

Marine cargo reinsurance

Per risk *versus* per policy, declaration, bill of lading: the often misunderstood workings of two reinsurance systems

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Prologue

Once upon a time, when the air was still clean and sex dirty, cargo underwriters prided themselves on always knowing where they stood. Never a doubt about commitments taken, no uncertainties, No Sir!

Liner cards were maintained with painstaking accuracy, in black ink applied with a quill to white paper. Black on white, totally reliable!

When an unfortunate vessel sank, as sometimes happened, the underwriter was immediately called to see his superior and asked that one important question: "How much do we have on this one?"

Out came the liner card and within seconds the superior was either happy or angry, but definitely informed.

Times are changing. The air has indeed picked up some pollutants and the number of cargo underwriters who have given up on liner cards (some younger ones don't even know what they were in the first place) are growing by the day.

Does this imply that in the age of info-floods, brimming databases, gigabyte storage capacity and instant on-line communication there is actually a field of shrinking information availability?

The answer is: "Yes, unfortunately."

All this has had (and still has) a steady influence on the way cargo insurance is written and last but not least how cargo reinsurance is transacted. What we would like to do with this publication, is lead you through some of the more important steps in this development, provide you with some insight into the thinking practised at the reinsurance end and give you a few ideas regarding your very own cargo reinsurance arrangements. Who knows, we may even affect the way you view quality cargo underwriting, although we are not so ambitious as to want to change the world.

In short, we shall try to serve you up some food for thought.

PS: Most of the examples used are real. We have however taken the liberty of changing names and places. Any similarities to actual cases are thus more than coincidental. If you do recognize one or the other, fine, but let's keep it a secret; some of the facts may be embarrassing to some people!

1. Why did the world change?

Let's start with history.

In the old days, whenever a client made a declaration under an open cover or bought a policy covering a specific cargo on board a specific, named vessel for a specific voyage, the underwriter would check his drawer for a liner card for that particular voyage. If he did not find one he would open one, enter the cargo and its value on the first line and wait for other declarations to go with the same ship. Once the sailing date arrived, the underwriter closed his liner card, added all the values (insured by him) on board, and presto, was totally informed on the **accumulation** of individual declarations on this particular risk.

Vessel Name: Challenger, Sailing: 15 May

| Decl. no. | Voyage | Cargo | Value USD |
|-----------|-------------|-----------|-----------|
| 1 | UK to Lagos | Jaguars | 90,000.- |
| 2 | F to Lagos | Champagne | 10,000.- |
| 3 | E to Lagos | Olives | 5,000.- |
| Total | | | 105,000.- |

Clean, simple and beyond reproach. It can even be done on a personal computer, which disposes of the antiquated image of card systems. But hold on a minute. There is something in this that doesn't quite ring true: the availability of information is often just not there.

Take an importer of champagne somewhere in the midst of Africa. Chances are that the champagne arrives at the port of destination before or at the same time as the shipping advice. Therefore the name of the carrying vessel, the one absolutely vital piece of information to open a liner card, is not yours to work with until the whole adventure is actually over and done with.

Or as an alternative, take container shipping. Say your clients are large-scale importers that pack their own containers and ship them with their own (or preferred) container line. Your shipping advice will probably arrive in time for you to do your accumulation homework. Take the other extreme, your clients are small-scale traders importing loads too small to warrant a full container load. A forwarder will do the job of collecting the small boxes and will keep them on hold until he has sufficient boxes to pack into one container heading in the right direction. These consignments are known as light container loads. It seems very likely that the shipping advice will be quite late – so again, no accumulation control.

How about air cargo then? Short-term allocation of freight to aircraft depending on availability of freight space makes it impossible to get the “any one risk/aircraft” information until the aircraft is practically airborne. Also, tight security specs do not allow the free flow of info on air cargo and their carrying craft. After all, it would be just too simple for terrorists to plan an attack against a particular airline or even flight if that info were in fact available. So again, forget the proper accumulation control.

Ironically, the faster we handle goods, the smaller the turnaround times of the carrying vehicles become, the slower the information seems to reach underwriters. Long gone are the days when trips of sailing vessels were planned months ahead of time and all exporters and importers knew that their wares were to be transported in the holds of the “Mayflower”.

So, except for those very few, fortunate places where underwriters always get their shipping advice before the voyage begins, the “world” at large has started to view the policy/declaration/bill of lading as the one reliable criterion to consider when it comes to assessing commitments. The drawbacks are obvious and undeniable.

Underwriters are less informed about their commitments than they were 100 years ago!

On a more positive note, there are of course always the chartered vessels carrying only your client’s cargo and nothing else. Your client will advise you of the name of the chartered vessel as he makes the declaration. You can do your underwriting as it should be done: on the basis of all individual risk factors involving the cargo, the voyage, the time of year and the quality of the carrying vessel. A lovely idea, but unfortunately the percentage of “full cargos carried on chartered vessels” doing a beeline trip from A to B is very small indeed.

