

OIC RBC 2



Data request list for Stage 2 analysis

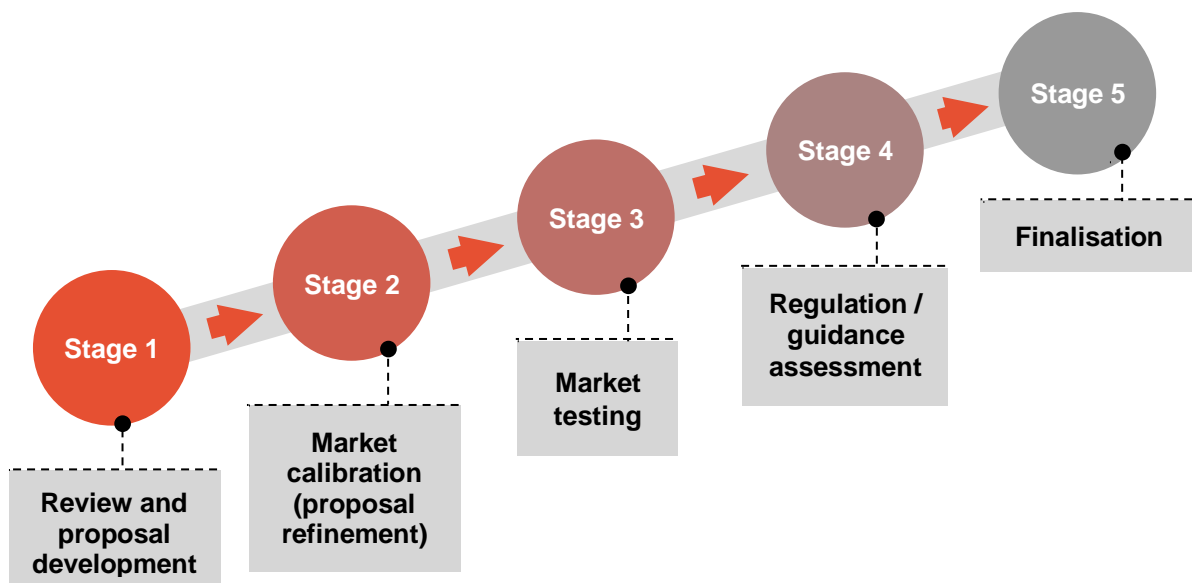
Final version: 27 September 2013

Introduction

The implementation of risk-based capital (RBC) regulations on 1 September 2011 was the first time the OIC introduced principles-based supervisory regulation. The OIC wants to continuously monitor and develop its supervisory approach to the industry; since 2012 the OIC has sought feedback and comments on the current RBC regime from related parties.

The OIC has now launched phase 2 of the RBC framework development, and has engaged Towers Watson to work together with the OIC in further developing and refining the RBC framework.

There are five stages to this project, namely:



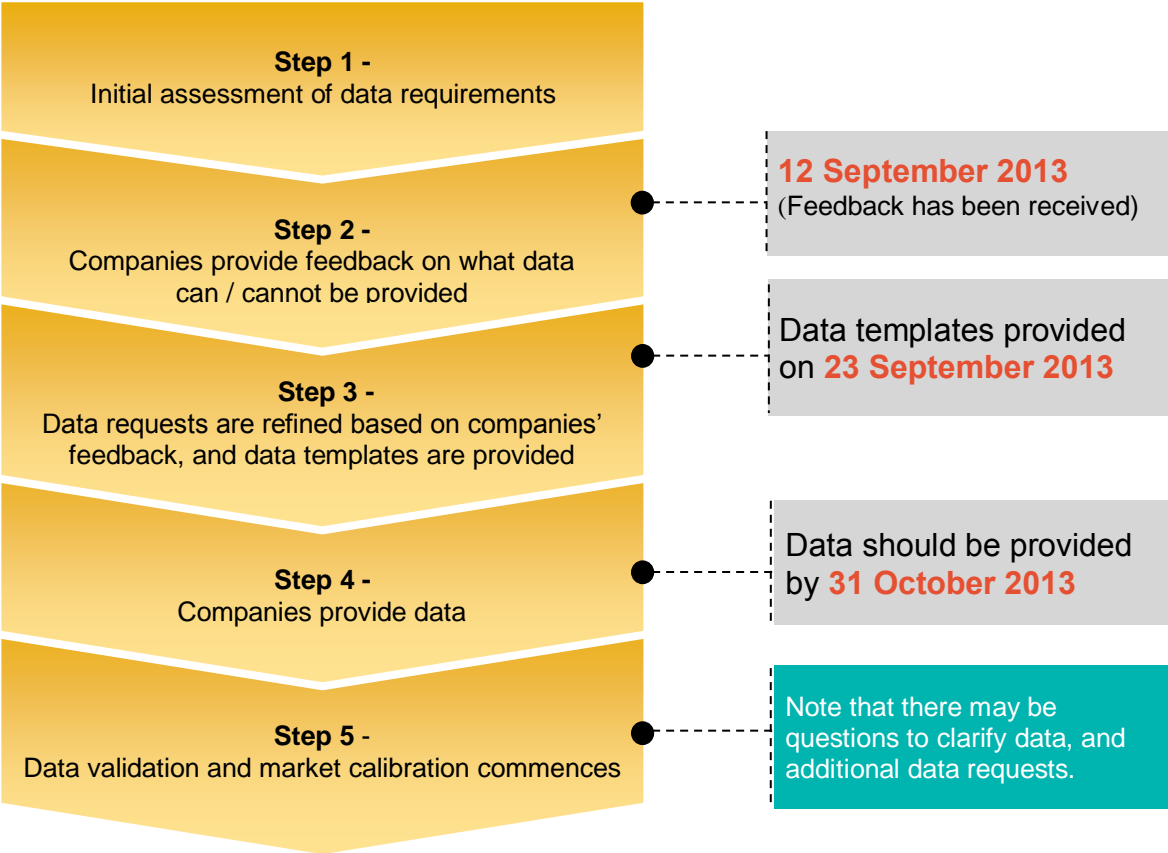
We are requesting companies to provide data to enable our analysis in Stage 2 (market calibration / impact testing) for the following areas:

- Asset valuation and classification
- Liability valuation and classification
- Insurance risk calibration and diversification (Life)
- Market, liquidity and credit (default) risk calibration
- Group risk
- Operational risk calibration

The data you provide will determine the analysis that can be performed in Stage 2 (calibration).

The data collection process is outlined on the next page.

Data collection process (excluding Operational risk data)



Data request template

The data request template will be provided along with this data request list. Please read the “Introduction” sheet in the data request template for further guidance on completion of the template. For information, the “Questionnaire” sheet has been designed to follow the order of the questions as provided in Section 1 to 4 below.

Please provide the data using the data request templates. If there is any other information or data that your company would like to share, please provide this as attachment to the template. These templates (and any attachment) should be sent to the OIC upon completion.

Operational risk data

For Operational risk, we would like to discuss our proposed approach with the industry, and obtain more details regarding the types of operational risks that are commonly faced, and the quality of the data that may be available.

The operational risk data request has been **removed** from this data request list, and this will be collected as part of a **separate data collection process**, to be agreed with the OIC and the industry.

1. Asset valuation and classification

Data required:

Rationale:

In general, the asset information requested in this section is to enable an assessment of how each company treats non-listed and non-typical assets. This information will be useful for us to develop more comprehensive asset valuation related guidance notes as part of the output of the project.

1.1. Description of valuation methodology for non-listed assets

Rationale:

Based on feedback provided in the industry surveys, we have observed that a range of different methods are used to value non-listed assets, and there is a lack of consistency across companies. For example, some companies use a discounted cash flow approach to value private equity, while others use a price-to-book value approach. Some companies also note that there are inconsistencies between the RBC requirements and other reporting standards.

