INSTITUT LUXEMBOURGEOIS
DE REGULATION

2014

Principles and methodology of the margin squeeze testing approach (economic replicability test) in Luxembourg)

4 April 2014

1. Introduction

1.1. This document describes the underlying principles and methodology of the margin squeeze test (*economic replicability test*) that will be applied by the ILR in the context of the remedies of markets 4/2007 and 5/2007. These principles and methodology are implemented in the margin squeeze testing tool which will have to be used by the SMP operator.

1.2. The terms "*margin squeeze test*" and "*economic replicability test*" are considered to be synonyms in the present context. The term "*margin squeeze test*" is commonly used by NRAs and competition authorities. In their recommendation on consistent non-discrimination obligations [1], the European Commission introduced the concept of "*economic replicability test*", which is, with regards to content, the same as a margin squeeze test. However, this new concept should differentiate the margin squeeze tests done by the NRAs from the *ex post* test carried out by the competition authorities.

1.3. This document reflects the results of the national consultation which the ILR initiated on a previous version of this document[2]. This revised version of the document provides further clarification on the imposed margin squeeze approach by integrating remarks raised by the market stakeholders. Furthermore, in selected provisions the ILR has adopted and finalised its margin squeeze approach.

[1] European Commission (2013), Annex 2

[2] For further information regarding the consultation, see:
http://www.ilr.public.lu/communications_electroniques/avis_consultations/avis_280813/index.html

2. Definition of a margin squeeze

2.1. According to the definition of ERG "*A margin squeeze (also known as price squeeze) is a situation where a vertically integrated firm with market power in a key upstream market, supplies rival firms in associated downstream markets and sets prices for the input and the downstream service in a way that renders unprofitable the activities of its competitors in the retail market.*"[3] In a situation of a margin squeeze competitors are unable to replicate the retail prices of the SMP operator profitably.

2.2. The possibility for an integrated firm to engage in a margin squeeze practice depends on whether regulation allows the firm to choose upstream and downstream prices freely or rather restricts these choices. Under regulation of both wholesale prices and retail prices the SMP operator has no pricing instruments at its disposal. In theory, no margin squeeze should occur in such a situation. In practice, however, wholesale rates may not be properly cost oriented such that excessive wholesale profits may exist despite regulation. Moreover, retail prices may be subject to a price cap, which provides a ceiling to retail prices, but does not prevent operators from reducing prices. Even under regulation of wholesale and retail prices incentives to squeeze margins may not be excluded. Under partial regulation where wholesale prices are regulated but retail prices are left unregulated, the SMP operator can engage in a margin squeeze behaviour on downstream activities by lowering its retail prices. If wholesale and retail prices are unregulated, the SMP operator can squeeze through both access and retail prices. The most relevant situation of a regulatory margin squeeze test is when wholesale prices are regulated and retail prices are unregulated. Competition problems of the situation with both prices being unregulated are more relevant for an ex post assessment by competition authorities.

2.3. The key focus of margin squeeze in this sense is on the difference between the upstream and the downstream price; it is not on whether prices are excessive, discriminatory or predatory per se. Therefore, the margin squeeze concept differs from non-discrimination, predation and horizontal squeezing concepts (cross subsidisation, bundling, tying) although there are also strong links between these concepts.

2.4. The availability of proper wholesale products provided under non-discriminatory Equivalence of Input (EoI) obligations[4] ensures the technical replicability of relevant retail products. It does, however, not guarantee their economic replicability. Only a proper margin squeeze test can ensure that the margin between the retail price of the relevant retail products and the price of the relevant regulated wholesale access covers the downstream costs and a reasonable amount of common costs.

2.5. Indeed, if a margin squeeze exists, competitors cannot trade profitably on the basis of the prevailing wholesale access charges. A margin squeeze results in economic distortions by foreclosure in the sense that efficient competitors may be excluded from the market.

[3] See ERG (2009), p. 2.

[4] According to the European Commission: „*Access on an EoI basis means that the SMP operator's wholesale customers should have access to the same set of wholesale products, at the same terms and conditions (including prices and quality of service levels), the same timescales and using the same transactional systems and processes, as the downstream businesses, e.g. the retail arm, of the SMP operator.*" (See European Commission (2013), rec. 14)

2.6. A margin squeeze may also arise between different wholesale products[5]. Margins between various wholesale products / business models along the vertical value chain are squeezed if there is not sufficient economic space (or margin) between various wholesale products such that various business models along the value chain of the ladder of investment become unviable. Margin squeeze tests in this context shall ensure consistency of wholesale prices along the value chain based on the principle of competitive neutrality between different business models. Vertical consistency of pricing should enable efficient competition at different levels of the value chain.

2.7. Consistency in wholesale price regulation requires that efficient business models can survive in the market: Competitors should be able to earn a sufficient margin over and above wholesale costs to cover all downstream costs including a return on capital which covers the relevant cost of capital. This rule is independent of the degree of "make or buy" investment of various business models. It supports the regulators' neutrality towards business models. It should not be up to the regulator to pick successful business models ex ante.

