INSTITUT LUXEMBOURGEOIS
DE RÉGULATION

PRINCIPLES AND METHODOLOGY OF THE MARGIN SQUEEZE TESTING APPROACH (ECONOMIC REPLICABILITY TEST) IN LUXEMBOURG

National public consultation (CP/T18/1)

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Table of Contents

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.~~SMP regulation (market analyses). These principles and methodology are implemented in the ~~margin squeeze~~ economic replicability testing tool which will have to be used by the SMP operator. The economic replicability test is, according to the market analyses, intended to be applied for the wholesale price regulation of the fibre unbundling and the bitstream access products. With this tool, cable operators and access seekers have also the possibility, on a voluntary basis, to use the ERT calculation tool for the cable networks access products.

1.2. The terms "*margin squeeze test*" and "*economic replicability test*" ~~are~~can be considered to be synonyms ~~in the present context.~~. The term "*margin squeeze test*" ~~is~~has commonly been used by NRAs and competition authorities. The difference in application is that NRAs apply margin squeeze tests *ex ante* while competition authorities apply it *ex post*. In their recommendation on consistent non-discrimination obligations[1], the European Commission introduced the concept of the "*economic replicability test*~~", which is, with regards to content, the same as~~ ". The Commission is using the term ERT to highlight that the Recommendation addresses (only) certain areas of the application of a margin squeeze test~~.~~, namely a test that particularly addresses NGA products. However, this ~~new~~ concept should also differentiate the ~~margin squeeze~~*ex ante* economic replicability tests done by the NRAs from the *ex post* margin squeeze test carried out by the competition authorities.

1.3. This document ~~reflects~~is based on the ~~results~~"Principles and methodology 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 testing approach ~~by integrating remarks raised by the market stakeholders. Furthermore,~~(economic replicability test) in ~~selected provisions~~ Luxembourg" published by ILR on 4 April 2014. It reflects:

- the experience which ILR has ~~adopted and finalised its~~made with the application of the ERT,
- the statements of the European Commission on the ERT applied by other NRAs,
- the BEREC Guidance on the regulatory accounting approach to the economic replicability test (i.e. ex-ante/sector specific margin squeeze ~~approach.~~tests) and
- the inputs from market players in Luxembourg.

1.4. The changes to the previous document are highlighted in track changes.

2. Definition of a margin squeeze and economic replicability

2.1. According to the definition of ERG[3] "*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*

[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~~

[3] European Regulators' Group.

renders unprofitable the activities of its competitors in the retail market."[4] In a situation of a margin squeeze competitors are unable to replicate the retail prices of the SMP operator profitably.

2.2. The Commission's Recommendation brings the focus of the ERT closer to NGA related potential competitive problems by defining: "[the ERT] *should ensure that the margin between the retail price of the SMP operator and the price of the NGA wholesale input covers the incremental downstream costs and a reasonable percentage of common costs.*"[5]

~~2.2.~~2.3. 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~~In case of ~~the situation with both prices being~~ unregulated ~~are more relevant~~retail prices and otherwise unregulated wholesale prices, the NRA may use the ERT as a tool to test the appropriateness of wholesale prices for ~~an ex post assessment by~~the purpose of safeguarding competition ~~authorities~~.

~~2.3.~~2.4. 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.~~2.5. The availability of proper wholesale products provided under non-discriminatory Equivalence of Input (EoI) obligations[6] ensures the technical replicability of relevant retail products. It does not, however, ~~not~~ guarantee their economic replicability. Only a proper ~~margin squeeze~~economic replicability 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.~~2.6. 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.

~~2.6.~~2.7. A margin squeeze may also arise between different wholesale products[7]. 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~~Economic

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

[5] European Commission (2013), rec. 64.

[6] 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)

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

replicability 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.~~2.8. 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.~~2.9. ~~A margin squeeze~~An economic replicability 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~~economic replicability test is conducted. Relevant downstream costs are the ~~own~~ network costs of the ~~alternative~~tested network operator ~~(altnet)~~ plus its retail cost. The ~~margin squeeze~~economic replicability 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 invested capital.

~~2.9.~~2.10. 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.~~2.11. ~~Margin squeeze~~Economic replicability obligations and ~~margin squeeze~~economic replicability 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~~Economic replicability tests aim at fostering competition by contributing to a level playing field.

