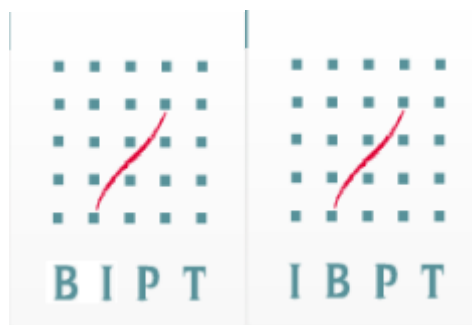


Telecommunications Price Benchmarking: A study into business pricing in Belgium in 2016



A report for BIPT - FINAL

Study and report produced by



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Disclaimer: This price benchmarking analysis provides a general view on telecommunications costs for professional users across the study countries, making use of a basket methodology as set forth in this report. It focuses solely on the cost of the various telecommunications services and does not take into account aspects related to quality of service, additional features and conditional discounts.

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1. Executive Summary

This tariff benchmarking study compares the prices of telecommunications services in Belgium with those of four neighbouring countries, namely France, Germany, Netherlands and the United Kingdom. Prices are compared for a range of business services, and, where relevant for business use, residential services: fixed and mobile voice, fixed and mobile broadband. For the purpose of this study a number of usage profiles have been developed based on traffic data provided by the Belgian operators, covering typical Belgian business usages.

The study uses a basket¹ methodology to compare the telecommunications charges paid by eight business entities, which are constructed to represent different combinations of services and usage levels. The eight businesses can be split into two broad groups, depending on how many active communications service users there are in the business.

- Business types 1 to 4 consider single user businesses
- Business types 5 to 8 consider businesses with multiple users, ranging from 5 to 50 users

The results are based on information collected from telecom company websites and the offers available at the time of the data collection, which was in February / March 2016. Hence, this study analyses the supply side of the telecoms market at a given point in time.

With regards to the telecommunications costs faced by Belgian businesses as compared to other study countries, there has been a shift since last year from mid-range towards the more expensive end, primarily as a result of price reductions in other countries. It should be noted that the rankings vary by business type, and whether we consider the cheapest offer of the cheapest provider, or the average of the three cheapest providers.²

Country rankings do not always present the complete picture and need to be considered alongside the relative costs across the study countries. In some instances, we observe a small difference in total telecommunications costs in terms of absolute amounts, reflecting a small percentage difference.

¹ A “Basket” is a usage profile describing how a theoretical user uses a service or a combination of services. The basic methodology behind this has been established over the years by the Teligen division of Strategy Analytics for benchmarking prices for the OECD.

² When reference is made in the report to the cheapest overall offer (business types 1 to 4), this is based on the cheapest provider within each country, taking into account both single service and multiplay calculations. For business types 5 to 8, cheapest overall offer will be based on single service calculations only, as multiplay is not a relevant proposition for these organisations.

The variation in cost between the cheapest and the average of the three cheapest providers in a country reflects the extent to which there is a wider spread (in cost terms) of competitive offers across different providers, compared to others. The larger the difference between the cheapest and the average of the three cheapest providers, the greater the differences in the cost of offers for one or several services will be. For Belgium, specifically, three of the eight businesses see an increase in ranking of two or more places between the cheapest overall and the average of the three cheapest calculations.

It is important to consider the results alongside qualitative elements, which are not subject to an in-depth analysis in the framework of this study, like e.g. the availability and performance of the fixed and mobile networks in Belgium. In connection to “speed offered through fixed networks”, it is important to note that advertised higher speed services are not always available to each customer in each country. In Belgium, for example, NGA (Next Generation Access) broadband is widely available across the country as compared to other countries. We also make abstraction of the fact that certain offerings and bundles in a given country may not be available across the entire country.

Businesses with a heavier reliance on mobile communications will tend to rank lower. Mobile pricing in Belgium, particularly for data, is high compared to other countries. This is evidenced most notably in the rankings for Mobile Professional 1 and 2, for both the cheapest and average of the 3 cheapest, where Belgium is either most expensive or second most expensive, and this is a result of the dominance of mobile communications for these businesses, and in particular, the high use of mobile data - both over the mobile handset and computer-based mobile broadband. Customer demand for mobile data is increasing in Belgium, as is the case in the other study countries, however, data allowances in the other countries have seen a much greater increase compared to Belgium since last year. Furthermore, this has not been accompanied by a proportional increase in price. By contrast, changes to demand, mobile service data allowances and prices in Belgium have to date been much smaller.

For residential users, fixed voice is often considered a less critical service (compared to mobile voice and fixed broadband), however it is still an important part of the portfolio of many business services. An area where Belgium performs relatively well is fixed voice at higher usage levels. The availability of attractive low cost international calling options offered by some providers in Belgium favours business types with a high use of international calls, since companies can bypass the per minute charges otherwise levied.³

³ The 2015 results have been adjusted to reflect the availability of an option for international calls that was not addressed in last year’s report. This has improved the relative position of Belgium for those businesses that have a high component of international fixed voice. For the business types in question, i.e. type 6 and 8, Belgium ranks mid-range for fixed voice in 2016). This does not detract from the observation that international fixed per minute call charges from Belgium are generally expensive.

For fixed broadband only, the position of Belgium for business types 1 to 4 (single user businesses), based on the average of the three cheapest providers is very favourable, with Belgium ranking as the cheapest (based on single service offers). These four business types are single user, and can also make use of residential broadband services, which are often cheaper than business broadband offers, and which are competitively priced in Belgium. For the overall cheapest result, the position of Belgium relative to the other countries is less favourable, based on rankings, but is typically within a few euros only of three of the remaining four countries (France is the cheapest here, based on an especially low-cost offer). For multi-user business (business types 5 to 8), broadband services in Belgium are less competitive than in the other study countries. When the average of the three cheapest providers is considered, Belgium ranks mid-range, while for the cheapest overall offer, Belgium is the most expensive country. This less favourable position is because, for the multi-user businesses, only business broadband services are considered, and these are generally more expensive in Belgium compared to the other countries.

It is interesting to note that, for business types 1-4, multiplay does not feature as the cheapest way to procure services in Belgium, irrespective of the calculation type, with the exception of the Local-based Individual Business, for the cheapest offer. In the other study countries, multiplay often delivers cost savings over services bought singly, for either one or both calculation types⁴. This study also benchmarks the cost of two pure bundles types⁵, without any additional single services. With respect to such products, Belgian providers are more expensive than in other countries where this type of offer is available. In the framework of this study we make abstraction of certain non-price related benefits as perceived by customers with respect to purchasing bundled products (e.g. the convenience of a single point of contact).

The changes seen across the eight business types in Belgium since 2015 have been a mix of increases and decreases, and have, for most business types, been relatively modest, and within the bounds of what might typically be expected, i.e. up to 6% in either direction (and often less). For the cheapest overall offer, with the exception of business types 3 and 4, the two Mobile Professional businesses, costs increased since 2015. These increases were very modest; however, with the largest increase being for the Home-based Professional,

⁴ Please refer to section 3.8 for more background on the concept of multiplay as used in the framework of this study. Multiplay comprises a bundle of two or more communications services to which additional single services may be added where the bundled offer does not cover the full business need. A Multiplay result may comprise offerings from different operators - e.g. a double play fixed broadband and fixed voice bundle offered by operator X, a single mobile voice service offered by operator Y and a single mobile broadband service offered by operator Z.

⁵ Double-play “fixed broadband and fixed voice” on the one hand and triple-play (fixed broadband, fixed voice and mobile voice” on the other.

where the cost increased by 2.5% on 2015. For Mobile Professional 1 and 2, prices fell by around 1%. For the average of the 3 providers, costs for the Local-based Business increased by just over 4%, while costs for the Mobile Professional 2 and the Retail Outlet fell by 6% and 5% respectively. Changes to the other business types were considerably smaller - the cost for both the Local Trading Company and the Local Production Company rose slightly (up to 1%), while costs for the remaining business types fell slightly (again, by up to 1%). It is important to consider that an overall change for a business will be the compound result of changes to individual services, which may be changing in the same way - for example all increasing, or all decreasing - or increases in some services may be countered by decreases in others.

In terms of changes to rankings, based on the cheapest overall offers, Belgium has maintained its position across 3 of the 8 business types, namely the Local-based Individual Business (business type 1), the Home-based Professional (business type 2) and the Local Trading Company (business type 6). For the remaining business types, Belgium has moved down in rank by one place, with the exception of the Retail Outlet, which has moved down by three places. This more dramatic shift for this business and calculation type masks the fact that the prices between the mid-group of countries, including Belgium, are very closely aligned.

When we consider the change in ranking since 2015 for the average of the three cheapest providers, these remain unchanged for only one of the eight businesses; namely the Retail Outlet (business type 5). All other business types fell, by one place, with the exception of the Local-based Individual Business, which fell by two places.

In terms of the non-price related data, the two main changes seen since last year in all countries are the increase in advertised download speeds of fixed broadband services, and the increased inclusion of a roaming component in mobile voice offers.

2 Background to the study

In 2014 the Belgian Institute for Postal services and Telecommunications (BIPT) carried out a competitive study into prices levels of telecommunications for self-employed individuals and Small and Medium Enterprises (SMEs). The study covered Belgium, Netherlands, France, Germany and the United Kingdom.

Following the publication of the report in 2014, the study was repeated in 2015, and again in 2016, to allow both the assessment of current pricing but also to consider how prices have evolved over time. For each update of the study, the same set of countries has been considered. Similar to previous years, this study is being conducted by the Teligen division of Strategy Analytics Ltd. (UK), and will report on the prices and price evolution of such services for professionals and small and medium enterprises in Belgium compared with France, Germany, the Netherlands and the United Kingdom (“the study countries”).

The study uses a basket methodology to compare the telecommunications charges paid by eight types of business entities, which are constructed to represent different combinations of services and usage levels. These eight businesses can be split into two broad groups, depending on how many active service users there are.

- Business types 1 to 4 consider single user businesses (“SoHos”), comprising the Local-based Individual Business, the Home-based Professional and two types of Mobile Professionals.
- Business types 5 to 8 consider businesses with multiple users, ranging from 5 to 50 users (“SMEs”), including the Retail Outlet, the Local Trading Company, the Local Production Company and the Local Service Company.

The following business services are covered within the study:

- Fixed voice FV (PSTN, managed VoIP)
- Mobile voice MV (including SMS and handset data usage)
- Fixed broadband FBB (over DSL, Cable, Fibre)
- Mobile broadband MBB (based on laptop/tablet/dongle modem usage)
- Any bundles / combinations of these services

For some of these services it is also relevant to include residential services as many business users opt for a residential fixed internet and/or mobile voice or broadband product rather than a professional product, since the qualitative specifications of the residential offer will in many cases meet the demands of (mainly small) business users.

The scope of the study in terms of target audience is limited to self-employed and small and medium enterprises. Only tariffs available in the public domain and listed on provider websites are included. Offers/tariffs that are presented to the professional market may be subject to further negotiations and additional discounts, but as such variations to the prices are outside the public domain, that aspect cannot be taken into account in the framework of this comparative study.

3 Overview of benchmarking methodology

This section presents a brief overview of the benchmarking methodology used. Additional information on the methodology can be found in the Appendix to this report.

3.1 The business concept

An important part of the study methodology is the concept of “businesses”⁶. This is an expansion of the basket concept, creating a “super-basket” for a business covering all the communications service requirements of all users and all services. The business definition uses the baskets for the individual services to establish how each service is used within that business, and combines the costs to produce the total cost per month for all communications use in the company.

The benchmarking methodology looks separately at both individual (single) services, and bundles consisting of two to four different services. With bundled services, in order to complete the picture, a multiplay or bundled offer that does not fulfil all the requirements of a business is expanded with the cheapest possible single services in the market, from any provider.

The table below describes in broad terms the communications requirements for each type of business that have been defined for the purposes of this study. A more detailed description of the businesses is given in the business results summary.

Figure 1: Communications service requirements for identified businesses

	FBB	MBB	FV nat	FV intrn	MV nat	MV mess	MV data	Users
1 Local based individual business	Low		Low loc		Low	Low	Low	1
2 Home-based Professional	Medium	Medium	Medium nat	Medium	Low	Low	Medium	1
3 Mobile Professional 1	Low	High			Medium	Low	Medium	1
4 Mobile Professional 2	Low	High			High	Medium	High	1
5 Retail Outlet	Medium	Medium	Medium loc	Low	Medium	Low	Low	5
6 Local Trading Company	Medium	Medium	High Nat	High	Low	Low	Medium	10
7 Local Production Company	Medium	Low	High loc	Low	Medium	Medium	High	10
8 Local Service Company	Medium x 3	Low	High loc	High	Medium	Medium	High	50

Low, Medium and High suggests usage levels per User.

For Fixed Voice: Loc means predominantly local usage, Nat means predominantly national (long distance) usage.

Number of Mobile Broadband users will be half of the total number of users.

x3 is indication of the number of lines/connections that will be required.

The average Belgian usage profile is identified as “medium” usage. Profiles for lower and higher usage are defined in relation to this medium profile, with usage levels that are typically 1/3 (for “low”) and 3 times (for “high”) of the medium.

⁶ The concept was originally developed for “Households”, analysing the telecommunications services used by a home, including television services.

Note: The approach does not take into account the use of television (TV) services, as these are not considered relevant for the businesses considered, however, as some services may include TV as part of a bundled offer. Where this is the case, such tariffs are considered, but do not take into account any variable costs related to the TV component

3.1.1 Changes since 2015

While there have been no changes to the basic structure of the business types since 2015, there has been a revision (increase) of the levels of fixed broadband and mobile broadband used by the different businesses, based on feedback from the Belgian operators, as the 2015 data levels were considered too low. The increase in mobile broadband applies both to mobile data on a mobile handset and mobile broadband over a dongle, laptop or tablet. The increase is important as it reflects the changing usage of mobile data, and provides a more accurate representation of current usage levels. In order to ensure the time series consistency between 2015 and 2016, these changes have been applied retrospectively to the 2015 baskets. The retrospective application of this increase means that it is not possible to directly compare the results for 2015 presented in this report with those presented last year.

The changes to fixed and mobile broadband are shown below.

Fixed broadband	2015/month	2016/month
Low	20 GB	50 GB
Medium	50 GB	100 GB
High	150 GB	300 GB

Mobile broadband	2015/month	2016/month
Low	0.2 GB	0.3 GB
Medium	0.8 GB	1.6 GB
High	2 GB	4 GB

Mobile voice handset data	2015/month	2016/month
Low	0.1 GB	0.2 GB
Medium	0.4 GB	0.8 GB
High	1 GB	2.5 GB

These changes have not had any impact on fixed broadband costs, as the majority of tariffs either have unlimited download, or have very high usage caps, significantly beyond the requirements of the business types considered.

The increase in mobile broadband and mobile handset data does have an impact on the costs, as a result of the typical data allowances seen with these tariffs. E.g. where for mobile broadband, a tariff with 1 GB data allowance would have been sufficient for the previous medium usage requirement (0.8GB), with the new requirement of 1.6 GB, either a tariff with a higher allowance would be required, or an add-on or overage payable. This will increase costs in all countries, however, the greatest impact will be in those countries where mobile broadband and/or mobile handset data is more expensive, or allowances are smaller.

3.2 The baskets

The usage profile definition for an individual service is called a “basket”, which describes all important elements the user can control or select, including, for example usage (call or data) volume, distribution of voice calls, requirements for access speed on data services and amount of data transferred.

The contents of the basket will depend on the service type; for example, requirements for a fixed broadband service are relatively simple, while the basket for a mobile voice service can contain many different elements.

In addition to usage levels there may be different categories of baskets; for example for fixed voice service with focus on national calls, or international calls. These differences have been based on statistics provided by BIPT and Belgian operators.

For the calculation of end user costs the usage requirements described by the basket are applied to all tariffs from all operators, calculating the monthly cost which takes into account initial one off price elements, monthly fixed price elements, and usage related price elements, to derive the end user cost per month.

The main objective of the study is to assess prices in Belgium in relationship to prices in other countries.

For this kind of analysis it is more relevant to use typical Belgian usage profiles as a base, and refer any comparisons to those. Using international profiles (e.g. OECD baskets) will not show the results for Belgium in a way that is easily recognizable or sufficiently relevant for the Belgian market. With the Belgian profiles (baskets) the results for Belgium will be more in line with what the Belgian businesses actually experience. However, results for other countries will reflect the cost that would be seen by a Belgian user (business) in each of the other countries.

The Belgian baskets have been developed based on actual traffic information provided by Belgian operators, with the assistance of BIPT. Details of the Belgian baskets can be found in the appendix to this report.

3.3 The rational user

In order to ensure consistent analysis of all offers one of the ground rules is that the user (the business) makes rational buying decisions based on price only, without preference to brand or provider. When a user buys a range of different services the analysis will assume that the cheapest available service in the market is used in each separate case, even for multiple mobile users within a business.

While non-price related factors may play a part in provider selection, the primary purpose of this study is to look at the cost of telecoms services faced by business users in different countries. As different users will place different emphasis on non-price related factors, it is not possible to incorporate this in the benchmark in any meaningful or easy way. Rather, qualitative aspects of offerings will be considered separately in the analysis.

3.4 Geographical scope of the study

This study covers Belgium and its neighbouring countries; France, Germany, the Netherlands, and the United Kingdom.

3.5 Provider and service selection

The operators have been chosen based largely on market share information, where this is available. The basic “rule” is that the operators covered will between them have at least 80% market share in a given service market. In the case of mobile broadband it is often difficult to establish accurate market shares, and alternative information may have been used. Additionally, as there is little published data specifically on market shares for the business market, and as residential services are expected to be used by several of the business types, total market shares have been used, for all services and countries.

A full list of providers covered in the study, by service type, is given in the appendix to this report.

3.6 Tariff data

The prices for all services are taken from information available in the public domain in February / March 2016, with data taken from company websites. The system contains almost 5,500 individual service tariffs and tariff combinations and over 4,800 multiplay service offer combinations across the five countries. Mobile operators offer by far the largest number of tariff plans and options, reflecting the competitiveness of the market and also the complexities in service combination. Offers with options are considered as separate tariff plans, and this may result in a large number of seemingly separate tariffs, in order to fully address the different permutations and combinations available to a user. This is particularly true in Germany, where many mobile plans have a range of different SMS and data plans that users can add to their subscription.

The results are based on the information collected and the offers available at the time of data collection. Great care has been taken to ensure the most complete set of data possible. The tariffs collected are in the national currencies of the respective countries. All the study countries except the UK use Euros. All UK results have been converted from GBP to EUR. An exchange rate: $\pounds 1 = \text{€}1.27$ has been used, and has been taken from the Oanda web service on 17 March 2016.⁷

⁷ Since the last study, the Euro GBP conversion rate has shifted (from 1.38 to 1.27). While this doesn't impact the time series shown in this report (as the exchange rate for 2016 has also been applied to 2015), if the 2016 report is compared with the 2015 report, the exchange rate shift will make the UK results appear as if they have decreased by around 9% (in addition to any changes to actual costs).

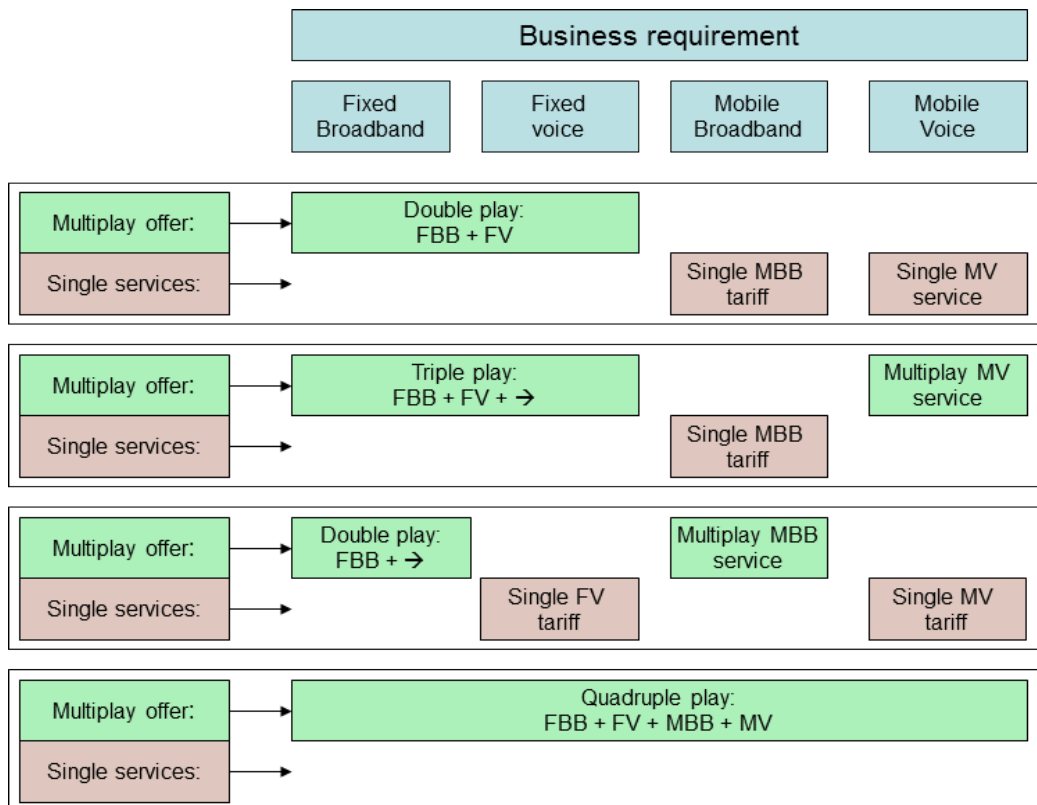
Although often used in international benchmarking studies, there has been no conversion of exchange rates based on Purchasing Power Parities (PPPs) within this report. This conversion is more typically used for consumer-focused benchmarking and hence has not been considered relevant for this particular study.

3.7 Study basis and limitations

The study focuses specifically on a comparison of costs across the five study countries. The purpose of the study is to consider how the telecommunications costs faced by typical Belgian business types compare to the same businesses in other countries. The study focuses solely on the costs of telecoms services experienced by the businesses and does not take into account non-price-related service aspects, for example guaranteed fix times. It is not possible to attach a cost value to such elements in an objective way. Additionally, such information is not always available from providers. For completeness, a separate analysis on selected non-price-related elements has been included.

3.8 The use of single and multiplay services

The analysis considers costs for each business when services are purchased singly to make up the communications requirements of the business, as well as costs when multiplay offerings are used (with additional single services where a multiplay offering does not cover the full business need). A multiplay offering is defined as a set of two or more communications services that are sold together (as a bundled offer) from a provider, typically at a lower cost than if the services were bought individually from the same provider. Examples of bundled offers include double play offers such as fixed broadband and fixed voice, or fixed broadband and mobile broadband, as well as triple play offers (e.g. fixed broadband, mobile broadband, fixed voice), and quadruple play (e.g. fixed and mobile broadband plus fixed and mobile voice).



Any combination is possible

While single service purchase is relevant for all business types, multiplay offers are only appropriate for single user profiles. Although some providers offer business multiplay services for multiple users, there are generally very few published offers, and where they are published, they are often limited to a small number of users only, e.g. less than 5. The vast majority of published business multiplay offers are based on a single-user subscription, so, for example, a business user requiring 1 broadband line and 5 voice lines would need to take 5 subscriptions to a bundled broadband and fixed voice line offer to fulfil its voice and broadband requirements, which in reality would be vastly over-specified and costly, and not how such a business would buy services. Once a business moves beyond one or two users, there is much more customization of the different service elements, and providers will typically not publish prices in such a way as to allow prospective users to build a true-to-life cost for a bundled offer. Rather, businesses with multiple users will be required to contact the providers to obtain a customized quote. Such quotes will take into account a number of factors, such as business location, and strategic importance to the provider. The pricelists used for this exercise are typically not published and it is beyond the scope of this study to produce costs for bundled services priced in this way, and costs for multiplay offers will therefore not be included in the results for SME's (business type 5 to 8).

4 Business results summary

This section considers the results of the analysis, based on the methodology outlined in section 3. The results presented here take into account the following considerations:

- Only operators with a market share of at least 3% are considered. This is in addition to the general condition that all operators up to at least 80% combined market share per service will be included. This is to exclude potential market distorters that will typically not be used by the vast majority of businesses.
- Promotional offers are not included, as these are often short term proposals that are less relevant to the business market.
- Non-recurring costs, e.g. connection charges, are not included, to allow the analysis to focus solely on month-on-month costs faced by the businesses.
- Pre-paid mobile voice services are not included, as these would not typically be used by a business user. Pre-paid mobile broadband services are considered a valid proposition for business use.
- The results take into account residential services for single user business types. Residential services considered for such business types include fixed broadband, mobile voice and mobile broadband. Residential fixed voice services offered as standalone services are not considered valid for businesses, as a typical business will only be able to buy a dedicated business line/number. Where a residential broadband service is used for a single user business, however, and the service includes a voice service as part of the offer, in this case, it is assumed that the business will make use of the voice service, rather than buy a separate business line.
- For businesses with more than one user, the use of residential fixed services is not considered valid, and for these business types, only business services are taken into account.
- Services are considered relevant and valid for the analysis, irrespective of where they are available geographically within a country. i.e. the analysis does not take into account any regional constraints of any given operator. Inclusion of such constraints introduces unnecessary complexity into the model. This is, in part, addressed by the use of market shares of providers when considering some results.
- Although some international benchmark comparisons will ‘normalise’ costs to take into account cost of living differences across countries, using a purchasing power parity (PPP) conversion based on comparative price levels (CPL) in different countries, this is typical a conversion used in residential benchmark studies and is less relevant for a business cost comparison. Additionally, the study countries are broadly comparable from a cost of living perspective, hence all results are presented in Euros, and no PPP conversion has been applied.

- As the results relate to business communications costs, all results are presented exclusive of VAT.
- Tariffs for both SIM-only and device-subsidized mobile voice services are considered, to ensure that all possible options are considered. Where a provider offers the same tariff as SIM-only and with a subsidized device, however, the SIM-only tariff will typically be the cheapest.

The analysis considers the following sets of results for each of the business baskets;

- The cheapest overall offer per country irrespective of whether this is based on services that are purchased separately, or a bundled offering (possibly supplemented by one or more single services), where relevant or necessary.
- The weighted average of the (up to) three cheapest providers, irrespective of whether this is based on services that are purchased separately, or a bundled offering (possibly supplemented by one or more single services). Results are weighted according to each operator's market share. In order not to distort the results, if any of the second or third cheapest offers are more than 300% of the cheapest, they will not be taken into account, but will be excluded from the calculation of the average.
- The cheapest single service offer, with the cost for each of the four telecoms services shown separately, where applicable.
- The weighted average of the (up to) three cheapest providers, based on services purchased singly, with the cost for each of the four telecoms services shown separately, where applicable.

Where there is a large difference between the cheapest and the average of the three cheapest, this is most likely caused by the cheapest provider(s) having comparatively very low cost offers.

Note: For the analysis where the four telecoms services are shown separately, it is not possible to present results based on multiplay offers, as the prices for all parts of the bundled offer will show as one price only. There is no meaningful way to allocate the general bundle price to the respective services within the bundle.

Results are presented graphically, with accompanying analysis. In addition, a summary table of country rankings across the two main calculation types is included for each business type.

While the absolute cost of each business profile in each country is presented in the results, this is meant to be indicative rather than absolute. The analysis of the results is focused on the comparative levels across the 5 study countries, rather than the absolute value.

Note: For business types 5 to 8, which address businesses with more than one user, results for multiplay are not included as generally, this is not a valid proposition for this type of business. Multi-user businesses will typically negotiate offers on a case by case basis, and it is not possible to include data for such bespoke deals in this study.