2.8. A margin squeeze test is passed, if the difference (the margin) between the prevailing retail price and the corresponding wholesale price is sufficient to cover the downstream cost including a competitive return on capital. If the retail and the wholesale pricing structures are complex, the relevant prices may not be represented by a single price but by a relevant revenue or a relevant cost generated by the product for which the margin squeeze test is conducted. Relevant downstream costs are the own network costs of the alternative network operator (altnet) plus its retail cost. The margin squeeze test is passed if the relevant revenues are not lower than the sum of wholesale and downstream costs. Under this condition, the reference operator earns (at least) a profit margin which is determined by the cost of capital (e.g. weighted average cost of capital, WACC) representing a market return on capital.

2.9. Margin squeezing is a form of anti-competitive behaviour which can lead to foreclosure of competition. Foreclosure may not only result in forcing market exit of competitors. It also may discourage entry, discourage expansion and may disadvantage rivals such that they compete less aggressively. In each of these cases a margin squeeze distorts competition to the detriment of end-users.

2.10. Margin squeeze obligations and margin squeeze tests should prevent vertical leveraging, e.g. by extending a dominant position in a wholesale market to a corresponding downstream (retail) market. To avoid undue leveraging of market power, competitors must be able to replicate the retail price of the SMP operator. Margin squeeze tests aim at fostering competition by contributing to a level playing field.

2.11. Reference standard for a margin squeeze test is a retail market with effective competition, which must not necessarily reflect actual market conditions. This also means that the reference point of a margin squeeze test is a hypothetical operator which is competing in such a retail market under efficient operation.

[5] See the discussion of this issue in Oxera (2012) and ComReg (2013).

2.12. Although the principle of non-discrimination addresses different behavioural aspects as margin squeeze, there are important interfaces between the two regulatory principles. A detailed non-discrimination obligation is a prerequisite to focus on economic replication in the context of margin squeeze. If the proper wholesale services in terms of technical features and quality are not available, by definition economic replicability is impossible. Applying margin squeeze tests therefore implicitly assumes that the competitive environment is characterised by non-discrimination. The availability of proper wholesale services not only has a technical dimension. Wholesale service availability by itself is not sufficient for a level playing field and efficient business planning. Furthermore, wholesale pricing has to be transparent and prices have to be known before new retail services are launched.

3. Future application of the margin squeeze test

3.1. If the ILR introduces a margin squeeze test requirement as part of the remedies related to Significant Market Power in the context of their market analyses of markets 4/2007 and 5/2007, the SMP operator is obliged to apply the principles and the methodology described in the present document, as well as the most recent version of the corresponding margin squeeze testing tool.

3.2. The latest version of the margin squeeze testing tool is made available, on demand (by email to telecom@ilr.lu), to every notified operator. The latest version number of the tool is published on the website of the ILR. In case the tool needs to be updated because of e.g. availability of new products, the SMP operator has to transmit an adapted version of the tool to the ILR, who then makes it available to the market stakeholders.

3.3. The use of the margin squeeze testing tool is restricted for internal purposes only and the notified operators are not allowed to hand it over to any third party except the ILR.

3.4. In case an alternative operator would like to demonstrate to the ILR that he is not able to replicate economically a retail product of the SMP operator, on the basis of a regulated wholesale product, he is advised to use the most recent version of the margin squeeze testing tool as well as the underlying principles which are described in the present document.

3.5. An ex ante margin squeeze test by the ILR will be without prejudice to ex post margin squeeze tests applied by competition law enforcement either by the Commission or the competition authority in Luxembourg.

4. Application of the margin squeeze test to flagship products

4.1. The ILR will consider flagship products of the SMP operator as relevant retail products, as shown in Annex 16.1[6]. Competitors should be able to replicate the SMP operator's retail prices of such flagship products. Flagship products include the most relevant retail products offered by the SMP operator in the broadband market on the basis of the identified and predefined wholesale products. Flagship products are defined as those products which, in descending order, represent in sum a revenue share of 70% of all retail products of the SMP operator in the broadband market. To identify the most important retail products, broadband retail products (stand-alone broadband products or bundles that include broadband internet access) have to be listed according to their revenue share in a descending order. Additionally, all products which represent a revenue share of at least 10% are treated as flagship products as well. The following table illustrates the identification of flagship products using EPT products with fictional revenue shares as an example.

Table 4-1: example of identification of flagship products

Product	**Revenue share**	**Cumulated revenue share**	**Flagship product**
LuxDSL Junior, PSTN	30%	30%	yes
Integral LuxDSL Run, ISDN, Basic LuxGSM	24%	54%	yes
Integral LuxDSL Junior, PSTN, Relax LuxGSM	20%	74%	yes
Integral Lux Fibre 30, VoIP, Relax LuxGSM	15%	89%	yes
LuxDSL Pro, ISDN	6%	95%	no
LuxFibre 30, VoIP	5%	100%	no

4.2. Flagship products are identified on the basis of their revenues of the calendar year preceding the year during which the margin squeeze test is being conducted.