~~2.11.~~2.12. Reference standard for ~~a margin squeeze~~an economic replicability 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~~an economic replicability test is a hypothetical operator which is competing in such a retail market under efficient operation.

~~2.12.~~2.13. 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~~economic replicability 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~~

2.14. ~~If the ILR introduces a margin squeeze~~In any case, the ERT is run on the assumption that the retail products of the incumbent are technically replicable by alternative operators on the basis of the regulated wholesale products provided by the SMP operator. Any issues and concerns on technical replicability have to be handled in the context of the reference offers of the regulated wholesale products and according to the concept of equivalence of inputs (EoI).

3. Application of the economic replicability test

3.1. As ILR has introduced an economic replicability 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~~economic replicability testing tool.

3.2. The purpose of the ex-ante ERT is to safeguard competition in cases where cost-oriented wholesale price cap regulation is not imposed on the SMP operator. Applying an ERT instead of cost-based wholesale price cap regulation provides more pricing flexibility to the incumbent. It allows the SMP to test price points and conduct appropriate penetration pricing strategies.[8] The aim of the ERT is to ensure that the SMP operator does not abuse this pricing flexibility in order to exclude competitors from the market. In that sense the ERT is, according to BEREC[9], an indirect or lighter form of price control replacing the direct and strict form of price regulation.

~~3.2.~~3.3. The latest version of the ~~margin squeeze~~economic replicability testing tool is made available, on demand (by email to telecom@ilr.lu), to every notified operator~~.~~ in Luxembourg. 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. Any adaptions performed by the SMP operator will be checked and approved by ILR before making the updated tool available.

~~3.3.~~3.4. The use of the ~~margin squeeze~~economic replicability 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.~~3.5. 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~~economic replicability testing tool as well as the underlying principles which are described in the present document. On the basis of the data provided by the alternative operators in the format of the ERT tool, ILR will reassess the proofs and the calculations provided by the SMP operator to ILR.

~~3.5.~~3.6. An ex ante ~~margin squeeze~~economic replicability 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.

[8] See BEREC (2014). p. 7.
[9] See BEREC (2014), p. 30.

~~4. Application of the margin squeeze test to flagship products~~

4. ~~The~~ The relevant products – Flagship products

4.1. To provide more flexibility to the incumbent, the European Commission has introduced in the Recommendation[10] the flagship product concept, which is a subset of all retail products provided by the SMP. This approach has been highlighted by BEREC: "*ERT is lighter and according to the Recommendation would be applied only on the most relevant NGA wholesale and flagship products and therefore on a limited scope of NGA products.*" Nevertheless, ILR may run the ERT before the launch of each and every new retail offer by the SMP operator.

4.2. While the Recommendation does not define flagship products, it provides several criteria for identifying the relevant retail products: "*NRAs should identify flagship products on the basis of their current and forward-looking market observations, in particular taking account of their relevance for current and future competition. This should include an assessment of retail market shares in terms of the volume and value of products based on NGA regulated wholesale inputs and, where available, advertising expenditure.*"[11] Based on the experiences and practices of NRAs, BEREC has further specified these criteria in its Guidance on the ERT.[12]

~~4.1.~~4.3. ILR will consider flagship products of the SMP operator as relevant retail products, as shown in Annex ~~16~~17.1[13]. 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.

Product	**Revenue share**	**Cumulated revenue share**	**Flagship product**
~~LuxDSL Junior, PSTN~~Bamboo M (Internet)	~~30~~35%	~~30~~35%	yes
Bamboo S (Internet + TV + Tél. Fixe)	24%	59%	yes
Integral LuxDSL ~~Run, ISDN, Basic LuxGSM~~Start + Analogique	~~24~~17%	~~54~~76%	yes
Integral LuxDSL ~~Junior, PSTN, Relax LuxGSM~~Start + ISDN	~~20~~14%	~~74~~90%	yes
~~**Integral Lux Fibre 30, VoIP, Relax LuxGSM**~~	~~**15%**~~	~~**89%**~~	~~**yes**~~
LuxDSL ~~Pro, ISDN~~ Start	**6%**	**~~95~~96%**	**no**

[10] See European Commission (2013), rec. 66.
[11] European Commission (2013), p. 28, (Annex II).
[12] See BEREC (2014), p. 35.
[13] ~~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.~~

Bamboo L (Internet + TV + Tél. Fixe)	3%	99%	no
~~LuxFibre 30, VoIP~~Integral LuxDSL Run + Analogique	~~5~~1%	100%	no

Table 4-1: ~~example~~Example of identification of flagship products

4.2.4.4. Flagship products are identified on the basis of their revenues ~~of~~ generated during the calendar year preceding the year during which the ~~margin squeeze~~economic replicability test is being conducted.