Graphical results for a full set of calculation types, as listed below, can be found in the appendix to this report. Results are shown for each business type, where relevant.

- Cheapest single service offer
- Cheapest multiplay offer
- Weighted average of 3 cheapest providers, cheapest single service offer
- Weighted average of 3 cheapest providers, cheapest multiplay offer
- Weighted average of 3 largest providers, cheapest single service offer
- Weighted average of 3 largest providers, cheapest multiplay offer

4.1 Local based individual business

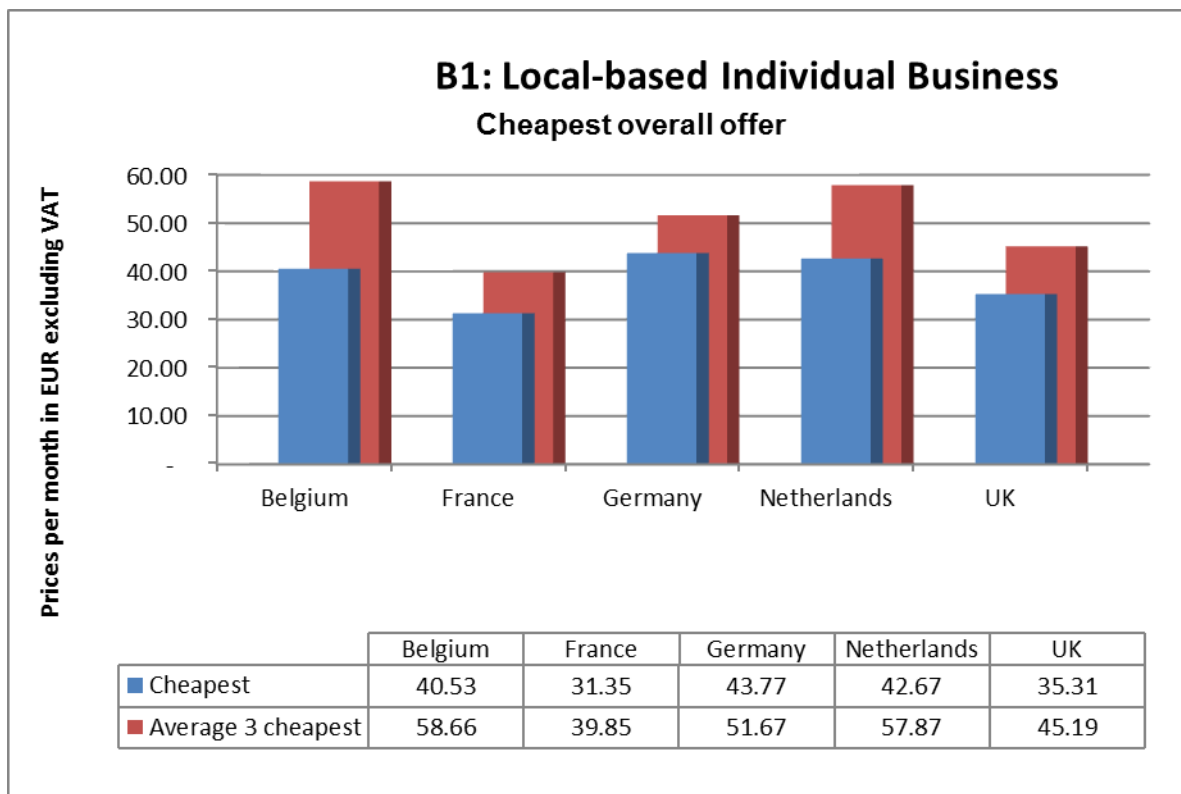
This business describes a business individual primarily working from one location, e.g. a butcher shop or a barber. Such a business is not communications-intensive. It will have a low requirement for fixed broadband, to support general search enquiries and possibly a small web presence. Similarly both fixed and mobile voice use will be low, while there will be no requirement for mobile broadband due the relatively static nature and low data requirements of the business. A summary of the communications' usage for this business is shown in the table below.

Business type 1: Local-based Individual Business			# of communications users:		1	
	Usage level	Value		Additional info		
Fixed broadband	Low	50	GB/month	Minimum speed	10	Mb/s
Mobile broadband		0	GB/month	Minimum speed	0	Mb/s
Fixed voice, national	Low loc	40	Calls/month	Call duration	180	seconds
Fixed voice, international		0	Calls/month	Call duration	180	seconds
Mobile voice, national	Low	39	Calls/month	Call duration	126	seconds
Mobile voice, international	Low	1	Calls/month	Call duration	126	seconds
Mobile voice, messages	Low	25	SMS/month			
Mobile voice, data	Low	0.2	GB/month			

4.1.1 Cheapest overall offer

The results for the local based individual business basket calculation based on the cheapest overall offer available are shown in the graph below, taking into account the cheapest of single service or multiplay offers.

Figure 2: Cheapest overall offer, local based individual business



The detailed results table below shows the costs for both the single service and multiplay calculations, along with the cheapest overall offer price.

Figure 3: Detailed results by calculation type, Local-based Individual Business

	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	55.91	40.53	40.53	58.66	69.12	58.66
France	47.71	31.35	31.35	63.59	39.85	39.85
Germany	58.63	43.77	43.77	64.63	51.67	51.67
Netherlands	42.67	49.77	42.67	72.56	57.87	57.87
UK	54.73	35.31	35.31	68.94	45.19	45.19

When we look only at the offer of the cheapest operator, the cost of services bought both singly and based on a multiplay offer are mid-range in terms of cost for a Local-based Individual Business based in Belgium, compared with the other study countries. Taking into account the cheapest overall offer, Belgium ranks in third place, behind France and the UK. In terms of absolute values, however, it is just over €3 cheaper than the most expensive country, Germany. All countries apart from the Netherlands make fairly substantial savings from multiplay. Saving of between €14 and €20 per month were realised by this business by the use of bundled services, which is a saving of between 25-35%. Local-based Belgian businesses save just over €15.

When the weighted average of the three cheapest providers is taken into account (cheapest overall offer), Belgium is the most expensive of the study countries, however, it is relatively close in cost to Germany and quite close to the Netherlands, which are third and second most expensive, respectively. When businesses purchase services singly, Belgium is actually the cheapest of the study countries; however the position is reversed when multiplay offers are considered. Notably, the result for multiplay for the average of the 3 cheapest providers in Belgium is €11 more expensive than if services are purchased singly.

The variation between cheapest and average of three cheapest, ranges from just under €8 for Germany, to just over €18 for Belgium. In Belgium, the cheapest offer is based on a multiplay combination, which offers savings of almost 30% over the business buying services singly (based on the cheapest provider). For the average of the 3 cheapest, however, it is the single service purchase that is the cheapest, as the multiplay offers from other providers are much less competitive. For this business, provider selection is critical, it wishes to achieve cost savings. Multiplay is a good option, but not from all operators. For single service purchase, the cost variation across the 3 cheapest providers is not significant

4.1.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the overall cheapest offer and the weighted average of the (up to) three cheapest providers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink. Single and multiplay results are considered, as well as the cheapest overall offer.

Figure 4: Country rankings by calculation type, Local-based Individual Business

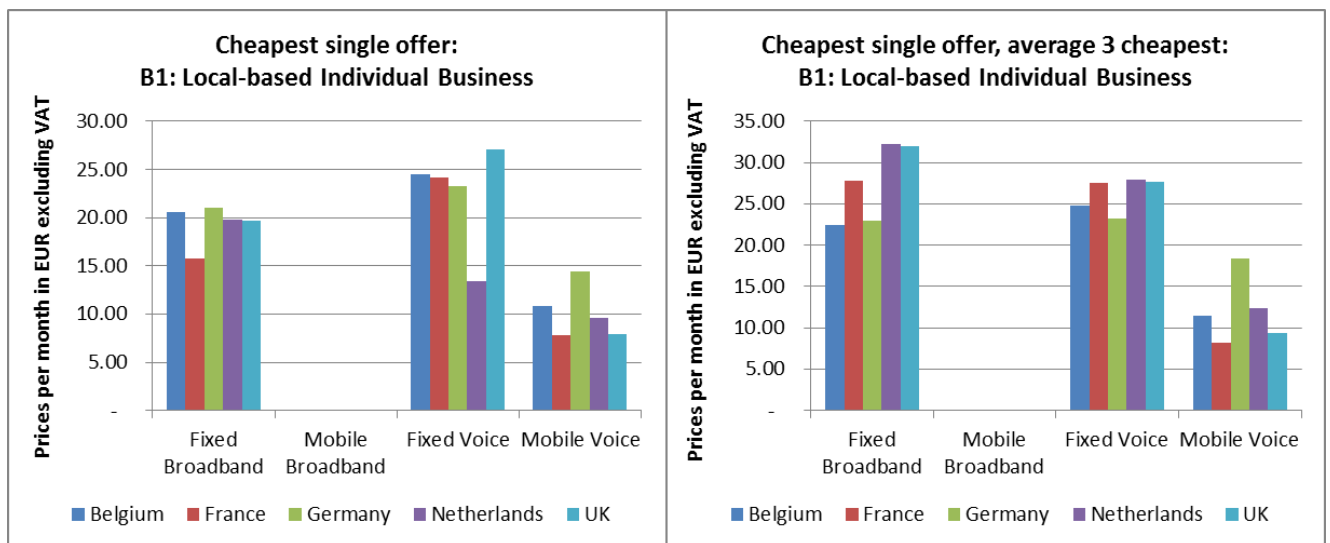
	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	4	3	3	1	5	5
France	2	1	1	2	1	1
Germany	5	4	5	3	3	3
Netherlands	1	5	4	5	4	4
UK	3	2	2	4	2	2

The cheapest overall offer is the most useful ranking to consider, as this looks at the cheapest way for a business to buy services, irrespective of whether they are bought singly or as a bundle. For the Local-based Individual Business, Belgium ranks third overall for the cheapest offer, and fifth (most expensive) for the average of the three cheapest offers. The cheapest country overall is France, while Belgium and Germany are the most expensive, depending on the calculation type.

4.1.3 Cheapest single offers, broken down by service

The graphs below show the results for the local based individual business for both the cheapest single offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. Because of how multiplay offers are priced, this analysis can only be shown for single service offers, and the overall result may not correspond directly to the cheapest overall offer graph shown above.

Figure 5: Cheapest single offers, broken down by service, local based individual business



The costs for the Local-based Individual Business are dominated by fixed broadband and fixed voice, which account for up to 90% of the overall cost, depending on the country and calculation type. Even though this business has relatively low usage across its required communications services, the two dominant services attract comparatively high recurring charges. The costs for Belgium are generally favourable for these two services at this usage level, when a range of the cheapest providers is considered, resulting in positive result for Belgium (based on single services).

4.2 Home-based Professional

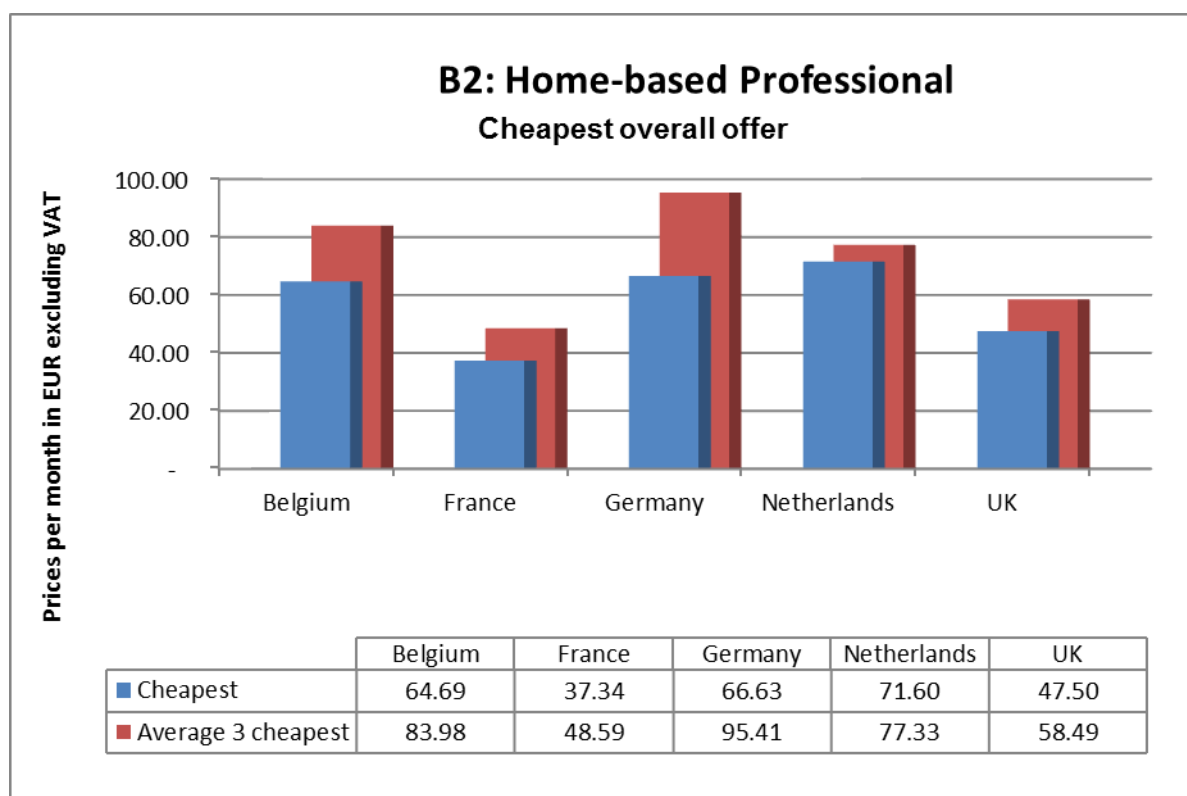
This business describes a business individual primarily working from home, e.g. a home based consultant. The Home-based Professional will be much more communications-intensive than the local based individual business, with a significant proportion of time spent in outbound/inbound communications activities. As a result, there is moderately high use across all communications services, with the exception of mobile voice which is relatively low due to the more static nature of the business. A summary of the communications' usage for this business is shown in the table below.

Business type 2: Home-based Professional		# of communications users: 1				
	Usage level	Value		Additional info		
Fixed broadband	Medium	100	GB/month	Minimum speed	15	Mb/s
Mobile broadband	Medium	1.6	GB/month	Minimum speed	3	Mb/s
Fixed voice, national	Medium nat	109	Calls/month	Call duration	240	seconds
Fixed voice, international	Medium	11	Calls/month	Call duration	240	seconds
Mobile voice, national	Low	39	Calls/month	Call duration	126	seconds
Mobile voice, international	Low	1	Calls/month	Call duration	126	seconds
Mobile voice, messages	Low	25	SMS/month			
Mobile voice, data	Medium	0.8	GB/month			

4.2.1 Cheapest overall offer

The results for the Home-based Professional basket calculation based on the lowest priced offers available are shown in the graph below, taking into account the cheapest of single service and multiplay offers.

Figure 6: Cheapest overall offer, Home-based Professional



The detailed results table below shows the costs for both the single service and multiplay calculations, along with the cheapest overall offer price.

Figure 7: Detailed results by calculation type, Home-based Professional

	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	64.69	65.12	64.69	83.98	92.22	83.98
France	72.34	37.34	37.34	97.33	48.59	48.59
Germany	97.89	66.63	66.63	107.57	95.41	95.41
Netherlands	72.11	71.60	71.60	100.83	77.33	77.33
UK	68.49	47.50	47.50	92.13	58.49	58.49

For the Home-based Professional, based on the cheapest offer, France has the most competitively priced environment, and by quite a considerable way. The UK, which is second cheapest, is over €10 more expensive, while the remaining countries are between €27 and €34. For this user, multiplay generally delivers significant cost savings - up to almost 50% depending on the country, with the exception of Belgium, where the multiplay calculation is less than €1 more expensive than the single service one, and the Netherlands, multiplay is less than €1 cheaper.

When we consider the average of the 3 cheapest providers, the benefits of multiplay are less clear cut. France has particularly attractive multiplay offers, which positions it as the cheapest country for this calculation type. Several French providers have similar priced, highly competitive, multiplay offers, and the three cheapest have broadly similar prices. For the other countries, including Belgium, however, there is often a significant difference in cost across the offers.

4.2.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the overall cheapest offer and the weighted average of the (up to) three cheapest providers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink. Single and multiplay results are considered, as well as the cheapest overall offer.

Figure 8: Country rankings by calculation type, Home-based Professional

	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	1	3	3	1	4	4
France	4	1	1	3	1	1
Germany	5	4	4	5	5	5
Netherlands	3	5	5	4	3	3
UK	2	2	2	2	2	2

Belgium ranks third and fourth for the cheapest overall offer of the cheapest providers and the average of the three cheapest providers, respectively.

The rankings for Belgium for this business type are better when single services only are considered, both for the cheapest provider and average of the three cheapest providers, and Belgium is the cheapest of the study countries for both these calculation types.

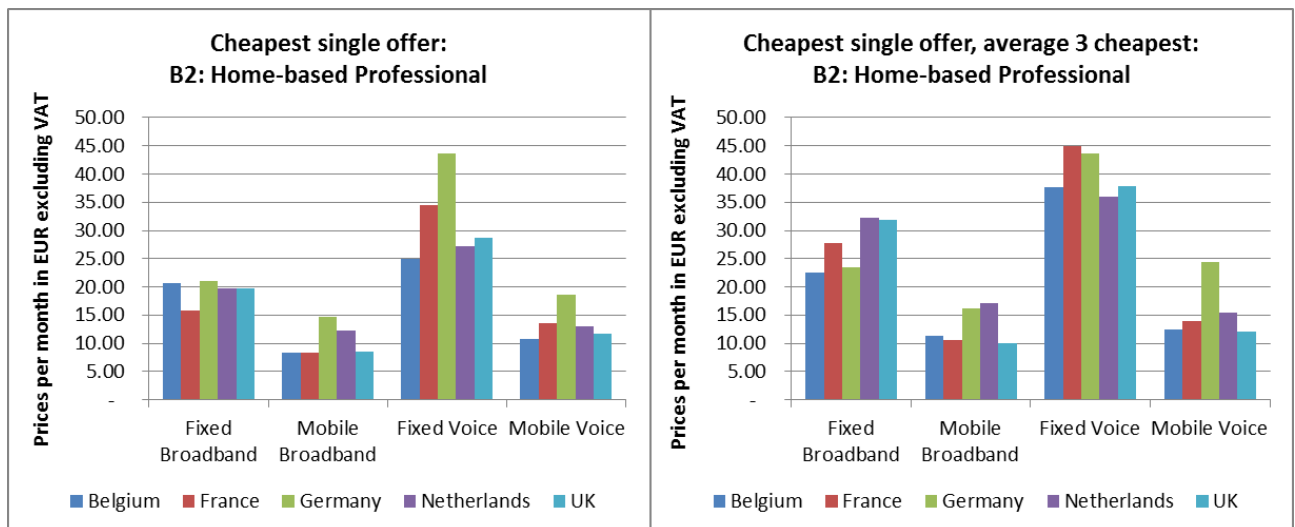
When multiplay offers are considered, however, Belgium falls into third or fourth position, depending on the calculation type. The lower ranking for multiplay in Belgium based on the average of the 3 cheapest is driven in particular by a relatively expensive multiplay offer which includes fixed broadband. As in 2015, the cheapest multiplay result does not include fixed broadband, but rather, this is added as a standalone service.

Both France and the UK benefit from low cost multiplay offers based on fixed broadband. The incorporation of mobile voice into the multiplay offers for some of the French providers is especially beneficial to a Home-based Professional based in France.

4.2.3 Cheapest single offers, broken down by service

The graphs below show the results for the Home-based Professional for both the cheapest single offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. Because of how multiplay offers are priced, this analysis can only be shown for single service offers, and the overall result may not correspond directly to the cheapest overall offer graph shown above.

Figure 9: Cheapest single offers, broken down by service, Home-based Professional



For the Home-based Professional, fixed voice is a very significant proportion of the cost. Fixed voice for this business is centered mostly on local/national calling, which accounts for two thirds of the overall calls, while calls to mobile accounts for almost a quarter of the calls. For the cheapest single offer, the fixed voice, mobile voice and mobile broadband costs for Belgium are the cheapest of the study countries, while fixed broadband is within €1 of three of the other countries (France, the cheapest, is just under €5 cheaper than Belgium). In all services, several countries have cheapest offers that are broadly on par.

When we consider the average of the three cheapest providers, Belgium is either cheapest or within a few euros of the cheapest, for each of the four services, resulting in Belgium being overall cheapest based on the total cost.

4.3 Mobile Professional 1

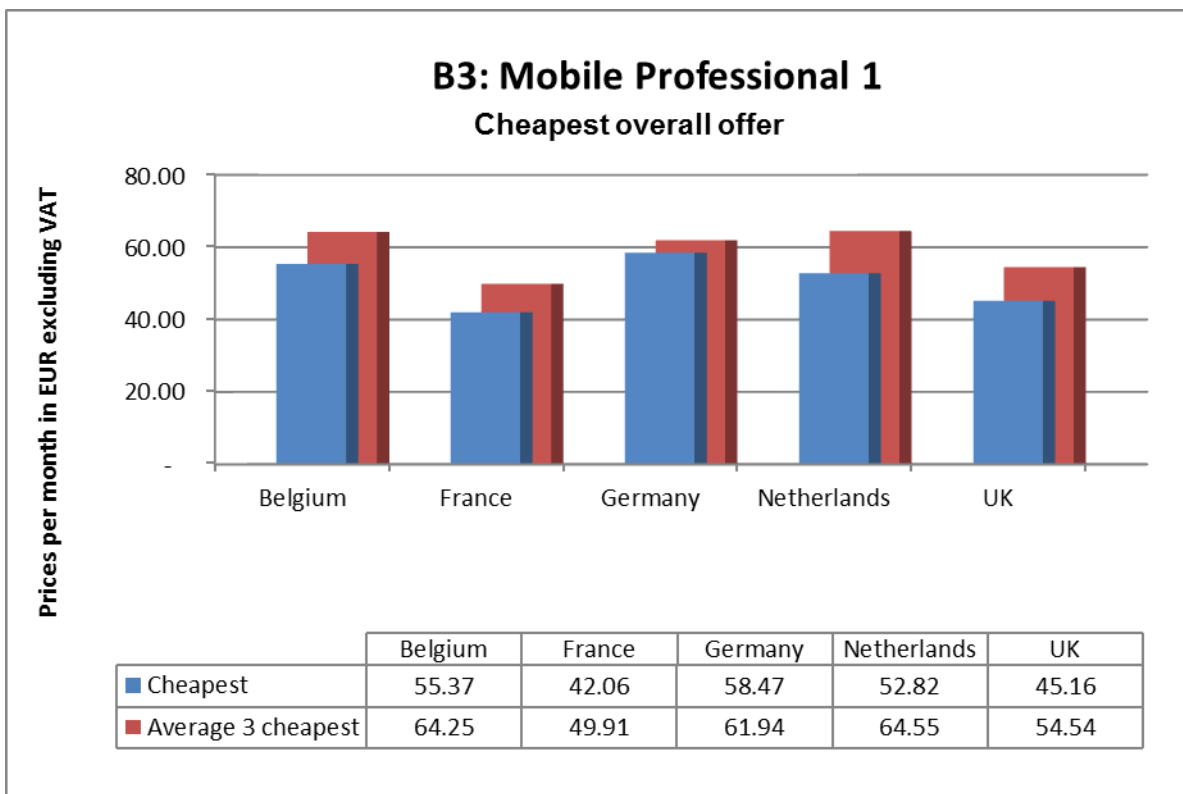
This business describes a business individual primarily working while on the move, e.g. a plumber or contractor. The communications requirements for this business are much more focused towards mobile services, to reflect the need for ‘on-the-move’ communications. Mobile usage is relatively modest, as the business is not heavily reliant on communications. For example, the user would take calls while on the move, but also might call customers to alert them of a change of schedule. Mobile broadband is used to support activities such as solution searches and ordering goods while at client premises. There is no need for fixed voice for this business; however, low use of fixed broadband is required, for web-searching for the business, and to support a web-presence. A summary of the communications’ usage for this business is shown in the table below.

Business type 3: Mobile Professional 1				# of communications users: 1		
	Usage level	Value		Additional info		
Fixed broadband	Low	50	GB/month	Minimum speed	10	Mb/s
Mobile broadband	High	4	GB/month	Minimum speed	6	Mb/s
Fixed voice, national		0	Calls/month	Call duration	0	seconds
Fixed voice, international		0	Calls/month	Call duration	0	seconds
Mobile voice, national	Medium	98	Calls/month	Call duration	138	seconds
Mobile voice, international	Low	2	Calls/month	Call duration	138	seconds
Mobile voice, messages	Low	25	SMS/month			
Mobile voice, data	Medium	0.8	GB/month			

4.3.1 Cheapest overall offer

The results for the Mobile Professional 1 basket calculation based on the lowest priced offers available are shown in the graph below, taking into account the cheapest of single service and multiplay offers.

Figure 10: Cheapest overall offer, Mobile Professional 1



The detailed results table below shows the costs for both the single service and multiplay calculations, along with the cheapest overall offer price.

Figure 11: Detailed results by calculation type, Mobile Professional 1

	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	55.37	73.46	55.37	64.25	91.97	64.25
France	44.97	42.06	42.06	59.72	49.91	49.91
Germany	61.94	58.47	58.47	72.54	61.94	61.94
Netherlands	52.82	58.28	52.82	73.46	64.55	64.55
UK	45.16	48.35	45.16	59.33	54.54	54.54

An interesting point to note for Mobile Professional 1 (and a shift from 2015) is that multiplay does offer some cost benefits over single service purchase, depending on the country and calculation type. The only exception to this is Belgium, where multiplay is the more expensive option, irrespective of calculation type, and by some considerable way.

Furthermore, where single service is the cheaper option in the other study countries, multiplay is not significantly more expensive. On the face of it, these results seem counter-intuitive, as multiplay bundles have not typically been optimized for mobile use, but rather, focused on fixed services, typically fixed broadband and fixed voice (and, for consumers, television services). There is a shift occurring, however, with mobile increasingly being added to bundles, to provide customers with a more complete set of services.

For the Mobile Professional 1, based on the cheapest overall offer of the cheapest providers, Belgium is just over €13 per month more expensive than the cheapest country, France, and around €3 cheaper than the most expensive, Germany.

Taking into account the average of the three cheapest providers, the gap between Belgium and the cheapest country, again France, is similar - just over €14, however, Belgium is less than €1 cheaper than the most expensive, the Netherlands.

4.3.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the overall cheapest offer and the weighted average of the (up to) three cheapest providers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink. Single and multiplay results are considered, as well as the cheapest overall offer.