4.3. In order to allow the ILR to identify the flagship products to be tested, the SMP operator has to deliver each year (as of 1st March) to the ILR a table stating the revenue and the revenue share for all their retail broadband products (standalone products and bundles). The products should be listed in descending order according to their revenue share. The format of the table is shown in Annex 16.2.

4.4. A flagship product can be a standalone or a bundle product. The actual preferences of users will decide which products are representative for the market as well as mostly relevant for competition, and therefore have to be subject to a margin squeeze test. The ILR is aware that there may be competitive problems associated with products which are

[6] The concept of applying the margin squeeze test for flagship products has originally been proposed by the European Commission (2013) in the context of NGA wholesale pricing.

not flagship products. According to the definition proposed they are, however, not representative for the retail market and may not cause significant harm to competition. The dynamic definition and testing approach proposed furthermore guarantees that products which gain market share fast and become relevant and therefore representative for the retail market have to be offered margin squeeze free.

4.5. Bundle products which are flagship products are tested if they are produced on the basis of regulated wholesale products. This does not exclude that the SMP operator bundles products with other retail products which are not produced on the basis of regulated wholesale products. The ILR does not intend to prohibit such bundling offerings. Only safeguards are needed in order to ensure that such bundling activities do not interfere with the margin squeeze approach to be applied[7]. The ILR does not expect competitive distortions occurring if either competitors or the customers can replicate the bundle consisting of the flagship product and the additional product. This condition is met if the additional product is also provided as a standalone product in a competitive market. This means that the flagship product and the additional product are not offered as a pure bundle. In case the standalone price of the additional product is higher than the component price of purchasing the product as part of a bundle in combination with the flagship product, the ILR will allocate the difference as a rebate to the flagship product. In case no standalone price of the SMP operator for the additional product is available, the standalone price has to be estimated by a relevant market price. Using tariffs of EPT as an illustrative example: the Integral Lux Fibre 30, VoIP, Relax LuxGSM bundle is priced at a basic monthly retail charge of 69,99€ per month (for illustrative purposes the list prices including VAT have been shown here. The test will be conducted on revenues and costs excluding VAT). The total bundled price is composed of 59,99€ LuxFibre 50 & voice telephony + 10€ LuxGSM Relax. The stand-alone retail price of the competitive mobile telephony service is also 10€ in the Relax tariff. In this example the margin squeeze test would be conducted on the fixed line bundle without mobile telephony and the relevant bundle retail price for the margin squeeze test will be 59.99€ (69,99€ ./. 10 €).

4.6. The general rule developed in para. 4.5 enables some practical implications when conducting the margin squeeze test. Where the bundle involves products from other markets which may or may not be available to competitors, the revenues and costs of such additional services have to be removed from or simply are not included in the margin squeeze calculation. This procedure ensures that only “regulated products” are considered in the margin squeeze calculation. This includes wholesale products and corresponding retail products, which are produced on the basis of such wholesale products.

4.7. Besides the application to flagship products, the ILR reserves the right to apply the margin squeeze test to products which it regards as essential and characteristic for specific market segments or which have a particular relevance to special user groups and which are not properly represented by the general concept of flagship products.

[7] See the discussion of justified bundling and market situations in which bundling may cause competitive problems by BNetzA (2005).

5. Margin squeeze tests – The general approach

5.1. Three different tests are applied by NRAs and/or competition authorities to identify a margin squeeze: the equally efficient operator (EEO) test, the reasonably efficient operator (REO) test and the similarly efficient operator (SEO) test.[8] Each testing approach has its merits and its limitations.

5.2. The EEO test identifies whether the SMP firm's downstream operation trades profitability if it had to pay for its own business production the wholesale price equivalent to its rivals. Therefore the EEO test relies on the SMP operator's costs and scale of operations. This test has its roots in competition law. The application of competition law favours the EEO test because it cannot be expected from the dominant operator to set prices based on rivals' cost, which are unknown to him. When margin squeeze tests are applied ex ante by NRAs, such a problem does in principle not arise.

5.3. Applying an EEO test would not reveal a margin squeeze in case of economies of scale in downstream costs and/or if there are cost items which are relevant for competitors but irrelevant for SMP operators. Economies of scale, economies of scope between wholesale and downstream business, learning curve effects and first mover advantages may result in lower costs for the SMP operator compared to its competitors. On the other hand, inefficiencies in the downstream activities of the SMP operator (e.g. taking the form of excessive marketing and sales costs) might result in higher costs.

5.4. In particular if economies of scale at the level of downstream costs (own network infrastructure, retail costs) prevail, the EEO test on the basis of costs and market shares of the dominant operator would not reveal a margin squeeze. An efficient competitor may nevertheless be unable to replicate the dominant operator's retail price. The test results in a circularity in this situation which can only be avoided by using the REO test. The circularity can only be avoided if the margin squeeze test is conducted under the assumption that the downstream market will be reasonably competitive[9]. This assumption cannot be materialised by relying the test on the dominant operator's market share and costs. The efficient operator as referred to in this context has a market share which allows effective competition by several operators in the market.

