

Compiled Comments on *Issues Paper on Index-based Insurances*

01-Dec-17 to 30-Jan-18

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Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
1 - Q1 General comment on the draft Issues Paper				
1. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	As a member of the insurance industry-led Insurance Development Forum, Clyde & Co wholeheartedly endorses the G7's InsuResilience initiative and recent calls from government, industry and civil society leaders that insurance should form one of the cornerstones of a global risk mitigation strategy. Insurance has a unique role to play in increasing global resilience. By facilitating and enabling the proper rollout of innovations such as index-based insurance in less developed insurance markets, insurance supervisory bodies have a key role in enhancing access to insurance as a risk mitigation strategy, particularly in respect of the mounting risks of climate change. Enhancing access to insurance will assist in encouraging investment, closing the protection gap in the developing world and allowing emerging economies and their people to respond and recover faster and better from weather "shocks" and other disasters, in turn building lasting and sustainable growth.	Noted
3. Swiss Re	Switzerland	No	We thank IAIS for the opportunity to comment on this paper, and applaud IAIS for addressing this vital area of insurance. If IAIS has any questions about our comments, we invite them to reach out to us, as we are happy to meet with them to discuss in depth. As a first general comment, the title of the paper refers broadly to index-based products. We support a broad scope for the paper, as suggested by the title. However, in actuality the content of the paper seems somewhat restricted to developing markets and "low or middle income policyholders". We recommend IAIS not to limit the scope in this respect, as index products lend themselves to all income groups, geographies and risk bands. Moreover, some of the broadest protection gaps in the natural catastrophe area are in developed economies. If IAIS intends to limit the scope of the paper to inclusive insurance for low and middle income groups in developing countries, this could be made more explicit in the title and introduction.	Noted The work of the FISC is motivated to support jurisdictions that are seeking to advance market inclusion in various respects. The specific reference in paragraphs 4 and 6 is noted.
4. Centre for Global Disaster Protection	United Kingdom	No	This draft paper is an extremely valuable contribution to the practice of supervising index based insurance. I am particularly encouraged by the focus on consumer protection. However, there were two main issues that I raise in my detailed comments, namely: 1. The proposed definition of insurable interest for index insurance does not have any requirement for contracts to reduce risk for policyholders, or even for a given class of policyholders. It admits a large range of contracts where claim payments are statistically independent or even negatively correlated with losses. This feels wrong, and could lead to insurance being brought into disrepute. I suggest that the current	Noted This may be more specific than we consider at this stage. In box 1 we note words that imply a

			definition of insurable interest, which is focused on eliminating overinsurance, is extended to include a requirement of a positive correlation; 2. Currently, both the definitions of insurable interest and basis risk depend on the definition of a loss, but there is no clear guidance on how loss should be defined. Given the proposal that insurers will not verify insurable interest, it would seem appropriate for there to be key policy wording that both clarifies the claim payment structure and defines the losses that the index is attempting to proxy for. This would help consumers to self-select into products where there is, statistically speaking, an insurable interest. In principle this would also allow insurable interest and concepts like reliability and basis risk to be validated for classes of policyholder and types of risk, rather than currently where it would not be possible to validate these even with an unlimited budget.	positive correlation with the occurrence of a loss and that insurance is directed at contributing to repairing the loss. We are not convinced of the merits of this prescription at this stage and prefer to leave it open.
4 - Q4 Comment on Paragraph 2				
7. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We see regulation as a key enabler that is required to facilitate the availability of insurance services and close the protection gap, and we know that the uncertainty around regulatory treatment is a concern for the providers of index-based insurance. We note and welcome the balance that insurance supervisors are seeking to achieve. Although each jurisdiction will have its own approach, we strongly believe that insurance regulation, which is well-used to looking at both fair dealings with customers and solvency of product providers, is the most appropriate framework within which index-based insurance should be regulated and we welcome the IAIS's consultation.	Noted
6 - Q6 Comment on Paragraph 4				
10. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We have seen the insurance industry increasingly use the "inclusive insurance" terminology to describe insurance for the excluded or underserved market and there has been a general transition from "microinsurance" to other terminology such as "impact insurance" or "emerging consumers/customers". We note the adoption of the "inclusive insurance" wording in the recent IIF and Accion paper "Inclusive Insurance: Closing the Protection Gap for Emerging Customers" (January 2018). There is a sense of flexibility inherent in the scope of the term "inclusion". We understand that the term in the IAIS interpretation is by reference to policyholders, however, we consider the theme of "inclusion" to be broad enough to also perhaps "include" other new market participants such as InsurTech startups in the insurance industry as well as NGOs and humanitarian relief organisations and new distribution and claims-handling channels made possible through the use of technology and innovation such as blockchain, crowd sourcing or remote sensing. There is disruption afoot and the language of inclusion is, we believe, vital to an industry that must continue to adapt to change whilst fulfilling its role in society of offering protection and building resilience. The IAIS paper's theme of a flexible and tested approach to innovation has the potential to establish a useful precedent for new market entrants with new technologies. We consider that index insurance is very likely only the first wave of such innovations. The suggestions given by the IAIS may prove a useful precedent in including new stakeholders and new products in the future.	Noted

