket result

Sweden	Fixed	Usage	Total
1998	130	120	251
1999	130	114	244
2000	130	108	239
2001	152	108	260
2002	152	108	260
2003	147	108	256

Note:

All values in EURO/PPP, including VAT

Figure 2.15 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.15. United Kingdom

Table 2.16 National Residential basket result

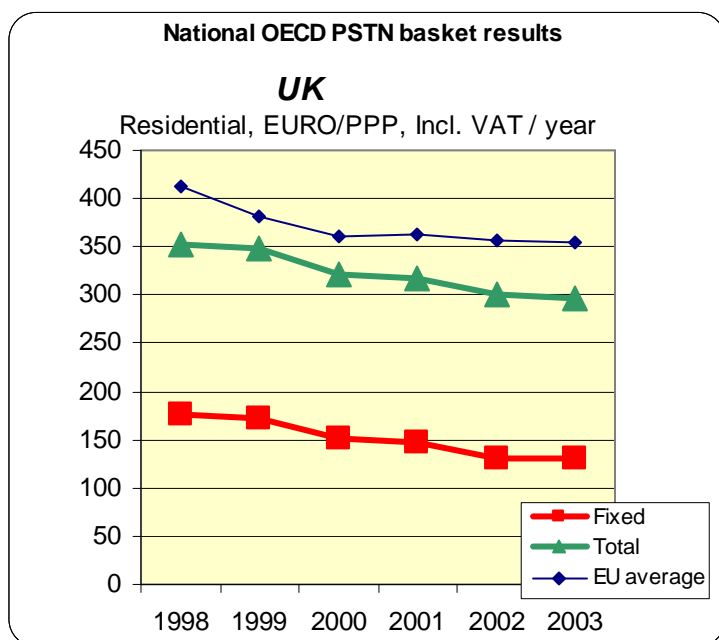
<b>UK</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	177	175	352
1999	173	175	348
2000	152	170	322
2001	147	170	318
2002	130	170	301
2003	130	167	297

Note:

All values in EURO/PPP, including VAT

BT standard tariffs are used

Figure 2.16 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.16. USA

Table 2.17 National Residential basket result

<b>USA, Verizon</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	93	256	349
1999	136	254	390
2000	258	174	432
2001	130	181	311
2002	130	221	351
2003	165	264	428
<b>USA, Pac Bell</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	#N/A	#N/A	#N/A
1999	129	108	238
2000	215	104	319
2001	89	118	206
2002	126	158	283
2003	138	200	338

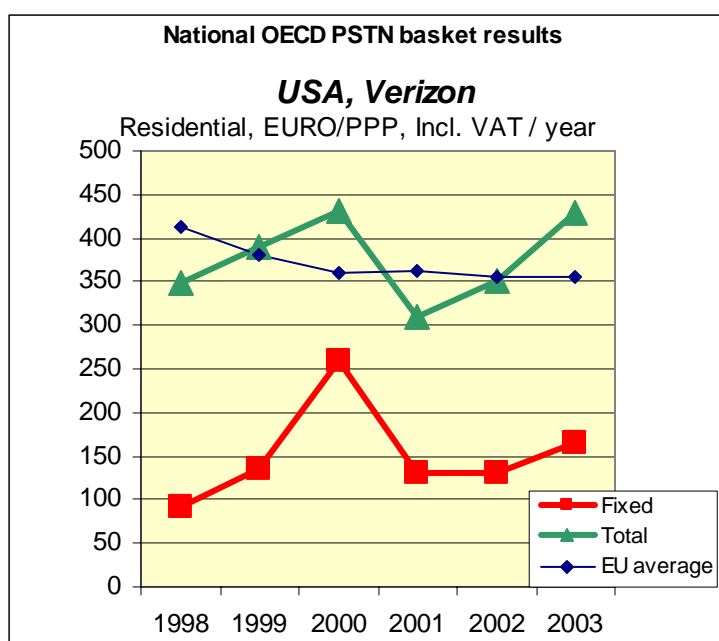
Note:

All values in EURO/PPP, including VAT

Verizon prices for the New York area have been used. PacBell prices are for Los Angeles area. As prices vary a lot across the USA, these prices are just examples, and are not necessarily typical.

The 2000 Fixed prices include taxes not previously covered. The actual charges have not changed.

Figure 2.17 National Residential basket result



Note:

The EU average values are weighted with population

## 2.1.17. Japan

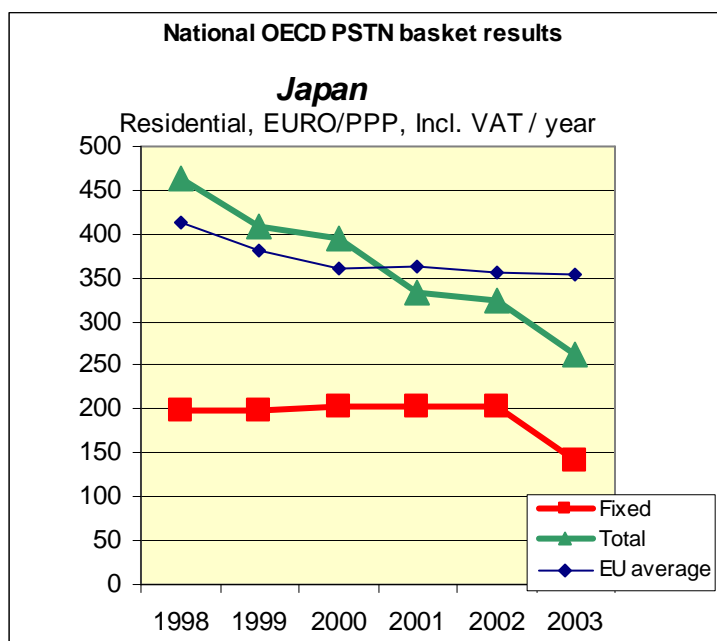
Table 2.18 National Residential basket result

<i>Japan</i>	Fixed	Usage	Total
1998	199	266	464
1999	199	209	408
2000	203	192	394
2001	203	130	332
2002	203	122	325
2003	141	122	263

Note:

All values in EURO/PPP, including VAT

Figure 2.18 National Residential basket result



Note:

The EU average values are weighted with population

---

## 2.2. National Business basket

The basket value for each country and each year is summarised in the table and graph below.

**Table 2.19 National Business PSTN basket**

	1998	1999	2000	2001	2002	2003
Belgium	873	873	873	703	709	722
Denmark	460	469	450	444	422	424
Germany	1055	838	717	717	723	721
Greece	997	865	693	646	569	569
Spain	1449	1147	945	905	743	712
France	782	772	696	724	734	734
Ireland	721	685	625	583	594	595
Italy	1001	896	945	861	799	799
Luxembourg	413	413	413	466	465	465
Netherlands	589	563	522	512	530	550
Austria	1175	1175	801	750	755	745
Portugal	1339	1251	910	1001	1002	948
Finland	536	543	576	624	624	624
Sweden	433	439	414	414	414	412
UK	812	821	809	816	823	824
USA	993	1027	839	769	778	778
Japan	1139	887	858	632	616	557
EU15 weighted	958	855	775	759	735	731

**Note:**

All values in EURO/PPP, excluding VAT

Standard tariffs from the incumbent operators are used (New York area in USA)

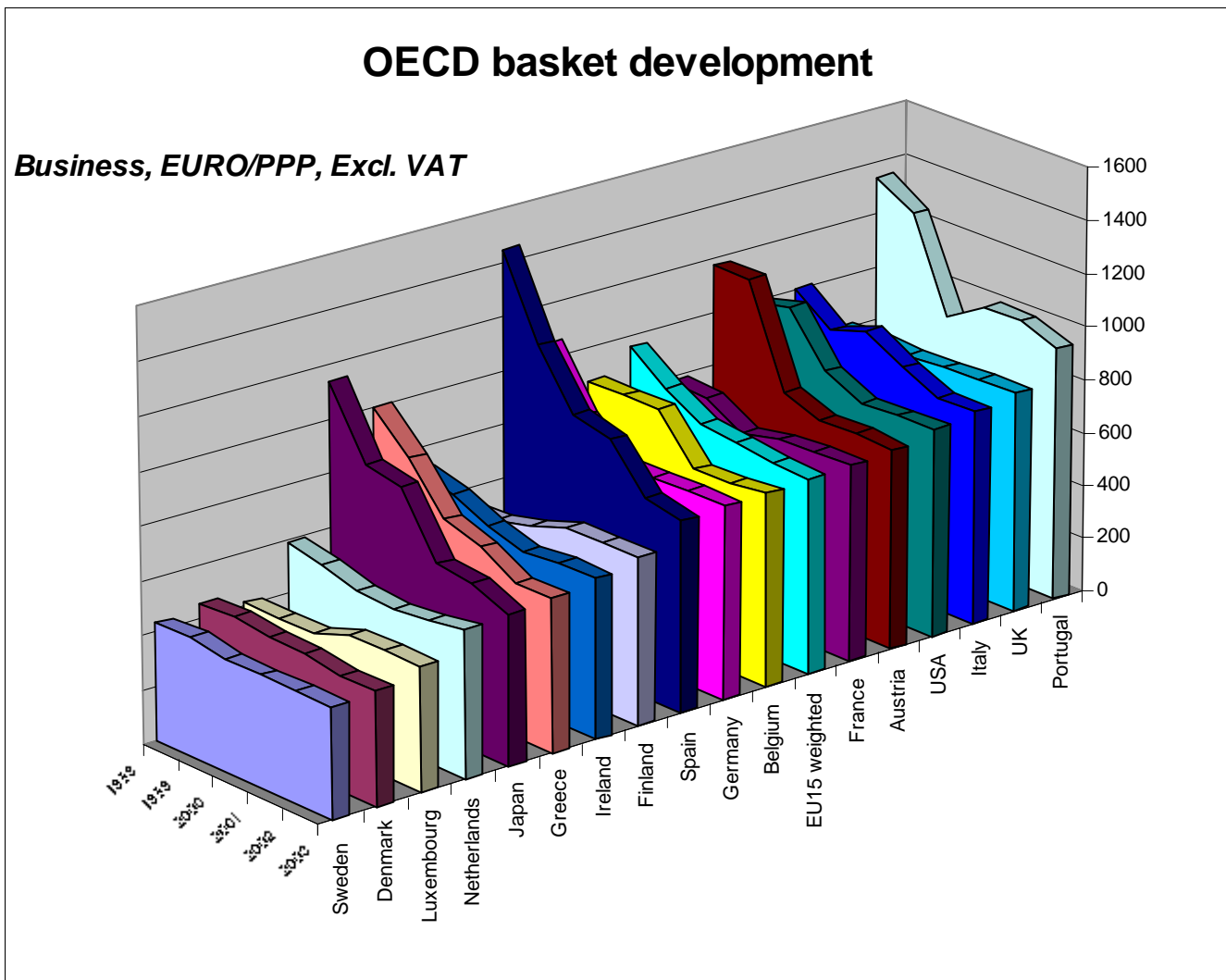
Values shown are total values, i.e. include both the fixed and usage components of the basket

The average value is a weighted average across EU member States using population as weight.

Certain variations in the prices may seem strange, where prices go up and down over a period of a couple of years. This may happen when the operator changes from unit based to per second based billing. An example here is Italy, where the year 2000 shows a sharp increase. This is due to the fact that the OECD basket contains a relatively large number of short duration (3.5 minutes) local calls.

An attempt has been made to display all countries together in the graph below. Individual graphs for each country will follow.

Figure 2.19 National Business basket development 1998 - 2003



Note:

For more details on each country, see the individual tables and graphs below.  
 Countries appear in sorted order, according to the 2003 value.

## 2.2.1. Belgium

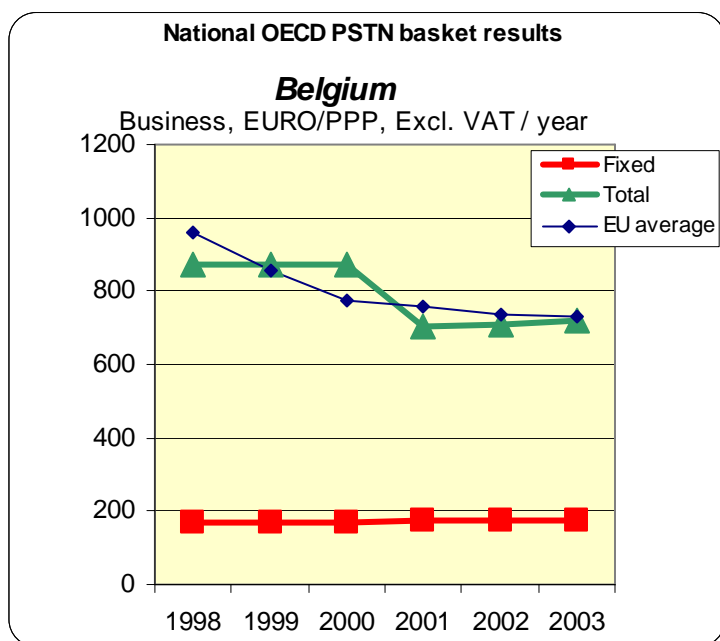
Table 2.20 National Business basket result

<b>Belgium</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	167	706	873
1999	167	706	873
2000	167	706	873
2001	172	531	703
2002	172	536	709
2003	175	547	722

Note:

All values in EURO/PPP, excluding VAT

Figure 2.20 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.2. Denmark

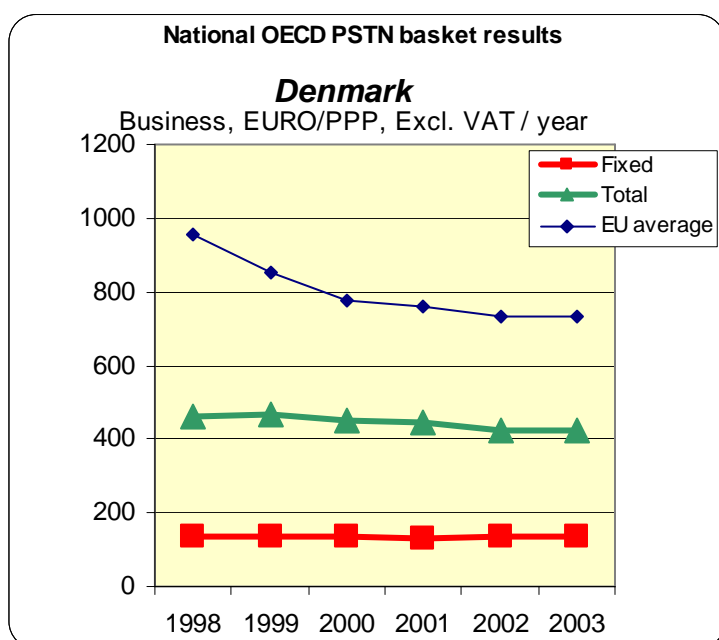
Table 2.21 National Business basket result

Denmark	Fixed	Usage	Total
1998	138	322	460
1999	138	331	469
2000	138	312	450
2001	131	313	444
2002	134	288	422
2003	137	288	424

Note:

All values in EURO/PPP, excluding VAT

Figure 2.21 National Business basket result



Note:

The EU average values are weighted with population

### 2.2.3. Germany

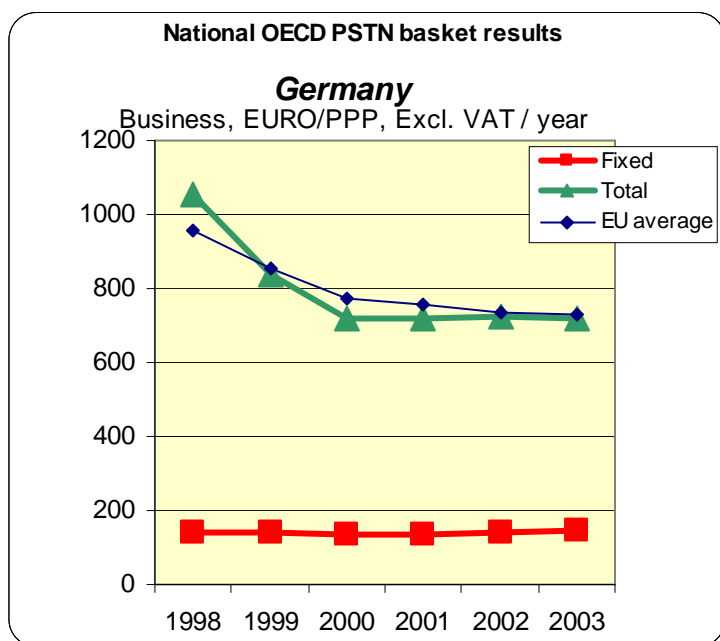
Table 2.22 National Business basket result

Germany	Fixed	Usage	Total
1998	139	916	1055
1999	139	700	838
2000	137	581	717
2001	137	581	717
2002	143	580	723
2003	147	574	721

Note:

All values in EURO/PPP, excluding VAT

Figure 2.22 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.4. Greece

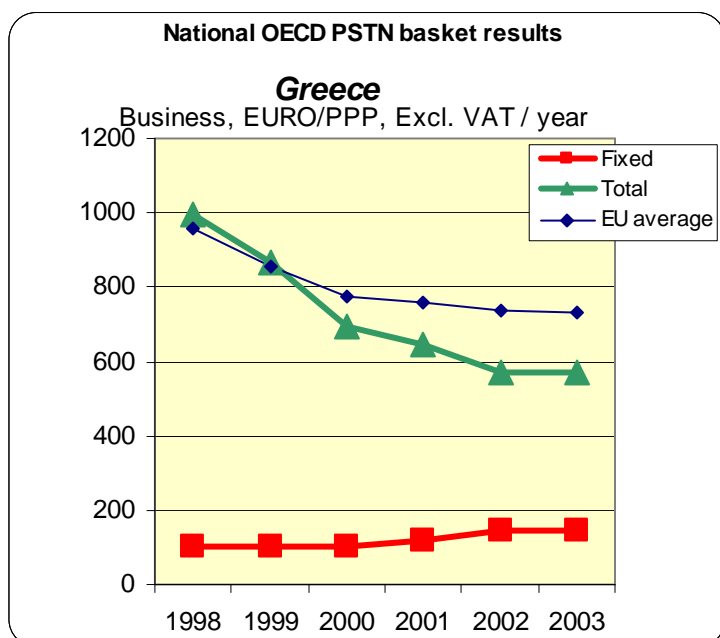
Table 2.23 National Business basket result

Greece	Fixed	Usage	Total
1998	104	894	997
1999	104	761	865
2000	104	589	693
2001	121	525	646
2002	145	424	569
2003	145	424	569

Note:

All values in EURO/PPP, excluding VAT

Figure 2.23 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.5. Spain

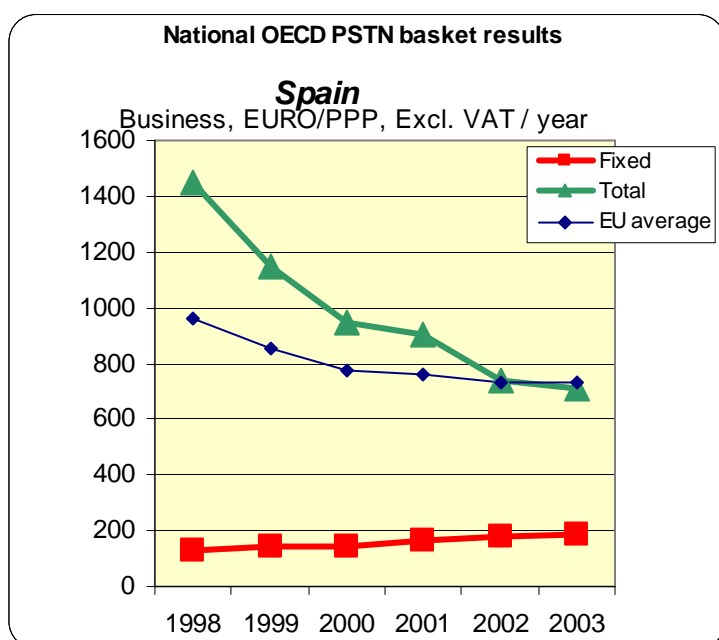
Table 2.24 National Business basket result

Spain	Fixed	Usage	Total
1998	130	1319	1449
1999	146	1001	1147
2000	146	799	945
2001	163	742	905
2002	180	563	743
2003	184	528	712

Note:

All values in EURO/PPP, excluding VAT

Figure 2.24 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.6. France

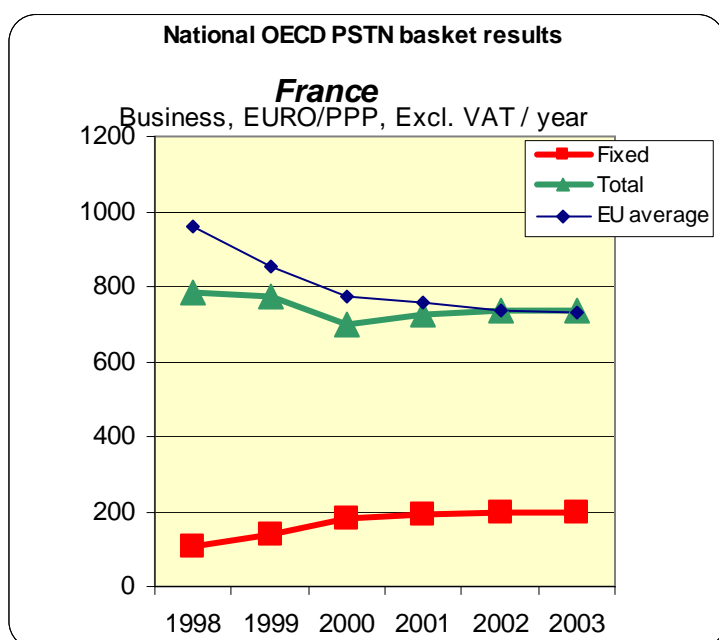
Table 2.25 National Business basket result

France	Fixed	Usage	Total
1998	106	677	782
1999	138	634	772
2000	179	517	696
2001	193	531	724
2002	199	536	734
2003	199	536	734

Note:

All values in EURO/PPP, excluding VAT

Figure 2.25 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.7. Ireland

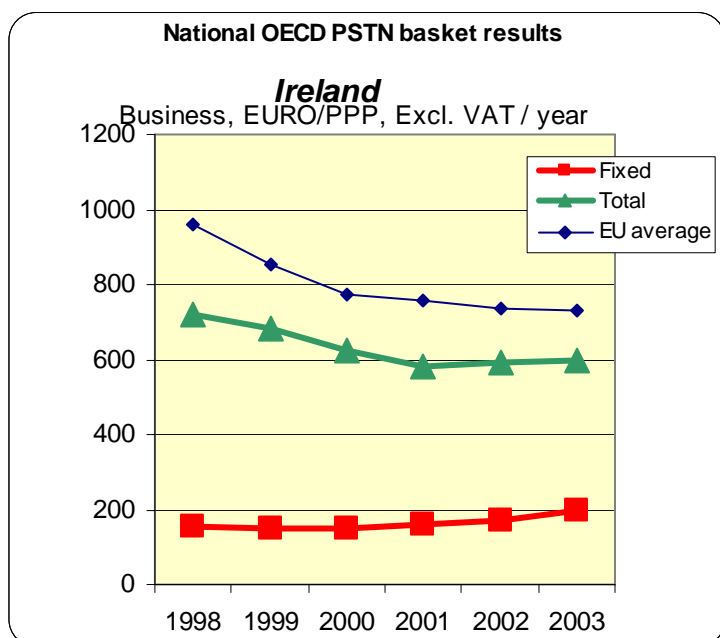
Table 2.26 National Business basket result

<i>Ireland</i>	Fixed	Usage	Total
1998	152	569	721
1999	147	537	685
2000	149	476	625
2001	161	422	583
2002	173	422	594
2003	197	399	595

Note:

All values in EURO/PPP, excluding VAT

Figure 2.26 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.8. Italy

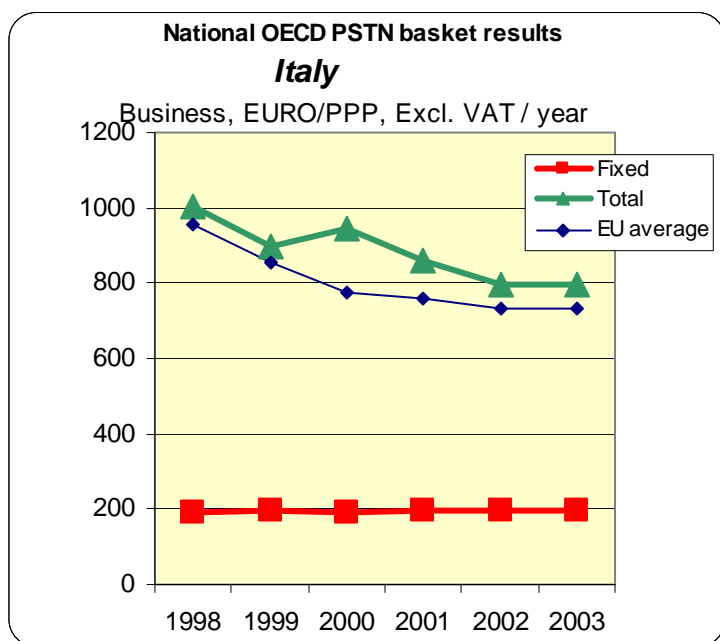
Table 2.27 National Business basket result

<i>Italy</i>	Fixed	Usage	Total
1998	191	810	1001
1999	197	698	896
2000	192	753	945
2001	196	665	861
2002	195	603	799
2003	195	603	799

Note:

All values in EURO/PPP, excluding VAT

Figure 2.27 National Business basket result



Note:

The EU average values are weighted with population

Telecom Italia changed to per second billing late 1999, and also introduced a call setup charge.

## 2.2.9. Luxembourg

Table 2.28 National Business basket result

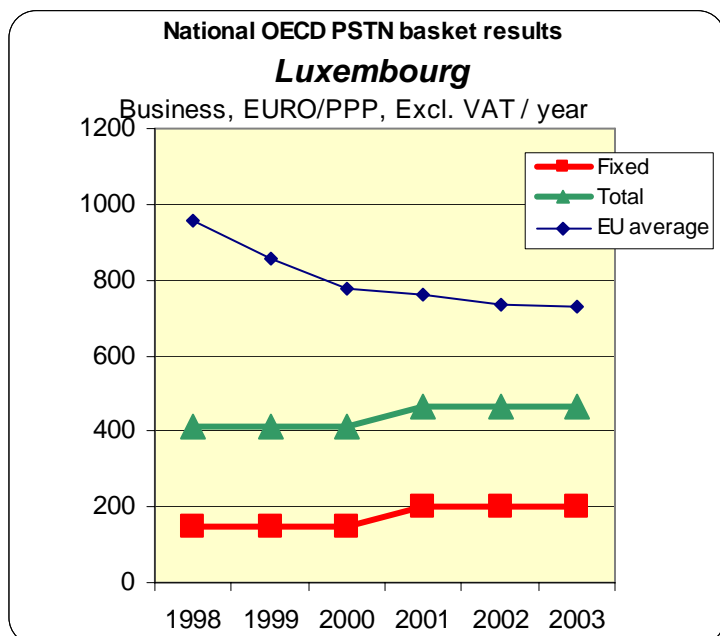
<b>Luxembourg</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	150	263	413
1999	150	263	413
2000	150	263	413
2001	202	264	466
2002	202	263	465
2003	202	263	465

Note:

All values in EURO/PPP, excluding VAT

The tariff in Luxembourg does only have “local” call charges for the entire country. Hence the low usage value.

Figure 2.28 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.10. Netherlands

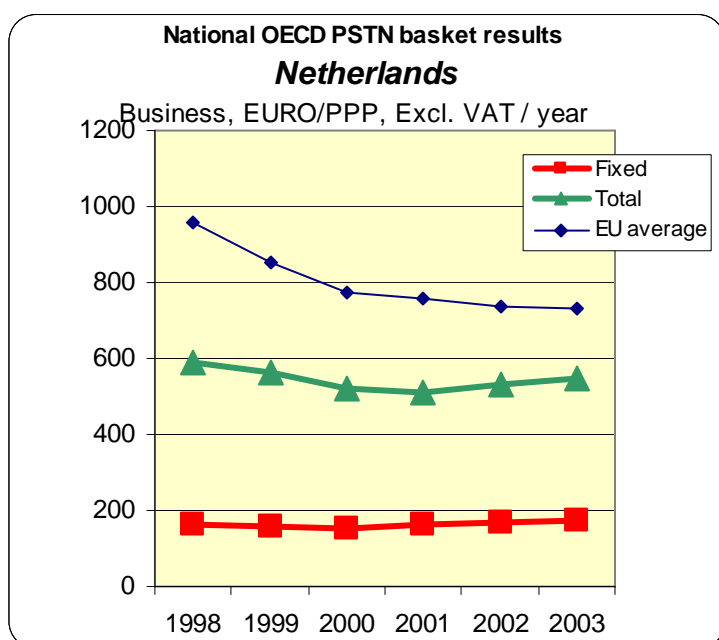
Table 2.29 National Business basket result

<b>Netherlands</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	165	424	589
1999	156	407	563
2000	154	368	522
2001	161	351	512
2002	168	361	530
2003	174	376	550

Note:

All values in EURO/PPP, excluding VAT

Figure 2.29 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.11. Austria

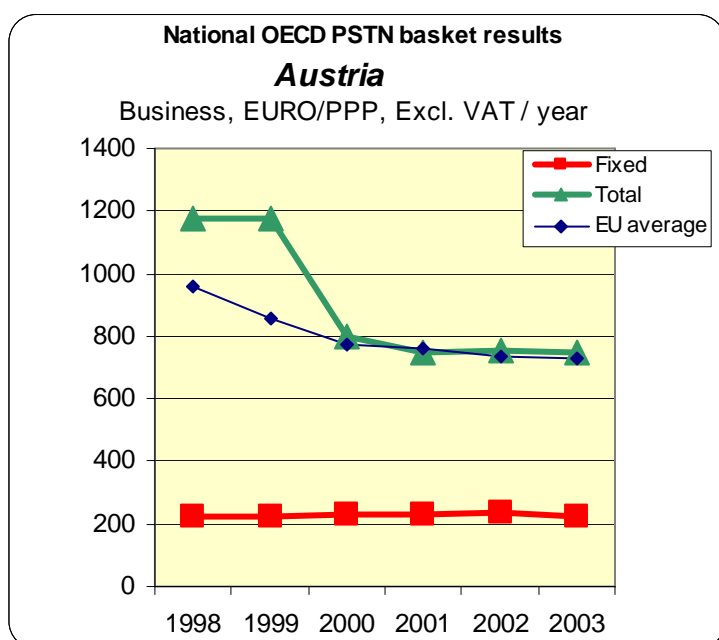
Table 2.30 National Business basket result

<b>Austria</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	224	951	1175
1999	224	951	1175
2000	233	568	801
2001	231	519	750
2002	235	520	755
2003	225	520	745

Note:

All values in EURO/PPP, excluding VAT

Figure 2.30 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.12. Portugal

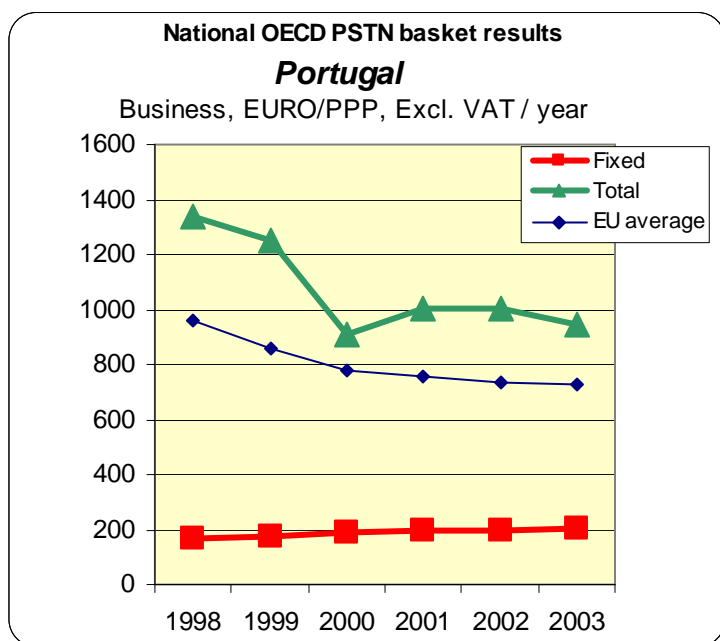
Table 2.31 National Business basket result

<i>Portugal</i>	Fixed	Usage	Total
1998	170	1169	1339
1999	177	1074	1251
2000	188	722	910
2001	198	803	1001
2002	198	804	1002
2003	205	744	948

Note:

All values in EURO/PPP, excluding VAT

Figure 2.31 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.13. Finland

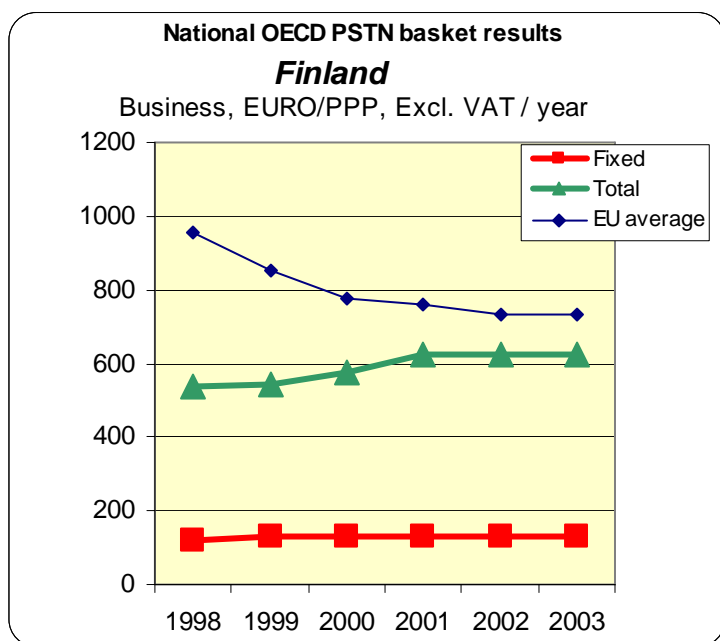
Table 2.32 National Business basket result

<i>Finland</i>	Fixed	Usage	Total
1998	121	415	536
1999	132	410	543
2000	129	447	576
2001	131	493	624
2002	131	493	624
2003	131	493	624

Note:

All values in EURO/PPP, excluding VAT

Figure 2.32 National Business basket result



Note:

The EU average values are weighted with population  
Tariffs for Sonera.

## 2.2.14. Sweden

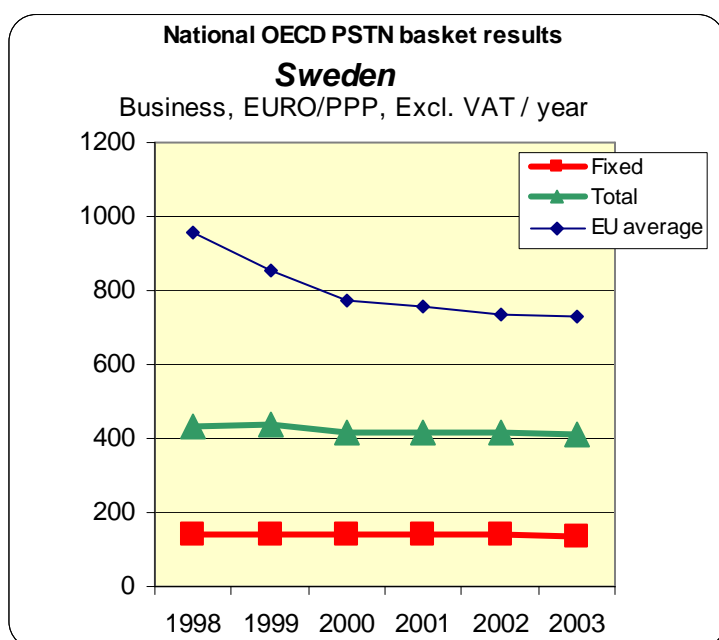
Table 2.33 National Business basket result

Sweden	Fixed	Usage	Total
1998	138	295	433
1999	138	300	439
2000	138	276	414
2001	138	276	414
2002	138	276	414
2003	136	276	412

Note:

All values in EURO/PPP, excluding VAT

Figure 2.33 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.15. United Kingdom

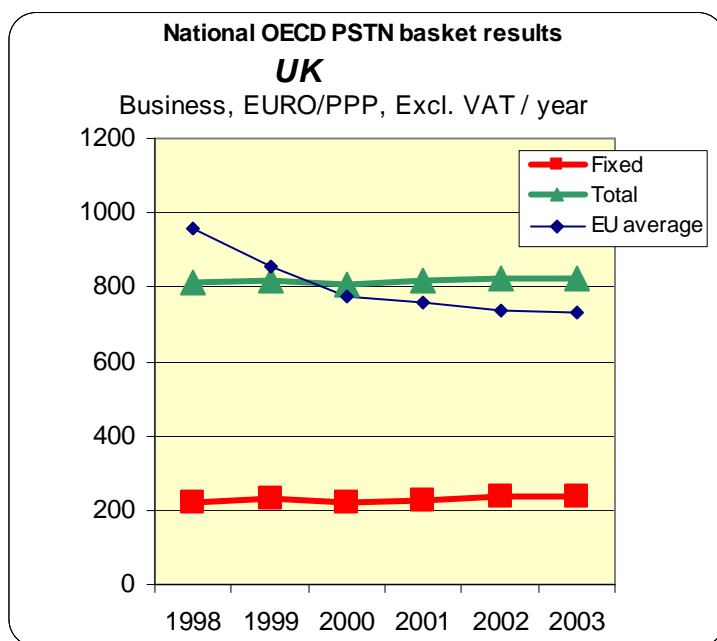
Table 2.34 National Business basket result

UK	Fixed	Usage	Total
1998	222	590	812
1999	231	590	821
2000	222	587	809
2001	229	587	816
2002	236	587	823
2003	238	586	824

Note:

All values in EURO/PPP, excluding VAT

Figure 2.34 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.16. USA

Table 2.35 National Business basket result

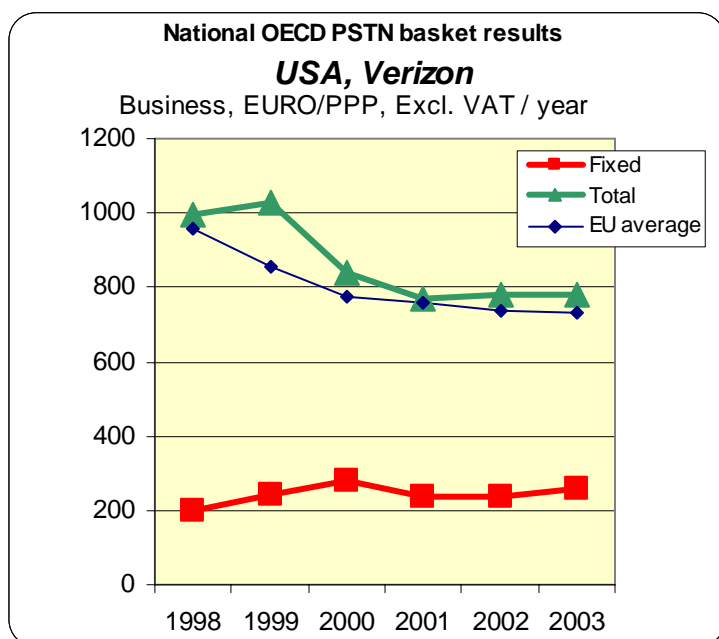
<b>USA, Verizon</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	201	792	993
1999	241	786	1027
2000	279	560	839
2001	235	534	769
2002	235	543	778
2003	256	522	778
<b>USA, Pac Bell</b>	<b>Fixed</b>	<b>Usage</b>	<b>Total</b>
1998	#N/A	#N/A	#N/A
1999	166	361	527
2000	204	339	543
2001	160	328	488
2002	160	362	522
2003	160	353	513

Note:

All values in EURO/PPP, excluding VAT

Verizon prices for the New York area have been used. PacBell prices are for Los Angeles area. As prices vary a lot across the USA, these prices are just examples, and are not necessarily typical.

Figure 2.35 National Business basket result



Note:

The EU average values are weighted with population

## 2.2.17. Japan

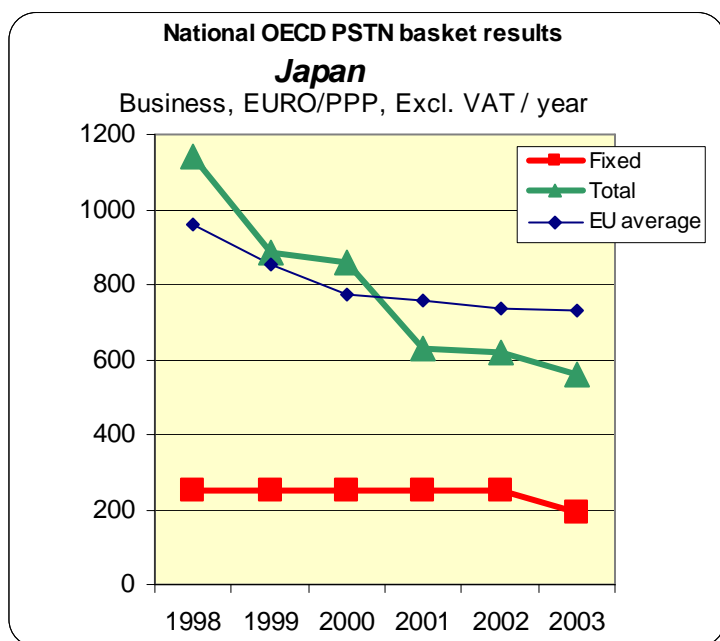
Table 2.36 National Business basket result

<i>Japan</i>	Fixed	Usage	Total
1998	249	891	1139
1999	249	639	887
2000	249	609	858
2001	249	383	632
2002	249	368	616
2003	190	368	557

Note:

All values in EURO/PPP, excluding VAT

Figure 2.36 National Business basket result



Note:

The EU average values are weighted with population

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### 3. Composite OECD baskets

In May 2000 the revised OECD baskets were adopted. These baskets are built along the same lines as the “old”. In fact there are only minor differences. But the changes reflect the current usage patterns better, for example in that the baskets now include calls to mobiles and international calls.

The results of these baskets are not directly comparable with the ones used in the analysis with the old baskets. The results are thus presented separately here.

**Table 3.1** Number of calls new composite OECD PSTN basket, per year

	New Composite basket		
	National calls	International calls	Calls to mobile
<b>Business basket</b>	3,600	216	360
<b>Residential basket</b>	1,200	72	120

Some of the differences between the old and the new OECD baskets are:

- Calls to mobile phones are now included.
- International call charges are now included.
- The old basket methodology used average call charges, while the new calculate accurate call charges based on any fixed price units applied.
- Installation charges are now an average of the charges for new installations and existing line takeover.

Data is presented for the incumbent operator in each country. Standard tariffs are used, excluding any discount packages. This means that lower costs can be achieved if the user selects another operator or another tariff package.

USA and Japan is included, with Nynex/Bell Atlantic/Verizon in New York for USA and NTT for Japan. In the USA the prices vary a lot with the operator and locale chosen. Verizon may not be the cheapest, but has been used because it has been chosen by the OECD to represent USA, and provides the only consistent data available over time.

The tables below show the results from the OECD Composite basket, including both national fixed and mobile calls, and international calls.

### 3.1. Residential composite basket

Table 3.2 Residential composite OECD basket

	2000	2001	2002	2003
Belgium	600	508	502	509
Denmark	396	374	369	365
Germany	512	471	489	494
Greece	669	621	592	568
Spain	623	562	548	500
France	484	484	483	480
Ireland	443	400	415	436
Italy	604	579	527	513
Luxembourg	418	399	399	399
Netherlands	391	393	412	428
Austria	559	570	450	450
Portugal	723	734	742	725
Finland	459	465	465	460
Sweden	318	340	338	328
UK	469	463	443	435
USA	568	472	509	594
Japan	620	547	516	455
EU15 weighted	528	504	493	484

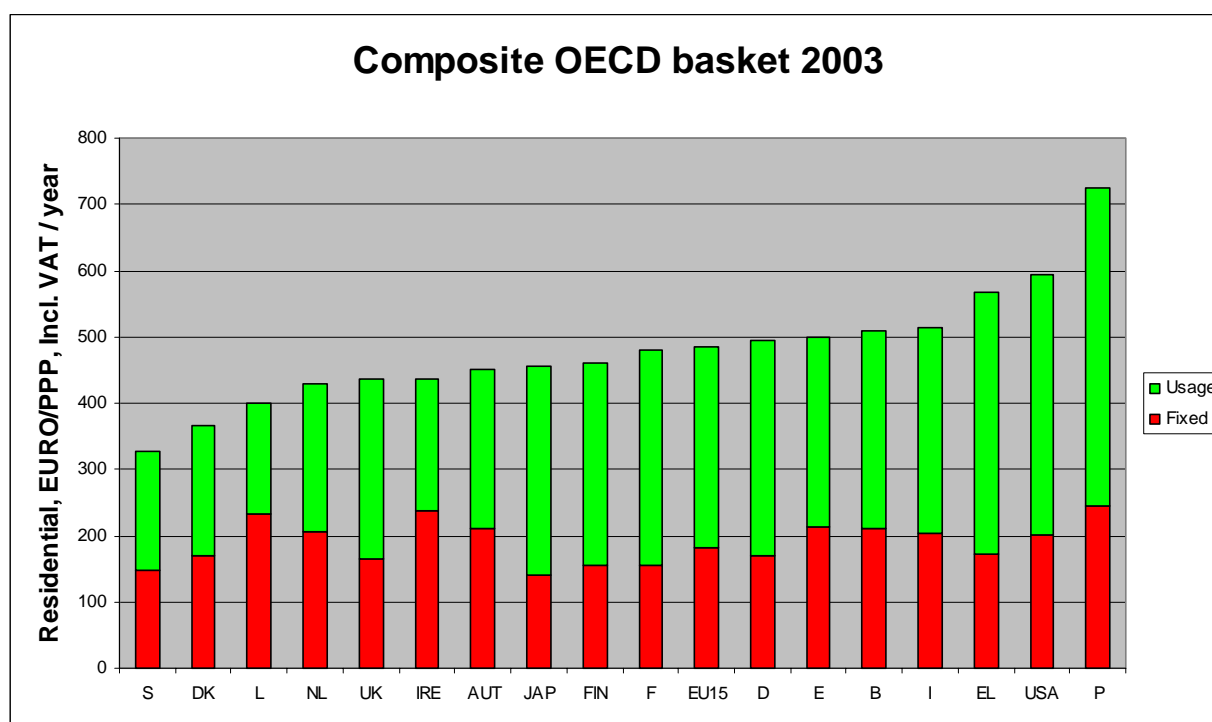
The average is a weighted average across the 15 EU Member States, using population as weight.