We would like to understand in more detail how your company values non-listed assets, so that we can assess how best to reduce the inconsistencies where possible.

Please note that we will use the information that has already been provided in the industry surveys and data feedback forms, however we would like to invite you to provide further details of how your company treats non-listed assets, as well as the reasons for adopting such approaches, as this will help us form a better understanding of the current situation.

Please provide a **description** of how non-listed assets are currently valued. This should include the following (**where applicable**):

- a) Methodology used;
E.g. – A discounted cash flow method is used to value floating rate notes
- b) Description of methodology;
E.g. (continued from example in [a]) – Under the discounted cash flow method, the coupon and principle payments for each floating rate bond are projected based on the coupon frequency and maturity date of each individual bond. These payments are discounted using the risk-free yield curve at the valuation date.
The floating rate coupons are projected assuming that the coupons are 100bps above the expected 5-year zero coupon government bond yield at each future time point.
The principle payment is assumed to be the face amount, payable at the maturity date of the bond.
- c) Key assumptions, and how these assumptions have been derived
E.g. (continued from examples in [a] and [b]) – the risk-free yield curve is assumed to be the Thai government bond zero coupon bond yield curve, taken from the Thai BMA website.
The expected 5-year zero coupon bond yields at future time points are derived based on the risk-free forward rates at the valuation date.
- d) A description of any differences between the valuation methodologies (i.e. not values) adopted for RBC and accounting purposes.
E.g. (continuing from examples above) – the floating rate notes are valued at book value / amortised cost in the accounting statements.

Where internal models are used, please provide a description of these internal models as well, for e.g. the methodology adopted in these internal models.

These descriptions should be provided for all non-listed asset types, which may include:

- Fixed income assets
- Equities
- Loans
- Policy loans
- Derivatives
- Property
- Reinsurance assets
- Any other assets where applicable, in particular assets that you think need improvements in the valuation methodology for RBC.

1.2. Description of valuation methodology for listed assets

Rationale:

Some companies have mentioned that there is a lack of consistency in the valuation of listed assets between the RBC method and other reporting standards.

Please provide a description of how listed assets are valued for RBC reporting purposes and any differences between the valuation methodologies adopted for RBC and accounting purposes (where applicable).

Please also provide any suggestions for improvement.

1.3. “Look-through” method for unit trusts

Rationale:

There have been several comments raised in the industry surveys about the difficulty in applying the “look-through” method for unit trusts. We would like to understand how each company currently applies this method, and assess any potential improvements that could be made to the approach.

Please provide a description of how your company currently applies the “look-through” method for unit trusts (i.e. in RBC form 5.6).

Please also provide any suggestions for improvement.

2. Liability valuation and classification

Data required:

2.1. Gross GPV reserves (before CSV floor) by detailed product group (based on RBC form 4.3)

Rationale:

These product group scenario reserves will be used to perform **impact testing** (Stage 2) of proposed changes in insurance risk PADs. This is requested (in addition to the RBC forms that will be provided by the OIC) because the RBC forms do not contain details of each scenario, but only of the selected scenario.

Please note that for companies that perform scenario selection at the policy level, this information does not need to be provided if it is not available.

Gross (i.e. **before reinsurance**) GPV reserves (**before CSV floor**) by product group, as at 31 December 2012, for the following scenarios:

Best estimate ("BE") , i.e. with no PADs

At 75% confidence level:

Mortality up (BE+PAD@75%), lapse up (BE+PAD@75%) and expense (BE+PAD@75%)

Mortality up (BE+PAD@75%), lapse down (BE-PAD@75%) and expense (BE+PAD@75%)

Mortality down (BE-PAD@75%), lapse up (BE+PAD@75%) and expense (BE+PAD@75%)

Mortality down (BE-PAD@75%), lapse down (BE-PAD@75%) and expense (BE+PAD@75%)

At 95% confidence level:

Mortality up (BE+PAD@95%), lapse up (BE+PAD@95%) and expense (BE+PAD@95%)

Mortality up (BE+PAD@95%), lapse down (BE-PAD@95%) and expense (BE+PAD@95%)

Mortality down (BE-PAD@95%), lapse up (BE+PAD@95%) and expense (BE+PAD@95%)

Mortality down (BE-PAD@95%), lapse down (BE-PAD@95%) and expense (BE+PAD@95%)

The product groups should be consistent with the product groups reported in **RBC Form 4.3**.

