

Facultative non-proportional reinsurance and
obligatory treaties
Caution: faulty design

Facultative non-proportional reinsurance and obligatory treaties

Caution: faulty design

Preface

Again and again, we encounter differing views as to how facultative non-proportional reinsurance cover should be combined with proportional reinsurance treaties. Reinsurers often sell their clients non-proportional facultative covers which use the proportional treaty limit as the basis (deductible) for non-proportional cover.

Constructions of this kind supposedly make the treaty a first loss cover and are also termed “treaty compression”. In the market, these reinsurance solutions are regarded as good value for money. Closer consideration, however, shows that they are disadvantageous for both parties to a proportional reinsurance treaty: in the event of a partial loss, the client finds he has gaps in his reinsurance cover, and the reinsurer incurs unjustified premium shortfalls.

To prevent unpleasant surprises to both parties in the event of a loss, cessions to proportional treaties must be based on the original risk, without exception. This applies to quota share treaties, surplus share treaties, or a combination. The cession must take place without prior deductions, on the basis of original premium shares. Other solutions always have negative consequences in the long term, for the reinsured as well as for the reinsurer.

This brochure explains how proportional treaties should interact with non-proportional facultative covers, and aims to counter misunderstandings regarding so-called “treaty compressions”.

Michael Kuhn

Georges Galey

How do we combine proportional reinsurance treaties with facultative reinsurance cover? To answer this question, let us first recall how a proportional treaty works. This will then lead, almost automatically, to an explanation of how additional, facultative reinsurance cover can be provided for those risks¹ which the treaty can accommodate only partially.

Cessions to the proportional treaty

We know that, in a proportional reinsurance treaty, direct insurers and reinsurers “follow the fortunes” of the business. This means, for example, that the direct insurer and the reinsurer will share the ceded risk – that is, the...

- liability,
- premiums and
- any losses,

...always in the same proportion. This includes the following principles:

Original conditions principle

The direct insurer cedes the risk at the original conditions. He shares with the reinsurer the original premium and the original loss risk in accordance with the shares stipulated in the treaty. The parties to the treaty thus assume the same loss probability for their relative shares.

Example of such a clause from a proportional treaty²:

Article 4

Reinsurer's share

...

The reinsurer shall receive its share of the premiums payable to the Company; its share shall be subject to the original terms and conditions and the original currencies.

Proportionality principle

Normally, each proportional treaty has a treaty capacity which sets a limit on the amount of a single risk that can be ceded to the treaty. Risks not exceeding the sum total of treaty capacity and retention are divided proportionally, in their entirety, between the direct insurer and the reinsurer. This applies regardless of whether the treaty capacity is defined as a sum insured or an estimated maximum loss (more often “Maximum Possible Loss”).

¹ A “risk”, as understood in this context, means the entirety or a certain share of the perils assumed by the direct insurer under a given direct insurance policy or cover.

² Klaus Gerathewohl, Reinsurance Principles and Practice, Volume II, page 8081

Example

Let us assume that a direct insurer decides to bear a retention of no more than three million for each risk accepted. He agrees on a surplus share treaty with a treaty capacity of ten lines. Risks A, B and C will be ceded to the treaty as follows:

Original risk	Retention		Treaty participation	
	in m	as %	in m	as %
Risk A = 6 million	3	50	3	50
Risk B = 12 million	3	25	9	75
Risk C = 30 million	3	10	27	90

If, however, the original risk exceeds the sum total of the treaty capacity plus the retention, the relation between “sum total of treaty capacity plus retention” and “risk amount” will indicate the share of automatic capacity.