Figure 12: Country rankings by calculation type, Mobile Professional 1

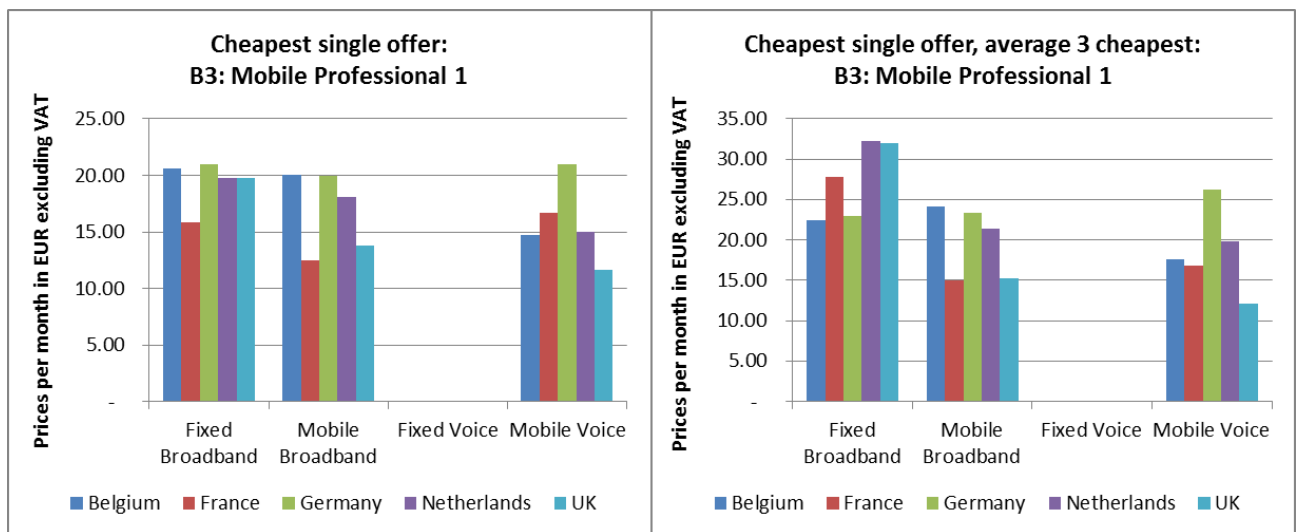
	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	4	5	4	3	5	4
France	1	1	1	2	1	1
Germany	5	4	5	4	3	3
Netherlands	3	3	3	5	4	5
UK	2	2	2	1	2	2

The overall ranking for Belgium for both calculation types - cheapest and average of three cheapest - are low due to both less competitive single service and multiplay offers.

4.3.3 Cheapest single offers, broken down by service

The graphs below show the results for the Mobile Professional 1 for both the cheapest single offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. Because of how multiplay offers are priced, this analysis can only be shown for single service offers, and the overall result may not correspond directly to the cheapest overall offer graph shown above.

Figure 13: Cheapest single offers, broken down by service, Mobile Professional 1



Although this business is predominantly mobile, fixed broadband comprises a relatively large proportion of the cost - between a third and a half depending on the country and whether the cheapest or average of 3 cheapest is being considered. Mobile voice accounts for between 20-37%, and mobile broadband between 26-38%. The increased use of mobile broadband and mobile handset data in 2016 has resulted in a much more even spread of costs across the three services used by this business type.

For the cheapest single offer, fixed broadband costs for Belgium are within €1 of three of the other countries (France, the cheapest, is just under €5 cheaper than Belgium). Although mobile broadband costs in Belgium are more expensive than elsewhere, they are within €2 of the third cheapest country for mobile broadband, the Netherlands. Mobile voice in Belgium is the second cheapest, after the UK, at just over €3 more expensive.

For the average of the three cheapest providers, the fixed broadband cost improves for Belgium, relative to the other countries, with Belgium as the cheapest, indicating a more competitive set of offers from different providers; the costs for mobile voice for Belgium compared to the other countries is mid-range. Mobile broadband is the most expensive; however, it is on par with the Netherlands and Germany (third and fourth cheapest)

4.4 Mobile Professional 2

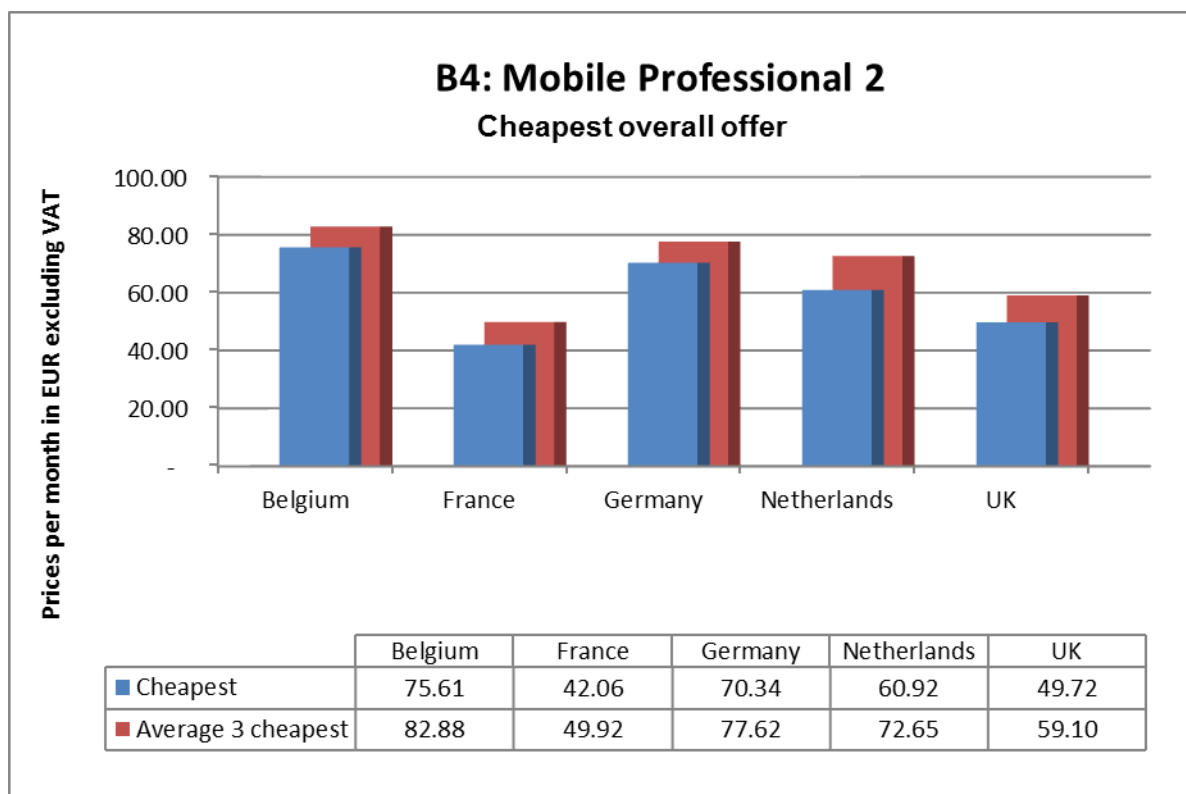
This business describes a business individual primarily working while on the move, e.g. a sales person. Communications requirements for this business are highly mobile and relatively intensive, with the sales person needing to communicate with customers and the main office on a frequent basis. Mobile broadband requirements are similarly high. In addition to the high mobile requirements, there is a need for low use of fixed broadband, to support email and general web activities when the Mobile Professional is not on the road. A summary of the communications' usage for this business is shown in the table below.

Business type 4: Mobile Professional 2		# of communications users:		1		
	Usage level	Value		Additional info		
Fixed broadband	Low	50	GB/month	Minimum speed	10	Mb/s
Mobile broadband	High	4	GB/month	Minimum speed	6	Mb/s
Fixed voice, national		0	Calls/month	Call duration	0	seconds
Fixed voice, international		0	Calls/month	Call duration	0	seconds
Mobile voice, national	High	245	Calls/month	Call duration	150	seconds
Mobile voice, international	Low	5	Calls/month	Call duration	150	seconds
Mobile voice, messages	Medium	60	SMS/month			
Mobile voice, data	High	2.5	GB/month			

4.4.1 Cheapest overall offer

The results for the Mobile Professional 2 basket calculation based on the lowest priced offers available are shown in the graph below, taking into account the cheapest of single service and multiplay offers.

Figure 14: Cheapest overall offer, Mobile Professional 2



The detailed results table below shows the costs for both the single service and multiplay calculations, along with the cheapest overall offer price.

Figure 15: Detailed results by calculation type, Mobile Professional 2

	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	75.61	80.85	75.61	82.88	112.22	82.88
France	44.97	42.06	42.06	59.99	49.92	49.92
Germany	70.34	74.54	70.34	87.34	77.62	77.62
Netherlands	60.92	66.39	60.92	82.47	72.65	72.65
UK	49.72	52.90	49.72	66.64	59.10	59.10

For the cheapest service, single services are typically the cheapest (apart from France where multiplay is just under €3 cheaper than single services). Where single services are the cheapest, the savings are between €3 and €5.5, a saving of up to 9%.

For the average of the 3 cheapest, multiplay offers are generally cheaper than single service, and deliver savings of between 11-17%. The exception is Belgium, where multiplay offers are almost €32 (38%) more expensive than single services.

Belgium is the most expensive countries for this business type, for both the cheapest and the average of the three cheapest, due to relatively high cost for mobile services, which now feature heavily. For the cheapest offer, it is over €33 more expensive than the cheapest country, France, for comparable services. And similarly, it is €33 more expensive than France, when we consider the average of the 3 cheapest.

4.4.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the overall cheapest offer and the weighted average of the (up to) three cheapest providers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink. Single and multiplay results are considered, as well as the cheapest overall offer.

Figure 16: Country rankings by calculation type, Mobile Professional 2

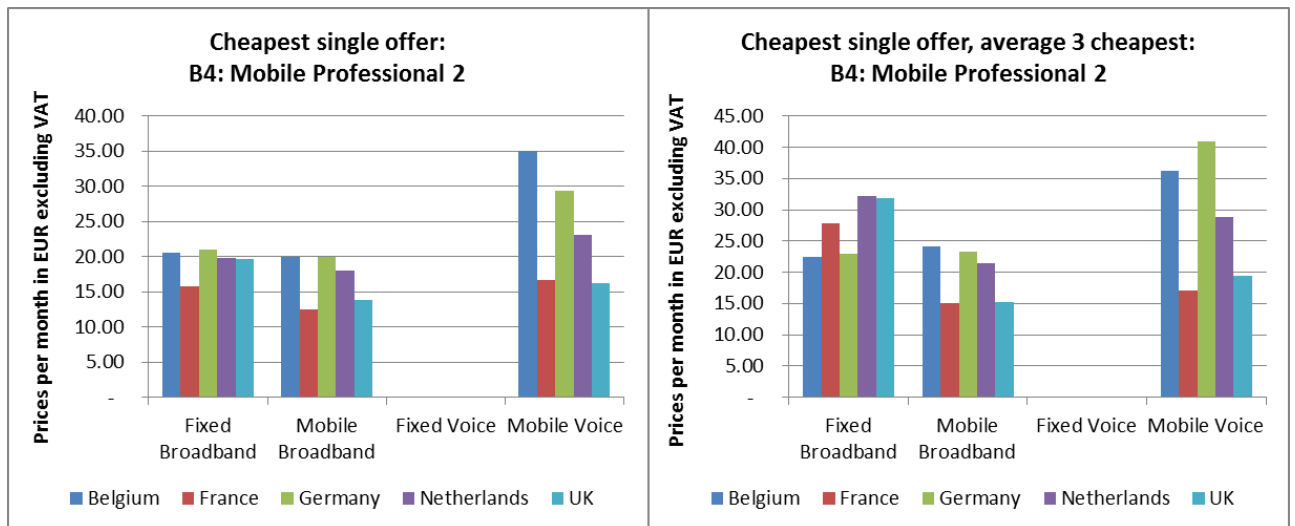
	Cheapest			Average of 3 cheapest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	5	5	5	4	5	5
France	1	1	1	1	1	1
Germany	4	4	4	5	4	4
Netherlands	3	3	3	3	3	3
UK	2	2	2	2	2	2

Belgium ranks between 5 across the various calculation types, apart from average of 3 cheapest based on single services only, where it ranks 4th (Germany being the most expensive here) The cheapest countries are France and the UK, both of which have highly competitive markets for mobile services, which have put downward pressure on prices in these countries over the past few years.

4.4.3 Cheapest single offers, broken down by service

The graphs below show the results for the Mobile Professional 2 for both the cheapest single offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. Because of how multiplay offers are priced, this analysis can only be shown for single service offers, and the overall result may not correspond directly to the cheapest overall offer graph shown above.

Figure 17: Cheapest single offers, broken down by service, Mobile Professional 2



For this business type, with more intensive mobile use, the cost of mobile services generally more dominant, with mobile voice accounting for between a third and a half of the overall cost. As Belgian users are faced with relatively higher charges for both mobile voice and mobile broadband, for this type of usage, the result is that Belgium features as among the most expensive of the study countries. Fixed broadband is on par with most of the other countries for the cheapest single offer, and Belgium is the cheapest country for the average of 3 cheapest calculations, however, this more competitive positioning does not contribute enough to the total cost to counter the high mobile voice and mobile broadband cost.

Mobile Professional 2 business types in France and the UK enjoy relatively lower mobile voice and mobile broadband cost, and, particularly in the case of France, cheaper fixed broadband costs. By contrast, and similar to Belgium, users in Germany and the Netherlands face comparatively higher costs across the three service types required by this business type.

4.5 Retail Outlet

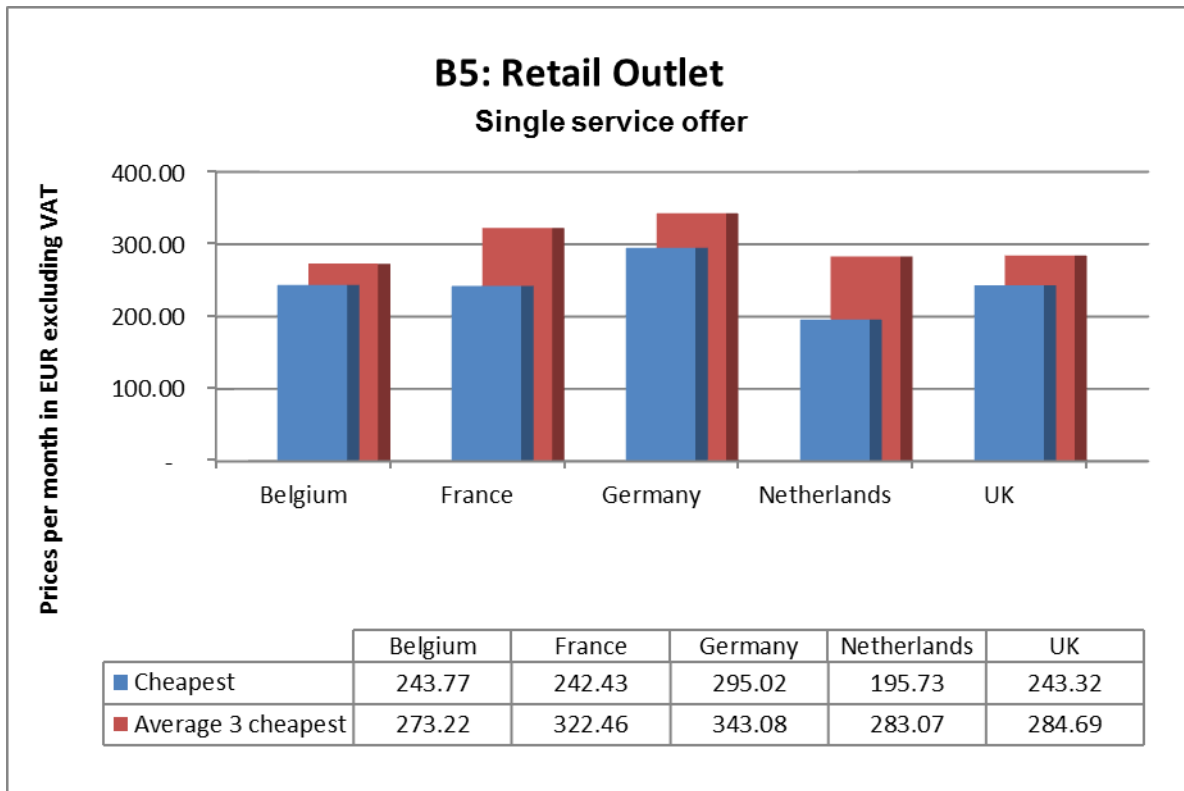
This business describes a retail business location with 5 users, each with communications needs covered by both fixed and mobile services. Note that this business (as well as the following three business types) can have more employees than the number of communication users. Voice call usage pattern focusses on local calls. The nature of the business means that fixed broadband usage is relatively high, to support email communication, web searching and ordering, and maintaining a web presence. Similarly, fixed voice communications is also relatively high, predominantly for local calls to other businesses (for example to place orders) and to locally-based customers. Mobile needs are moderate, reflecting the fact that employees are not desk-bound, and will move around, both on-site and away from the site. The local nature of the business means that international communications are very low. A summary of the communications' usage for this business is shown in the table below.

Business type 5: Retail Outlet		# of communications users:		5		
	Usage level	Value		Additional info		
Fixed broadband	Medium	100	GB/month	Minimum speed	30	Mb/s
Mobile broadband	Medium	1.6	GB/month	Minimum speed	3	Mb/s
Fixed voice, national	Medium loc	85	Calls/month	Call duration	120	seconds
Fixed voice, international	Low	5	Calls/month	Call duration	120	seconds
Mobile voice, national	Medium	78	Calls/month	Call duration	126	seconds
Mobile voice, international	Low	2	Calls/month	Call duration	126	seconds
Mobile voice, messages	Low	25	SMS/month			
Mobile voice, data	Low	0.2	GB/month			

4.5.1 Cheapest single offer

The results for the Retail Outlet basket calculation based on the cheapest single service offers available are shown in the graph below.

Figure 18: Cheapest single offer, Retail Outlet



The detailed results table below shows the costs for the single service calculations, for both the cheapest and average of the three cheapest providers.

Figure 19: Detailed results by calculation type, Retail Outlet

	Cheapest	Average of 3 cheapest
Belgium	243.77	273.22
France	242.43	322.46
Germany	295.02	343.08
Netherlands	195.73	283.07
UK	243.32	284.69

For the cheapest offer, the retail business in Belgium is almost identical to France and the UK in terms of cost, with less than €2 difference between the three countries. It is around 25% (or €48) more than the Netherlands (which is notably much cheaper than the other countries, as a result of a particularly low cost VoIP service for fixed voice), and is 18% cheaper than the most expensive country, Germany (or some €70).

For the average of 3 cheapest, Belgium is the cheapest country. The Netherlands and the UK are second and third cheapest, respectively, and are €10-€12 more expensive than Belgium. Germany, the most expensive country, is almost €70 more expensive.

The range of prices between the cheapest and the average of the three cheapest is the greatest for France and the Netherlands, indicating that prices are less aligned than in the other countries.

4.5.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the cheapest offer and the weighted average of the (up to) three cheapest providers, based on single service offers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink.

Figure 20: Country rankings by calculation type, Retail Outlet

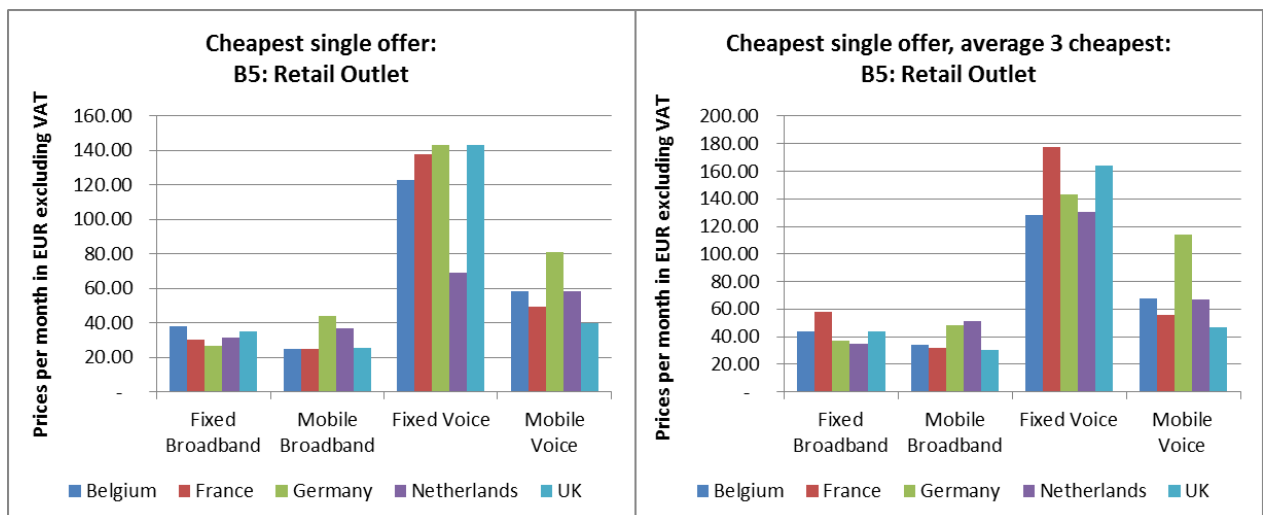
	Cheapest	Average of 3 cheapest
Belgium	4	1
France	2	4
Germany	5	5
Netherlands	1	2
UK	3	3

Belgium ranks in fourth position for the overall cheapest offer, and is the cheapest country for the average of the 3 cheapest calculations. Although Belgium's ranking for the cheapest appears quite weak, at first glance, it is important to note that the Netherlands cost is low as a result of an especially competitive VoIP service, while the costs for Belgium, France and the UK are within €2 of each other.

4.5.3 Cheapest single offers, broken down by service

The graphs below show the results for the Retail Outlet for both the cheapest offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. As multiplay offers are not relevant for this business type, the results shown here will correspond directly to the cheapest overall offer graph shown above.

Figure 21: Cheapest single offers, broken down by service, Retail Outlet



Fixed voice costs make up most of the overall communications costs for this business, accounting for up to 60% of the overall cost, depending on country and calculation type. It is important to note that although usage requirements are medium across the various services, the combined fixed and variable costs associated with fixed voice result in a much higher cost compared to the other services.

Belgian providers have competitive offers for business users across most services. For fixed voice, which is the predominant cost for this business, Belgium is the second cheapest after the Netherlands, when considering the cheapest single offer, and is the cheapest country for the average 3 cheapest calculation. Mobile broadband costs, which make up to 20% of the total cost, are also competitively priced in Belgium, which is the cheapest country for the cheapest single offer calculation, and less than €4 more expensive than the cheapest country, the UK, when considering the average of the 3 cheapest. Mobile voice is more mid-range in terms of cost, as is fixed broadband, however, the proportionally lower use of these services means that the overall impact on the total cost is reduced.

A point of note is the pricing of fixed broadband in France. France benefits from particularly competitive residential fixed broadband pricing, which is permitted for use by business types 1-4. For multi-user businesses, however, business grade fixed broadband services are required, and these typically have been very expensive in France. In 2016, although most services available are still relatively expensive, one provider has introduced of a low cost broadband service for business users, which has reduced overall costs for fixed broadband in France. This is a trend which can be seen across business types 5-8.

4.6 Local Trading Company

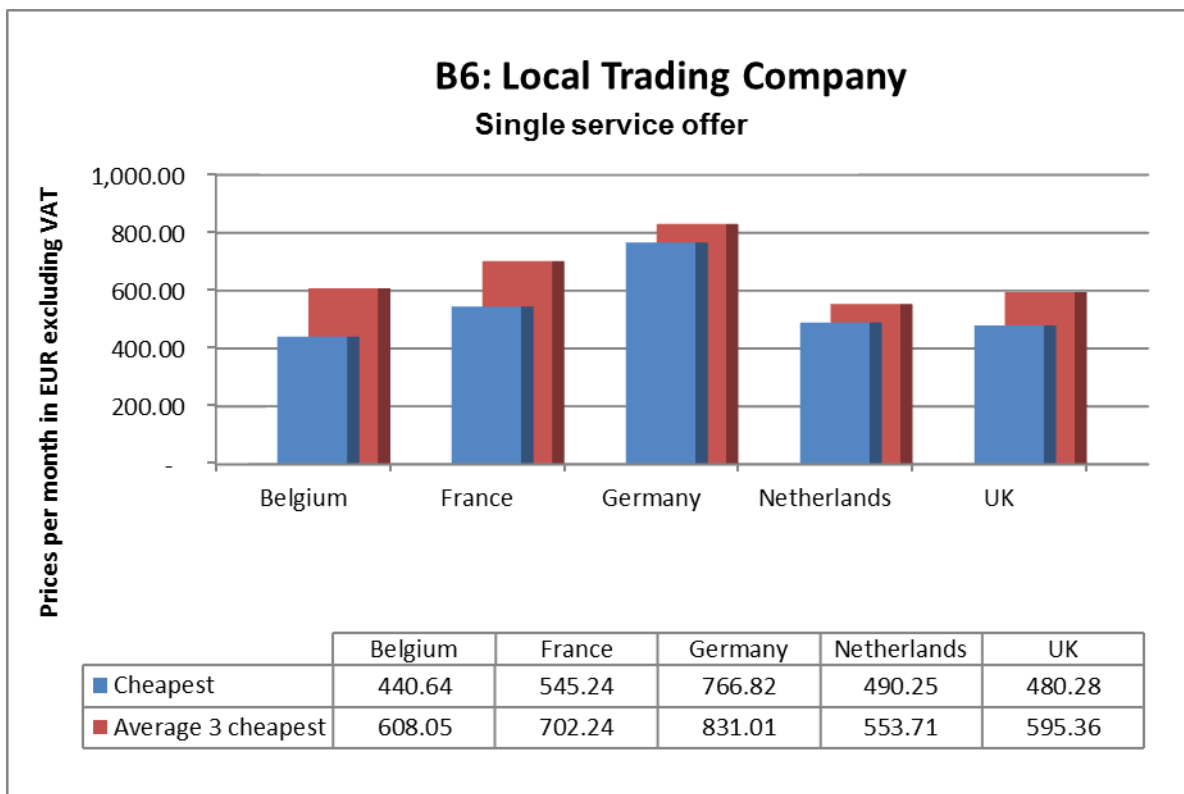
This business describes a trading company with 10 users, doing business from a fixed location, with significant national and international contacts. For this business, fixed broadband usage is relatively high, to support email communication, web searching and information exchange, and maintaining a web presence. Both fixed national and international voice communications are high, reflecting the fact that users are more likely to be desk-bound, with much of their communications taking place at their desk. By contrast, and for the same reason, mobile needs are moderate. A summary of the communications' usage for this business is shown in the table below.

Business type 6: Local Trading Company			# of communications users: 10		
	Usage level	Value	Additional info		
Fixed broadband	Medium	100 GB/month	Minimum speed	30	Mb/s
Mobile broadband	Medium	1.6 GB/month	Minimum speed	3	Mb/s
Fixed voice, national	High nat	157 Calls/month	Call duration	240	seconds
Fixed voice, international	High	23 Calls/month	Call duration	240	seconds
Mobile voice, national	Low	29 Calls/month	Call duration	108	seconds
Mobile voice, international	Low	1 Calls/month	Call duration	108	seconds
Mobile voice, messages	Low	25 SMS/month			
Mobile voice, data	Medium	0.8 GB/month			

4.6.1 Cheapest single offer

The results for the Local Trading Company basket calculation based on the cheapest single service offers available are shown in the graph below.

Figure 22: Cheapest single offer, Local Trading Company



The detailed results table below shows the costs for the single service calculations, for both the cheapest and average of the three cheapest providers.

Figure 23: Detailed results by calculation type, Local Trading Company

	Cheapest	Average of 3 cheapest
Belgium	440.64	608.05
France	545.24	702.24
Germany	766.82	831.01
Netherlands	490.25	553.71
UK	480.28	595.36

When considering the cheapest offer, Belgium is the cheapest of the study countries, while for the average of the three cheapest, it sits in third place, after the Netherlands and the UK; although it is relatively close in cost to the UK. Germany is the most expensive, irrespective of calculation type.

For this business type, Belgium has the largest difference between the cheapest and the average of the 3 cheapest calculations - €168, and much of this difference is driven by fixed voice, where there is a very competitive offer for the cheapest overall. However, when other providers are considered, the cost is significantly more expensive. The variation in costs for mobile broadband is also high, in percentage terms, although as mobile broadband is a relatively small cost in the overall total, the impact of this is less noticeable.

The variation between the cheapest and average of the three cheapest is also relatively large for France, and to a lesser extent, the UK. For Germany and the Netherlands, the difference in cost between the two calculations is just under €65 in each country, suggesting that prices across providers are much more closely aligned.