The PADs used should be consistent with the PADs that are prescribed by the OIC for RBC reporting purposes, namely:

PADs prescribed by the OIC for GPV calculations		
Parameter	PAD@75%	PAD@95%
Mortality / Morbidity	+/- 12%	+/- 28%
Lapses	+/- 17%	+/- 40%
Renewal expenses	+ 5%	+ 10%

2.2. Details on non-guaranteed benefits (i.e. dividends, bonuses)

Rationale:

To understand how each company values non-guaranteed benefits, and assess the need for consistency / clearer guidelines regarding this aspect.

Details on how future non-guaranteed benefits are projected in the GPV calculations, in particular how management actions (i.e. actions that management takes to reduce dividends or to protect profitability) are allowed for / reflected in determining future non-guaranteed benefits, namely:

- 2.2.1. A description of the management actions assumed in projecting these non-guaranteed benefit cash flows;
- 2.2.2. Please provide the projected non-guaranteed benefit cashflows as at 31 December 2012, that were used to produce the best estimate (i.e. without PADs) GPV reserves as at 31 December 2012;
- 2.2.3. Details on the discount rate used to value non-guaranteed benefits
How the discount rate is derived.

2.3. Risk mitigation

Rationale:

To assess how various forms of risk mitigation or risk transfer might be allowed for in the valuation (in addition to reinsurance and diversification).

- 2.3.1. A description of any risk mitigation techniques used (excluding reinsurance and product diversification), and the classes of business this risk mitigation is applied to.
- 2.3.2. A description of any risk mitigation techniques modelled (excluding reinsurance and product diversification), including decision making processes and model validation approaches used.

Example of risk mitigation (excluding reinsurance):

For example, a company may sell a single premium insurance product that pays a maturity bonus that is equal to the average returns of the SET50 index over 5 years.

The company may purchase a specific tailor-made structured note product from a bank that matches the maturity bonus on the product, to mitigate the investment risk associated with the product.

2.4. Classification of short-term and long-term business

Rationale:

To understand how each company classifies products between short-term and long-term, and derive clearer guidelines for the classification.

- 2.4.1. A description of the criteria currently used for classification of short / long-term business, and justification for the classification.
- 2.4.2. Please also include any suggestions on how you think the classification should be performed.

2.5. Reinsurance

Rationale:

To assess the current treatment of reinsurance and to understand what forms of reinsurance might not currently be allowed for appropriately in the RBC framework.

2.5.1. Provide a high-level description of the nature and type of reinsurance arrangements currently in place e.g. YRT, coinsurance, financial reinsurance, etc.

2.5.2. Please also describe the relative importance or materiality of each reinsurance arrangement.

Diversification between risks

We understand that most companies have not specifically analysed data for evidence of diversification across risks. Therefore we **will not request** data for this item, and may assess this using benchmarks from other jurisdictions.

3. Insurance risk calibration (Life)

Data required:

Rationale (in general):

The data requested in this section is to enable a review and recalibration of the insurance risk PADs. To provide context on why each data item is requested, a brief outline of the methodology used for calibration of insurance risk PADs is described here.

Four factors are commonly considered in relation to insurance risks:

1 *Random fluctuations* –

The risk that the numbers and amounts of claims paid are higher due to natural statistical volatility, i.e. deviation from expected values.