4.3.4.5. 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~~31st May) 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~~17.2.

4.6. In case a certain flagship product is no longer marketed but still used by customers, this product will be treated further as a flagship product as long as it meets the revenue requirements of a flagship product.

4.4.4.7. 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~~an economic replicability test. ~~The~~ ILR is aware that there may be competitive problems associated with products which are not flagship products. According to the proposed definition ~~proposed~~, they are, however, not representative for the retail market and may not cause significant harm to competition. ~~The~~Furthermore, 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.

4.5.4.8. 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~~economic replicability approach to be applied[14]. ~~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[15] of ~~EPT~~POST Telecom as an illustrative example: the ~~Integral Lux Fibre 30, VoIP, Relax LuxGSM~~Bamboo M (internet, fixed telephony, TV) bundle is priced at a basic monthly retail charge of ~~69,99~~84€ per month (for illustrative purposes the list prices including VAT have been shown here~~. The~~ but the test will have to be conducted on revenues and costs excluding VAT). The total bundled price is composed of ~~59,99€ LuxFibre 50 &~~internet for 53€ + voice telephony ~~+ 10€ LuxGSM Relax. The stand-alone retail price of the competitive mobile telephony service is also 10€ in the Relax tariff.~~for 5€ + TV for 26€. In this example the ~~margin squeeze~~economic replicability test would be conducted on the ~~fixed line~~

[14] See the discussion of justified bundling and market situations in which bundling may cause competitive problems by BNetzA (2005).
[15] Tariffs as of 1st May 2018.

~~bundle~~internet component without ~~mobile~~voice telephony and TV. Hence, the relevant bundle retail price for the ~~margin squeeze~~economic replicability test will be ~~59.99€ (69,99€ ./. 10 €).~~53€ (84€ - 5€ - 26€).

~~4.6.~~4.9. The general rule developed in para. 4.8 ~~enables~~leads some practical implications when conducting the ~~margin squeeze~~economic replicability 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~~economic replicability calculation. This procedure ensures that only "regulated products" are considered in the ~~margin squeeze~~economic replicability calculation. This includes wholesale products and corresponding retail products, which are produced on the basis of such wholesale products.

~~4.7.~~4.10. Besides the application to flagship products, ~~the~~ ILR reserves the right to apply the ~~margin squeeze~~economic replicability test to products which it ~~regards~~considers 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.

~~5. Margin squeeze tests – The general approach~~

4.11. The Recommendation[16] does not specify the level of aggregation of retail products to run the ERT, for each flagship product individually or for a portfolio of flagship products identified. BEREC has identified that a majority of NRAs apply both a product-by-product and a portfolio approach (aggregation of products approach).[17] In assessing both approaches, BEREC recognises that there may be efficiency gains that could be achieved through a portfolio approach because it provides more pricing flexibility for the incumbent at the retail level. On the other hand, a product-by-product approach ensures that each retail product is replicable and not only the portfolio of products as a whole. BEREC does not favour or exclude one or the other approach. BEREC believes that it is appropriate for each NRA to determine what the appropriate level of aggregation should be when carrying out the ERT in the light of the assessment of competition problems identified in the market analysis.

4.12. Considering the recent experience, ILR wants to keep its current practice of applying the ERT on a product-by-product basis.

5. The level of efficiency of the tested operator

5.1. Three different ~~tests~~ways 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.[18] Each testing approach has its merits and its limitations.

5.2. The EEO test identifies whether the SMP ~~firm's~~generates profits on his downstream ~~operation trades profitability~~operations 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

[16] European Commission (2013)
[17] See BEREC (2014), p. 24f and p. 36.
[18] The pros and cons of the EEO and REO tests were first discussed in the European Commission's Access Notice (See European Commission (1998)).

to ~~him.~~the SMP operator. When ~~margin squeeze~~economic replicability 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~~economic replicability test is conducted under the assumption that the downstream market will be reasonably competitive[19]. This assumption cannot be materialised by relying the test on the dominant operator's market share and costs. ~~The~~In this context, 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.