5.5. On the basis of the REO test there is no margin squeeze if the difference between the SMP operator's retail and wholesale prices are sufficient for a reasonably efficient downstream competitor to earn a normal profit. Point of reference is a hypothetical operator, not (necessarily) a specific operator in the market. This REO has to be defined by its business model, the scope of its service portfolio, the geographic coverage of its business model and finally its market share. The calculations are based on entrants' costs and volumes. Conceptually, the relevant market share has to be determined based on the concept of minimal efficient scale. NRAs often use a 20% to 25% market share. This target market share may have to be differentiated according to the business model; it may further be adopted by size of the country and according to the actual concentration in the market.

[8] The pros and cons of the EEO and REO tests were first discussed in the European Commission's Access Notice (See European Commission (1998)).

[9] See the discussion of the relevance of economies of scale and scope in a margin squeeze context in the Annex of ERG (2004).

5.6. The basic difference between the REO test and the EEO test relates to the relevant cost. While the EEO test rests on the downstream cost of the dominant operator, the REO test relies on the altnet's cost. This is of particular importance when market shares differ significantly and economies of scale are relevant in the respective range of market shares. This is basically the case in the NGA context where economies of scale might be quite significant.

5.7. The SEO test considers a hypothetical operator which shares the same basic cost function as the SMP operator but does not enjoy the same economies of scale and scope. In practical terms the costs of the SMP operator are being used as in the EEO test and modified according to scale. Conceptually, the SEO test is similar to the REO test but it solves the information problem of relevant data in a different way[10].

5.8. The REO test is more in line with the basic goal of promoting competition. Furthermore, it is the only test able to identify and to include relevant cost which occur for altnets and not for SMP operators[11]. Thus, the REO test better fits with the competition problems in the real world than any other test.

5.9. The ILR would like to combine the merits of the EEO test with those of the REO test standard by means of its procedural rules to implement the test in Luxembourg. The ILR will request that the SMP operator will present a margin squeeze test to prove compliance with the margin squeeze remedy. The SMP operator will have to conduct the test on the basis of its downstream costs. The ILR will, however, prescribe the structure of the margin squeeze model. Furthermore, certain parameters of the model will be fixed and filled in in advance by the ILR. These parameters may be identified for example by means of a market survey. To take care of the relevant cost differences and differences in the composition of customers, the ILR furthermore would like to invite other market participants to provide their own margin squeeze analyses which the ILR will take into consideration during the process of testing the compliance of the margin squeeze results. By means of this procedure the ILR will effectively apply a SEO test approach enhanced by competitor specific costs not incurred by the access provider (colocation etc.).

5.10. The SEO approach is also in line with the Recommendation on consistent non-discrimination obligations of the European Commission[12]. Indeed, according to the European Commission, NRAs should make adjustments for scale to the SMP operator's in case the volume of lines of altnets is very low compared to the SMP's network.

5.11. The ILR currently considers a market share of 15% as appropriate for the modelled *similarly efficient operator*. Indeed as the Luxembourgish broadband market is characterised by large differences in market share between the SMP operator and the altnets, it is justified to consider a smaller market share as commonly applied in other countries.

[10] See the application of the SEO test approach applied by the Irish NRA ComReg (2013).
[11] See the discussion of the concept of the efficient operator in a margin squeeze context by the German NRA BNetzA (2007).
[12] See Annex II of the Recommendation on consistent non-discrimination obligations (2013)

6. The relevant business model(s)

6.1. To conduct a margin squeeze test, the business model on which to apply the test has to be specified first. A margin squeeze test has to be specified and should be conducted for each business model based on a particular wholesale product separately and not for a combination of business models/wholesale products. Relying the test on a combination of wholesale products would lead to circularities in the testing approach. NRAs should be neutral with regard to business models. Therefore, they have to apply margin squeeze tests for all relevant business models in the market individually.

6.2. Currently, the most relevant business model of alternative operators in Luxemburg is to provide voice telephony and broadband internet access. The most relevant wholesale product to provide retail broadband internet access currently is the wholesale broadband access product (RDSLO and ORATH). The most relevant wholesale product for fixed voice telephony access is the wholesale line rental combined with Carrier (Pre)-Selection services. The ILR reserves the right to request a margin squeeze test also for other active wholesale products like bitstream access (such as OGB) or for passive wholesale products like LLU or SLU. Using a passive wholesale product is of particular relevance in the case of fibre-based products.

6.3. The business model also has to be defined by its geographic scope. Costs should be calculated on a geographic market consistent with the market analysis of the relevant market(s). In Luxembourg the geographic scope is national.

6.4. The margin squeeze testing tool developed by the ILR is formatted in order to do the margin squeeze test on the basis of different wholesale products. In case the format of the tool would need to be adapted/enhanced to take into account the specific costs or revenues of a certain wholesale product that has to be tested, the SMP operator is required to adapt the tool in order to take them into account. Every adaptation done by the SMP operator needs to be justified to and identifiable by the ILR.