2 *Mis-estimation of the mean* –

The risk of mis-estimating the current best estimate level parameters. In reality, the underlying mortality and morbidity rates are not known, but are estimated based on the past experience of the company / industry. The best estimate rates will vary from the true (unknown) rates, as past experience includes the impact of random fluctuations or because the standard used to represent the assumptions (e.g. the base mortality table or risk premium structure) does not accurately represent the underlying risks (e.g. use of aggregate rates rather than gender specific or smoker / non-smoker rates).

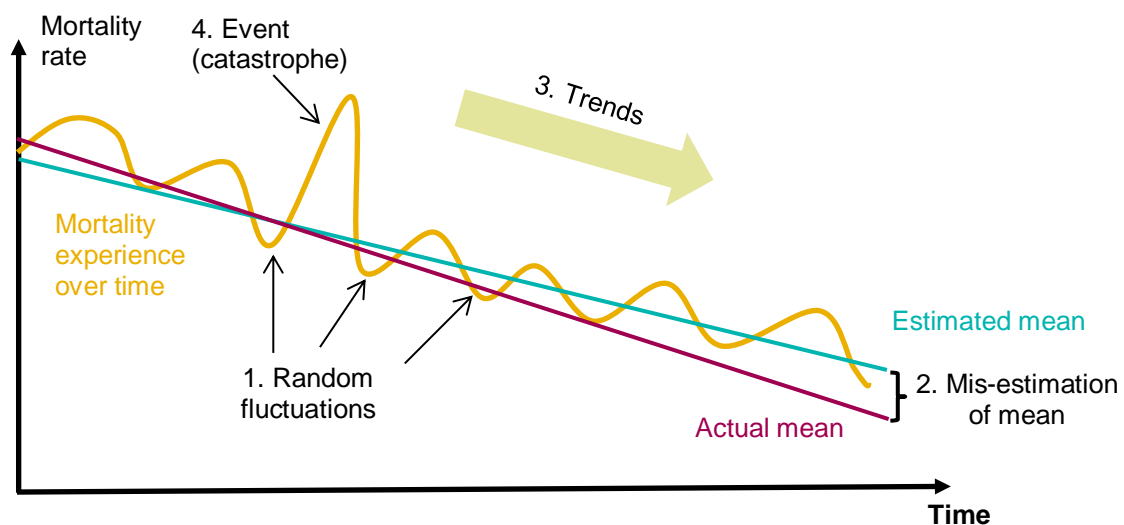
3 *Adverse trends and systemic risk* –

The risk of mis-estimating the best estimate of any future trend, or that the underlying mean changes over time. Future trends are not known with certainty, and are subject to mis-estimation. There are many factors that will influence future trends. Some examples include changes in experience arising from changes in medical practice or changes in diet and lifestyle.

4 *Event risk* –

The risk that the numbers and amounts of claims paid will be higher due to a catastrophic or mass event (such as a pandemic).

An illustration for mortality risk is provided below:



We are requesting experience data to be provided for **at least 5 years**, and for **both “actual” and “expected”** numbers / claims to be included in the data provision, to enable variation of experience levels to be analysed. The experience will be of particular relevance in consideration of the “mis-estimation of the mean” (i.e. point 2 above).

Details of the assumption bases used in the experience analyses should be provided, including any bases for future improvement (if applicable). If the basis of “expected” claims varies over the analysis period, please provide detail of the each basis that has been utilised. Detail of the basis of “expected” claims may be utilised to aggregate results to broader groupings, to standardise the results such that they reflect a single basis for expected claims and for calibration of assumptions to be used in the model office that is to be developed.

3.1. Mortality / longevity

We will use historical “actual” and “expected” data to perform the calibration of mortality risk PADs, and we will reconstruct the data that will be provided into the table below for calibration purpose.