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~~tested operator'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. Therefore it is sometimes called as "adjusted EEO" test.[20] Conceptually, the SEO test is similar to the REO test but it solves the information problem of relevant data in a different way[21].

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[22]. 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

[19] See the discussion of the relevance of economies of scale and scope in a margin squeeze context in the Annex of ERG (2004).
[20] See for instance Ofcom (2015).
[21] See the application of the SEO test approach applied by the Irish NRA ComReg (2013).
[22] See the discussion of the concept of the efficient operator in a margin squeeze context by the German NRA BNetzA (2007).

will present ~~a margin squeeze~~an economic replicability test to prove compliance with the ~~margin squeeze~~economic replicability 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~~economic replicability 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 would like furthermore ~~would like~~ to invite other market participants to provide their own ~~margin squeeze~~economic replicability analyses which ~~the~~ ILR will take into consideration during the process of testing the compliance of the ~~margin squeeze~~economic replicability 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[23]~~.~~, although the Recommendation expresses a preference for applying the EEO test. Indeed, according to the European Commission, NRAs should make scale adjustments ~~for scale~~ to the SMP operator's business in case the volume of lines of altnets is very low compared to the SMP's network. This is common practice by many European NRAs.

5.11. ~~The~~ Besides the SEO based ERT, ILR requests from the SMP operator also to run the ERT on the basis of the EEO approach. ILR does not intend to substitute the SEO by the EEO test standard and to base regulatory consequences on the EEO test results. Instead, ILR wants to identify the differences in costs which are due to scale differences between an operator with a market share of 15% and one which operates at the scale of the incumbent. Furthermore, ILR expects that the ERT based on the EEO approach must rely on the SMP operator's accounting data which allows a better verification of the SEO test results.

~~5.11.~~5.12. 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.

5.13. The European Commission (2014) has accepted ILR's approach of using a 15% market share to represent the modelled SEO in its Comments pursuant to Article 7(3) of Directive 2002/21/EC dated 4.8.2014 given the market structure and historic developments in the Luxembourgish market but invited ILR to further justify the chosen market share. ILR would like to emphasize that none of the alternative fixed line operators has a market share of more than 15%. The most successful operators represent a market share between 10 and 15%. If economies of scale prevail, ILR would consider it as inappropriate to conduct the ERT for a market share which does not seem achievable for an alternative operator in the market.

6. The relevant business model(s)

6.1. To conduct ~~a margin squeeze~~an economic replicability test, the business model on which to apply the test has to be specified first. ~~A margin squeeze~~An economic replicability 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

[23] See Annex II of the Recommendation on consistent non-discrimination obligations (2013)

regard to business models. Therefore, they have to apply ~~margin squeeze~~economic replicability tests for ~~all~~the most 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.~~ broadband internet access. Alternative operators also provide voice telephony to their customers. Telephony is, however, no longer provided by most alternative operators as a separate product to end-users but as a broadband application. Technically, voice is provided as VoIP over the broadband access connection. From the pricing policy point of view, the internet access flat rate can but does not necessarily include a voice telephony service.

~~6.2.~~6.3. 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.~~ROB) and fibre unbundling (RUO).

6.4. ILR wants to point out that business models based on wholesale products associated to the market on wholesale high quality access provided at a fixed location are not considered in this context.

~~6.3.~~6.5. 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.~~6.6. The ~~margin squeeze~~economic replicability testing tool developed by ~~the~~ ILR is formatted in order to do the ~~margin squeeze~~economic replicability 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~~ILR. Any changes or adaptions conducted by the SMP operator will be checked, verified and approved by ILR before the adapted version of the tool will be published.

6.7. In the case cable operators are not subject to SMP regulation, ILR invites the major cable operators to use the ERT for the determination of the pricing of their wholesale access products. A positive margin of the ERT should enable access seekers to produce an internet access end-user product on the basis of a bitstream access product provided over the cable network.

7. The relevant cost standard

7.1. ~~The~~ ILR considers LRIC+[24] costs of providing the relevant downstream service as the appropriate cost standard[25]. 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~~costs even ~~those which are~~ sunk costs. LRIC+ includes a mark-up for common/overhead costs for the relevant service. To ensure

[24] LRIC+: Long run incremental costs plus common costs
[25] This is also in line with the recommendation of BEREC (2013), p.34~~.~~ and BEREC (2014).

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.