The world has and will continue to change; the secret is to adapt to this change properly.

2. Underwriting Problems

To assess and underwrite a “risk” properly you need to know all there is to know about it before something goes wrong. Right? “All” in this case would be what is commonly referred to as “risk factors”. If you look at them systematically, they basically fall into two distinct groups: those that are related to the cargo itself and those that deal with the vehicle(s) moving your boxes.

Schematically these two groups should include the following individual risk factors:

Risk factors

| Cargo related | Carrying vessel |
|---------------------------|---------------------------|
| Type of cargo, packing | Age, tonnage |
| Size, weight, value | Construction, propulsion |
| Route, duration, season | Trade, flag, ownership |
| Socioeconomic environment | Socioeconomic environment |

We certainly don't want to test your patience by discussing all of the above factors individually, although you will no doubt agree that there would be enough substance in each to fill a few pages. Just two very important conclusions:

1. A cargo risk is the sum of a large number of individual risk factors, making each risk a very special, individual, non-repeatable entity deserving the underwriter's special attention.
2. The carrying vessel and its individual risk factors make up a major part of the total number of risk factors – it is thus of great importance.

So here we are. Half of what we ought to know and seriously consider in underwriting, we quite often don't have a clue about.

Of course, there are ways to ensure that even shipping space you do not know about before the voyage starts is of a certain quality. The Institute Classification Clause is probably the most traditional of these safeguards. The underwriter may also specify that cover is restricted to vessels younger than 15 years or belonging to a reputable liner company. All of these are good safeguards, but definitely not as good as knowing things beforehand.

This doesn't even take into account that most cargo insurances are “warehouse to warehouse”, ie there are usually other carrying vehicles involved in the pre and post transportation legs. We remember an underwriter who took great pains in specifying prime carrying space for the international leg of the journey. He was subsequently unpleasantly surprised to find out that his client had employed the cheapest trucking company available at destination. You get what you pay for. His client's savings on trucking led to bad handling damage on the sensitive, high-tech machines.

3. Risk units for proportional reinsurance

Now that we have found out that we really do have some serious problems when it comes to assessing the very cargo risks that we underwrite, because we often know only half the story, you are yet to be burdened with another problem stemming from the same root.

On what basis should you determine your retention and reinsurance cessions?

Your choice is quite limited: either you retain and cede on the basis of “any one risk” or on the basis of “any one policy”. Sometimes a combination of both systems is also employed, but let us first define each basic system in its pure form.

The key word is *risk unit*. Once you have decided on which risk unit you will split the premiums and claims into, you should adhere to it – at least for the duration of your reinsurance treaty – no matter whether it is momentarily to your advantage or disadvantage. And there are plenty of those in each system.

We will look at them in just a moment.

First, the definitions:

a. any one risk/bottom/vessel/conveyance (aor)

Your risk unit will be the total sum insured (by you) of all cargo aboard the same carrying vehicle. In case of multimodal transports it is usually the accumulation on the ocean vessel that is taken into consideration. (Liner cards!)

b. any one policy/declaration/bill of lading (pp)

Your risk unit will be each policy issued, declaration received and/or bill of lading issued/declared, irrespective of the conveyance by which the cargo may be carried. (No liner cards!)

For each risk unit thus determined you will maintain your full retention, off-loading the balance onto the broad shoulders of your preferred reinsurers. As in all proportional reinsurances, the ratio between retention and surplus cession will be the same as the one used for splitting the premiums and of course the claims.

In mixed systems you are allowed, in cases where you do not know the carrying vessel beforehand, to first cede on a **pp** basis (sorry for the abbreviation, but please see b. above) with the *obligation* to later readjust your cession on an **aor** basis as soon as you get hold of the information. No opportunistic readjustment should claims occur, *please!* And no waiting with the reinsurance cession until you know how much has been on that one risk, ie once everything has arrived. The temptation to forget about ceding anything at all

when the adventure has ended without claim is just too great. On the other hand should there be a claim on a “cession on hold”, most reinsurers, save for the truly philanthropic ones, which are few and far between, would find a cession following a loss anything but fair.

Nice, simple and quite clear, but obviously, there must be more to it than meets the eye.

Yes indeed, as with any other system, once you decide you are bound by it even though it may sometimes be to your disadvantage. Say your reinsurance treaty works exclusively on a **pp** basis; you bear a smallish retention on each and every policy or declaration that you enter into your books. A big maritime accident occurs, and slowly but surely you find out that the container vessel which collided had carried well in excess of 100 individual policies issued by you. Needless to say, even a smallish retention multiplied by 100 results in something to worry about. And wouldn't it be rather unfair to readjust that particular cession to **aor**? The upside of course is that for all those times when you *unknowingly* had similar catastrophic accumulations you were actually allowed to keep that retained portion of the premium on each policy too. Justice has been done.