4.6.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the cheapest offer and the weighted average of the (up to) three cheapest providers, based on single service offers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink.

Figure 24: Country rankings by calculation type, Local Trading Company

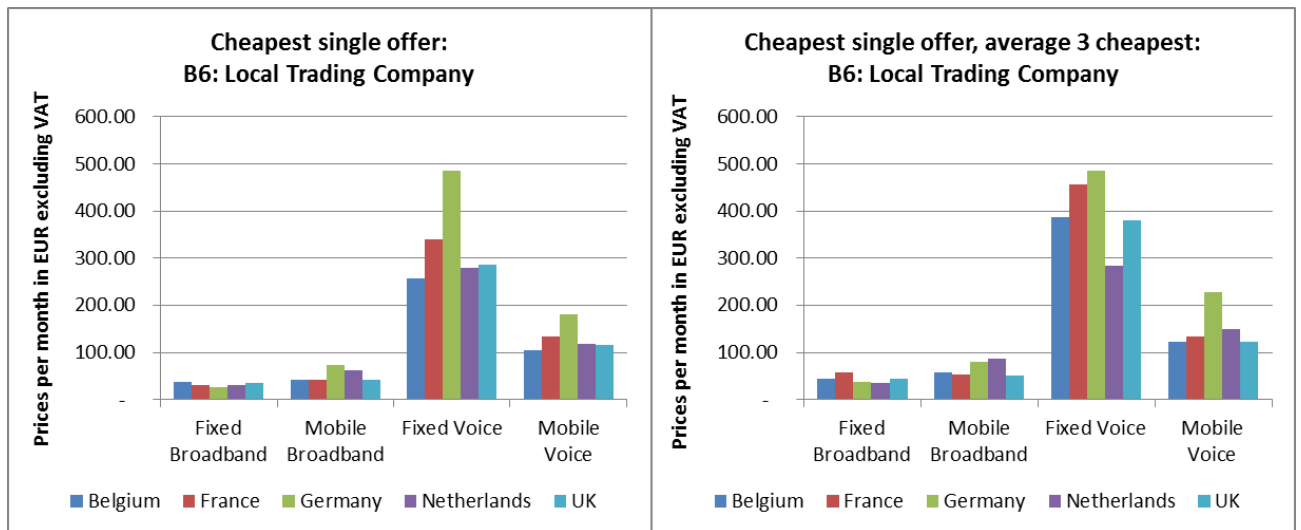
	Cheapest	Average of 3 cheapest
Belgium	1	3
France	4	4
Germany	5	5
Netherlands	3	1
UK	2	2

As already noted, Belgium ranks in first position, for the cheapest overall offer, and in third position for the average of the three cheapest. Netherlands is the cheapest country for the average of the three cheapest calculations is considered. Germany is the most expensive overall, for this multi-user business.

4.6.3 Cheapest single offers, broken down by service

The graphs below show the results for the Local Trading Company for both the cheapest offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. As multiplay offers are not relevant for this business type, the results shown here will correspond directly to the cheapest overall offer graph shown above.

Figure 25: Cheapest single offers, broken down by service, Local Trading Company



As the graphs above show, fixed voice is the predominant cost for this business type, and accounts for up to two thirds of the total cost. Unlike the Retail Outlet, there is a greater focus on international calling, alongside high national calling, to support the needs of the business. The availability of a low cost voice offering in Belgium, addressing both national and international calls results in Belgium having the cheapest fixed voice offer (based on the cheapest single offer). This, coupled with its competitive positioning on the other services used by this business, results in an overall low cost result for Belgium for this calculation type. When the results for the average of the three cheapest providers are taken into account, the costs for fixed voice in Belgium are comparatively higher, and its overall competitive positioning is reduced.

4.7 Local Production Company

This business describes a production company with 10 users, mainly local connection needs. The nature of the business means there is a high use of fixed voice for local-based communications, as well as fairly extensive use of fixed broadband, which supports email communication, web searching and ordering, and maintaining a web presence. As the business does not need staff to be particularly mobile, there is generally little reliance on mobile communications. A summary of the communications' usage for this business is shown in the table below.

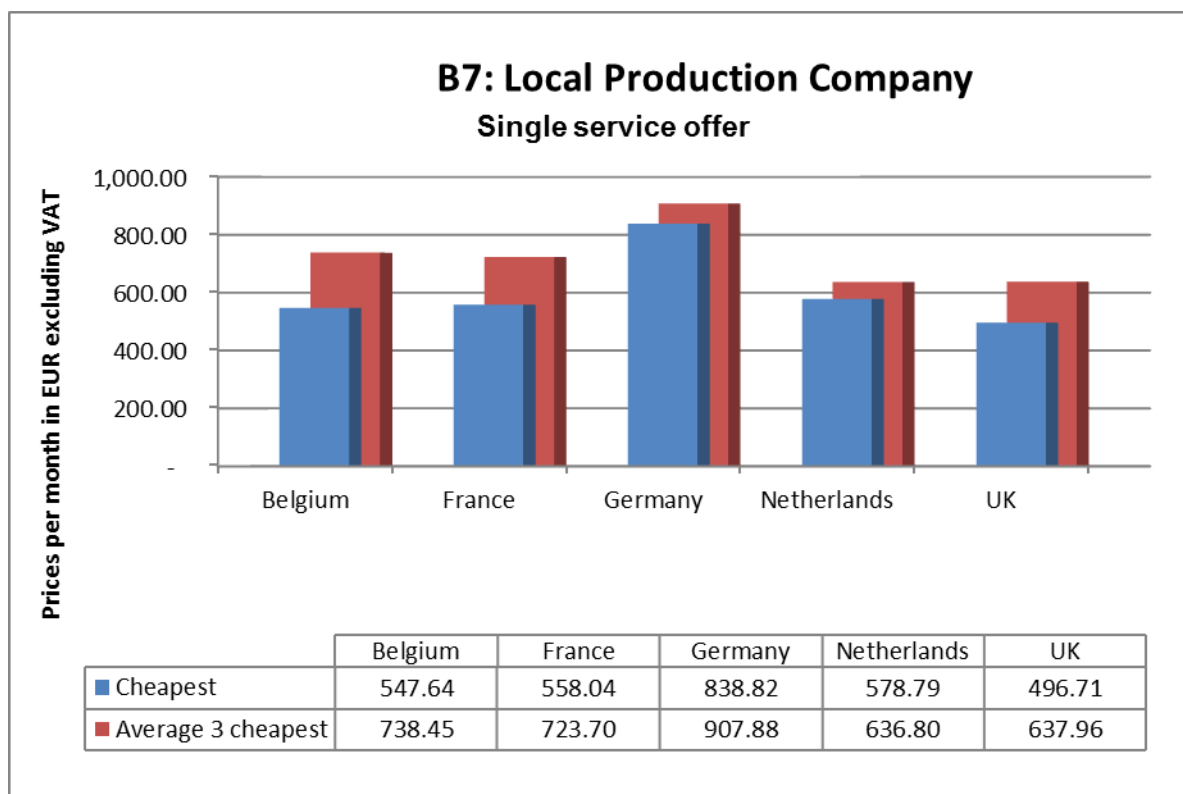
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Business type 7: Local Production Company			# of communications users: 10			
	Usage level	Value		Additional info		
Fixed broadband	Medium	100	GB/month	Minimum speed	30	Mb/s
Mobile broadband	Low	0.3	GB/month	Minimum speed	1	Mb/s
Fixed voice, national	High loc	171	Calls/month	Call duration	240	seconds
Fixed voice, international	Low	9	Calls/month	Call duration	240	seconds
Mobile voice, national	Medium	78	Calls/month	Call duration	108	seconds
Mobile voice, international	Low	2	Calls/month	Call duration	108	seconds
Mobile voice, messages	Medium	60	SMS/month			
Mobile voice, data	High	2.5	GB/month			

4.7.1 Cheapest single offer

The results for the Local Production Company basket calculation based on the cheapest single service offers available are shown in the graph below.

Figure 26: Cheapest single offer, Local Production Company



The detailed results table below shows the costs for the single service calculations, for both the cheapest and average of the three cheapest providers.

Figure 27: Detailed results by calculation type, Local Production Company

	Cheapest	Average of 3 cheapest
Belgium	547.64	738.45
France	558.04	723.70
Germany	838.82	907.88
Netherlands	578.79	636.80
UK	496.71	637.96

When considering the offers of the cheapest provider(s), the costs for a Local Production Company in Belgium compare well to the other study countries, with costs just over €50/month or just over 10% more expensive than the cheapest country, the UK. Germany, the most expensive country, is €291/month more expensive than Belgium.

Looking at the average of the three cheapest, the costs for Belgium become comparatively more expensive, and around 16% more expensive than the Netherlands (the cheapest), Germany, again the most expensive, is €169, or 23% more expensive than Belgium.

4.7.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the cheapest offer and the weighted average of the (up to) three cheapest providers, based on single service offers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink.

Figure 28: Country rankings by calculation type, Local Production Company

	Cheapest	Average of 3 cheapest
Belgium	2	4
France	3	3
Germany	5	5
Netherlands	4	1
UK	1	2

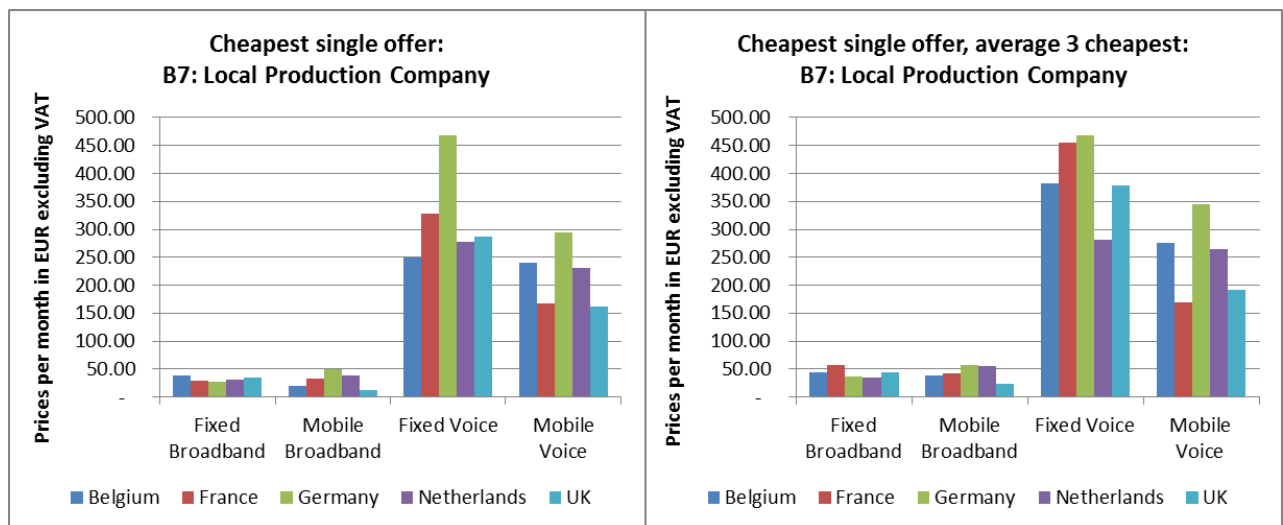
Belgium ranks second after the UK, for the cheapest offer, and fourth for the average of the three cheapest providers. The Netherlands, often one of the most expensive countries for single user businesses (business types 1-4) is, similar to the Local Trading Company, the cheapest country for the average of the three cheapest, while UK has the cheapest overall offer. As is the case across many of the business types, Germany is the most expensive.

Similar to the Local Trading Company, Belgium has the largest difference between the cheapest and the average of the 3 cheapest calculations. Again, much of this variation was due to a wide spread in prices for fixed voice across providers. The variation in costs for mobile broadband is actually much greater than that of fixed voice, in percentage terms, however, relative to the total cost, this difference is much smaller.

4.7.3 Cheapest single offers, broken down by service

The graphs below show the results for the Local Production Company for both the cheapest single offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. As multiplay offers are not relevant for this business type, the results shown here will correspond directly to the cheapest overall offer graph shown above.

Figure 29: Cheapest single offers, broken down by service, Local Production Company



Fixed voice, and to a lesser degree, mobile voice, are the dominant services in terms of cost for this business, accounting for around 90% of the costs overall. As with other multi-user businesses, fixed voice accounts for most of the cost. For the cheapest single service, Belgium has the lowest fixed voice costs, while it is mid-range when considering the average of the three cheapest. Mobile voice costs for both calculation types are mid-range to upper end compared to the other countries.

4.8 Local Service Company

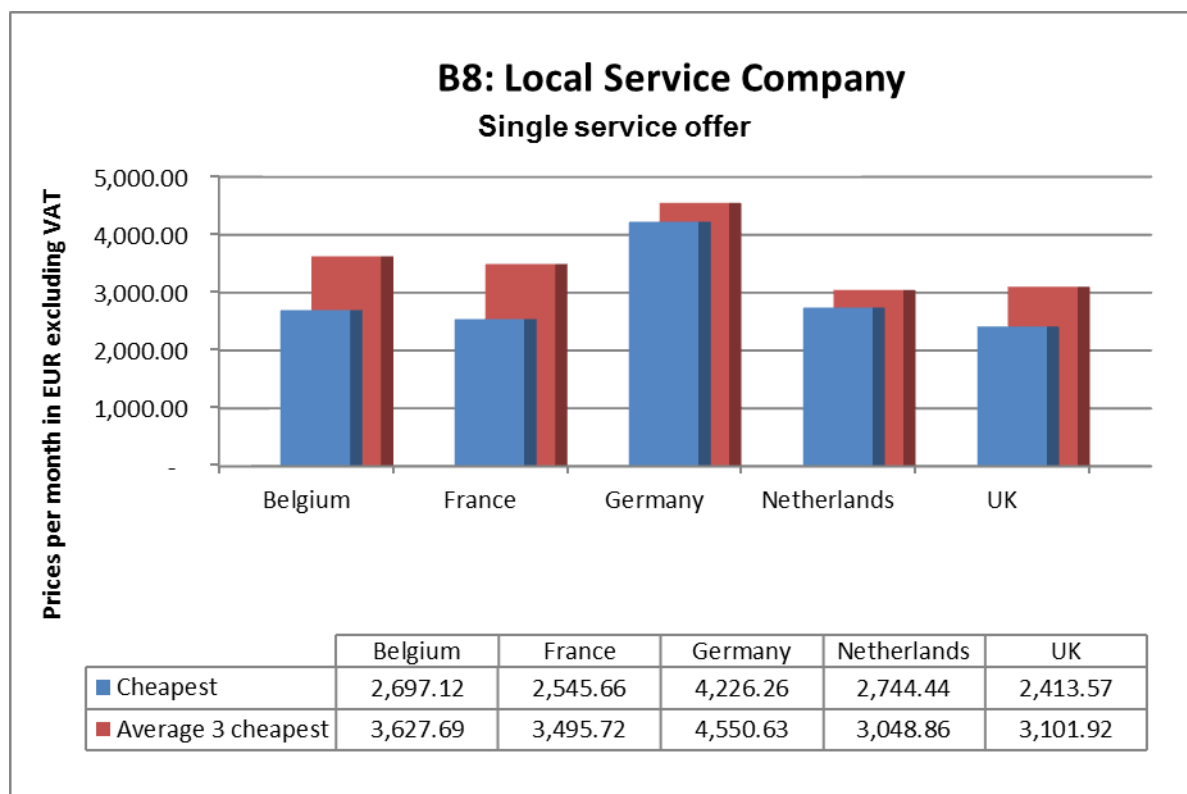
This business describes a Local Service Company with 50 users who are both on the move and in the office, with mainly local connection needs. For this business, both fixed and mobile communications are important, due to the mix of employee types. The high number of users in the company means that several broadband connections are required, to support typical day to day activities such as email, information search and exchange, and maintaining a web presence. As some users are more desk-based, while others may be more mobile, both fixed and mobile voice needs are relatively high. The local nature of the business means that more emphasis is placed on fixed local as opposed to long distance calls, however, international fixed calls are also high, to support international trading activities. A summary of the communications' usage for this business is shown in the table below.

Business type 8: Local Service Company		# of communications users:		50		
	Usage level	Value		Additional info		
Fixed broadband	Medium x3	100	GB/month	Minimum speed	30	Mb/s
Mobile broadband	Low	0.3	GB/month	Minimum speed	1	Mb/s
Fixed voice, national	High loc	157	Calls/month	Call duration	240	seconds
Fixed voice, international	High	23	Calls/month	Call duration	240	seconds
Mobile voice, national	Medium	78	Calls/month	Call duration	138	seconds
Mobile voice, international	Low	2	Calls/month	Call duration	138	seconds
Mobile voice, messages	Medium	60	SMS/month			
Mobile voice, data	High	2.5	GB/month			

4.8.1 Cheapest single offer

The results for the Local Service Company basket calculation based on the cheapest single service offers available are shown in the graph below.

Figure 30: Cheapest single offer, Local Service Company



The detailed results table below shows the costs for the single service calculations, for both the cheapest and average of the three cheapest providers.

Figure 31: Detailed results by calculation type, Local Service Company

	Cheapest	Average of 3 cheapest
Belgium	2,697.12	3,627.69
France	2,545.66	3,495.72
Germany	4,226.26	4,550.63
Netherlands	2,744.44	3,048.86
UK	2,413.57	3,101.92

A Local Service Company in Belgium will pay around €280 per month - or 12% - more than a similar business in the UK (the cheapest country), based on the cheapest available offer in each of the countries, and will pay around €1530 per month - or 36% - less than a business in Germany (the most expensive)

Looking at the average of the three cheapest calculations, for Belgium, this is 35% more expensive than the cheapest overall offer, indicating a significant difference in costs across the Belgian providers. The variation for France and the UK are similar, at 37% and 29% respectively. Germany and the Netherlands are much lower, at 8% and 11% respectively, suggesting that the prices in these markets for this business type are much more closely aligned.

4.8.2 Rankings summary

The detailed rankings of the positions of the study countries for this business are shown in the table below, for both the cheapest offer and the weighted average of the (up to) three cheapest providers, based on single service offers.

The countries are ranked from 1 to 5, where 1 represents the lowest price, highlighted in green, and 5 the most expensive, highlighted in pink.

Figure 32: Country rankings by calculation type, Local Service Company

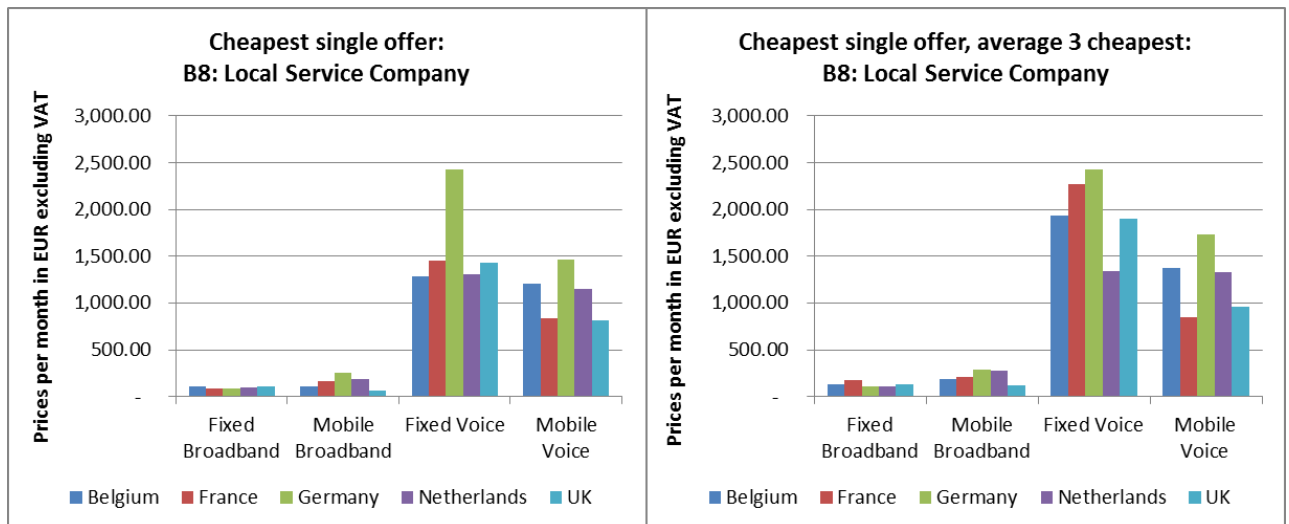
	Cheapest	Average of 3 cheapest
Belgium	3	4
France	2	3
Germany	5	5
Netherlands	4	1
UK	1	2

Belgium ranks as third or fourth cheapest for the Local Service Company. For the cheapest offer, UK ranks first, while for the average of the three cheapest, it is the Netherlands. Germany is the most expensive, irrespective of calculation type.

4.8.3 Cheapest single offers, broken down by service

The graphs below show the results for the Local Service Company for both the cheapest offer, and the weighted average of the 3 cheapest providers, based on single offers. The results are broken down into the cost of the individual telecoms service, to show how each service contributes to the total cost for this business and how costs of individual services compare in the study countries. As multiplay offers are not relevant for this business type, the results shown here will correspond directly to the cheapest overall offer graph shown above.

Figure 33: Cheapest single offers, broken down by service, Local Service Company



Fixed and mobile voice costs dominate for this business, driven by the high usage levels. While broadband use is high (this business requires 3 fixed broadband lines), the cost of these relative to the voice services is very low. Fixed voice accounts for up to 65% of the total cost for this business, depending on country and calculation type, while mobile voice accounts for up to 45% of the overall cost.

Similar to the Local Trading Company (business type 6), fixed voice costs are notably competitive for the cheapest offer even though international fixed voice usage is high, as a result of the availability of a low cost international voice option. When the average of the three cheapest is considered, Belgium is mid-range. Costs for other services in Belgium are similarly mid-range for this business type.

5 Evolution of telecommunications costs since 2015

This section examines how the telecommunications costs by each business type have changed in each of the study countries since 2015, based on the offers in the telecom market.

For most of the study countries, the tariff data has been collected in a common currency, so there is no need to take into account exchange rate fluctuations. As the UK results have been converted from Pounds to Euros, to ensure the results are fully consistent, and that any changes relate only to changes in prices, the exchange rate used in the 2016 study has also been applied retrospectively to the 2015 results⁸.

Additionally, the changes to mobile handset data and mobile broadband use, described in section 3.1.1, have also been applied retrospectively to the 2015 baskets, so that the year on year comparison is considering identical baskets.

The graphs in the subsections below show, for each business type, the evolution of prices from 2015 to 2016.

For business types 1 to 4, the first graph shows the evolution based on the cheapest overall offer, irrespective of whether this is single service or multiplay, for the offers from the cheapest provider, while the second graph considers the cheapest overall offer, based on the weighted average of the three cheapest providers for either single service or multiplay.

For business types 5-8, the offers from the cheapest provider and the average of the 3 cheapest providers based on single services are shown.

Each graph also indicates how the ranking of Belgium has changed from 2015 to 2016. It is useful to bear in mind that the ranking position of Belgium is not only influenced by price changes in Belgium but also the evolution of prices in other countries. Furthermore, the ranking does not indicate differences in absolute cost, and this is particularly important to bear in mind. A small difference between the cheapest and most expensive country, suggests that the countries are broadly equivalent in terms of absolute cost, however this fact would be masked by the rankings.

Additionally, it is important to bear in mind that changes in costs can be caused by the introduction of new tariffs or the removal of existing ones, as well as changes to components, or properties of a tariff. For example, the removal of a tariff from a tariff

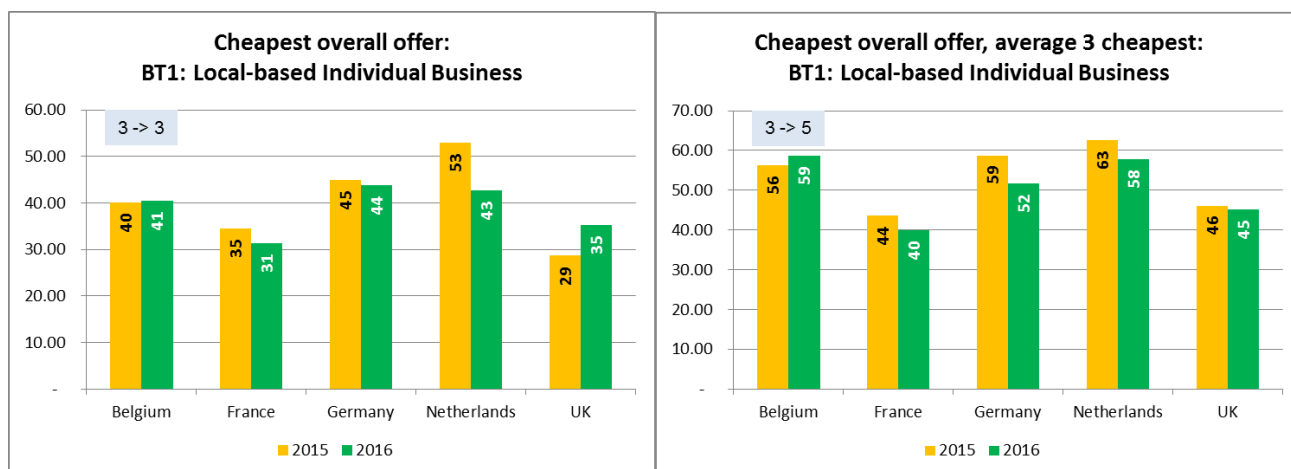
⁸ Since the last study, the Euro GBP conversion rate has shifted (from 1.38 to 1.27). While this doesn't impact the time series shown in this report (as the exchange rate for 2016 has also been applied to 2015), if the 2016 report is compared with the 2015 report, the exchange rate shift will make the UK results appear as if they have decreased by around 9% (in addition to any changes to actual costs).

portfolio may result in a previously more expensive offer, either from the same or a different provider, becoming the cheapest. Similarly a change in download speed (in the case of fixed broadband) without a corresponding change in prices can result in the higher speed offering now fulfilling the requirements of a business type where previously it didn't; and possibly at a lower cost than the previous selection.

5.1 Local-based Individual Business

The two graphs below show the evolution of prices for the cheapest overall offer from the cheapest provider and the cheapest overall offer based on the average of three cheapest providers for the Local-based Individual Business.

Figure 34: Price evolution, Local-based Individual Business



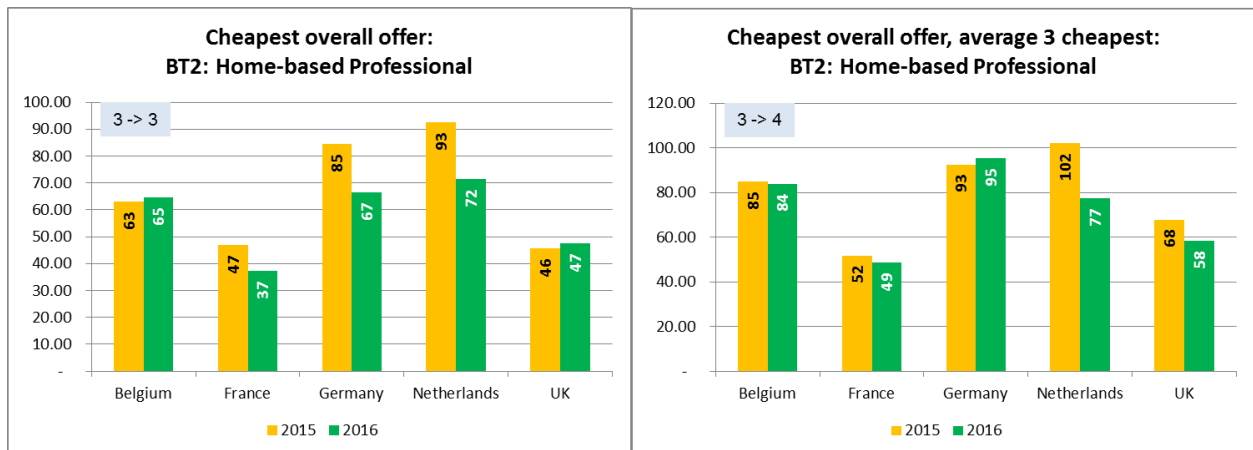
For the cheapest overall offer from the cheapest provider, the costs for the local based business have risen only very slightly since 2015 in Belgium, and are broadly in line with last year. With the exception of the UK (where costs have also gone up), costs in other countries have fallen. These small changes are not sufficient to change the ranking of third cheapest, however.