The basket includes both national and international calls.

For USA and Japan there are different operators for national and international calls, as there is a split market where different operators traditionally have been allowed into the two markets segments:

For USA Verizon, NY and AT&T are used, while for Japan NTT and KDDI are used.

Figure 3.1 Residential composite OECD basket 2003



## 3.2. Business composite basket

Table 3.3 Business composite OECD basket

	2000	2001	2002	2003
Belgium	1380	1100	1069	1085
Denmark	754	699	672	659
Germany	1185	1099	1145	1148
Greece	1385	1254	1131	1073
Spain	1446	1228	1071	979
France	1044	1036	1018	1007
Ireland	889	870	866	861
Italy	1350	1281	1183	1142
Luxembourg	779	722	721	721
Netherlands	761	776	808	842
Austria	1198	1155	1119	1196
Portugal	1419	1506	1491	1444
Finland	888	922	923	908
Sweden	659	659	650	637
UK	1268	1270	1275	1273
USA	1133	1049	1068	1063
Japan	1528	1306	1182	1123
EU15 weighted	1202	1139	1110	1093

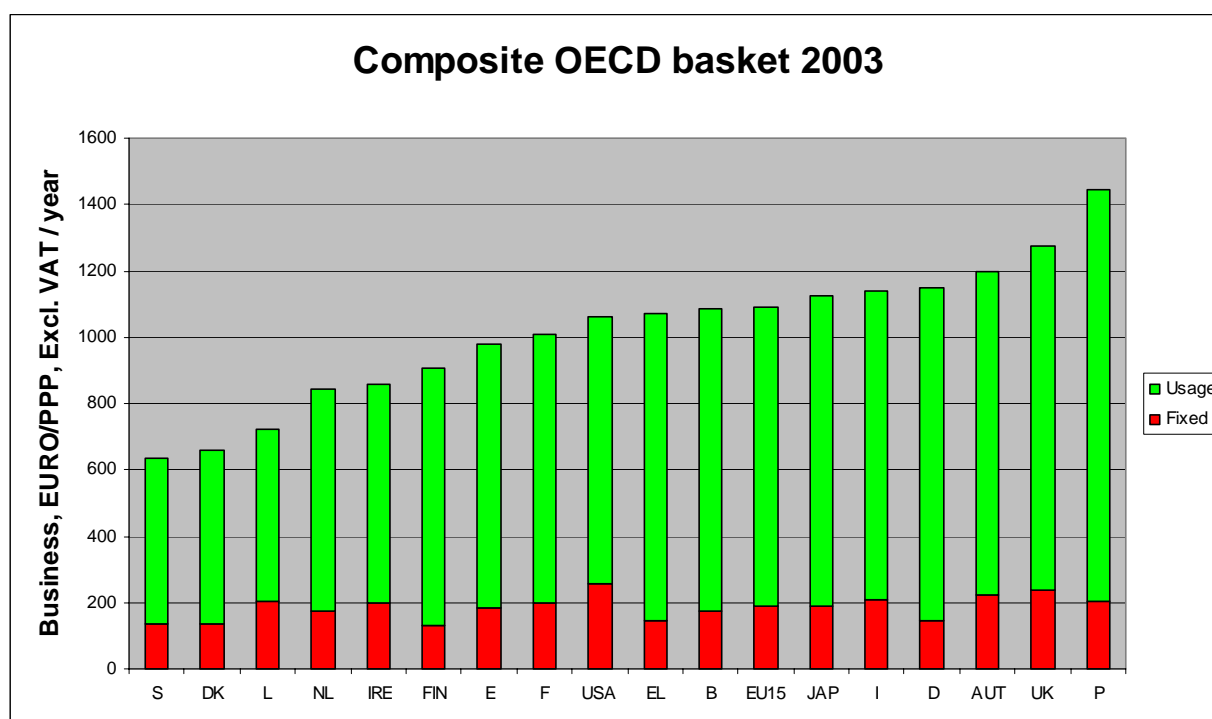
The average is a weighted average across the 15 EU Member States, using population as weight.

The basket includes both national and international calls.

For USA and Japan there are different operators for national and international calls, as there is a split market where different operators traditionally have been allowed into the two markets segments:

For USA Verizon, NY and AT&T are used, while for Japan NTT and KDD are used.

Figure 3.2 Business composite OECD basket 2003



## 4. International PSTN Basket

For the basket comparison of only international PSTN call charges, the OECD Traffic weight basket methodology is used. The basket calculates an average charge for calls to all OECD destination countries. The charge is calculated as the average of:

	Call duration	Residential basket weight	Business basket weight
Peak time call	3 minutes	25%	75%
Off-peak time call	5 minutes	75%	25%

Please note that international call charges vary widely with the destination, and that the basket results are based on a weighted average call charge. Traffic weighting is used, as defined by the OECD for the destination weighting, as per the revision in 2000. This method applies a weight to each destination based on the traffic volumes reported on that route (ITU statistics).

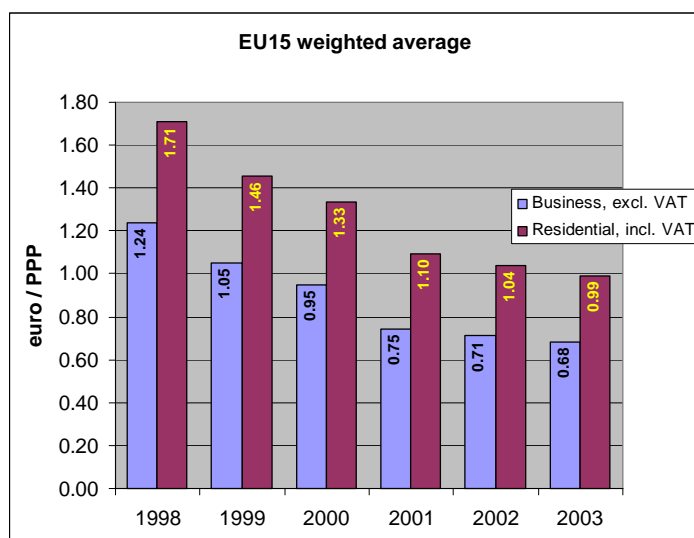
The graphs and tables below will present the data with these parameters:

- All charges in Euro/PPP per call
- Including VAT for the Residential basket
- Excluding VAT for the Business basket
- Any call setup charges are included

All tariffs are standard prices from ex-incumbent operators, and both these operators and new entrants may offer lower prices.

The result for USA may seem a bit strange, as in 1999 the AT&T One Rate calling plan replaced the standard call charges in the basket. Standard charges had been used in earlier years. The reason for this change was that the standard call charges were out of proportion with the charges most people would pay, and showed a trend which did not reflect the market (i.e. steady increase in price). The One Rate plan now appears to have replaced the Standard rates in the AT&T tariff. It does give a much more realistic picture of what users are actually paying.

**Figure 4.1** EU15 weighted average for international call charges



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## 4.1. Residential International PSTN Basket

The result from the Residential International PSTN basket, using the OECD Traffic weight methodology, is summarised in the table below.

**Table 4.1 International PSTN, Residential basket results**

	1998	1999	2000	2001	2002	2003
Belgium	2.01	1.67	1.67	0.63	0.66	0.66
Denmark	1.12	0.98	0.96	0.72	0.72	0.67
Germany	1.82	1.27	1.27	0.70	0.70	0.70
Greece	2.24	2.24	1.73	1.53	1.54	1.52
Spain	2.20	2.03	1.89	1.44	1.31	0.95
France	0.96	1.08	0.79	0.71	0.71	0.71
Ireland	0.90	0.81	0.70	0.66	0.67	0.67
Italy	2.33	1.66	1.60	1.61	1.36	1.30
Luxembourg	1.51	0.99	0.73	0.56	0.56	0.56
Netherlands	0.96	0.87	0.49	0.48	0.48	0.54
Austria	1.70	1.60	1.34	1.32	1.01	1.01
Portugal	2.49	2.13	1.92	1.38	1.41	1.41
Finland	1.27	1.07	1.07	0.95	0.96	0.92
Sweden	0.92	0.92	0.51	0.51	0.51	0.43
UK	1.56	1.56	1.56	1.56	1.56	1.56
USA	3.87	1.02	0.81	0.81	0.91	0.65
Japan	3.43	2.66	1.89	1.89	1.89	1.89
EU average	1.71	1.46	1.33	1.10	1.04	0.99

Note:

All charges in Euro/PPP, including VAT

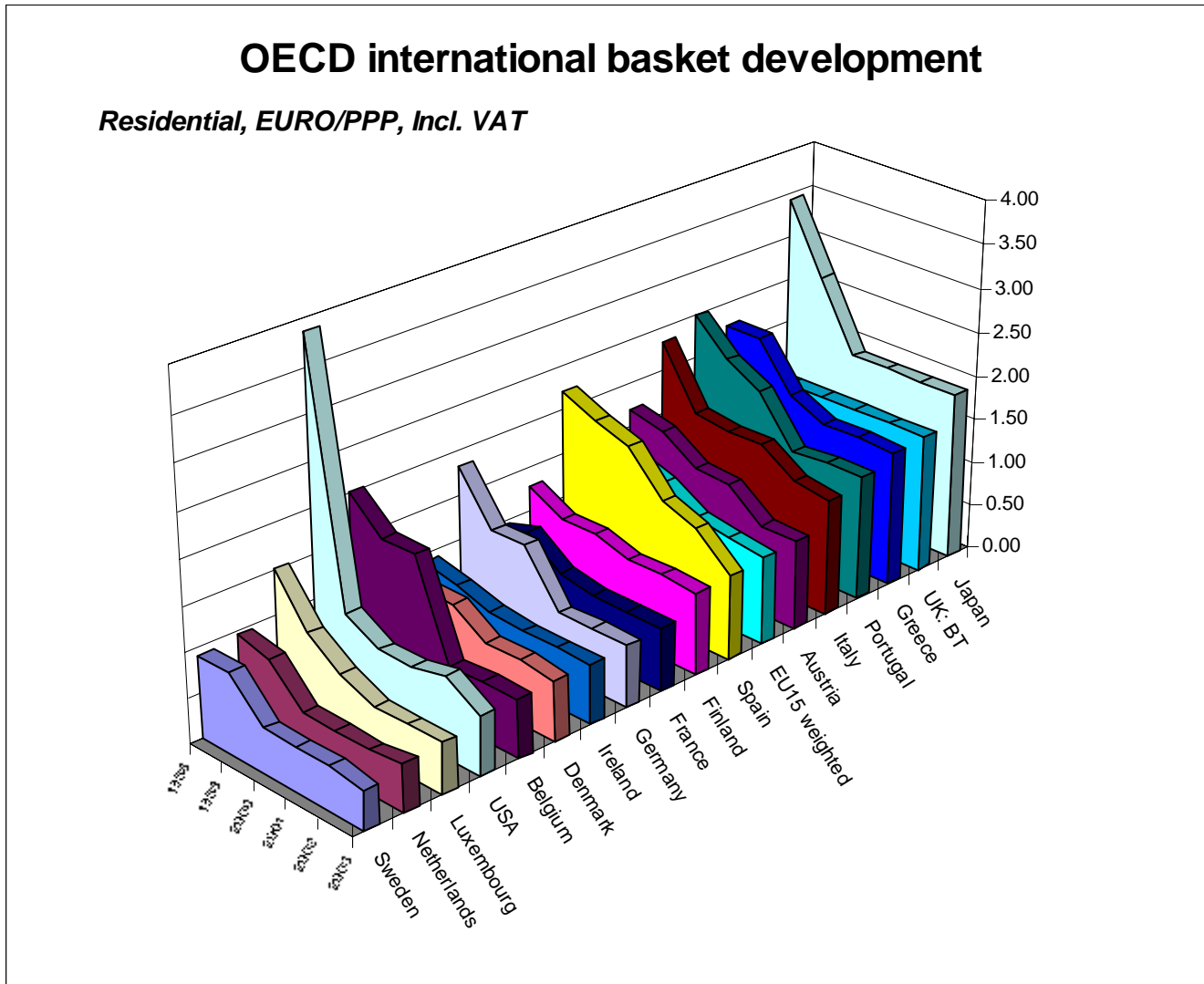
The values are charges for one call, based on the OECD basket definition.

The OECD Traffic weight basket methodology is applied.

For USA is used AT&T, and for Japan is used KDD.

The following graph attempts to show this data. The data is sorted by the 2003 value in order to show the ranking and avoid overlapping data as much as possible. A more detailed set of graphs will follow.

Figure 4.2: International PSTN, Residential Basket results



A more detailed look at each country is provided in the following 3 graphs (the values behind these graphs are still taken from Table 4.1).

Figure 4.3 International Residential PSTN Basket (1)

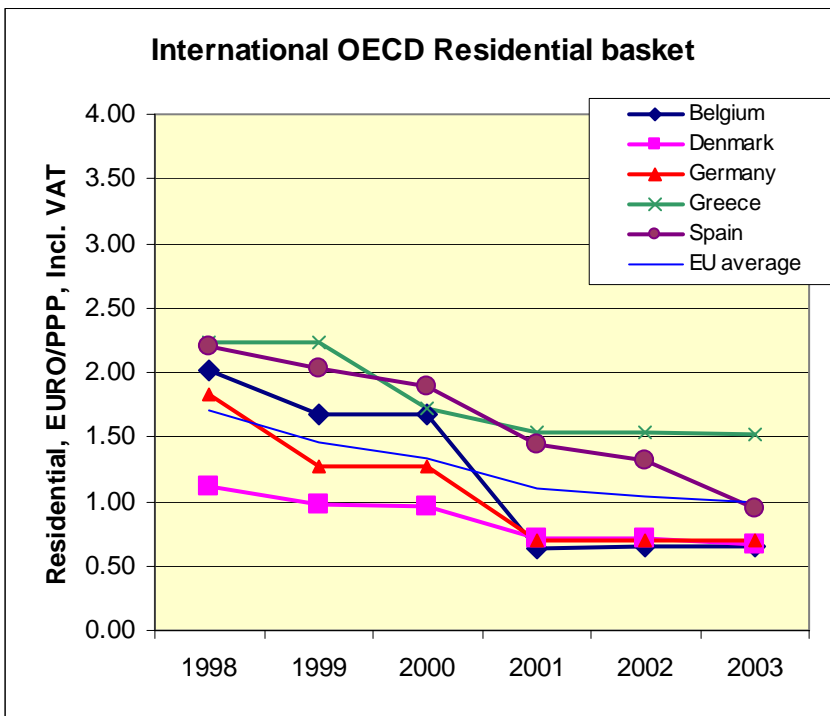


Figure 4.4 International Residential PSTN Basket (2)

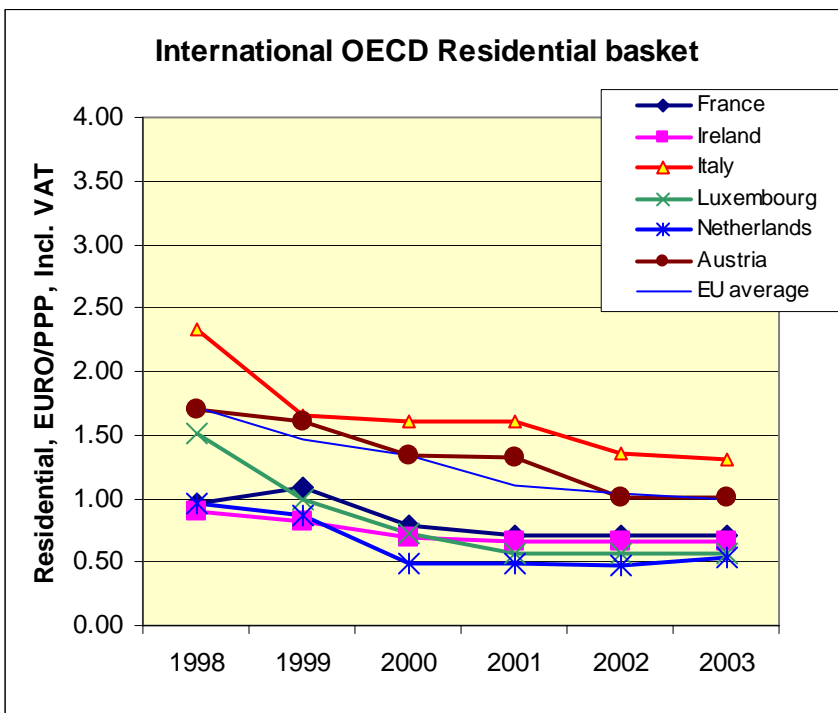
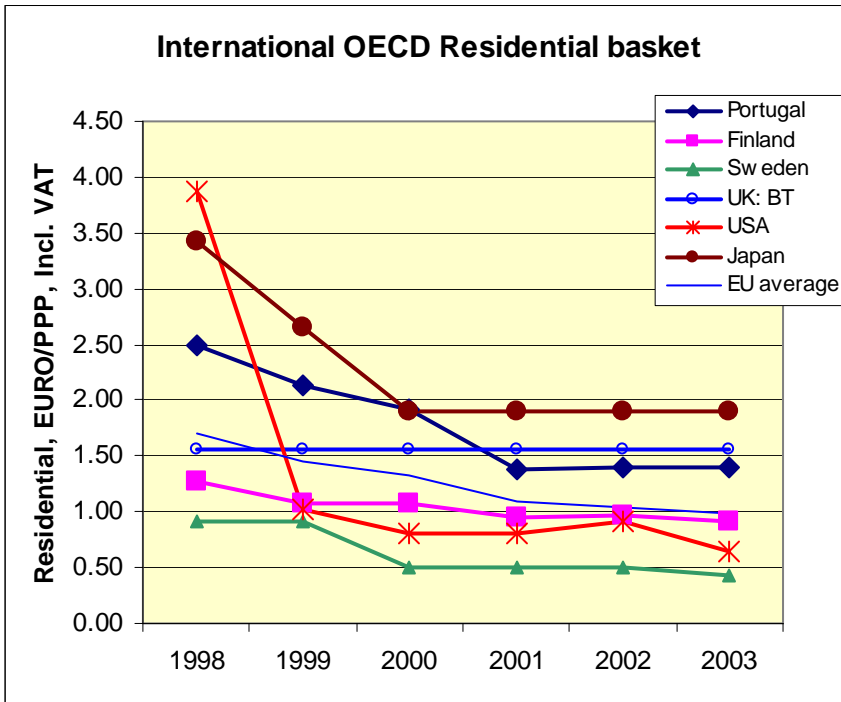


Figure 4.5 International Residential PSTN Basket (3)



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## 4.2. Business International PSTN Basket

The result from the Business International PSTN basket, using the OECD Traffic weight methodology, is summarised in the table below.

**Table 4.2 International PSTN, Business basket results**

	1998	1999	2000	2001	2002	2003
Belgium	1.36	1.26	1.26	0.54	0.56	0.56
Denmark	0.82	0.71	0.70	0.45	0.45	0.42
Germany	1.32	0.87	0.87	0.47	0.47	0.47
Greece	1.67	1.67	1.15	1.01	1.02	1.00
Spain	1.58	1.46	1.36	1.00	0.91	0.67
France	0.69	0.77	0.63	0.37	0.37	0.37
Ireland	0.66	0.59	0.51	0.48	0.48	0.48
Italy	1.71	1.23	1.10	1.10	0.94	0.90
Luxembourg	1.15	0.77	0.57	0.42	0.42	0.42
Netherlands	0.69	0.62	0.34	0.32	0.33	0.37
Austria	1.19	1.12	0.88	0.87	0.87	0.87
Portugal	1.88	1.52	1.35	1.02	1.03	1.03
Finland	0.94	0.81	0.81	0.74	0.75	0.72
Sweden	0.66	0.66	0.32	0.32	0.32	0.27
UK	1.14	1.14	1.14	1.14	1.14	1.14
USA	3.24	0.72	0.52	0.45	0.50	0.48
Japan	3.15	2.37	1.88	1.88	1.88	1.88
EU average	1.24	1.05	0.95	0.75	0.71	0.68

Note:

All charges in Euro/PPP, excluding VAT

EU average is a weighted average across 15 EU Member States, using population as weight.

The values are charges for one call, based on the OECD basket definition.

The OECD Traffic weight basket methodology is applied.

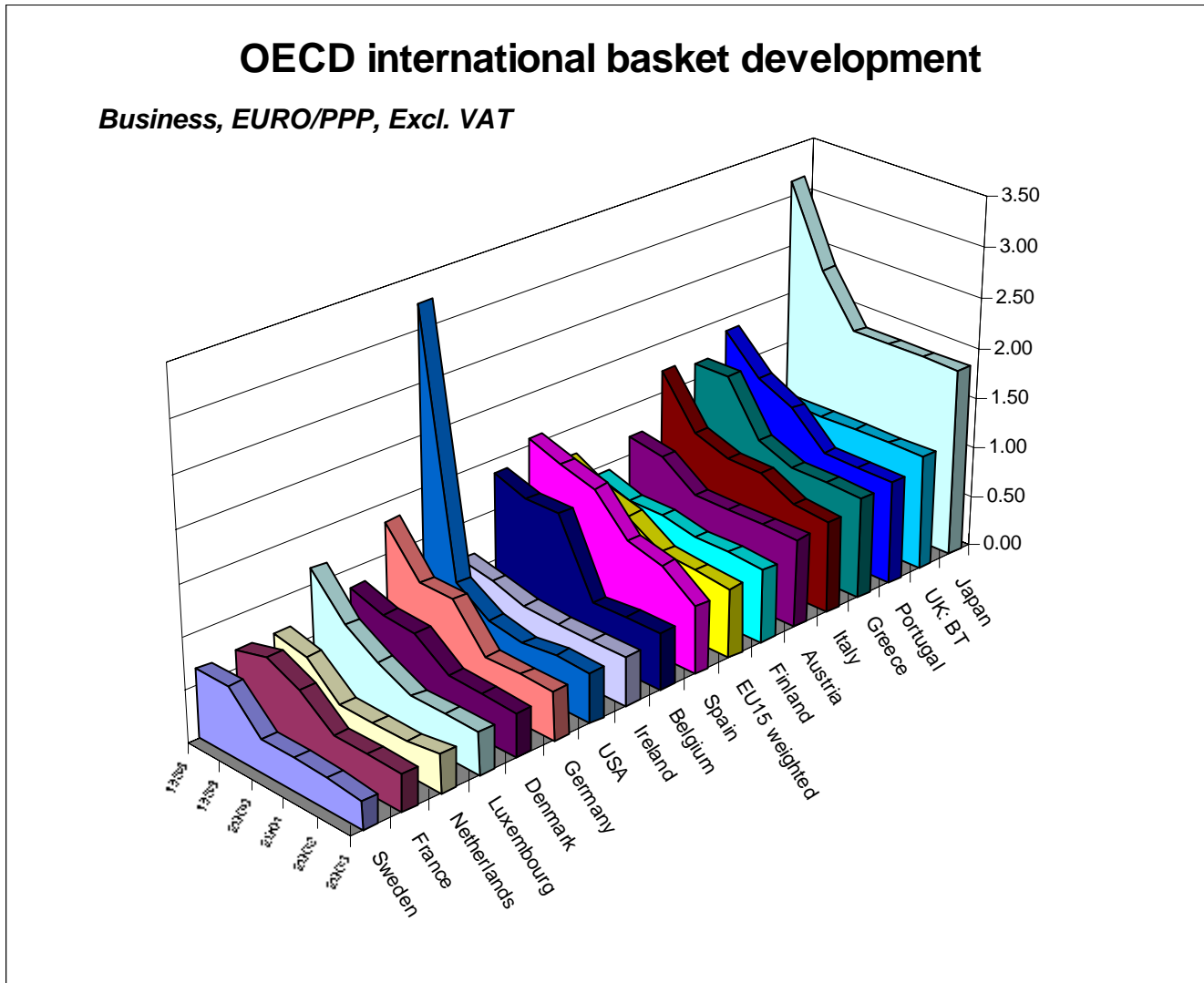
For USA is used AT&T, and for Japan is used KDD.

The Business calls will appear cheaper than the residential calls, as the basket has a heavy weight towards peak calls, which are shorter (3 minutes) than off-peak calls (5 minutes).

The following graph attempts to show this data. The results are sorted according to the 2002 value.

A more detailed set of graphs will follow.

Figure 4.6: International PSTN, Business Basket results



A more detailed look at each country is provided in the following 3 graphs (the values behind these graphs are still taken from Table 4.2).

Figure 4.7 International Business PSTN Basket (1)

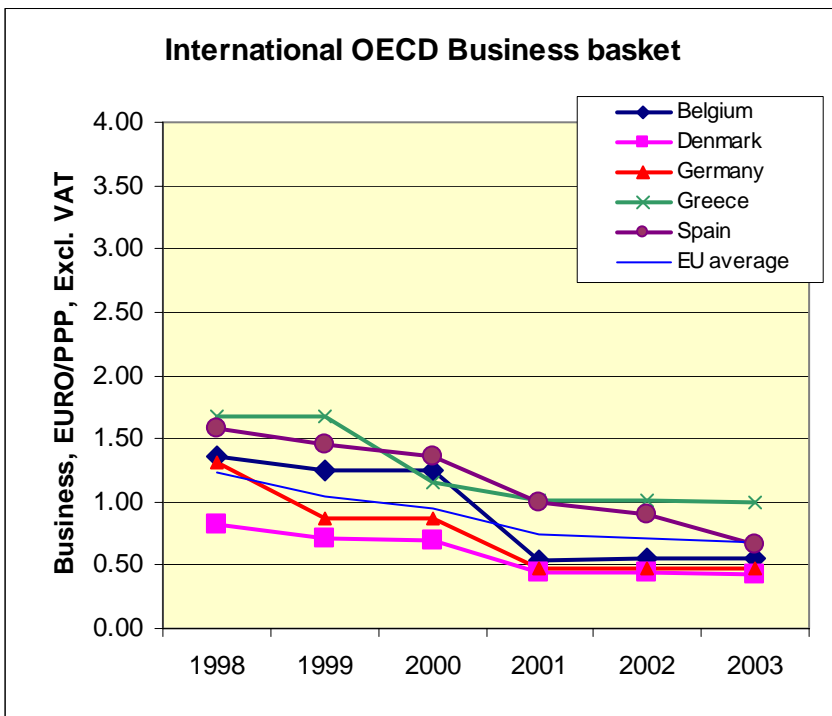


Figure 4.8 International Business PSTN Basket (2)

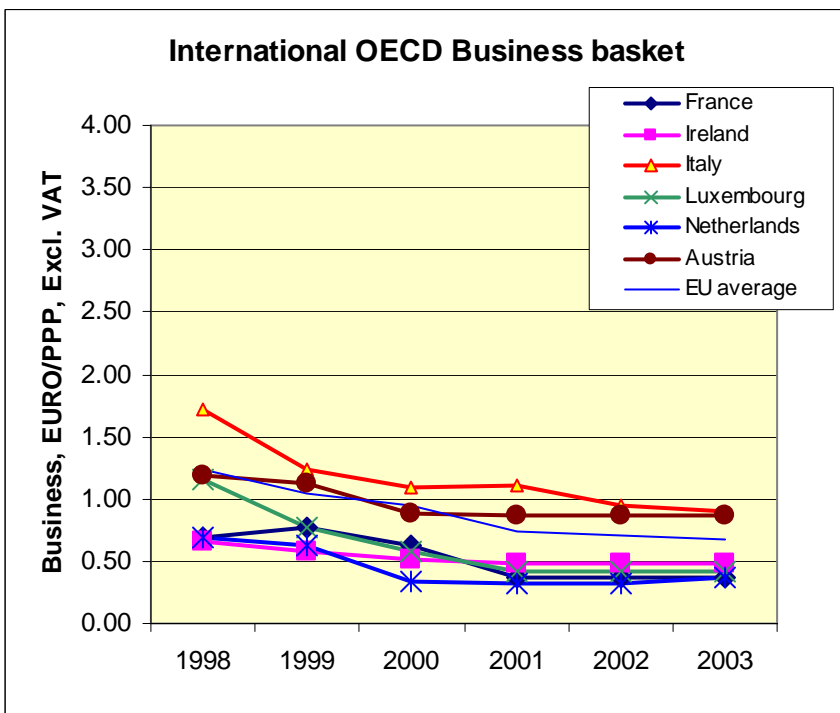
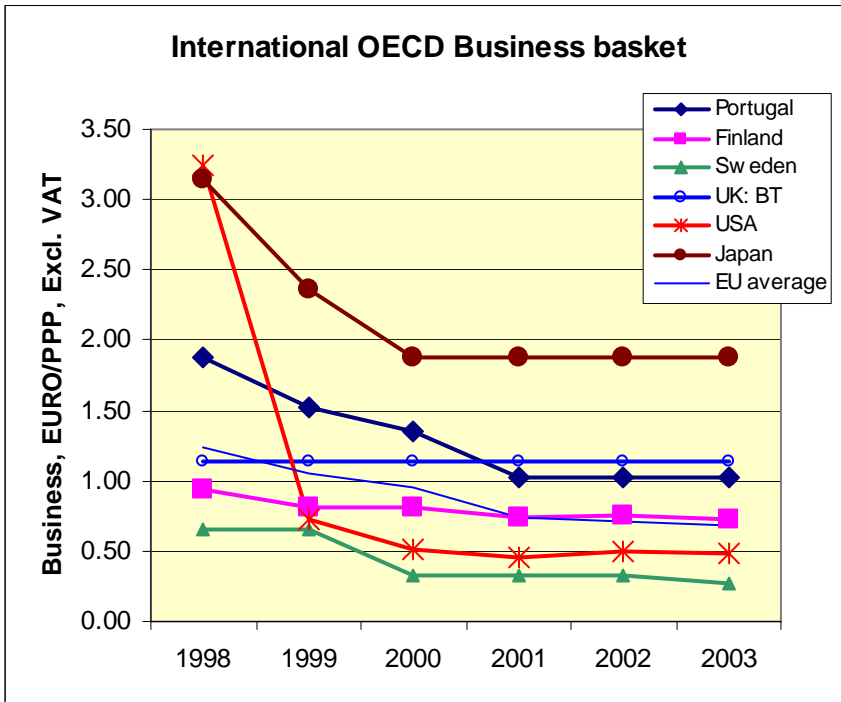


Figure 4.9 International Business PSTN Basket (3)



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## 5. National PSTN calls

The objective here has been to study the development of the call charges actually paid by the consumer on individual calls. The numbers presented in this section does not give any indication of the overall price levels of PSTN services in a country, relative to another.

For those countries where unit based charging is used, the cost of the amount of full units is calculated. Any call set-up charges, minimum charges and/or call specific duration allowances have been taken into account.

3 distinct call durations are used: 3 minutes, 5 minutes and 10 minutes. 3 call distances are selected: 3 km (equivalent to a local call), 50 km and 200 km. In several countries the tariff will change at exactly one of these distances. In such cases the rates from the lower distance band is used.

The data is presented with the following parameters:

- Using EURO exchange rates, converted to PPP
- Including VAT
- The years 1998, 1999, 2000, 2001, 2002 and 2003 are covered
- Data for August of each year is shown
- Where different tariff packages exist (Austria and the Netherlands), the basic, residential package is selected.<sup>1</sup> Otherwise the default standard tariff is used. No discount packages are taken into account.
- The US tariffs considered in this report are from Verizon, NY for local calls, Verizon, NY (1998/1999) and AT&T (2000/2003) for national (intra-state) calls and AT&T for international calls.

**Table 5.1** Call types

	3 minutes	5 minutes	10 minutes
3 km	√	√	√
50 km	√	√	√
200 km	√	√	√

Due to the large amount of data only the 10 minute duration is presented in this report. Other durations will follow the same pattern, except for short distance, short duration calls where countries still using unit based charging will severely disadvantage the user (see table 4.2).

Even attempting to show data for one duration graphically in a readable form is quite difficult, and an approach with individual country graphs has been chosen. The base data is displayed in tables 4.3 to 4.5.

Wherever unit based charging is used, the price of full units will be calculated. This leads to a situation where in some countries the price does not seem to change with call duration and/or distance, but this still reflects the actual prices paid by the consumer.

Table 4.2 summarises the situation in the different countries. There is a move towards per second charging in most European countries.

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<sup>1</sup> For Austria the TikTak Privat package is used, and for the Netherlands the BelBasic package is used

**Table 5.2 Charging regime in each country.**

	1998	1999	2000	2001	2002	2003
Belgium	Per second	Per second	Per second	Per second	Per second	Per second
Denmark	Per second	Per second	Per second	Per second	Per second	Per second
Germany	Units	Units	Units	Units	Units & per minute	Units & per minute
Greece	Units	Units	Units	Units	Units	Units
Spain	Units	Per second	Per second	Per second	Per second	Per second
France	Per second	Per second	Per second	Per second	Per second	Per second
Ireland	Units	Per second	Per second	Per second	Per second	Per second
Italy	Units	Units	Per second	Per second	Per second	Per second
Luxembourg	Units	Units	Units	Units	Units	Units
Netherlands	Per second	Per second	Per second	Per second	Per second	Per second
Austria	Units	Units	Units	Units	Per second & Units	Per second & Units
Portugal	Units	Units	Per second	Per second	Per second	Per second
Finland	Per second	Per second	Per second	Per second	Per second	Per second
Sweden	Per second	Per second	Per second	Per second	Per second	Per second
UK	Per second	Per second	Per second	Per second	Per second	Per second
USA	Per minute	Per minute	Per minute	Per minute	Per minute	Per minute
Japan	Units	Units	Units	Units	Units	Units

Note:

The unit based charging scheme may vary from country to country.

In USA the charging is either based on a unit of 1 minute or 6 seconds duration, where the price varies with destination and time of day. Japan uses a similar system with 6 second units, and varying price.

In Germany the system varies with the type of call: Local calls are priced with different unit durations, and a fixed unit price, while long distance calls are priced with per minute units and varying price.

In Austria the charging system will depend on the chosen tariff package.

Other countries using unit based charging will have a system where the price of the unit is constant, while the unit duration varies.

**Table 5.3 10 minute call charges for a 3 km call at weekdays 11:00**

	1998	1999	2000	2001	2002	2003
Belgium	0.481	0.481	0.481	0.529	0.529	0.545
Denmark	0.351	0.319	0.319	0.322	0.290	0.290
Germany	0.433	0.429	0.429	0.425	0.416	0.416
Greece	0.208	0.240	0.360	0.420	0.354	0.354
Spain	0.356	0.356	0.315	0.321	0.320	0.320
France	0.404	0.404	0.400	0.375	0.374	0.374
Ireland	0.487	0.406	0.423	0.423	0.422	0.422
Italy	0.253	0.253	0.270	0.270	0.269	0.269
Luxembourg	0.372	0.372	0.372	0.310	0.309	0.309
Netherlands	0.295	0.295	0.276	0.296	0.293	0.308
Austria	0.802	0.802	0.691	0.691	0.560	0.560
Portugal	0.314	0.340	0.295	0.384	0.391	0.391
Finland	0.175	0.175	0.184	0.191	0.191	0.191
Sweden	0.237	0.241	0.246	0.246	0.246	0.246
UK	0.538	0.538	0.538	0.538	0.538	0.538
USA	0.109	0.109	0.109	0.109	0.109	0.109
Japan	0.225	0.225	0.240	0.240	0.204	0.204
EU average	0.394	0.394	0.391	0.393	0.386	0.387

Notes to table 4.3:

Values in Euro/PPP, including VAT.

2003 exchange rates are used for all years.

The average values are weighted with population in EU countries.

In USA local call charges in many states are "free". But this may depend on the package chosen by the customer. Also, not all operators offer free local calls. Here, New York area is assumed, where an un-timed charge applies.

**Table 5.4 10 minute call charges for a 50 km call at weekdays 11:00**

	1998	1999	2000	2001	2002	2003
Belgium	1.688	1.688	1.688	0.529	0.529	0.545
Denmark	0.519	0.498	0.424	0.322	0.290	0.290
Germany	1.484	1.226	1.226	1.216	1.218	1.208
Greece	2.441	1.798	1.618	0.420	0.354	0.885
Spain	1.735	1.299	1.176	1.082	0.688	0.612
France	1.386	1.386	1.140	0.921	0.919	0.919
Ireland	1.095	1.058	0.781	0.781	0.780	0.681
Italy	2.319	1.813	1.847	1.545	1.312	1.312
Luxembourg	0.372	0.372	0.372	0.310	0.309	0.309
Netherlands	0.654	0.590	0.395	0.445	0.445	0.456
Austria	0.802	0.802	0.691	0.691	0.670	0.670
Portugal	1.255	1.223	1.144	0.939	0.955	0.826
Finland	0.705	0.726	0.732	0.736	0.736	0.736
Sweden	0.483	0.376	0.246	0.246	0.246	0.246
UK	1.078	1.078	1.078	1.078	1.078	1.078
USA	1.369	1.369	0.513	0.513	0.513	0.924
Japan	0.954	0.954	0.839	0.599	0.599	0.599
EU average	1.482	1.277	1.206	1.042	0.962	0.963

Notes to table 4.4:

Values in Euro/PPP, including VAT.

2003 exchange rates are used for all years.

US data from 2000 onwards reflect the change in legislation where Long Distance carriers are allowed to provide service in the Inter-state markets

The average values are weighted with population in EU countries.

**Table 5.5 10 minute call charges for a 200 km call at weekdays 11:00**

	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Belgium</b>	1.688	1.688	1.688	0.529	0.529	0.545
<b>Denmark</b>	0.519	0.498	0.424	0.322	0.290	0.290
<b>Germany</b>	2.905	1.839	1.226	1.216	1.218	1.208
<b>Greece</b>	3.636	3.213	1.618	1.133	0.885	0.885
<b>Spain</b>	4.003	2.986	2.086	1.803	1.080	0.997
<b>France</b>	1.667	1.457	1.140	0.921	0.919	0.919
<b>Ireland</b>	1.703	1.058	0.781	0.781	0.780	0.681
<b>Italy</b>	2.319	1.813	1.847	1.545	1.312	1.312
<b>Luxembourg</b>						
<b>Netherlands</b>	0.654	0.590	0.395	0.445	0.445	0.456
<b>Austria</b>	2.302	2.302	2.302	0.767	0.670	0.670
<b>Portugal</b>	3.200	2.717	1.624	1.425	1.449	1.213
<b>Finland</b>	0.705	0.726	0.732	0.736	0.736	0.736
<b>Sweden</b>	0.483	0.376	0.246	0.246	0.246	0.246
<b>UK</b>	1.078	1.078	1.078	1.078	1.078	1.078
<b>USA</b>	1.646	1.646	0.513	0.513	0.513	0.924
<b>Japan</b>	3.087	1.684	1.798	0.839	0.839	0.839
<b>EU average</b>	2.205	1.717	1.350	1.154	1.033	1.015

Notes to table 4.5:

Values in Euro/PPP, including VAT.

2002 exchange rates are used for all years.

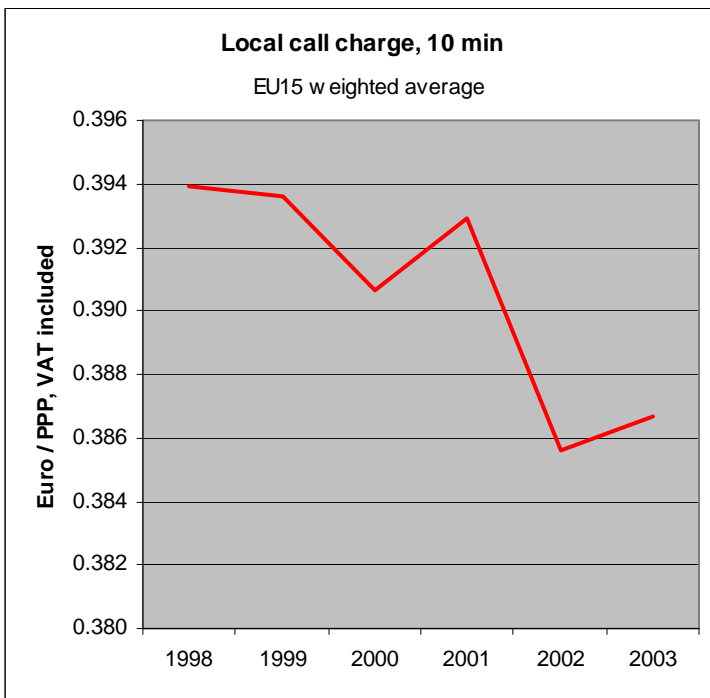
In Luxembourg it is not possible to have a 200 km call.

US data from 2000 onwards reflect the change in legislation where Long Distance carriers are allowed to provide service in the Inter-state markets

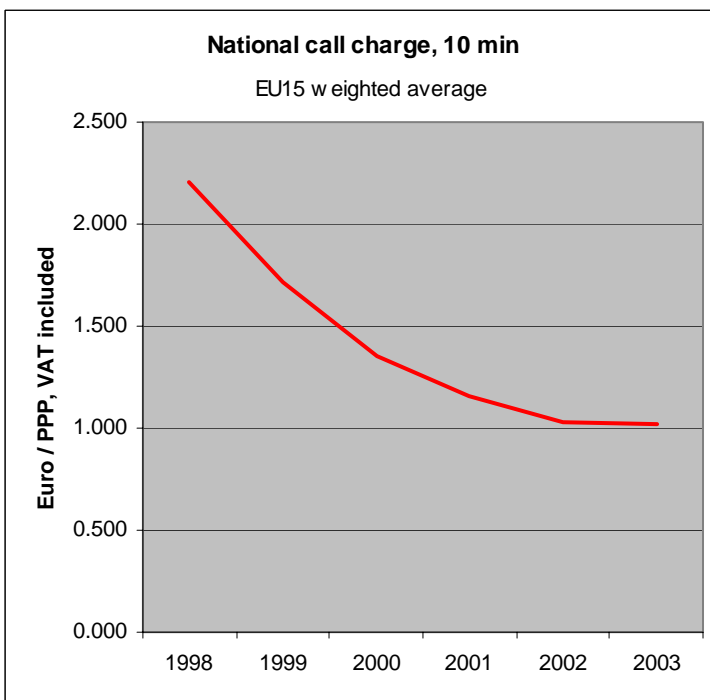
The average values are weighted with population in EU countries.

The development of the EU15 weighted average over the five years is shown in the graphs below for local (3 km) and National (200 km) calls.

**Figure 5.1 EU15 weighted average price for a local 10 minute call**



**Figure 5.2 EU15 weighted average price for a national 10 minute call**



The following graphs show the price development of the incumbent operator in each country, for calls over 3, 50 and 200 km. Where the lines on the graph merge, the tariff has changed with regard to the number of distance zones, and/or the definition of such zones.

All graphs show prices as of 11:00 on a weekday.