10 - Q10 Comment on Paragraph 7				
15. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	The definitions used in this section are a useful and well-described glossary of key terms. African Risk Capacity uses the term parametric and some consider that the term may denote a more complex trigger with several parameters, perhaps adopted by those at the macro-level described in paragraph 14 of the Issues Paper. We agree that the two terms (index and parametric) are often used interchangeably and that one is sometimes preferred in certain jurisdictions. We note that the term "parametric" is commonly used in the UK to describe such products. For example in April 2016 the Law Commission and Scottish Law Commission published a Stakeholder Note on Insurable Interest in Parametric Policies and a draft bill on insurable interest with an accompanying consultation. Clyde & Co provided a submission to that consultation which, in line with our comments here, emphasised the need for regulatory and legal flexibility particularly in respect of definitions of insurable interest. We chose the term "parametric insurance" in our recent report entitled "Parametric insurance: closing the protection gap" which is the first paper in Clyde & Co's Resilience series for 2018. A copy of the report may be downloaded here https://www.clydeco.com/resilience (we have sent a letter to IAIS to accompany this submission with a hard copy of that report for reference). The IAIS will note that the report identifies the same main issues surrounding legal definitions and regulation and the potential obstacles for parametric or index insurance to be classified as insurance.	Noted
17. Swiss Re	Switzerland	No	We point out that Insurance Linked Securities have been out in the market for over three decades, and hence, are not "relatively new".	Reference removed
14 - Q14 Comment on Paragraph 11				
21. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Another of the key benefits to index-based insurance which is particularly relevant to customers with limited financial literacy is the simplicity of the claims process. Given that there is no need to prove loss in the same way as an indemnity product, the claims process is quicker and simpler, with fewer legal and administrative hoops that policyholders need to jump through.	Noted
17 - Q17 General comment on / examples for Section 2.1				
25. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	The definitions offered are very useful for shaping an understanding regulatory categories, although there will of course be nuances from jurisdiction to jurisdiction. Further guidance or case examples from the IAIS might be useful to assist regulators in understanding and regulating around these three levels.	Noted. We expect that the paper may promote further material and examples to be developed by a range of parties for the benefit of

				supervisors and other stakeholders.
18 - Q18 Comment on Paragraph 14				
27. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Micro Depending on the jurisdiction, this is where the insurance industry operating at this level already has good familiarity with consumer protection legislation. We agree that it may be useful to consider group type insurance or collective schemes with individual beneficiaries as micro. These type of schemes with individual beneficiaries are often regulated in the same way as insurance issued to individuals. At this level, a key regulatory challenge will be new product sponsors entering markets who are able to offer economies of scale at this level or where insurers are scaling up access for individuals through partnerships with, for example, agricultural input providers or mobile network operators. An understanding of how such partnerships operate from a regulatory standpoint and the type of regulatory flexibility suggested in the pilot programme section of the paper will assist those new market participants achieve certainty in their operations and also encourage transparency where there is the most direct exposure to individual consumers. Meso The meso level is potentially the level at which legal definitions for insurable interest may be most at issue. There are also probably potential supervisory and definitional questions around what is able to constitute such a "benefit" and who is able to provide "benefits" to whom. For example, an insurance or reinsurance payment could flow through a humanitarian NGO or agricultural cooperative or agricultural lender to assist an area or population in time of drought or natural catastrophe. Meso-level participants could be mobile network providers who enable micro-level payments or charitable organisations. Meso-level schemes are potentially extremely useful in encouraging uptake and smooth functioning of index insurance by directing payments, managing expectations and moderating basis risk by, for example, permitting ex gratia payments or top up indemnity payments from a common or pooled element of triggered funds. This is the area with potentially the widest and most diverse playing field and therefore the most uncertainty from a regulatory standpoint, particularly where there are new entrants to market. Meso level schemes are potentially most challenging for some jurisdictions' insurance legal definitions and regulatory frameworks. The potential social benefits of facilitating access to markets that can be achieved through meso-level schemes are large. The challenges should not be insurmountable, but careful consideration of risk transfer, premium and claims payment flows, and capital reserves will all be important. An interesting example of a scheme which straddles the levels identified is from China. Parametric insurance projects in China are entered into with a local government, province or city. The Local	Noted Clarification added to emphasise importance to the paper of the definitions.

			Government will entertain a bidding process on behalf of the farmers in the region. Once insurers have made their bids and a deal has been concluded between the Local Government and the insurer, the insurance contracts are individual contracts with those individual farmers who have chosen to take part. Local Governments provide a premium subsidy and policy claim payments are made in a fixed amount to the farmer. The policies in aggregate are reinsured by international reinsurers. We know of one index product sold to the government (the government of Heilongjiang Province as the policyholder and the insured) directly. This is an interesting model but also illustrates the potential regulatory complexities in products that can have elements of micro-, meso- and macro-level schemes.	
29. Swiss Re	Switzerland	No	We find the taxonomy of Micro, Meso and Macro to be helpful, however, the definition of Micro leaves out of sight an index product targeted at individual consumers who are not "low income". Should there be another category or could all these products be bundled together whether they are aimed at low income individuals or otherwise?	Adjusted the wording relating to "micro" for clarity.
24 - Q24 Comment on Paragraph 19				
36. Swiss Re	Switzerland	No	We suggest that IAIS provide clarity on how adverse selection and moral hazard might still be an issue in index insurance, as it is generally accepted that both adverse selection and moral hazard are reduced through index-based insurance, as referred in section 2.8 and 2.9. While there may still be adverse selection and moral hazard in index-insurance, they give rise to different issues for index-insurance (for e.g., basis risk) compared to traditional insurance (for e.g., higher pricing) – hence, it is important to clarify 1) why adverse selection and moral hazard may exist even in case of index insurance, and 2) what kinds of problems they pose for insurers, and ultimately, the insured.	This may be too much detail to add to the paper at this stage. We will expect that this may be taken up in developing further material for supervisors.
25 - Q25 Comment on Paragraph 20				
38. Swiss Re	Switzerland	No	We also point out a typo "or = of"	Corrected
26 - Q26 Comment on Paragraph 21				
40. Swiss Re	Switzerland	No	We suggest that IAIS mentions that one of the key advantages of index insurance, namely a fast payout, can often not be realized as it takes between 6-12 months to get the yield data.	A footnote is added to mention this point when the commentary on fast pay-outs are first occurring (paragraph 8)
27 - Q27 Comment on Paragraph 22				
42. Swiss Re	Switzerland	No	We do not believe that physical indices have higher basis risk. If IAIS is convinced otherwise, we would appreciate if IAIS elaborates why physical parameters may indeed well involve more basis risk.	Additional wording added to make paragraph clearer.
28 - Q28 Comment on Paragraph 23				

43. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	There is potentially large social benefit from anticipatory triggers; if they are properly structured and priced, such products could operate to provide pre-emptive rather than reactive funding for natural catastrophe planning, humanitarian aid and response and food security. In the face of an incoming weather system, an index-product with an anticipatory trigger based on offshore windspeed and direction could release invaluable funding for first responders to intervene immediately in the aftermath of the actual storm. Of course, there is an even higher possibility of a false positive where the actual event remains contingent at the strike moment for the index-based product. There may need to be in-built contractual mechanisms for sequestering or reinvesting funding made available and not deployed in such circumstances. In addition, it may be even more challenging in some jurisdictions to understand that a product with an anticipatory trigger is insurance. Where a fortuity is anticipated and its effects minimised and mitigated, potentially in full, by an early payment there may at the most extreme end of the spectrum be no "loss" to indemnify. As with other index-insurance products, insurance supervisors will need to balance the potential benefits of such products with the definitional challenges under insurance law and concerns regarding wagering. It may be necessary, for example, for regulators and legislators to consider potential carve-outs from insurance law to enable payments made in order to prevent or reduce losses to qualify as "insurance" in order to bring such products within in the insurance regulatory fold (see further below).	Noted
33 - Q33 Comment on Paragraph 27				
50. Swiss Re	Switzerland	No	We do not understand what "similarities" IAIS is referring to here. We would appreciate if IAIS elaborate on this.	Mention of similarities is removed for clarity.
35 - Q35 Comment on Paragraph 29				
53. Swiss Re	Switzerland	No	We do not understand what "differences" IAIS is referring to here. We would appreciate if IAIS elaborate on this.	Clarified through altered wording
38 - Q38 Comment on Paragraph 31				
57. Swiss Re	Switzerland	No	Suggest to also include insurers and reinsurers in the list of stakeholders, calculation and reporting agencies, SPVs, SPRVs, banks, Investors,	We are comfortable with the list that is not intended to be a comprehensive one, instead targeted on those subject to comment in the following paragraphs.
40 - Q40 Comment on Paragraph 33				

60. Swiss Re	Switzerland	No	We suggest to emphasize the role of insurance supervisors not only in the context of "consumer protection" but also in "providing access to financial services / financial inclusion".	The reference to market development objectives is considered to be sufficient as it is consistent with other IAIS document wording including in the Core Principles.
48 - Q48 Comment on Paragraph 41				
68. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Index-insurance may bring together a wide range of diverse stakeholders such as mobile networks, fintech companies, agricultural organisations, cooperatives, charitable organisations, banks and local government. It is important to emphasise close collaboration and consultation between various regulators and governmental ministries and agencies across different sectors. It is also important to recognise the emergence of new actors and participants in the insurance chain and regulators will be interested in explaining the roles and obligations of intermediaries if there is a requirement for them to be brought within existing regulatory categories, or providing regulatory carve-outs or new categories for intermediaries operating in new niches in the value chain.	Noted
70. Swiss Re	Switzerland	No	These alternative intermediaries should not be restricted to agro cases, it may very well be that a productive cooperative or a microfinancier could be the vehicle to distribute EQ index insurance, for example, and their characteristics as a stakeholder are similar to agro coops.	Wording adjusted to reflect this point.
50 - Q50 Comment on Paragraph 42				
72. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Where a product could be structured either as a derivative or as insurance it can cause obvious difficulties for regulatory categorisation. In the UK, it is well understood that what is essentially the same product can be configured as insurance or as a derivative and will operate in the same way regardless of its categorisation. A differentiator, as acknowledged by the IAIS, is often the extent of the counterparty's insurable interest. As the IAIS acknowledges, it may be difficult for index-based insurance to be categorised as insurance and fall to insurance regulation if insurance law and principles are rigid and do not allow for non-indemnity, contingent benefit contracts and/or valued policies. In some legal systems there is a restrictive interpretation of what constitutes an insurable interest or a requirement for assessment of actual losses post facto.	Noted
53 - Q53 Comment on Paragraph 44				
77. Swiss Re	Switzerland	No	We suggest to re-phrase the paragraph to make it more explicit that index insurance shall be considered as an acknowledged form of insurance. We suggest that IAIS provide more clarity in this section, perhaps with	Not accepted – issue is very multifaceted at jurisdictional level making

			examples. What kinds of products are perceived as insurance but are not in fact covered as such in practice? Some clarification early on between insurance and derivatives would be helpful.	globally referenced statements challenging. We expect others will create more specific material on this issue after the release of the issues paper.
55 - Q55 Comment on Paragraph 46				
79. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Where insurers have the market reach, regulatory experience and the skills and know-how for effective risk modelling and pricing there is a strong case for such products to be considered insurance. We agree with the premise that index-based products should be considered insurance because they should be regulated by insurance supervisors. Particularly in emerging markets where financial literacy may be low, insurance regulation may provide the most suitable oversight and regulatory framework. At the macro level practically it may make little difference whether a product is considered a derivative or insurance, but permitting a product to be provided by either insurers or capital market providers may bring more providers to market, fostering competition and reducing cost. As outlined in paragraph 44, where there is a product advancing access to insurance for lower income and underserved clients, it should be part of the formal insurance sector. We consider there to be very good social, economic and structural reasons for index-based products designed to benefit or pay out on claims to individuals in emerging markets to be offered as insurance and to be regulated as such. This recognises that there is a need for such clients to be protected, because of the core objectives of insurance supervision set out in paragraph 43 above. The insurance industry and its supervisors have been considering issues regarding consumer protection and access to insurance in such markets for some time. The IAIS itself has done extensive work on the topic of Inclusive Insurance since before its first Paper published in 2007. The insurance industry and its supervisors are well prepared to deal with some of the challenges that index-based insurance can pose in terms of financial education and fair treatment of customers in line with the IAIS Insurance Core Principles. Not only does the regulation of the insurance provide protection to the clients, the insurance market provides the best route to market for those in need of such index based insurance. Unlike the capital markets, the insurance industry has a presence in markets inhabited by lower income and underserved clients of financial services and the experience and expertise to enhance fair outcomes to such clients. It is also important to note that if such products are not treated as insurance, insurers will not be able to provide them, which limits the availability of the products in the market and increases costs to customers. The insurance markets have huge potential access to capital but are generally prohibited from providing products unless they are considered insurance. We agree with the suggested approach that even if an index-based product is not technically considered to	Noted