For the average of the three cheapest, again, costs have risen slightly. For the other countries, the biggest fall has been in Germany, where an underlying change in bundles offered has impacted the cost for Germany. Along with relatively small changes in the other countries, this is enough to impact the overall ranking, and Belgium now ranks fifth. The difference between Belgium and the Netherlands, the fourth in the ranking is insignificant.

5.2 Home-based Professional

The two graphs below show the evolution of prices for the cheapest overall offer from the cheapest provider and the cheapest overall offer based on the average of three cheapest providers for the Home-based Professional.

Figure 35: Price evolution, Home-based Professional



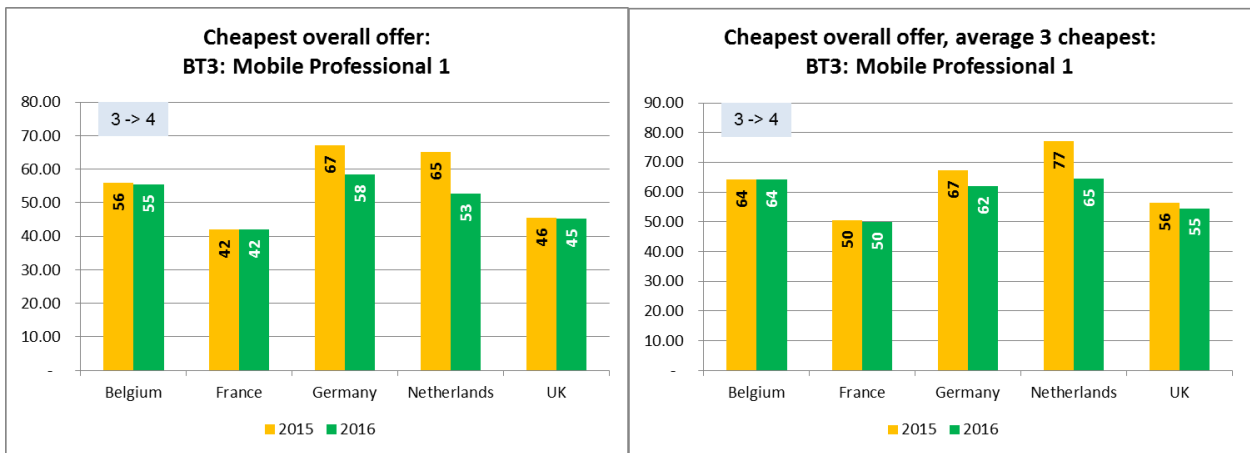
For the cheapest overall offer from the cheapest provider, costs for the Home-based Professional in Belgium have remained almost static since 2015 (with some small rises only being seen), although there have been some changes in multiplay offers, which has resulted in single services becoming slightly cheaper than multiplay. While the ranking remains unchanged for Belgium, more dramatic changes in other countries mean that its cost position relative to the other study countries does not. Costs for France, Germany and the Netherlands have fallen the most, and this is as a combined result of both increases and decreases across the various services. In Germany, for example, both fixed broadband and mobile voice costs, fell, while corresponding, mobile broadband and fixed voice costs rose. Netherlands saw reductions across all services.

For the average of the three cheapest providers, the ranking of Belgium fell from 3 to 4. This change was driven by a reduction in costs in the Netherlands, mainly as a result of changes to broadband (multiplay) offers, with previously discounted pricing becoming the standard offer price. Netherlands has also seen consolidation of providers, resulting in an overhaul of fixed offers.

5.3 Mobile Professional 1

The two graphs below show the evolution of prices for the cheapest overall offer from the cheapest provider and the cheapest overall offer based on the average of three cheapest providers for the Mobile Professional 1.

Figure 36: Price evolution, Mobile Professional 1



For the cheapest overall offer from the cheapest provider, the ranking for the Mobile Professional 1 has fallen from 3 to 4. The costs for Belgium have fallen slightly, as a result of reductions in mobile voice (based on single service offers), however it is the larger reduction seen in the Netherlands, where all three services used by this business type fell, most notably mobile broadband and mobile voice, that changed the ranking.

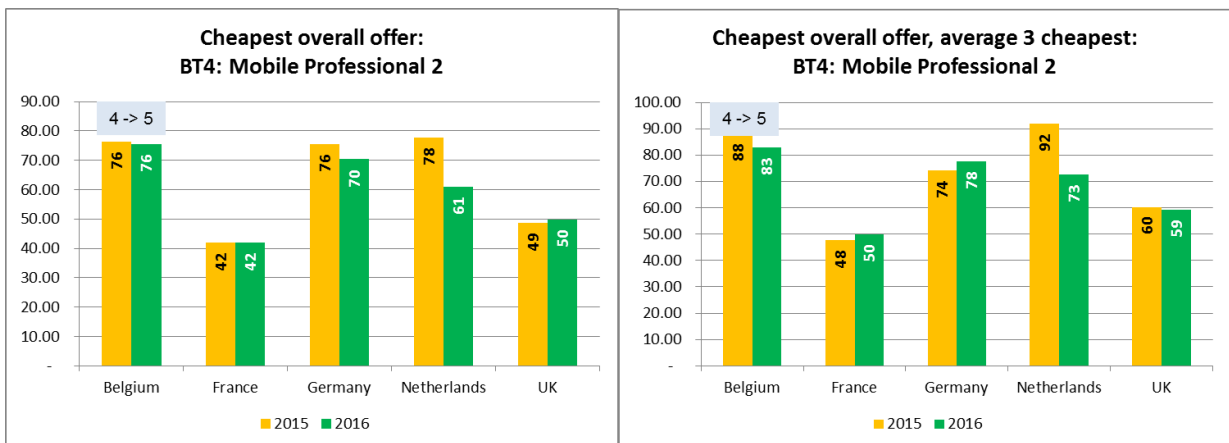
For the average of the three cheapest providers, the biggest decreases have been in Germany and the Netherlands, and here it is the reduction in Germany that has resulted in Belgium's lower ranking, although Belgium, German and the Netherlands are within only a few euros of each other in terms of cost.

For both calculation types, costs across the five study countries are much more aligned than in 2015.

5.4 Mobile Professional 2

The two graphs below show the evolution of prices for the cheapest overall offer from the cheapest provider and the cheapest overall offer based on the average of three cheapest providers for the Mobile Professional 2.

Figure 37: Price evolution, Mobile Professional 2



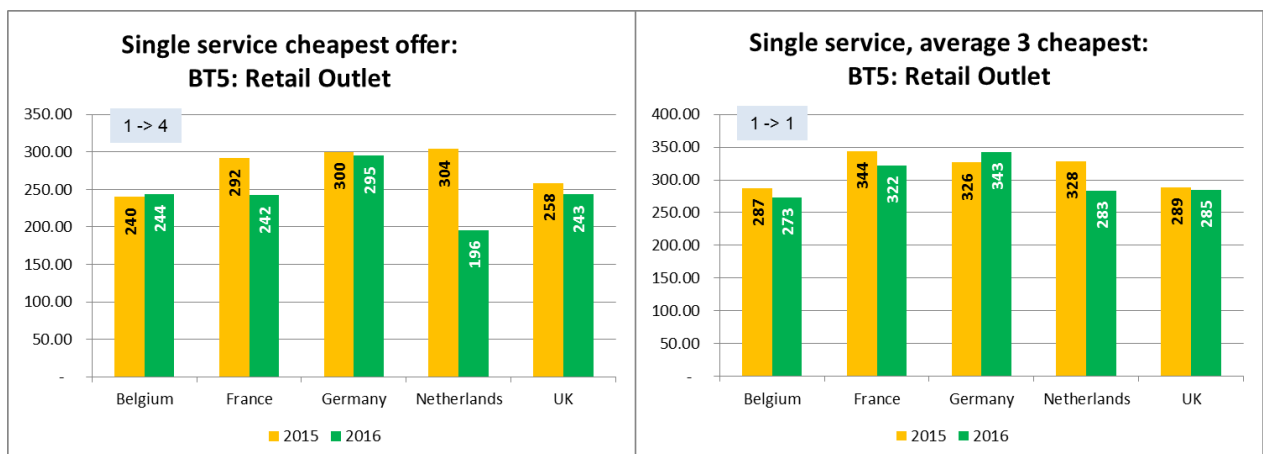
For the cheapest overall offer from the cheapest provider, the relative position of Belgium has worsened, although costs for Belgium are broadly unchanged. Similar to Mobile Professional 1, this change has been driven by a decrease in costs in the other countries, most notably for mobile services. Mobile data costs in Belgium have historically been high, and these costs have not decreased to any degree, unlike in other countries.

For the average of the three cheapest providers, cheapest overall offer, the absolute cost picture for Belgium has fallen slightly as a result of a relatively large decrease in mobile costs for one provider. In spite of this reduction, however, it has still fallen in the ranking from fourth to fifth, because of a much bigger reduction in costs the Netherlands, driven by the consolidation of providers, and the corresponding changes to portfolios and prices. Costs in France, Germany and the UK have risen slightly, although they are still below the cost of Belgium.

5.5 Retail Outlet

The two graphs below show the evolution of prices for cheapest single service from the cheapest provider and the average of the three cheapest providers based on single services, for the Retail Outlet

Figure 38: Price evolution, Retail Outlet



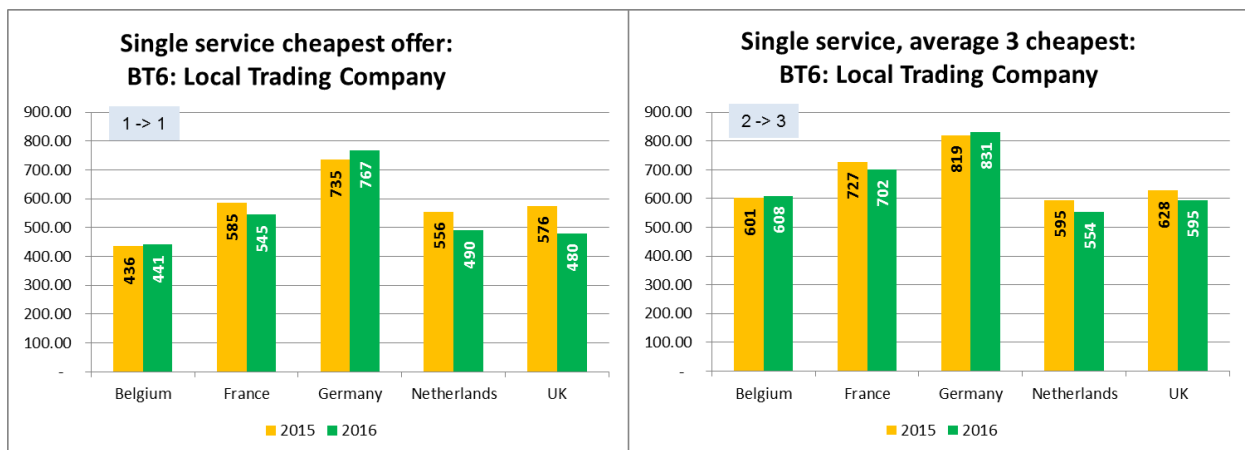
For the cheapest offer from the cheapest provider, the ranking for Belgium has fallen from 1 (cheapest) to 4 (second most expensive). While this change can seem dramatic, it is important to look at the deeper picture. There have been reductions in all countries, most notably in France and the Netherland. In the Netherlands, this reduction is driven primarily the introduction of a low cost business VoIP offer, while the reduction in France is due to the introduction of a much lower cost business broadband service than was previously available. Although the ranking of Belgium seems quite low, in fact there is just over €1 difference between the UK which is second cheapest, and Belgium.

For the average of the three cheapest providers, Belgium has maintained its position as the cheapest study country overall. In the other countries, the biggest changes were again in France and the Netherlands. These changes were driven by the inclusion of the low cost business broadband in France, and the inclusion of the business VoIP service in the Netherlands, already mentioned, however, as the results take into account up to three providers, the reductions in these countries for this calculation type was less dramatic than that of overall cheapest.

5.6 Local Trading Company

The two graphs below show the evolution of prices for cheapest single service from the cheapest provider and the average of the three cheapest providers based on single services, for the Local Trading Company

Figure 39: Price evolution, Local Trading Company



For the cheapest offer from the cheapest provider, Belgium has maintained its ranking position as the cheapest country. Costs across all services are broadly unchanged since last year. Similarly in France, costs for most services did not change, apart from the cost for fixed broadband, which fell sharply. In Germany and the Netherlands, costs both increased and fell, depending on the service, while costs in the UK all fell, with the exception of mobile voice, which remained unchanged. While Belgium has remained the overall cheapest for this business type, the reductions in other countries, most notably the UK, means that results are much more closely aligned than last year.

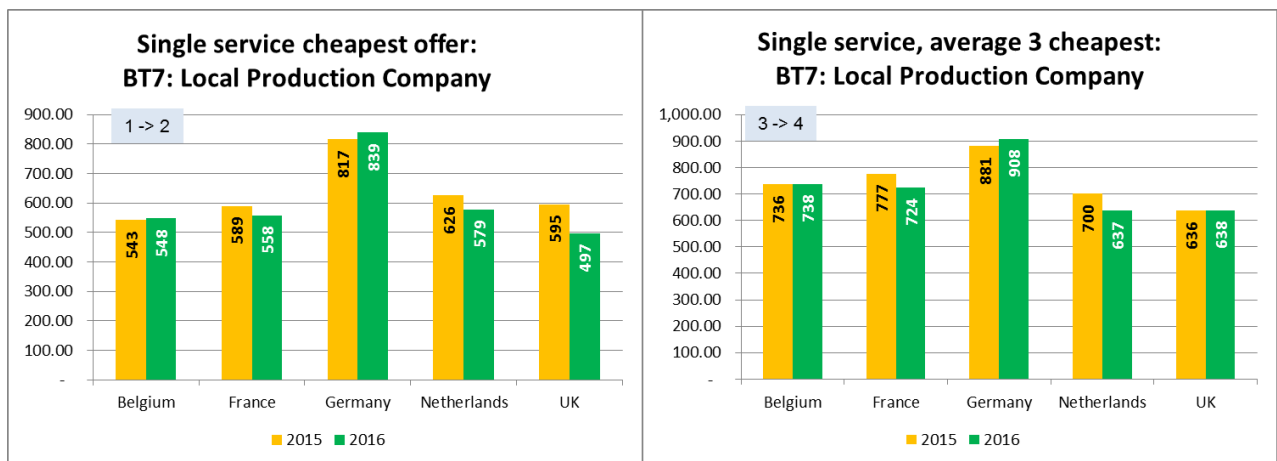
For the average of the three cheapest providers, Belgium moved from second to third position. This change in ranking is as a result of the larger decreases seen in the UK. It is important to note, however, that the difference in cost between the UK and Belgium is a fairly modest €13.

The results for the Local Trading Company have been adjusted for 2015 to reflect the availability of an option for international calls that was not reflected in the 2015 calculations. This has now been applied retrospectively, to present a more accurate picture for the time series. The result of this adjustment is that the relative outcome for Belgium in 2015 has improved, both in terms of cost and ranking. This does not necessarily detract from the fact that, outside of this option, international fixed calls from Belgium are generally expensive.

5.7 Local Production Company

The two graphs below show the evolution of prices for cheapest single service from the cheapest provider and the average of the three cheapest providers based on single services, for the Local Production Company.

Figure 40: Price evolution, Local Production Company



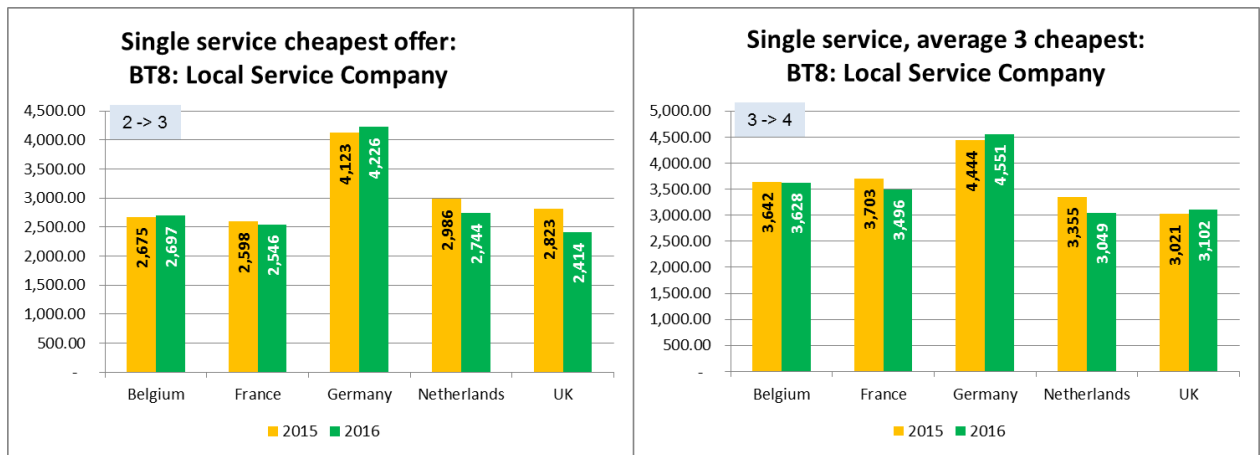
For the cheapest offer from the cheapest provider for the Local Production Company, fell from cheapest overall to second cheapest. Costs for Belgium remained broadly static, however, there was a fairly significant decrease in costs in the UK for this business type across most services. Costs similarly fell in France and the Netherlands, and the result was a much closer alignment with Belgium in terms of absolute costs. The difference between Belgium (second cheapest) and the Netherlands (fourth cheapest) is a relatively modest €31.

For the average of the three cheapest providers, the relative position of Belgium fell from third cheapest in 2015 to fourth cheapest in 2016. Costs for Belgium rose only slightly overall for this business type, by less than 1%, but falls of almost 7% in France resulted in the change in position for Belgium. Of note with this set of results is that there is only €1 difference between the Netherlands and the UK (rankings 1 and 2 respectively), and €14 between Belgium and France (rankings 4 and 3 respectively).

5.8 Local Service Company

The two graphs below show the evolution of prices for cheapest single service from the cheapest provider and the average of the three cheapest providers based on single services, for the Local Service Company

Figure 41: Price evolution, Local Service Company



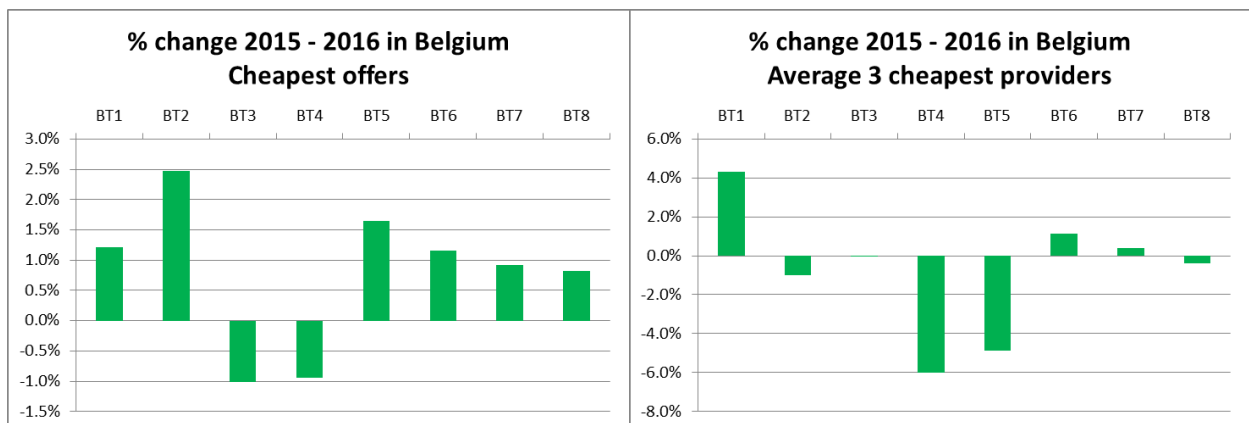
For the cheapest offer from the cheapest provider, Belgium went from second to third cheapest. Absolute costs for Belgium remained broadly unchanged (with some small increases in fixed services). The biggest changes were in the Netherlands and the UK, where absolute costs fell - driven by reductions across most service areas.

For the average of the 3 cheapest, Belgium's ranking changed from 3 to 4. The absolute costs for Belgium fell by less than 1% from 2015 to 2016. In spite of this its ranking position changed from 3 to 4, as a result of steeper cost falls in France, which fell by almost 6%, pushing it into third cheapest.

5.9 Summary of change in total telecommunication costs for Belgian businesses since 2015

This section summarizes the overall change in telecoms service prices for Belgium, across the eight business types, taking into account the cheapest overall offer for the cheapest provider and the cheapest overall offers across the average of the three cheapest providers.

Figure 42: Change in Belgian telecommunications costs by business type since 2015



* For Business Types 5-8, the changes are based on single service offers only

The changes seen across the eight business types have been a mix of increases and decreases, and have, for most business types, been relatively modest, and within the bounds of what might typically be expected, i.e. up to 6% in either direction (and often less). It is important to consider that an overall change for a business will be the compound result of changes to individual services, which may be changing in the same way - for example all increasing, or all decreasing - or increases in some services may be countered by decreases in others.

6 Pure bundle pricing

This analysis is different from the multiplay analysis in section 4 of the report, in that it only considers the cost of pure bundles, without any additional single services added, but including usage charges.

Bundles are becoming increasingly prevalent, and may offer benefits both on price (depending on the usage profile) and non-price-related aspects, such as single or consolidated billing, and a single point of contact for account management.

The table below outlines the key differences in the pure bundle pricing considered here and the analysis in section 4.

	Multiplay	Pure bundle
Takes business requirements into account (tariff may include additional usage based charges)	Yes	Yes
Multiple suppliers possible	Yes	No
Results may include single services	Yes	No
Different combinations of service may make up the bundle	Yes	No

Because of this, the results need to be handled with some caution. In spite of this, the analysis does provide a useful assessment of how the costs of pure bundles compare across the study countries.

Only single user businesses are considered in the analysis, i.e. business types 1-4.

Additionally, while there are a number of different bundle types, only those bundles where there are data points for at least three of the study countries, including Belgium, are considered. Only two bundles are relevant for consideration in this section:

- fixed broadband and fixed voice
- fixed broadband, fixed voice and mobile voice

6.1 Fixed broadband and fixed voice pure bundles

The figures below show the cost for the cheapest pure bundle only for fixed broadband and fixed voice, for business types 1 and 2, and 3 and 4.

Figure 43: Cheapest pure bundle price: fixed broadband and fixed voice, business types 1 and 2

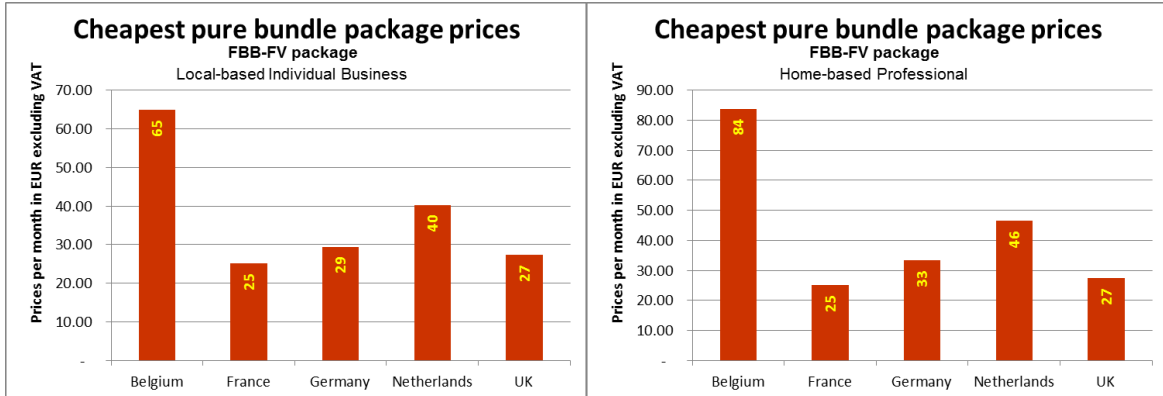
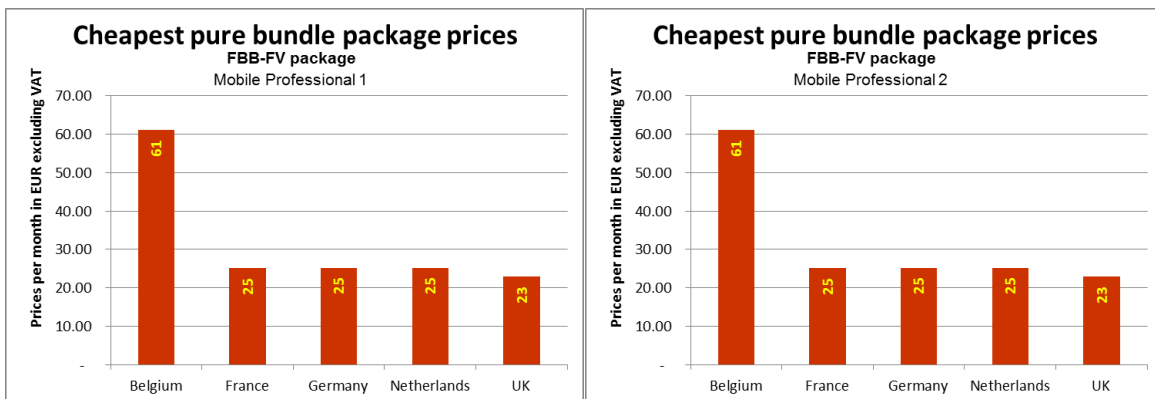


Figure 44: Cheapest pure bundle price: fixed broadband and fixed voice, business types 3 and 4



Across all four business types, Belgium consistently has the highest cost for fixed broadband and fixed voice bundles, and this presents a similar picture to that seen in 2015. For business types 1 and 2, there is much greater variation in cost across the study countries (although Belgium is still the most expensive), while for business types 3 and 4, the costs are much more closely aligned, again, with the exception of Belgium.

It is worth noting that, for this particular bundle combination, the results for business types 3 and 4 are identical. This is because we are looking at FBB and FV, and for these two businesses, there is no FV usage. In this case, they will still pay the cost of the bundle, which is fixed but won't attract any FV usage charges. Additionally, there are no usage charges with FBB.

Changes since 2015

While there have been some shifts in prices since last year, the general picture is broadly similar, in that across the four business types, Belgium continues to be the most expensive for the fixed broadband and fixed voice bundle, while the other countries are much more aligned in terms of cost than in 2015. The main changes have been to the Home-based Professional, which has the heaviest use of both fixed broadband and fixed voice. For this business type, both Germany and the Netherlands have fallen.

6.2 Fixed broadband, fixed voice and mobile voice pure bundles

The figures below show the cost for the cheapest multiplay package only for fixed broadband, fixed voice and mobile voice, for business types 1 and 2, and 3 and 4.

Note: there is no result shown for either Germany or the Netherlands, as none of the providers analysed in these two countries have a suitable triple play offer that includes fixed broadband, fixed voice and mobile voice.