Figure 5.3 10 minute call charges, Belgium

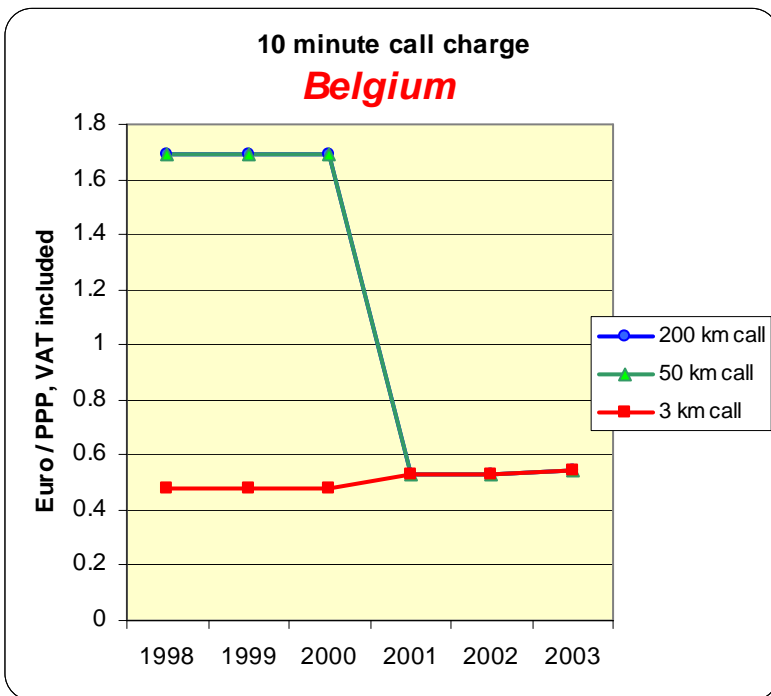


Figure 5.4 10 minute call charges, Denmark

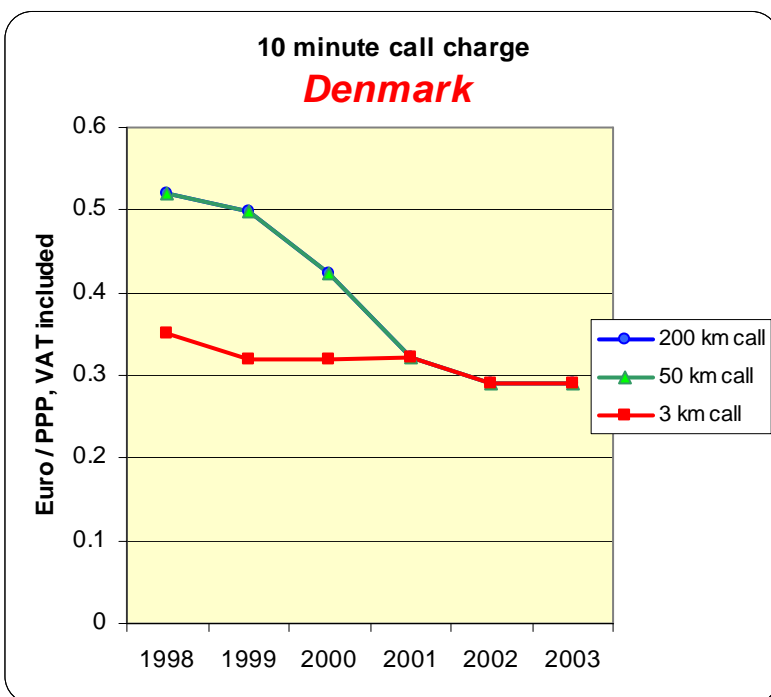


Figure 5.5 10 minute call charges, Germany

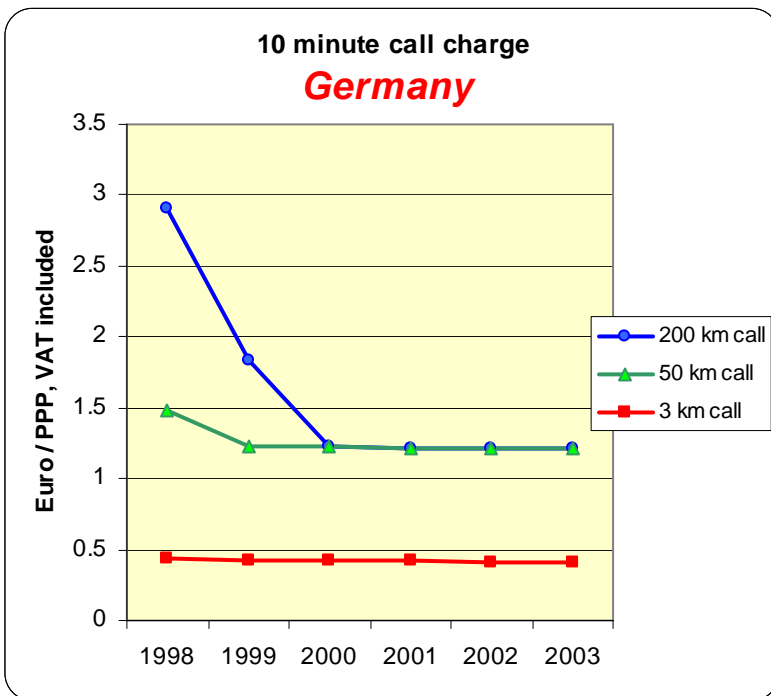


Figure 5.6 10 minute call charges, Greece

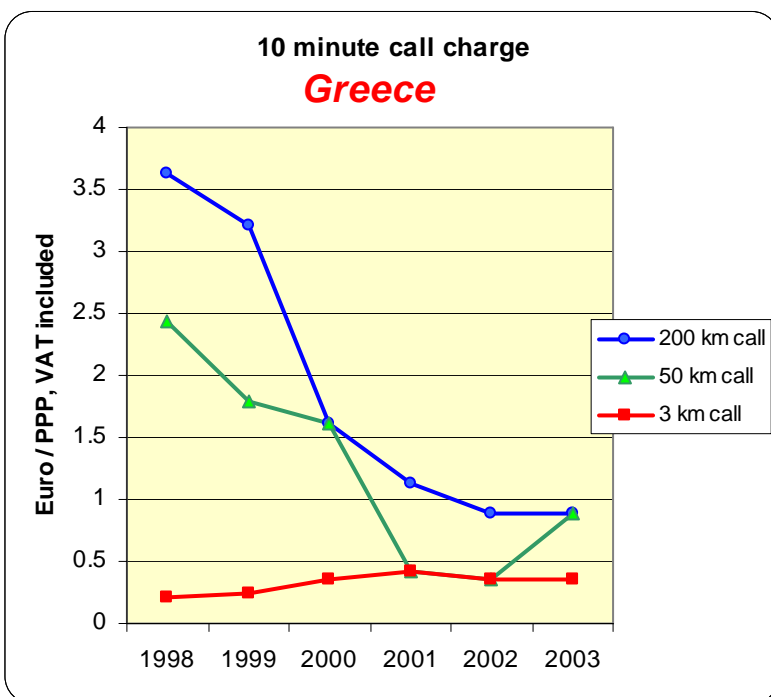


Figure 5.7 10 minute call charges, Spain

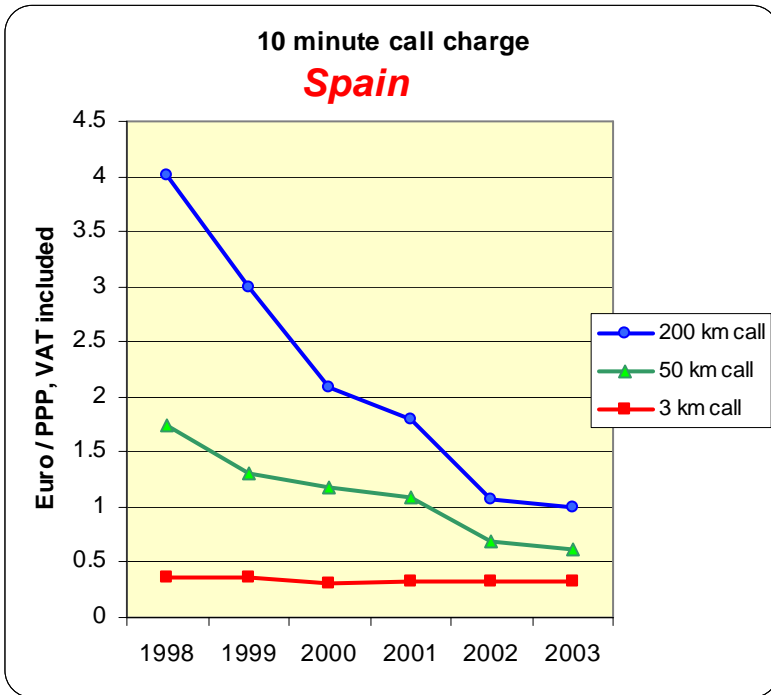
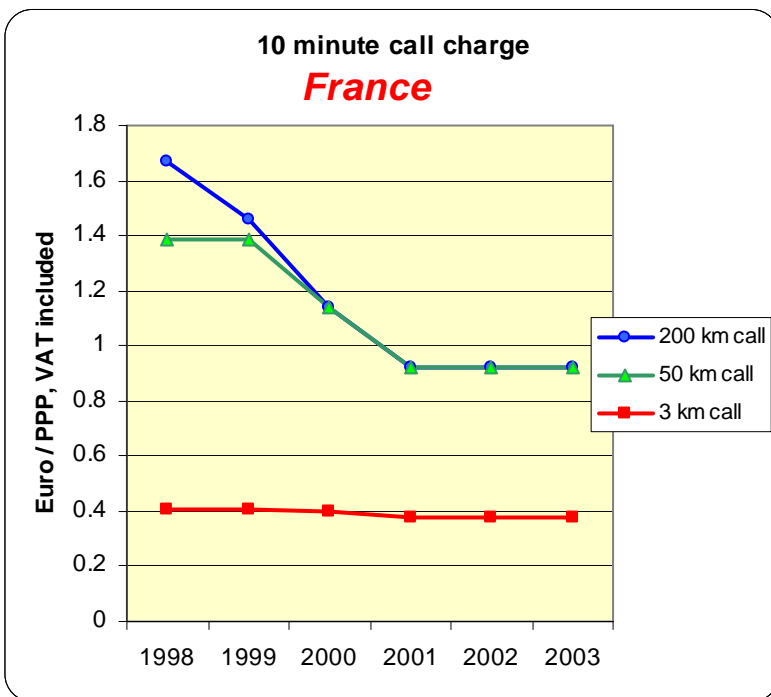
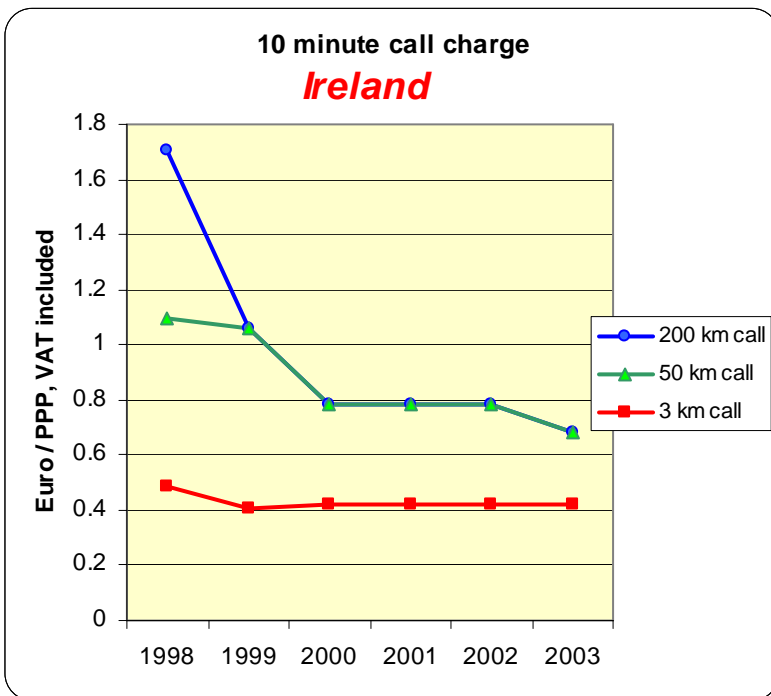


Figure 5.8 10 minute call charges, France



**Figure 5.9 10 minute call charges, Ireland**



**Figure 5.10 10 minute call charges, Italy**

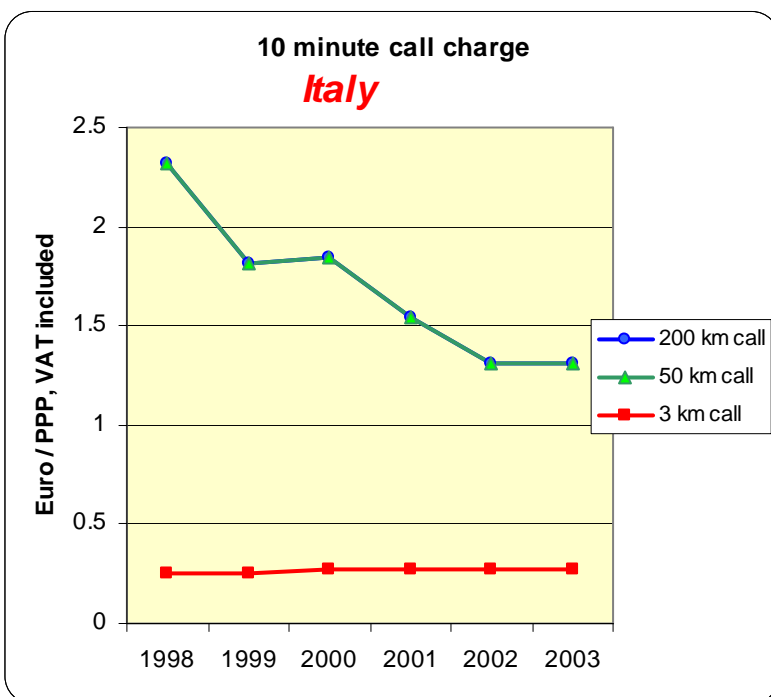


Figure 5.11 10 minute call charges, Luxembourg

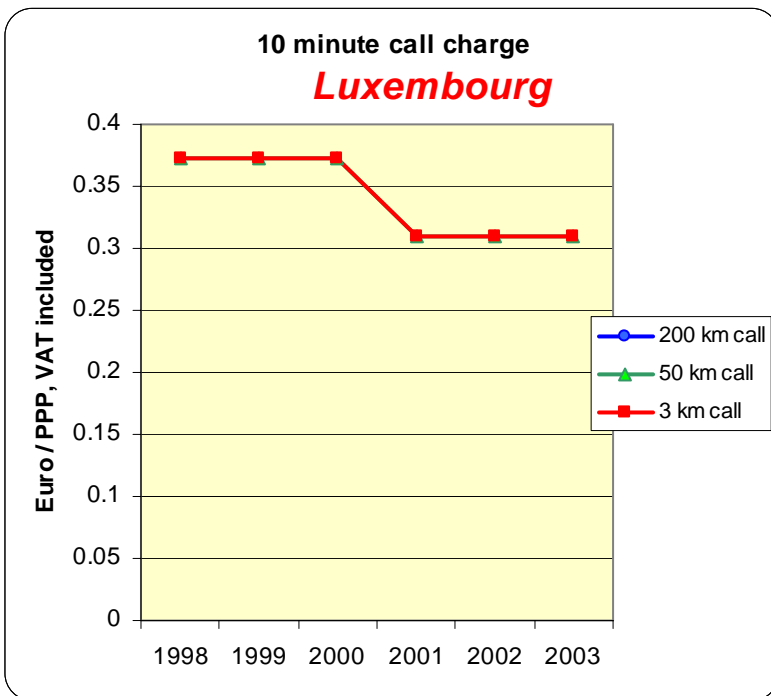


Figure 5.12 10 minute call charges, Netherlands

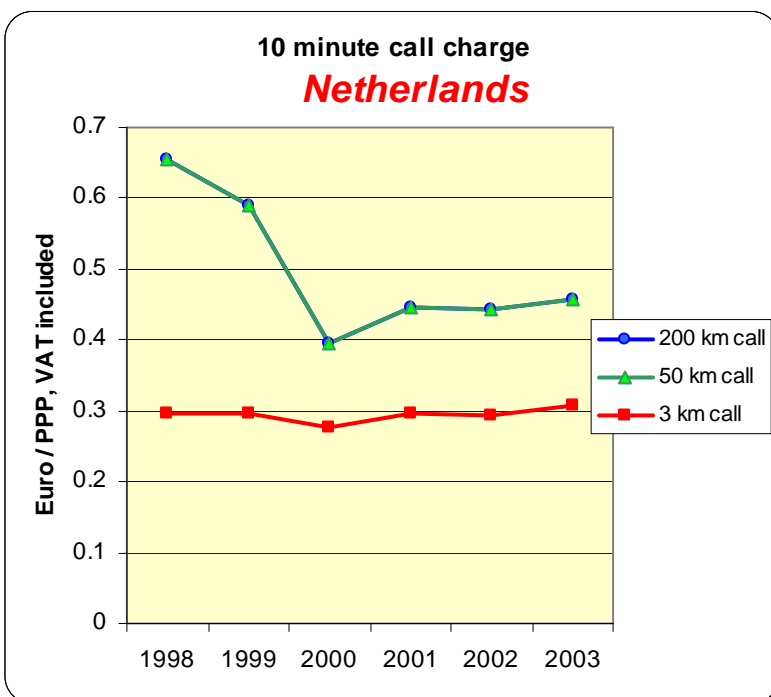


Figure 5.13 10 minute call charge, Austria

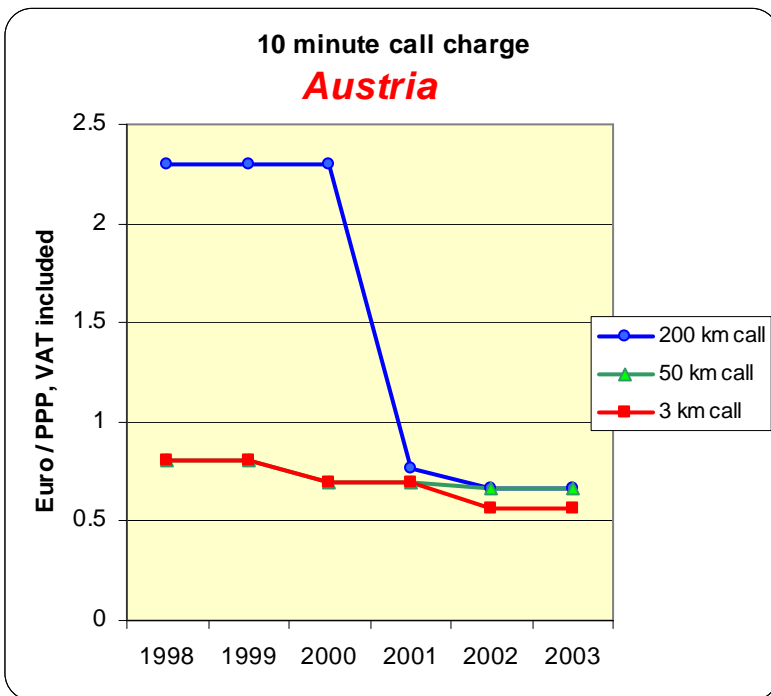


Figure 5.14 10 minute call charges, Portugal

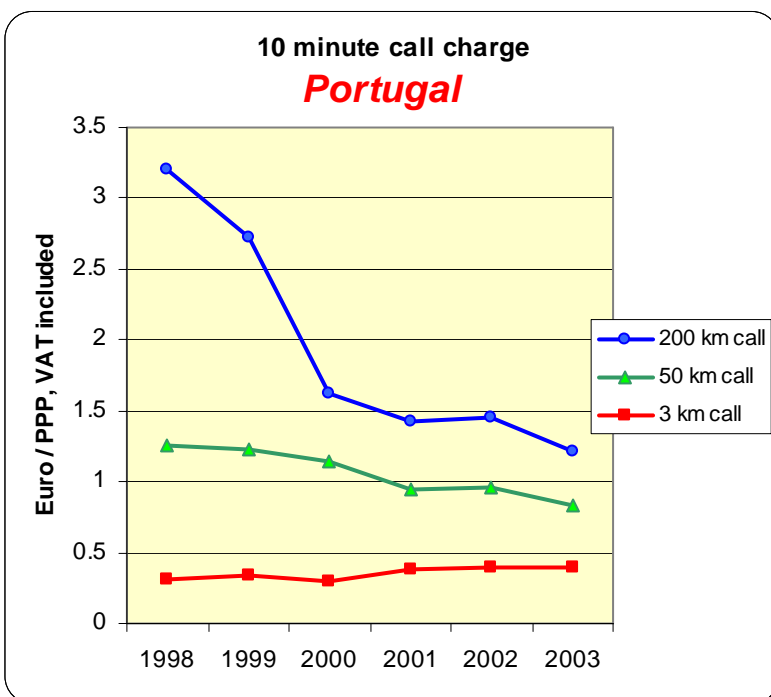
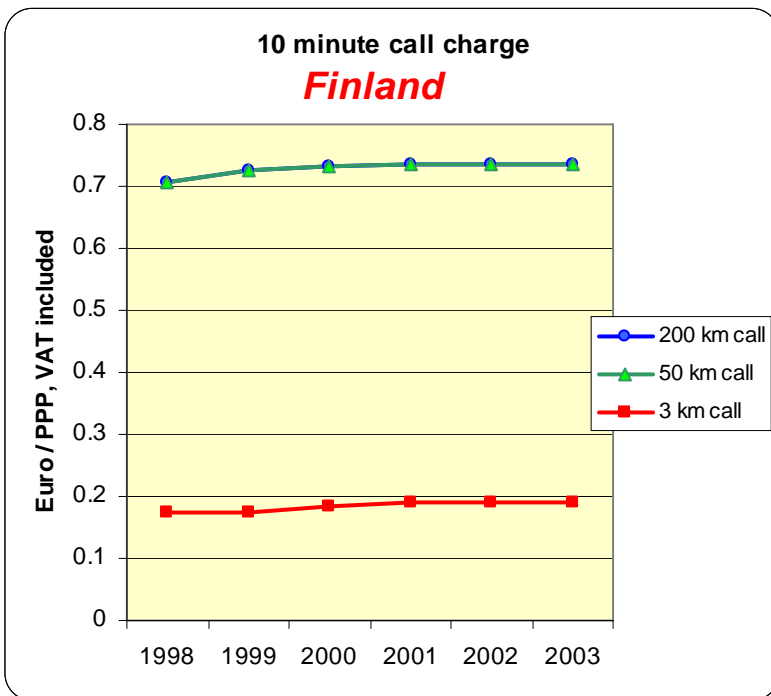
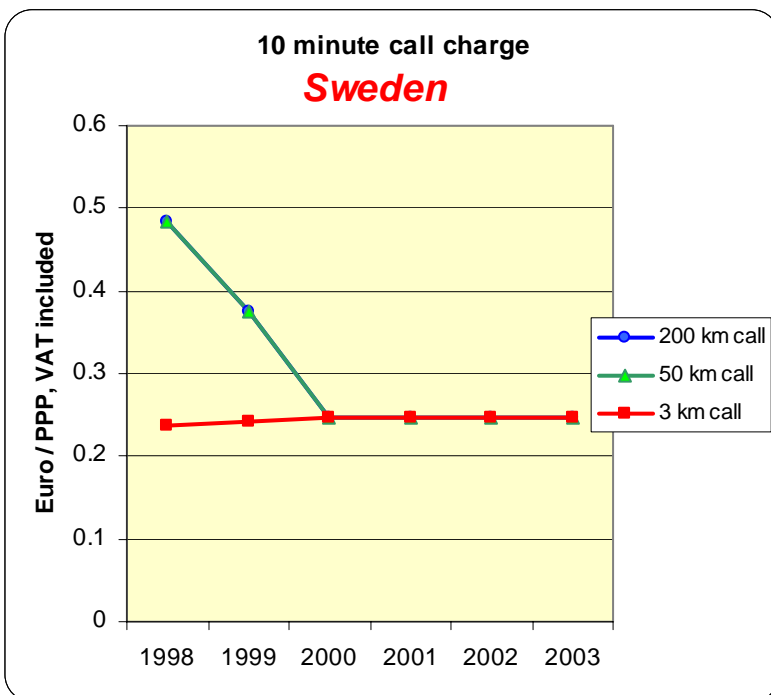


Figure 5.15 10 minute call charges, Finland

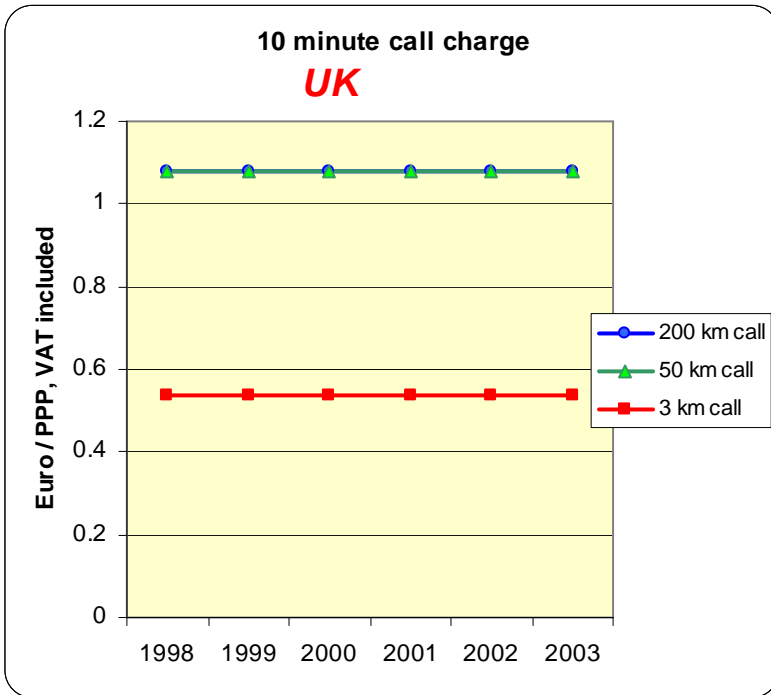


Note: Tariffs for TeliaSonera.

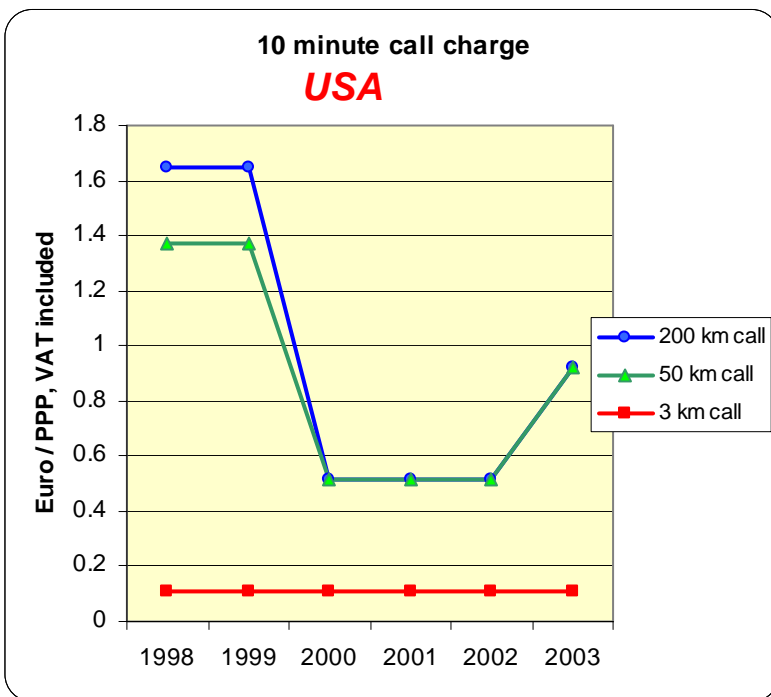
Figure 5.16 10 minute call charges, Sweden



**Figure 5.17 10 minute call charges, United Kingdom**

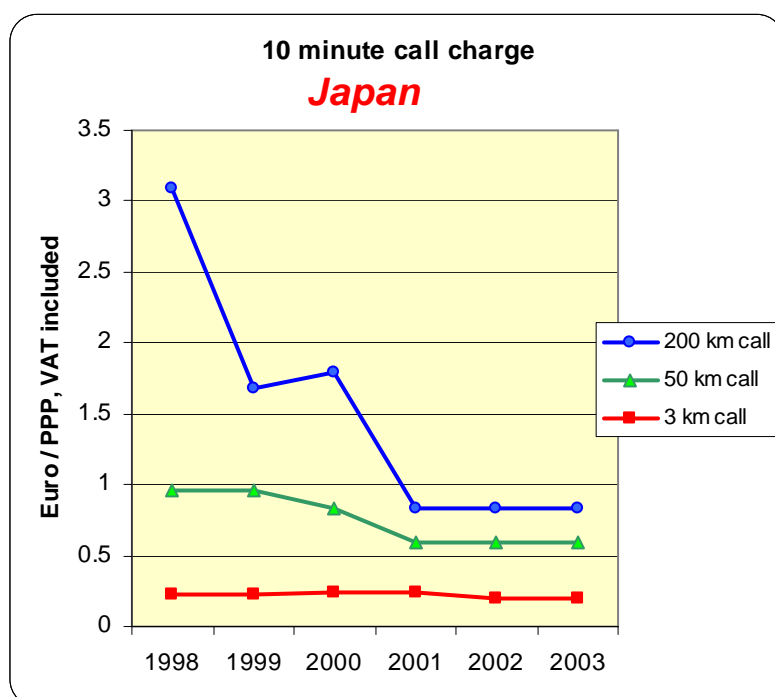


**Figure 5.18 10 minute call charges, USA (New York)**



Note: The significant change in charges for 50 and 200 km calls from 2000 reflects the fact that the long distance carriers are now allowed to enter the intra-state markets. The tariff used has been shifted from Verizon to AT&T. Local calls (3 km) are not affected.

Figure 5.19 10 minute call charges, Japan



## 5.1. Prices for competitors

The equivalent prices for competitor providers in the EU countries are shown in the table below. One competitor per country has been analysed. The prices are shown for a 10 minute call, at peak time weekdays. Where prices for on-net and off-net calls differ, the on-net calls are used. These are in such cases cheaper than off-net calls.

Table 5.6 Competitor's call charges, 10 minutes, weekdays 11:00

3 km (Local)		2002	2003
Belgium	Telenet	0.241	0.241
Denmark	Tele2	0.258	0.258
Germany	Arcor	0.911	0.446
Greece	Forthnet	0.327	0.327
Spain	Auna	0.309	0.286
France	Cegetel	0.263	0.263
Ireland	Esat	0.454	0.400
Italy	Wind	0.235	0.235
Luxembourg	Tele2	0.290	0.290
Netherlands	Tele2	0.269	0.269
Austria	UTA	0.560	0.560
Portugal	Oni	0.898	0.898
Finland	Elisa	0.202	0.185
Sweden	Tele2	0.219	0.219
UK	NTL	0.476	0.476
EU15 Weighted		0.463	0.359

Note: Euro/PPP, including VAT

EU15 is a weighted average across the 15 countries, weighted with population

**Table 5.7 Competitor's call charges, 10 minutes, weekdays 11:00**

50 km		2002	2003
Belgium	Telenet	0.241	0.241
Denmark	Tele2	0.258	0.258
Germany	Arcor	0.911	0.911
Greece	Forthnet	0.327	0.681
Spain	Auna	0.905	0.515
France	Cegetel	0.495	0.495
Ireland	Esat	0.821	0.400
Italy	Wind	1.124	1.129
Luxembourg	Tele2	0.290	0.290
Netherlands	Tele2	0.399	0.399
Austria	UTA	0.560	0.560
Portugal	Oni	1.347	1.347
Finland	Elisa	0.773	0.773
Sweden	Tele2	0.219	0.219
UK	NTL	0.476	0.476
EU15 Weighted		0.727	0.692

Note: Euro/PPP, including VAT  
EU15 is a weighted average across the 15 countries, weighted with population

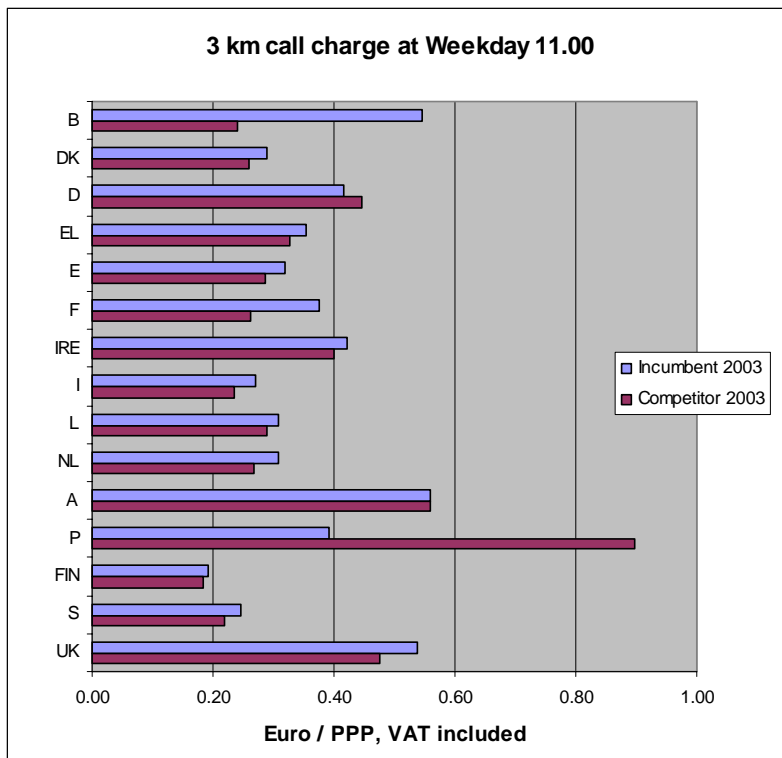
**Table 5.8 Competitor's call charges, 10 minutes, weekdays 11:00**

200 km		2002	2003
Belgium	Telenet	0.241	0.241
Denmark	Tele2	0.258	0.258
Germany	Arcor	0.911	0.911
Greece	Forthnet	0.681	0.681
Spain	Auna	1.692	0.827
France	Cegetel	0.495	0.495
Ireland	Esat	0.821	0.400
Italy	Wind	1.124	1.129
Luxembourg	Tele2		
Netherlands	Tele2	0.399	0.399
Austria	UTA	0.560	0.560
Portugal	Oni	1.503	1.503
Finland	Elisa	0.773	0.773
Sweden	Tele2	0.219	0.219
UK	NTL	0.476	0.476
EU15 Weighted		0.826	0.730

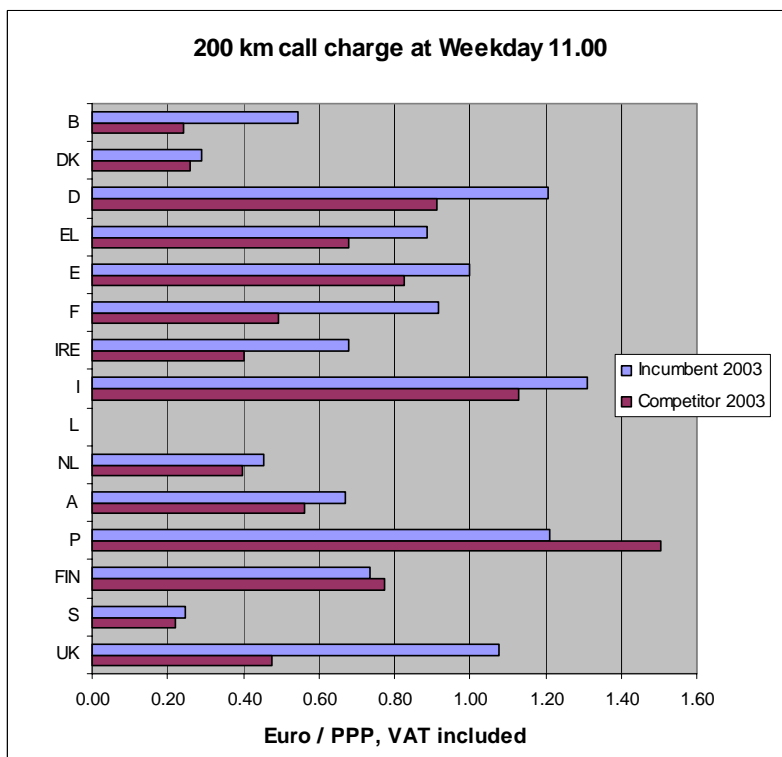
Note: Euro/PPP, including VAT  
In Luxembourg a 200 km call is not possible  
EU15 is a weighted average across the 14 countries, weighted with population

Price relationships with the Incumbent's prices are shown in the graphs following, for local and long distance calls.

**Figure 5.20 Comparison between incumbent and competitor's prices, local call**



**Figure 5.21 Comparison between incumbent and competitor's prices, long distance call**



The selection of tariff packages will impact on this comparison, although care has been taken to ensure reasonable compatibility.

## 6. International PSTN calls

The objective here has also been to study the development of the call charges actually paid by the consumer on individual calls. As the issue of unit based charges is less relevant for international calls, due to very short units, the data has been based on average per minute call charges. Call charges have been calculated for 3, 5 and 10 minute calls, but the duration doesn't alter much in terms of price relationships between originating countries and destinations.

Prices of individual international calls have been analysed with 4 different destinations. These are:

**Table 6.1 International call types**

Calls to:	3 minutes	5 minutes	10 minutes
Near EU country	√	√	√
Distant EU country	√	√	√
USA	√	√	√
Japan	√	√	√

The data is presented with the following parameters:

- Using EURO exchange rates adjusted for PPP
- Including VAT
- The years from 1998 to 2003 are covered
- Standard tariffs are used throughout.
- Peak time call charges are used

Due to the large amount of data only the 10 minute duration is presented in this report.

All prices are shown using average per minute charges as a base. Call setup charges are included, as are the scheme with different prices for first and additional periods used in some countries.

Table 6.2 summarises the definition of near and distant EU destination countries.

**Table 6.2 Definition of destination countries.**

From:	Near EU	Far EU	From:	Near EU	Far EU
<b>B</b>	F	EL	<b>L</b>	D	EL
<b>DK</b>	SWE	EL	<b>NL</b>	D	EL
<b>D</b>	F	EL	<b>AUT</b>	D	EL
<b>EL</b>	I	DK	<b>P</b>	E	DK
<b>E</b>	P	DK	<b>FIN</b>	SWE	EL
<b>F</b>	B	EL	<b>SWE</b>	DK	EL
<b>IRL</b>	UK	EL	<b>UK</b>	F	EL
<b>I</b>	EL	DK	<b>USA</b>	UK	EL
			<b>Japan</b>	UK	EL

The charges for a 10 minute call are summarised in the tables below. All charges are converted to Euro/PPP, and include VAT.

**Table 6.3 Calls to near EU country**

	<b>Aug 1998</b>	<b>Aug 1999</b>	<b>Aug 2000</b>	<b>Aug 2001</b>	<b>Aug 2002</b>	<b>Aug 2003</b>
<b>Belgium</b>	4.374	4.339	4.339	1.785	1.783	1.884
<b>Denmark</b>	2.122	1.753	1.700	0.606	0.606	0.606
<b>Germany</b>	4.275	2.431	2.431	1.216	1.218	1.218
<b>Greece</b>	5.994	5.994	3.756	3.356	3.404	3.404
<b>Spain</b>	5.296	4.408	4.093	4.093	2.489	1.727
<b>France</b>	3.045	2.692	2.833	2.833	2.233	2.233
<b>Ireland</b>	2.010	1.693	1.280	1.280	1.280	1.280
<b>Italy</b>	5.397	3.890	2.988	2.988	2.401	2.267
<b>Luxembourg</b>	3.956	2.737	2.058	1.437	1.436	1.436
<b>Netherlands</b>	1.940	1.033	0.675	0.675	0.705	0.788
<b>Austria</b>	3.837	4.055	3.070	3.070	2.470	2.470
<b>Portugal</b>	6.184	4.249	4.061	3.295	3.352	3.352
<b>Finland</b>	1.861	1.499	1.520	1.513	1.543	1.543
<b>Sweden</b>	1.377	1.377	0.890	0.890	0.890	0.487
<b>UK</b>	3.875	3.875	3.875	3.875	3.875	3.875
<b>USA</b>	11.698	1.129	1.026	1.026	1.026	0.821
<b>Japan</b>	18.524	10.665	8.992	8.992	8.992	8.992
<b>EU15 Weighted</b>	4.138	3.255	2.984	2.600	2.238	2.133

Notes:

All charges are in Euro/PPP, including VAT

Call duration is 10 minutes, and any call setup is included

The EU average is weighted with population in EU countries

**Table 6.4 Calls to distant EU country**

	<b>Aug 1998</b>	<b>Aug 1999</b>	<b>Aug 2000</b>	<b>Aug 2001</b>	<b>Aug 2002</b>	<b>Aug 2003</b>
<b>Belgium</b>	6.249	5.783	5.783	2.505	2.507	2.578
<b>Denmark</b>	5.286	4.759	4.759	3.454	3.454	3.454
<b>Germany</b>	4.275	4.239	4.239	2.431	2.437	2.437
<b>Greece</b>	5.994	5.994	3.756	3.356	3.404	3.404
<b>Spain</b>	5.296	4.408	4.093	4.093	2.489	1.727
<b>France</b>	3.632	3.274	2.833	2.833	2.386	2.386
<b>Ireland</b>	4.020	4.022	4.022	4.022	4.021	4.021
<b>Italy</b>	5.397	3.890	2.988	2.988	2.401	2.267
<b>Luxembourg</b>	5.673	3.934	3.934	2.429	2.429	2.429
<b>Netherlands</b>	3.416	3.416	2.995	2.444	2.585	2.712
<b>Austria</b>	5.116	5.407	4.317	4.317	3.770	3.770
<b>Portugal</b>	6.184	4.987	4.799	3.661	3.723	3.723
<b>Finland</b>	4.826	4.695	4.767	4.762	4.735	4.063
<b>Sweden</b>	4.508	4.508	3.171	3.171	3.171	3.171
<b>UK</b>	4.844	4.844	4.844	4.844	4.844	4.844
<b>USA</b>	21.036	2.873	2.976	2.976	2.976	2.155
<b>Japan</b>	19.086	18.524	18.584	18.584	18.584	18.584
<b>EU15 Weighted</b>	4.705	4.268	3.887	3.317	2.984	2.880

Notes:

All charges are in Euro/PPP, including VAT

Call duration is 10 minutes, and any call setup is included

The EU average is weighted with population in EU countries

**Table 6.5 Calls to USA**

	<b>Aug 1998</b>	<b>Aug 1999</b>	<b>Aug 2000</b>	<b>Aug 2001</b>	<b>Aug 2002</b>	<b>Aug 2003</b>
<b>Belgium</b>	5.832	5.783	5.783	1.785	1.783	1.884
<b>Denmark</b>	4.126	3.704	3.704	2.135	2.135	1.872
<b>Germany</b>	4.275	2.431	2.431	1.216	1.218	1.218
<b>Greece</b>	6.713	6.713	3.756	3.356	3.404	3.404
<b>Spain</b>	6.861	5.116	4.802	4.802	2.489	1.727
<b>France</b>	3.280	2.911	2.833	2.833	2.233	2.233
<b>Ireland</b>	3.069	2.433	2.433	1.588	1.587	1.587
<b>Italy</b>	5.344	3.890	2.988	2.988	2.401	2.267
<b>Luxembourg</b>	5.673	2.737	2.058	1.437	1.436	1.436
<b>Netherlands</b>	2.572	0.835	0.727	0.728	0.705	0.788
<b>Austria</b>	5.756	6.078	4.317	4.317	3.770	3.770
<b>Portugal</b>	7.761	5.355	4.651	3.661	3.723	3.723
<b>Finland</b>	6.239	4.749	4.769	4.028	4.063	4.063
<b>Sweden</b>	4.061	4.061	0.923	0.923	0.923	0.923
<b>UK</b>	3.220	3.220	3.220	3.220	3.220	3.220
<b>USA</b>	0.000	0.000	0.000	0.000	0.000	0.000
<b>Japan</b>	11.788	4.491	3.597	3.597	3.597	3.597
<b>EU15 Weighted</b>	4.569	3.532	3.128	2.673	2.234	2.135

Notes:

All charges are in Euro/PPP, including VAT

Call duration is 10 minutes, and any call setup is included

The EU average is weighted with population in EU countries

**Table 6.6 Calls to Japan**

	<b>Aug 1998</b>	<b>Aug 1999</b>	<b>Aug 2000</b>	<b>Aug 2001</b>	<b>Aug 2002</b>	<b>Aug 2003</b>
<b>Belgium</b>	11.665	11.569	11.569	4.797	4.796	4.953
<b>Denmark</b>	10.559	9.241	9.241	7.408	7.408	7.145
<b>Germany</b>	11.009	10.919	10.919	7.901	7.895	7.825
<b>Greece</b>	10.788	10.788	5.594	3.356	3.404	3.404
<b>Spain</b>	14.648	13.696	13.696	13.696	12.440	9.246
<b>France</b>	8.575	6.547	7.398	7.398	4.726	4.726
<b>Ireland</b>	10.264	7.148	7.148	7.148	7.147	7.147
<b>Italy</b>	13.478	10.663	9.628	9.628	9.597	9.408
<b>Luxembourg</b>	12.198	6.842	3.934	2.429	2.429	2.429
<b>Netherlands</b>	6.780	5.938	4.050	2.941	3.138	3.250
<b>Austria</b>	12.790	13.517	9.593	4.317	3.770	3.770
<b>Portugal</b>	17.210	15.696	15.578	15.375	15.638	15.638
<b>Finland</b>	11.893	11.813	11.834	6.175	6.163	4.735
<b>Sweden</b>	8.980	8.980	3.171	3.171	3.171	3.171
<b>UK</b>	10.495	10.495	10.495	9.194	9.194	9.194
<b>USA</b>	15.598	3.284	1.642	1.642	1.642	1.744
<b>Japan</b>	0.000	0.000	0.000	0.000	0.000	0.000
<b>EU15 Weighted</b>	11.299	10.311	9.830	8.449	7.893	7.493

Notes:

All charges are in Euro/PPP, including VAT

Call duration is 10 minutes, and any call setup is included

The EU average is weighted with population in EU countries

The graphs below show the situation from each individual country.