			be a 'legal insurance contract' it may be preferable for it to be treated as such. We note that this is an approach that has historically been adopted in the UK in that UK insurers are able to provide some non-insurance products that are regulated in the same manner as if they were insurance, such as some surety and guarantee products and (in practice, if not in strict legal construction) investment products that have a very notional life insurance element.	
56 - Q56 Comment on Paragraph 47				
82. Swiss Re	Switzerland	No	It is not clear what the implications of this statement are: "... even if it is not a legal insurance contract, the activity should still fall under the insurance framework in the jurisdiction" We would appreciate if IAIS could elaborate on this point, in particular how this is legally implementable.	Method of achieving this outcome may vary from jurisdiction to jurisdiction so we would not prescribe the precise local approach.
57 - Q57 Comment on Paragraph 48				
83. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	In relation to meso- level products and the comment that it is desirable for such a product to be included as part of the formal insurance market, please see answer to 46 above. In relation to macro- level products, see the comment to paragraph 46 where we note that if products are restricted by not being deemed insurance, this may limit the availability of such products and prevent insurance expertise and capital from being utilised.	Noted No change made. Scope of IAIS work has a different focus.
59 - Q59 Comment on Paragraph 50				
86. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We consider there may be a middle way possible for regulators to embrace these products as acknowledged by the IAIS in paragraph 50 and by way of the Kenyan example provided. It may, for example, need approval or evaluation on a case-by-case basis applying certain criteria in a carve-out scenario. The paper asks the question: "Is it an insurance contract?" As acknowledged, this depends on the applicable law in each jurisdiction, both in terms of the substantive law and the regulatory framework which vary significantly from country to country. One way to address this may be for IAIS to consider preparing a model law enabling index based insurance to be more widely available. In the same way that there are, for example, UNCITRAL model laws on Arbitration and Cross-border Insolvency made available in order to facilitate international trade and provide legal certainty, it should be possible to develop a framework for index based insurance including the core principle of insurance supervision, which might be adopted by countries on a similar basis. This could be by way of a carve-out from the existing law in a given jurisdiction. The alternative is that countries can either amend their law (para 50) as is proposed in Kenya (footnote 22) or introduce a system	Not taken up. This would not be something that would be addressed in an IAIS Issues Paper.

			which permits its use where specific product approvals are granted (such as in China). Otherwise, insurers are faced with trying to shoehorn a product into local requirements, often done only at the expense of compromising the full benefit of this model. Although the products themselves may not have all the hallmarks of insurance under a given regulatory regime, it seems reasonable that efforts should be made to ensure there are appropriate carve-outs in local law to permit both established insurers and new market entrants to offer such products.	
61 - Q61 General comment on / examples Section 3.2				
90. Centre for Global Disaster Protection	United Kingdom	No	This section would benefit from defining what 'loss' means in the context of index insurance. For indemnity insurance the concept of loss can typically be clearly inferred from the policy wording. For index insurance there is a wide variation in practice. Does IAIS expect licensed insurance contracts to document what losses the insurer believes the contract is trying to proxy for, or is there an expectation that the policy will just explain the claim payment rules? For example for a weather based index insurance product for a farmer, the contract could include wording that made it clear that the index was trying to proxy for groundnut production losses. This could reduce the risk that policyholders develop unrealistic expectations for product performance.	We are not convinced of the merits of this prescription at this stage and prefer to leave it open.
63 - Q63 Comment on Paragraph 53				
92. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	In the UK the courts in more recent years have been seen to be more willing to adopt a more flexible approach to insurable interest in order to conclude that insurance contracts are enforceable. Where there is a requirement for (or uncertainty in respect of needing) an insurable interest at the time of the insured event, frequently these insurance contracts will contain a dual trigger requiring (i) the occurrence of the parametric trigger and (ii) some loss on the part of the insured. Certainty and speed of payment are two of the key features that drive the perceived benefits of parametric insurance so a requirement that the insurable interest is checked at point of claim would likely have a material impact on the attractiveness of such products. We have also seen examples of insurance being based on a policyholder's reasonable expectation of loss, rather than the need to actually require loss. This approach, together with careful product design and marketing, seeks to ensure that the product is only purchased with a view to an insurance benefit being provided and thereby meet the spirit of legal "insurable interest" requirements. In practice, we believe that this would discourage policyholders from taking out a policy if they have no insurable interest as they could be denied claims payments.	Noted
94. Centre for Global Disaster Protection	United Kingdom	No	The definition of insurable interest in paragraphs 53 and 56 allows a wide range of products whose payouts have zero or even negative statistical correlation with losses to be accepted as having insurable interest. Because of this it seems to be an inadequate measure of insurable interest.	