8. The relevant cost of capital

8.1. The relevant competitive return or margin in ~~a margin squeeze~~an economic replicability context is usually identified indirectly by using a WACC approach for the downstream business. The WACC describes the reasonable return which alternative operators will receive on their own investments.

~~8.1.~~8.2. 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. Because the retail business is (much) more competitive than the wholesale market, the WACC of the retail business should be higher than that of the wholesale business.

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

8.3. ~~Currently, the~~analysts' reports, ILR considers a (nominal pre-tax) WACC of ~~10~~8% 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.~~4.3.

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.~~alternative operator. Thus, for a given wholesale product, the ~~margin squeeze~~economic replicability 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. ILR recognises that competitors use a variety of wholesale inputs to produce broadband access. Following the Commission's Recommendation, ILR does not apply the ERT on every conceivable regulated upstream input. Furthermore, the ERT should only be based on the "*most relevant regulated inputs used or expected to be used by access seekers at the NGA-based wholesale layer*" in the market

review period.[26] According to these criteria, ILR is considering bitstream and fibre unbundling as the relevant regulated NGA related wholesale inputs for which the ERT should be conducted.

9.4. For calculating the regulated wholesale costs, the wholesale prices from the SMP operator's reference offers shall be used.

~~9.3.~~9.5. 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. In conducting the annualisation of such costs, the WACC as referred to in para. 8.4 shall be used. 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.

9.6. Customer lifetime should be understood as the contract lifetime of a customer. This means, the concept should not measure how long a customer remains with the company but should reflect the time the customer remains with a certain product. A customer lifetime therefore also ends if the customer would switch to a different product of the company. For practical reasons, customer lifetime as defined above, should be measured by 1/churn. If for instance 2.8% of all customers of a specific product within a month either switch to another competitor or to another product of the company, the customer lifetime amounts to 36 months.

9.7. ILR recognises that when estimating the average customer lifetime, there may be different characteristics and competitive conditions of the provision of services over NGA networks compared to the legacy copper network. This may result in shorter customer lifetimes for users of NGA networks.

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. For the annualisation of such revenue elements, the WACC as referred to in para. 8.4 shall be used. The test will be applied and has to be met for each flagship product individually.

10.2. For the definition of the relevant customer lifetime, we refer to para. 9.6.

~~10.2.~~10.3. Depending on the business model (net~~),~~), revenues from ~~inbound~~telephony services (e.g. call termination ~~may~~, value-added services) need to be considered as part of the relevant revenues~~.~~, if the telephony services are integral part of the flagship products (if no opt-out is possible).

~~10.3.~~10.4. 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

[26] See European Commission (2013), Annex II.

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~~An economic replicability 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[27]. 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~~economic replicability 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. In that sense and following these conventions, the steady state approach can also be identified as a multi-period approach.

11.4. ~~The~~ ILR will use the steady state approach for the following reasons: ~~The~~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[28]. 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~~economic replicability information for each particular period. At the same

[27] For comparing the pros and cons of a DCF and a period-by-period approach see ERG (2009), p.14f~~.~~ and BEREC (2014), p. 22ff, p. 34..
[28] See ERG (2009), p. 15.

time costs and revenues are properly allocated over time. Furthermore, this approach best reflects the hypothetical efficient operator as a point of reference.

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~~six different cost categories:

(1) Own network cost;
(2) Other wholesale inputs;
~~(2)~~(3) Costs for terminating traffic in other networks;
~~(3)~~(4) Retail costs;
~~(4)~~(5) Common cost;
~~(5)~~(6) Regulatory ~~Costs~~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;
- Indirect investments;
- 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. Indirect investments are indirectly related to own network costs and/or specific network elements. They include investments for vehicles (field service) office equipment, IT network equipment, IT management equipment, buildings and workshop equipment. Indirect investments are represented in the ERT calculation tool as mark-ups on direct investment.

12.4. Other wholesale inputs may be purchased from the SMP operator or other operators. Such inputs are different to the regulated NGA wholesale inputs as referred to in para. 9. Such wholesale inputs may include leased lines, dark fibre or other inputs. If the altnet costs for such inputs are not available, ILR proposes – following BEREC[29] – to use the price commercially agreed on the carrier market as a first proxy for those cost.

12.5. Asset annualisation shall be calculated on the basis of the price-tilted annuity formula, where the price represents the anticipated price trend of the specific asset.

~~12.3.~~12.6. 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.~~12.7. Retail costs include the following cost categories:

[29] See BEREC (2014), p. 34.