Figure 6.1 Calls from Belgium

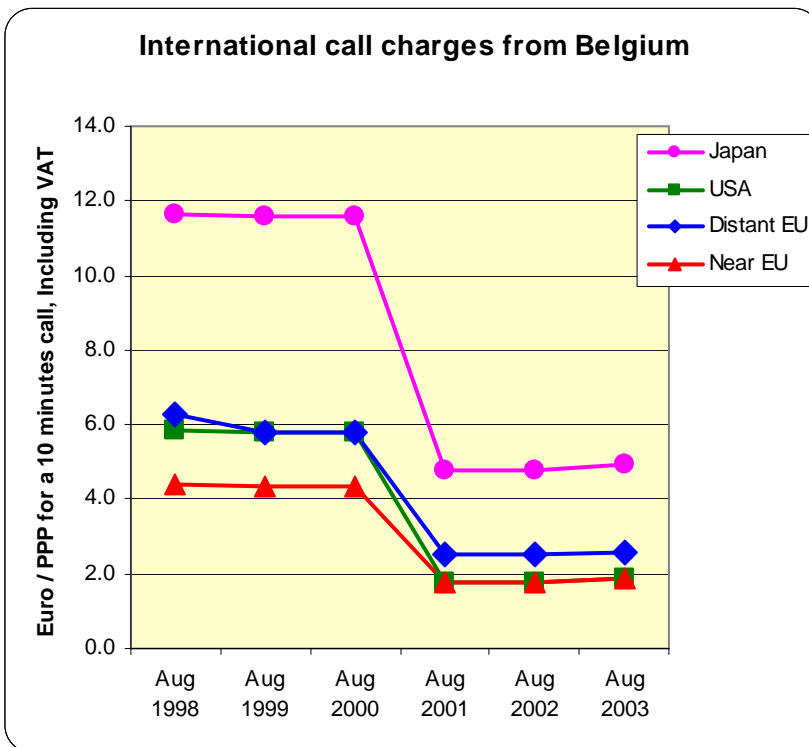


Figure 6.2 Calls from Denmark

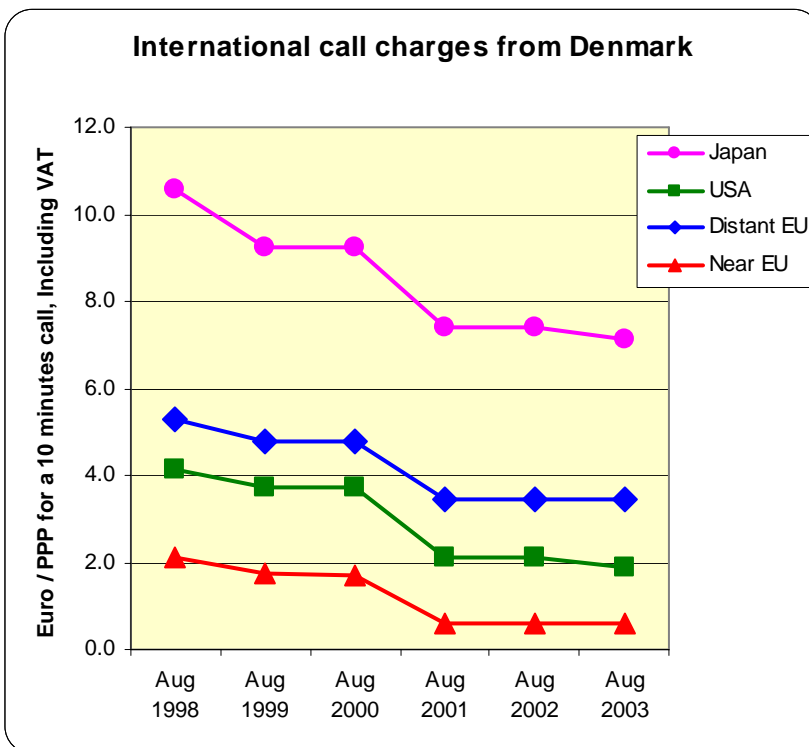


Figure 6.3 Calls from Germany

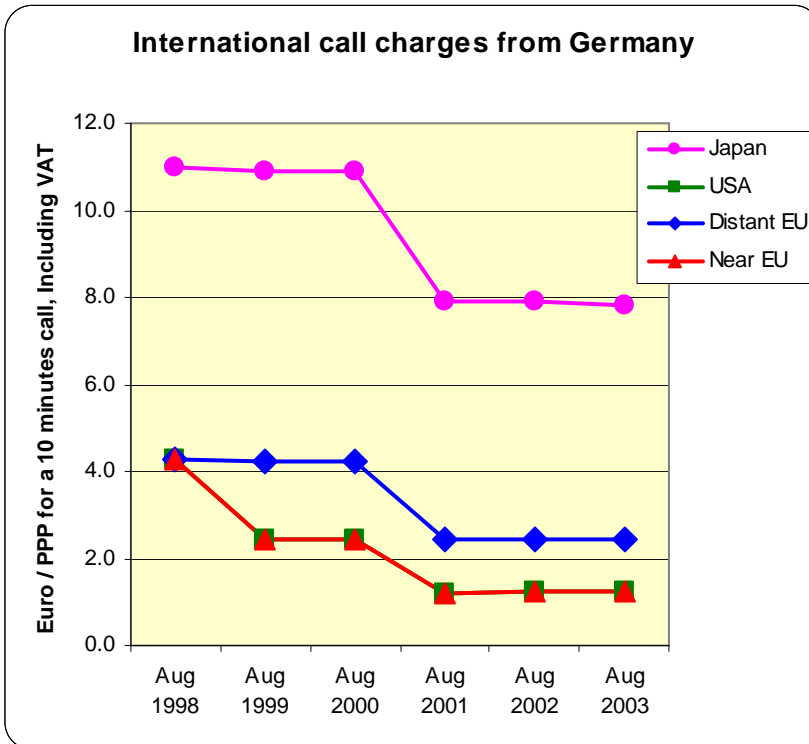
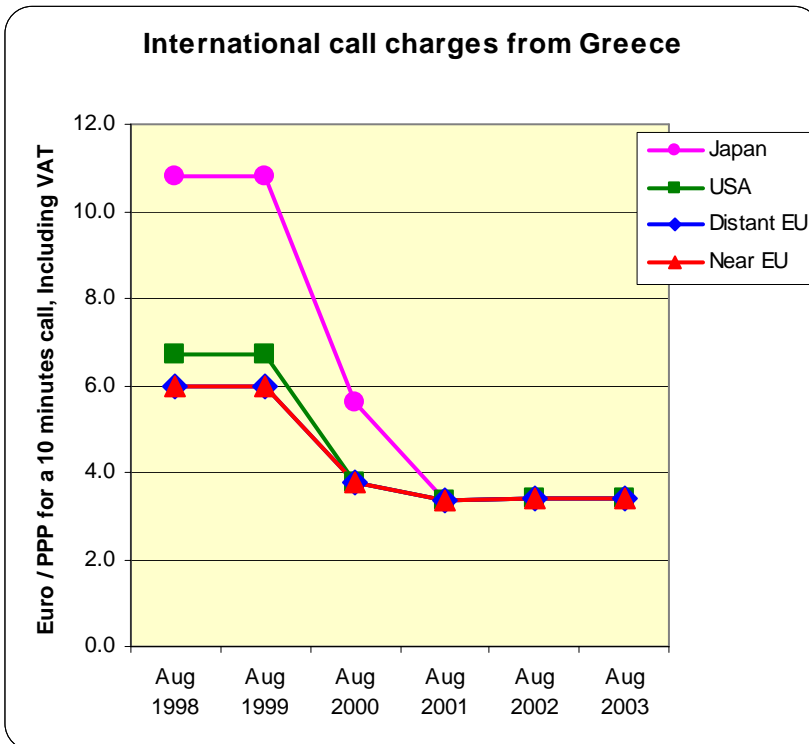
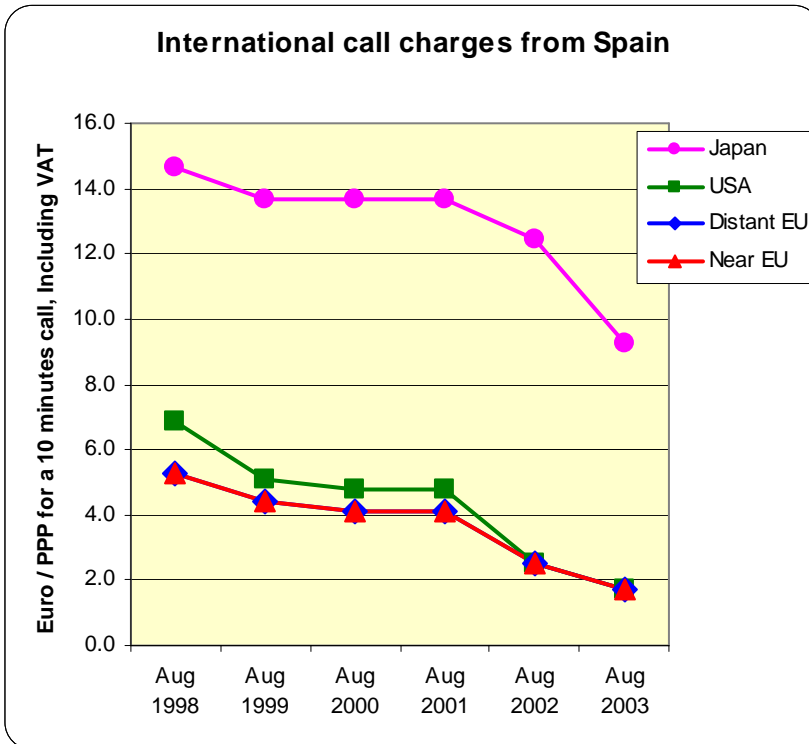


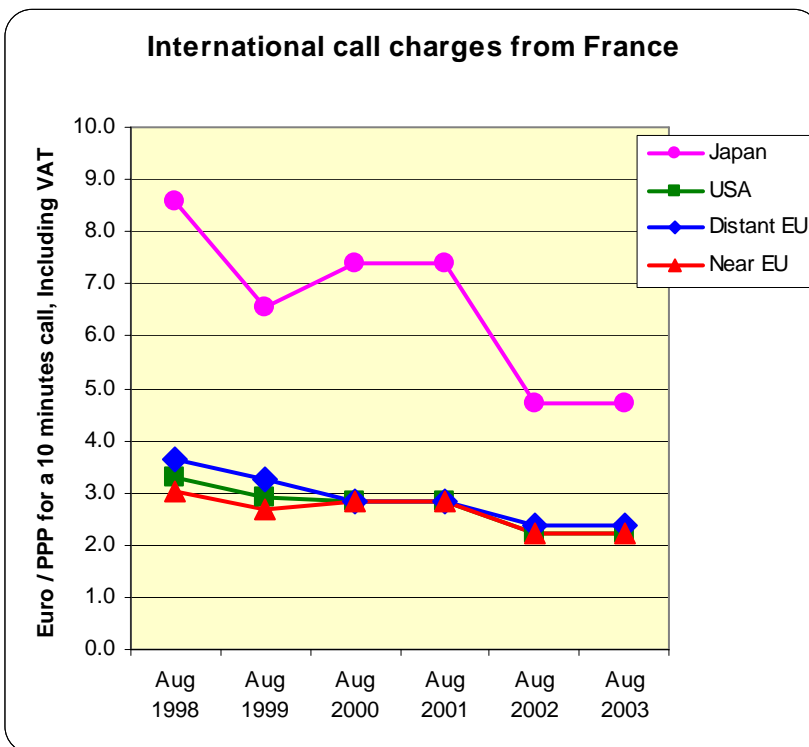
Figure 6.4 Calls from Greece



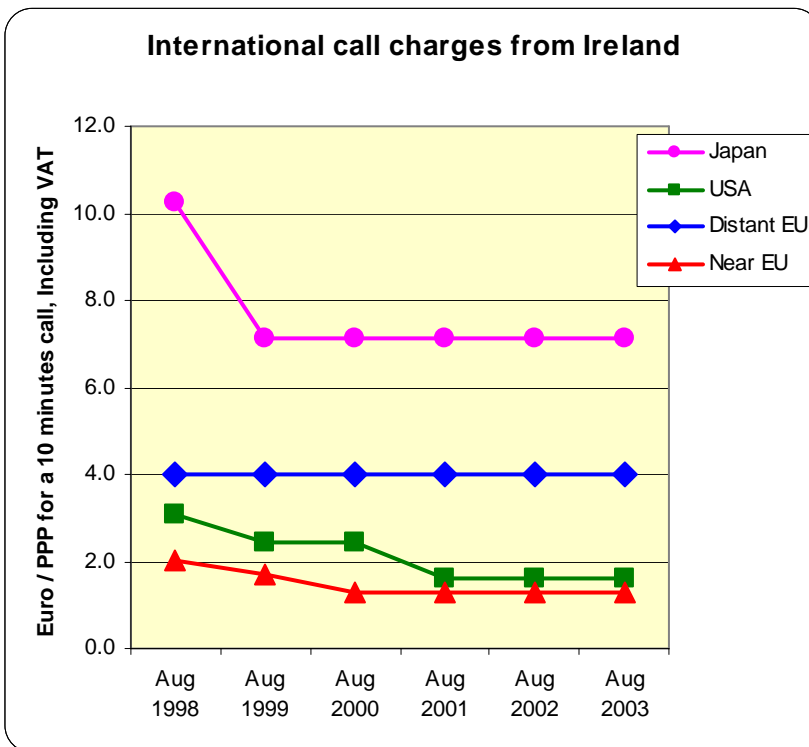
**Figure 6.5** Calls from Spain



**Figure 6.6** Calls from France



**Figure 6.7 Calls from Ireland**



**Figure 6.8 Calls from Italy**

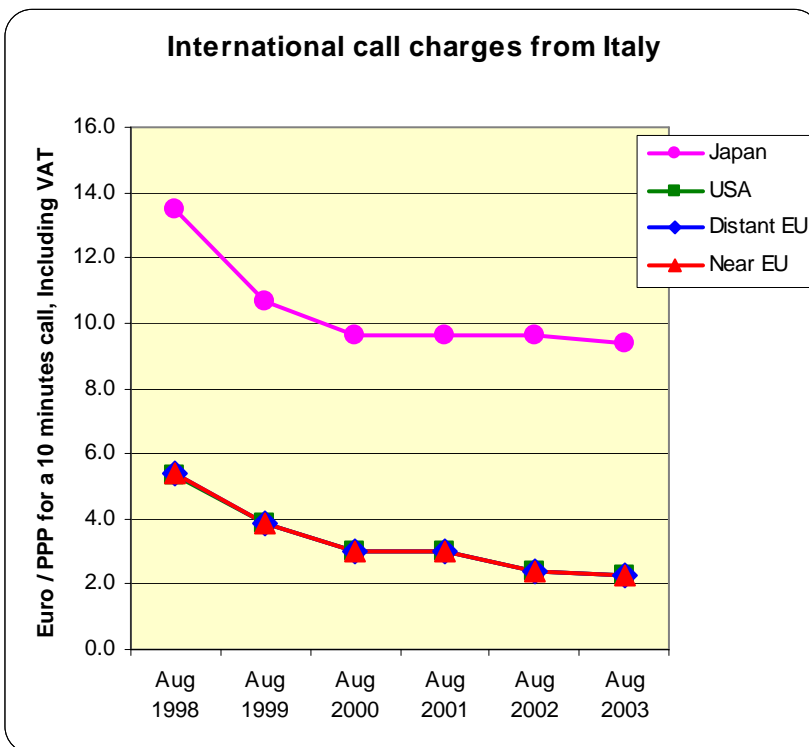


Figure 6.9 Calls from Luxembourg

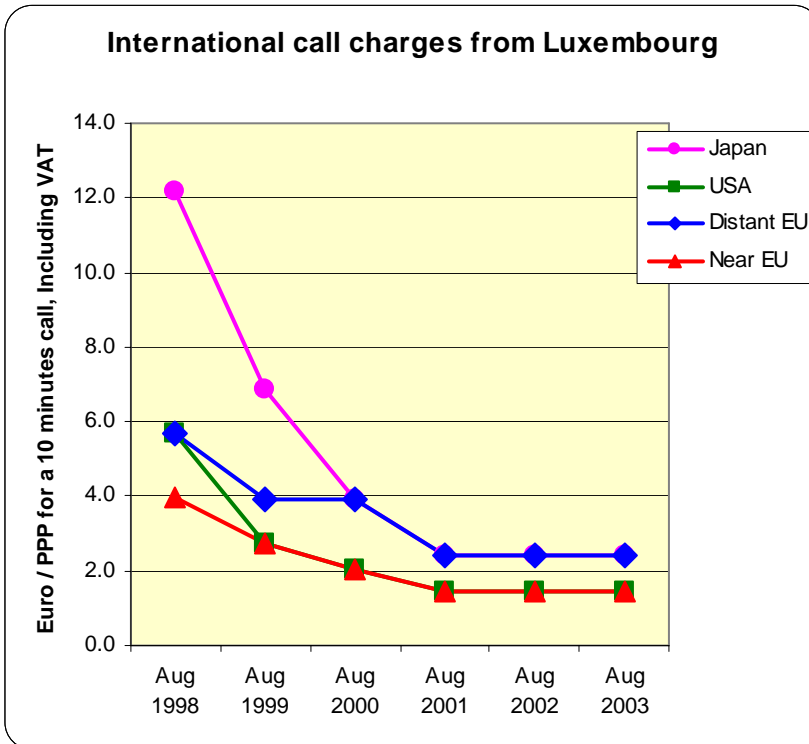


Figure 6.10 Calls from Netherlands

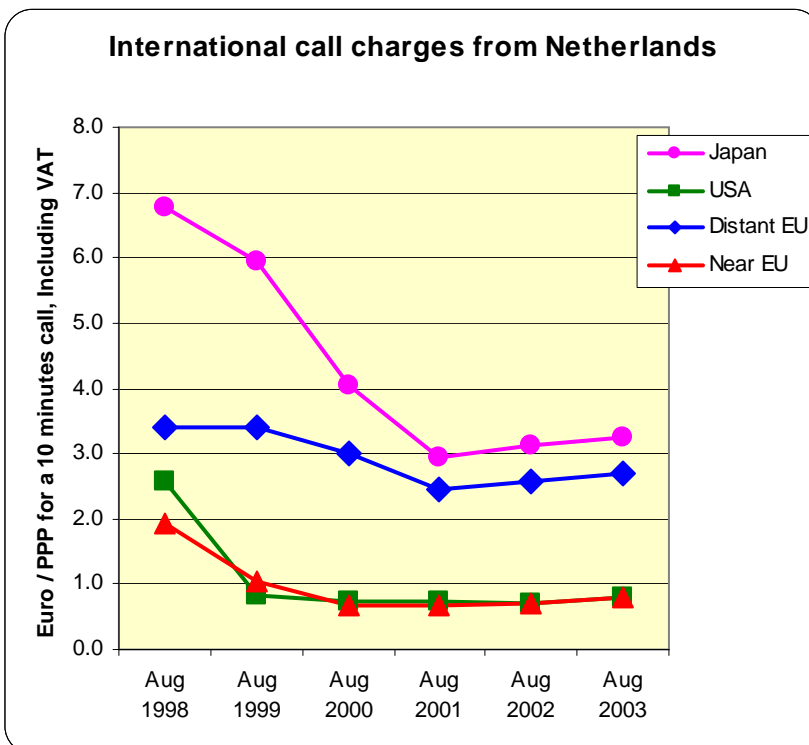


Figure 6.11 Calls from Austria

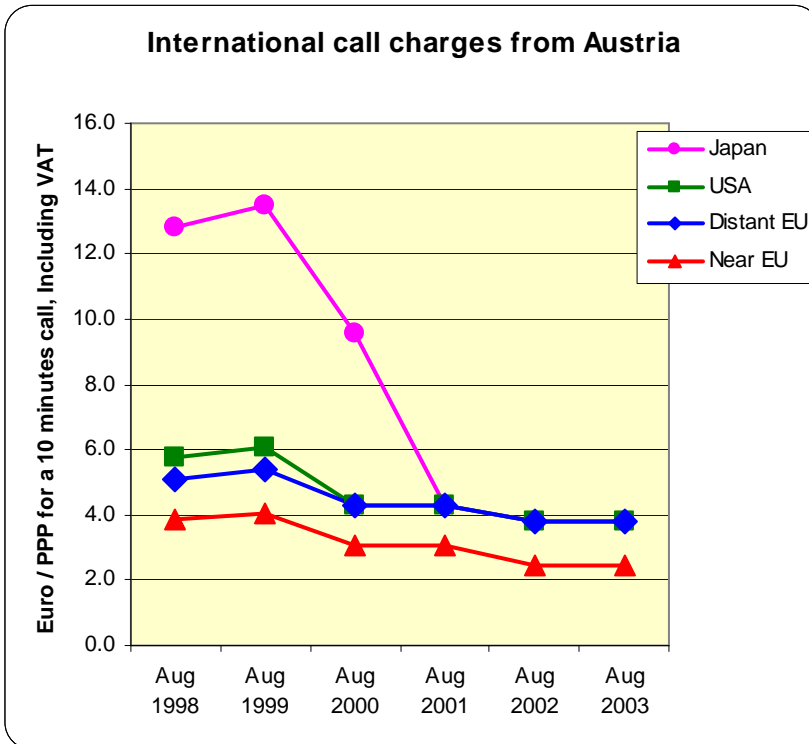
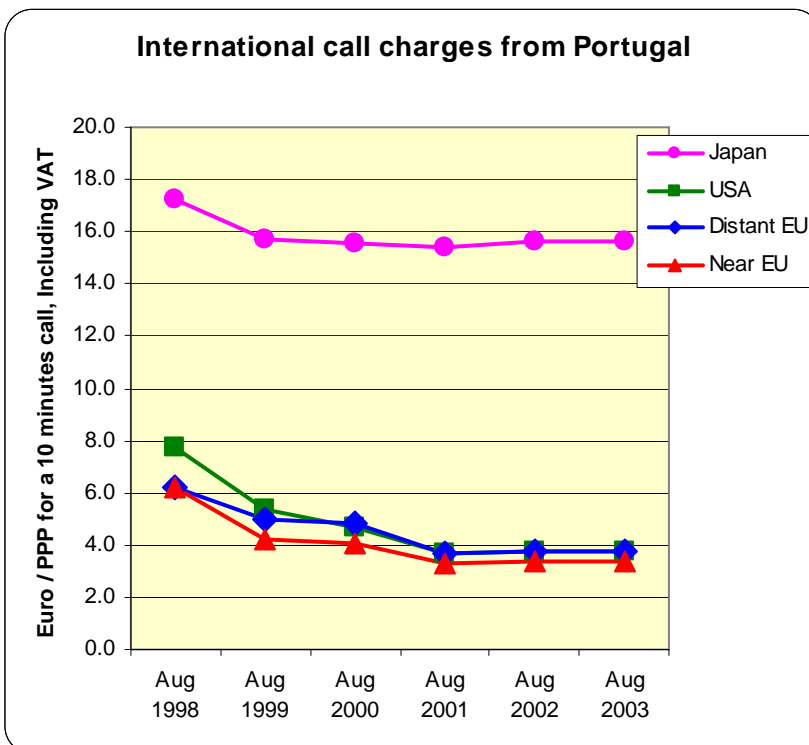
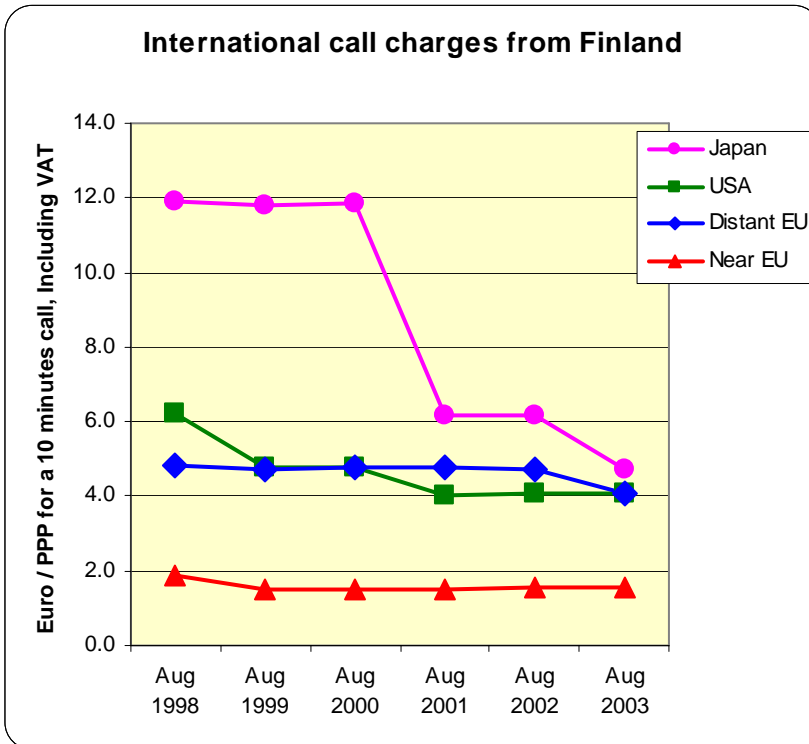


Figure 6.12 Calls from Portugal

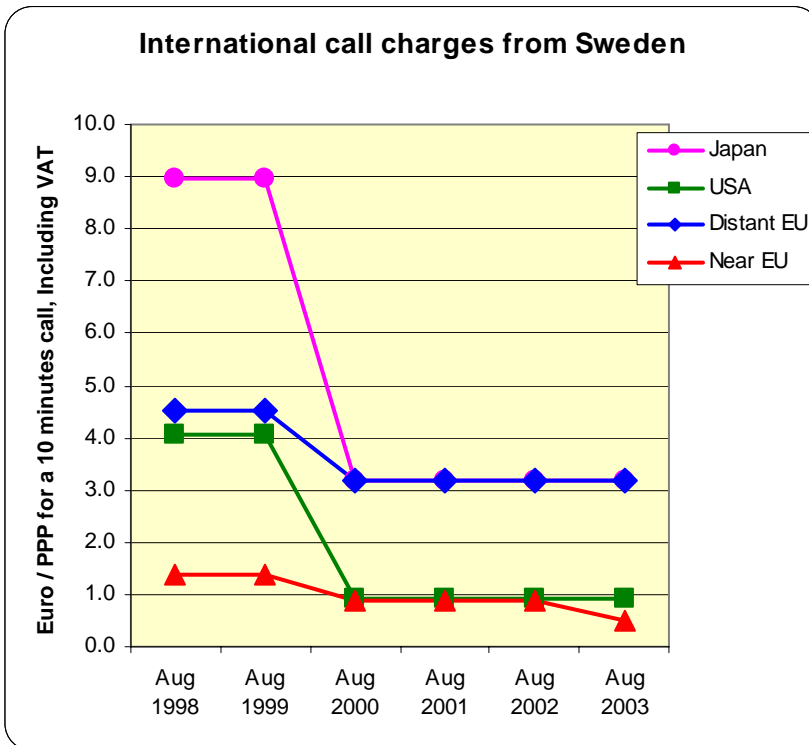


**Figure 6.13 Calls from Finland**

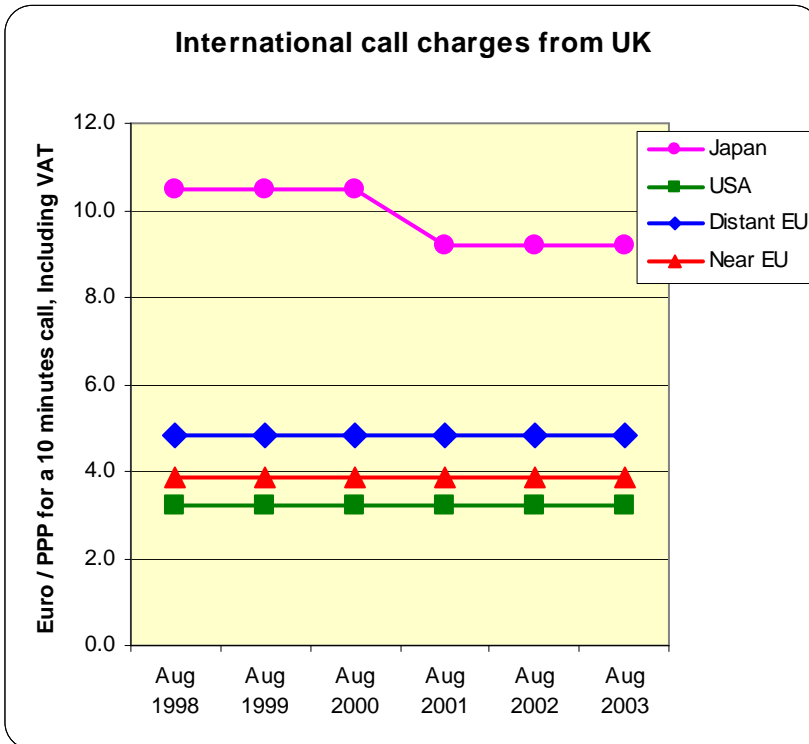


Note: Tariffs for TeliaSonera.

**Figure 6.14 Calls from Sweden**

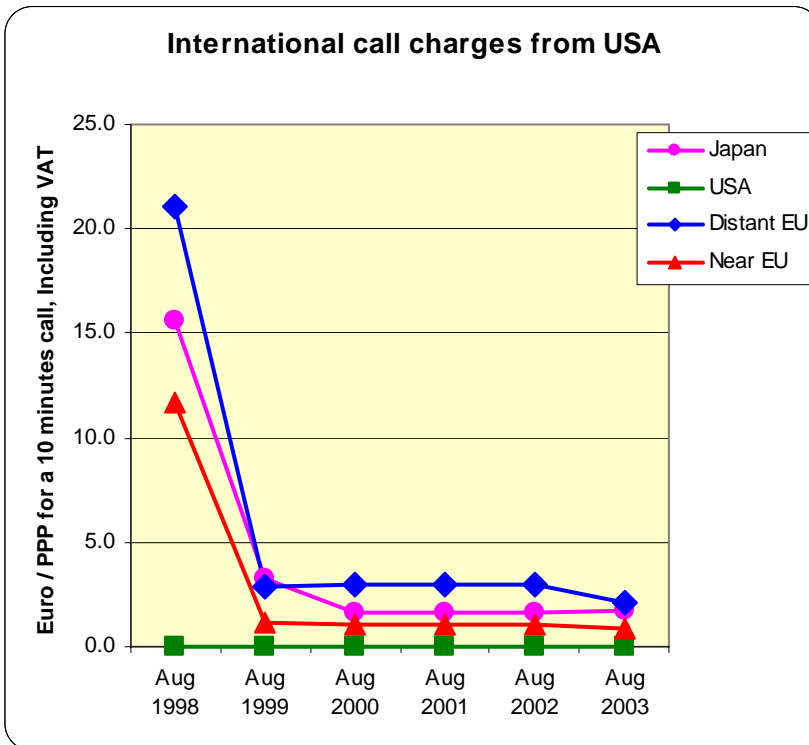


**Figure 6.15 Calls from United Kingdom**



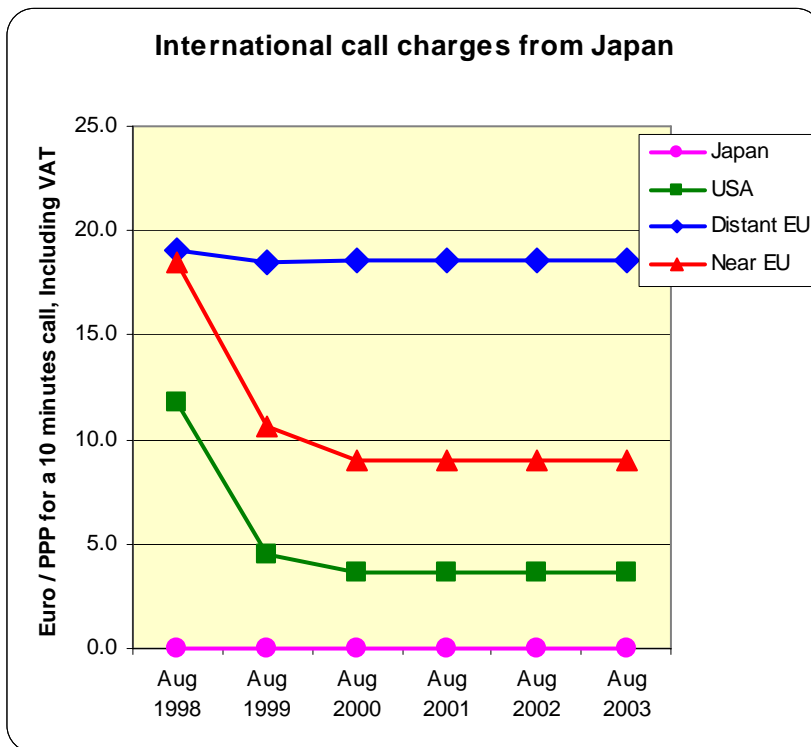
Note: Standard tariff from BT is used

**Figure 6.16 Calls from USA**



Note: The big change for USA is a result of change from “standard”, un-discounted rates over to the AT&T One Rate plan which now seems to have taken over. In the past other plans may have given similar low rates.

Figure 6.17 Calls from Japan



## 6.1. International prices for competitors

The equivalent prices for competitor providers in the EU countries are shown in the tables below. One competitor per country has been analysed. The prices are shown for a 10 minute call, at peak time weekdays.

There may be significant changes in the prices from one year to another. This is often a result of changes in policy when a different group of owners take over a company. Business restructuring can also impact on prices, both for national and international calls.

**Table 6.6 Competitor's 10 minute call charges to near EU country**

		2002	2003
Belgium	Telenet	1.349	1.884
Denmark	Tele2	0.554	0.554
Germany	Arcor	1.215	1.215
Greece	Forthnet	2.709	2.519
Spain	Auna	3.700	1.648
France	Cegetel	0.902	0.902
Ireland	Esat	1.280	0.833
Italy	Wind	2.496	3.597
Luxembourg	Tele2	1.110	1.110
Netherlands	Tele2	0.511	0.604
Austria	UTA	1.380	1.380
Portugal	Oni	1.503	1.503
Finland	Elisa	1.243	1.243
Sweden	Tele2	0.805	0.425
UK	NTL	2.793	2.795
EU15 weighted		1.882	1.827

Euro / PPP, Including VAT

**Table 6.7 Competitor's 10 minute call charges to distant EU country**

		2002	2003
Belgium	Telenet	2.169	2.578
Denmark	Tele2	3.180	3.180
Germany	Arcor	2.431	2.431
Greece	Forthnet	2.709	2.519
Spain	Auna	3.700	1.648
France	Cegetel	1.475	1.475
Ireland	Esat	4.021	2.000
Italy	Wind	4.821	1.938
Luxembourg	Tele2	1.485	1.485
Netherlands	Tele2	1.691	1.942
Austria	UTA	2.540	2.540
Portugal	Oni	3.528	3.528
Finland	Elisa	3.511	3.511
Sweden	Tele2	3.086	3.086
UK	NTL	2.793	2.795
EU15 weighted		2.891	2.232

Euro / PPP, Including VAT

**Table 6.8 Competitor's 10 minute call charges to distant USA**

		<b>2002</b>	<b>2003</b>
<b>Belgium</b>	<b>Telenet</b>	1.349	1.884
<b>Denmark</b>	<b>Tele2</b>	1.872	1.872
<b>Germany</b>	<b>Arcor</b>	1.215	1.215
<b>Greece</b>	<b>Forthnet</b>	2.709	2.519
<b>Spain</b>	<b>Auna</b>	4.329	1.648
<b>France</b>	<b>Cegetel</b>	0.902	0.902
<b>Ireland</b>	<b>Esat</b>	1.588	1.000
<b>Italy</b>	<b>Wind</b>	2.496	1.938
<b>Luxembourg</b>	<b>Tele2</b>	1.110	1.110
<b>Netherlands</b>	<b>Tele2</b>	0.427	0.511
<b>Austria</b>	<b>UTA</b>	1.380	1.380
<b>Portugal</b>	<b>Oni</b>	2.696	2.696
<b>Finland</b>	<b>Elisa</b>	2.671	2.671
<b>Sweden</b>	<b>Tele2</b>	0.839	0.823
<b>UK</b>	<b>NTL</b>	1.430	1.431
EU15 weighted		1.809	1.443

Euro / PPP, Including VAT

**Table 6.9 Competitor's 10 minute call charges to distant Japan**

		<b>2002</b>	<b>2003</b>
<b>Belgium</b>	<b>Telenet</b>	3.856	4.959
<b>Denmark</b>	<b>Tele2</b>	7.092	7.092
<b>Germany</b>	<b>Arcor</b>	7.901	7.901
<b>Greece</b>	<b>Forthnet</b>	2.709	2.519
<b>Spain</b>	<b>Auna</b>	10.784	8.799
<b>France</b>	<b>Cegetel</b>	3.115	3.115
<b>Ireland</b>	<b>Esat</b>	7.148	4.583
<b>Italy</b>	<b>Wind</b>	8.470	4.981
<b>Luxembourg</b>	<b>Tele2</b>	1.110	1.110
<b>Netherlands</b>	<b>Tele2</b>	0.427	2.611
<b>Austria</b>	<b>UTA</b>	3.490	3.490
<b>Portugal</b>	<b>Oni</b>	7.823	7.823
<b>Finland</b>	<b>Elisa</b>	5.779	5.779
<b>Sweden</b>	<b>Tele2</b>	3.086	3.086
<b>UK</b>	<b>NTL</b>	6.883	6.884
EU15 weighted		6.538	5.890

Euro / PPP, Including VAT

## 7. Monthly rental for PSTN

The tables below show the monthly rental for a single PSTN connection, for business and residential customers. The business charges exclude VAT, and the residential charges include VAT.

In Italy, Sweden, UK, USA and Japan the rental charges are different for business and residential customers. In Austria two different packages have been chosen here as appropriate for business and residential users, hence different charges. The packages used for Austria are Business 1 and TikTak Privat, respectively.

Table 7.3 shows the corresponding monthly rental charges for competitor providers in each country. However, most of these operators use indirect access, and will as such not have any monthly charges related to line rental.

**Table 7.1 Incumbent's basic monthly PSTN rental charge for Business customers**

Business rental		Aug 1998	Aug 1999	Aug 2000	Aug 2001	Aug 2002	Aug 2003
B	Belgacom	13.01	13.01	13.01	13.01	13.02	13.26
DK	Tele Danmark	10.15	10.15	10.15	9.56	9.87	10.04
D	Deutsche Telekom	10.84	10.84	10.84	10.84	11.38	11.72
EL	OTE	6.94	7.79	8.13	9.48	11.52	11.52
E	Telefonica	8.43	9.78	9.78	11.14	13.18	14.25
F	France Telecom	8.59	10.91	10.91	10.01	12.50	12.50
IRE	Eircom	10.58	10.84	11.55	12.56	13.50	15.49
I	Telecom Italia	14.06	14.61	14.61	15.66	16.29	16.29
L	P&T Luxembourg	11.90	11.90	11.90	16.01	16.00	16.00
NL	KPN	14.57	14.57	14.57	14.61	14.62	13.89
A	Telekom Austria	16.71	17.44	17.44	18.31	17.44	17.44
P	Telecom Portugal	12.68	13.25	14.13	14.99	14.99	15.56
FIN	Sonera	9.26	9.50	9.50	9.50	9.27	9.27
S	Telia	10.38	10.38	10.38	10.38	10.38	10.38
UK	BT	16.96	16.96	17.35	17.93	18.52	18.69
USA	Verizon	15.14	15.14	15.14	15.14	16.41	16.41
JAP	NTT	14.17	14.17	14.17	14.17	14.17	14.17
<i>EU15 Weighted</i>		<i>11.90</i>	<i>12.56</i>	<i>12.66</i>	<i>13.00</i>	<i>13.97</i>	<i>14.20</i>

Note:

Charges in euro/PPP per month, excluding VAT.

USA data is for Nynex / Bell Atlantic / Verizon in the New York Metro area.

In Finland and Japan the monthly rental will depend on where in the country the line is connected. The charges shown are for the capital/most densely populated area.

**Table 7.2 Incumbent's basic monthly PSTN rental charge for residential customers**

Residential rental		Aug 1998	Aug 1999	Aug 2000	Aug 2001	Aug 2002	Aug 2003
B	Belgacom	15.75	15.75	15.75	15.75	15.75	16.05
DK	Tele Danmark	12.69	12.69	12.69	11.95	12.34	12.55
D	Deutsche Telekom	12.57	12.57	12.57	12.57	13.20	13.59
EL	OTE	8.19	9.19	9.59	11.19	13.59	13.59
E	Telefonica	9.78	11.35	11.35	12.92	15.29	16.53
F	France Telecom	9.89	11.35	11.26	11.98	12.41	12.41
IRE	Eircom	15.49	13.11	13.98	15.20	16.34	18.74
I	Telecom Italia	10.82	11.16	11.95	13.75	15.94	15.61
L	P&T Luxembourg	13.68	13.68	13.68	18.42	18.40	18.40
NL	KPN	14.59	14.59	14.59	15.26	15.98	16.53
A	Telekom Austria	13.08	17.44	17.44	18.49	15.98	15.98
P	Telecom Portugal	14.84	15.50	16.54	17.53	17.84	18.52
FIN	Sonera	11.30	11.58	11.58	11.58	11.31	11.31
S	Telia	9.39	9.39	9.39	11.18	11.18	11.18
UK	BT	12.09	12.11	12.62	13.62	12.95	12.95
USA	Verizon	6.77	6.77	6.77	6.77	8.17	8.17
JAP	NTT	9.82	9.82	9.82	9.82	9.82	9.82
<i>EU15 Weighted</i>		<i>11.57</i>	<i>12.14</i>	<i>12.38</i>	<i>13.26</i>	<i>14.01</i>	<i>14.26</i>

Note:

Charges in euro/PPP per month, including VAT.

USA data is for Nynex / Bell Atlantic / Verizon in the New York Metro area. Message rate service is assumed, i.e. where local calls are charged on an individual basis.

In Finland and Japan the monthly rental will depend on where in the country the line is connected. The charges shown are for the capital/most densely populated area.

\* UK (BT) charge for 2000 includes a call allowance of GBP 0.80 per month, for 2001 an allowance is GBP 1.30 per month, and for 2002 an allowance of GBP 1.80 per month.

**Table 7.3 Competitor's monthly PSTN rental charge**

Monthly rental	Competitors	Business	Residential
B	Telenet	4.78	4.78
DK	Tele2	11.39	11.39
D	Arcor	Indirect	Indirect
EL	Forthnet	Indirect	Indirect
E	Auna	15.72	18.47
F	Cegetel	Indirect	Indirect
IRE	Esat	Indirect	Indirect
I	Wind	Indirect	Indirect
L	Tele2	Indirect	Indirect
NL	Tele2	Indirect	Indirect
A	UTA	Indirect	Indirect
P	Oni	Indirect	23.91
FIN	Elisa	10.46	10.46
S	Tele2	Indirect	Indirect
UK	NTL	16.35	12.95

Note:

Charges in euro/PPP per month, including VAT.

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## 8. National mobile services

The analysis of national (as opposed to roaming) mobile services is based on the OECD baskets for digital mobile services, as provided by Teligen in the August 2003 T-Basket. Due to significant changes in usage patterns the OECD baskets have been redefined with effect from August 2002. The new baskets are not compatible with the “old” ones, in that they contain an SMS element, they include calls to several mobile networks, and they do not cover international calls.

The new, revised baskets are used in this analysis. There are 3 different baskets, based on low, medium and high usage levels. All packages analysed in this study are Post-Paid packages. Some of the main properties of the new OECD baskets are:

- Low usage basket with:  
25 outgoing calls per month + 30 SMS messages  
42% of calls are to fixed line phones, 58% to mobile phones
- Medium usage basket with:  
75 outgoing calls per month + 35 SMS messages  
36% of calls are to fixed line phones, 64% to mobile phones
- High usage basket with:  
150 outgoing calls per month + 42 SMS messages  
40% of calls are to fixed line phones, 60% to mobile phones

Each basket also has a unique definition of time of day distribution and call durations, and includes the monthly rental, and any registration charges distributed over 3 years.

The two most prominent operators in each country are covered, based on available subscriber numbers. All relevant packages from each operator are considered, but the final results presented here only show the cheapest package for each basket. Results are shown as Fixed (registration and monthly rental) and Usage (cost of calls and messages). Included minutes, messages and/or values are covered in the analysis.