7. The relevant cost standard

7.1. The ILR considers LRIC+ costs of providing the relevant downstream service as the appropriate cost standard[13]. Only this cost standard ensures that entrants can recover their efficiently incurred costs. LRIC is the change in total costs resulting from the production of an increment in the quantity of output, which can be the whole output of the product in question or just the incremental output associated with the activity under consideration. LRIC includes all product-specific cost even those which are sunk. LRIC+ includes a mark-up for common/overhead costs for the relevant service. To ensure replication by efficient operators, the relevant increment should be defined such that it includes all relevant direct and indirect downstream costs.

7.2. Just relying on variable or avoidable cost does not include an allocation of fixed costs which is a major cost component that telecom operators are facing. Only short-term price decisions can be taken on that basis. Only the LRIC+ standard is consistent with market entry decisions which require all relevant costs to be covered in the long-term.

7.3. Relying on total or fully distributed costs is not appropriate because these cost standards ignore efficiency considerations.

[13] This is also in line with the recommendation of BEREC (2013), p.34.

8. The relevant cost of capital

8.1. The relevant competitive return or margin in a margin squeeze context is usually identified indirectly by using a WACC approach for the downstream business. The WACC should reflect the risk of the retail business of the reasonably efficient operator. Otherwise, the margin between the wholesale and the retail price is not sufficient for an efficient competitor to earn an appropriate return on capital in the retail market. Using the SMP operator's WACC in particular those used for calculating regulated wholesale prices is inappropriate to identify the relevant capital costs.

8.2. The ILR will identify the relevant WACC on the basis of a market survey. The identified WACC will then be fixed and prescribed as a parameter for conducting the compliance of the margin squeeze test.

8.3. Currently, the ILR considers a WACC of 10% as appropriate.

9. Relevant regulated wholesale inputs

9.1. The relevant wholesale inputs correspond to the regulated wholesale products which could, from a technical point of view, be used by access seekers to provide the flagship retail products as referred to in para. 4.1.

9.2. The relationship between the relevant retail service and a relevant wholesale service may be direct and unambiguous. It can also be complex, in particular when several distinct wholesale services support relevant downstream services. The relationship then depends on the business model of the altnet. Thus, for a given wholesale product, the margin squeeze test should be done by the SMP operator with each flagship product, for which the considered wholesale product may be a relevant input.

9.3. In most cases the pricing structure of wholesale products is complex. All elements of the pricing structure which an access seeker has to pay for purchasing the relevant volumes of the wholesale input have to be taken into account. This includes recurring and non-recurring charges, charges for termination of the service, service provision as well as service cancellation if applicable. Non-recurring charges have to be depreciated (or discounted) over a relevant time period which is usually the customer life time for the corresponding retail service. Volume discounts and/or long-term access pricing agreements should be taken into account in case they are representative for the business model of access seekers and/or they are in line with a competitive market structure.

10. Retail prices

10.1. All price elements of the flagship product(s) of the SMP operator for which the test is being conducted form the basis of the relevant revenues. All relevant service revenues have to be considered including recurring and non-recurring price elements. One-off pricing elements (e.g. connection charges) should be split between periods which are in line with usual customer lifetimes of the service in question. The test will be applied and has to be met for each flagship product individually.

10.2. Depending on the business model (net) revenues from inbound call termination may need to be considered as part of the relevant revenues.

10.3. If retail (list) prices are discounted permanently or are temporarily reduced in the form of promotions, such discounts or price reductions have to be taken into consideration to calculate relevant revenues. The same holds for promotions such that certain pricing elements (e.g. connection fees) are not charged or certain give-aways (e.g. routers, modems) are provided free of charge. If give-aways are provided free of charge, a net price has to be estimated and give-aways have to be considered as a retail cost valued at market or purchase price. Market prices should become relevant if significant procurement advantages of the SMP operator are expected or if no purchase prices are available.

11. Relevant period

11.1. A margin squeeze test has to be carried out over a reasonable timeframe. The test can be conducted on a period-by-period approach or in a multi-period approach. A period-by-period approach repeats the test regularly. The relevant period can be a month, a year or a two year period. In a multi-period approach the test is conducted once for the relevant period. The test then requires that costs and revenues generate a positive margin over the whole period considered. The cash flows for the retail products under consideration will then be discounted by using a discounted cash flow (DCF) approach[14]. The outcome of this approach is the net present value (NPV) of the expected future cash flows of the service/product under consideration. If the NPV is positive, the provision of the service/product generates value for the operator. If the NPV is negative, then the provision of the service would result in a loss and a margin squeeze occurs. The relevant period for this test is usually being set in accordance with the estimated customer average lifetime. There is, however, also the option to use a rather long period that includes the whole product lifetime or even multiple investment cycles.

11.2. The period-by-period test can take as a basis for analysis the accounting year or a steady state. The accounting year approach compares revenues and costs as they occur for this period. This means in particular that non-recurring costs and revenues are becoming part of the margin squeeze calculation in the year of payment independent of the fact that they may be economically relevant for several periods.