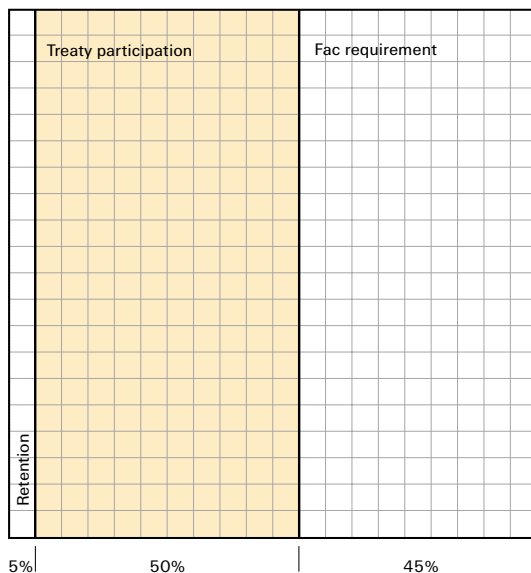
In the case of an original risk of 60 million this gives the result:
 $33 \text{ million} / 60 \text{ million} = 0.55$

This means that 55% of the risk is divided according to the structure of the treaty. The facultative reinsurance requirement (fac requirement) amounts to 45%:

Original risk	Retention		Treaty participation		Fac requirement	
	in m	as %	in m	as %	in m	as %
Risk D = 60 million	3	5	30	50	27	45

Fig. 1:

Reinsurance cover of a single risk. The sum insured amounts to 60 million (represented as an area of 400 squares). The obligatory cover reinsures half of the risk. Facultative reinsurance is required for 45%.



Proportional procedure

The question now arises as to how the facultative reinsurance requirement is to be met. The simplest solution would be proportional facultative reinsurance cover, according to Fig. 1., 45% of 60 million.

Non-proportional procedures

Increasingly, we are seeing non-proportional solutions in the market that are intended to meet the need for facultative reinsurance. There are basically two ways of doing this: the right way and the wrong way.

The right way

If the direct insurer is prepared to keep his retention on a first loss basis, the non-proportional facultative cover can build on this. In the diagram below, the proportional retention has been replaced by a non-proportional priority of the same amount. After all, the direct insurer's concern is to limit his liability effectively. Other solutions with an increased or reduced priority are, of course, possible.

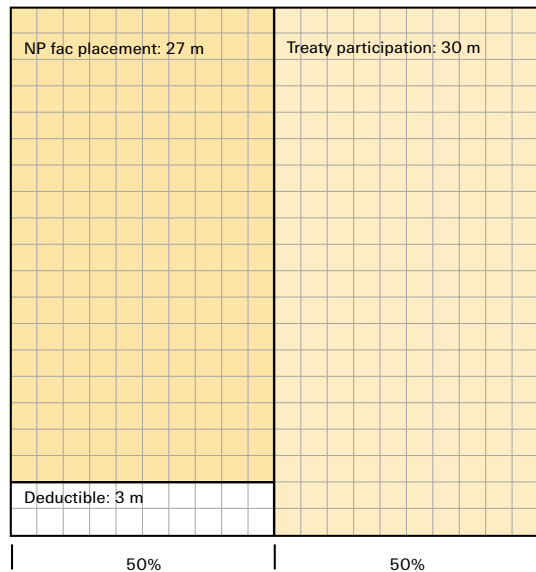
In our example, this results in a layer of:

27 million xs 3 million for 50% of the risk

In order to provide the direct insurer with full reinsurance cover, 100% of the non-proportional facultative cover (27 million) must be placed.

Fig. 2:

Correct non-proportional facultative cover with a deductible of 3 million.

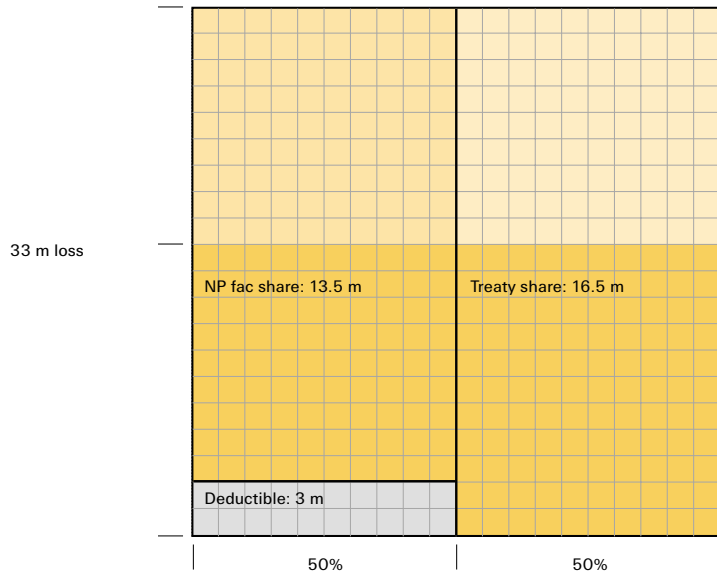


A partial loss – an original loss of 33 million, for example – leads to the following loss distribution:

Surplus share treaty covers 50% of 33 million:
Treaty's share of loss = 16.5 million

Non-proportional facultative reinsurance (including deductible) covers 50% of 33 million:
Deductible = 3 million
Facultative non-proportional = 13.5 million

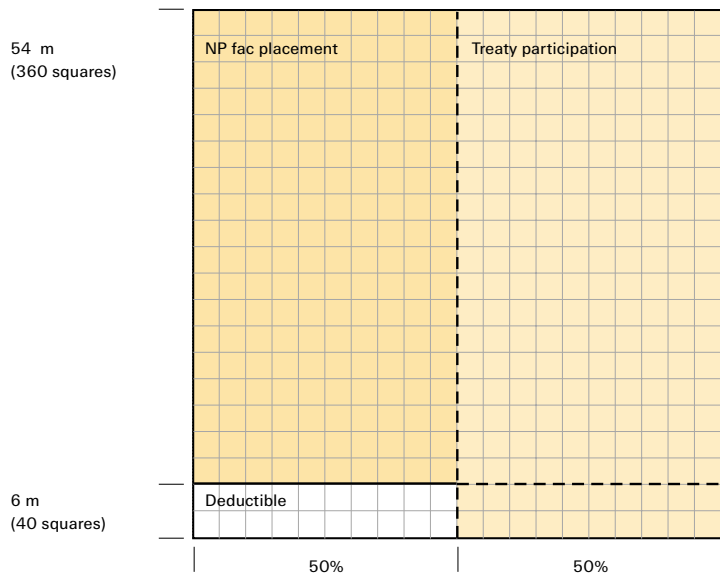
Fig. 3:
Apportionment of a 33 million loss
corresponding to the cover in Fig. 2.



Another way of looking at this solution would be to extrapolate the facultative reinsurance layer and deductible to 100% of the original risk amount. The specifications of this “artificial” cover are:
 54 million xs 6 million – of which only 50% must be placed, however.

Fig. 4:

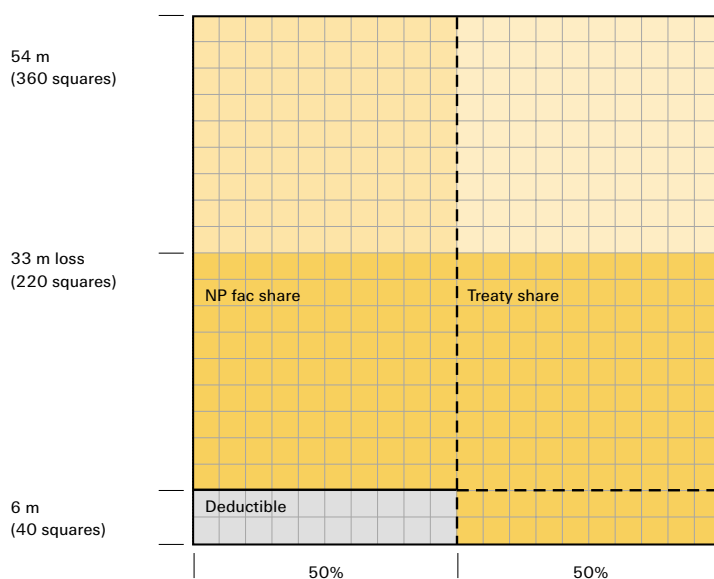
Correct, more transparent presentation of the same non-proportional facultative cover as in Figure 2.



The partial loss of 33 million leads to the same loss distribution as in Fig. 3:

Facultative non-proportional	13.5 million (50% of [33 million – 6 million])
Treaty share	16.5 million (50% of 33 million)
Deductible	3 million (50% of 6 million)

Fig. 5:
Apportionment of a 33 million loss according to the cover in Fig. 4.



