INTRODUCING INDEX-BASED INSURANCE IN SOUTH AFRICA: FEASIBILITY OF IMPLEMENTATION WITHIN THE CURRENT INSURANCE LEGISLATIVE FRAMEWORK

Submitted in partial fulfilment of the requirements for the degree

by

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DEDICATION

This is dedicated to my late mother, Onica Setlaleleng. My best friend, biggest supporter, and greatest critic. Thank you for all the sacrifices to get me to where I am, for always believing in me when I did not believe in myself, for giving me all the opportunities you have never had and for teaching me to chase my dreams relentlessly. I can only hope that I have made you proud. Forever in my heart, I love you.

LIST OF ABBREVIATIONS

A2ii	Access to Insurance Initiative
ACRE	Agriculture and Climate Risk Enterprise
AYII	Area Yield Index Insurance
COFI Bill	Conduct of Financial Institutions Bill
FAIS Act	Financial Advisory and Intermediary Services Act
fintech	financial technology
FSCA	Financial Sector Conduct Authority
FSR Act	Financial Services Regulation Act
GIIF	Global Index Insurance Facility
IAIS	International Association of Insurance Supervisors
IFWG	Inter-Governmental FinTech Working Group
ILRI	International Livestock Research Institute
IRA	Insurance Regulatory Authority
KLIP	Kenya Livestock Insurance Program
PA	Prudential Authority
PPR	Policyholder Protection Rule
SFSA	Syngenta Foundation for Sustainable Agriculture
STIA	Short-Term Insurance Act
TCF	Treating Customers Fairly
NDVI	Normalized Difference Vegetative Index

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1 Background of the study

The financial sector has seen many innovations in financial technology (fintech) and the insurance industry has not been immune to innovation. Fintech promotes competition and innovation, allows for lower transaction costs, and increases access to financial services. This in turn promotes financial inclusion for the excluded and underserved.

Index-based insurance, also referred to as "parametric insurance", is an innovative approach to insurance, which is still in its infancy in South Africa. The first index-based insurance products were developed in the 1920s by Indian economist JS Chakravarti.[1] Index-based insurance is based on contracts that use a pre-determined index for claims.[2] The policyholder is entitled to the policy benefits when the index is triggered, irrespective of whether they had suffered an actual loss, lodged a claim or had the damage assessed. This often results in basis risk, in terms of which there is a misalignment between the loss incurred and the policy benefits of the policyholder. Index-based insurance is intended for large-volume, low-value insurance contracts, for example, for small-scale farmers.

This leads to questions in insurance law because the *essentialia* of an insurance contract must be present when the index insurance contract is entered into. The legal question comes in at the claims stage, or rather, the lack of a claims stage. Normally, upon an uncertain future event occurring, the insurer has an obligation to provide policy benefits based on the loss incurred by the policyholder. In index insurance, the insurer provides policy benefits based on an index and not necessarily on an actual loss.

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[1] Mishra PK. "Is Rainfall Insurance a New Idea? Pioneering Work Revisited." *Economic and Political Weekly*, 1995 (vol. 30, no.25) A84–88 at A84. http://www.jstor.org/stable/4402912 accessed 5 May 2022.

[2] International Association of Insurance Supervisors, 'Issues Paper on Index Based Insurances, Particularly in Inclusive Insurance Markets" (2018) at page 5 https://www.iaisweb.org/uploads/2022/01/180618-Issues-Paper-on-Index-based-Insurances-particularly-in-Inclusive-Insurance-Markets.pdf.

There has been increased interest in index-based insurance products from institutions such as the World Bank Group, the International Association of Insurance Supervisors (IAIS) and the Access to Insurance Initiative (A2ii), which is the “implementation arm” of the IAIS on inclusive insurance. These institutions research and engage with industry players to understand the legal, regulatory, and supervisory challenges faced in implementing index-based insurance products. Many index-based products developed across the globe are still in the pilot stage. The regulators and supervisors involved in the pilot stages work with the World Bank Group to identify the regulatory and supervisory risks and legal challenges that would accompany the introduction of these insurance products and also to provide a comprehensive review of the legislative amendments that would be required.[3]