11.3. In the steady state approach costs and revenues are also broken down to a one year period. Costs and revenues are, however, allocated according to cost causation. This means that investment costs are allocated according to their useful economic life. Non-recurring costs and revenues are also allocated according to economic cost causation which in most cases means an allocation according to the average customer lifetime. Allocation by means of using the annuity formula solves both the proper allocation over time and the financing of non-recurring costs or revenues.

11.4. The ILR will use the steady state approach for the following reasons: The accounting year approach does not economically properly allocate costs and revenues over time. This approach could indicate a margin squeeze in the following period although nothing has changed regarding costs, wholesale/retail prices and distribution of customers just because of an asymmetric distribution of non-recurring costs and revenues over time. The steady state as well as the DCF approaches avoid such accounting distortions. This is of particular importance if large initial investments like expenditures for marketing are required. A DCF approach, on the other hand, requires an estimation of relevant parameters over a relatively long period of time. A major shortcoming of the DCF method is, however, that it does not specify how costs should be recovered over different years[15]. A positive NPV could be the result of anti-competitive behaviour. The steady state approach combines the benefits of both approaches. It provides margin squeeze information for each particular period. At the same time costs and revenues are properly allocated over time. Furthermore, this approach best reflects the hypothetical efficient operator as a point of reference.

[14] For comparing the pros and cons of a DCF and a period-by-period approach see ERG (2009), p.14f.
[15] See ERG (2009), p. 15.

12. Relevant downstream costs

12.1. The relevant downstream cost is added to the costs of the relevant wholesale inputs which represent the respective business model. Basically downstream costs consist of five different cost categories:

(1) Own network cost;

(2) Costs for terminating traffic in other networks;

(3) Retail costs;

(4) Common cost;

(5) Regulatory Costs.

12.2. Depending on the business model the competitor's own network cost may consist of the following elements:

- xDSL equipment like modem and DSLAM;
- Backbone (network nodes and links);
- VoIP platform;
- Cost related to interconnection locations;
- Operating and maintenance costs;
- Capital costs related to network infrastructure.

Network elements have to be dimensioned such that they represent the scale of an efficient operator according to the SEO concept. Network equipment has to be depreciated according to the relevant economic lifetimes.

12.3. Costs for terminating traffic in other networks and/or for peering and transit have to be calculated according to actual payments being made to other operators. These can be regulated or negotiated rates.

12.4. Retail costs include the following cost categories:

- Product management,
- Marketing and sales,
- Customer acquisition and customer retention,
- Customer services (including call centre services),
- Billing and collecting,
- Bad debt,
- Accounting,
- IT.

12.5. Retail costs can be represented category-by-category according to the categories mentioned in paragraph 12.4 or by using a global mark-up on the sum of wholesale and network costs. Both methods have their pros and cons. The identification of retail costs category-by-category enables to show such costs according to their actual cost drivers. On

the other hand, cost accounting systems may be limited to reveal each cost category separately. Furthermore, it may be easier and more reliable to benchmark retail costs on the basis of a broader cost category compared to individual cost items. In addition, a global mark-up approach better addresses the substitution effects between the different cost categories depending on the business strategies of various operators. In case of using a global mark-up, promotions and special discounts would not be part of the global retail mark-up but would be calculated separately by reducing list prices accordingly.

12.6. The margin squeeze testing tool is currently setup in a way that the retail costs are determined by means of a global mark-up. If, for a certain retail product, the SMP operator incurs in addition to the retail costs, specific subscriber acquisition costs, these have to be added in the calculations of the margin squeeze test by means of an absolute value.

12.7. Regulatory costs are the fees that the operators pay to the ILR for the numbering.

12.8. Common costs are costs on the level of administration and management that cannot be allocated to individual services. Equi-proportional mark-up (EPMU) is the methodology that is commonly adopted in relation to LRIC cost-modelling. According to this method, costs are spread across all relevant services by the same percentage.

13. Procedural aspects of applying the margin squeeze test

13.1. The margin squeeze test shall be applied in future each time a new wholesale product is being introduced, if and insofar as flagship products are produced using such a wholesale input. A margin squeeze test will also be applied if the SMP operator intends to change the price of a wholesale product or in case of a technical modification having an impact on the margin between the wholesale product and the tested flagship product.

13.2. According to the draft regulation concerning « les procédures à suivre par un opérateur identifié comme puissant sur le marché dans le cadre de l'obligation de publication d'une offre de référence » (Projet de règlement 14/***/ILR du ** 2014), the SMP operator is obliged to provide the completed tests to the ILR at the moment of the publication of the draft reference offer of the wholesale product.

13.3. The SMP operator is also obliged to provide a margin squeeze test each time a retail product becomes a flagship product, according to the criteria defined in para 4.1 and 4.3.

13.4. The SMP operator will have to show, that there is no margin squeeze on the basis of the prevailing retail prices for flagship products as defined in para 4.1 and on the basis of the intended wholesale prices. The flagship products considered are derived from the most recent list of flagship products available to the ILR (see also para. 4.3.).