The wrong way

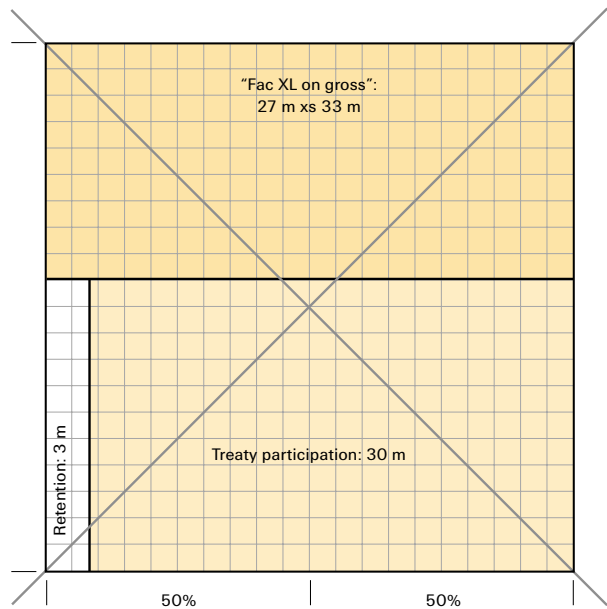
The procedure below leads to a faulty design: it splits up the original risk and thus violates the principles of a proportional treaty mentioned at the beginning. This procedure is often applied in the form of a “facultative excess of loss on gross” (Fac XL on gross).

Example

Original risk with sum insured of	60 million
Treaty participation (10 lines) + retention	33 million
“Fac XL on gross”	27 million xs 33 million
Original premium: 1‰ of 60 million	60 000
Premium ceded to surplus share treaty	10/11 von 60 000 minus costs for “Fac XL on gross”

Fig. 6:

Faulty cover for the facultative reinsurance requirement by means of “treaty compression”.

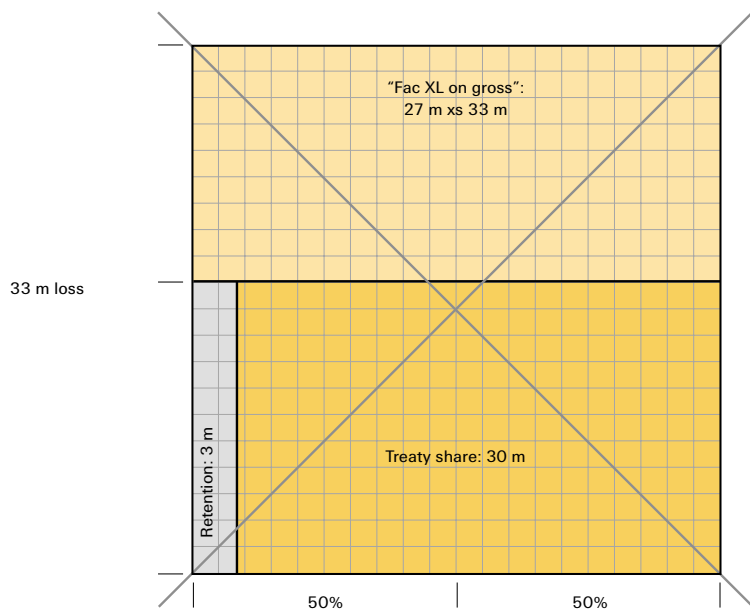


In our example, the treaty capacity only allows 50% of the risk to be ceded. However, by ceding 10/11 of the assumed premium of 60 000, minus the costs for the “Fac XL on gross”, the direct insurer seeks in effect to reinsure the whole risk under the surplus share treaty, maintaining the treaty limit by means of the “Fac XL on gross”.

From the direct insurer's point of view, the original loss of 33 million is divided up as follows:

"Fac XL on gross" (27 million xs 33 million)	0 million
Treaty share	30 million
Retention	3 million

Fig. 7:
Incorrect apportionment of a 33 million loss corresponding to the cover in Fig. 6.