- Product development and management,
- Marketing and sales,
- Customer acquisition and customer retention,
- Customer services (including call centre and provisioning services),
- Billing and collecting,
- CPE/distribution of CPE if part of the service provision,
- Bad debt,
- Accounting,
- IT.

~~12.5.~~12.8. Retail costs can be represented category-by-category according to the categories mentioned in paragraph 12.7 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.

12.9. ILR considers a global mark-up of up to 20% on total network costs (regulated wholesale cost, non-regulated input cost and own network cost) for retail costs as appropriate.

~~12.6.~~12.10. The ~~margin squeeze~~economic replicability 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.~~12.11. Regulatory costs are the fees that the operators pay to ~~the~~ ILR, e.g. for the numbering. The regulatory administrative costs will be considered as a percentage of the relevant revenues.

~~12.8.~~12.12. Common costs are costs on the level of administration and management that cannot be allocated to individual services. Common cost includes expenses for general administration, HR, financial accounting, tax advise, management etc. 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.

12.13. ILR considers a mark-up for common costs of up to 6% of total cost as appropriate.

13. Procedural aspects of applying the ~~margin squeeze~~economic replicability test

13.1. The ~~margin squeeze~~economic replicability test shall be applied in future each time a new NGA related wholesale product is being introduced, if and insofar as flagship products are produced using such a wholesale input. ~~A margin squeeze~~An economic replicability 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~~.~~(s).

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~~Règlement 14~~/***//177/~~ILR du ~~**~~28 août 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~~an economic replicability test each time a retail product becomes a flagship product, according to the criteria defined in para ~~4.1 and 4.3.~~4.3 and 4.5.

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~~4.3 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.).~~4.5.).

13.5. The ~~margin squeeze~~economic replicability 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~~31st May 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~~an economic replicability test for all the wholesale and flagship products for which ~~a margin squeeze~~an economic replicability test has already been conducted (according to para 13.1. or 13.3.). This ~~margin squeeze~~economic replicability 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~~economic replicability test conducted according to para 13.1 and 13.3 have to be included. The ~~margin squeeze~~economic replicability 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~~an economic replicability 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~~economic replicability 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~~economic replicability test.

13.8. The ~~margin squeeze~~economic replicability test results provided by the SMP operator have to be compliant with the ~~margin squeeze~~economic replicability test requirements set by ~~the~~ ILR~~.~~ in a national decision ("règlement"). Furthermore, the SMP operator will have to use the parameter values fixed by ~~the~~ ILR to conduct its ~~margin squeeze~~economic replicability 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~~economic replicability 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~~economic replicability 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~~economic replicability model by means of a market survey.

14. Transparency of the economic replicability test results

14.1. Based on the awareness of asymmetric information about the results of the economic replicability test between the SMP operator and other market players and the request of several stakeholders in the market, ILR improves the transparency about the results of the economic replicability test(s). Nevertheless, an economic replicability test includes some commercially sensitive data of the SMP operator.

14.2. ILR has identified the following options to improve transparency:

(1) Publishing the list of flagship products.
(2) Publishing the margins for the flagship products for which an ERT has been conducted.
(3) Publishing the margins of anonymised flagship products.
(4) Publishing the ERT tool calculations in a form such that revenue and cost items are aggregated to a non-confidential level.
(5) Publishing the ERT tool calculations with all input parameters and results (only SEO approach).

14.3. To maximise the transparency, ILR is of the opinion that the option (5) is the most appropriate one. Indeed, the alternative operators could cross-check the values provided by the SMP operator with their own data. This option does not reveal any confidential data of the SMP operator, as only the SEO approach is requested.

~~14.~~15. Consequences of an identified margin squeeze

15.1. Because the SMP operator will be under the obligation to set ~~himself~~his retail prices on the basis of the regulated wholesale prices such that no margin squeeze occurs, ~~the~~ ILR assumes that the ~~margin squeeze~~economic replicability 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.

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

15.3. In case the ~~margin squeeze~~economic replicability 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 the decision 14/177/ILR regarding « *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~~economic replicability 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.

15.4. On its own initiative the SMP operator may either

(a) increase the price of his retail offer or
(b) lower the prices of his regulated wholesale inputs or
(c) adjust prices both at the wholesale and at the retail level.

~~15.4.~~15.5. In case the ~~margin squeeze~~economic replicability 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~~economic replicability test has been carried out. 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~~economic replicability 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.