The coin definitely seems to have two sides, so why don't we try to list the two more important sides for each system very briefly?

| any one risk (aor) | | any one policy (pp) | |
|---|--|---|---|
| advantages | disadvantages | advantages | disadvantages |
| <ul style="list-style-type: none"> - known commitments - maximized retention - informed underwriters - retention protection needed only for catastrophes (multiple risks) | <ul style="list-style-type: none"> - cumbersome administration - small mistakes, big effects - costly cession readjustments | <ul style="list-style-type: none"> - no worries - little administration | <ul style="list-style-type: none"> - no commitment info - big cessions - retention protection a must (single risk) |

Some of these items may still mystify you, but keep on reading and things should become clearer as we go along. In a further step we will however have to look at yet another major stumbling block, namely unknown accumulations that may happen in both systems.

4. Unknown accumulations

a. even if you keep an accumulation control that works:

What an unfortunate, discouraging title! Before you get totally disheartened, let us assure you that it is considered preferable to make an occasional mistake in controlling what is essential rather than giving up the controls altogether.

Transshipments and collisions are the two big scare words. There is a third, even nastier surprise, in case you've been wondering, but we will deal with that later on in chapter 5 where shore accumulations are the topic.

Let's look at transshipments first. Imagine you have filled two liner cards for two vessels belonging to the same shipping line. Both liner cards are full to the brim. Your retention is set at maximum and your reinsurance treaty is just about big enough to handle the surplus.

One voyage goes from Hamburg via Piraeus to Alexandria. The other starts in Marseilles destined for Alexandria. Something happens in or around Piraeus and one vessel enters dry dock after having transferred her Alexandria cargo to the other vessel going that way. Of course advice of this change is sent "immediately" to the consignees who, in turn, notify their insurers, ie you, just as immediately. Unfortunately, as specified in Murphy's law, the vessel goes down in a stormy east Mediterranean sea before that speedy reporting finally reaches you.

Now you are up that proverbial creek without a paddle! Not only do you have two maximum retentions on your book, but your treaty reinsurers will insist that their limits are definitely "any one risk" so you will also have to pay for one of the two full treaty cessions yourself. Of course your reinsurers will reimburse the excess premiums ceded, which will, however, fail to console you properly.

There would have been a way to prevent this mishap. It's called the **unknown accumulation clause**. There are of course many different forms of this clause, so let's look at a simple example:

Unknown accumulation clause

In case of unforeseen accumulations of cargo aboard one carrying vehicle, the insurer and the underwriters hereby agree to share such unknown accumulation in the same proportion as the originally known accumulation, up to a maximum of 100% of the normal retention and treaty limit.

This may appear to be legalese and small print, but in effect it is quite simple. Should you be so unfortunate as to be caught in our transshipment story (two full liner cards and treaty cessions) you would be fine with the above clause. You still have two full retentions to chew on, but at least your reinsurers won't desert you on the excess ceded – up to one further, full treaty limit that is.

Collisions between two vessels carrying fully accumulated cargos would again lead to a double retention for you but they would not create a problem with your aor reinsurers. The collision would involve two risks in one event, thus your proportional treaty capacity would stand twice as well.

Similarly, shore accumulations (more about them in chapter 5) when, say, the cargo of 5 vessels is housed in port warehouses and is destroyed in a major conflagration (these things do happen sometimes as experience has shown), will “only” lead to a multiple of your retentions. Your treaty actually responds as many times as you made cessions to it, irrespective of the fact that the loss was due to one event.

We realize that we haven't quite reached the right chapter yet, but it seems the perfect opportunity to point out that even with an unknown accumulation clause in place you will probably still need an Excess of Loss cover to prevent your retention from multiplying beyond planned numbers. More about this later on, we just thought we'd mention it here.

b. if you rely on your per policy facility:

Since we start by accepting the unknown as an operating base, there are no real unknown accumulations beyond the known unknown. After all, a double negation such as unknown unknown accumulations would revert to a positive “known”.

So the **pp** system is really about unknown things – you usually only find out just how unknown they are once things go desperately wrong and the bills start coming your way.

Take a country that only has one port and a rather low total import volume; that means we have slow business. On the other hand the country has a free market structure and thus has a rather large number of small-scale importers undertaking a lot of small-scale imports. A few bags of sugar or coffee, some flour, some machinery, some canned goods, a bit of steel, household goods, fixtures and furniture, some bicycles, motorcycles and some heavy construction machinery. All quite unrelated and from a great number of clients. We said business was slow and only one vessel calls per week. To develop the story nicely, let us assume that you are the most successful insurance company in your market, you’ve pretty well got it cornered. So all the policies issued on each of these different commodities end up in your book and you hold a full retention on each one of them. Cessions to your reinsurers are small or even non-existent as only a few policies are of the size that warrant bothering your reinsurer.