Figure 45: Cheapest pure bundle price: fixed broadband, fixed voice and mobile voice, business types 1 and 2

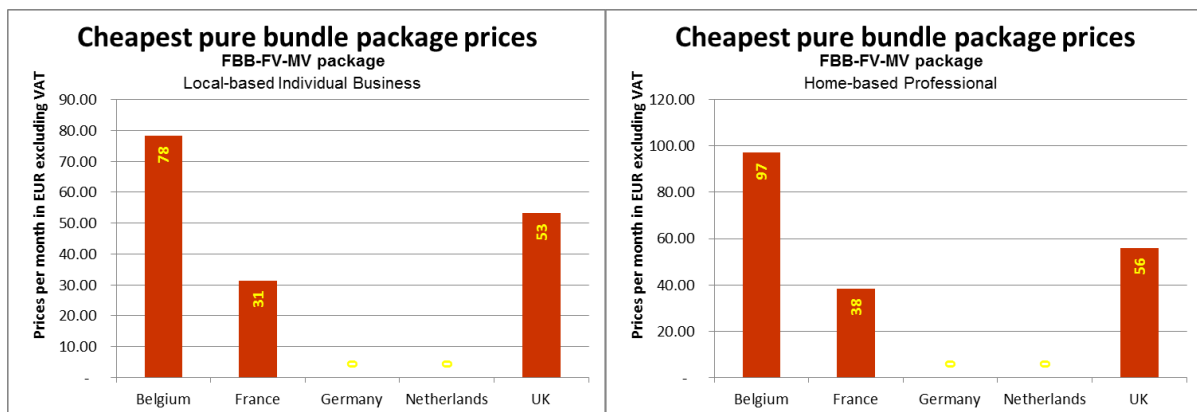
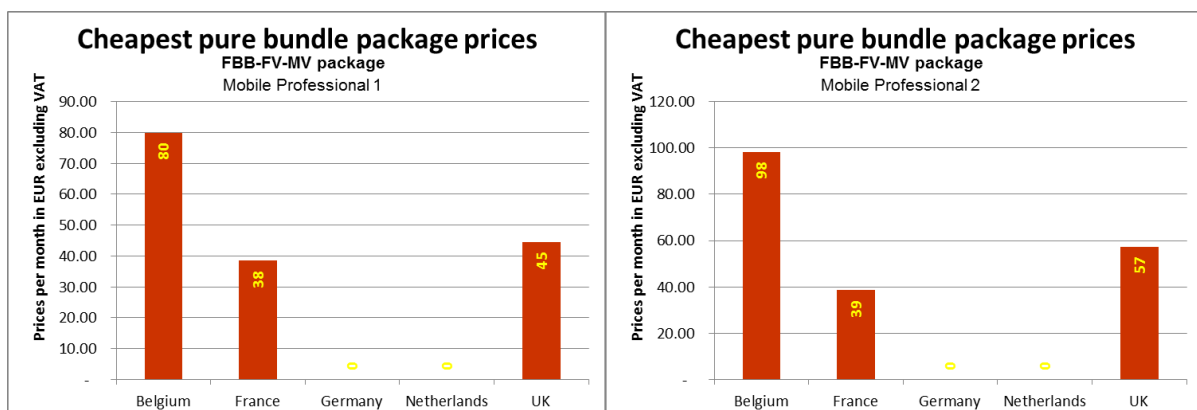


Figure 46: Cheapest pure bundle price: fixed broadband, fixed voice and mobile voice, business types 3 and 4



Belgian providers are again, more expensive than in other countries where this type of offer is available, and significantly so. Triple play offers included mobile voice are becoming increasingly commonplace as fixed providers with mobile arms look to offer a more complete service for end-users.

Changes since 2015

For the fixed broadband-fixed voice-mobile voice business bundle, there have been some notable changes since 2015. The first is that this type of bundle is no longer offered in the Netherlands. Additionally, there have been some changes in terms of the cost of the cheapest bundle. In Belgium, the bundle costs have increased slightly, across all four business types, while costs for both France and the UK have fallen, with the most dramatic change being seen in France. In 2015, fixed broadband-fixed voice-mobile voice business bundles in France were much more limited, with offers available from one provider only. Since then, however, a number of providers are now offering this combination of services as a bundle, which has driven the price down. The UK, too, has benefited from the introduction of more competitive offers, although to a lesser degree.

7 Non-price related elements

7.1 Introduction

This section provides an overview of a selected number of non-price related elements across the study countries. The overview is not intended to be an in-depth, exhaustive comparison across provider, but rather an indication of a few key measurable elements offered across the study countries.

The elements considered in this section cannot be taken into account in the price benchmark for a number of reasons:

- Many of the elements do not attract a cost, and as such cannot be quantified.
- Any assumptions on the value of the elements would be highly subjective, and each element will have a different level of importance to different business users.
- Information may not be fully complete across providers and countries, or may not be fully consistent.
- For most of the elements, the summary is based on a full range of offerings from a provider, and does not represent a single offering.

7.2 Summary of non-price-related elements

The table below summarizes selected non-price-related elements, by provider and by country. The information shown is based on both residential and business services, as these were considered in the price benchmarking. With the exception of best fix times, which are quoted for business services specifically.

The information presented in this section is based on data collected in February/March 2016, and may have since changed.

Figure 47: Summary of non-price-related elements, by provider and country

	Speed low (FBB) ¹	Speed high (FBB) ¹	Best fix times (hrs) (FBB)	Usage caps (FBB) ²	Cloud included (FBB)	Security included (FBB)	Roaming included (MV) ³	WiFi hotspots/homespots ⁴
Belgium								
Proximus	50	100	5	Partly	Partly	Optional	Partly	1,000,000
Telenet	30	240	8	Partly	No	Partly	No	1,250,000
SFR	50	200	24	Partly	No	Yes	Partly	No
Orange	16	200	Not stated	No	No	Yes	Partly	No*
Base							Partly	No*
Voo	50	100	Not stated	Partly	No	No	No	1,200,000
EDPNet	4	200	8	No	No	Yes		No
United Telecom	70	70	Not stated	No	No	No	No	No
Belcenter	0.256	100	4	No	No	Optional		No
Colt	1	40	Not stated	Not stated	Not stated	Not stated		No
France								
Orange	15	1000	24	No	Partly	No	Partly	4,000,000
SFR	20	800	8	No	Partly	Partly	Partly	4,000,000
Bouygues	2	200	4	No	Partly	Partly	Partly	Yes
Free	15	1000	Not stated	No	No	Optional	Partly	4,000,000
Numericable	100	800	Not stated	No	No	Yes		Yes
Germany								
Telekom/T-Mobile	1	100	24	No	Partly	Partly	Partly	40,000
United Internet (1&1)	16	1000	Not stated	Partly	Not stated	No	No	No
Unity Media	10	400	Not stated	No	No	Partly	No	No
Vodafone	3	1000	Not stated	Partly	No	No	Partly	1,000,000
O2	2.3	1000	8	Partly	Yes	Optional	Partly	3,000
Base							No	No*
Kabel Deutschland	10	200	5	No	Partly	Optional		1,000,000
Netherlands								
KPN	20	500	Not stated	No	No	Partly	Partly	Yes
Ziggo	6	500	4	No	No	Yes	Partly	2,000,000
Tele2	20	100	Not stated	No	No	No	Partly	No
Vodafone	20	500	Not stated	No	No	No	Partly	No*
T-Mobile							Partly	No*
UK								
BT	17	76	24	Partly	Partly	Partly	No	5,000,000
TalkTalk	17	76	Not stated	No	No	Yes	No	No
EE	17	76	Not stated	No	No	Yes	Partly	5,000,000
O2							Partly	Yes
Vodafone	17	76	Not stated				Partly	5,000,000
3 UK							Partly	No*
Virgin Media	50	300	24	No	Partly	Yes	No	22,000
Sky	17	38	Not stated	Partly	No	Yes		Yes

¹Refers to advertised download speed

²Unlimited fixed broadband usage may still be subject to fair use policies and/or data allowance restrictions

³Where providers are 'partly' include roaming, this means that some plans include roaming within the overall offer, rather than as an add-on. This may cover voice, data and/or SMS. Other restrictions may also apply, for example, roaming to Europe only.

⁴The number of hotspots/homespots stated is national only.

*For mobile-only operators, it may not be relevant/viable to offer an extended WiFi service.

Note: Where elements are stated as being partly available, this indicates that they are included in some but not all tariffs.

Key points

Almost all providers offer very high speed services, that fully meet the needs of the businesses defined for this study. Providers in France and Germany offer the highest speeds of service, at 1GB/s services.

While it can be useful to compare the speed of service across different providers and different countries, it is important to note that advertised higher speed services are not always available to each customer in a certain country. In Belgium, for example, NGA (Next Generation Access) broadband is widely available across the country, however and that is not always the case in other countries.⁹

Information on service fix times is often not available or clearly stated, which can be an issue for business users. As many single user businesses will make use of often cheaper residential services, they may be faced with more limited information on how long a service will take to fix if there is a fault, and such fix times may be longer. This is the trade-off that a single user business will have to consider, in return for cheaper services.

Usage caps continue to be quite widely used, although no provider includes them across their whole portfolio. And often, capped services have generous allowances that will typically cover the needs of a business. The exception here is light user services, which only include small allowances and are targeted at a very specific kind of usage. Capped services are more prevalent in Belgium and Germany.

The inclusion of cloud services varies from provider to provider, and there is no consistent approach within a country. For some providers it is an optional add-on, while for others, it is include as standard as part of one or more offer.

Security is often included as part of fixed broadband offers within the overall cost, however a number of providers will include security software (such as Norton or MacAfee) for an additional monthly fee (usually a few euros per PC, for example). Security software encompasses anti-virus and anti-spyware software, and offers PC protection when accessing the internet.

The inclusion of roaming within an offer similarly varies from provider to provider. Roaming here covers voice, data and/or SMS. Many providers increasingly have offers in their portfolio that have some element of roaming. These are usually higher end plans, but these are increasingly available for residential and business users alike. Roaming within Europe is more widely offered than other destinations, as might be expected.

⁹ Additional information on coverage is available from the regulatory bodies in individual countries, however, this may provide varying amounts of details, e.g. information by technology type, or by a minimum defined speed for NGA.

Providers still utilize add on roaming packages, or will levy usage-based roaming costs. Notably, Three in the UK will allow all contract customers to roam within its footprint, using their contract allowances.

Access to hotspots and homespots is increasingly prevalent, with many of the larger and more dominant providers offering access to hotspot services such as FON or The Cloud, either free of charge or for a fixed fee.

An additional factor which may be important to consider, which is not shown in the table, is that of contract duration, and this will vary across the study countries. Often to achieve the cheapest offer, the business user will need to sign up to a contract that runs for several years, and such a contract may or may not have flexibility built in, for example to upgrade or to exit the contract at short notice. In Belgium, many contracts for business users can be terminated with immediate effect.

Changes since 2015

The non-price factors that have seen the greatest change since 2015 are:

- Advertised download speeds for fixed broadband: These have seen a general increase across many providers. 1GB/s services are now available in both France and Germany, from several providers. Speeds in Belgium have increased for some providers, with the maximum download speed offered (at the time of data collection) of 240 Mb/s,
- Inclusion of roaming for mobile voice: there is an increasing number of offers that have a component of international roaming included compared to last year. Some element of roaming, either voice calls, SMS or data (or all three), will often be included for higher end offers. Limitations will often exist, including a limit on allowances, or geographic limitations - for example, calls within the EU only, or back to the home country only.

Other non-price factors have seen much more limited changes over 2015.

8 Conclusion

With regards to the telecommunications costs faced by Belgian businesses as compared to other study countries, there has been a shift since last year from mid-range towards the more expensive end, primarily as a result of price reductions in other countries. It should be noted that the rankings vary by business type, and whether we consider the cheapest offer of the cheapest provider, or the average of the three cheapest providers.¹⁰

The summary rankings for both calculation types are show in the two tables below.

Figure 48: Rankings summary across all business types: cheapest overall offer.

	BT1	BT2	BT3	BT4	BT5	BT6	BT7	BT8
Belgium	3	3	4	5	4	1	2	3
France	1	1	1	1	2	4	3	2
Germany	5	4	5	4	5	5	5	5
Netherlands	4	5	3	3	1	3	4	4
UK	2	2	2	2	3	2	1	1

Figure 49: Rankings summary across all business types: cheapest overall offer, average of three cheapest providers.

	BT1	BT2	BT3	BT4	BT5	BT6	BT7	BT8
Belgium	5	4	4	5	1	3	4	4
France	1	1	1	1	4	4	3	3
Germany	3	5	3	4	5	5	5	5
Netherlands	4	3	5	3	2	1	1	1
UK	2	2	2	2	3	2	2	2

Country rankings do not always present the complete picture and need to be considered alongside the relative costs across the study countries. In some instances, we observe a small difference in total telecommunications costs in terms of absolute amounts, reflecting a small percentage difference. As far as the result type “average of the three cheapest” is concerned, the most prominent examples where prices are clustered in this way, and for which the relative cost picture should be considered include:

- BT1: Difference in cost between the Netherlands (4th) and Belgium (5th) is less than €1, meaning that Belgium is only 1.4% more expensive.
- BT3: Belgium ranks 4th, however, the difference in cost between Germany (3rd) and the Netherlands (5th) is less than €3 on a total communication cost of about €65.

¹⁰ When reference is made in the report to the cheapest overall offer (business types 1 to 4), this is based on the cheapest provider within each country, taking into account both single service and multiplay calculations. For business types 5 to 8, cheapest overall offer will be based on single service calculations only, as multiplay is not a relevant proposition for these organisations.

- BT6: Belgium ranks 3rd, however, it is just over 2% more expensive than the UK, which ranks 2nd.
- BT7: Belgium ranks 4th, however, it is just over 2% more expensive than France, which ranks 3rd.

The variation in cost between the cheapest and the average of the three cheapest providers in a country reflects the extent to which there is a wider spread (in cost terms) of competitive offers across different providers, compared to others. The larger the difference between the cheapest and the average of the three cheapest providers, the greater the differences in the cost of offers for one or several services will be. For Belgium, specifically, three of the eight businesses see an increase in ranking of two or more places between the cheapest overall and the average of the three cheapest calculations

- For the Local-based Individual Business (BT1), the cheapest offer is based on a multiplay combination, which offers savings of almost 30% over the business buying services singly (based on the cheapest provider). For the average of the 3 cheapest, however, it is the single service purchase that is the cheapest, as the multiplay offers from other providers are much less competitive. For this business, provider selection is critical, it if wishes to achieve cost savings. Multiplay is a good option, but not from all operators. For single service purchase, the cost variation across the 3 cheapest providers is not significant.
- For the Local Trading Company (BT6), Belgium has the largest difference between the cheapest and the average of the 3 cheapest calculations - €168, and much of this difference is driven by fixed voice, where there is a very competitive offer for the cheapest overall, however, when other providers are considered, the cost is significantly more expensive. The variation in costs for mobile broadband is also high, in percentage terms, although as mobile broadband is a relatively small cost in the overall total, the impact of this is less noticeable.
- The Local Production Company (BT7) in Belgium ranks 2nd cheapest for the overall cheapest offer, and 4th for the average of the 3 cheapest. As with the Local Trading Company, Belgium has the largest difference between the cheapest and the average of the 3 cheapest calculations. Again, much of this variation was due to a wide spread in prices for fixed voice across providers. The variation in costs for mobile broadband is actually much greater than that of fixed voice, in percentage terms, however, relative to the total cost, this difference is much smaller.

Businesses with a heavier reliance on mobile communications will tend to rank lower. Mobile pricing in Belgium, particularly for data, is high compared to other countries. This is evidenced most notably in the rankings for Mobile Professional 1 and 2, for both the cheapest and average of the 3 cheapest, where Belgium is either most expensive or second most expensive, and this is a result of the dominance of mobile communications for these businesses, and in particular, the high use of mobile data - both over the mobile handset and computer-based mobile broadband. Customer demand for mobile data is increasing in Belgium, as is the case in the other study countries, however, data allowances in the other countries have seen a much greater increase compared to Belgium since last year. Furthermore, this has not been accompanied by a proportional increase in price. By contrast, changes to demand, mobile service data allowances and prices in Belgium have typically been much smaller.

For residential users, fixed voice is often considered a less critical service (compared to mobile voice and fixed broadband), however it is still an important part of the portfolio of many business services. An area where Belgium performs relatively well is fixed voice at higher usage levels. The availability of attractive low cost international calling options offered by some providers in Belgium favours business types with a high use of international calls, since companies can bypass the per minute charges otherwise levied.¹¹

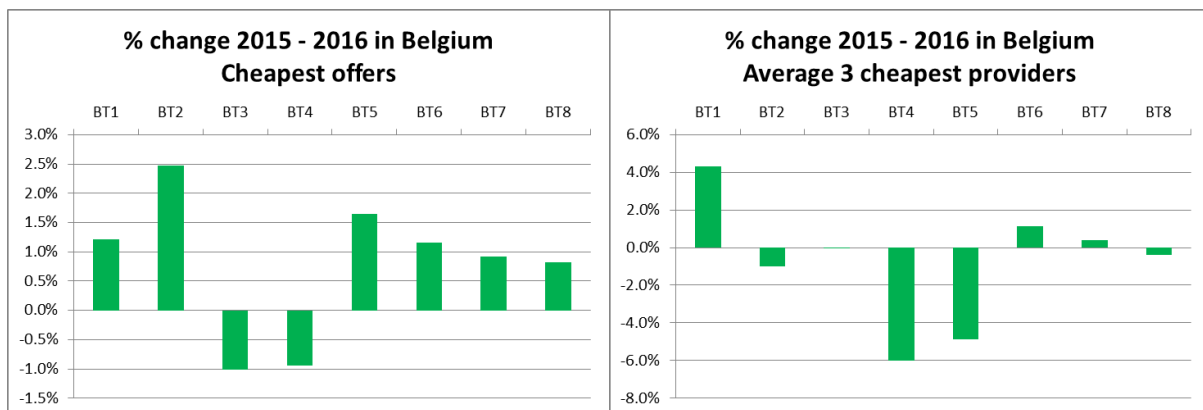
For fixed broadband only, the position of Belgium for business types 1 to 4 (single user businesses), based on the average of the three cheapest providers is very favourable, with Belgium ranking as the cheapest (based on single service offers). These four business types are single user, and can also make use of residential broadband services, which are often cheaper than business broadband offers, and which are competitively priced in Belgium. For the overall cheapest result, the position of Belgium relative to the other countries is less favourable, based on rankings, but is typically within a few euros only of three of the remaining four countries (France is the cheapest here, based on an especially low-cost offer). For multi-user business (business types 5 to 8), broadband services in Belgium are less competitive than in the other study countries. When the average of the three cheapest providers is considered, Belgium ranks mid-range, while for the cheapest overall offer, Belgium is the most expensive country. This less favourable position is because, for the multi-user businesses, only business broadband services are considered, and these are generally more expensive in Belgium compared to the other countries.

¹¹ The 2015 results have been adjusted to reflect the availability of an option for international calls that was not addressed in last year's report. This has improved the relative position of Belgium for those businesses that have a high component of international fixed voice. For the business types in question, i.e. type 6 and 8, Belgium ranks mid-range for fixed voice in 2016). This does not detract from the observation that international fixed per minute call charges from Belgium are generally expensive.

It is interesting to note that, for business types 1-4, multiplay does not feature as the cheapest way to procure services in Belgium, irrespective of calculation type. The only exception to this is for the Local-based Individual Business, for the cheapest overall offer. In the other study countries, multiplay often delivers cost savings over services bought singly, for either one or both calculation types¹². This study also benchmarks the cost of two pure bundles types¹³, without any additional single services. With respect to such products, Belgian providers are more expensive than in other countries where this type of offer is available. In the framework of this study we make abstraction of certain non-price related benefits as perceived by customers with respect to purchasing bundled products (e.g. the convenience of a single point of contact).

The two graphs below show the evolution in telecommunications costs for the eight Belgian business types since 2015.

Figure 50: Change in telecommunications cost for Belgian businesses since 2015



** For Business Types 5-8, the changes are based on single service offers only*

The changes seen across the eight business types since 2015 have been a mix of increases and decreases, and have, for most business types, been relatively modest, and within the bounds of what might typically be expected, i.e. up to 6% in either direction (and often less). For the cheapest overall offer, with the exception of business types 3 and 4, the two Mobile Professional businesses, costs increased since 2015. These increases were very

¹² Please refer to section 3.8 for more background on the concept of multiplay as used in the framework of this study. Multiplay comprises a bundle of two or more communications services to which additional single services may be added where the bundled offer does not cover the full business need. A Multiplay result may comprise offerings from different operators - e.g. a double play fixed broadband and fixed voice bundle offered by operator X, a single mobile voice service offered by operator Y and a single mobile broadband service offered by operator Z.

¹³ Double-play “fixed broadband and fixed voice” on the one hand, and triple-play (fixed broadband, fixed voice and mobile voice” on the other.

modest; however, with the largest increase being for the Home-based Professional, where the cost increased by 2.5% on 2015. For Mobile Professional 1 and 2, prices fell by around 1%.

For the average of the 3 providers, costs for the Local-based Business increased by just over 4%, while costs for the Mobile Professional 2 and the Retail Outlet fell by 6% and 5% respectively. Changes to the other business types were considerably smaller - the cost for both the Local Trading Company and the Local Production Company rose slightly (up to 1%), while costs for the remaining business types fell slightly (again, by up to 1%). It is important to consider that an overall change for a business will be the compound result of changes to individual services, which may be changing in the same way - for example all increasing, or all decreasing - or increases in some services may be countered by decreases in others.

In terms of changes to rankings, based on the cheapest overall offers, Belgium has maintained its position across 3 of the 8 business types, namely the Local-based Individual Business (business type 1), the Home-based Professional (business type 2) and the Local Trading Company (business type 6). For the remaining business types, Belgium has moved down in rank by one place, with the exception of the Retail Outlet, which has moved down by three places. This more dramatic shift for this business and calculation type masks the fact that the telecommunications costs between the mid-group of countries, including Belgium, are very closely aligned.

When we consider the change in ranking since 2015 for the average of the three cheapest providers, these remain unchanged for only one of the eight businesses; namely the Retail Outlet (business type 5). All other business types fell, by one place, with the exception of the Local-based Individual Business, which fell by two places.

In terms of the non-price related data, the two main changes seen since last year in all countries are the increase in advertised download speeds of fixed broadband services, and the increased inclusion of a roaming component in mobile voice offers.

End of report

Appendix A: Methodology

A Methodology

A1 Overview

The study uses a basket methodology to compare the telecommunications charges paid by eight types of business entities, which are constructed to represent different combinations of services and usage levels. These eight businesses can be split into two broad groups, depending on how many active service users there are.

- Business types 1 to 4 consider single user businesses (“SoHos”), comprising the Local-based Individual Business, the Home-based Professional and two types of Mobile Professionals.
- Business types 5 to 8 consider businesses with multiple users, ranging from 5 to 50 users (“SMEs”), including the Retail Outlet, the Local Trading Company, the Local Production Company and the Local Service Company.

The analysis considers costs for each business type when services are purchased singly to make up the communications requirements of the business, as well as costs when multiplay offerings are used (with single services where a multiplay offering does not cover the full business need). A multiplay offering is defined as a set of two or more communications services that are sold together (as a bundled offer) from a provider, typically at a lower cost than if the services were bought individually from the same provider.

As multiplay offers are not relevant, for multi-user businesses, multiplay offers are not included in the calculation or results for SMEs (business types 5-8).

A2 The Business concept

An important part of the study methodology is the concept of “businesses”¹⁴, covering all telecommunications service requirements of all users and the costs associated to it. For each business, baskets for individual services have been determined to establish how each service is used within that business.

The following telecommunications services (“services”) are covered within the study:

- Fixed voice FV (PSTN, VoIP)
- Mobile voice MV (including SMS and handset data usage)

¹⁴ The concept was originally developed for “households”, analysing the services used by a home, including television services.

- Fixed broadband FBB (over DSL, Cable, Fibre)
- Mobile broadband MBB (based on laptop/tablet/dongle modem usage)

As far as telecommunications product offers are concerned, the benchmarking methodology looks separately at both the above mentioned single services, and any bundles/combinations consisting of two to four different services. With bundled services, in order to complete the picture, a multiplay or bundled offer that does not fulfil all the requirements of a business is expanded with the cheapest possible single services in the market, from any provider.

The table below describes in broad terms the telecommunications requirements for each type of business that has been defined for the purposes of this study, reflecting the typical Belgian context.

Figure 51: Communications service requirements for identified businesses

	FBB	MBB	FV nat	FV intrn	MV nat	MV intrn	MV mess	MV data	Users
1 Local based individual business	Low		Low loc		Low	Low	Low	Low	1
2 Home-based Professional	Medium	Medium	Medium nat	Medium	Low	Low	Low	Medium	1
3 Mobile Professional 1	Low	High			Medium	Low	Low	Medium	1
4 Mobile Professional 2	Low	High			High	Low	Medium	High	1
5 Retail Outlet	Medium	Medium	Medium loc	Low	Medium	Low	Low	Low	5
6 Local Trading Company	Medium	Medium	High Nat	High	Low	Low	Low	Medium	10
7 Local Production Company	Medium	Low	High loc	Low	Medium	Medium	Medium	High	10
8 Local Service Company	Medium x 3	Low	High loc	High	Medium	Low	Medium	High	50

Low, Medium and High suggests usage levels per User.

For Fixed Voice: Loc means predominantly local usage, Nat means predominantly national (long distance) usage.

Number of Mobile Broadband users will be half of the total number of users.

x3 is indication of the number of lines/connections that will be required.

Each business employs one or more people who are telecommunications users. Please note that the number of employees is not (necessarily) equal to the number of users, so that for example Business 7, a “Local Production Company”, may have 50 employees, but only 10 are active telecommunications users.

The average Belgian usage profile is identified as “medium” usage. Profiles for lower and higher usage are defined in relation to this medium profile, with usage levels that are typically 1/3 (for “low”) and 3 times (for “high”) of the medium.

A3 Profiles by service

The business definitions are described individually, in Section 4 of this report. The tables below consider an alternate view to this, For each of the four services, a summary of how each business profile uses the service is provided. All usage is specified per month.

Business types 1 to 4 refer to a SoHo (Single Office/Home Office) business, while business types 5 to 8 refer to an SME (Small and Medium Enterprise).