13.5. The margin squeeze test should be conducted in a forward-looking sense. Relevant parameters on costs and revenues should be representative for the following two years. This does not exclude that some parameters are induced from information stemming from previous periods, in particular as long as it can be assumed that such information is also representative for the following two years.

13.6. At March 1st of each calendar year, the SMP operator will have to prove to the ILR that he has respected its obligation to set its wholesale and retail prices in a way that no margin squeeze occurs. Therefore, he is obliged to present a margin squeeze test for all the wholesale and flagship products for which a margin squeeze test has already been conducted (according to para 13.1. or 13.3.). This margin squeeze test has to be conducted on actual costs, revenues and other parameters having occurred in the previous calendar year. All temporary pricing measures actually used and not foreseen in the margin squeeze test conducted according to para 13.1 and 13.3 have to be included. The margin squeeze calculation will take care of the relevant number of months of such measures. In case no new cost data is available, such a margin squeeze test shall be conducted using the same data as used in the last test.

13.7. The ILR will reserve the right to request additional margin squeeze tests under reasonable and proportionate circumstances. This may in particular be the case if competitors make justified complaints based on the reason of major market changes related to costs, prices, and customer distribution which would lead to different results compared to the original margin squeeze test.

13.8. The margin squeeze test results provided by the SMP operator have to be compliant with the margin squeeze test requirements set by the ILR. Furthermore, the SMP operator will have to use the parameter values fixed by the ILR to conduct its margin squeeze test. Parameters not fixed by the ILR have to be filled from cost, revenue and other information provided by the SMP operator. When submitting the completed margin squeeze test to

the ILR, the SMP operator is obliged to provide all relating supporting documents in order to allow the ILR to assess the completed test.

13.9. In checking the compliance of the margin squeeze test provided by the SMP operator the ILR reserves the right to substitute certain parameters used by the SMP operator. This may be the case if the SMP operator is not able to justify the parameters filled in or if the ILR considers that certain parameters do not represent the relevant costs and revenues of competitors. The ILR may further identify relevant parameters of the margin squeeze model by means of a market survey.

14. Consequences of an identified margin squeeze

14.1. Because the SMP operator will be under the obligation to set himself retail prices on the basis of the regulated wholesale prices such that no margin squeeze occurs, the ILR assumes that the margin squeeze test conducted and provided by the SMP operator will not exhibit a margin squeeze. The ILR can, however, not exclude the situation that a margin squeeze could occur once it has assessed the completed test provided by the SMP operator.

14.2. If the ILR, after having assessed and potentially modified the completed test by the SMP operator, detects a margin squeeze, he provides its results and the potentially modified test to the SMP operator.

14.3. In case the margin squeeze test has been done according to para 13.1 and a margin squeeze has been identified, the reference offer of the analysed wholesale product cannot enter into force (according to « les procédures à suivre par un opérateur identifié comme puissant sur le marché dans le cadre de l'obligation de publication d'une offre de référence »). In such a case, the SMP operator is free to introduce immediately afterwards a new reference offer as well as a new margin squeeze test, which clearly states that no margin squeeze situation will occur based on the new reference offer. Indeed, a new wholesale price can only come into force if such compliance has been testified to the ILR.

14.4. In case the margin squeeze test has been done according to para 13.3 or 13.6 and has revealed a margin squeeze, the ILR may oblige the SMP operator to introduce a modified reference offer for the wholesale product for which the margin squeeze test has been carried. Accordingly, a new test has to be conducted by the SMP operator on the basis of the actual retail and wholesale prices at that particular moment in time. Thereby, the parameters filled in by the SMP operator in the initial margin squeeze test may help the ILR to better evaluate the actual costing and revenue structure of the analysed wholesale and flagship product for the purpose of assessing the new ex ante test.

14.5. Alternatively to the approach described in para. 14.4. the ILR would have to require the SMP operator to conduct, check and testify a new margin squeeze test each time the price (or a certain price element) of a flagship product is going to be changed. The ILR is of the view that the mechanism proposed here provides more pricing flexibility to the SMP operator, is more efficient in terms of cost of regulation and protects competition as well as permanently conducting margin squeeze tests.

14.6. The triggers for the different tests are the following :

- When the SMP operator intends to introduce a new wholesale product
- When the SMP operator intends to change the price of a wholesale product
- When a retail product becomes a flagship product, according to the criteria defined in para 4.1 and 4.3.
- Annual test on March 1st with data from the past year
- When a margin squeeze test reveals a margin squeeze
- Upon complaints

15. References

15.1 BEREC (2013): Commission draft Recommendation on non-discrimination and costing methodologies, BEREC Opinion, BoR (13) 41, 26 March 2013.

15.2 BnetzA (2005): Hinweise zu sachlich ungerechtfertigter Bündelung i.S.d. §28 Abs.2 Nr.3 TKG, Amtsblatt Nr. 15 der BnetzA vom 10. August 2005, p.1188ff.