Now, let us further presume that your “slow business port” is within reasonable distance of a major trading hub, a classic transit port.

What will happen?

Most shippers will ship via the trading hub. Your goods are waiting there for one vessel to call at your “slow business port”, with the result that they end up as **one risk** on board that slow boat. Small consignments may even be stuffed into “collection” containers, at the same time increasing damage potential through bad handling. Either way, your reinsurance cessions will hold true should anything happen. But remember you have only few such cessions. What you do have plenty of, are retentions! Pray that your excess of loss cover is long enough to handle the unexpected blessing.

5. How about shore accumulations?

The last very big warehouse fires happened way back in the seventies in Iran. We narrowly escaped losses of major proportions when an earthquake hit Kobe recently: damage was not that heavy as there were no big fires, power was restored within reasonable time and the weather was not too hot (refrigerated goods). Floods of catastrophic proportions in major ports have so far been fairly well contained due to investment in mammoth flood control measures in past decades.

Still, things do happen, and statistically speaking, a “wake-up catastrophe” is overdue. Who knows, maybe the next “big one” will happen in a port near you. Or one very far away from you but still producing that mighty jolt you did not expect. The funny thing about cargo exposures is that, unlike that normal building insured against fire and allied perils, your cargo is *on the move*. To illustrate this interesting point let us just mention that when devastating floods hit the port of Hamburg in 1976, the first loss advice we received came from Japan! Imagine a big earthquake in San Francisco with subsequent fires leading to the total destruction of all cargo in port warehouses. Would you want to venture a guess as to how much cargo insured by you was there at the time of destruction? Probably not. You will have to wait for the loss advices just like everybody else.

Still, as we mentioned earlier, there is no need to worry about your proportional treaties failing you in case of a big event in port. What you do need to keep in mind, however, is the number of retentions you may be called upon to honour once the heat is on.

The key word is *exposure*, the difficulty is centred around assessing this exposure.

Allow us to give you a few rules of thumb by which we make our own educated guesses in the absence of any absolutely reliable scientific way of doing the job.

Let us not worry about those accumulations far away from home. Chances are that in most cases the biggest accumulations of cargos covered by your company will concern imports into your country of operation. This means they will pile up at the warehouses of your country’s principal port(s).

Assuming that you rely on a pure **pp** system, the theoretical formula to calculate the *average* exposure in your port would read as follows:

average number of policies aboard vessels calling at your port

times

average sum insured per policy issued

times

average number of vessels calling per week

times

average number of weeks that cargo remains in port.

This contains too many averages to be reliable. Maybe that big loss will happen during a particularly busy season when the port is congested or the customs people are on strike. Maybe it will hit just at the very moment when a major consignment of highly valuable investment goods has arrived and been discharged. It could be that some of these factors may even combine. Usually, one of the most important pieces of information, namely the average number of policies aboard one vessel, is simply not available.

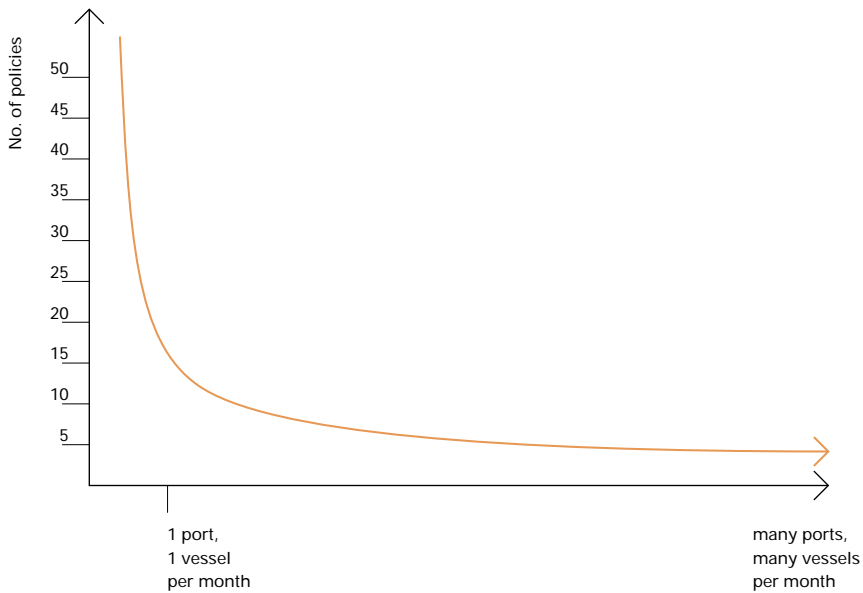
You are only slightly better off if you have an accumulation control that works almost flawlessly. There are still too many uncertainties to be reckoned with to really feel comfortable with a total exposure calculation that does not leave plenty of room for error.