## 8.1. Low usage basket

Table 8.1 Low usage basket results

	Fixed	Usage	Total
Austria, Mobilkom, A1 Easy *	6.11	10.91	17.02
Austria, T-Mobile, Lucky 7 *	1.11	10.65	11.76
Belgium, Mobistar, Optimum For Me 2H *	23.82	4.23	28.05
Belgium, Proximus, ProxiTime All Day	15.58	4.38	19.96
Denmark, Sonofon, Variant *	5.04	8.29	13.32
Denmark, TDC Mobil, MobilTalk	8.20	6.94	15.14
Finland, Radiolinja, Tandem Aina	2.98	8.32	11.30
Finland, Sonera IN, Classic Duo *	3.13	8.48	11.62
France, Orange, Forfait 1h *	19.09	4.30	23.39
France, SFR, Formule Perso 1H +10 Texto *	20.05	2.86	22.91
Germany, T-Mobile, TellySmile *	5.59	17.47	23.06
Germany, Vodafone, Sun	5.59	17.45	23.04
Greece, Cosmote, Cosmote 45 *	19.06	3.47	22.53
Greece, Vodafone, Vodafone 60 *	20.42	3.47	23.90
Ireland, O2, five + weekender *	12.50	7.20	19.70
Ireland, Vodafone, Light	16.67	5.86	22.53
Italy, Omnitel, Italy New *	5.53	14.84	20.37
Italy, TIM, Menu Family + Tutti Province	5.53	15.58	21.11
Luxembourg, LuxGSM, Liberty	6.20	9.17	15.37
Luxembourg, Tango, Hip Hop	-	11.12	11.12
Netherlands, KPN, Hi Profile 20	19.94	-	19.94
Netherlands, Vodafone, Vodafone 60	16.69	7.53	24.21
Portugal, TMN, Spik in 60 *	18.61	6.29	24.90
Portugal, Vodafone, Privado 60	18.95	4.21	23.17
Spain, MoviStar, Plus Eleccion	0.77	17.12	17.89
Spain, Vodafone, Contrato Tarde	-	18.75	18.75
Sweden, Comviq, Lokal	9.35	8.18	17.53
Sweden, Teliamobile, Mobitel Classic Talk	5.09	12.49	17.58
UK, Orange, Any Network 30 Your Messages 30 *	23.18	1.27	24.45
UK, T-Mobile, Everyone 25 *	19.77	6.11	25.87
EU simple average across all packages	11.15	8.56	19.72

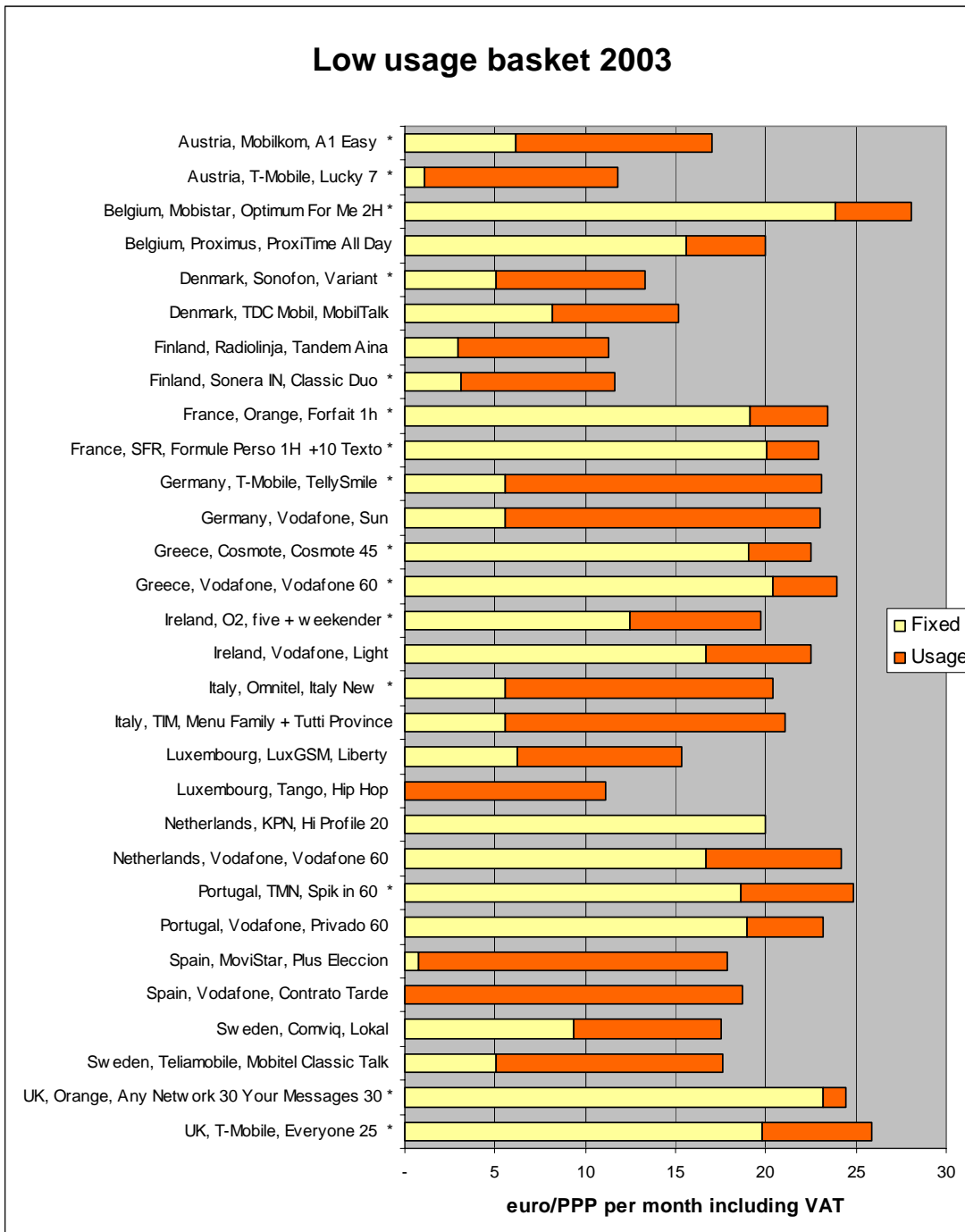
Notes:

All charges in Euro/PPP per month, including VAT

The average is a simple, un-weighted average across EU countries

Entries with an (\*) after the name have changed the package name and structure since last year.

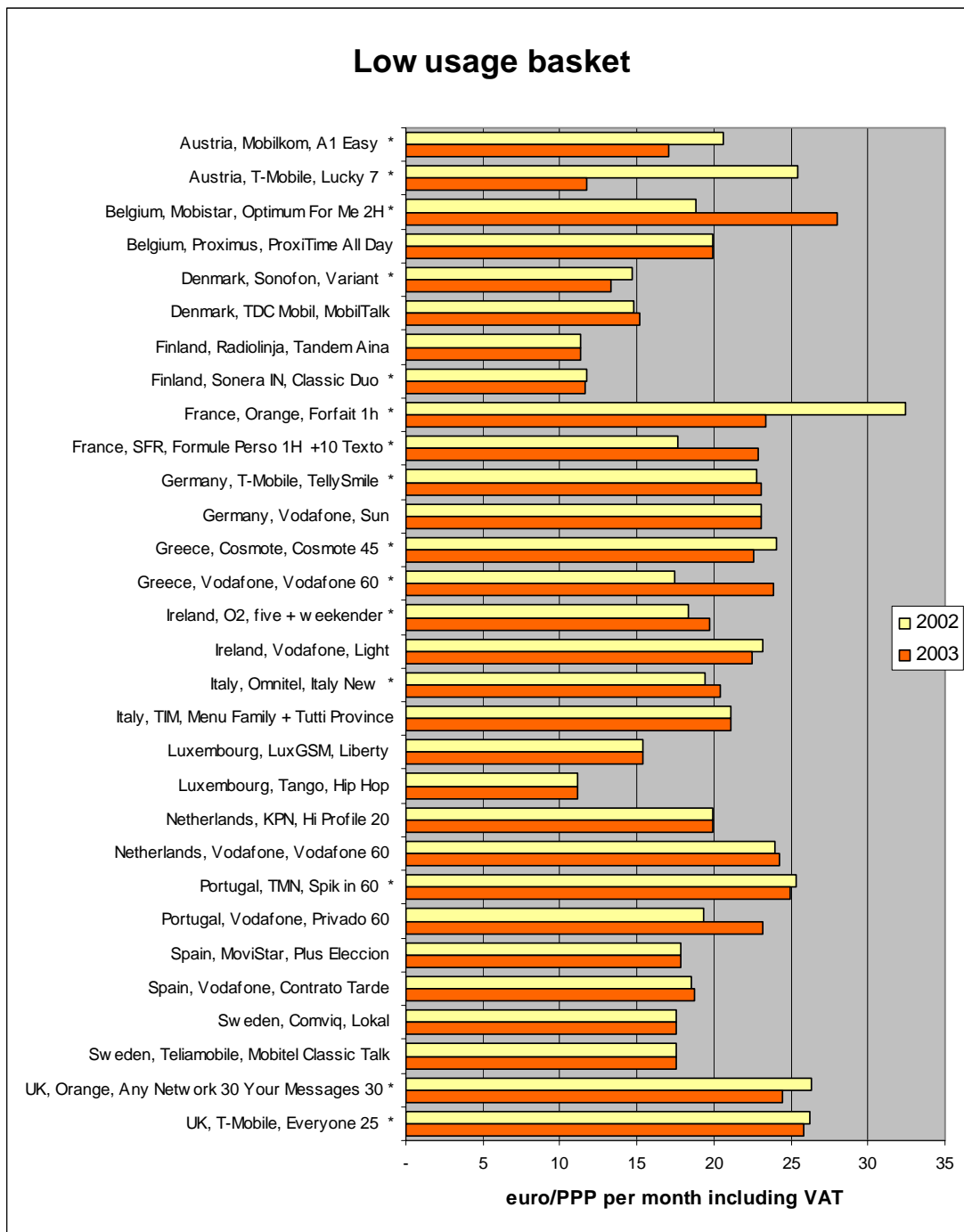
**Figure 8.1 Low usage basket results**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

**Figure 8.2 Low usage basket 2002 - 2003**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

## 8.2. Medium usage basket

Table 8.2 Medium usage basket results

	Fixed	Usage	Total
Austria, Mobilkom, A1 Easy *	6.11	27.44	33.55
Austria, T-Mobile, Lucky 7 *	1.11	32.03	33.14
Belgium, Mobistar, Optimum For Me 4H	35.49	5.06	40.55
Belgium, Proximus, ProxiFun Anytime 60	20.93	26.29	47.22
Denmark, Sonofon, Variant *	5.04	19.58	24.62
Denmark, TDC Mobil, MobilTalk	8.20	22.54	30.74
Finland, Radiolinja, Tandem Aina	2.98	24.65	27.63
Finland, Sonera IN, Classic Duo *	3.13	24.73	27.86
France, Orange, Forfait 2h Forfait SMS 30	37.23	8.71	45.93
France, SFR, Formule Perso 3H +10 Texto *	38.18	0.72	38.90
Germany, T-Mobile, TellyActive More Talk	20.40	27.90	48.29
Germany, Vodafone, Classic	20.45	43.42	63.87
Greece, Cosmote, Cosmote 150 *	31.32	4.36	35.67
Greece, Vodafone, Vodafone 120 *	25.87	11.57	37.44
Ireland, O2, ten + weekender *	25.00	20.26	45.26
Ireland, Vodafone, Business Extra *	25.00	17.64	42.64
Italy, Omnitel, Italy New *	5.53	43.14	48.67
Italy, TIM, Menu Family + Tutti Province	5.53	47.52	53.05
Luxembourg, LuxGSM, Business	12.40	20.92	33.32
Luxembourg, Tango, Twist	12.00	18.88	30.88
Netherlands, KPN, Belbundle 180 *	29.23	7.15	36.39
Netherlands, Vodafone, Vodafone 180 *	28.77	11.34	40.10
Portugal, TMN, Spik in 120 *	31.01	14.99	46.00
Portugal, Vodafone, Privado 120	22.04	14.84	36.88
Spain, MoviStar, Plus Planes 30	0.77	47.72	48.48
Spain, Vodafone, Contrato Universal 20	-	55.47	55.47
Sweden, Comviq, Lokal	9.35	24.47	33.82
Sweden, Teliamobile, Mobitel Classic Talk *	5.09	41.38	46.48
UK, Orange, Any Network 120 Your Messages 60 *	39.53	5.41	44.95
UK, T-Mobile, Everyone 100 *	28.63	13.13	41.75
EU simple average across all packages	17.88	22.77	40.65

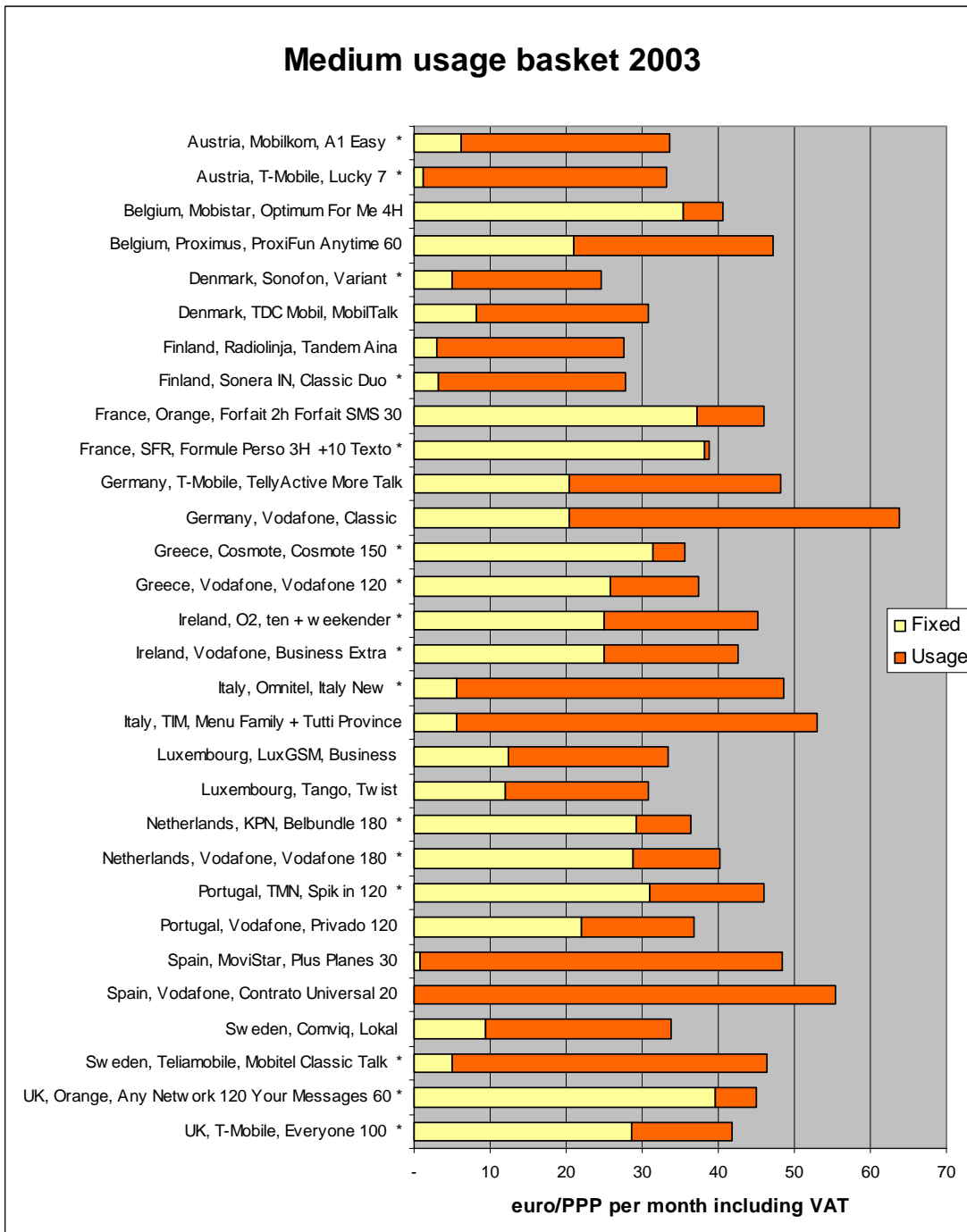
Notes:

All charges in Euro/PPP per month, including VAT

The average is a simple, un-weighted average across EU countries

Entries with an (\*) after the name have changed the package name and structure since last year.

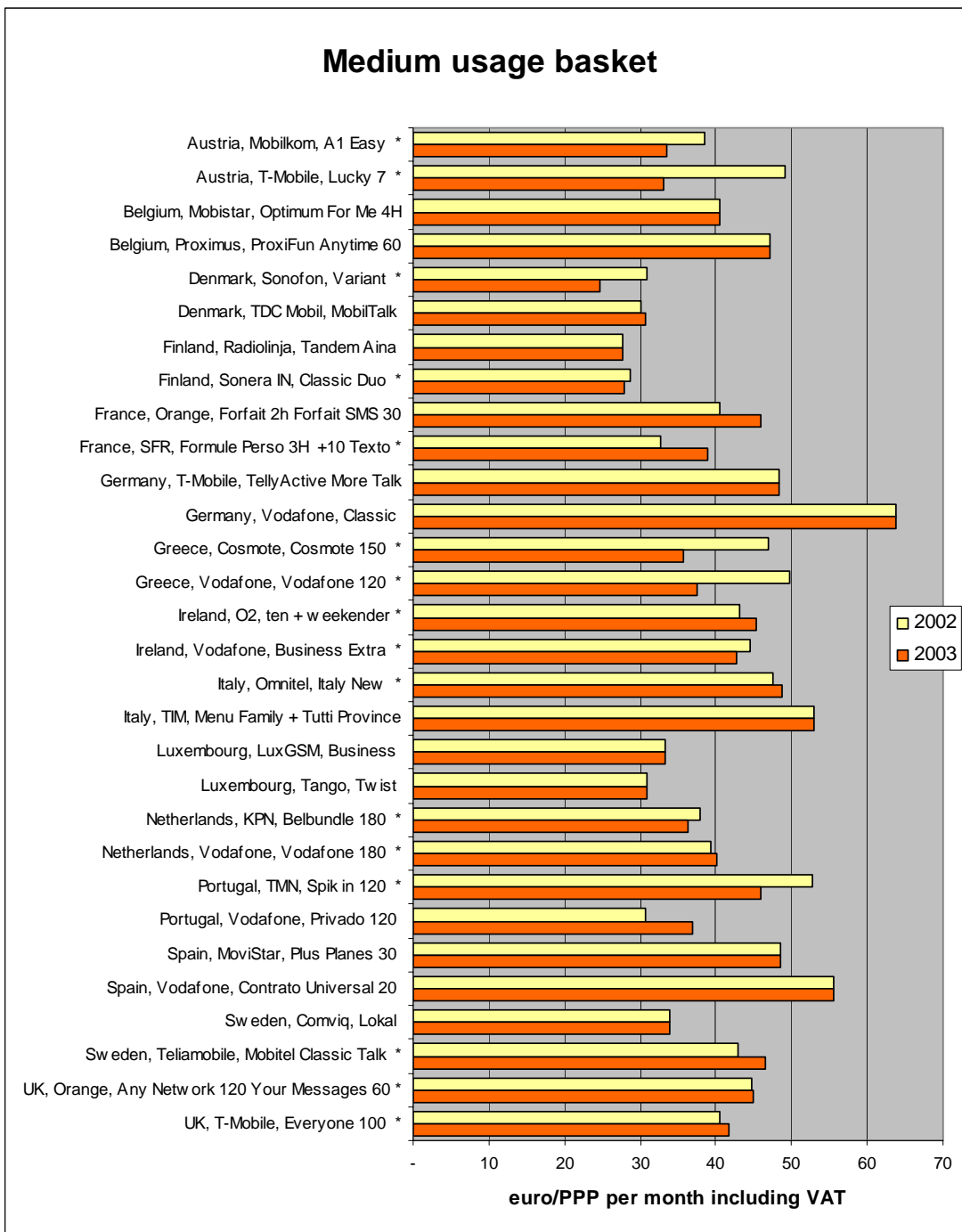
**Figure 8.3 Medium usage basket results**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

**Figure 8.4 Medium usage basket 2002 - 2003**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

### 8.3. High usage basket

Table 8.3 High usage basket results

	Fixed	Usage	Total
Austria, Mobilkom, A1 Easy *	6.11	53.51	59.62
Austria, T-Mobile, Any 10 *	26.11	35.67	61.78
Belgium, Mobistar, Optimum For Me 8H	58.82	13.39	72.21
Belgium, Proximus, ProxiPro Anytime 300	60.64	9.44	70.08
Denmark, Sonofon, Kvantum	28.31	11.61	39.92
Denmark, TDC Mobil, MobilTalk	8.20	45.99	54.19
Finland, Radiolinja, Tandem Aina	2.98	49.17	52.15
Finland, Sonera IN, Classic Duo *	3.13	49.88	53.01
France, Orange, Forfait 5h	55.84	10.22	66.06
France, SFR, Formule Perso 6H +10 Texto *	63.95	-	63.95
Germany, T-Mobile, TellyProfi *	30.35	69.18	99.53
Germany, Vodafone, Premium	30.35	69.09	99.45
Greece, Cosmote, Cosmote 240 *	40.85	15.39	56.24
Greece, Vodafone, Vodafone 240 *	40.85	23.78	64.62
Ireland, O2, twenty + weekender *	37.50	39.13	76.63
Ireland, Vodafone, Business Performer	50.42	24.55	74.97
Italy, Omnitel, Chiama Piu *	5.53	64.29	69.81
Italy, TIM, Menu Business + Tutti Province	5.53	95.60	101.13
Luxembourg, LuxGSM, Business	12.40	41.74	54.14
Luxembourg, Tango, Twist	12.00	36.50	48.50
Netherlands, KPN, Belbundle 360 *	46.42	8.59	55.01
Netherlands, Vodafone, Vodafone 300	38.99	21.05	60.03
Portugal, TMN, Spik in 240 *	55.83	26.32	82.14
Portugal, Vodafone, Privado 480	53.74	5.90	59.64
Spain, MoviStar, Plus Planes 60	0.77	85.41	86.17
Spain, Vodafone, Contrato Universal 20	-	110.13	110.13
Sweden, Comviq, Lokal	9.35	48.19	57.54
Sweden, Teliamobile, Telia Work Super *	26.11	58.23	84.34
UK, Orange, Any Network 200 Your Messages 60 *	46.35	22.69	69.04
UK, T-Mobile, Everyone 200 *	39.53	25.59	65.13
EU simple average across all packages	29.90	39.01	68.91

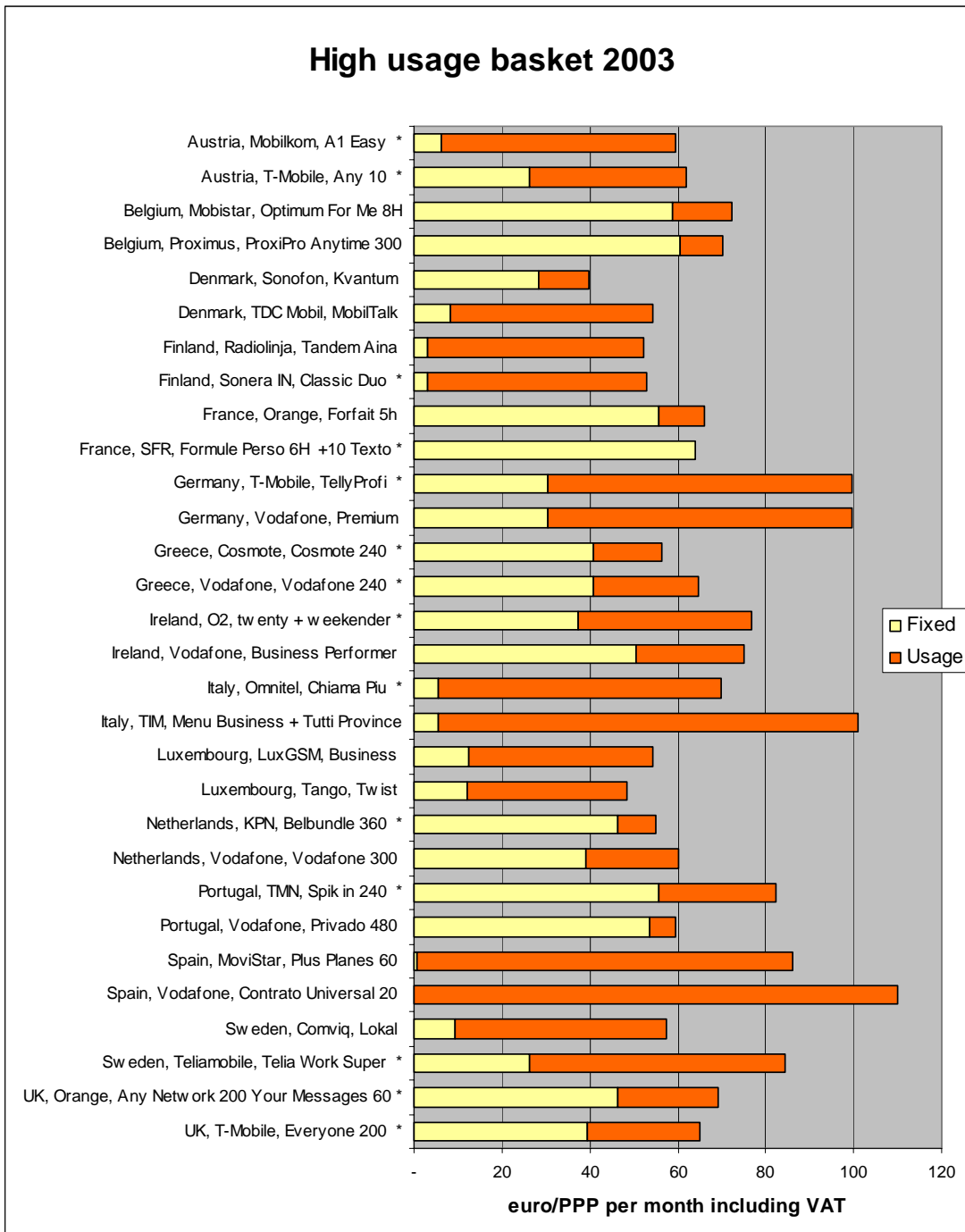
Notes:

All charges in Euro/PPP per month, including VAT

The average is a simple, un-weighted average across EU countries

Entries with an (\*) after the name have changed the package name and structure since last year.

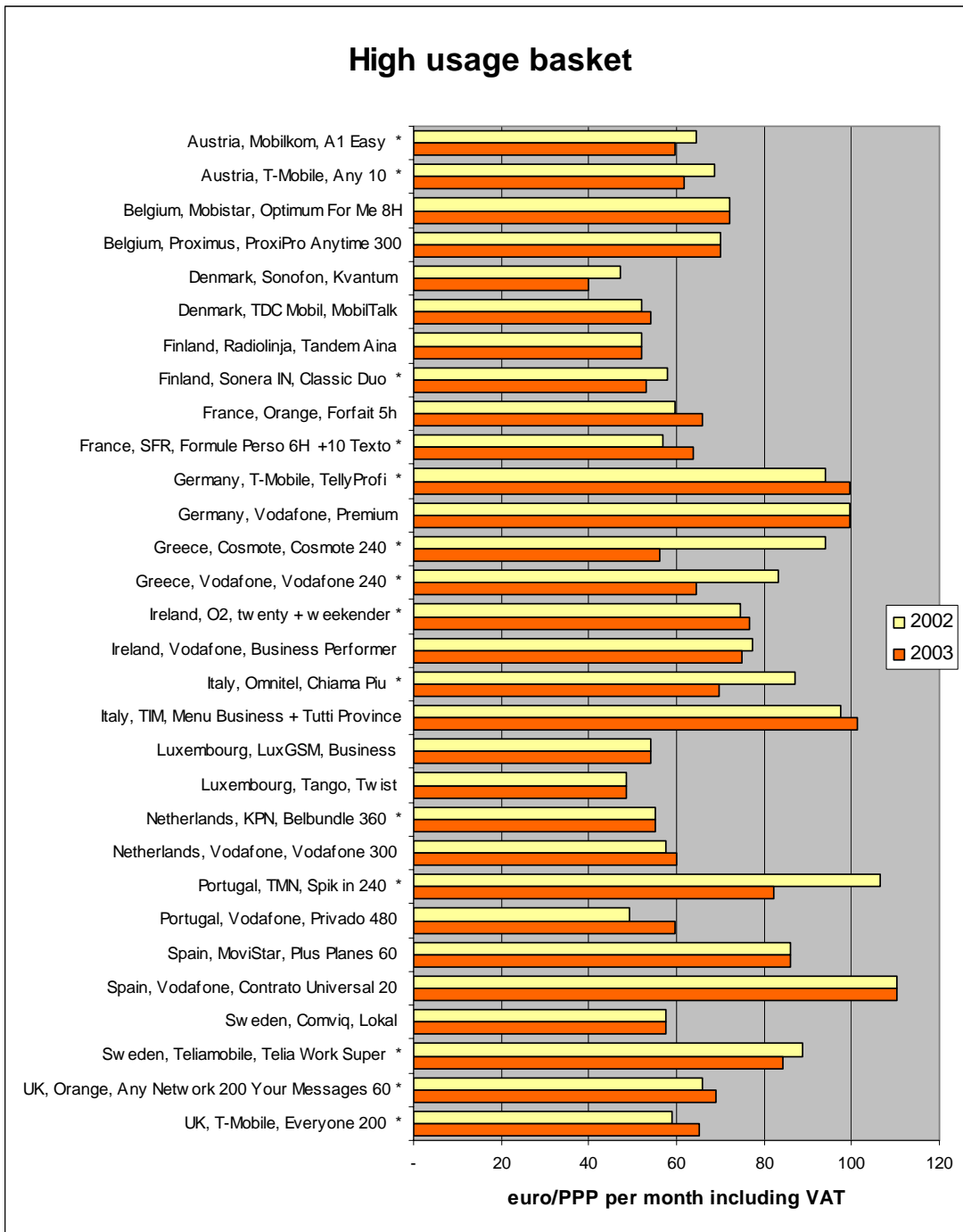
**Figure 8.5 High usage basket results**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

**Figure 8.6 High usage basket 2002 - 2003**



Note:

Entries with an (\*) after the name have changed the package name and structure since last year.

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## 8.4. Handset subsidy

The effect of handset subsidy is difficult to analyse due to lack of information in the public domain. And the subsidy can vary with network, agent and handset. Different shops or shop chains may have different subsidies even for the same network.

The price of packages with handsets have not been included in the analysis above. The additional cost of the handset may then vary from country to country.

There are however a couple of things that can be said about the effects of handset subsidy on the prices:

- In Finland and Italy there are no (or should not be) any subsidy of handsets. The customer pays for the network access, and buys a handset as two separate deals. This has caused the fixed charges in these two countries to become very low, reflecting the minimal cost of connecting a customer to the network.
- Several operators in the UK, among them O2, are in the process of restructuring their tariff packages to exclude the handset subsidy.
- The higher rental normally found with packages that also has to cover a handset subsidy will disfavour users who keep their handset beyond the minimum period (usually one year). As they are paying the higher rental for several years while still using the same handset, they may be covering the handset subsidy several times because of the rental charge not being reduced once the subsidy is paid for.

There appear to be a move in several countries towards removing the handset subsidies. This may however take several years to take full effect across the EU countries.

## 8.5. Initial charges and charging method

The following table shows the initial charge or minimum charges per call for the mobile operators covered, and the charging method with initial and additional charging increments. Only post-paid packages are considered. Some operators have different methods and charges for each package, and this is also identified in the table.

All prices are in euro including VAT.

**Table 8.4 Initial charges and charging method for post-paid mobile packages**

			Call set-up	Minimum Charge to PSTN	Minimum Charge to mobile	Seconds	
						Init. Period	Additional
Belgium	Proximus	ProxiFun		0.50	0.15	60	1
		All day		0.37	0.37	60	1
		ProxiPro		0.26	0.15	60	1
	Mobistar	Friends		0.35	0.35	60	1
		Optimum for me		0.38	0.145	60	1
Denmark	Tele Danmark Mobil	All packages	0.0379	-	-	0	1
	Sonofon	All packages	0.0379	-	-	0	1
Germany	T-Mobil D-1	Telly Smile		0.49	0.39	60	1
		Telly Active		0.49	0.29	60	1
		Telly Profi		0.15	0.15	60	1
	Vodafone	Premium		0.15	0.15	60	1
		Classic		0.29	0.19	60	1
		Fun, Sun		0.49	0.29	60	1
		All packages		-	-	0	1
Greece	Cosmote	Basic, Cosmote 15		0.0614	0.0614	20	1
		Cosmote 30 - 60		0.0543	0.0543	20	1
		Cosmote 90		0.0448	0.0448	20	1
		Cosmote 120 - 480		0.0330	0.0330	20	1
	Vodafone	All packages		-	-	0	1
Spain *	Movistar	Plus Eleccion	0.1392	0.2668	0.2668	60	1
		Plus Planes 30	0.1392	0.1740	0.1740	60	1
		Plus Planes 40	0.1392	0.1624	0.1624	60	1
		Plus Planes 60	0.1392	0.1508	0.1508	60	1
		Plus Empresa	0.1392	0.1856	0.1856	60	1
Spain *	Vodafone	Contract Universal 20	0.1392	0.2204	0.2204	60	1
		Contract Tarde/Manana	0.1392	0.5220	0.2900	60	1
		Contract Provincial	0.1392	0.1972	0.1972	60	1
France	Orange	All packages		-	-	0	1
	SFR	All packages		0.30	0.30	60	1

\* Please note: In Spain both call setup and minimum period charges apply, so the actual minimum cost of a call is the sum of these two.

			Call set-up	Minimum Charge to PSTN	Minimum Charge to mobile	Seconds Init. Period	Seconds Additional
Ireland	O2	All packages		-	-	0	1
	Vodafone	Ready to Go		0.03	0.03	0	1
Italy	Telecom Italia Mobile	All packages	0.124	-	-	60	1
	Omnitel	All Packages	0.15	-	-	60	1
Luxembourg	LuxGSM	Liberty		0.2479	0.1240	60	15
		Business		0.1240	0.1240	60	15
	Tango	All Packages		0.1200	0.0700	60	15
Netherlands	KPN GSM	All Packages		-	-	0	1
	Vodafone	Vodafone 60	0.06	-	-	0	1
Austria	Mobilkom	A1 Easy		0.0750	0.0750	30	30
		A1 Start Plus		0.2000	0.0500	30	30
		A1 Fun Plus		0.1500	0.0350	30	30
		A1 Xcite Pure		0.1500	0.0350	30	30
		A1 Xcite Remix		0.0750	0.0750	30	30
		A1 Business Plus		0.0350	0.0350	30	30
		A1 Global		0.0364	0.0364	30	30
		A1 Company Plus		0.0350	0.0350	30	30
	T-Mobile	Any 10		0.0500	0.0500	30	30
		Lucky 7		0.1000	0.1000	30	30
		EuroMini		0.1500	0.0500	30	30
		EuroFreizeit		0.1500	0.0500	30	30
		EuroProfi		0.0500	0.0500	30	30
Portugal	TMN	Base		0.2570	0.1480	60	1
		Super		0.1480	0.1480	60	1
		Executivo		0.1320	0.1320	60	1
		Spik in 60		0.2940	0.2940	60	1
		Spik in 120		0.2570	0.2570	60	1
		Spik in 240		0.2200	0.2200	60	1
		Spik out 60		0.1840	0.1840	60	1
		Spik out 120		0.1650	0.1650	60	1
		Spik out 240		0.1480	0.1480	60	1
		Spik up 120		0.2940	0.2940	60	1
	Vodafone	All packages		0.5391	0.1714	60	1

			Call set-up	Minimum Charge to PSTN	Minimum Charge to mobile	Seconds Init. Period	Seconds Additional
<b>Finland</b>	<b>TeliaSonera</b>	<b>All packages</b>		-	-	0	1
	<b>Radiolinja</b>	<b>All packages</b>		-	-	0	1
<b>Sweden</b>	<b>Telia Mobil</b>	<b>Classic Talk GSM</b>	0.1096	-	-	0	1
		<b>Other packages</b>	0.0487	-	-	0	1
	<b>Comviq</b>	<b>All packages</b>	0.0487	-	-	0	1
<b>UK</b>	<b>Orange</b>	<b>All packages</b>		-	-	0	1
	<b>T-Mobile</b>	<b>All packages</b>		0.02	0.02	0	1

Note:

There may be other post-paid packages than those shown in this table.

The minimum charge will most often result from the price of the initial period (e.g. first minute), and will then be different for each package, even though it is not specified as a minimum charge.

Where call set-up charges are used the actual minimum charge will comprise of the call set-up charge plus the first unit (most often one second) of the call charge. This last part is not taken into account here, as it is normally not considered to be part of the minimum charge for a call.

## 9. National leased lines

National leased line data is provided from 1998 onwards. 3 distances are covered: 2 km (local circuits), 50 km and 200 km. Tariffs are taken from the ex-incumbent operator in each country. Other operators may offer other prices.

In order to properly reflect the tariff structures used in some countries the circuits may be considered in one of two different ways, depending on tariff structure. The one to apply will differ from carrier to carrier. The principles used in this report for calculating the price of a full circuit are:

	1: When tariff specifies local tail prices separately, in addition to main circuit.		2: When tariff specifies a single price for the circuit, end to end, including local tails.	
	Local tail length	Main circuit length	Local tail length	Main circuit length
2 km circuit	1 km	0	0	2 km
50 km circuit	2 km	46 km	0	50 km
200 km circuit	2 km	196 km	0	200 km

Note: The local tail length is per tail, i.e. there will be 2 such tails with each circuit.

Where several tariff options exist depending on type of location, the criteria for choice is as follows:

- ◆ 2 km circuits are always within a major city (usually the Capital)
- ◆ 50 and 200 km circuits are between a major city and a “minor” city

As the definitions vary between countries, the type of tariff option chosen will also vary. More specific information is covered under each country section. The countries where the price may vary with location or other non-distance related definitions, are: Belgium, France, Austria, Finland, Sweden and the UK.

Some operators apply termination charges per local end, without necessarily covering the local tail circuit within that charge.

4 types of circuits are covered: 64 kb/s, 2 Mb/s, 34 Mb/s and 155 Mb/s. As not all carriers publish tariffs for all these bitrates and all years, there may be some gaps in the information, especially for higher bitrates.

Some carriers offer 2 Mb/s circuits as both structured and unstructured. In this analysis only unstructured circuits are included.

Also, some carriers offer different types of leased lines, often in the form of “basic circuits” and circuits in a managed network. Only “basic circuits” are included in this analysis, as the managed network services are not comparable between carriers.

Lately a few carriers have decided not to publish their prices for some or all types of leased lines. This makes it increasingly difficult to present a full overview of the prices in all 15 EU countries.

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For the USA the prices of Verizon intra-LATA circuits for New York state have been used. The bitrates of leased lines offered in some countries may be different from the ones found in most EU member States. Some operators may offer 56 kb/s instead of 64 kb/s, 1.5 Mb/s instead of 2 Mb/s, 45 or 50 Mb/s instead of 34 Mb/s, and 140 or 150 Mb/s instead of 155 Mb/s. *Prices shown in the tables and graphs in this section of the report have been adjusted according to the difference in capacity*

Issues relating to individual data points are commented under each section. Specific comments to tariff structure refer to the 2003 data. Structures for earlier years may be different, but care has been taken to make sure prices are based on comparable circuit definitions.

The validity dates of the tariffs used in this section are:

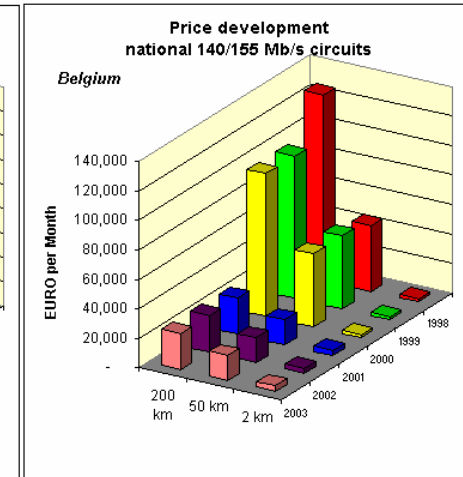
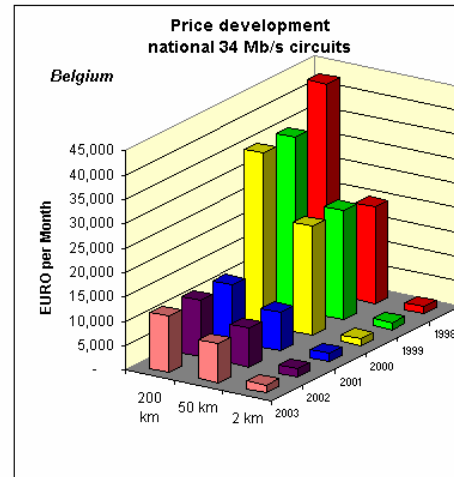
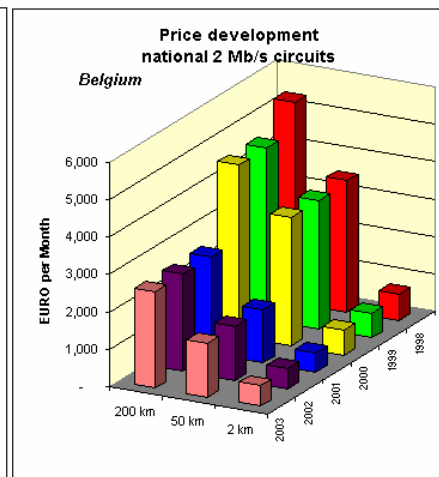
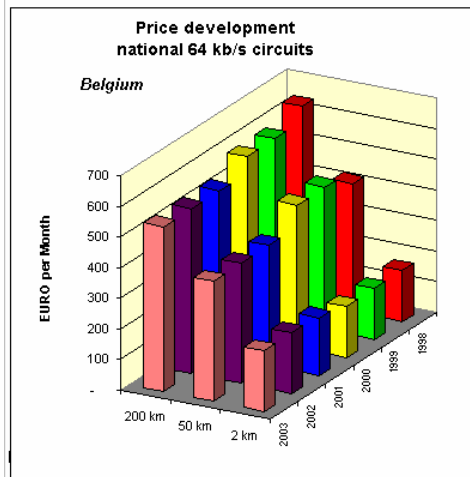
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Finland	
France	01/07-03
Germany	17/04-02
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Ireland	18/06-03
Italy	01/11-00
Luxembourg	01/01-02
Netherlands	01/05-03
Portugal	01/03-03
Spain	01/01-03
Sweden	01/04-00
UK	01/12-02
USA, Verizon	13/05-02
USA, PacBell	08/08-02
Japan	No info

*All prices are presented in EURO per month, excluding VAT.*



## 9.1. Belgium

Belgium	64 kb/s			2 Mb/s			Belgium	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	167	419	639	716	3,489	5,352	1998	1,517	19,859	42,973	2,100	44,397	126,094
1999	167	466	593	663	3,417	4,573	1999	1,441	22,360	35,220	1,995	49,840	96,800
2000	167	466	593	663	3,417	4,573	2000	1,441	22,360	35,220	1,995	49,840	96,800
2001	188	394	539	521	1,432	2,577	2001	1,611	7,976	11,521	3,431	16,982	24,529
2002	198	394	539	547	1,432	2,577	2002	1,692	7,976	11,521	3,602	16,982	24,529
2003	198	394	539	547	1,432	2,577	2003	1,692	7,976	11,521	3,602	16,982	24,529



Belgacom has divided their network into 4 levels based on “economic concentration”. The tariffs shown are for circuits within or between level 1 areas, “Very high economic concentration”.

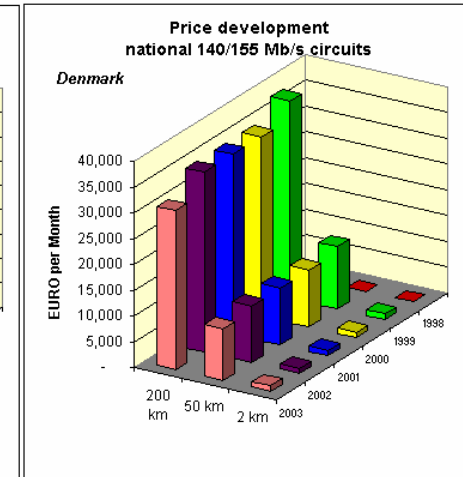
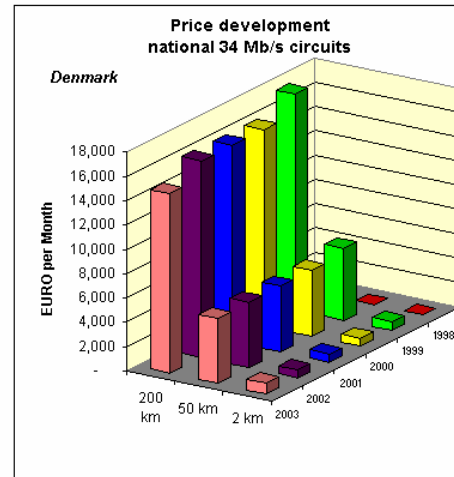
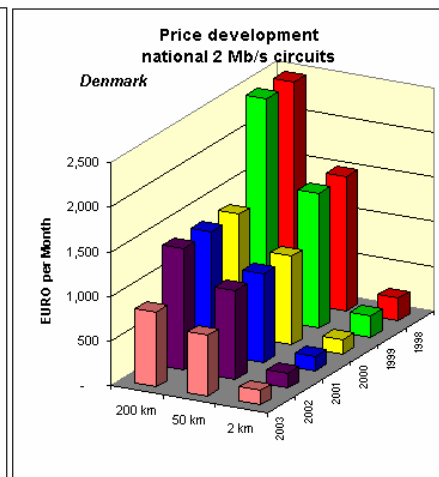
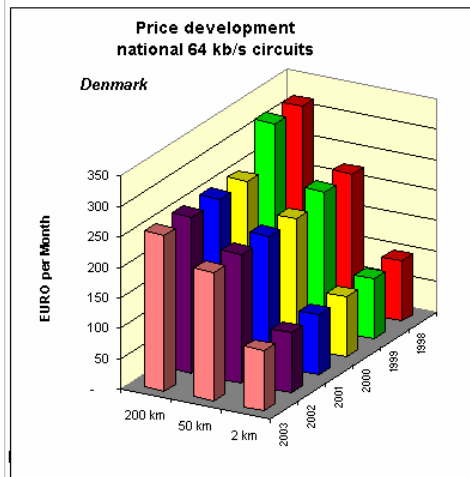
Prices for 155 Mb/s shown here are adjusted from prices for 140 Mb/s circuits.

Local circuits within an exchange area are priced as a regular circuit of the give distance.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	within same level 1 area.
<b>50 km circuit</b>	between 2 different level 1 areas.
<b>200 km circuit</b>	between 2 different level 1 areas.