Figure 52: Fixed voice requirements by business type

	Fixed voice	Users	Profile	Total calls	Local %	National %	F2M %		Intn %			Dur F2F	Dur F2M	Dur Intn
1	Local based individual business	1	FV Single Low Local / No intn	40	50%	25%	25%		0%			3.0	3.0	3.0
2	Home-based Professional	1	FV Single Medium National / Medi	120	23%	45%	23%		9%			4.0	4.0	4.0
3	Mobile Professional 1													
4	Mobile Professional 2													
5	Retail Outlet	5	FV Medium Local / Low intn	90	49%	23%	23%		5%			2.0	2.0	2.0
6	Local Trading Company	10	FV High National / High intn	180	22%	49%	16%		13%			4.0	4.0	4.0
7	Local Production Company	10	FV High Local / Low intn	180	54%	25%	16%		5%			4.0	4.0	4.0
8	Local Service Company	50	FV High Local / High intn	180	49%	22%	16%		13%			4.0	4.0	4.0

Figure 53: Mobile voice requirements by business type

	Mobile voice	Users	Profile	Total calls	Fixed %	On-net %	Off-net %	Voicemail	Intn %	SMS	Data GB	Dur M2F	Dur M2M	Dur Intn
1	Local based individual business	1	MV Low (per user)	40	17%	40%	39%	2%	2%	25	0.2	2.1	2.1	2.1
2	Home-based Professional	1	MV Low (per user)	40	17%	40%	39%	2%	2%	25	0.8	2.1	2.1	2.1
3	Mobile Professional 1	1	MV Medium (per user)	100	17%	40%	39%	2%	2%	25	0.8	2.3	2.3	2.3
4	Mobile Professional 2	1	MV High (per user)	250	17%	40%	39%	2%	2%	60	2.5	2.5	2.5	2.5
5	Retail Outlet	5	MV Medium (5 users)	80	17%	40%	39%	2%	2%	25	0.2	2.1	2.1	2.1
6	Local Trading Company	10	MV Low (10 users)	30	23%	37%	36%	2%	2%	25	0.8	1.8	1.8	1.8
7	Local Production Company	10	MV Low (10 users)	30	23%	37%	36%	2%	2%	25	2.5	1.8	1.8	1.8
8	Local Service Company	50	MV Medium (50 users)	80	17%	40%	39%	2%	2%	60	2.5	2.3	2.3	2.3

Figure 54: Fixed broadband requirements by business type

	Fixed Broadband	Lines	Profile	Minimum speed Mb/s	Data GB	Hours
1	Local based individual business	1	FBB Low (per line)	10	50	80
2	Home-based Professional	1	FBB Medium (per line)	15	100	240
3	Mobile Professional 1	1	FBB Low (per line)	10	50	80
4	Mobile Professional 2	1	FBB Low (per line)	10	50	80
5	Retail Outlet	1	FBB Medium (per line)	30	100	240
6	Local Trading Company	1	FBB Medium (per line)	30	100	240
7	Local Production Company	1	FBB Medium (per line)	30	100	240
8	Local Service Company	3	FBB Medium (per line)	30	100	240

Figure 55: Mobile broadband requirements by business type

	Mobile Broadband	Users	Profile	Minimum speed Mb/s	Data GB	Hours	Days used
1	Local based individual business						
2	Home-based Professional	1	MBB Medium (per user)	3	1.6	20	20
3	Mobile Professional 1	1	MBB High (per user)	6	4	20	20
4	Mobile Professional 2	1	MBB High (per user)	6	4	20	20
5	Retail Outlet	3	MBB Medium (per user)	3	1.6	20	20
6	Local Trading Company	5	MBB Medium (per user)	3	1.6	20	20
7	Local Production Company	5	MBB Low (per user)	1	0.3	5	10
8	Local Service Company	25	MBB Low (per user)	1	0.3	5	10

A4 The Belgian baskets

The main objective of the study is to assess prices in Belgium in relationship to prices in other countries.

For this kind of analysis it is more relevant to use typical Belgian usage profiles and refer any comparisons to those. Using international profiles (e.g. OECD baskets) will not show the results for Belgium in a way that is easily recognizable or sufficiently relevant for the Belgian market. With the Belgian profiles (baskets) the results for Belgium are more in line with what Belgian businesses experience and actually reflect what a Belgian company would pay if it would operate in any of the study countries.

The caveat to this is that the results for other countries based on the Belgian profiles will not be correct as seen by the consumers in those countries, but that is not the objective here. Applying the Belgian profiles to for example the UK tariffs will give results as if a Belgian business moved to the UK and used the services in the same way as in Belgium. Thus the cost experienced will be comparable to that in Belgium, but not necessarily optimal for the UK market.

It is never possible to have a completely neutral comparison, as usage profiles and prices work together in any market. However, providing this is borne in mind when reviewing the results, this is the best way to show the price levels in other countries as seen from one particular country.

Please note that results from a national basket will change from study to study, i.e. the results from this BIPT/IBPT study using Belgian baskets will not be comparable with the results from e.g. an Ofcom study using UK baskets, even though the basic methodology is the same. This is because the typical usage patterns tend to vary by market.

The Belgian baskets are developed based on statistics provided by BIPT/IBPT and Belgian providers. Not all baskets are actually used in the eight businesses, but they are shown here for completeness in the tables below. There is also additional information on call distribution etc. with the basket definitions.

As already mentioned in earlier in this appendix, SoHo (Single Office/Home Office) businesses are covered by business types 1 to 4, while refer to a, while SMEs (Small and Medium Enterprise) are covered by business types 5 to 8.

There are three sets of fixed voice baskets for low, medium and high usage, each based on the main focus of voice calls. All data shown is per user.

Figure 56: Belgian Fixed voice baskets

Type of basket	Voice calls SoHo Total calls/month	Voice calls SME Total calls/month
Low usage	40	30
Medium usage	120	90
High usage	240	180

There are three sets of mobile voice baskets based on low, medium and high usage of voice and message/data. All data shown is per user.

Figure 57: Belgian Mobile voice baskets

Type of basket	Voice calls SoHo Total calls/month	Voice calls SME Total calls/month	SMS/ month	Data (GB)/ month
Low voice, low SMS/data	40	30	25	0.2
Medium voice, low SMS/data	100	80	25	0.2
High voice, low SMS/data	250	160	25	0.2
Low voice, medium SMS/data	40	30	60	0.8
Medium voice, medium SMS/data	100	80	60	0.8
High voice, medium SMS/data	250	160	60	0.8
Low voice, high SMS/data	40	30	120	2.5
Medium voice, high SMS/data	100	80	120	2.5
High voice, high SMS/data	250	160	120	2.5

There are three basic baskets for fixed broadband, mainly varied by speed requirements.

Figure 58: Belgian Fixed broadband baskets

Type of basket	Data usage GB/month	Hours used/ month	Minimum speed (Mb/s)
Low usage	50	80	10
Medium usage	100	240	15
High usage	300	240	30

There are three basic baskets for mobile broadband, mainly varied by data usage volume and the number of hours and days the service is used per month. All data shown is per user.

Figure 59: Belgian Mobile broadband baskets

Type of basket	Data usage GB/month	Hours used/ month	Days used/ month
Low usage	0.4	5	10
Medium usage	1.6	20	20
High usage	4	20	20

A5 Provider selection

Providers have been chosen based largely on market share information, where this is available. The basic “rule” is that the providers covered will between them have at least 80% market share in a given service market. Providers with the highest market shares are considered first until the 80% market share threshold is fulfilled. As there is little published data specifically on market shares for the business market, and as residential services are expected to be purchased by several of the business types, total market shares have been used, for all services and countries. The market shares are based on subscriber numbers. In the case of mobile broadband it is often difficult to establish accurate market shares, and, where this is the case, alternative information may have been used.

As some of the market share information used in this study is confidential, market share numbers are not included in this report.

As Belgium is the primary study country, tariff plans published by a number of niche business providers have been collected. The providers in question are listed below.

- EDPNet
- 3 Stars Net
- United Telecom
- Belcenter
- Colt

Please note that the tariff plans of the above niche players are not necessarily included in the results.

A summary of the providers for which tariff plan information has been collected for each service is shown in the figure below. With the exception of fixed voice, where it is assumed that a dedicated business line and therefore business tariff plans will be required, both business and residential service prices have been considered, where these are available and published.

Figure 60: Provider and service overview

	Fixed voice		Mobile voice		Fixed broadband		Mobile broadband	
	Business	Residential	Business	Residential	Business	Residential	Business	Residential
Belgium								
Proximus	✓	✓	✓	✓	✓	✓	✓	✓
Telenet	✓	✓	✓	✓	✓	✓	✓	✓
SFR	✓	✓	✓	✓	✓	✓	✓	
Orange	✓		✓	✓	✓		✓	✓
Base	✓	✓	✓	✓			✓	✓
EDPNet	✓	✓			✓	✓		
3 Stars Net	✓	✓						
United Telecom	✓	✓	✓	✓	✓	✓		
Belcenter					✓			
Voo		✓		✓		✓		
Colt	✓							
France								
Orange	✓	✓	✓	✓	✓	✓	✓	✓
SFR	✓	✓	✓	✓	✓	✓	✓	✓
Bouygues	✓	✓	✓	✓	✓	✓	✓	✓
Free	✓	✓		✓		✓		
Numericable	✓	✓		✓		✓		
Germany								
Telekom/T-Mobile	✓	✓	✓	✓	✓	✓	✓	✓
United Internet (1&1)	✓	✓		✓	✓	✓		
Unity Media	✓	✓			✓	✓		
Vodafone	✓	✓	✓	✓	✓	✓	✓	✓
O2	✓	✓	✓	✓	✓	✓	✓	✓
Base			✓	✓			✓	✓
Kabel Deutschland	✓	✓			✓	✓		
Netherlands								
KPN	✓	✓	✓	✓	✓	✓	✓	✓
Ziggo	✓	✓	✓	✓	✓	✓		
Tele2	✓	✓		✓		✓		
Vodafone		✓	✓	✓		✓	✓	✓
T-Mobile			✓	✓			✓	✓
UK								
BT	✓	✓	✓	✓	✓	✓	✓	
TalkTalk	✓	✓			✓	✓		
EE	✓	✓	✓	✓	✓	✓	✓	✓
O2			✓	✓			✓	✓
Vodafone	✓		✓	✓	✓		✓	✓
3 UK			✓	✓			✓	✓
Virgin Media	✓			✓	✓	✓		✓
Sky		✓			✓	✓		

Note: Although residential fixed voice service pricing is generally not included in the analysis, some residential pricing may be included because it forms part of a bundle (e.g. residential broadband)

EDPNet
3 Stars Net
United Telecom
Belcenter
Voo

NB. Cells shaded in grey indicate where no information has been gathered, either because it falls outside of the agreed list of providers, because there is no published data available or because the service is not offered by the provider.

Please note that not all providers will appear in all results, as the services they provide may or may not fit with the business requirements. In general the cheapest results, or an average of a selection of results, will be presented.

A6 Data issues

This section contains clarification around a number of issues relating to the data collected and included within the system.

A6.1 Inclusion of residential tariffs

For businesses where there is only one user, residential services may also be considered relevant. The residential services that are considered for such business types include fixed broadband, mobile voice and mobile broadband. Residential voice services, offered as a standalone services are not considered valid for businesses, as a typical business will only be offered a dedicated business line/number. The caveat to this is where a business purchases a broadband line which is bundled with fixed voice. Where this is the case, it is assumed that the business will not purchase an additional fixed voice services, but would use the voice service included within the bundle.

For businesses with more than one user, the use of residential fixed broadband services is not considered valid, and for these business types, only fixed business services are taken into account. Residential mobile services are still considered, however, as it is assumed that mobile can be purchased on an individual basis.

The applicability of residential services by service type is addressed in more detail below.

Fixed Broadband: Although there is a clear delineation between residential and business services, there is a strong indication that residential broadband is extensively used by the business community; hence residential services have been included in the system, for consideration.

Mobile Voice: There is an increasing blur between residential and business mobile voice services, with many individuals using one phone and one tariff for both work and personal use, and businesses increasingly allowing employees to use their own phone and tariff within the workplace (BYOD - Bring Your Own Device) - this is particularly true for small and medium sized businesses. For this reason, it is important to include residential pricing alongside business offers. It is assumed that pre-paid offers are not relevant for business use, and are not included.

Mobile Broadband: Similar to mobile voice, there is often little to differentiate between consumer and business services, at the small and medium-sized business level. Furthermore, many providers do not specify whether tariffs are aimed at business or residential users, and hence all published offers for mobile broadband for the specified providers have been included. Both pre- and post-paid offers have been collected for mobile broadband, as it is often consumed in a different way to mobile voice (which is assumed to be post-paid only).

Fixed Voice: For fixed voice, business- only pricing has been considered, as a business will typically require a dedicated line for business use. Residential pricing may still be included for some providers, however, where it is part of a bundle with a fixed broadband service.

A6.2 SIM-only pricing vs subsidized offers

Although the requirement is to include SIM-only offers, this may severely limit the analysis, and cause some providers to fall out of the analysis altogether. To ensure that all relevant providers are considered, prices for plans which include a handset subsidy have also been collected. In principle this should not adversely affect any output, as such plans will only feature when there is no (usually cheaper) SIM alternative available. A separate cost for the handset has not been included for any tariff.

A6.3 Discounts/promotions

Information on promotions and discounts has been collected for completeness, but is not included in the results, in line with what was agreed for the 2014 and 2015 studies

A6.4 Hardware

Some hardware costs are included in the benchmark, e.g. modems or routers for fixed broadband. Information on such hardware related costs (rental fee and/or purchasing costs) are included separately where they are not included in the monthly subscription. Handsets for fixed and mobile voice are not included.

A6.5 Installation fees

Information on installation fees has been collected, but is not necessarily included in the results.

A6.6 Inclusion of bundles with television

As television is not included in the business profiles, any bundles that include television have generally been disregarded. However, for certain providers, most notably cable providers, where it is not possible to buy any telecoms service unless it is accompanied by television, some tariffs are included which do include this. Where this is the case, the most basic television service has been selected, with no add-ons of channel packages, in order to ensure that these providers are included.

A6.7 International calls

In order to ensure that the benchmarking analysis is not over-complicated, international calls are assumed to be to fixed networks. Furthermore, the international destinations for calls are assumed to be the same for calls from both fixed and mobile. Roaming is not included, as it is unlikely to produce a significantly different result for each country.

The international call destinations are listed in the table below, and traffic is assumed to be distributed in varying proportions over these countries. As some of the traffic distribution data has been provided confidentially, the actual proportions used for the study are not published in this report.

Figure 61: International call destinations

From/To -->	Belgium	France	Netherlands	Germany	Italy	Morocco	Spain	UK	USA	Japan
Belgium										
France										
Germany										
Netherlands										
United Kingdom										

A6.8 Regional offers

Some providers, typically (but not exclusively) cable providers may provide regional offers only, based on their primary coverage area. In this study, abstraction is made of such regional availability in the sense that all tariff plans are considered in a certain country, even if these are not available in the entire country. In other words, the location of the business customer is not taken into account in order to filter out tariff plans that are not available at that location. Inclusion of such constraints would introduce unnecessary complexity into the model.

A6.9 Differences in provider peak/off peak definitions

No corrections are made to address differences in peak hour ranges as to fine tune to this degree is very complex, and not provide any enhanced insights.

A6.10 Optional tariff plan features

Broadband tariff plans that optionally offer increased download speeds and/or higher data transfer volumes as an option are captured as two separate tariff plans, i.e. the original standard plan as well as the enhanced version including the option.

A6.11 Depreciation and contract term

The overall depreciation period of any one off costs is defined in each basket, and is normally set to 5 years for fixed voice, 3 years for fixed broadband and mobile voice and 1 year for mobile broadband. This is according to the OECD basket definitions.

Information on contract term periods have been collected for each service. In the analysis, the contract term filter is set to “any”, as the longest possible contract term is preferred in the data. This will normally give the lowest price.

A6.12 Line rental issues

For fixed broadband and fixed voice there can be an issue with double counting of the line rental in bundled services. Hence it is common to exclude the line rental for the fixed broadband elements of a bundle, and rather include it in the bundle price.

Appendix B: Additional Results

B: Additional results

This section shows the detailed results, by the various calculation types, for each business types, as well as detailed rankings.

The first graphic shows results for the cheapest offer, average of the cheapest 3 providers and average of the 3 largest providers, with results shown separately for single service and multiplay offers, where relevant (Business types 1-4; business types 5-8 show results for single service offers only).

The second graphic shows the country rankings for each of the calculation types mentioned above, and also includes the ranking for the cheapest overall offer.

The final graphic shows single service results broken down into individual communications service type. Again, results are shown for the 3 calculation types; for cheapest offer, average of the cheapest 3 providers and average of the 3 largest providers.

B.1.1: Local-based Individual Business

Figure 62: Results for single service and multiplay offers, by calculation type: Local-based Individual Business

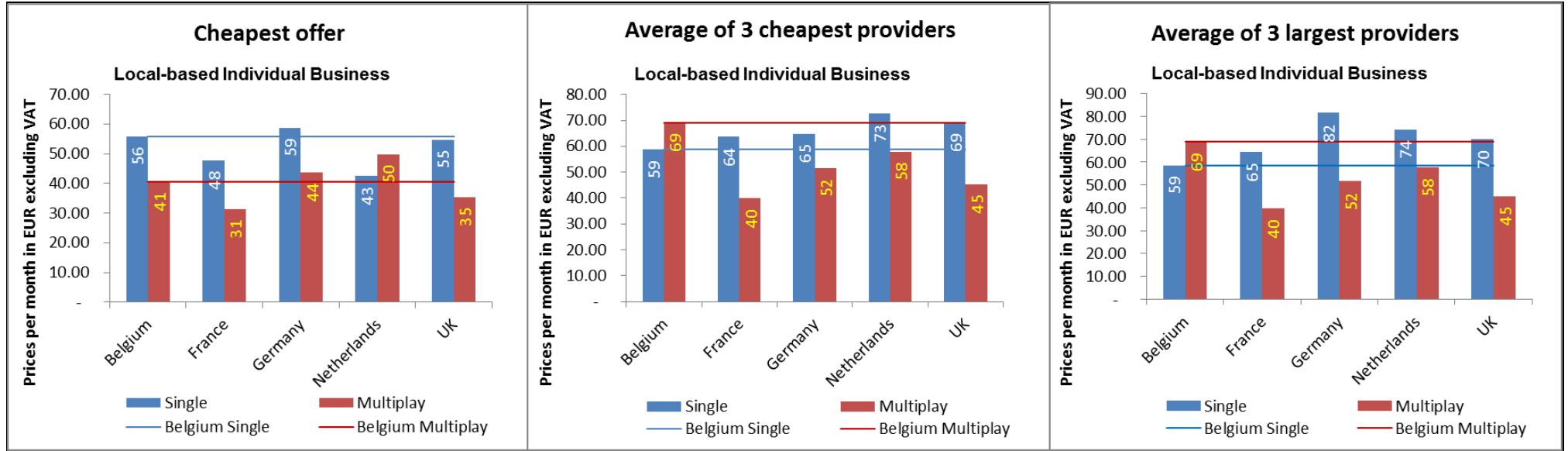
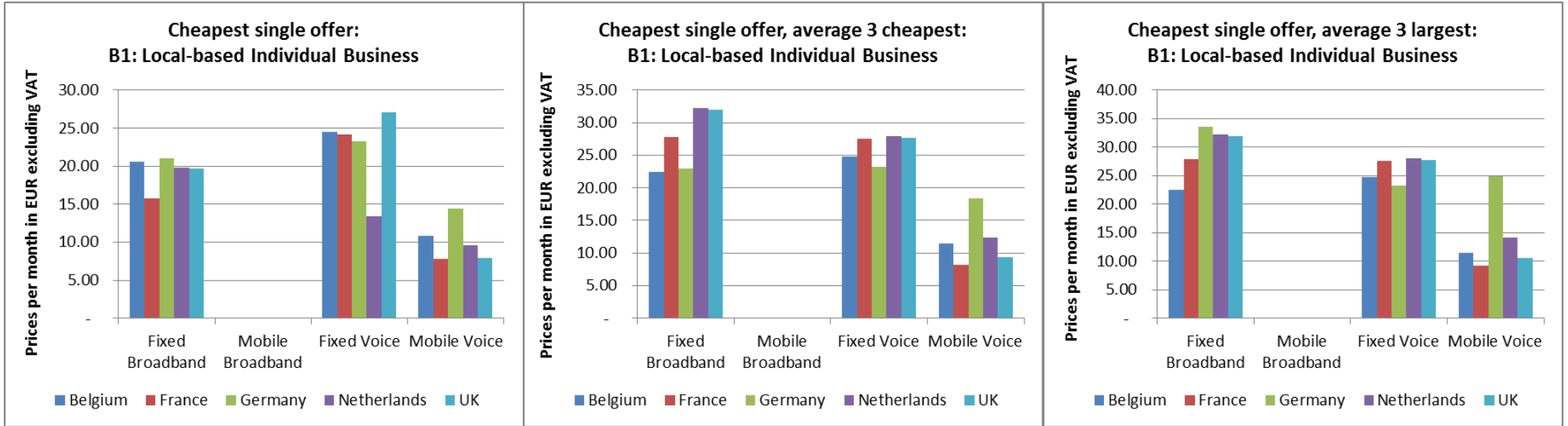


Figure 63: Country rankings for single service, multiplay, and cheapest overall offer, by calculation type: Local-based Individual Business

	Cheapest			Average of 3 cheapest			Average of 3 largest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	4	3	3	1	5	5	1	5	5
France	2	1	1	2	1	1	2	1	1
Germany	5	4	5	3	3	3	5	3	3
Netherlands	1	5	4	5	4	4	4	4	4
UK	3	2	2	4	2	2	3	2	2

Figure 64: Cheapest single offers, broken down by service, by calculation type: Local-based Individual Business



B.1.2: Home-based Professional

Figure 65: Results for single service and multiplay offers, by calculation type: Home-based Professional

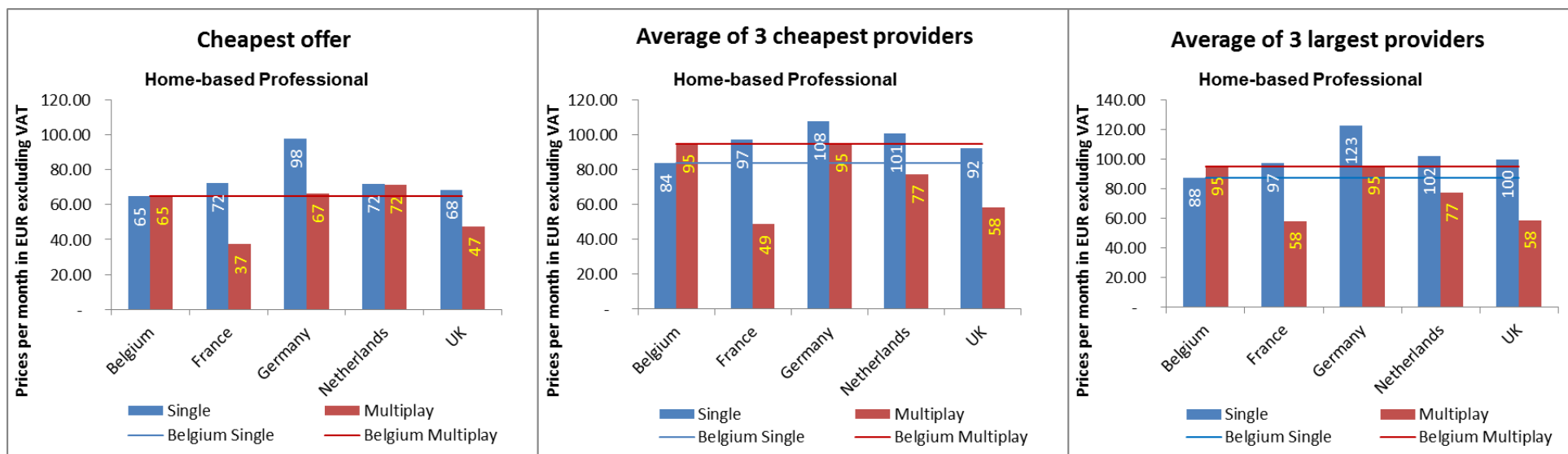
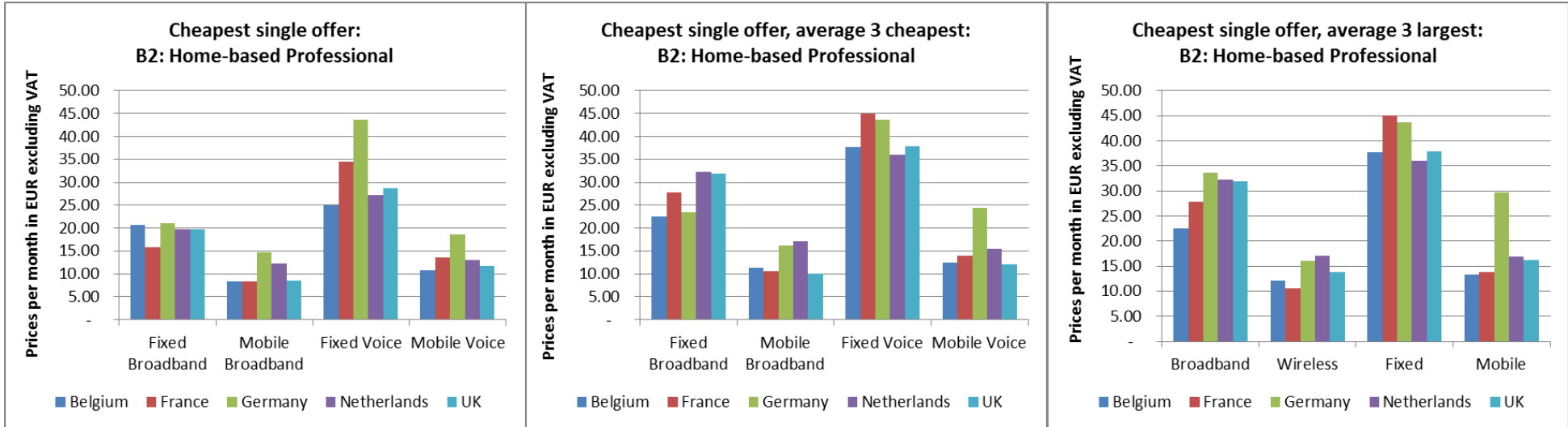


Figure 66: Country rankings for single service, multiplay, and cheapest overall offer, by calculation type: Home-based Professional

	Cheapest			Average of 3 cheapest			Average of 3 largest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	1	3	3	1	4	4	1	4	4
France	4	1	1	3	1	1	2	1	1
Germany	5	4	4	5	5	5	5	5	5
Netherlands	3	5	5	4	3	3	4	3	3
UK	2	2	2	2	2	2	3	2	2

Figure 67: Cheapest single offers, broken down by service, by calculation type: Home-based Professional



B.1.3: Mobile Professional 1

Figure 68: Results for single service and multiplay offers, by calculation type: Mobile Professional 1