That is why we have always disregarded *average sums insured* whether **pp** or **aor**. They are just not reliable enough to count on. Instead we always use the *maximum possible exposure per unit* as a base for further calculations. Remember Murphy's law: "Anything that can go wrong will go wrong at the worst possible moment in time!"

Fine, now all that remains to be solved is that very tricky *average number of policies aboard a vessel calling at your port*. Here again, we can only quote from experience judging from the cases (claims) where such information has become available. Generally, in normal ports with normal numbers of vessels calling, we believe that 10 full value policies are about the maximum you may reasonably expect to be on one vessel. That means that your maximum estimated **single risk exposure** would be equivalent to 10 **pp** retentions.

This guesstimate then needs to be adjusted for the peculiarities of your particular country according to the following graph.

Exposure per vessel



This single risk exposure would then be multiplied by the number of vessels calling per week to be again multiplied by the number of weeks cargo usually stays in port and bingo, we have the **maximum amount you have at stake in your port if things turn bad.**

This in turn would translate into the cover stretch you should actually want to buy for your retention protection. On second thoughts, it might be advisable to buy a little extra to avoid sleepless nights should things turn from bad to worse. This “little extra” is then usually referred to as “sleep easy” protection, well worth the nominal price charged in return for vital balance sheet protection. But more about this in chapter 6.

6. How does all this affect your:

a. retention?

So we now know that when it comes to the final picture of big losses, **pp** is all about the unknown and **aor** usually centres around the partially known. This definitely has consequences. But what are they?

For one thing it will influence the size of your commitments. We all appreciate that size is not all that important, but, when it comes to actually footing bills, we may be well advised to stop for a second and rethink the issue.

Let's start by admitting that everything starts with the known unit. Reinsurance is no exception. Thus, should you decide that either your organization or your environment doesn't allow you to truly control your **aor** commitments with sufficient accuracy to let you sleep easy at night, your reinsurance system will be governed by the **pp** system. Your first decision will thus be how much you are willing to put up on your own on each *known unit*, ie per policy issued or declaration received. This will be largely governed by your capitalization, your risk disposition or aversion as well as, to a certain extent, your premium income for this class of business. This process is very similar to that employed in all other lines of business, so we shall not bore you with further details in this respect.

Fine, you have decided that 10,000.- is a figure you can easily handle on your own if everything goes wrong. This then should translate into your retention for the very top quality risks you intend to write but often cannot because your friendly competitors sometimes reduce an A1 risk to a B1 by forcing you to reduce your own pricing in order to retain the business in the first place. Such is reality! As we are dealing with the **pp** system of unknowns, it would be wise to reduce that number a little since you don't want to be caught with that full commitment on a substandard risk. Maybe 8,000.- would be a more realistic figure. OK, you've now fixed your **pp** retention.

The next step is one of commercial considerations again very similar to other non-marine lines. On the one hand, you may choose to share each and every policy with your reinsurer on a quota share basis, to either preserve some premium income, share the attritional losses or just plainly achieve a higher commission income. To be realistic, such a quota share would classically be set at around 25% retention. Since you are willing to put up 8,000.- on your own, your quota share would thus logically have a limit of 32,000 **pp**, of which you retain 25% or 8,000.-.

On the other hand, you may be so convinced of the quality of your underwriting and the business it produces that you are unwilling to part with any of that *known unit*. In other words you elect a surplus of a sufficient number of lines to cover most of your day-to-day policies written, retaining that first portion of 8,000.– on each and every policy all for yourself. Naturally, all policies issued with a sum insured less than that magical line will be entirely your responsibility; if they do perform badly, there is nobody to share your misfortune.

Let's now assume that you do have an accumulation control that works most of the time. As a result you will be much more comfortable with the risks you write and your willingness to take risks will be greatly enhanced. After all, you can pride yourself of doing the risk-taking in a controlled and calculable fashion. It may thus well be that your *willing to lose* limit on any one *known unit*, which in this case would be on a controlled any one risk (aor) basis, is a multiple of the amount you would want at stake on that uncontrolled pp basis. For argument's sake let's say 10 times as much, ie 100,000.– on A1 risks.

Since we are now dealing with the *known*, it is possible to scale your retention in accordance with the apparent quality of the risk written. You draft a table of retentions which may look as follows:

| Category | Retention any on risk |
|---------------------------------------|-----------------------|
| Steel vessels 100 A1 above 10,000 GRT | 100,000.– |
| Steel vessels 100 A1 below 10,000 GRT | 75,000.– |
| All other vessels | 50,000.– |
| Trucks | 25,000.– |

Naturally, even if you do have an accumulation controller who is a perfect genius, you will have to issue some policies that he will not be able to keep a proper liner card for. Just think of postal sendings, air freight, rail shipments or small ocean-going cargos where the insured doesn't have the faintest idea which vessel(s) they will be shipped on. For this you add a second, more modest part to your table of retentions:

| Undetermined risks | Retention any one policy/declaration |
|--------------------|--------------------------------------|
| Ocean going | 10,000.– |
| All others | 8,000.– |

You have probably recognized the similarity between that last *unknown pp* category and the previous pure *pp* retention fixing. They are not only similar, they are indeed the same.