			For example, suppose that a farmer in India purchased a contract with the intention of protecting losses from wheat production in 2018. Suppose further that her average loss from wheat production, relative to the maximum possible production, was \$200, and that the details of the contract were as follows: it paid \$100 if rainfall was more than 1mm in Geneva on 1 July 2018 and \$0 otherwise. Clearly there is no insurable interest in this circumstance - wheat production in India in 2018 can reasonably be expected to be statistically independent of the weather in Geneva on 1 July 2018. Yet the product passes the proposed test for insurable interest as specified in paragraph 56, since the expected loss in the event of an insured event (rainfall in Geneva) is \$200, and this is greater than the expected claim payment in this case of \$100. Moving beyond this definition IAIS may wish to consider two key principles for any definition of insurable interest for index insurance. First, an index insurance product with claim payments statistically independent or negatively correlated with losses should not be deemed to satisfy insurable interest. The definition in paragraphs 53 and 56 does not satisfy this principle. Second, even if in practice insurable interest will not be validated it is important that the definition is such that it could in theory be objectively, quantitatively validated, if unlimited budget was available. One implication of this is that index insurance contracts should include a clear, measurable definition of 'loss' in the context of the contract. For example for a weather based index insurance product for a farmer, the contract could include wording that made it clear that the index was trying to proxy for the farmer's groundnut production losses. For indemnity insurance the concept of loss can typically be clearly inferred from the policy wording. For index insurance this is often not the case. The definition in paragraphs 53 and 56 does not satisfy this principle as the concept of 'loss' is never defined. One option for remedying this would be to require that for the definition of loss in the contract there is some threshold loss level above which for all loss levels the average claim payment from insurance exceeds the premium. This would have the advantage that it not only ensures that the product has a positive statistical correlation, but also a sufficiently strong correlation to ensure that it provides meaningful protection (see Clarke 2016, American Economic Journal - Microeconomics). It is the index insurance equivalent of requiring that the maximum claim payment possible from an indemnity insurance contract is greater than the premium.	We do not believe that this example does pass our test in (old) paragraph 56
64 - Q64 Comment on Paragraph 54				
96. Centre for Global Disaster Protection	United Kingdom	No	If insurable interest is not to be validated by insurers or the regulator it would seem sensible to ensure that clients are provided with sufficient information to help them to choose index insurance policies where they have an insurable interest. In this context, requiring policies to include key policy wording written in plain, clear language that describes both the claim payment rules and the losses that the index is trying to proxy for would seem to be quite important. However, it is not mentioned in this draft of the consultation paper.	Words added to make clearer.
67 - Q67 Comment on Paragraph 57				

99. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We note the particular issues identified with meso- insurance and the issue of a policyholder committing to support others being deemed to be an insurance product. For instance, the humanitarian sector is looking at insurance as a means of providing quick and reliable funding in order for humanitarian organisations to provide disaster relief.	We think this comment is that the commitment is “deemed to be an insurable interest” in which case we agree and note the comment.
101. Swiss Re	Switzerland	No	We suggest to not limit an insurable interest to a direct impact on the policyholder but also include "indirect impact" in order to avoid confusion. For instance, a meso level food processor might not directly suffer from impact of drought but will feel the consequences through increased purchasing prices at a later stage because of a supply gap. Other indirect impacts include additional expenses – like temporary housing while the area is cleared up - and "inconvenience costs" – having to drive a longer distance to access food-, etc.	Wording clarified.
68 - Q68 General comment on / examples for Section 4				
103. Swiss Re	Switzerland	No	With respect to Footnote 26, this should be written as "Kilimo Salama" and not "Kilemo Salamo"	Corrected
104. Centre for Global Disaster Protection	United Kingdom	No	Paragraph 61 is extremely important. However, I do not see a substantive discussion in this section on how consumer protection considerations might influence communications to clients. Given the complexity of the product and the potential for clients to misunderstand and misuse index insurance products it would seem natural to encourage or require policy documents to include key policy wording written in simple, clear language. This should describe both the claim payment rules as well as the loss that product is trying to proxy. It would also help protect consumers against mistakenly purchasing a product without insurable interest.	We are not convinced of the merits of this prescription at this stage and prefer to leave it open beyond the suggestions already made given it is an issues paper.
72 - Q72 Comment on Paragraph 61				
108. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	There is a tendency to consider index-based products as always necessarily more complicated than indemnity insurance, but this may not always be the case. Whilst the data sets themselves and integration into a suitable trigger may be mathematically complicated, there are examples where the trigger or parts of it are actually quite straightforward (for example, requiring that a windstorm be a named hurricane). It is important also to remember that such products may seem more complicated to those with familiarity with indemnity insurance but for a person with limited financial literacy an index-based product if properly explained may be as readily understandable as more traditional insurance policies' terms and conditions. Nuances of coverage, exclusions and deductibles may all prevent an indemnity policy from performing as expected and give an insurer scope to challenge claims. In contrast, parametric insurance products are inherently simple products: if the trigger is activated, the insurer pays the pre-agreed sums. There is very little scope for an insurer to avoid payment on the basis of uncertainty regarding a direct causal link between	We consider that the paragraph notes “consumers are protected” and includes but goes well beyond disclosure and understanding of products by clients.

			the insured event and its consequences on the insured or the compliance with conditions in the policy. In the case of agricultural insurance, farmers will be keenly aware of weather hazards and in some instances a weather index may in fact be more readily understandable to a farmer than a loss assessment later and may in fact be more trustworthy than other methods of assessment. Data inputs such as data gathered by insureds themselves or crowd-sourced loss verification may also assist in reducing a potential disconnect between the trigger and the loss experience.	
110. Swiss Re	Switzerland	No	We do not necessarily agree that index insurance is more complex to understand than indemnity insurance (exclusions, deductibles, and fineprint may be as complex to be understood. We suggest either to delete this paragraph or to reframe it in terms of the specific challenge of understanding Index insurance: the basis risk.	We consider that the paragraph notes “consumers are protected” and includes but goes well beyond disclosure and understanding of products by clients.
76 - Q76 Comment on Paragraph 64				
114. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	It is encouraging to note that the IAIS is exploring further the role of product approvals in supervisory regimes. This is a positive move and assists in avoiding legal uncertainty. However, across our international network of offices there are very few jurisdictions where this is available. In China, for example, these types of products are approved on a case-by-case basis.	Please refer to the product approval paper.
77 - Q77 General comment on / examples Section 4.1.1				
117. Swiss Re	Switzerland	No	Some measures should be taken to demonstrate basis risk has been minimized to the extent possible, or to showcase to the extent possible the probability to having an adverse basis risk. Furthermore, the term "perverse basis risk" gives the impression that either the insurer or the insured has some perverse incentives - can this termed more neutrally as either inverse basis risk or positive basis risk?	Change perverse to positive.
118. Centre for Global Disaster Protection	United Kingdom	No	There is a wide range of opinions over what constitutes basis risk. This section discusses some of the consumer protection issues fairly well. However, one important issue is omitted - the issue of how losses are defined against which claim payments should be compared to understand basis risk. In a general statistical sense, basis risk is the difference between two random variables: the underlying index and the loss. To discuss basis risk in practice it is critical to define what loss means in this context. Many of the challenges with so-called basis risk have been because of a difference of expectations between stakeholders over what losses the product is supposed to be proxying for, and therefore their reasonable expectations for product performance. In practice what many clients perceive to be basis risk is actual the product not offering reliable protection against the losses they think they are being protected against, rather	Whilst we agree with the issue of differences in expectations we draw attention to the statement of the need for concurrence in paragraph (now) 64.