## 9.2. Denmark

Denmark	64 kb/s			2 Mb/s			Denmark	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	99	225	321	243	1,507	2,466	1998				1,130	12,127	38,351
1999	99	225	321	243	1,507	2,466	1999	745	5,946	17,790	1,027	11,024	34,864
2000	99	211	256	163	992	1,362	2000	677	5,406	16,172	1,027	11,024	34,864
2001	99	211	256	163	992	1,362	2001	677	5,406	16,172	1,027	11,024	34,864
2002	99	211	256	163	992	1,362	2002	677	5,406	16,172	1,027	11,024	34,864
2003	99	211	256	163	679	836	2003	881	5,359	14,780	1,027	10,021	30,881



Telecom Denmark divides the leased lines into several categories:

- Local circuits, based on distance bands and whether the two ends are connected to the same exchange or neighbouring exchanges.
- Main link, divided into 4 distance bands

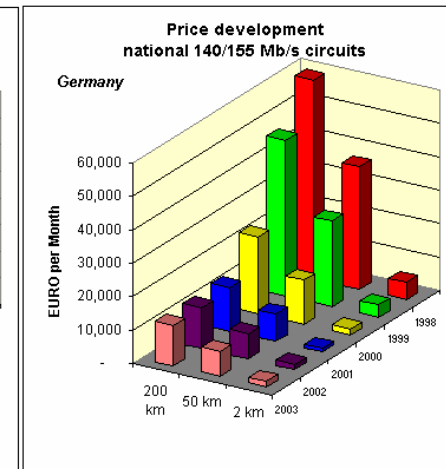
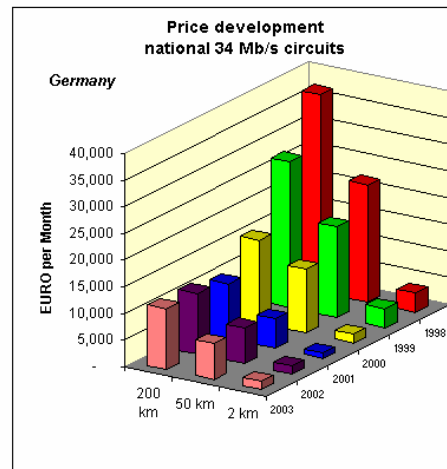
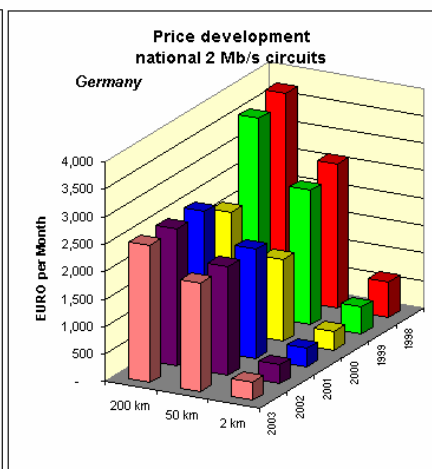
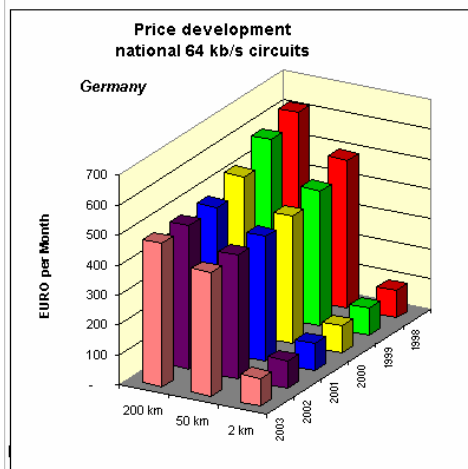
There are no incremental charges (e.g. per km).

Prices for 155 Mb/s shown here are adjusted from prices for 140 Mb/s circuits.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Local circuit at same exchange, >1000m.
<b>50 km circuit</b>	30-75 km
<b>200 km circuit</b>	Over 75 km

### 9.3. Germany

Germany	64 kb/s			2 Mb/s			Germany	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	92	495	621	639	2,618	3,748	1998	3,579	21,945	37,053	5,215	36,583	59,243
1999	92	451	589	486	2,444	3,594	1999	3,579	16,960	27,323	3,630	25,520	46,463
2000	92	426	524	350	1,490	2,197	2000	1,620	11,905	15,495	1,660	13,099	22,801
2001	92	415	481	340	1,979	2,504	2001	1,050	5,575	10,226	1,100	8,225	12,876
2002	92	414	478	340	1,979	2,504	2002	1,500	6,711	11,361	1,600	7,511	12,161
2003	92	414	478	340	1,979	2,504	2003	1,500	6,711	11,361	1,600	7,511	12,161



Deutsche Telekom offers different types of circuits. In this analysis the “Standard Festverbindungen” are used.

Tariffs are divided into:

- Local 1 (same exchange)
- Local 2, up to or above 15 km
- Long Distance, < 15km, 15 – 50 km, 50 – 150 km, > 150 km.

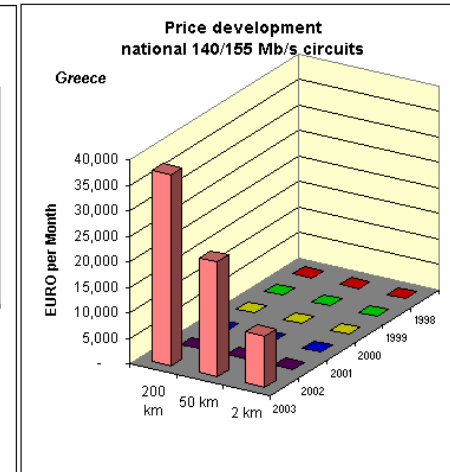
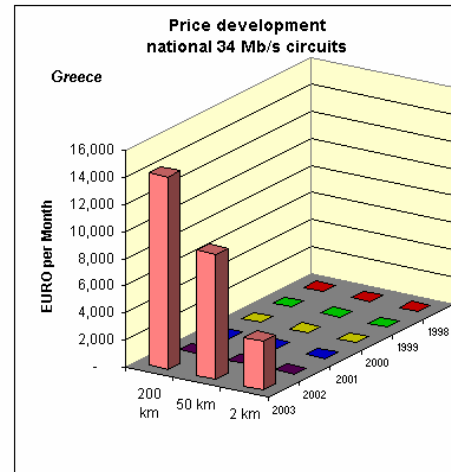
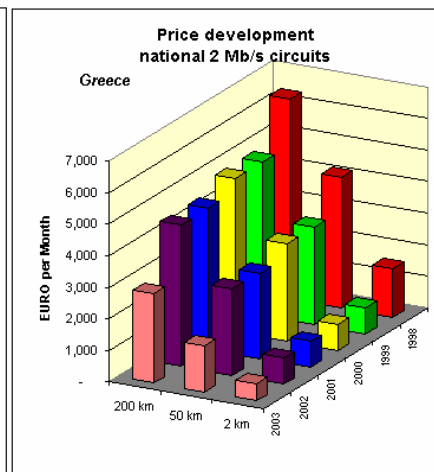
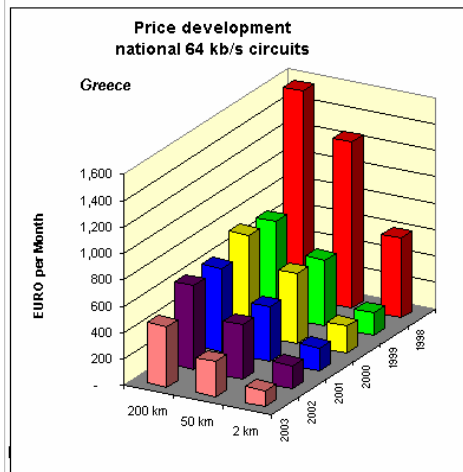
Local 2 and Long distance use incremental (per km) charges.

At 34Mb/s and 155 Mb/s access circuit charges apply, with a distance (per km) element.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Local 1 circuit
<b>50 km circuit</b>	Long distance circuit, 15 – 50 km
<b>200 km circuit</b>	Long distance circuit, > 150 km

## 9.4. Greece

Greece	64 kb/s			2 Mb/s			Greece	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	605	1,264	1,576	1,535	4,150	6,332	1998						
1999	176	499	720	822	3,108	4,880	1999						
2000	205	528	749	822	3,108	4,880	2000						
2001	176	411	632	822	2,698	4,468	2001						
2002	176	410	632	822	2,728	4,468	2002						
2003	120	266	457	560	1,473	2,827	2003	3,600	9,269	14,229	10,000	22,480	37,560



OTE divides the leased lines into:

- Local circuits
- Trunk circuits (< 35 km, 35 – 70 km, 70 – 150 km, > 150 km)

Trunk circuits use incremental (per km) charges.

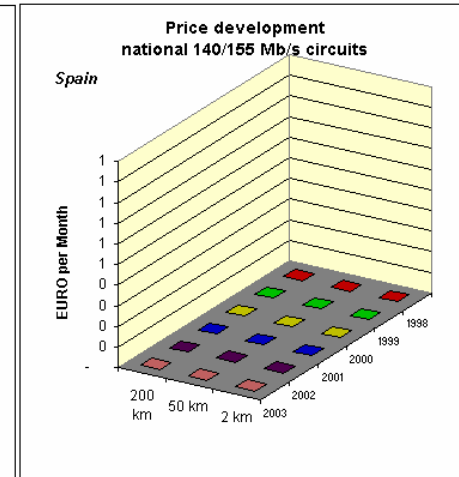
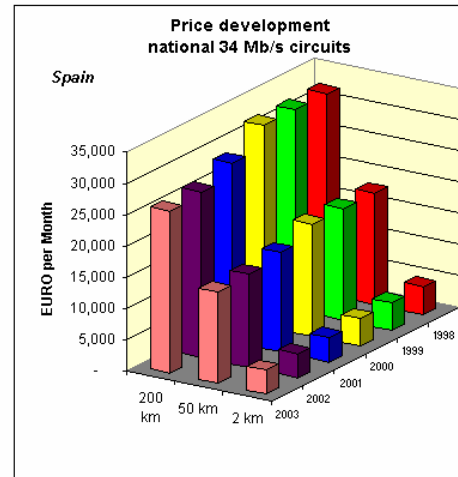
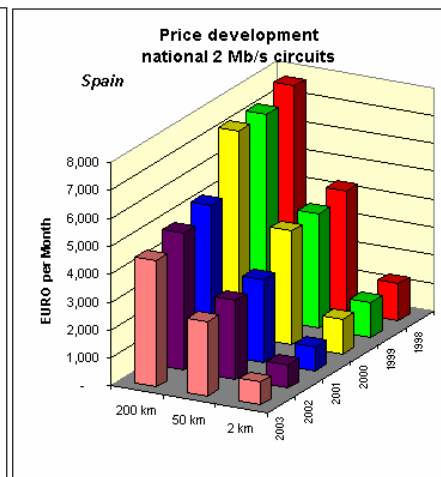
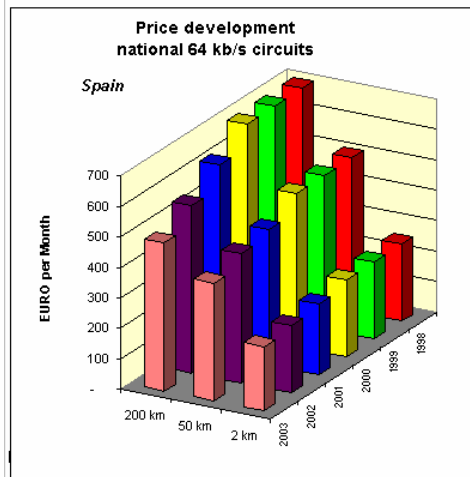
64 kb/s charges are for Hellascom service from 2003.

Local circuits within an exchange area are priced as two access circuits only.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Local circuit
<b>50 km circuit</b>	Trunk circuit 35 – 70 km
<b>200 km circuit</b>	Trunk circuit > 150 km

## 9.5. Spain

Spain	64 kb/s			2 Mb/s			Spain	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	254	504	700	1,304	4,304	7,734	1998	4,471	17,857	32,099			
1999	254	504	700	1,239	4,089	7,347	1999	4,471	17,857	32,099			
2000	254	504	700	1,239	4,089	7,347	2000	4,471	17,857	32,099			
2001	233	445	625	885	2,944	5,292	2001	3,979	15,893	28,568			
2002	221	424	550	850	2,806	4,908	2002	3,820	14,984	26,463			
2003	210	386	486	816	2,666	4,530	2003	3,743	14,684	25,933			



Telefonica strictly divides leased lines according to distance:

- Distance bands: 0 – 4 km, 4 – 20 km, 20 – 70 km, 70 – 300 km, 300 – 500 km, > 500 km.

All bands use incremental (per km) charges.

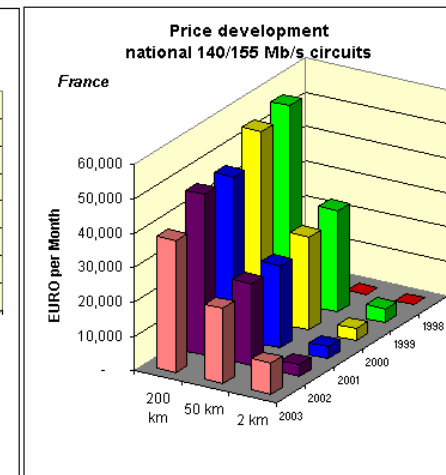
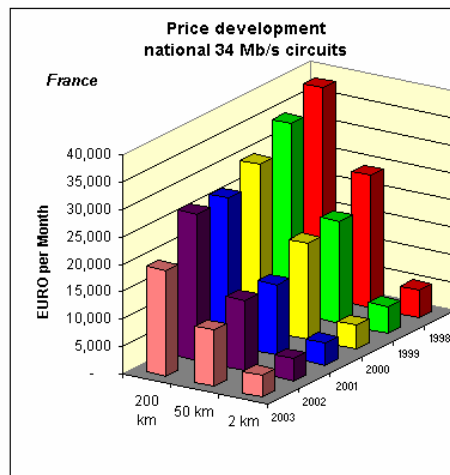
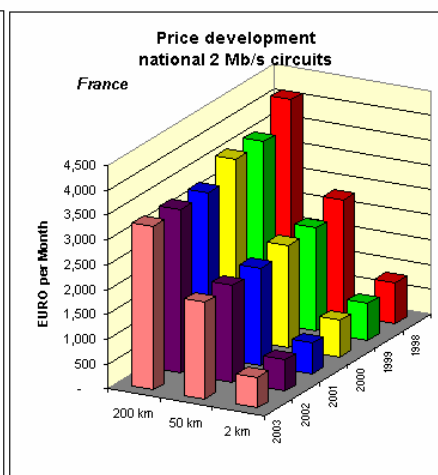
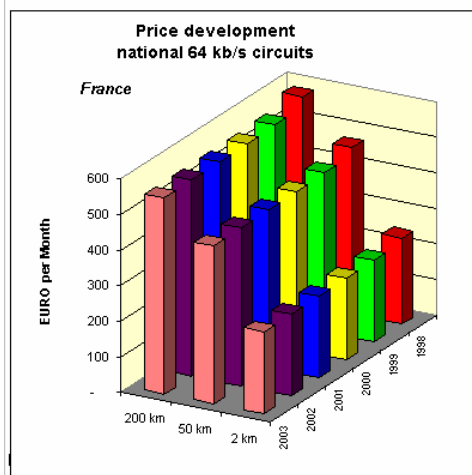
Telefonica do not publish prices for 155 Mb/s circuits.

Local circuits within an exchange area are priced as a regular circuit of the given distance.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	0 – 4 km band
<b>50 km circuit</b>	20 – 70 km band
<b>200 km circuit</b>	70 – 300 km band

## 9.6. France

France	64 kb/s			2 Mb/s			France	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	242	470	585	815	2,302	4,131	1998	5,082	24,186	38,341	3,994	29,499	56,940
1999	231	448	557	739	2,073	3,628	1999	4,923	18,698	34,705	3,430	27,136	54,577
2000	231	445	553	739	2,073	3,628	2000	4,391	17,532	30,109	3,430	23,782	46,649
2001	231	445	553	625	1,944	3,292	2001	4,086	12,836	26,785	3,430	23,782	46,650
2002	230	445	552	625	1,944	3,292	2002	4,086	12,836	26,785	3,430	23,782	46,650
2003	230	445	552	625	1,944	3,292	2003	3,945	10,360	19,310	9,000	21,900	38,400



France Telecom offers leased lines in the products Transfix and Transfix 2.0. Transfix is the basic service, and the one used in this analysis. The tariff is divided into distance bands: 0 – 10 km, 10 – 50 km, 50 – 300 km, > 300 km. 34 and 155 Mb/s divide at 30 km and 100 km instead of 50 km.

Prices for 2 Mb/s relate to 2,048 kb/s bitrate. 1,920 and 1,984 have different prices.

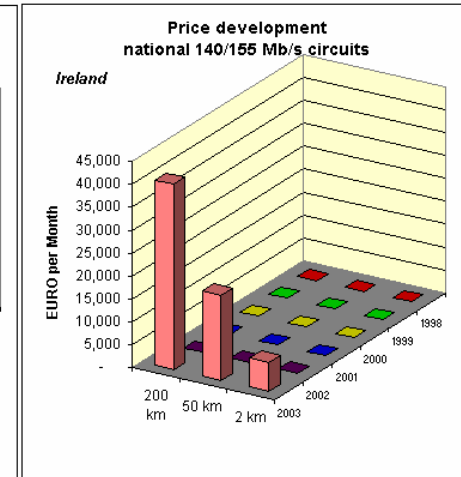
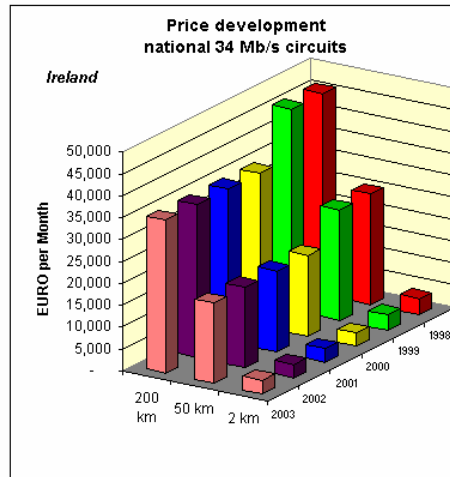
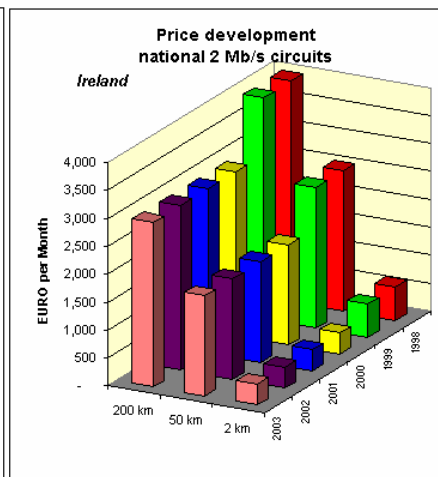
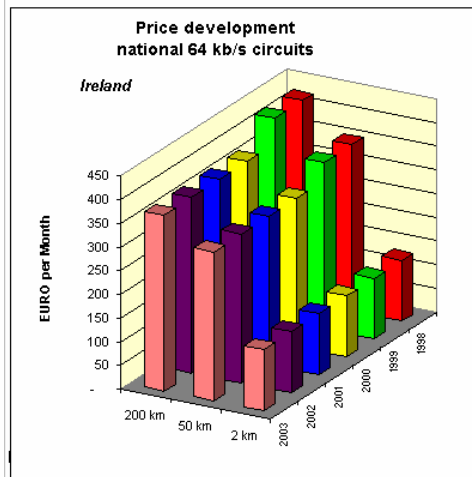
Prices for 34 and 155 Mb/s circuits relate to circuits with one end in a major city (zone A), as defined by France Telecom.

Local circuits within an exchange area are priced as a circuit of the given distance. Additional definitions apply for higher speed circuits.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	0 – 10 km
<b>50 km circuit</b>	64 kb/s and 2 Mb/s: 10 – 50 km, 34 and 155 Mb/s: 30 – 100 km
<b>200 km circuit</b>	64 kb/s and 2 Mb/s: 50 - 300 km, 34 and 155 Mb/s: 100 – 300 km

## 9.7. Ireland

Ireland	64 kb/s			2 Mb/s			Ireland	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	129	353	424	593	2,519	3,959	1998	3,665	25,275	45,909			
1999	129	353	424	593	2,519	3,959	1999	3,665	25,275	45,909			
2000	129	314	371	381	1,793	2,945	2000	3,090	18,431	34,938			
2001	129	314	371	381	1,793	2,945	2001	3,090	18,431	34,938			
2002	129	314	371	381	1,793	2,945	2002	3,090	18,431	34,938			
2003	129	314	371	381	1,793	2,945	2003	3,090	18,431	34,938	6,350	18,600	40,475



EirCom define the tariff for leased lines with a local end charge, and main link charges for circuits 0 – 30 km and > 30 km.

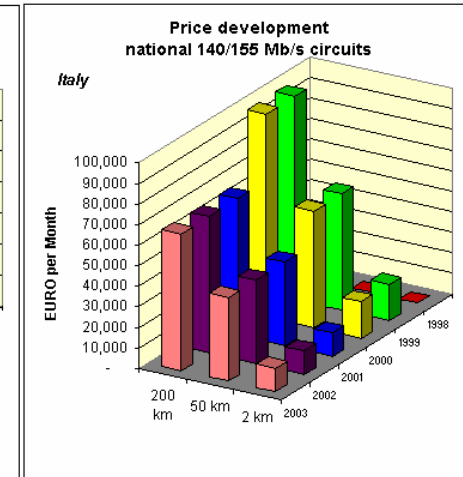
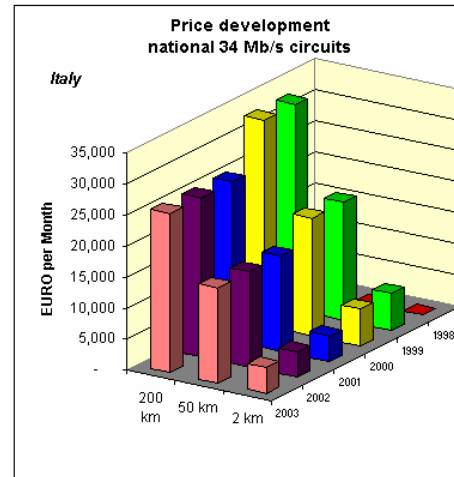
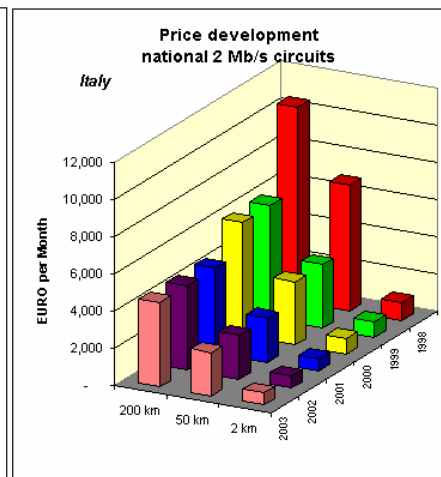
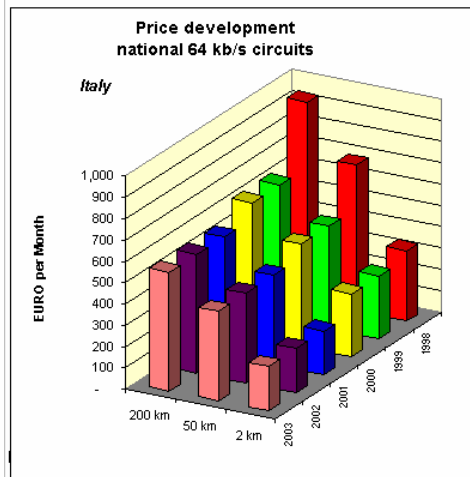
Local circuits may be made up by 2 local ends, and no main link. Circuits equal to or above 1 Mb/s have a distance incremental charge for local ends over 1.5 km.

EirCom only publish prices for 155 Mb/s from 2003.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	2 local ends, no main link
<b>50 km circuit</b>	2 local ends, 46 km main link
<b>200 km circuit</b>	2 local ends, 196 km main link

## 9.8. Italy

Italy	64 kb/s			2 Mb/s			Italy	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	331	687	936	971	6,786	10,484	1998	5,929	18,882	32,977	17,785	56,643	98,788
1999	297	482	632	826	3,409	6,091	1999	5,929	18,882	32,977	17,785	56,643	98,788
2000	297	482	632	826	3,409	6,091	2000	4,132	15,297	25,579	11,362	40,583	66,334
2001	207	420	556	648	2,346	4,548	2001	4,132	15,297	25,579	11,362	40,583	66,334
2002	207	420	556	648	2,346	4,548	2002	4,132	15,297	25,579	11,362	40,583	66,334
2003	207	420	556	648	2,346	4,548	2003	4,132	15,297	25,579	11,362	40,583	66,334



All circuits have an access charge per end, and a main link distance related charge per km. Distance bands are 0 – 60 km, 60 – 300 km, and > 300 km..

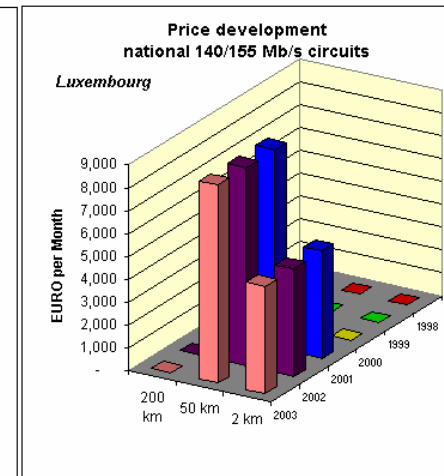
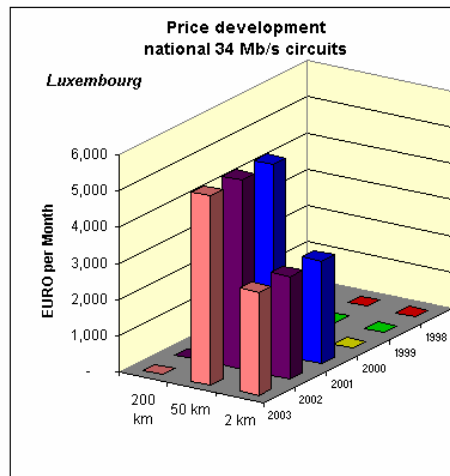
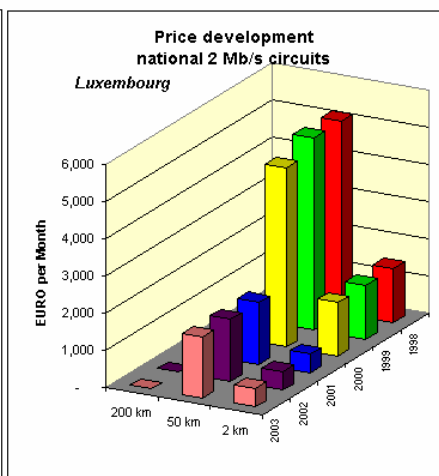
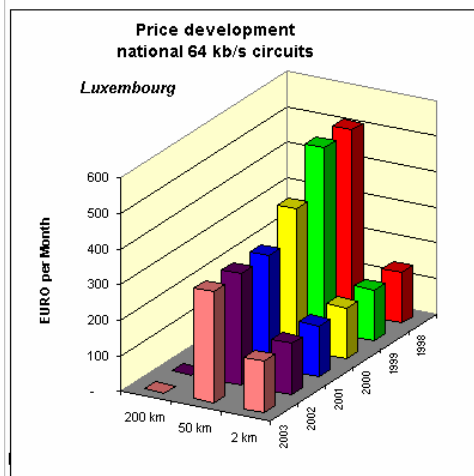
Circuits from 2 Mb/s and above are available with various levels of reduced charges depending on contract period and overall spend. The most basic level is used in this analysis.

Local circuits within an exchange area are priced as two access circuits only.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Local circuit, 2 ends
<b>50 km circuit</b>	0 – 60 km band, 2 ends, 46 km main link
<b>200 km circuit</b>	60 – 300 km band, 2 ends, 196 km main link

## 9.9. Luxembourg

Luxembourg	64 kb/s			2 Mb/s			Luxembourg	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	144	516		1,438	5,156		1998						
1999	144	516		1,438	5,156		1999						
2000	144	394		1,438	4,814		2000						
2001	144	313		506	1,656		2001	2,829	5,211	4,701	8,672		
2002	144	313		506	1,656		2002	2,829	5,211	4,701	8,672		
2003	144	313		506	1,656		2003	2,829	5,211	4,701	8,672		



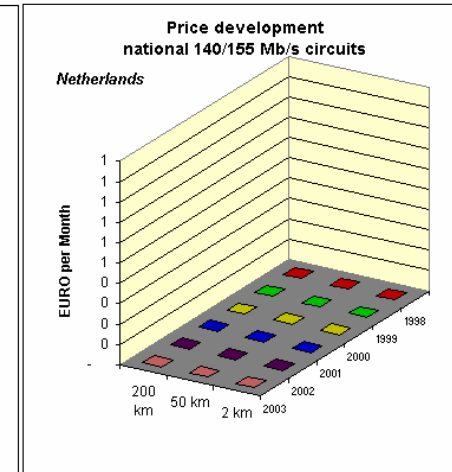
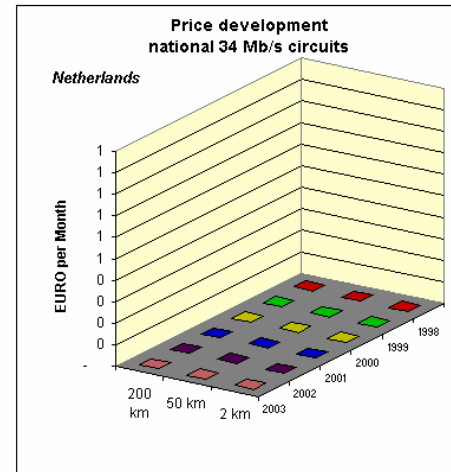
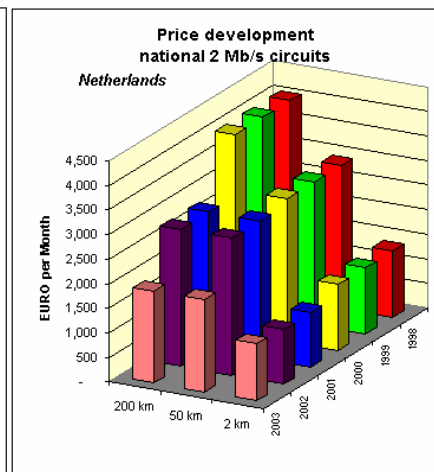
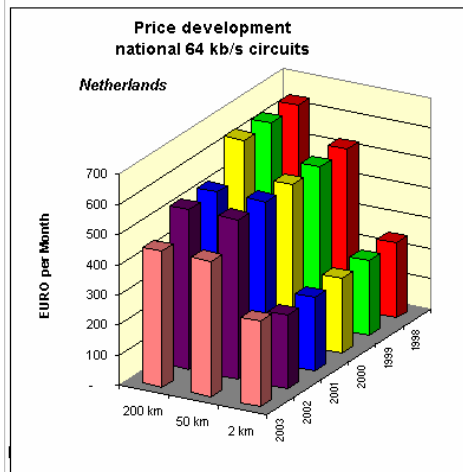
P&T Luxembourg divide the leased lines tariff into 4 types of circuits: Same local network, Contiguous local network of same nodal sector, Same nodal sector or Contiguous local networks of different nodal sectors, and Non-contiguous local networks of different nodal sectors. This definition relates to the network hierarchy, and not to distance. Distances at 200 km are not possible.

Local circuits within an exchange area are priced as a circuit in the same local network.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Same local network
<b>50 km circuit</b>	Non-contiguous local networks of different nodal sectors
<b>200 km circuit</b>	Not possible

## 9.10. Netherlands

Netherlands	64 kb/s			2 Mb/s			Netherlands	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	248	529	642	1,343	2,904	4,039	1998						
1999	248	529	642	1,343	2,904	4,039	1999						
2000	248	529	642	1,343	2,904	4,039	2000						
2001	243	529	529	1,114	2,791	2,791	2001						
2002	243	528	529	1,114	2,791	2,791	2002						
2003	282	450	450	1,160	1,880	1,880	2003						



KPN Telecom offer leased lines as Digital Standard and DigiStream services. Digital Standard is the basic service, and the one used in this analysis.

Tariffs are divided into a charge per connecting point and a main link charge. The main link charge is divided into two zones: Up to 50 km with a fixed basic charge and an incremental per km charge, and over 50 km with a fixed basic charge. Prices are in effect capped above 50 km.

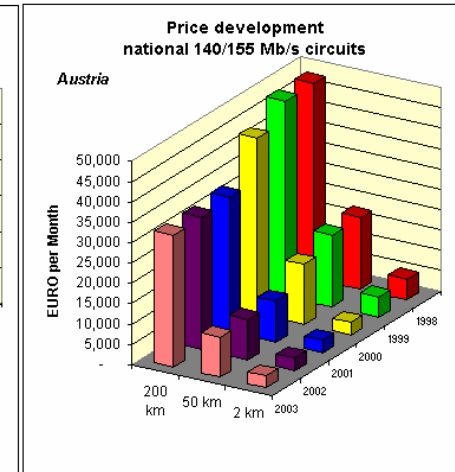
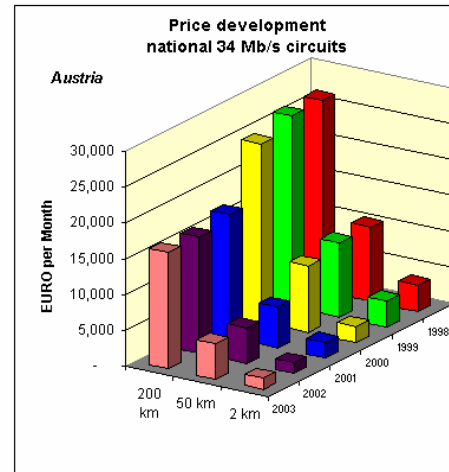
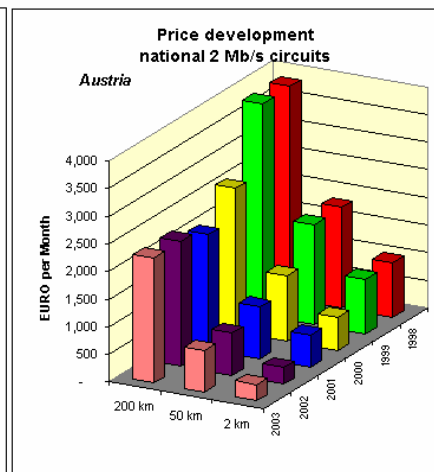
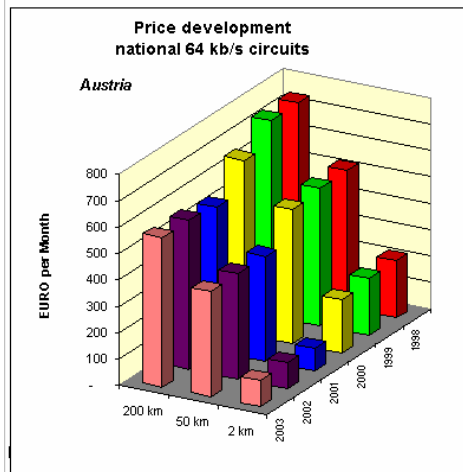
Prices for 34 and 155 Mb/s circuits are not published.

Local circuits within an exchange area are priced as two access connections plus a short main link of the given distance.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	2 connecting points + 2 km main link (0 – 50 km band)
<b>50 km circuit</b>	2 connecting points + 50 km main link (0 – 50 km band)
<b>200 km circuit</b>	2 connecting points + 200 km main link (>50 km band)

## 9.11. Austria

Austria	64 kb/s			2 Mb/s			Austria	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	218	523	741	981	1,817	3,844	1998	3,634	10,320	26,540	5,087	17,623	48,037
1999	218	523	741	981	1,817	3,844	1999	3,634	10,320	26,540	5,087	17,623	48,037
2000	203	509	657	602	1,187	2,606	2000	2,219	9,240	24,806	3,121	14,821	43,207
2001	87	398	546	581	932	2,077	2001	2,180	5,690	17,136	3,052	10,072	32,964
2002	100	400	566	300	760	2,260	2002	1,500	4,950	16,200	3,000	9,900	32,400
2003	100	400	566	300	760	2,260	2003	1,500	4,950	16,200	3,000	9,900	32,400



Telecom Austria divides the “Digitaler Stromweg” circuits into 2 categories: City-tarif when both ends of the circuit are in category A cities (a defined list of 68 towns and cities), and Normal-tarif when the above does not apply. This analysis used the City-Tarif. The Normal-tarif would in most cases come out more expensive. For the years up to 2000 a different tariff scheme applied, with a different list of towns, and 3 instead of 2 categories.

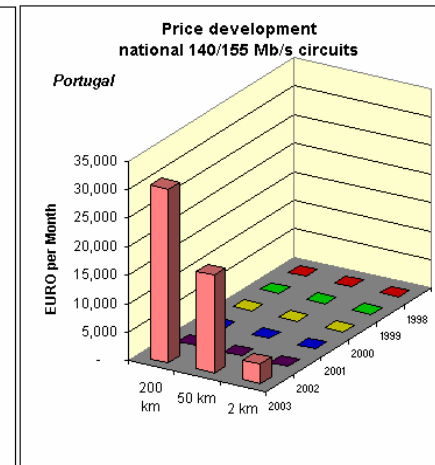
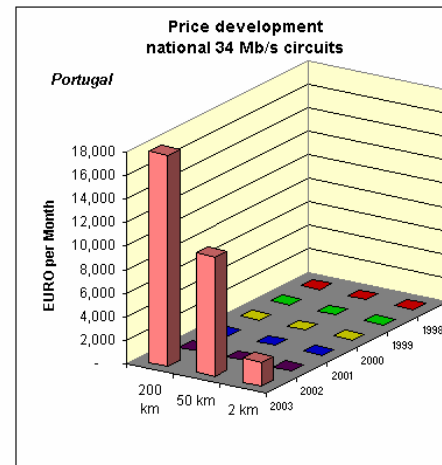
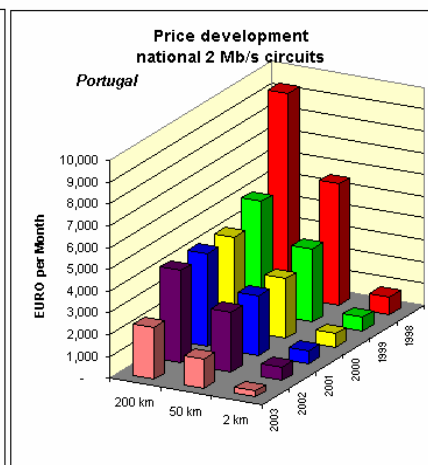
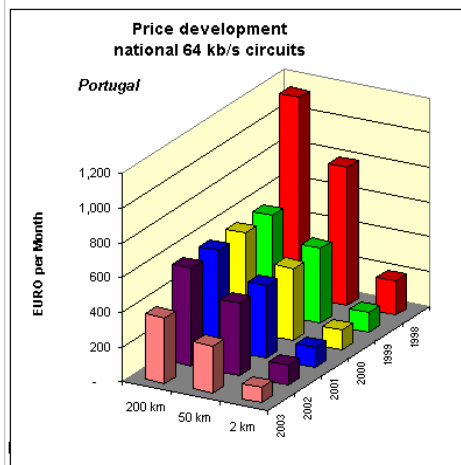
The tariff is based on a charge per local end, and a distance related charge per km. The distance bands vary with bitrate.

Local circuits within an exchange area are priced as two access circuits only.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	2 local ends
<b>50 km circuit</b>	2 local ends, plus 46 km main link
<b>200 km circuit</b>	2 local ends, plus 196 km main link

## 9.12. Portugal

Portugal	64 kb/s			2 Mb/s			Portugal	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	200	796	1,144	792	5,571	9,338	1998						
1999	116	430	565	622	3,337	5,126	1999						
2000	116	415	563	622	2,739	4,235	2000						
2001	116	415	563	622	2,739	4,235	2001						
2002	116	415	563	622	2,739	4,235	2002						
2003	87	272	378	269	1,349	2,389	2003	2,015	10,115	17,915	3,425	17,195	30,455



Portugal Telecom divides the leased line tariff into local access circuit charge, and a main link with a fixed and an incremental charge per km.

Distance bands are 0 – 10 km, 10 – 30 km, 30 – 50 km, 50 – 100 km, over 100 km. Local circuits connected to the same exchange will not incur main link charges.

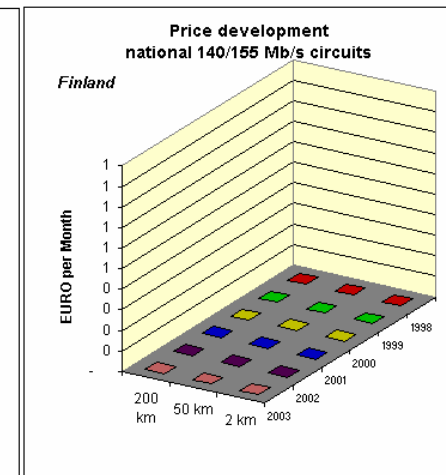
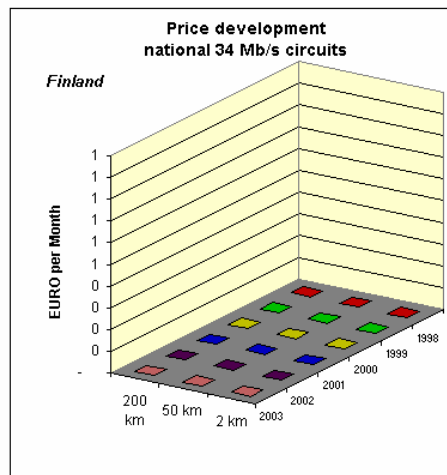
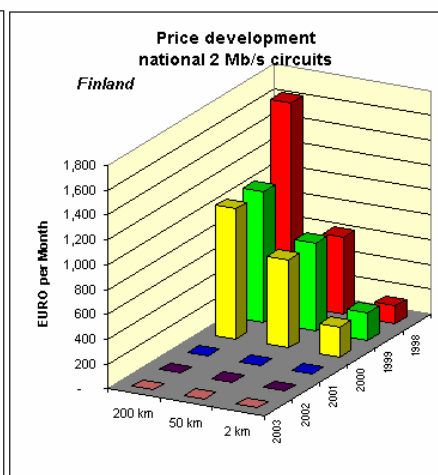
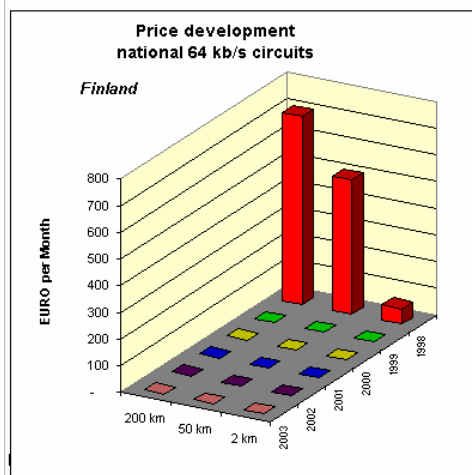
Prices for 34 and 155 Mb/s circuits are not published until 2003.

Local circuits within an exchange area are priced as two access circuits only.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	2 access circuits
<b>50 km circuit</b>	2 access circuits, and main link (30 – 50 km band)
<b>200 km circuit</b>	2 access circuits, and main link (>100 km band)

## 9.13. Finland

Finland	64 kb/s			2 Mb/s			Finland	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998		57	503	707	138	622	1,631						
1999					225	711	1,050						
2000					243	711	1,050						
2001													
2002													
2003													



Sonera stopped publishing full 64 kb/s circuit prices in 1998, and have also stopped publishing 2 Mb/s circuit prices.

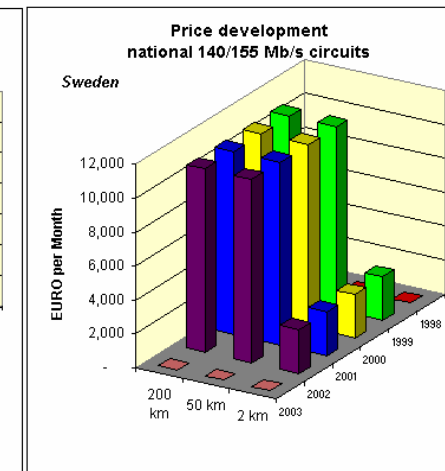
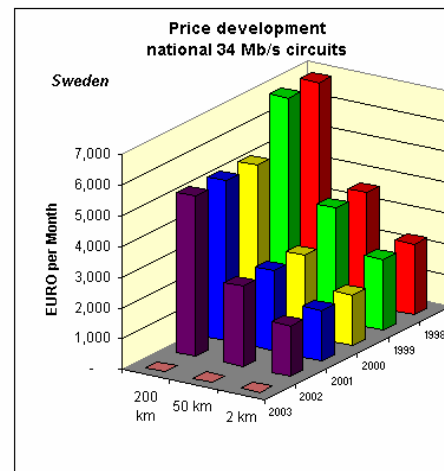
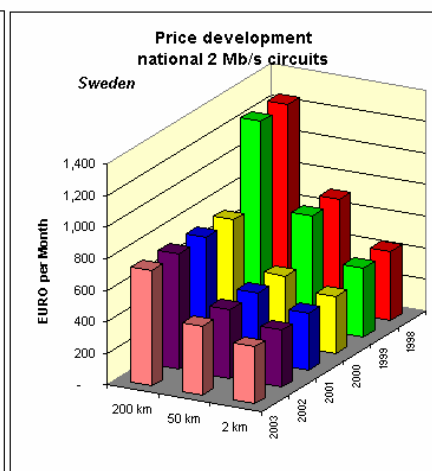
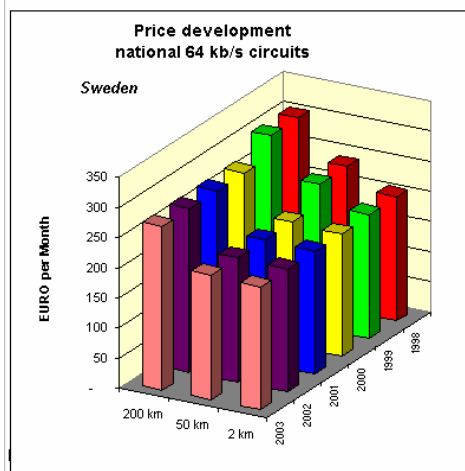
Local circuit charges are divided into 3 categories: Urban area, Rural areas I and II. Definitions of these areas relate to individual locations in the Sonera coverage area.