So both systems – the *pp* looked at first and the *aor* examined a little later – do in fact correspond in a few places. Actually, when you do have a pure *pp* system, nothing precludes you from negotiating a special (increased) limit with your reinsurers for those cases where you do have intimate knowledge of the total value on any one risk *aor*. This is quite frequently done for so-called *full cargos* shipped on chartered vessels where the entire cargo is the subject of only one policy. Since you are then in the comfortable position of really assessing the risk in its entirety, you will be able to bear much more of this risk than you normally would on policies for which you do not have any idea as to where and how they will eventually accumulate.

Considering that you will be comfortable with more risk on your own shoulders because it is a known quantity, your reinsurer will usually follow suit. The commitments he will be able to put up for you will invariably be considerably greater on the known than on the unknown.

Which leads us neatly into the next chapter concerning the effects all this has on *proportional reinsurance*.

b. proportional reinsurance facilities?

Perfect, you have decided on a retention and you have also made that major decision on whether your company is willing and able to maintain a workable accumulation control or not. In other words you have also decided on whether to use the **pp** or **aor** system. Everything that follows should actually be quite easy. Your reinsurer will be glad to jointly work out a suitable scheme for your particular needs.

Usually this is done in the classical way of allowing a certain **number of lines**, ie a reinsurance capacity expressed in multiples (lines) of your retention. These lines may either be your net retention under a pure surplus treaty or the gross retention (100% of the underlying quota share). There is no hard and fast rule as to how many lines are reasonable. You will hear a lot of arguments dealing with balancing the treaty and income requirements supporting the capacity given. The truth is a mixture of many individual factors such as exposure, return on capital, margins and business volume, catastrophe potential, and yes, faith – faith in your company's ability to control control-able things.

Market forces will play a further, quite important role. Even reinsurers have been known to close both eyes when facing what is sometimes referred to as “unreasonable” competition, simply to avoid losing that piece of business. Sometimes these reckless adventures pay off, but more often than not – especially in the long run – they tend to prove their volatility by backfiring, causing reinsurers to initiate painful remedies that usually come at a very bad time for the company concerned, considering that its retention is probably only slightly better than the reinsurance.

In any case, the reinsurer will normally try to equip the company with a treaty structure and capacity that allows the company to utilize the automatic capacity on the vast majority of risks insured (**aor**) or policies issued (**pp**). “Vast majority” translates into well above 95% of all units concerned. For the overfills, which tend to be very large, *facultative reinsurance* is encouraged. Between five and ten facultative placements per quarter are generally considered reasonable as far as the administrative workload is concerned. As a side effect, these facultative placements will grant you another outlet into the reinsurance markets – either direct or via the broker of your choice – and it will give your leading reinsurer (to whom you will hopefully offer the excess fac placement too) a welcome opportunity to reaffirm his faith in your underwriting philosophy and expertise by gaining insight into your risk assessing, rating and fixing of deductibles. This last feature is of particular importance if bordereaux have been dispensed with entirely for the automatic reinsurance facility.

One of the first questions a reinsurer will ask you when it comes to fixing limits is whether you can supply a policy (pp) or, even better, a risk (aor) profile. Should this profile show that, compared to your planned retention, your capacity requirements are very large, the capacity will either have to be cut at a negotiable point of reason or you will have to face reality and increase your retention to a more meaningful level.

Typically, a risk (or, with amended sum insured ranges, policy) profile would look as follows:

Risk profile Underwriting Year 1996

| Sum Insured | No. of Risks | Total Sum Ins. | Total Premiums | Losses |
|-----------------|--------------|----------------|----------------|-------------|
| 0 – 100, | 368 | 27,600,000.– | 138,000.– | 62,000.– |
| 101, – 200, | 320 | 48,000,000.– | 216,000.– | 78,000.– |
| 201, – 300, | 292 | 73,000,000.– | 320,000.– | 210,000.– |
| 301, – 400, | 156 | 54,600,000.– | 218,400.– | 175,000.– |
| 401, – 1,000, | 82 | 58,000,000.– | 229,000.– | 150,000.– |
| 1,001, – 2,000, | 39 | 50,000,000.– | 222,000.– | 120,000.– |
| 2,001, – 3,000, | 28 | 70,000,000.– | 245,000.– | 110,000.– |
| 3,001, – 4,000, | 1 | 3,750,000.– | 17,000.– | —.– |
| 4,001, – 5,500, | 3 | 15,000,000.– | 54,000.– | 150.– |
| 5,501, – 7,000, | 2 | 13,000,000.– | 45,000.– | —.– |
| 7,001, – 8,400, | 5 | 41,000,000.– | 123,000.– | 1,605,000.– |
| above 8,400, | 39 | 468,000,000.– | 1,404,000.– | 1,568,000.– |

In any event, long stretches of capacity should be cut into layered surpluses allowing a close monitoring of the different tiers of your production book. In addition, following the laws of logic, whereby the higher up you go the thinner the risks and premiums become, your reinsurer must have a higher margin in average years to set aside those funds that will eventually be needed for the big bang that is sure to happen one day. Larger margins with all other parameters unchanged can however only be achieved if costs are reduced. That is the most important reason why higher surplus sections specify reduced commissions.