			than basis risk as it is commonly defined in quite a narrow sense within insurance markets. For this reason, it may be appropriate to use a term other than basis risk to describe the consumer protection issues in this section. One alternative is the term 'reliability'. Protecting consumers against basis risk therefore involves, at least in part, helping to ensure that the insurer and client share the same reasonable expectations for what the product is supposed to be protecting the client against. This is a necessary precondition to defining and assessing basis risk. This suggests key policy wording that describes both the claim payment rule and the losses the index is trying to proxy for.	We have suggested a disclosure approach in the first instance. We are not convinced of the merits of policy document prescription beyond the suggestions already made.
79 - Q79 Comment on Paragraph 66				
121. Swiss Re	Switzerland	No	In practice we observe it the other way round: typically "cat" products come with a lower basis risk than "in the money" products, ie tail correlation of index and damage are typically higher. We also point out a typo: adverser = adverse	Footnote added.
80 - Q80 Comment on Paragraph 67				
123. Centre for Global Disaster Protection	United Kingdom	No	It should be noted that back testing is often not possible due to a lack of appropriate data. Given the need for multiple years of data to back test products regulators may wish to recognize that best practice is to begin collecting data that would be necessary for back testing even whilst in the pilot phase, so that by the time the program matures there is sufficient data available to back test.	Addition made in Annex 1 regarding best endeavours.
85 - Q85 Comment on Paragraph 71				
128. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Our California colleagues confirm that the challenges in establishing a credible and accurate index are exemplified in the case of earthquake cover which could seem a more readily manageable objective index based on magnitude and location of quake. Earthquake losses are often not easy to correlate with the (ground level) distance from the epicenter. Seismic waves travel through the earth at different speeds and by different paths. Thus, areas further from the epicenter can experience greater damage than areas closer to the epicenter. In addition, losses are very sensitive to the type of subsoil; some soil types tend to "liquefy" in an earthquake. A comparison of the two costly earthquakes in California illustrates these points - The 1989 Loma Prieta earthquake in the Santa Cruz mountains about 60 miles (100 kilometers) south of San Francisco, with a 6.9 magnitude, caused \$.9 billion in insured losses and an estimated \$6 billion in economic losses. Much of the damage occurred in San Francisco and in the city of Oakland across the San Francisco Bay (and even farther from the epicenter). Areas between the epicenter near Santa Cruz and San Francisco experienced only modest losses. - The 1994 Northridge earthquake in a Los Angeles suburb, with a 6.7 magnitude, caused \$15 billion in insured losses and an estimated \$49 billion in economic losses. The high magnitude of the losses from a	Noted

			moderate severity earthquake was attributed in a significant part to the structural design of buildings near the epicenter. Losses to individual structures are well correlated with the structural design and, for older buildings, whether the building has been retrofitted to reduce earthquake loss risk. Thus, adjoining structures may experience very different levels of loss from the same earthquake. A credible index may need to take into account therefore the unique situation of an insured and the pre-loss evaluations could potentially be as costly as the post-loss loss adjusting.	
86 - Q86 Comment on Paragraph 72				
130. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	This is a very important and helpful suggestion. We are aware of circumstances reported by one of our offices in the developing world where the absence of a fall back solution ended in an ex gratia payment being made. Undesirable as that was, it was necessary to preserve the credibility of the product.	Noted
132. Swiss Re	Switzerland	No	We point out a typo: loose = lose	Corrected
87 - Q87 Comment on Paragraph 73				
134. Swiss Re	Switzerland	No	"Less reliable and extensive" should read "less reliable and less extensive"	Agreed
88 - Q88 Comment on Paragraph 74				
136. Swiss Re	Switzerland	No	How and why might the consideration for a credible index differ between different schemes? We urge the IAIS to provide some additional clarity here.	Clarified wording
89 - Q89 Comment on Paragraph 75				
137. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We agree that arbitration is desirable, particularly if a speedy, final and binding process is permissible under the applicable law. This would ensure that the vital component of immediate payment is not completely lost in protracted proceedings (see para 84). In the case of index insurance, a dispute may instead centre on whether a loss was in fact suffered when an index was or was not triggered or whether the parametric functioned correctly; all of which will likely need specialist expertise. Where the index "strike" is by reference to data provided by a third party arbiter such as a meteorological service or even by reference to a proprietary dataset provided by the product sponsor, then it may be difficult to source an independent and reliable second arbiter, particularly where the model is complex or alternative data is not readily available. If the question is the operation of the index or the	Noted