Long distance (main link) charges are also divided into 3 categories: Green, Red and Blue. Green covers the main 5 cities, red a further 28 towns, and Blue the rest of the countries. Distance bands are 0 – 50 km, 50 – 100 km, and > 100 km. Incremental charges per km apply.

	<b>Tariff definition used in this analysis (for 2000 data)</b>
<b>2 km circuit</b>	Rural area II charge (highest)
<b>50 km circuit</b>	2 Access circuits + Main link at Green 0- 50 km band (highest)
<b>200 km circuit</b>	2 Access circuits + Main link at Green > 100 km band (highest)

## 9.14. Sweden

Sweden	64 kb/s			2 Mb/s			Sweden	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	206	240	305	433	709	1,250	1998	2,287	3,624	6,870			
1999	206	240	305	433	709	1,250	1999	2,287	3,624	6,870	2,575	10,810	10,810
2000	204	207	272	361	435	733	2000	1,643	2,599	5,195	2,575	10,810	10,810
2001	204	207	272	361	435	733	2001	1,643	2,599	5,195	2,575	10,810	10,810
2002	204	207	272	361	435	733	2002	1,643	2,599	5,195	2,575	10,810	10,810
2003	204	207	272	361	435	733	2003	1,643	2,599	5,195	2,575	10,810	10,810



Telia divides their network into 5 categories: Metropolitan green and green for the major cities and towns, red and blue for short distance network in smaller places, and white for rural areas. Circuits are priced according to the portion of the circuit falling into any of these categories on its route. Here the green tariff is assumed, for a circuit between reasonably large towns.

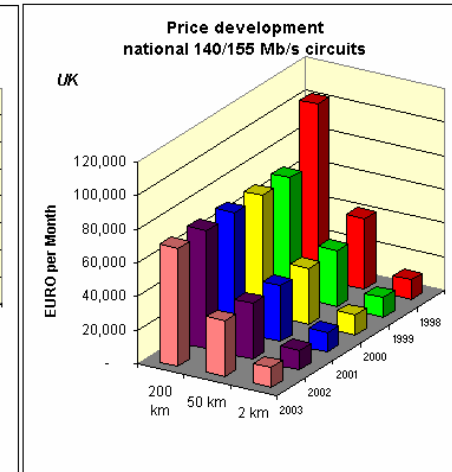
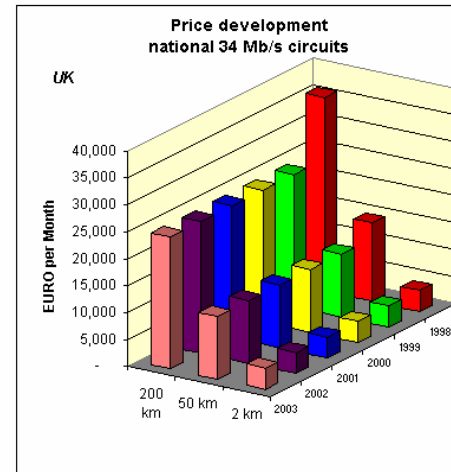
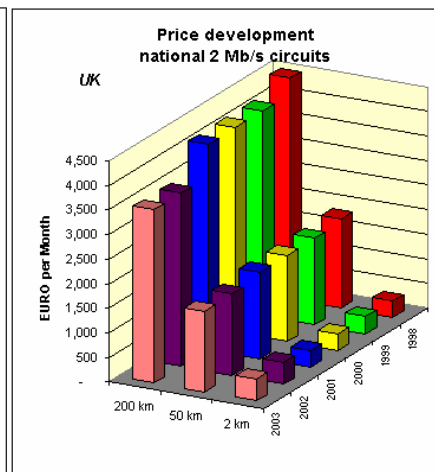
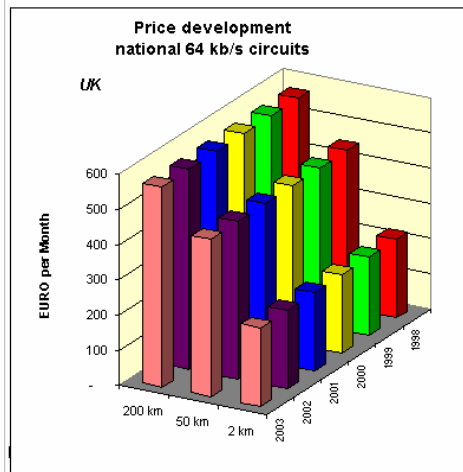
The tariff is divided into local circuits and long distance. Long distance circuits will have a separate access link charge per end, and a main link charge. Local circuits are priced in 2 distance bands: 0 – 0.5 km and 0.5 - 3 km. Long distance circuits are priced in the bands 0 – 20 km, 20 – 40 km, and > 40 km. The latter has an incremental per km charge.

Circuits at 34 Mb/s and 140/155 Mb/s are no longer offered by Telia. Instead other services are offered, as complete network solutions.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	Short local circuit, 0.5 – 3 km
<b>50 km circuit</b>	2 access circuits + main link at >40 km band
<b>200 km circuit</b>	2 access circuits + main link at >40 km band

## 9.15. United Kingdom

UK	64 kb/s			2 Mb/s			UK	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	224	449	569	318	1,816	4,494	1998	3,904	14,529	35,952	11,669	41,771	103,361
1999	224	449	569	349	1,761	4,171	1999	3,904	11,663	24,517	11,669	33,072	70,026
2000	224	449	569	349	1,761	4,171	2000	3,904	11,663	24,517	11,669	33,072	70,026
2001	224	449	569	349	1,761	4,171	2001	3,904	11,663	24,517	11,669	33,072	70,026
2002	224	449	569	452	1,649	3,523	2002	3,904	11,663	24,517	11,669	33,072	70,026
2003	224	449	569	452	1,649	3,523	2003	3,904	11,663	24,517	11,669	33,072	70,026



BT divides their Kilostream (64 kb/s) and Megastream (2, 34 and 155 Mb/s) tariffs into circuits wholly within City London Zone (0207-area), and circuits with one or both ends outside London.

For local circuits within CLZ the main link does not apply since both ends are connected to the same exchange (according to the definition used). The price is calculated as the sum of two local access circuits.

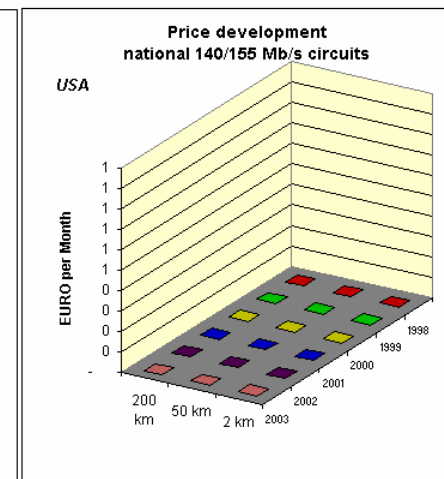
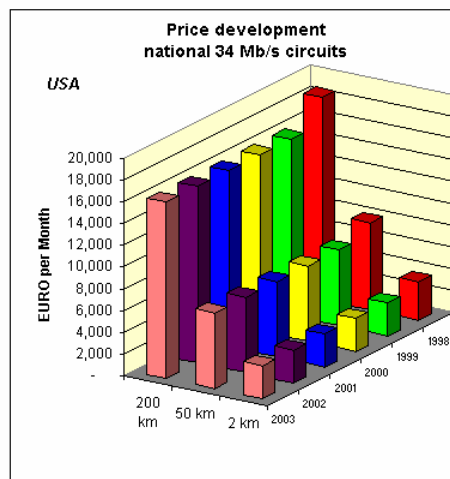
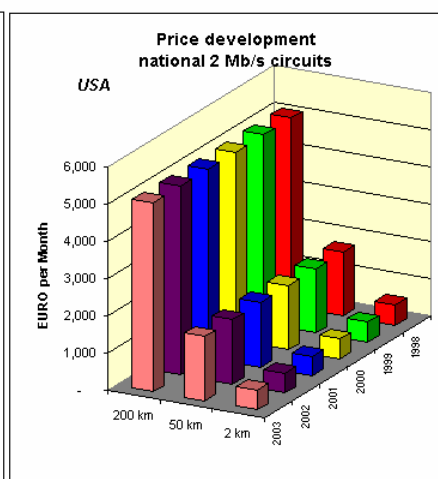
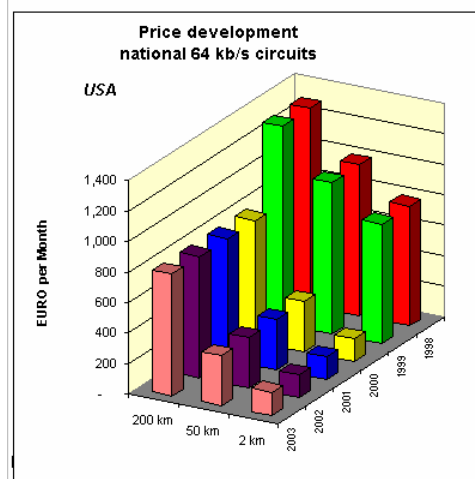
Distance bands outside London are < 15 km and > 15 km. Incremental charges per km applies.

	Tariff definition used in this analysis (for 2003 data)
2 km circuit	Central London Zone
50 km circuit	Out of London zone, > 15 km
200 km circuit	Out of London zone, > 15 km

## 9.16. USA

### Verizon, New York

USA	64 kb/s			2 Mb/s			USA	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	786	993	1,299	533	1,724	5,064	1998	3,547	8,013	18,626			
1999	786	993	1,299	533	1,724	5,064	1999	3,031	6,932	16,208			
2000	152	328	796	533	1,724	5,064	2000	3,031	6,932	16,208			
2001	152	328	796	533	1,724	5,064	2001	3,031	6,932	16,208			
2002	152	328	796	533	1,724	5,064	2002	3,031	6,932	16,208			
2003	152	328	796	533	1,724	5,064	2003	3,031	6,932	16,208			



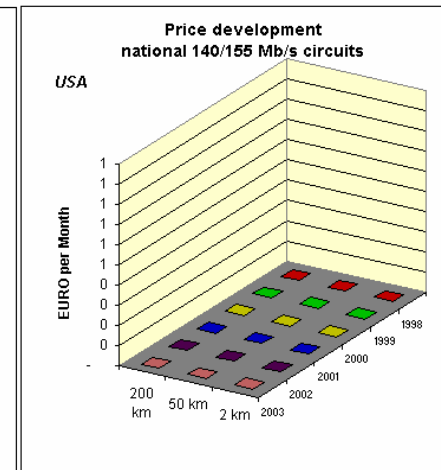
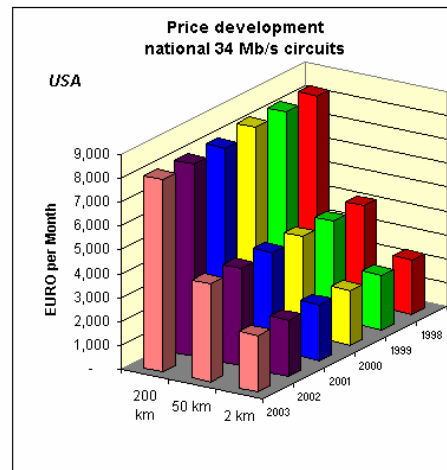
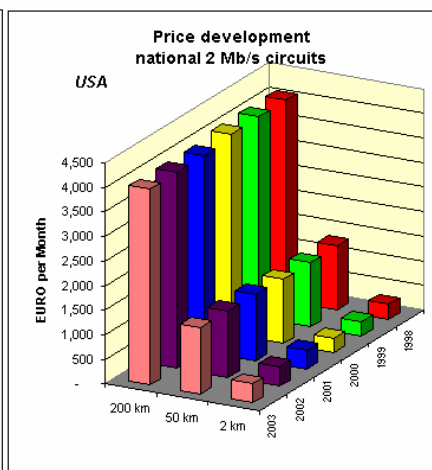
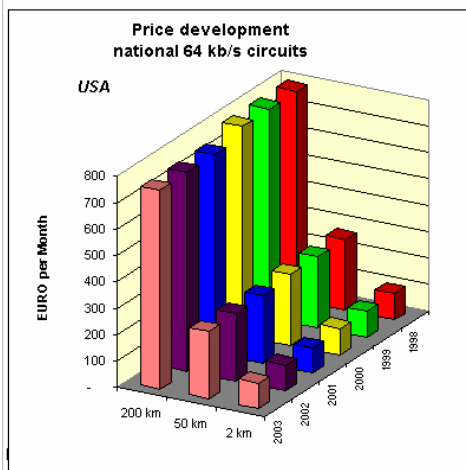
Nynex (now Verizon) provides leased line services within New York State. Tariff is in some cases divided into New York City LATA and other LATA. All prices assumed here are for Intra-LATA circuits in New York City. Long distance (i.e. inter-LATA or inter-state) circuits provided by operators like AT&T and MCI Worldcom may have different prices for the same distances, but are often priced on a city pair basis.

Due to different network systems the 56 kb/s circuits are substituting for 64 kb/s, 1.5 Mb/s for 2 Mb/s and 45 Mb/s for 34 Mb/s. Price are adjusted for the difference in capacity, to reflect “European” bitrates. Tariffs will generally have a fixed charge for the local tail circuit, at higher speeds this may have a per mile charge as well, and a main link charge with a basic and incremental per mile charge.

	Tariff definition used in this analysis (for 2003 data)
<b>2 km circuit</b>	2 local tail circuits, 1 km each (rounded to nearest ¼ mile)
<b>50 km circuit</b>	2 local tail circuits + main link of 46 km (rounded to nearest mile)
<b>200 km circuit</b>	2 local tail circuits + main link of 196 km (rounded to nearest mile)

## PacBell, California

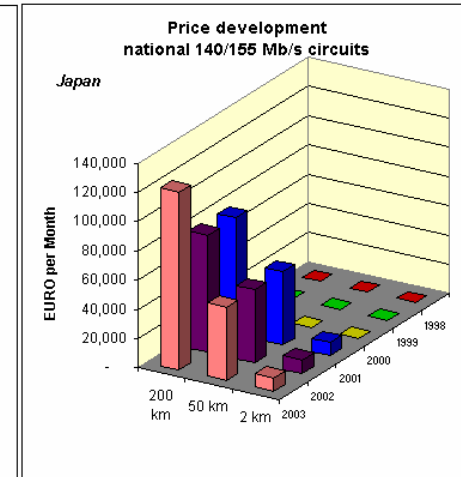
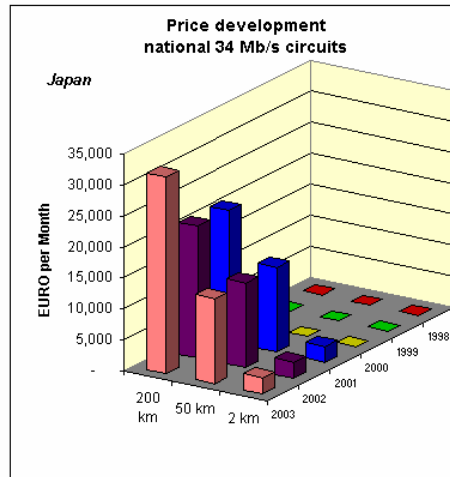
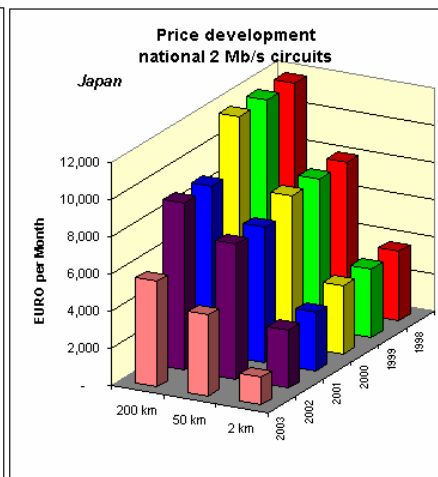
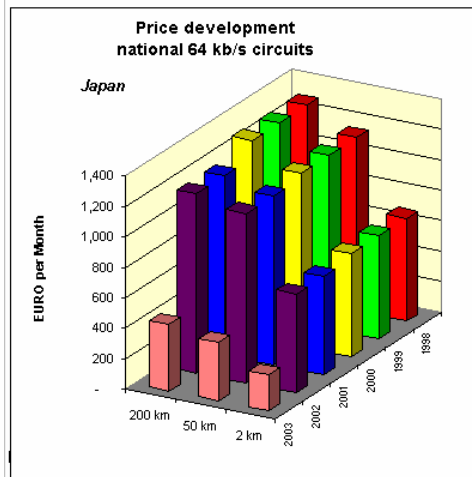
USA	64 kb/s			2 Mb/s			USA	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	102	269	794	296	1,303	4,087	1998	2,282	4,126	8,291			
1999	102	269	794	296	1,303	4,087	1999	2,282	4,126	8,291			
2000	102	269	794	296	1,303	4,087	2000	2,282	4,126	8,291			
2001	96	255	753	393	1,348	3,988	2001	2,355	4,104	8,052			
2002	96	255	753	393	1,348	3,988	2002	2,355	4,104	8,052			
2003	96	255	753	393	1,348	3,988	2003	2,355	4,104	8,052			



The tariff structure and comments are the same as for Verizon. Prices are adjusted with bitrate differences. Local circuits within an exchange area are priced as two access circuits only.

## 9.17. Japan

Japan	64 kb/s			2 Mb/s			Japan	34 Mb/s			155 Mb/s		
	2 km	50 km	200 km	2 km	50 km	200 km		2 km	50 km	200 km	2 km	50 km	200 km
1998	677	1,141	1,292	3,685	8,009	11,773	1998						
1999	677	1,141	1,292	3,685	8,009	11,773	1999						
2000	677	1,141	1,292	3,685	8,009	11,773	2000						
2001	649	1,112	1,179	3,135	7,233	8,962	2001	2,556	13,682	21,200	9,215	50,113	79,968
2002	649	1,112	1,179	3,135	7,233	8,962	2002	2,556	13,682	21,200	9,215	50,113	79,968
2003	236	383	438	1,494	4,363	5,680	2003	2,556	13,682	31,725	9,215	50,113	121,856



NTT divides the tariff into a termination charge and a circuit charge. The circuit charge is divided into distance bands: 0 – 15 km, 15 – 30 km, 30 – 40 km, 40 – 50 km, 50 – 60 km, 60 – 70 km, 70 – 80 km, 80 – 90 km, and over 90 km. Prices are effectively capped at 100 km.

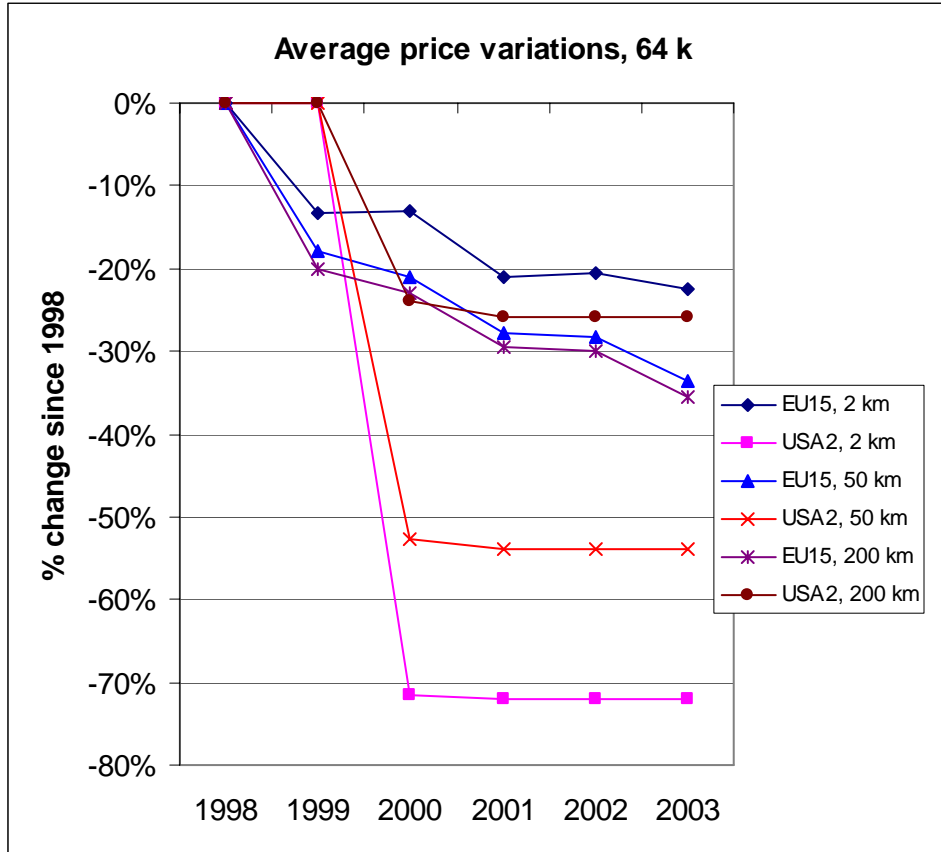
Local circuits within an exchange area are priced as one regular circuit in the shortest distance band.

	<b>Tariff definition used in this analysis (for 2003 data)</b>
<b>2 km circuit</b>	2 termination charges and 0 – 15 km band
<b>50 km circuit</b>	2 termination charges and 40 – 50 km band
<b>200 km circuit</b>	2 termination charges and >90 km band

## 9.18. Price development for national leased lines

The development of national leased line prices over the last 5 years are shown in the graphs below. The graphs show the price reductions in % since 1998.

Figure 9.1 Average price change for 64 kb/s national leased lines in USA and the EU countries.

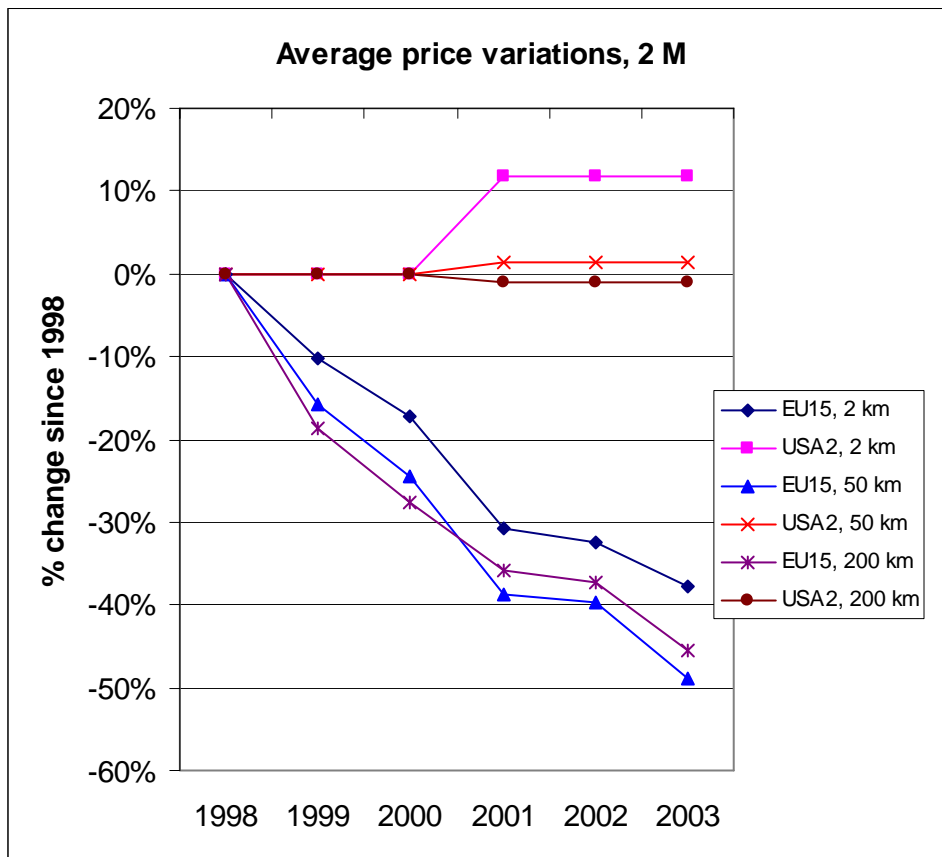


Note:

EU15 figures are simple, un-weighted averages across all EU countries (except Finland)

USA2 figures are the averages between Verizon and PacBell

Figure 9.2 Average price change for 2 Mb/s national leased lines in USA and the EU countries.

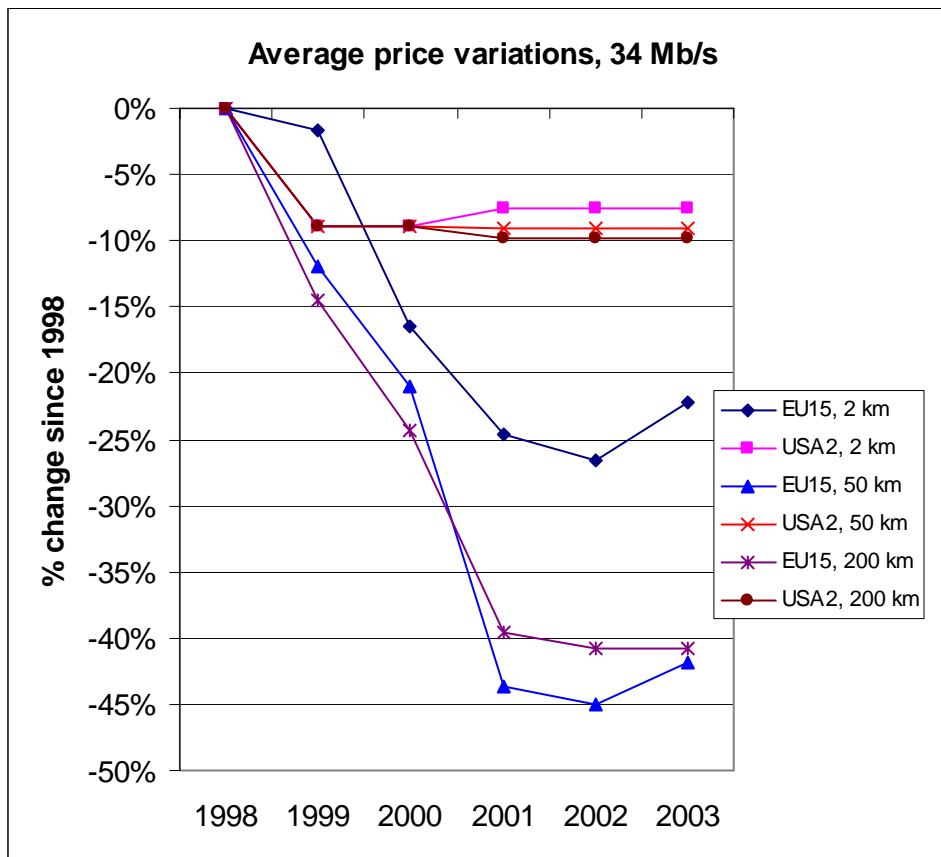


Note:

EU15 figures are simple, un-weighted averages across all EU countries (except Finland)

USA2 figures are the averages between Verizon and PacBell

Figure 9.3 Average price change for 34 Mb/s national leased lines in USA and the EU countries.

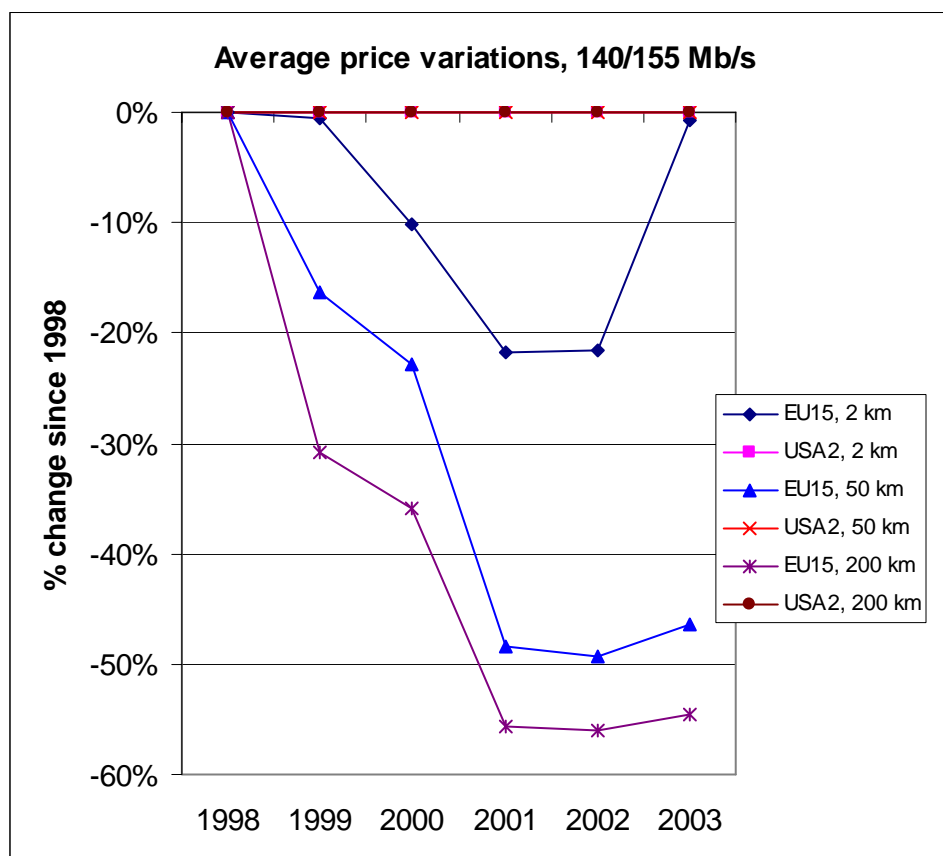


Note:

EU15 figures are simple, un-weighted averages across all EU countries (except Finland)

USA2 figures are the averages between Verizon and PacBell

**Figure 9.4 Average price change for 155 Mb/s national leased lines in USA and the EU countries.**



Note:

EU15 figures are simple, un-weighted averages across all EU countries (except Finland)

Data for USA is not available

The seemingly sharp increase in prices for 2 km circuits is a result of two things:

- New countries have been included this year, with a relative high price in relation to others.
- Definition of applicable tariff for France has been changed on advise from the National Regulator.

The actual price levels have not changed much in any of the EU15 countries where such prices have been published for several years.

## 10. International leased lines

The international leased line comparison is based on prices for international half-circuits out of each country. The corresponding half-circuit into the other country has not been taken into account, as it would severely distort the comparison.

Prices of individual international calls have been analysed with 4 different destinations. These are:

**Table 10.1 International destinations**

Circuits to:	64 kb/s	2 Mb/s	34 Mb/s	155 Mb/s
Near EU country	√	√	√	√
Distant EU country	√	√	√	√
USA	√	√	√	√
Japan	√	√	√	√

Note: 34 Mb/s and 155 Mb/s is only covered to the extent information is published.

The data is presented with the following parameters:

- All charges in Euro per month
- Excluding VAT
- The years from 1998 are covered
- Variable / 1 year contract (shortest term available).
- AT&T prices are used for USA

Table 9.2 summarises the definition of near and distant EU destination countries.

**Table 10.2 Definition of destination countries.**

From:	Near EU	Far EU
<b>B</b>	F	EL
<b>DK</b>	SWE	EL
<b>D</b>	F	EL
<b>EL</b>	I	DK
<b>E</b>	P	DK
<b>F</b>	B	EL
<b>IRL</b>	UK	EL
<b>I</b>	EL	DK
<b>L</b>	D	EL
<b>NL</b>	D	EL
<b>AUT</b>	D	EL
<b>P</b>	E	DK
<b>FIN</b>	SWE	EL
<b>SWE</b>	DK	EL
<b>UK</b>	F	EL
<b>USA</b>	UK	EL
<b>Japan</b>	UK	EL

The validity of the tariffs are summarised below:

	<b>valid date</b>	<b>Confirmed</b>
Belgium	01/04/2002	08/08/2003
Denmark	01/01/2003	08/08/2003
Germany	01/01/2000	-
Greece	31/03/2003	08/08/2003
Spain	01/01/2003	08/08/2003
France	01/10/2002	08/08/2003
Ireland	29/12/2001	08/08/2003
Italy	01/11/2001	08/08/2003
Luxembourg	01/01/2002	08/08/2003
Netherlands	01/01/2001	08/08/2003
Austria	01/07/1999	08/08/2003
Portugal	02/06/2002	08/08/2003
Finland	01/02/2003	01/08/2003
Sweden	01/01/1999	08/08/2003
UK	18/11/2002	08/08/2003
USA	Basic prices have not changed for a long time	
Japan	01/10/2000	08/08/2003

International leased line prices do not tend to change a lot, so the fact that some prices date back a couple of years or more is no surprise.

The tables 9.3 to 9.10 summarises the prices for international 64 kb/s and 2 Mb/s half-circuits to different destinations, over the 4 years covered.

**Table 10.3 64 kb/s half-circuit prices to Near EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	881	881	881	881	800	800
<b>DK</b>	1,252	1,063	1,063	366	366	366
<b>D</b>						
<b>EL</b>	1,761	1,761	1,761	1,761	1,761	954
<b>E</b>	1,713	1,442	1,082	1,082	1,082	1,082
<b>F</b>	1,526	656	564	473	564	564
<b>IRE</b>	846	635	429	429	429	429
<b>I</b>	2,711	2,210	2,005	1,002	902	902
<b>L</b>	1,363	771	446	367	367	367
<b>NL</b>	799	799	790	758	758	758
<b>A</b>	1,139	1,139	1,131	1,030	1,030	1,030
<b>P</b>	1,846	1,197	1,197	910	910	910
<b>FIN</b>	727	640	544	544	435	348
<b>S</b>	418	418	418	418	418	418
<b>UK</b>	1,547	1,547	1,381	1,381	1,156	3,103
<b>USA</b>	3,014	3,110	3,110	3,110	3,110	3,110
<b>JAP</b>	6,412	6,412	6,412	5,675	5,675	5,675
<b>EU15</b>	1,323	1,083	978	814	784	687

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.4 64 kb/s half-circuit prices to Distant EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	2,365	2,365	2,365	2,365	1,900	1,900
<b>DK</b>	1,431	1,427	1,427	1,087	1,087	1,087
<b>D</b>						
<b>EL</b>	2,201	2,201	2,201	1,908	1,908	1,145
<b>E</b>	1,833	1,659	1,196	1,196	1,196	1,196
<b>F</b>	1,913	701	701	701	701	701
<b>IRE</b>	1,867	1,323	1,148	1,148	1,148	1,148
<b>I</b>	2,711	2,210	2,005	1,704	1,363	1,363
<b>L</b>	2,479	1,403	843	692	692	692
<b>NL</b>	1,007	1,007	1,000	1,000	1,000	1,000
<b>A</b>	1,562	1,562	1,555	1,453	1,453	1,453
<b>P</b>	2,464	1,696	1,696	1,440	1,440	1,440
<b>FIN</b>	1,967	1,967	1,770	1,770	1,327	929
<b>S</b>	1,707	1,707	1,707	1,707	1,707	1,707
<b>UK</b>	1,928	1,928	1,714	1,714	1,543	3,103
<b>USA</b>	3,014	4,371	4,371	4,371	4,371	4,371
<b>JAP</b>	6,412	6,412	6,412	5,675	5,675	5,675
<b>EU15</b>	1,960	1,654	1,523	1,420	1,319	1,213

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.5 64 kb/s half-circuit prices to USA**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	1,563	1,563	1,563	1,563	1,200	1,200
<b>DK</b>	2,221	1,386	1,386	1,055	1,055	1,055
<b>D</b>						
<b>EL</b>	2,935	2,935	2,935	2,641	2,641	1,335
<b>E</b>	2,356	2,164	1,833	1,833	1,833	1,833
<b>F</b>	2,372	869	732	732	732	732
<b>IRE</b>	3,047	1,778	1,011	1,011	1,011	1,011
<b>I</b>	3,591	2,715	1,799	1,799	1,363	1,363
<b>L</b>	3,223	1,502	892	734	734	734
<b>NL</b>	1,611	1,611	1,610	1,318	1,318	1,318
<b>A</b>	2,289	2,289	2,282	2,180	2,180	2,180
<b>P</b>	2,464	1,696	1,696	1,300	1,300	1,300
<b>FIN</b>	3,054	1,985	1,787	1,787	1,339	937
<b>S</b>	2,192	2,192	2,192	2,192	2,192	2,192
<b>UK</b>	2,928	2,928	2,618	2,618	1,445	4,696
<b>USA</b>						
<b>JAP</b>	4,938	4,938	4,938	4,348	4,348	4,348
<b>EU15</b>	2,560	1,972	1,738	1,626	1,453	1,322

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.6 64 kb/s half-circuit prices to Japan**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	3,519	3,519	3,519	3,519	2,800	2,800
<b>DK</b>	3,764	3,566	3,566	2,799	2,799	2,799
<b>D</b>						
<b>EL</b>	2,935	2,935	2,935	2,641	2,641	1,849
<b>E</b>	2,945	2,885	2,885	2,885	2,885	2,885
<b>F</b>	4,238	2,637	2,637	2,637	2,637	2,637
<b>IRE</b>	4,571	3,238	2,026	2,026	2,026	2,026
<b>I</b>	4,372	3,399	2,785	2,785	2,784	2,784
<b>L</b>						
<b>NL</b>	2,518	2,518	2,510	2,510	2,510	2,510
<b>A</b>	2,834	2,834	2,827	2,725	2,725	2,725
<b>P</b>	3,133	2,245	2,245	2,340	2,340	2,340
<b>FIN</b>	4,345	3,054	2,748	2,749	2,061	1,443
<b>S</b>	2,851	2,851	2,851	2,851	2,851	2,851
<b>UK</b>	5,498	5,498	4,404	4,404	3,123	4,696
<b>USA</b>	6,559	5,375	5,375	5,375	5,375	5,375
<b>JAP</b>						
<b>EU15</b>	3,656	3,168	2,918	2,836	2,629	2,471

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.7 2 Mb/s half-circuit prices to Near EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	12,060	12,060	12,060	12,060	9,200	9,200
<b>DK</b>	12,516	11,329	7,153	2,562	2,562	2,562
<b>D</b>						
<b>EL</b>	17,608	17,608	17,608	17,608	17,608	9,538
<b>E</b>	21,411	21,411	15,025	15,025	15,025	15,025
<b>F</b>	21,068	11,037	11,037	9,238	11,037	11,037
<b>IRE</b>	8,465	6,772	3,703	3,703	3,703	3,703
<b>I</b>	32,772	27,065	21,820	10,879	9,791	9,791
<b>L</b>	13,634	11,589	6,941	4,998	4,998	4,998
<b>NL</b>	9,271	9,271	7,410	6,773	6,773	6,773
<b>A</b>	13,687	13,687	13,588	13,323	13,323	13,323
<b>P</b>	20,116	16,460	16,460	12,510	12,510	12,510
<b>FIN</b>	9,006	5,887	5,004	5,004	4,002	3,202
<b>S</b>	4,601	4,601	4,601	4,601	4,601	4,601
<b>UK</b>	22,922	22,922	12,687	12,687	4,647	35,152
<b>USA</b>	34,460	35,538	35,538	35,538	35,538	35,538
<b>JAP</b>	69,060	69,060	69,060	41,716	41,716	41,716
<b>EU15</b>	15,653	13,693	11,078	9,355	8,556	8,174

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.8 2 Mb/s half-circuit prices to Distant EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	29,326	29,326	29,326	29,326	17,600	17,600
<b>DK</b>	18,402	15,217	15,217	9,787	9,787	9,787
<b>D</b>						
<b>EL</b>	26,412	26,412	26,412	23,478	23,478	11,445
<b>E</b>	22,914	22,914	17,219	17,219	17,219	17,219
<b>F</b>	26,642	11,861	11,861	11,861	11,861	11,861
<b>IRE</b>	28,061	19,877	13,650	13,650	13,650	13,650
<b>I</b>	32,772	27,065	21,820	18,547	14,837	14,837
<b>L</b>	24,789	21,073	12,643	9,103	9,103	9,103
<b>NL</b>	12,025	12,025	12,020	12,020	12,020	12,020
<b>A</b>	18,532	18,532	18,433	18,168	18,168	18,168
<b>P</b>	27,496	23,743	23,743	20,000	20,000	20,000
<b>FIN</b>	23,606	23,606	21,245	21,245	15,903	11,132
<b>S</b>	20,946	20,946	20,946	20,946	20,946	20,946
<b>UK</b>	28,563	28,563	17,804	17,804	16,730	35,152
<b>USA</b>	34,460	50,962	50,962	50,962	50,962	50,962
<b>JAP</b>	69,060	69,060	69,060	41,716	41,716	41,716
<b>EU15</b>	24,320	21,511	18,738	17,368	15,807	14,444

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.9 2 Mb/s half-circuit prices to USA**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	18,220	18,220	18,220	18,220	12,100	12,100
<b>DK</b>	22,206	14,653	14,922	9,496	9,496	9,496
<b>D</b>						
<b>EL</b>	29,347	29,347	29,347	26,412	26,412	16,434
<b>E</b>	29,450	29,450	21,035	21,035	21,035	21,035
<b>F</b>	30,011	13,385	13,385	13,385	13,385	13,385
<b>IRE</b>	27,934	16,295	10,597	10,597	10,597	10,597
<b>I</b>	38,244	26,265	16,280	16,280	14,837	14,837
<b>L</b>	32,226	22,558	13,535	9,748	9,748	9,748
<b>NL</b>	15,696	15,696	15,160	12,336	12,336	12,336
<b>A</b>	28,221	28,221	28,122	27,858	27,858	27,858
<b>P</b>	27,496	23,743	23,743	18,000	18,000	18,000
<b>FIN</b>	37,805	37,805	34,025	34,025	25,518	17,863
<b>S</b>	25,189	25,189	25,189	25,189	25,189	25,189
<b>UK</b>	27,254	27,254	17,781	17,781	5,701	52,292
<b>USA</b>						
<b>JAP</b>	53,140	53,140	53,140	32,061	32,061	32,061
<b>EU15</b>	27,807	23,434	20,096	18,597	16,587	16,068

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.10 2 Mb/s half-circuit prices to Japan**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>	56,916	56,916	56,916	56,916	28,500	28,500
<b>DK</b>	48,728	46,512	46,512	33,592	33,592	33,592
<b>D</b>						
<b>EL</b>	29,347	29,347	29,347	26,412	26,412	18,489
<b>E</b>	34,618	34,618	30,459	30,459	30,459	30,459
<b>F</b>	43,721	31,908	31,908	31,908	31,908	31,908
<b>IRE</b>	50,790	35,976	26,792	26,792	26,791	26,791
<b>I</b>	46,918	41,611	32,200	32,200	32,200	32,200
<b>L</b>						
<b>NL</b>	28,597	28,597	28,590	28,590	28,590	28,590
<b>A</b>	33,066	33,066	32,967	32,703	32,703	32,703
<b>P</b>	35,555	31,424	31,424	32,500	32,500	32,500
<b>FIN</b>	52,142	37,805	34,025	34,025	25,518	17,863
<b>S</b>	32,437	32,437	32,437	32,437	32,437	32,437
<b>UK</b>	64,172	64,172	51,914	51,914	11,029	52,292
<b>USA</b>	47,635	58,371	58,371	58,371	58,371	58,371
<b>JAP</b>						
<b>EU15</b>	42,847	38,799	35,807	34,650	28,665	28,836

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

UK is not included in EU15 average from 2003, due to BT's change to "Base line prices"

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.11 34 Mb/s half-circuit prices to Near EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>		126,630	126,630	126,630	96,200	96,200
<b>DK</b>		39,500	49,375	21,964	21,964	21,964
<b>D</b>						
<b>EL</b>		146,735	146,735			79,507
<b>E</b>		256,933	105,177	105,177	105,177	105,177
<b>F</b>						
<b>IRE</b>		68,778	68,778	23,279	23,279	23,279
<b>I</b>			207,047	92,468	58,744	58,744
<b>L</b>				23,759	23,759	23,759
<b>NL</b>		76,624	76,624	76,624	76,624	76,624
<b>A</b>						
<b>P</b>						
<b>FIN</b>			30,022	30,022	19,213	15,370
<b>S</b>						
<b>UK</b>		195,183	108,183	108,183	26,011	
<b>USA</b>						
<b>JAP</b>				300,415	300,415	300,415
<b>EU15</b>		130,055	102,063	67,567	50,108	55,625

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.12 34 Mb/s half-circuit prices to Distant EU country**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>						
<b>DK</b>						
<b>D</b>						
<b>EL</b>		164,343	164,343			95,454
<b>E</b>		274,963	119,902	119,902	119,902	119,902
<b>F</b>						
<b>IRE</b>						
<b>I</b>			207,047	157,648	89,025	89,025
<b>L</b>						
<b>NL</b>		123,442	123,442	123,442	123,442	123,442
<b>A</b>						
<b>P</b>						
<b>FIN</b>			127,470	127,470	95,602	66,921
<b>S</b>						
<b>UK</b>		242,788	143,055	143,054		
<b>USA</b>						
<b>JAP</b>				300,415	300,415	300,415
<b>EU15</b>		201,384	147,543	134,303	106,993	98,949

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.13 34 Mb/s half-circuit prices to USA**

<b>From:</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>B</b>		209,532	209,532	209,532	126,900	126,900
<b>DK</b>						
<b>D</b>						
<b>EL</b>		181,952	181,952			137,062
<b>E</b>		353,395	189,319	189,319	189,319	189,319
<b>F</b>						
<b>IRE</b>						
<b>I</b>			288,910		89,025	89,025
<b>L</b>						
<b>NL</b>		173,308	173,308	173,308	173,308	173,308
<b>A</b>						
<b>P</b>						
<b>FIN</b>			204,150	204,150	153,112	107,178
<b>S</b>						
<b>UK</b>		270,161	134,486	134,485	26,153	
<b>USA</b>						
<b>JAP</b>				231,060	231,060	231,060
<b>EU15</b>		237,670	197,379	182,159	126,303	137,132

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.14 34 Mb/s half-circuit prices to Japan**

<i>From:</i>	1998	1999	2000	2001	2002	2003
B						
DK						
D						
EL						154,154
E				360,607	360,607	360,607
F						
IRE						
I						225,397
L						
NL						
A						
P						
FIN				204,150	153,112	107,178
S						
UK				286,942	109,497	
USA						
JAP						
<b>EU15</b>				283,900	207,739	211,834

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.15 155 Mb/s half-circuit prices to Near EU country**

<i>From:</i>	1998	1999	2000	2001	2002	2003
B						
DK		137,577	171,971	65,891	65,891	65,891
D						
EL		352,164	352,164			198,767
E						
F						
IRE						
I				222,576	117,489	117,489
L				40,883	40,883	40,883
NL		185,009	185,009	185,009	185,009	185,009
A						
P						
FIN						
S						
UK					58,425	
USA						
JAP				607,095	607,095	607,095
<b>EU15</b>		224,917	236,382	128,590	93,540	121,608

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.16 155 Mb/s half-circuit prices to Distant EU country**

<i>From:</i>	1998	1999	2000	2001	2002	2003
B						
DK						
D						
EL		410,858	410,858			238,552
E						
F						
IRE						
I				379,467	178,049	178,049
L						
NL		298,112	298,112	298,112	298,112	298,112
A						
P						
FIN						
S						
UK						
USA						
JAP				607,095	607,095	607,095
<b>EU15</b>		354,485	354,485	338,790	238,081	238,238

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.17 155 Mb/s half-circuit prices to USA**

<i>From:</i>	1998	1999	2000	2001	2002	2003
B						
DK						
D						
EL		457,814	457,814			342,656
E						
F						
IRE						
I				322,347	178,049	178,049
L						
NL		418,538	418,538	418,538	418,538	418,538
A						
P						
FIN						
S						
UK					55,674	
USA						
JAP				466,985	466,985	466,985
<b>EU15</b>		438,176	438,176	370,442	217,420	313,081

Note:

Prices are in Euro per month, excluding VAT.

Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

**Table 10.18 155 Mb/s half-circuit prices to Japan**

<i>From:</i>	1998	1999	2000	2001	2002	2003
B						
DK						
D						
EL						385,385
E						
F						
IRE						
I						450,794
L						
NL						
A						
P						
FIN						
S						
UK					238,064	
USA						
JAP						
<b>EU15</b>					238,064	418,089

Note:

Prices are in Euro per month, excluding VAT.

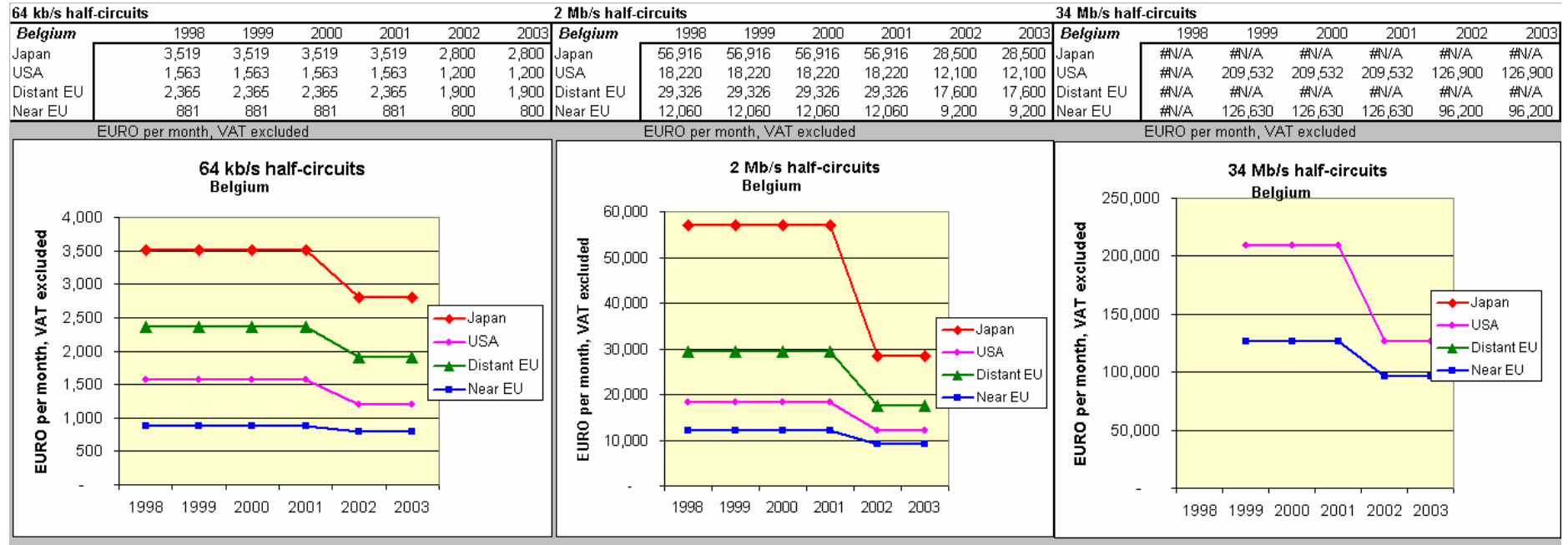
Variable or 1 year contract terms are used.

Deutsche Telekom stopped publishing international prices in 1998

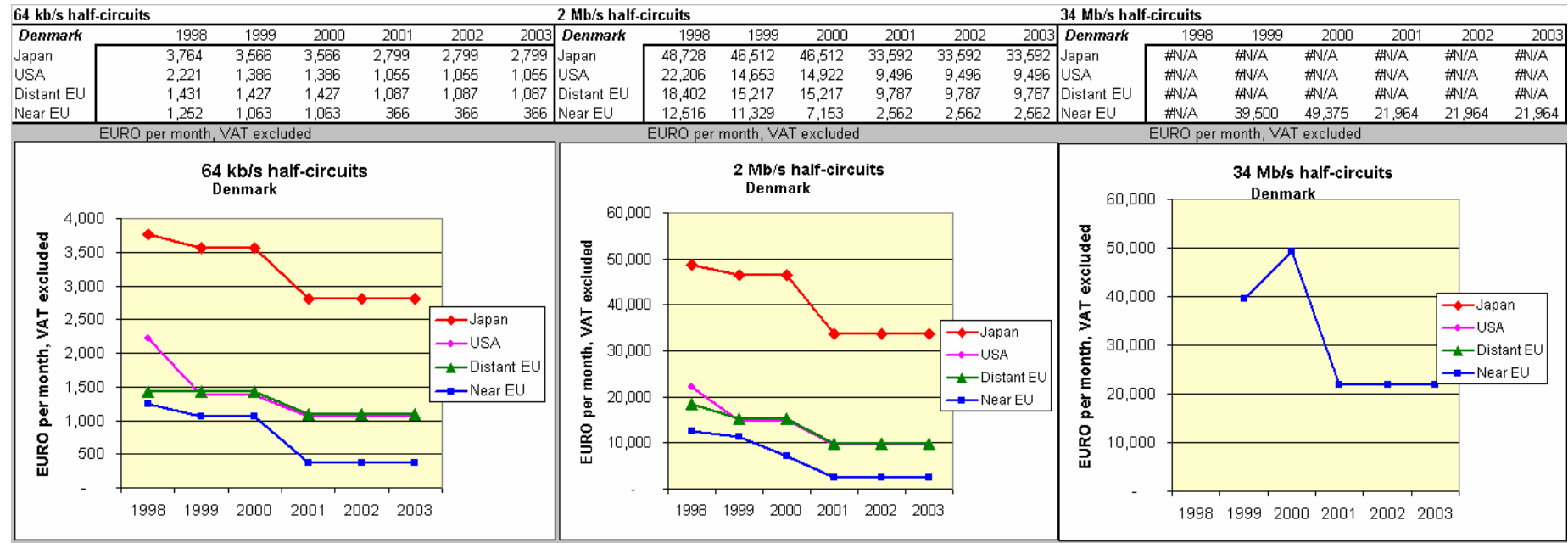
The situation from each individual country is documented on the next few pages.



## 10.1. International Leased Line prices from Belgium



## 10.2. International Leased Line prices from Denmark

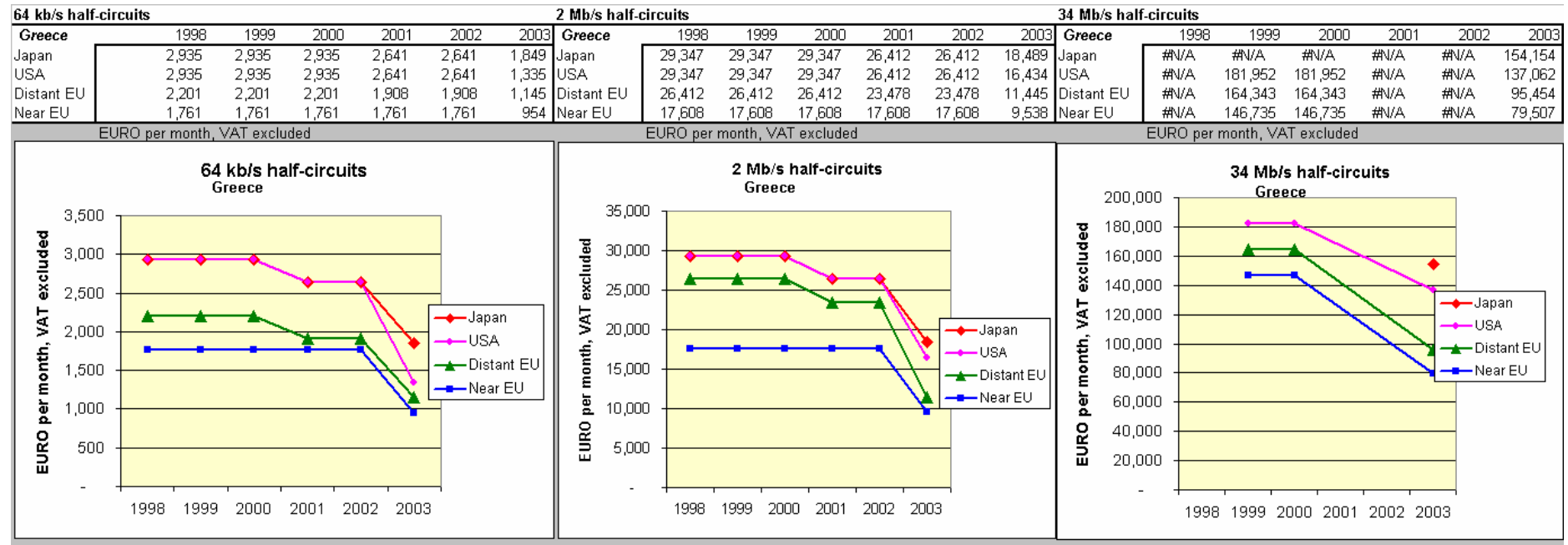


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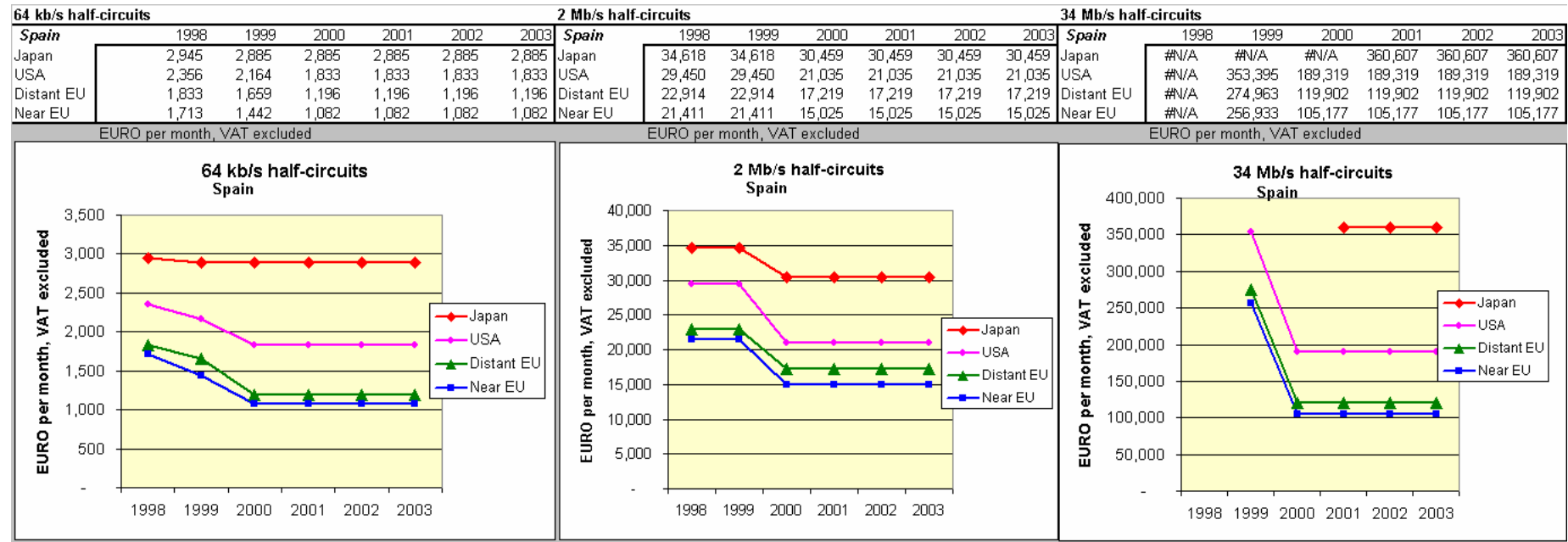
### **10.3. International Leased Line prices from Germany**

Prices for international circuits from Deutsche Telekom are not available since 1998.

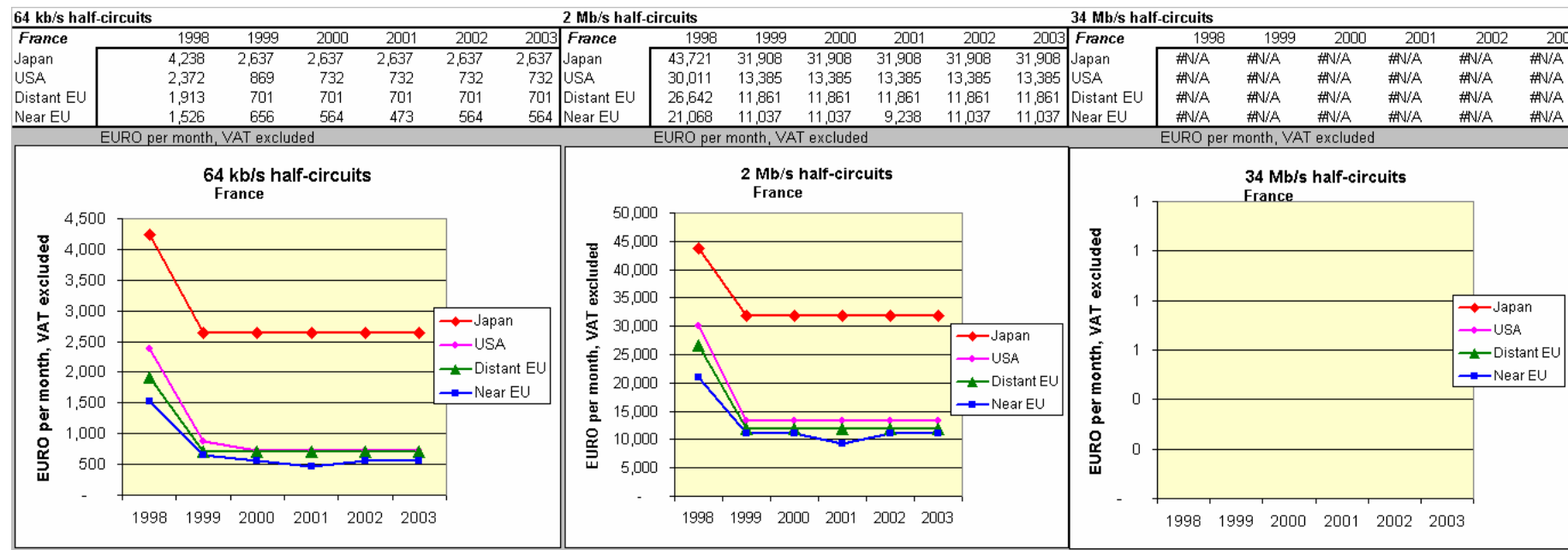
## 10.4. International Leased Line prices from Greece



## 10.5. International Leased Line prices from Spain



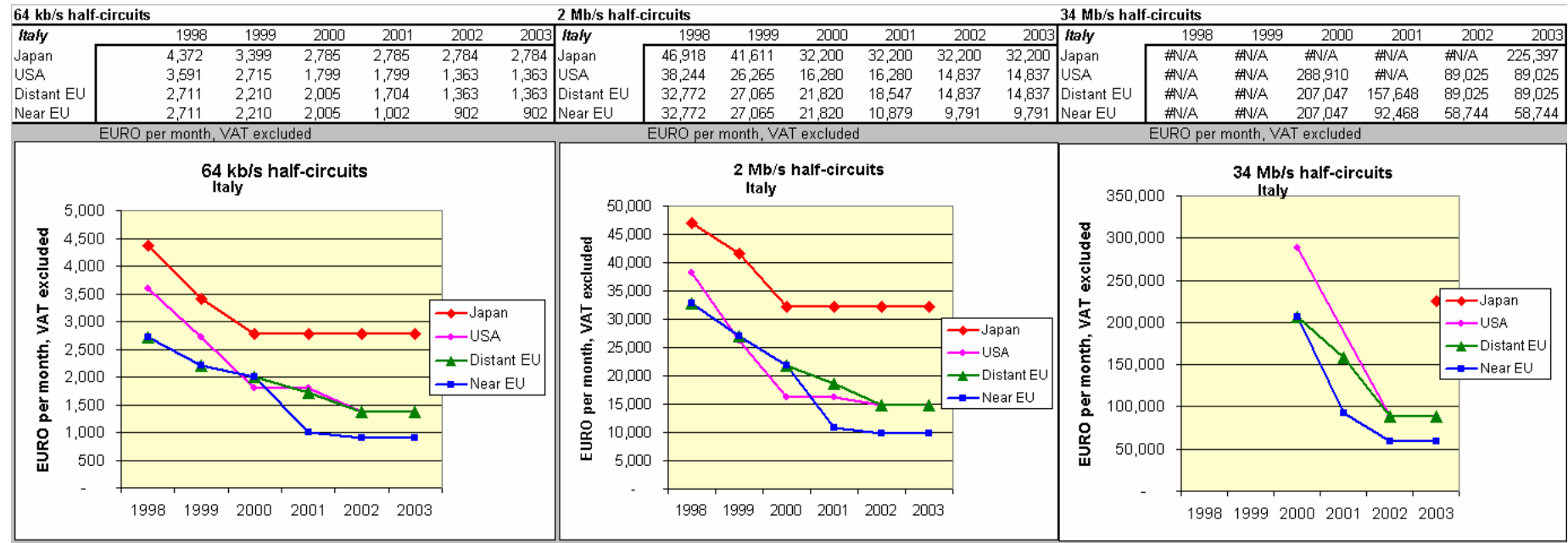
## 10.6. International Leased Line prices from France



## 10.7. International Leased Line prices from Ireland

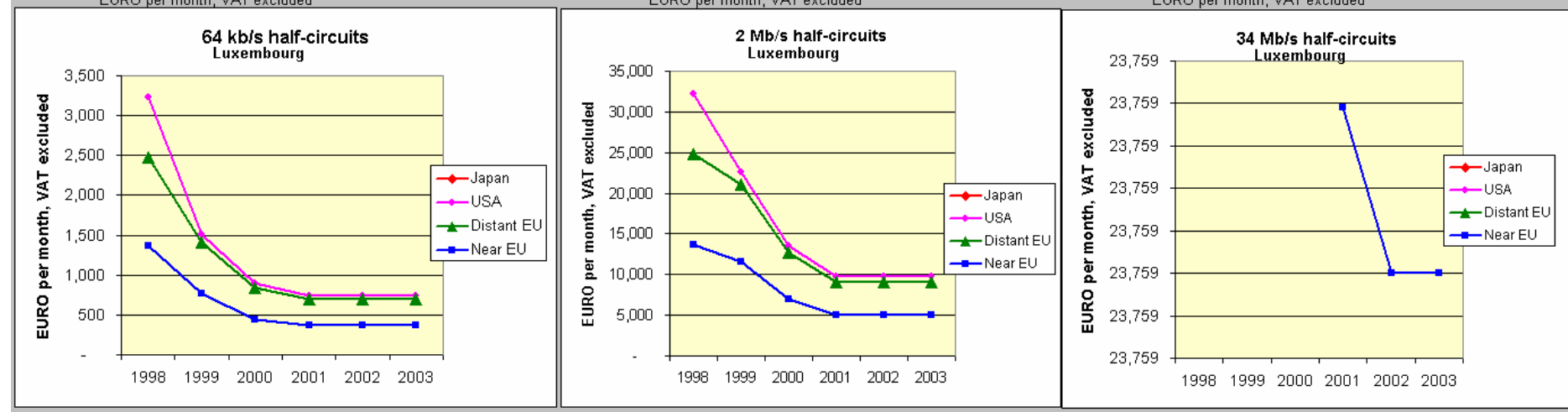


## 10.8. International Leased Line prices from Italy

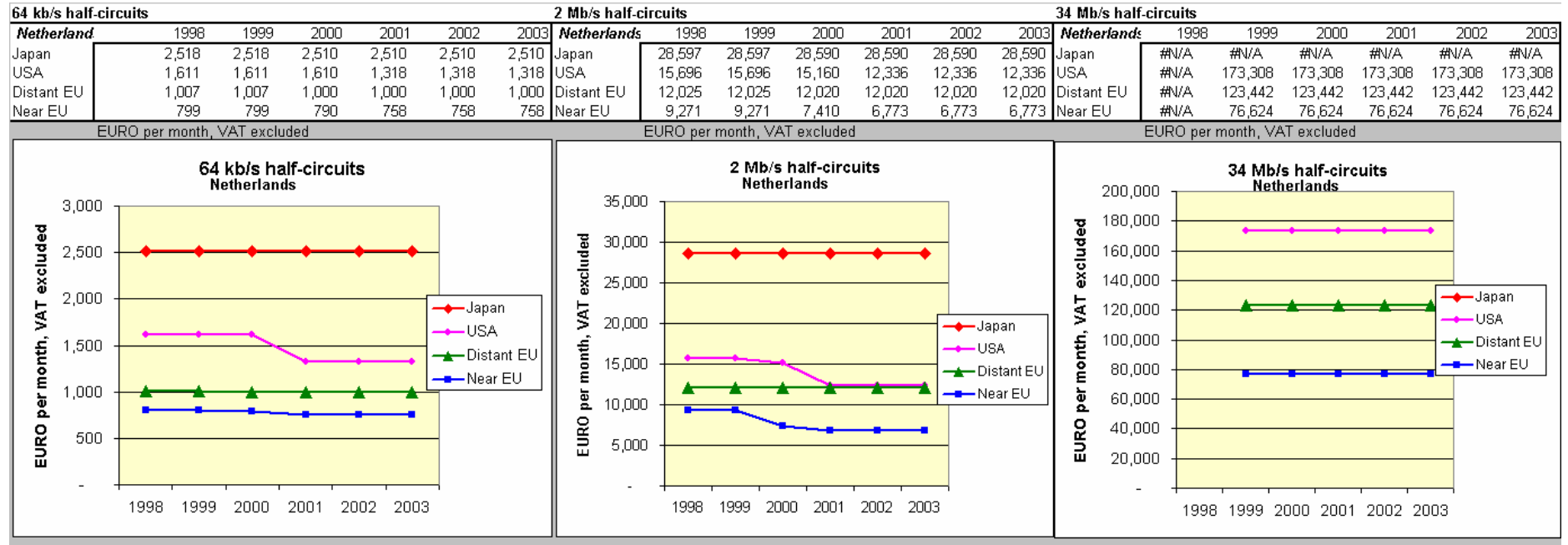


## 10.9. International Leased Line prices from Luxembourg

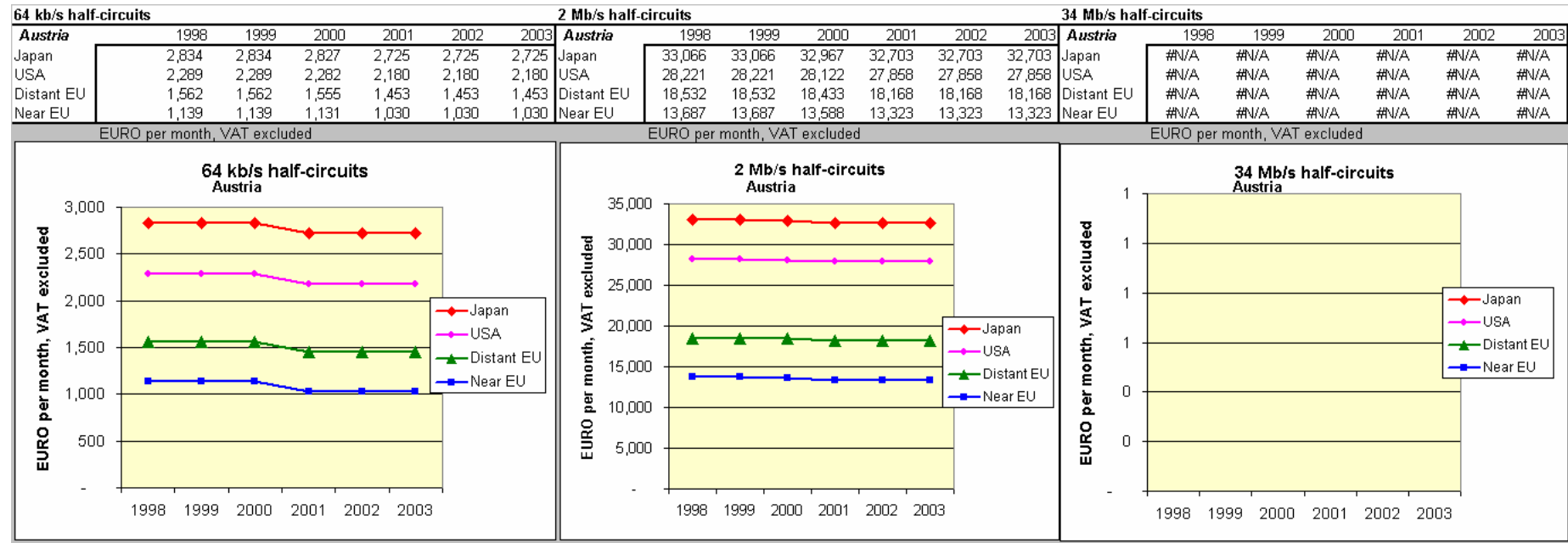
64 kb/s half-circuits							2 Mb/s half-circuits							34 Mb/s half-circuits						
Luxembou.	1998	1999	2000	2001	2002	2003	Luxembou.	1998	1999	2000	2001	2002	2003	Luxembou.	1998	1999	2000	2001	2002	2003
Japan	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Japan	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	Japan	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
USA	3,223	1,502	892	734	734	734	USA	32,226	22,558	13,535	9,748	9,748	9,748	USA	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Distant EU	2,479	1,403	843	692	692	692	Distant EU	24,789	21,073	12,643	9,103	9,103	9,103	Distant EU	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Near EU	1,363	771	446	367	367	367	Near EU	13,634	11,589	6,941	4,998	4,998	4,998	Near EU	#N/A	#N/A	#N/A	23,759	23,759	23,759



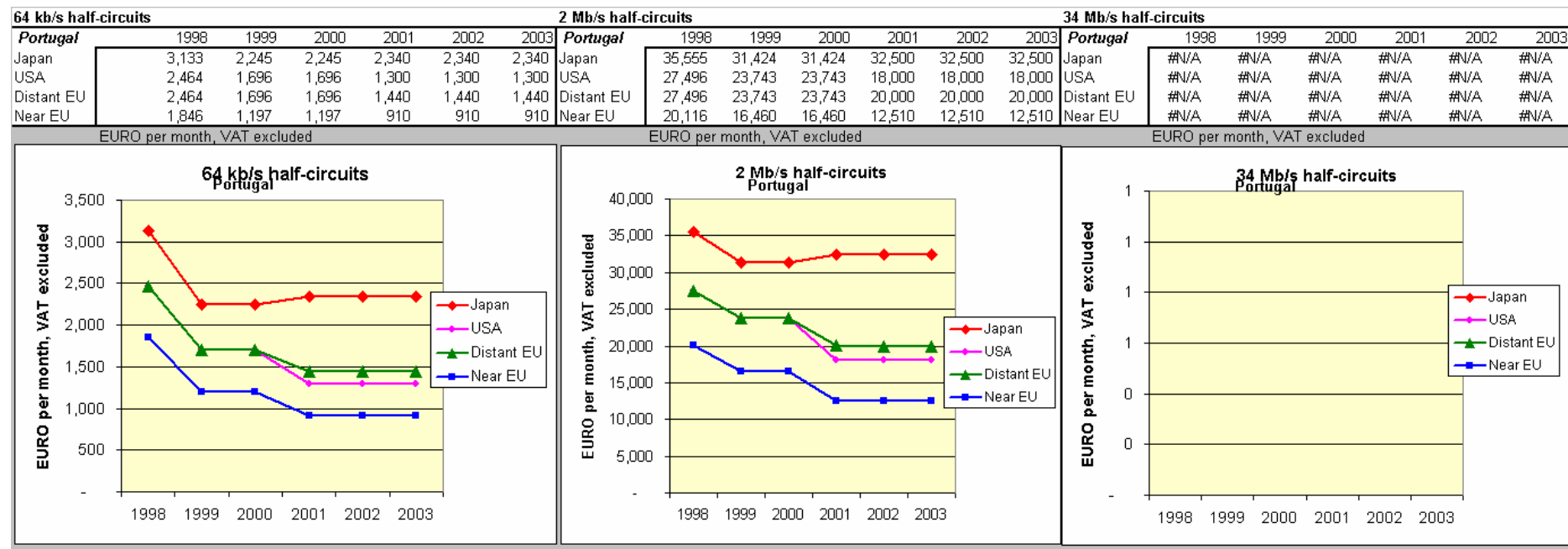
## 10.10. International Leased Line prices from Netherlands



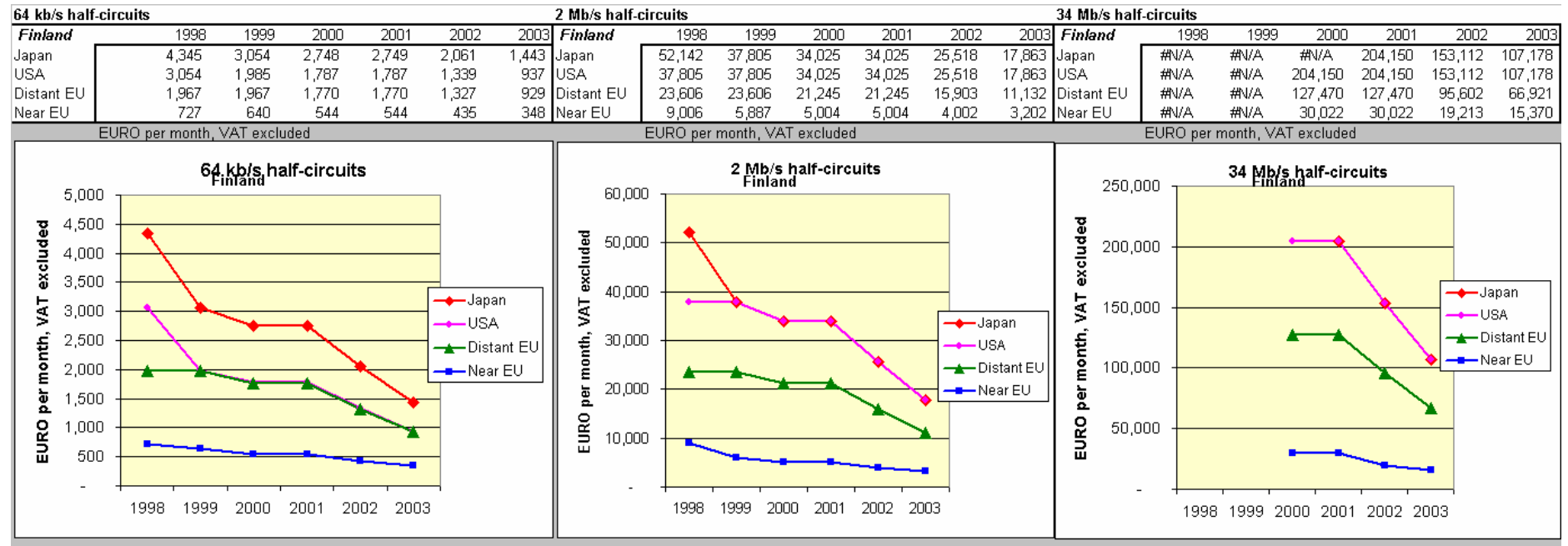
## 10.11. International Leased Line prices from Austria



## 10.12. International Leased Line prices from Portugal

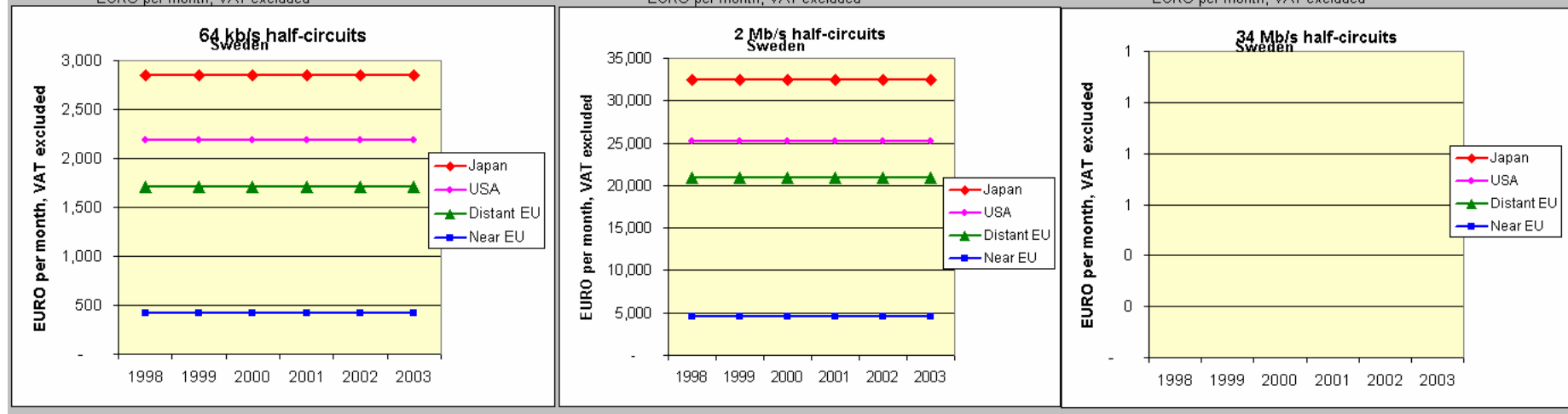


## 10.13. International Leased Line prices from Finland

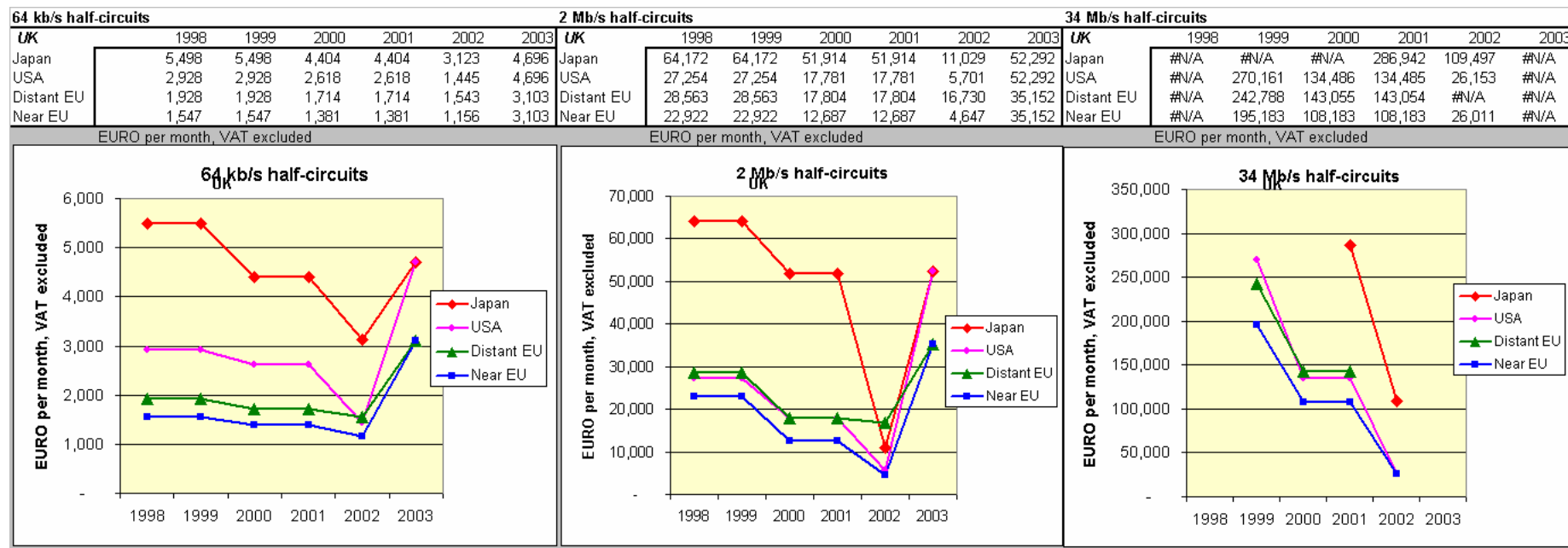


## 10.14. International Leased Line prices from Sweden

64 kb/s half-circuits							2 Mb/s half-circuits							34 Mb/s half-circuits						
Sweden	1998	1999	2000	2001	2002	2003	Sweden	1998	1999	2000	2001	2002	2003	Sweden	1998	1999	2000	2001	2002	2003
Japan	2,851	2,851	2,851	2,851	2,851	2,851	Japan	32,437	32,437	32,437	32,437	32,437	32,437	Japan	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
USA	2,192	2,192	2,192	2,192	2,192	2,192	USA	25,189	25,189	25,189	25,189	25,189	25,189	USA	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Distant EU	1,707	1,707	1,707	1,707	1,707	1,707	Distant EU	20,946	20,946	20,946	20,946	20,946	20,946	Distant EU	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Near EU	418	418	418	418	418	418	Near EU	4,601	4,601	4,601	4,601	4,601	4,601	Near EU	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

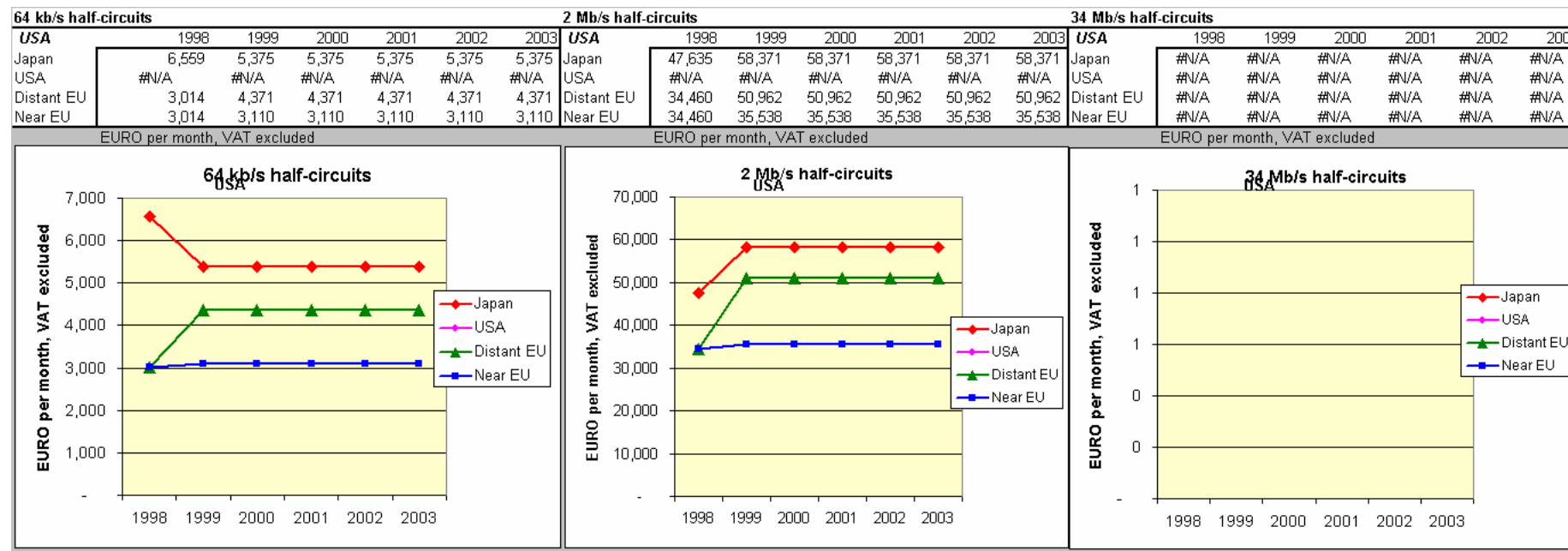


## 10.15. International Leased Line prices from United Kingdom



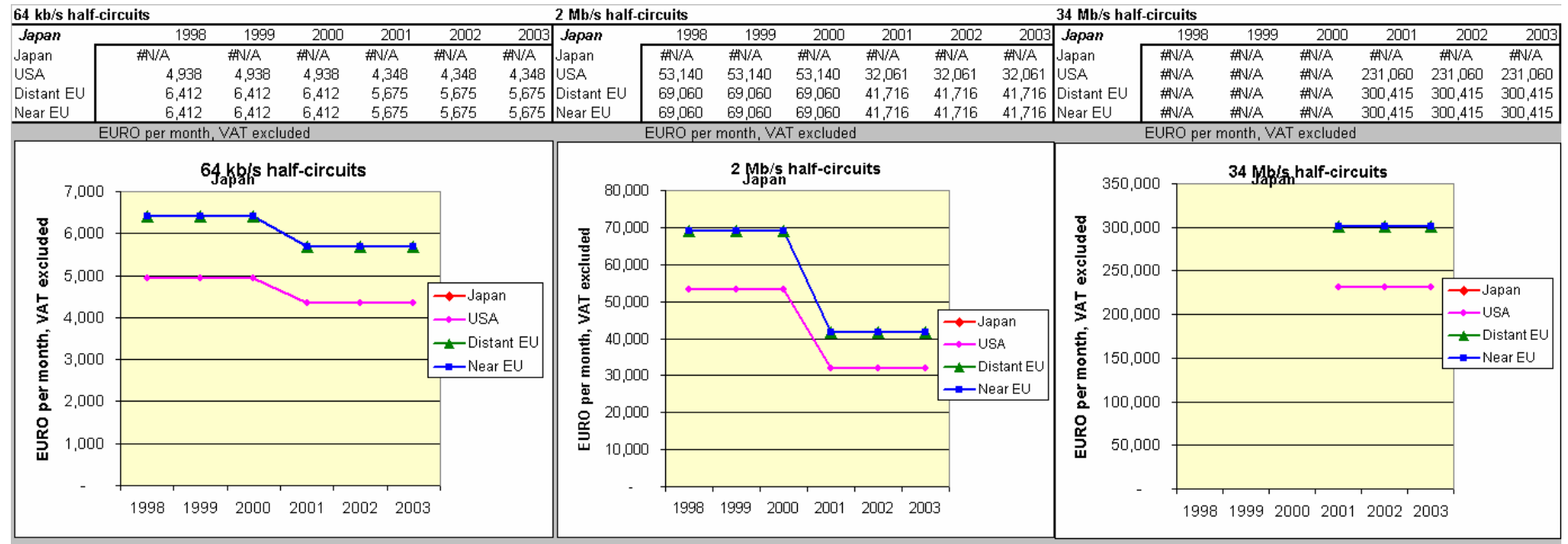
Note: BT in the UK has stopped providing actual prices, and instead publish so called “Baseline prices” which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003.

## 10.16. International Leased Line prices from USA (AT&T)



Note: Prices are valid using AT&T, with the New York gateway. National extensions are not included.

## 10.17. International Leased Line prices from Japan





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