In the unlikely event that you missed the subtle remark earlier in this chapter – it was all on the lines rather than between them – we'd like to make one thing very clear.

The more you know about the risks you write, the more comfortable you will be professionally in retaining major portions thereof. This professionalism will prove quite infectious and your reinsurer will in turn be equally comfortable in equipping you with generous capacity. It follows that little knowledge means small retentions and tight reinsurance capacity, without the slightest chance of making a big splash in the market place by writing large lines. A soft reinsurance market may of course temporarily counteract this technical point but who wants to bank on unstable market conditions?

It may sound banal but it is very true also in reinsurance:

Growth, expansion, success and power come through *knowledge!*

So, how would the two proportional programmes look?

| | Per Policy | Per Risk |
|------------------------|------------|-------------------|
| Retention 25% QS | 8,000.– | Up to 100,000.– |
| Reinsurers 75% QS | 24,000.– | Up to 300,000.– |
| 10 line first surplus | 320,000.– | Up to 4,000,000.– |
| 10 line second surplus | 320,000.– | Up to 4,000,000.– |
| Total capacity | 672,000.– | Up to 8,400,000.– |

OK, this is just a theoretical example, maybe even a bit exaggerated in order to make the point. Limits both for retentions and capacity in per policy (**pp**) systems are in fact always a lot smaller than for the **aor** system, where accumulations are kept under strict control. We have seen hundreds of policies accumulate on board one and the same vessel resulting in a single risk exposure that would make the bravest of underwriters go pale. And we have seen multiples of these single risks again accumulate in harbours and warehouses.

It is obvious that both the insurer and the reinsurer are well advised to commit themselves with maximum capacity only on those ventures where unwelcome surprises are unlikely. The **pp** system definitely does not qualify for this.

So here we are: we have retention and proportional reinsurance capacity in place, we've haggled about commission and profit commission, and we are almost ready to start. Almost that is, for we have not yet made sure that our balance sheet doesn't suddenly make huge unpredictable jumps because of a large event that wipes out a large number of our retentions. In short, we need to consider *non-proportional excess of loss* cover to protect our retention.

Here again, we shall find major differences between the **pp** and the **aor** systems – please read on!

c. non-proportional protection requirements?

We've almost made it ... You have a system, either **pp** or **aor**, and after long and careful consideration you have decided on how much you shall retain per known unit. You have argued long and hard with your preferred reinsurer on the question of how many lines you need, deserve, might need and finally got. You have settled the all important issue of commissions with all flags flying and an eye to your advantage. In short, you are ready to do business.

But just wait a minute and reflect. A small but quite important point remains to be looked at.

You need protection against those "known" retention units accumulating into something that may prove hazardous to your health. Probably the first observation you will make in this connection is the fact that the protection your financial health requires will be focused on an actual event or loss happening, rather than on the known risk or policy units we've been discussing so far. No more proportional splitting of premiums and claims; you will need to buy a product for a price.

Welcome to the world of non-proportional reinsurance.

Fine, but how much protection and where should it start?

Let's settle the "where to start" first. Assuming that you are comfortable with the retention you have chosen on any one known unit **pp** or **aor** – which incidentally you should be if the selection process has been done correctly – you should actually feel comfortable when it comes to paying that kind of money. This would also be referred to as your "**willing to lose**" limit. A very personal decision no doubt and ultimately dependent on a variety of reasons, which in combination are quite unique to your very own perspective of risk taking. "How much am I (grudgingly but) comfortably able to afford to pay on my own in any given individual loss event, even if this may happen more than once a year?" A simple question, but difficult to answer. Let us again assume that you have done the soul searching properly and have come up with an amount that is equal (or larger) to the retention you have chosen in your proportional set-up.

That is where your protection should start.

So now we have an excess point or priority. If you refer to the earlier chapters you may dig up the following numbers:

Priority fixing

| system chosen | max. prop. retention | willing to lose limit | XOL priority |
|------------------|----------------------|-----------------------|--------------|
| per policy pp | 8,000.– | 10,000.– | 10,000.– |
| any one risk aor | 100,000.– | 100,000.– | 100,000.– |

You probably remember that the **pp** retention was scaled back a bit to 8,000.– because you did not want to commit yourself with the max. limit of 10,000.– on substandard risks. But you were quite happy with 10,000.– as a top commitment.