			parameter, then a pre-agreed expert or panel of experts may be suitable to review and deliver a verdict on, for example, an ex gratia payment, a hybrid loss adjustment payment or some type of other fall-back solution. The fall-back elements could themselves be built into the policy wording and with careful drafting various eventualities can be pre-agreed, hopefully allowing the flexibility to adapt to any basis risk issues or latent defects in the triggers and ensure that the policy responds as would have been reasonably anticipated or has provisions that allow flexible responses but with greater certainty than mere ex gratia payments. Where purchasers are at the micro level, there may need to be a more accessible dispute resolution or complaints process. If a consumer redress scheme operates already in a jurisdiction then in certain circumstances that may already be a suitable process for disputes regarding the index. Regulators may need to educate new market entrants – whether policyholders or intermediaries – about any expected dispute resolution processes. Of course, where precautions are taken to carefully design triggers, manage expectations, and communicate with and educate policyholders (as recommended by the IAIS in paragraph 135) it is hoped that such disputes will be infrequent. Where there is an obvious malfunction in the data inputs or index itself, ex gratia payments may sometimes provide the most effective solution (although note our comments below at paragraph 76). Where there are several stakeholders, a mediation-type dispute resolution process might be most suitable. Where the government itself is a policyholder then a more formal legal process of international arbitration under UNCITRAL or other rules (with the necessary expert evidence adduced to such a tribunal) may be most suitable. Careful planning is key, and what an index-based insurance policy may lack in terms of conditions and exclusions it will likely need to make up for in terms of properly considered and pre-agreed methods to deal with issues of perverse and adverse basis risk.	
91 - Q91 Comment on Paragraph 76				
140. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	There will always be pressure on the insurance supervisor – and other agencies involved in an index insurance program - to expand coverage beyond the contractual limits when there is a bad year. This occurs for conventional insurance products and the pressures may be greater for index products. Some level of ex gratia payments is probably inevitable, but the significant potential downside risks should be recognized. Ex gratia payments will have the effect of increasing premiums so they do need to be considered carefully by all stakeholders. Where an index-based product may be introduced alongside more traditional indemnity based or shortfall crop insurance and a precedent has been set for ex gratia payments, there may be an unnatural or skewed effect on financial outcomes and market competition. As noted above, it may be desirable to have fall-back scenarios be drafted as part of the contract bargain	Noted

			struck and potentially also could be pre-agreed with the regulator where necessary so that insurers do not come under undue pressure to make ex gratia payments in all circumstances in which there is loss that does not fall within the predefined trigger.	
142. Swiss Re	Switzerland	No	We suggest to include a sentence that clarifies that ex-gratia payments are by definition voluntary payments outside the legal obligation and should not be foreseen in insurance contracts. Unless there are obvious errors or omissions, ex gratia payments need to be avoided. They are not and should not become part of any legal agreement defining an index insurance product. Agreeing to ex gratia payments in case of adverse basis risk implies that such basis risk could have been avoided with a "better" structure. As basis risk cannot be eliminated, granting such payments will contradict the product design. We further suggest to clarify what "proactively engaged" means. Finally, we suggest to change last sentence to "A mature phase should have a more robust index in place and associated improved consumer education and financial literacy, making ex-gratia payments obsolete".	Noted. We consider the footnote is sufficient for this purpose. Not adopted
92 - Q92 Comment on Paragraph 77				
144. Swiss Re	Switzerland	No	See our response to Q91 above	See above
93 - Q93 General comment on / examples for Section 4.3				
146. Swiss Re	Switzerland	No	We recommend IAIS to include a paragraph on the process of paying subsidies. For subsidies to be effective, subsidies should be paid out within a reasonable timeframe, to avoid the insured/insurer/reinsurer with incurring a substantial credit risk.	This specific issue is not within the scope of this paper.
99 - Q99 Comment on Paragraph 82				
153. Swiss Re	Switzerland	No	We suggest to change last sentence: "This does not have to happen to all parts of the system at the same time, especially if the competition requirement would mean that no party is willing to invest time and resources to develop an index insurance when other parties could free-ride on it (first mover disadvantage)."	No change adopted
102 - Q102 Comment on Paragraph 84				
156. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We agree with the general proposition that index-based triggers should be easier and faster for an insurer to reserve immediately following the trigger "strike" than longer-term adverse claims movements under assessed-loss policies. This may have a beneficial impact on supervision in that it reduces the risk of substantial post-event reserve movements and can permit more accurate or up-to-date solvency analysis.	Noted
103 - Q103 Comment on Paragraph 85				
159. Swiss Re	Switzerland	No	We also point out a typo: "Never the less" = "nevertheless"	Corrected

107 - Q107 Comment on Paragraph 88				
163. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	Given the inherent nature of index insurance claims payments, reinsurance agreements would need to be drafted to cover perverse basis claims. Indeed, the insurer would not generate data showing the incidence of perverse basis payments, as claims payments would be made without documentation of the existence or extent of a policyholder's loss. Data on basis and perverse basis risk would need to be generated through separate surveys. Forms of reinsurance agreement that provide for claims audits by reinsurers and mandate that insurers maintain standard claims data are unsuited to index insurance. Insurers and reinsurers will need to tailor reinsurance products to the unique features of index insurance. Possibly reinsurer audits for compliance with the index trigger will replace conventional claims audit rights. Ex gratia payments of course could pose a potential reinsurance issue, if the reinsurer can demonstrate that they are, indeed, a gift from the insurer to the policyholder outside of contractual requirements, rather than an imputed contractual payment triggered by misleading marketing or other communications by the insurer or its agents.	No change made
165. Swiss Re	Switzerland	No	"Ex-gratia issues" are not basis risk, these terms should not be mixed; in traditional (re)insurance the companies retain also the risk of paying ex-gratia. On the other hand an unintended mismatch between the insurance and reinsurance levels would be due to poor design of the reinsurance product and it is easily avoidable.	Adjustment in wording made to ensure clarity of meaning.
108 - Q108 Comment on Paragraph 89				
167. Swiss Re	Switzerland	No	The statements that access to reinsurance was a barrier and that reinsurers uncertainty loadings have made products unaffordable may reflect a lack of understanding of sustainable pricing considerations. There is a lot of evidence that reinsurance capacity is not scarce for sustainable business cases and well-designed index insurance structures. Lack of access to reinsurance can be a result of technical concerns with the product or sustainability of the insurance scheme. We propose to add to the paragraph: "The lack of reinsurance support may also reflect unrealistic price expectations by sponsors, underestimation of the true risk, or that the approach is not considered scalable or sustainable by reinsurers. Many well-designed index insurance programs see abundant reinsurance support. Regulations which limit access to international reinsurance markets may indeed be a barrier to innovation and the development of successful index insurance programs".	Some clarification of pilot context included. Last sentence added.
109 - Q109 Comment on Paragraph 90				
168. Clyde & Co LLP	England & Wales, South Africa,	No	Two interesting examples from the US are the New York Metropolitan Transportation Authority (MTA) parametric cat bonds exposed to storm surges caused by named storms and earthquake risks in the New York area and California Earthquake Authority sponsored cat bonds with an indemnity trigger. These public authorities are seeking to protect the populations in their jurisdictions broadly by accessing insurance linked capital for catastrophe protection.	Noted