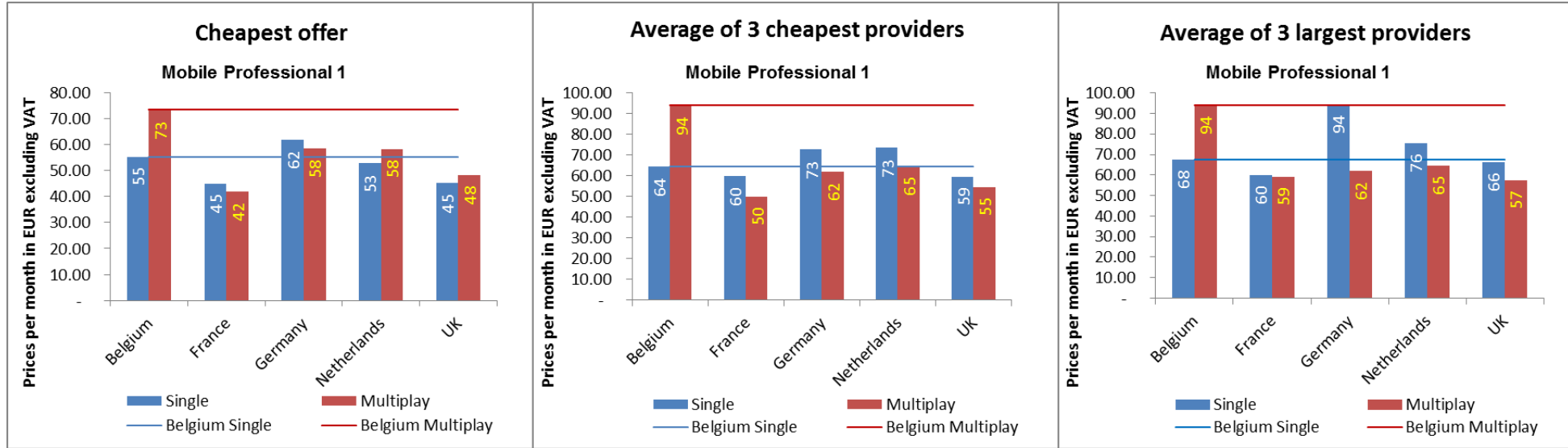
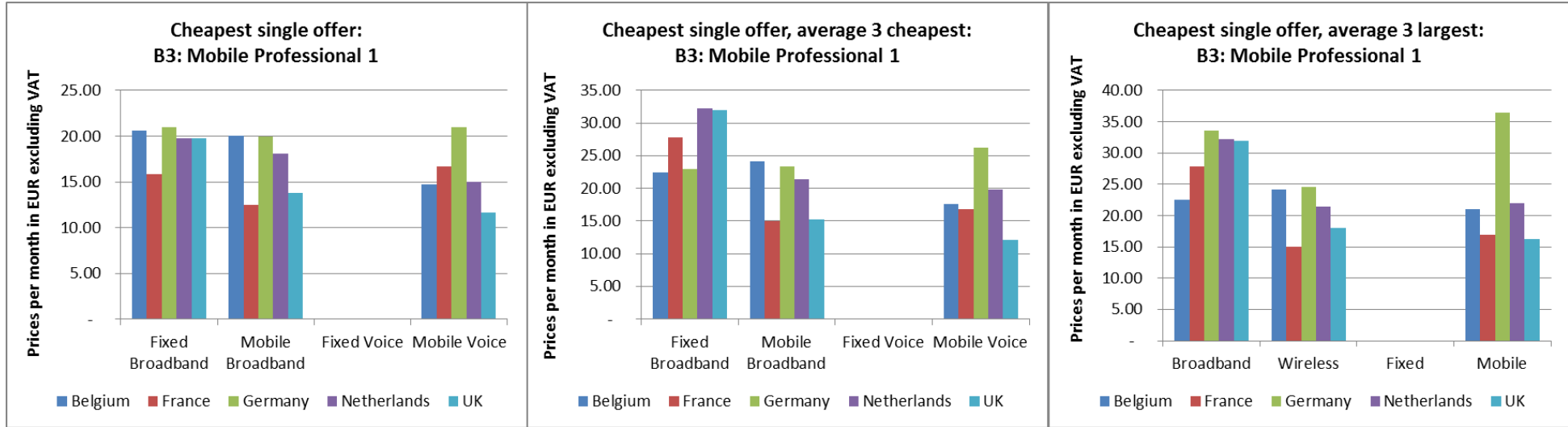


Figure 69: Country rankings for single service, multiplay, and cheapest overall offer, by calculation type: Mobile Professional 1

	Cheapest			Average of 3 cheapest			Average of 3 largest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	4	5	4	3	5	4	3	5	5
France	1	1	1	2	1	1	1	2	2
Germany	5	4	5	4	3	3	5	3	3
Netherlands	3	3	3	5	4	5	4	4	4
UK	2	2	2	1	2	2	2	1	1

Figure 70: Cheapest single offers, broken down by service, by calculation type: Mobile Professional 1



B.1.4: Mobile Professional 2

Figure 71: Results for single service and multiplay offers, by calculation type: Mobile Professional 2

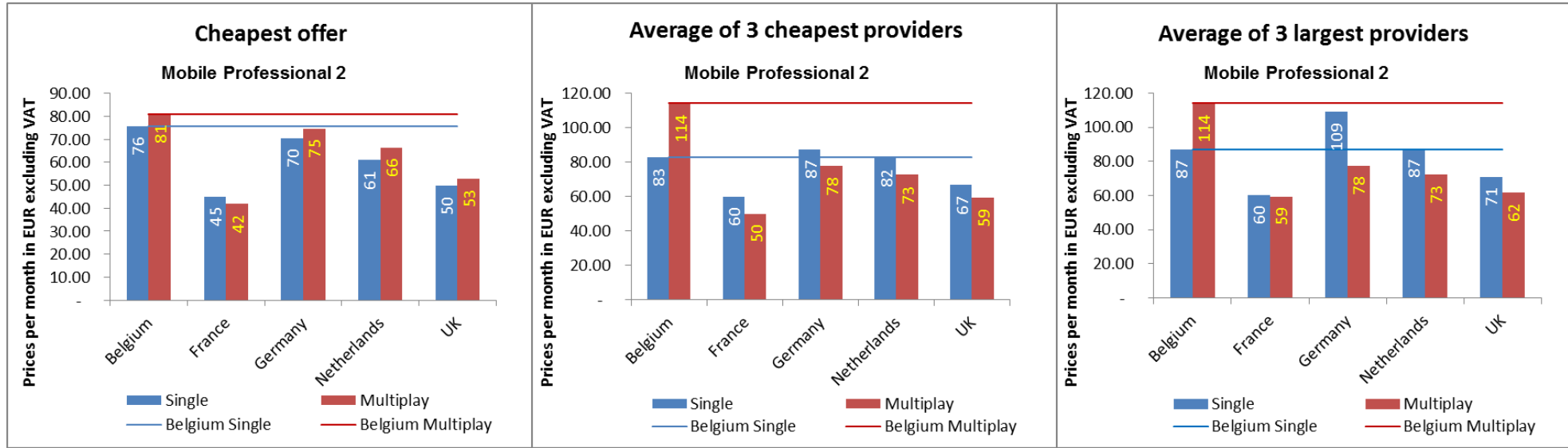
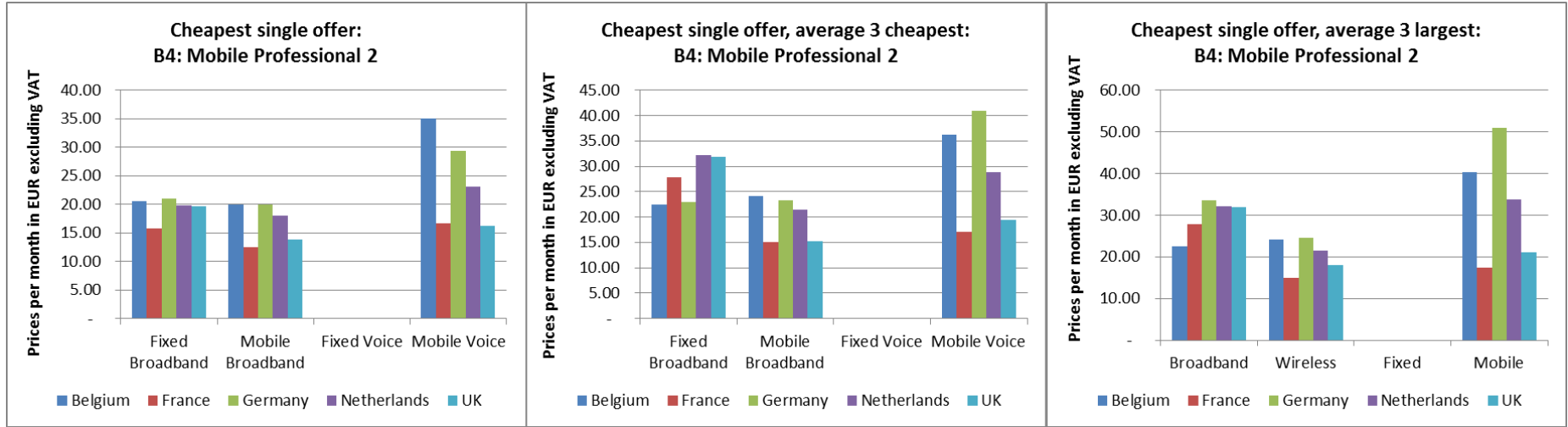


Figure 72: Country rankings for single service, multiplay, and cheapest overall offer, by calculation type: Mobile Professional 2

	Cheapest			Average of 3 cheapest			Average of 3 largest		
	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer	Single	Multiplay	Cheapest overall offer
Belgium	5	5	5	4	5	5	3	5	5
France	1	1	1	1	1	1	1	1	1
Germany	4	4	4	5	4	4	5	4	4
Netherlands	3	3	3	3	3	3	4	3	3
UK	2	2	2	2	2	2	2	2	2

Figure 73: Cheapest single offers, broken down by service, by calculation type: Mobile Professional 2



B.1.5: Retail Outlet

Figure 74: Results for single service offers, by calculation type: Retail Outlet

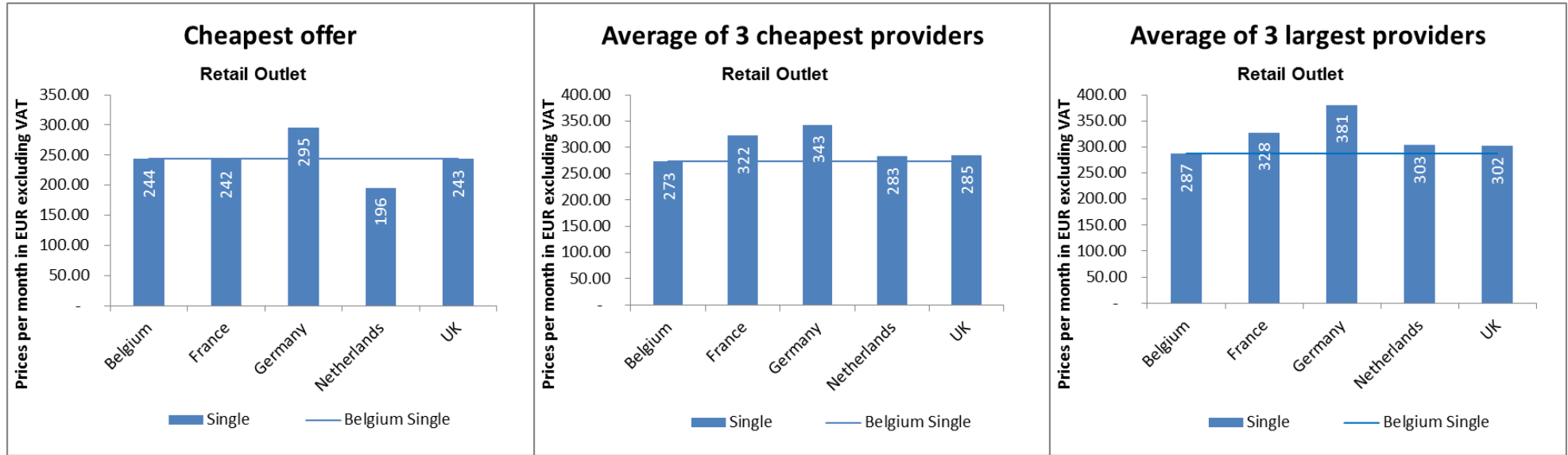
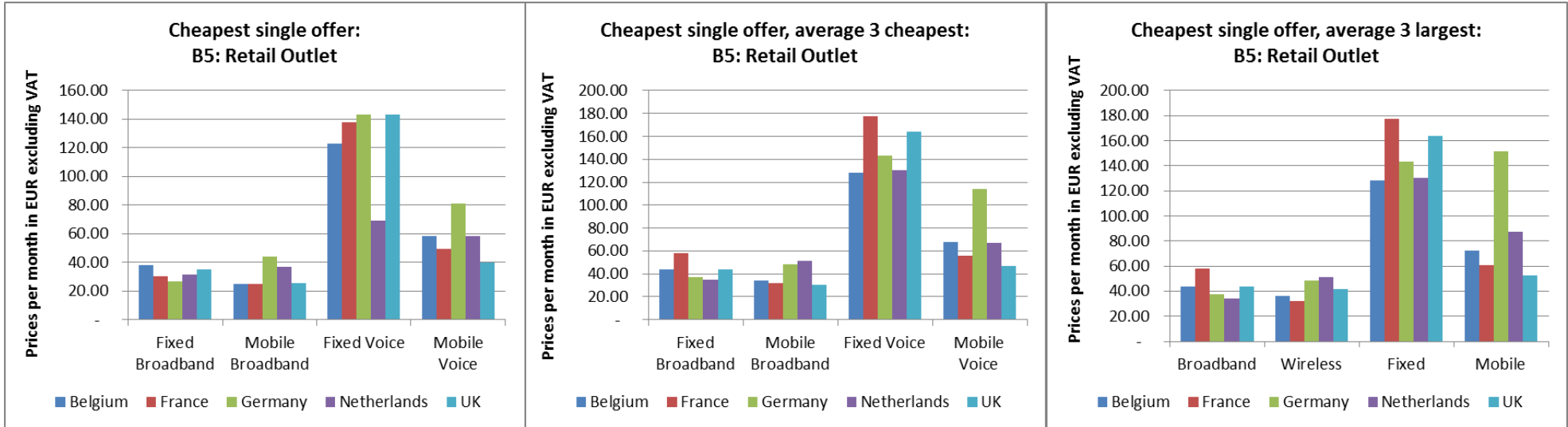


Figure 75: Country rankings for single service offers, by calculation type: Retail Outlet

	Cheapest	Average of 3 cheapest	Average of 3 largest
Belgium	4	1	1
France	2	4	4
Germany	5	5	5
Netherlands	1	2	3
UK	3	3	2

Figure 76: Cheapest single offers, broken down by service, by calculation type: Retail Outlet



B.1.6: Local Trading Company

Figure 77: Results for single service offers, by calculation type: Local Trading Company

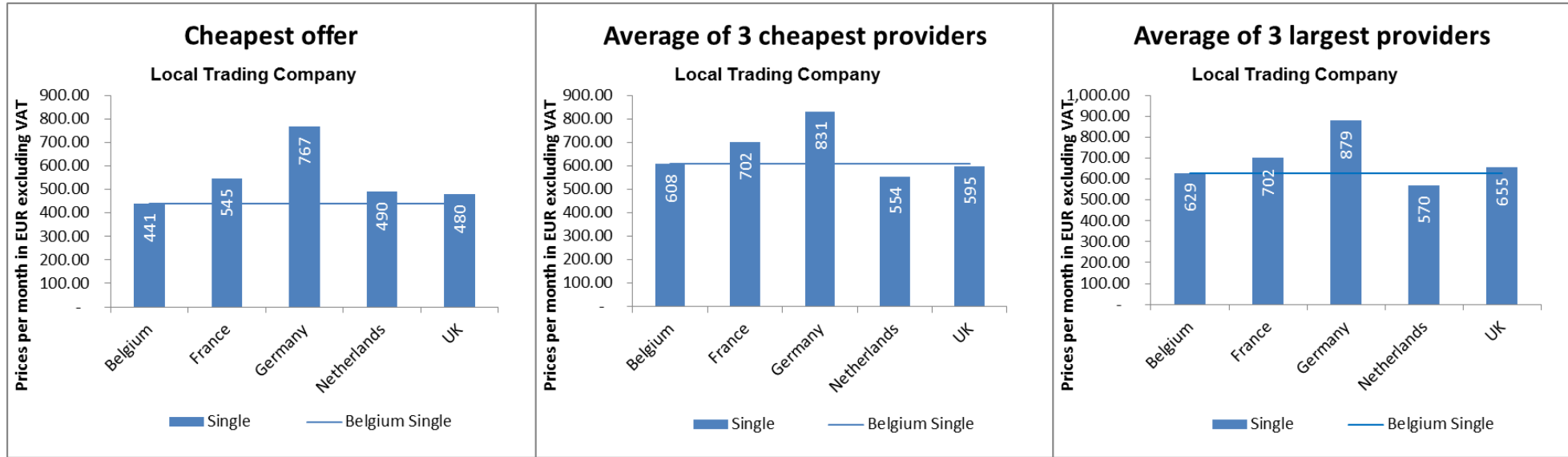
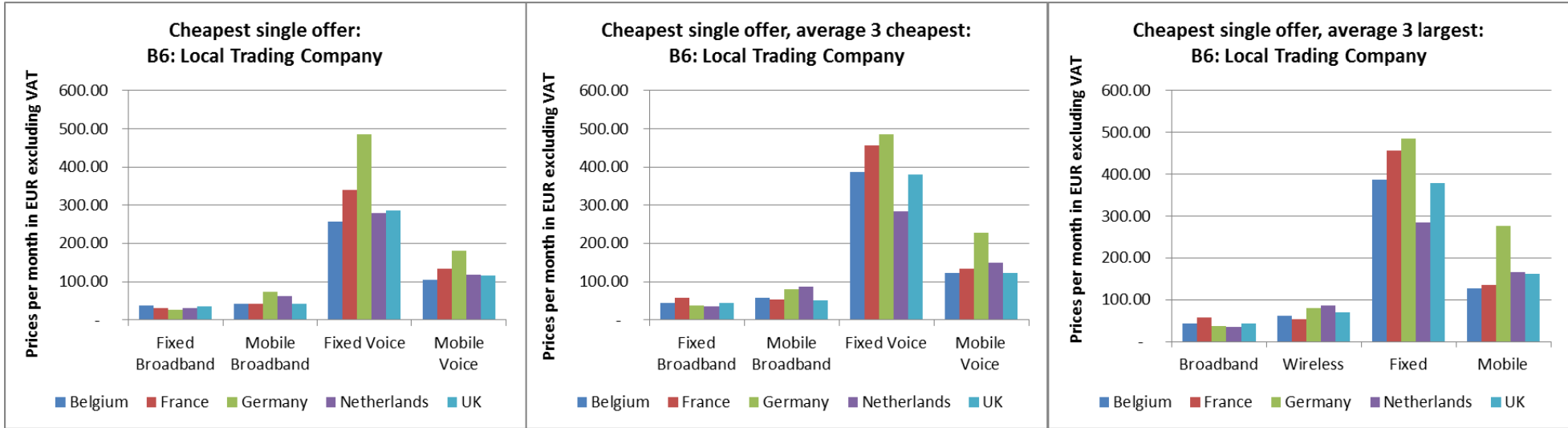


Figure 78: Country rankings for single service offers, by calculation type: Local Trading Company

	Cheapest	Average of 3 cheapest	Average of 3 largest
Belgium	1	3	2
France	4	4	4
Germany	5	5	5
Netherlands	3	1	1
UK	2	2	3

Figure 79: Cheapest single offers, broken down by service, by calculation type: Local Trading Company



B.1.7: Local Production Company

Figure 80: Results for single service offers, by calculation type: Local Production Company

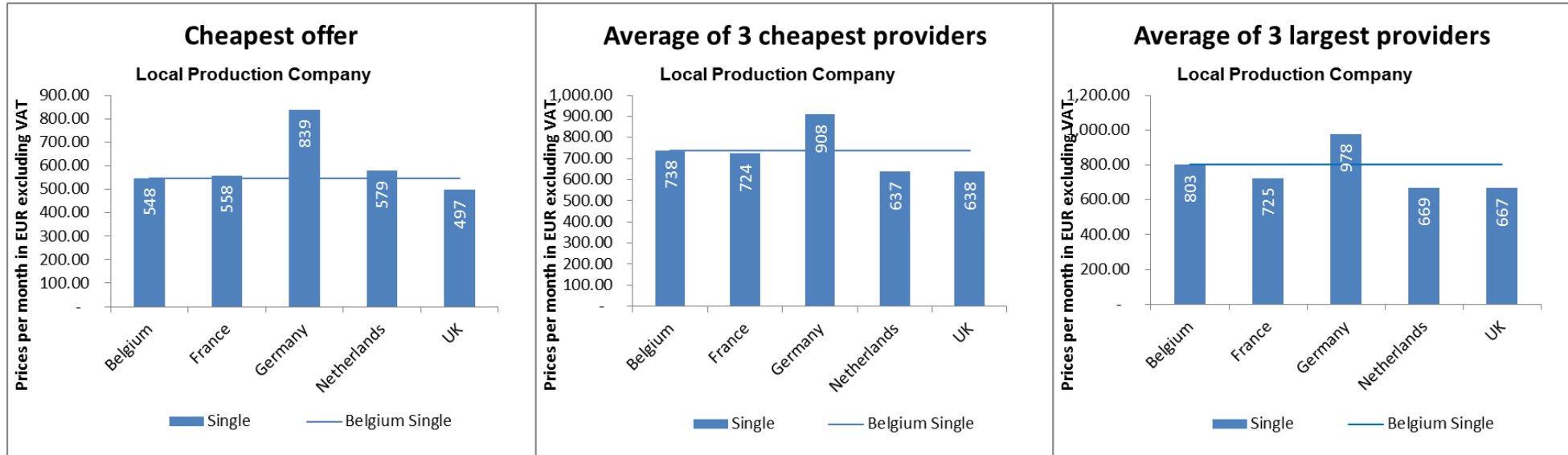
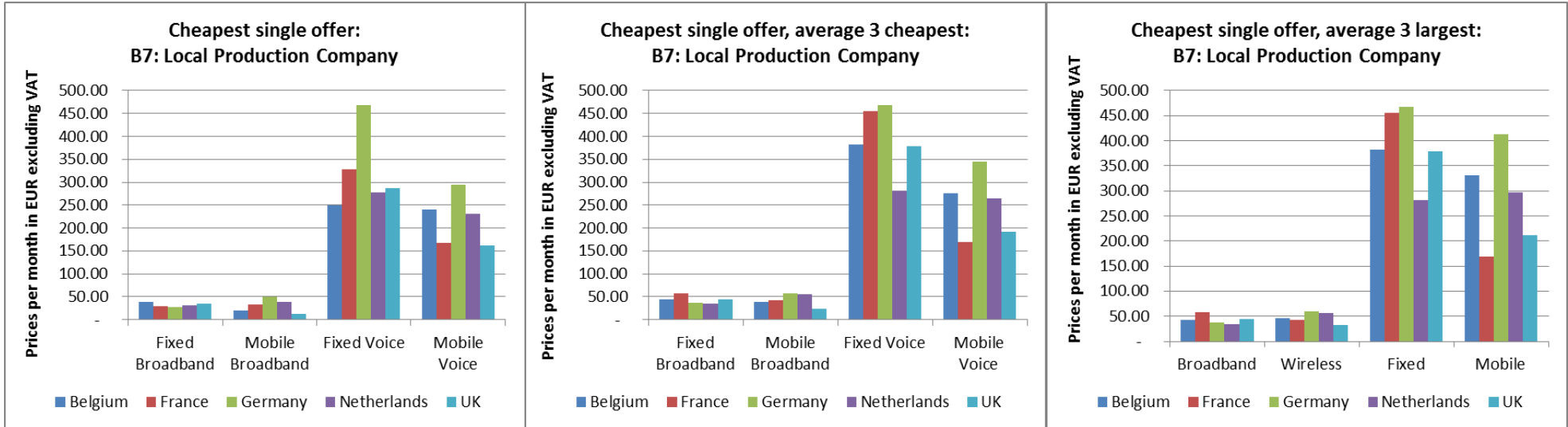


Figure 81: Country rankings for single service offers, by calculation type: Local Production Company

	Cheapest	Average of 3 cheapest	Average of 3 largest
Belgium	2	4	4
France	3	3	3
Germany	5	5	5
Netherlands	4	1	2
UK	1	2	1

Figure 82: Cheapest single offers, broken down by service, by calculation type: Local Production Company



B.1.8: Local Service Company

Figure 83: Results for single service offers, by calculation type: Local Service Company

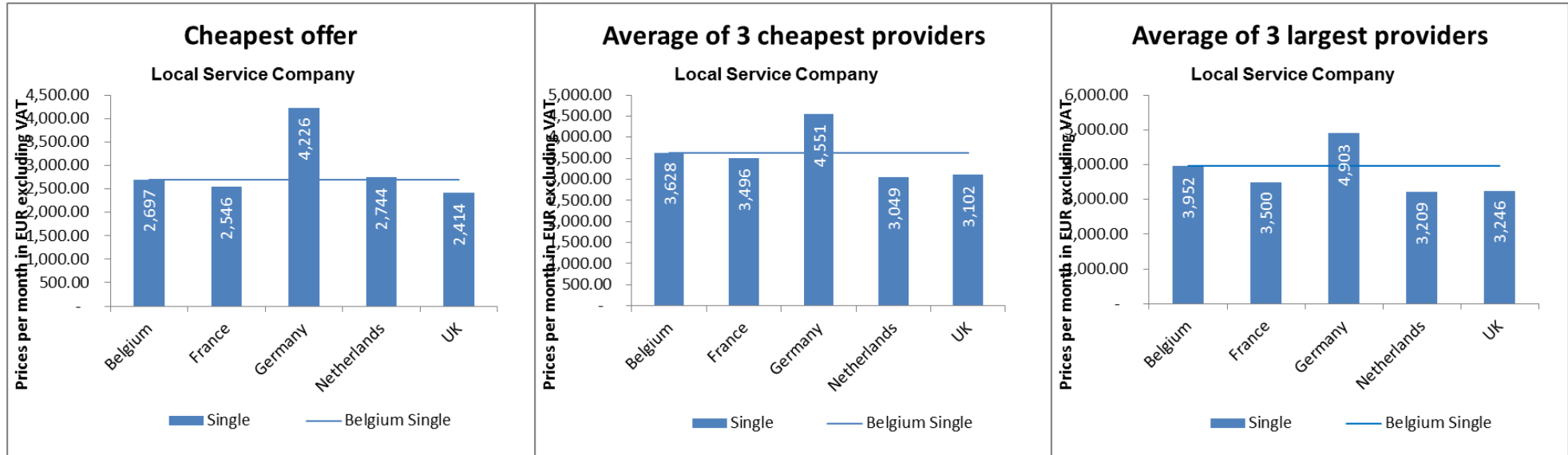
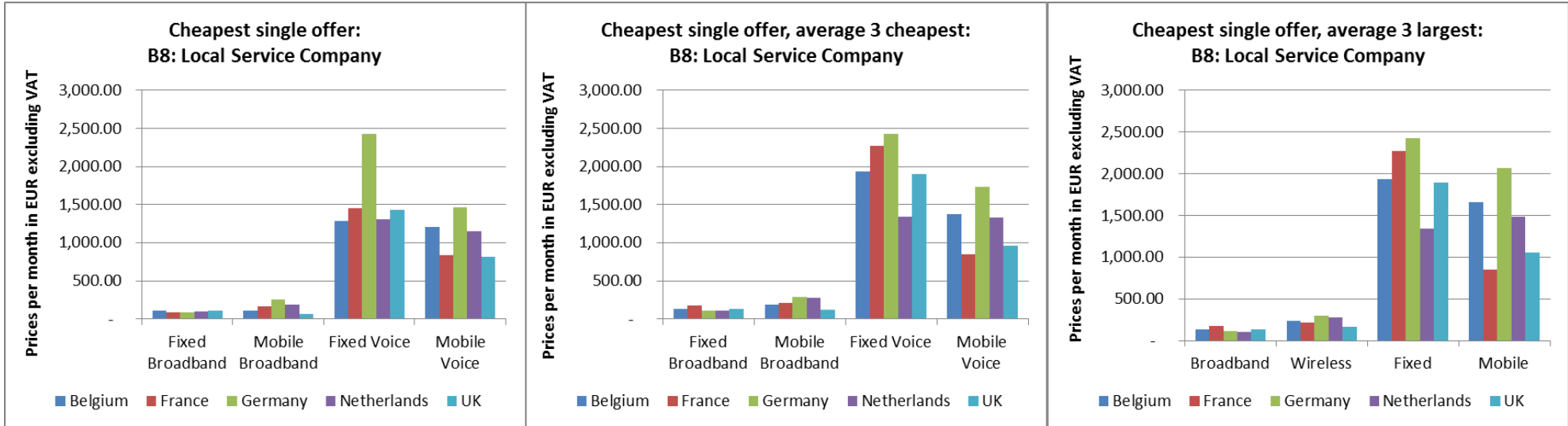


Figure 84: Country rankings for single service offers, by calculation type: Local Service Company

	Cheapest	Average of 3 cheapest	Average of 3 largest
Belgium	3	4	4
France	2	3	3
Germany	5	5	5
Netherlands	4	1	1
UK	1	2	2

Figure 85: Cheapest single offers, broken down by service, by calculation type: Local Service Company



END OF APPENDICES