15.3 BnetzA (2007): Hinweise zu Preis-Kosten-Scheren i.S.d. §28 Abs.2 Nr.2 TKG, Amtsblatt Nr. 22 vom 14. November 2007, Mitteilung Nr. 940/2007.

15.4 ComReg (2013): Next Generation Access ('NGA'): Remedies for Next Generation Access Markets, Response to Consultation and Final Decision, ComReg Document 13/11, 31/01/2013.

15.5 ERG (2004): ERG Common Position on the approach to appropriate remedies in the new regulatory environment, ERG (03) 30rev1.

15.6 ERG (2009); Report on the Discussion on the application of margin squeeze tests to bundles, ERG (09) 07, March 2009.

15.7 European Commission (1998): Notice on the application of competition rules to access agreements in the telecommunications sector (Official Journal C 265 , 22/08/1998 P. 0002 – 0028).

15.8 European Commission (2013): Commission recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU)

15.9 Oxera (2012): eircom's next generations access products – Pricing principles and methodologies; Report prepared for ComReg, April 2012.

16. Annex

16.1 Identifying flagship products

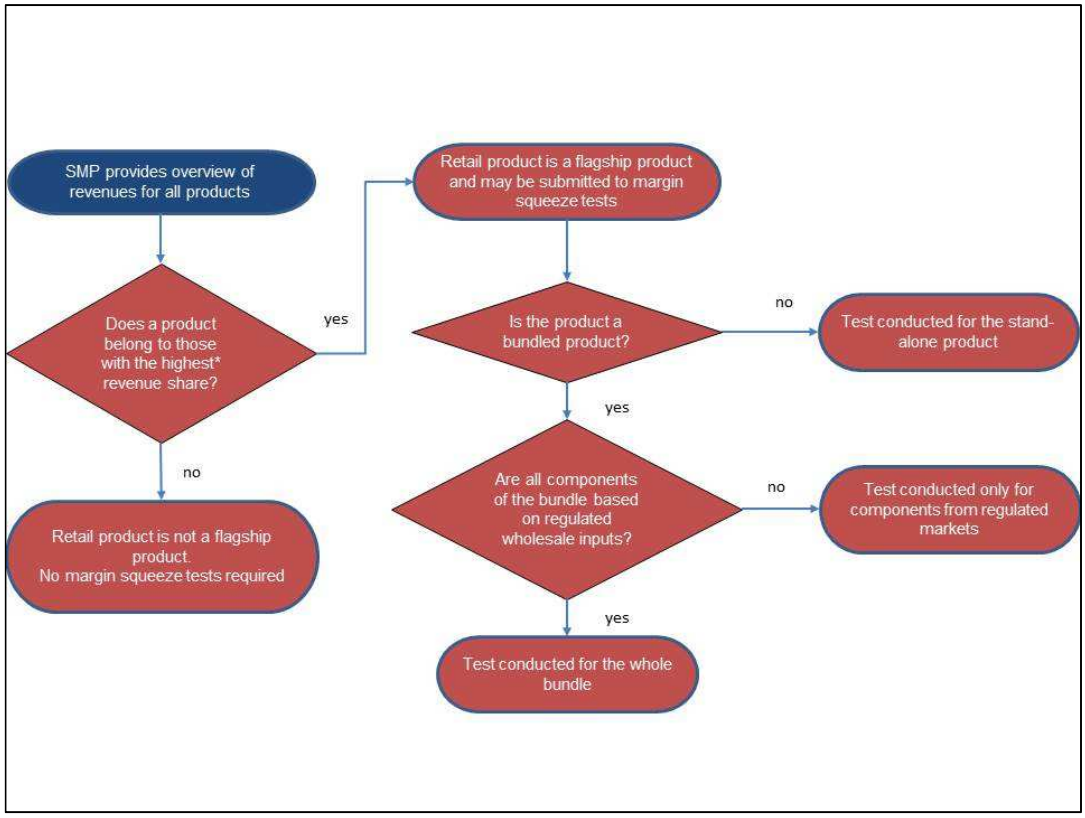

Figure 16-1: process for identifying flagship products

** Flagship products: products which in sum represent a revenue share of 70% of all retail products of the SMP operator in the broadband market. Additionally, all products which represent a revenue share of at least 10% are treated as flagship products.*

16.2 Required Structure of the table showing the retail Internet broadband products to be used by the SMP operator (in French)

Table 16-2: retail products selection of SMP operator

	Nom du produit de détail	Revenu touché pendant le semestre X en ordre décroissant (en €)	% du revenu total des produits de détail qui correspondent ou qui incluent un produit à large bande	Part du revenu cumulé	Vitesse de transmission maximale [Up Mbps/ Down Mbps]	Technologie d'accès (ADSL, VDSL, FTTH)	Volume de trafic inclus [GB/mois]	Informations supplémentaires
1								
2								
3								
4								
5								
6								
7								
8								
9								
…								
	Revenu total des produits de détail qui correspondent ou qui incluent un produit à large bande pendant le semestre X (en €)		100%					