It has all been very easy so far. Now comes the much tougher decision on how much cover you will need to buy. To start the thinking process we would recommend examining first the **pp** system which involves a lot more guesswork.

In chapter 5 we dealt with slow and other types of ports and ventured an educated guess that under normal circumstances the magical number of 10 policies accumulating on any one vessel, if worse came to the worst, was probably a safe bet. We've also supplied a graph trying to illustrate the deviations from this standard caused by few slow ports serving large areas. If you do want to get a little closer to the “real truth”, a fickle thing indeed, you will either have to do an involved study with the local port authorities, talk to your reinsurers (which we would obviously encourage) or take a guess of your own. For the sake of argument, let us presume that the average of 10 policies is close enough. Ten policies aboard one vessel would thus be a **single risk exposure** which needs to be partially covered by excess of loss. The cover will thus respond or work when one single risk is lost. We would therefore call this particular cover a **working excess of loss (WXL)**.

To summarize, you would need to buy WXL protection as follows:

WXL per event on retention

| | Prop. retention | Max. per vessel | Priority | Cover stretch |
|-----------------|-----------------|-----------------|----------|---------------|
| No. of policies | 1 | 10 | 1.25 | 8.75 |
| Amount | 8,000.– | 80,000.– | 10,000.– | 70,000.– |

The higher you set your priority, the smaller the cover stretch you will need to buy on a WXL basis. The cheaper your WXL cost is, the more a single event will hurt that most important person in your life – you!

Simple and quite logical, but not the end of the story.

Single risks can accumulate in collisions and transshipments, not forgetting ports, of course. Events of that nature are fortunately infrequent, but when they do happen they tend to be catastrophic in nature, hence you will have to contemplate spending a little extra money to buy **catastrophe excess of loss (CatXL)** protection.

Again, guesswork recommences, and believe us, the question of few, and in particular slow, ports plays a very important role in this. Averages (who wants to be average in the first place?) indicate that CatXL protection secured for a total of 3 single risks normally does the job. You might want 4 to really sleep easy, but again that depends on your natural disposition towards risk. Say you settle for 3. Now you are in the market for a

CatXL

| | Priority (underlying WXL) | Cover stretch |
|--------------------|---------------------------|---------------|
| Number of policies | 10 policies | 30 policies |
| Amount | 80,000.- | 240,000.- |

which should serve you well in all but the most inconceivable circumstances.

Now we turn to the much easier aor system base. Remember, you are willing to bear that accumulated risk on board one single vessel all by yourself. You will thus require no single risk exposure protection, ie no costly WXL protection for you. You may decide to take short-term advantage of a soft market, but you are free to follow your inclination rather than being compelled to buy.

The only vehicle you will definitely need is the much more affordable CatXL as outlined above and below:

CatXL

| | Prop. retention | Priority (willing to lose) | Cover stretch |
|-----------------|-----------------|----------------------------|---------------|
| Number of risks | 1 | 1 | 3 |
| Amount | 100,000.- | 100,000.- | 300,000.- |

Allow us to make a few remarks about XOLs in general.

To begin with, we believe that you ought to have a need to buy, before you do so. Why throw away good money for a cover you will never utilize? Why protect yourself down to a few dollars if your capital allows for a much more meaningful net retention? Second, you should buy cover from trusted sources. Why give good money to someone you may not be able to collect from when the chips are down?

Excess of loss markets tend to be quite fickle. In soft markets you may be able to buy all you want and have some money left over to spend on vacations. In hard markets, which can and do sometimes emerge overnight – usually when you are licking your wounds because of big losses – you may suddenly find that the money you budgeted for your entire XOL programme will only buy a fraction of your needs. So the stability of cover provided will be another essential point in your considerations. After all, you buy XOL to protect your balance sheet. Unprecedented and unbudgeted hitches in XOL costs are just as much a jeopardy to your balance sheet as unprotected losses are.

It follows that although the pricing of your protection is only one item, it is alas the most visible. Look closer!

When we originally started this project we thought it would be easy, very easy in fact. It actually got quite complicated as we went along and slowly but surely the realisation dawned that it would be impossible to cover all aspects of either system adequately.

We may have succeeded in giving you a very limited overview and making you aware of the intricacies of a seemingly simple and straightforward reinsurance technicality. Maybe we have confused you to the extent that you are now aware of the fact that what you always thought you understood is at present a little less clear.

Either of the two scenarios would suit us just fine.

Should reading this booklet have had the opposite effect, ie that your state of awareness progressed from “What the hell is pp and aor anyway”, to “Boy, this is quite easy, I really don’t understand why they make such a fuss about it”, that would really make us worried!

We would be delighted if one or the other of the points discussed raised some doubt, confirmed some of your suspicions or otherwise activated a decision to think this over further and talk to other people about it.

If we have successfully influenced you to talk to us in order to shed some more light on the topic, we would really be over the moon.

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