	China, USA, India			
170. Swiss Re	Switzerland	No	It is not clear to us what is the relevance of this passage, and would appreciate if IAIS elaborates on this.	No change taken up.
112 - Q112 Comment on Paragraph 92				
174. Swiss Re	Switzerland	No	For Nat Cat, the pilot phase duration may be dictated by a very long return period trigger. In most markets you wouldn't expect a magnitude 6 earthquake every year to test the adequacy of the index.	No change taken up. Seems to be covered in paragraph (now) 92.
121 - Q121 Comment on Paragraph 99				
184. Swiss Re	Switzerland	No	Footnote 32 refers to paragraph 71, which is not related to subsidies.	Footnote text corrected
126 - Q126 Comment on Paragraph 104				
190. Swiss Re	Switzerland	No	In our opinion, the product cycle should not be defined in temporal terms but rather in functional terms, i.e. from underwriting to paying a claim, which may be longer than one "season".	Clarified with additional words.
131 - Q131 Comment on Paragraph 108				
195. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	In the UK, the Financial Conduct Authority operates a regulatory sandbox for authorised firms, unauthorised firms that require authorisation and technology businesses. The sandbox was established following a feasibility report published in November 2015 to support the FCA's objective of promoting effective competition in the interests of consumers. The aims of the sandbox include: - reducing the time and, potentially, the cost of getting innovative ideas to market - enabling greater access to finance for innovators, by reducing regulatory uncertainty - enabling more products to be tested and, thus, potentially introduced to the market - allowing the FCA to work with innovators to ensure that appropriate consumer protection safeguards are built into new products and services In the US, insurance regulators have lagged behind other jurisdictions in setting up regulatory sandboxes. Although some states could be said to offer sandbox-like opportunities (e.g. Iowa for insurtech) we are not aware of any regulatory sandboxes encouraging pilot projects on index insurance in the US. That is perhaps not surprising, because as a general matter, insurance regulators in the US see sufficient insurance offerings for buyers of insurance.	Noted
156 - Q156 Comment on Paragraph 129				

222. Swiss Re	Switzerland	No	Based on our experience, a credible index is an index that provides regular payouts, which is in the end a design question. We have had positive experiences with 2-phase indices: a high frequency phase with low payouts and a low frequency phase with high payouts.	This comment seems more about product design than the index itself. We also pick up the benefit of this approach in paragraph 69.
162 - Q162 Comment on Paragraph 133				
228. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	When setting and assessing technical provisions regarding index-based insurance, certain regulators may themselves need assistance and capacity-building which can be provided by the Insurance Development Forum, the World Bank or international donors. As insurers operate across jurisdictions it may be helpful wherever possible if supervisors can offer joined up regulatory approaches. Regionally-relevant approaches to pilot programmes (designed potentially around risks such as earthquake or tsunami in the ring of fire, drought in sub-Saharan Africa or flooding in South East Asia) may be fostered through effective collaboration between supervisors. The IAIS as a body or its members acting in collaboration globally or regionally may wish to consider model laws or conduct a legal survey of the regulatory regimes in various jurisdictions to establish a framework for acceptance of such products and ensure regulatory clarity for insurers operating across jurisdictions. There will not be any one-size-fits all approach of course, but if certain jurisdictions have a strong indemnity principle, there might be interest in collaboration across those jurisdictions to see how the principles can be reformulated or bypassed to embrace new products. A cross-jurisdictional approach to index-based insurance could provide a framework for future international collaboration to adopt and regulate novel forms of risk transfer. The next horizon enabled by technology may well require further coordinated cross-jurisdictional inputs from regulators and collaboration where possible to ensure transparency, accountability and appropriate taxation. The guidance provided by the IAIS in the context of index-based insurance may be adaptable to the next round of insurance innovation.	Noted however prefer to leave this observation to be made by others rather than in the paper at this stage.
167 - Q167 Comment on Paragraph 136				
234. Clyde & Co LLP	England & Wales, South Africa, China, USA, India	No	We agree with the sentiment that challenges in explaining basis risk issues to customers are not necessarily any more difficult than explaining the complexities of exclusions, limitations and definitions in most ordinary insurance products available to customers. We do not, therefore, believe that such explanations should inherently be impossible but we note that considerable care will be needed to ensure that any policyholder is aware of how the products function and the existence of basis risk.	Noted
169 - Q169 Comment on Paragraph 138				

238. Centre for Global Disaster Protection	United Kingdom	No	Two other approaches worth mentioning are: 1. The approach proposed in Mapfumo, Shadreck; Groenendaal, Huybert; Dugger, Chloe. 2017. Risk Modeling for Appraising Named Peril Index Insurance Products : A Guide for Practitioners. Directions in Development; Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/26329 2. The Safe Minimum Standards approach of https://www.slideshare.net/BASISInnovationlab/assessment-of-the-burkina-faso-project-the-safe-minimum-standards-sms-methodology	Noted however the existing more limited approach taken in the paper is preferred whilst pointing to more advanced approaches.
170 - Q170 Comment on Paragraph 139				
240. Swiss Re	Switzerland	No	While back-testing is useful and can illustrate well the operation of a product (including its basis risk) we believe this is most effective on a macro and meso level. For the micro products, the basis risk comes more from the heterogeneity of the effects of the loss event among insureds.	Adjustments made in wording to highlight this useful point.