~~15.5.~~15.6. Alternatively to the approach described in para. ~~14.4. the~~15.5. 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.

~~15.6.~~15.7. The triggers for the different tests are the following :

- When the SMP operator intends to introduce a new NGA related wholesale product;
- When the SMP operator intends to change the price of ~~a~~an NGA related wholesale product;
- When a retail product becomes a flagship product, according to the criteria defined in para. 4.1 and 4.5~~.~~;
- Annual test on ~~March 1st~~31st May with data from the past year;
- When ~~a margin squeeze~~an economic replicability test reveals a margin squeeze;
- Upon complaints by competitors.

~~15.~~16. References

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~~16. Annex~~

17. Annexes

~~16.1.~~17.1. Identifying flagship products

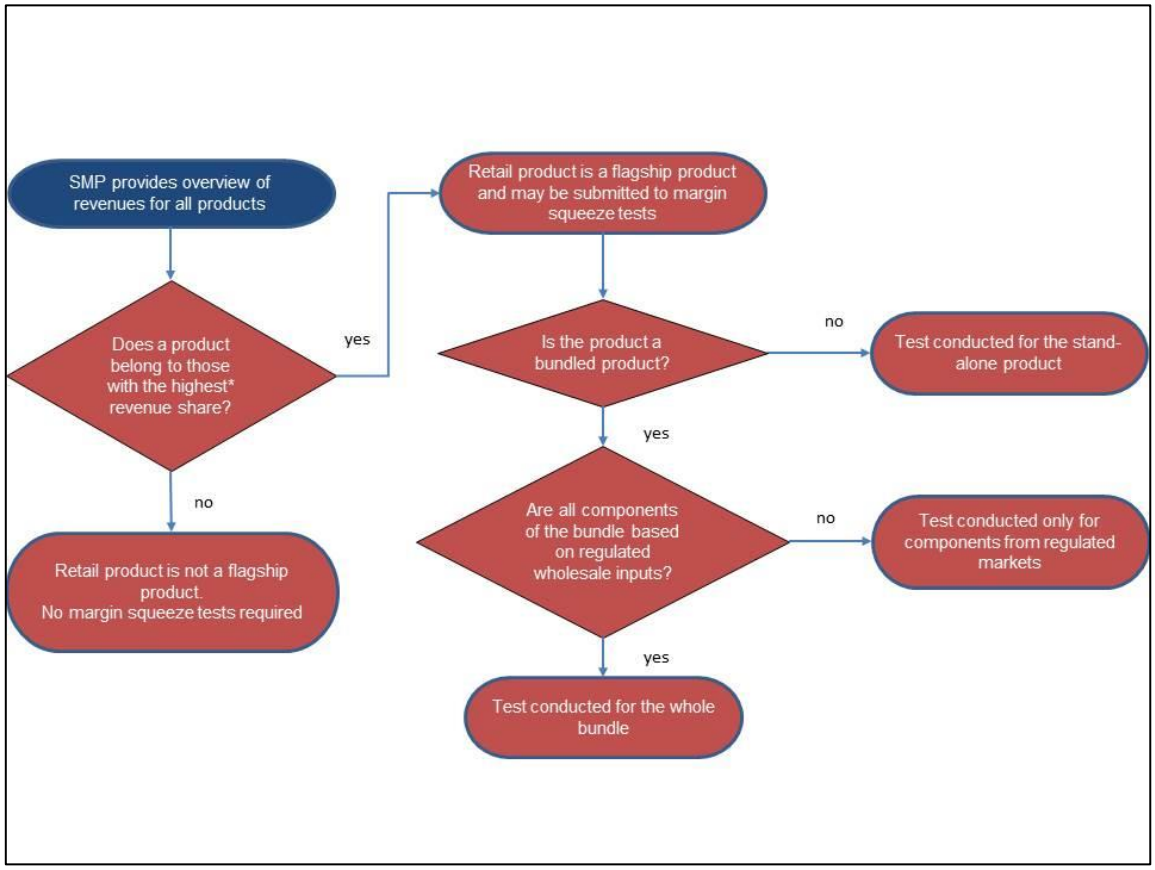

Figure 17-1: ~~process~~Process for identifying flagship products

* 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.~~17.2. 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 correspon-dent 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 supple-mentaires
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%					

Table 17-2: Retail products selection of SMP operator