As soon as the treaty reinsurer notices how the treaty is being abused, he will insist on it being corrected by means of a new cession.

By deducting the costs for the "Fac XL on gross" from the original premium, the direct insurer has infringed on the "original conditions" principle. But even if the direct insurer pays for the "Fac XL on gross" himself, a cession of this kind is wrong since the automatic treaty capacity of 30 million only allows the treaty to accommodate 50% of the risk. A cession which exceeds this share exposes the treaty reinsurer to an extent that goes beyond the treaty agreement in the event of any partial loss and signifies a treaty violation.

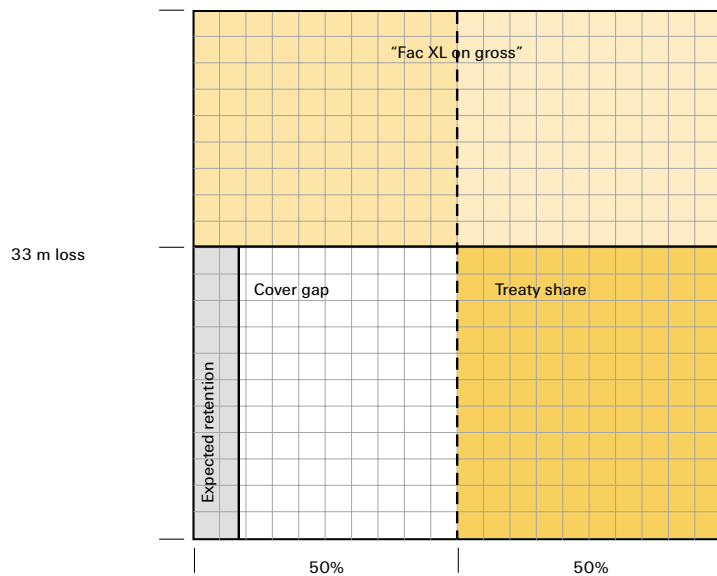
In our current example, the highest possible loss for the treaty is 50% of 33 million. The "faulty design" loss share, on the other hand, amounts to 10/11 of 33 million!

With correct use of the treaty, the loss is apportioned as follows:

"Fac XL on gross" (27 million xs 33 million)	0 million
Treaty share: 50%	16.5 million
Expected retention	3 million
Unforeseen gap in cover	13.5 million
Total loss to be borne by cedent: 50%	16.5 million

Fig. 8:

Apportioning the loss according to correct use of the treaty reveals an unexpected cover gap.



Special cases

The question sometimes arises as to how to deal with (industrial) insurance covers with high retentions, layered policies and policies on a first-risk basis. These policies are usually expressly excluded from treaty business. They are distinguished from policies with small retentions and first-risk covers for specific aspects (such as removal of debris). They are part of normal business and are covered by treaty business as a matter of course.

Conclusion

As the examples show, it is not difficult to link sensible facultative non-proportional covers to an existing proportional treaty without compromising the principles that underlie proportional reinsurance. If the direct insurer nonetheless wishes – even occasionally – to use the reinsurance treaty in a way other than that stipulated in the conditions, he may do this only with the consent of the treaty reinsurers concerned.

© 2000

Swiss Reinsurance Company
Zurich

Title: Facultative non-proportional
reinsurance and obligatory treaties –
Caution: faulty design

Published by:
Swiss Re Publishing

Authors: Michael Kuhn, Georges
Galey
Group Product Management Property
Reinsurance & Risk division

Editing and production:
RK, Corporate Communications
Reinsurance & Risk division

Translation:
Swiss Re Language Services

Additional copies and a brochure list-
ing other Swiss Re publications
(Swiss Re Publishing – Our expertise
for your benefit) can be ordered from:

Swiss Re
Mythenquai 50/60
P.O. Box
CH-8022 Zurich
Telephone +41 1 285 21 21
Telefax +41 1 285 20 23
E-mail publications@swissre.com

Swiss Re publications can also be
downloaded from our Website
www.swissre.com

Order no.: 207_00230_en

R&R/RP, 7/2000, 2000 en