EXAMPLE of mortality / longevity historical data that will be used						
Year	2012	2011	2010	2009	2008	...
Actual claim count						
Expected claim count						
Ratio A/E count						
Actual claim amount						
Expected claim amount						
Ratio A/E amount						

We understand that this data is available in **the Por Chor (ป.ช.) 9 and Form A and B reports**. Therefore please provide **Excel copies** of the following forms submitted to **OIC for the years 2003 – 2012** (or at least the latest 5 years, if earlier years not available) **ending 31 December**:

3.1.1.Por Chor 9;

3.1.2.Form A and B.

In addition, as we would like to carry out our analysis on certain product groups, we will need a mapping of the plan codes reported in the Por Chor (ป.ช.) 9 reports that explains the type of products for each of the plan code. It will also be useful to understand how your best estimate assumptions are derived, i.e. **please also provide**:

3.1.3.Plan code mapping to show what **product type** (based on the product categories as per form 4.3 of RBC) each plan code in Por Chor 9 represents. If you prefer not to show us the plan codes and mapping, then please perform the mapping yourself and provide us with your summarised version (i.e. by product type) of Por Chor 9.

3.1.4.Details on the **number of years of experience considered** in setting best estimate assumptions (for e.g. the assumption is based on the 3-year average of actual experience, or for e.g. the assumption is based on *40% x previous year experience + 60% x current year experience*)

Understanding how mortality assumptions are set relative to actual experience will enable us to assess the degree of “mis-estimation of the mean”.

3.2. Morbidity and other risks

We will use historical “actual” and “expected” data to perform the calibration of morbidity risk PADs, and we will reconstruct the data that will be provided into the table below for calibration purpose.

EXAMPLE of morbidity / other risks historical data that will be used						
Year	2012	2011	2010	2009	2008	...
Actual claim count						
Expected claim count						
Ratio A/E count						
Actual claim amount						
Expected claim amount						
Ratio A/E amount						

We understand that similar data is available in the **Por Chor (ป.ช.) 8 and 11 reports**.

3.2.1. Therefore, please provide **Excel copies** of Por Chor 8 and Por Chor 11 submitted to OIC for the years 2003 – 2012 (or at least the latest 5 years, if earlier years not available) ending 31 December:

In addition, as the Por Chor 8 and 11 reports do not provide claims on an “expected” basis (i.e. “expected” claims based on best estimate assumptions), it will be useful to have details on how your best estimate assumptions are derived. Please also provide:

3.2.2. Details on the **number of years of experience considered** in setting best estimate assumptions (for e.g. the assumption is based on the 3-year average of actual experience, or for e.g. the assumption is based on *40% x previous year experience + 60% x current year experience*)

Understanding how morbidity assumptions are set relative to actual experience will enable us to assess the degree of “mis-estimation of the mean”.

3.3. Persistency

For persistency risk, please provide the following items by **product group and type** for a minimum of 5 years:

Actual / Expected Persistency	Calendar (i.e reported) year that lapse occurs					
Year	2012	2011	2010	2009	2008	...
Actual surrender count						
Expected surrender count						
Impact of change in assumptions in calendar year (by claim count)						
Ratio A/E count						
Actual surrender amount						
Expected surrender amount						
Impact of change in assumptions in calendar year (by claim amount)						
Ratio A/E amount						

Notes:1)

The assumptions basis for “expected” surrenders claims should be the same for all years analysed (e.g. use a standard table, or the current best estimate assumption).

If the assumptions basis is different for some years, please provide the impact of the assumption change in that year.

The “actual” and “expected” counts and claims should be on a calendar year basis, not a policy year basis. The table below illustrates the desired figures:

Policy year	Calendar (i.e. reported) year that lapse occurs					
	2012	2011	2010	2009	2008	...
1	X	X	X	X	X	x
2	X	X	X	X	X	
3	X	X	X	X		
4	X	X	X			
5+	X	X				
Total	Y	Y	Y	Y	Y	Y

The figures provided should be the **total** of the “actual” and “expected” lapses in each calendar (i.e. reported) year.

Discontinuance types

We requested a separation of lapses/surrenders experience from ETI / RPU conversion / reinstatement experience because we are aware that ETI / RPU conversion rates can be relatively high for some companies. However, based on the feedback provided, we understand that this is not available for most companies; hence the ETI / RPU experience **does not** need to be provided.

Product groupings (for persistency experience data)

The product groupings from each company’s **internal product grouping** should be applied.

3.4. Expenses

For expense risks, please provide the following items at the **company level** for a minimum of 5 years.

Actual and Expected operating expenses (excluding commissions)						
Year	2012	2011	2010	2009	2008	...
Actual acquisition expenses						
BE basis acquisition expenses						
Impact of change in assumptions						
<hr/>						
Acquisition expense overrun						
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Actual maintenance expenses						
BE basis maintenance expenses						
Impact of change in assumptions						
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Maintenance expense overrun						
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Notes:2)

The expenses used should be consistent with the expenses used to derive the best estimate expense assumptions used in the GPV calculations, i.e. the expenses that are presented in the annual actuarial report that is submitted to the OIC. Likewise, the expense overruns should be consistent with what is presented in the (table 3.3 of) RBC actuarial report.

The assumptions basis for “expected” expenses should be the best estimate basis that applied to the period being considered. If the assumptions basis is different for some years, please provide the impact of the assumption change in that year.

The definition of “actual” and “expected” expenses should be consistent, for e.g. if a marketing expense is classified as a commission override for assumptions setting purposes, it should be excluded from “actual” expenses here.

Commissions

For commissions, we do not require any information to be provided.

4. Market, liquidity and credit (default) risk calibration

Data required from industry:

4.1. Details of distribution / sales counterparties

Rationale:

This is to enable an assessment of the default risk relating to other counterparties such as external distribution partners.

For this data item, we would like to understand how frequently your company collects outstanding premium receivables from your external distribution (i.e. sales) channels (for e.g. a broker, agents, etc). We would like to understand if there is a significant time delay for receiving premiums from these external distribution (i.e. sales) channels.

We would also like to understand how much this premium receivable balance is, so that we can assess how material this is to your company.

Data to provide:

Details of premium amounts receivable from external distribution channels, and the frequency of such payments (frequency of transfer of amounts receivable). Please provide this data as at 31 December 2012.

Example:

For example, a broker may collect insurance premiums from policyholders on behalf of your company, and transfer this money to your company at the end of each month, or at the end of each quarter.

If your company receives the money from the broker at the end of each month, the “payment frequency” is “monthly”.

The amount of premiums that the broker has not yet transferred to your company is the premium receivable amount. We are interested in understanding the materiality of this amount.

5. Group risk

Information required:

The information requested in this section is intended to help us **gain an understanding** of the **types** of group risks (for e.g. reputational, contagion, concentration, liquidity, etc.) that exist in Thailand.

For the purposes of gathering initial data for analysis, we propose to adopt a definition where a “group” is defined as a group of companies that are related through common ownership (i.e. parent or holding company / subsidiaries / branches).

The **initial definition** will only include the following:

- Subsidiaries / entities that your insurance company “owns”;
- Parent companies that have a controlling stake in your company (please ignore the parent companies of your parent company); and
- Holding groups that have a reputational impact upon your company (for e.g. your company branding is based on the name of the holding group).

Some examples of “groups” are provided below:



Please note that the definition of a “group” will be further refined as we obtain a deeper understanding of the types of “group” risks in Thailand.

5.1. What other types of business are conducted by companies within the group?

The information requested in items 2 and 3 are intended to be qualitative, and is just intended to help us obtain a better understanding of the interdependencies between your company and the companies in your group. These are some examples of “group risk”, and if your company has experienced other instances where it has been affected by events occurring to other companies in the group, please describe this.

5.2. Is there a risk of reputational damage to the insurance entity from these other entities i.e. is the branding similar, or are the brands closely linked in the minds of consumers?

5.3. Does the insurance company rely in any way on other parts of the group in any operational sense? Please provide a high-level overview.