Most of the literature reveals that one of the attractive features of this form of insurance is that it allows for a rapid claims settlement process, which stems from the fact that using an index eliminates the need for claim assessments. Index-based insurance can overcome costly or not feasible loss assessment by conventional means, particularly in the case where there are a large number of small-scale farmers or where insurance markets are underdeveloped.[4] Providing access to insurance in underdeveloped markets is the cornerstone to achieving financial inclusion and transformation. The major disadvantages of index-based insurance include the lack of enabling provisions in current legislation, the fact that index-based insurance does not meet the requirements to qualify as insurance and the use of basis risk, which can undermine the concept of indemnification. The basis of insurance is to provide indemnification for losses incurred by the policyholder. In terms of South African legislation, an insurance contract must provide full or partial indemnification. A further disadvantage of index-based insurance contracts is the conduct risk element. This includes, but is not limited to, the risks that the contract does not adequately meet the policyholder’s needs, that the policyholders do not understand the contract's provisions, that there are inappropriate distribution challenges and that there is a lack of adequate methods to quantify loss.

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[3] Ibid page 6, paragraph 12.
[4] Fisher E, Hellin J, Greatrex H, Jensen N. Index insurance and climate risk management: Addressing social equity. *Development Policy Review.* 2019 (37) 581– 602. https://doi.org/10.1111/dpr.12387 accessed 1 March 2022.

There is no universally accepted definition for index insurance as most countries are yet to navigate how to incorporate index-based insurance contracts into their regulatory and supervisory frameworks. Based on the few jurisdictions which have implemented index-based insurance and the research that has been conducted on index-based insurance products, index-based insurance can be defined for purposes of this study, as an insurance contract in terms of which payment of policy benefits to policyholders is triggered by a pre-determined index and there is a pre-agreed claim amount. To qualify as an insurance contract, an index-based insurance contract must meet the *essentialia* of an insurance contract. These include: an insurable interest as the object of the contract; payment of a premium; an uncertain event insured against; and the insurer's obligation to indemnify the policyholder upon the occurrence of the insured event. To this end, index-based insurance contracts would need to meet the *essentialia* of an insurance contract to fit into the current legislative framework. If this is not the case, it will necessitate amendments to existing legislation within the insurance framework. As will be explained in later sections, the concept of indemnification is the greatest challenge to the implementation of index-based insurance products due to the existence of adverse basis risk.

1.2 Problem Statement

There are currently no index-based insurance products in South Africa. This can be primarily attributed to the fact that the current insurance legislative framework does not allow for these types of products. The Insurance Act[5] defines non-life insurance as follows:

> *"non-life insurance policy means any arrangement under which a person, in return for provision being made for the rendering of a **premium** to that person, undertakes to meet insurance obligations that **fully or partially indemnifies loss** on the **happening of an unplanned or uncertain event**, other than—*
> *(a) a life event; or*
> *(b) a death event or disability event not resulting from an accident,*
> *and includes a renewal or variation of that arrangement;"*

[5] 18 of 2017.

The Short-Term Insurance Act[6] (STIA) defines a premium and policy benefits as follows:

> *"premium" in respect of a—*
> *(a) registered insurer, means the* ***consideration given*** *or to be given* ***in return for an undertaking to provide policy benefits****;*
> *"policy benefits" means—*
> *(a) in respect of a registered insurer,* ***one or more sums of money, other than an annuity, or services or other benefits****;*
> *(b) in respect of a licensed insurer,* ***benefits to which a person is contractually entitled to under a non-life insurance policy arising from an insurer's insurance obligations****;."*

Under index-based insurance contracts, a policyholder might incur loss and yet not be indemnified for the loss because the index was not triggered. In contrast, a policyholder might be "indemnified" without incurring any loss due to the index being triggered. To this extent, this study sets out to understand the intrinsic features of index-based insurance and the challenges in the context of the current legislative and regulatory framework. This study intends to make a compelling case for allowing index-based insurance products in South Africa, drawing on Kenya's experience and research from relevant international organisations. The surveys conducted by A2ii will serve as a foundation for the challenges that need to be addressed by South Africa.

1.3 Research Question

Flowing from the problem statement outlined above, the research question that this study sets out to answer is as follows: is it possible to implement index-based insurance products within the current insurance legislative framework in South Africa? To provide a credible answer to the research question, the study will assess and answer the following sub-questions:

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[6] 53 of 1998. Certain parts of the Act which dealt with prudential regulation have been repealed by the Insurance Act. The STIA will be repealed in its entirety by the COFI Bill once promulgated.

a. What is index-based insurance, and what developments around index-based insurance have there been to date?
b. What are the main types of index-based insurance contracts, and how do these differ from traditional non-life insurance contracts?
c. How was Kenya able to adopt index-based insurance in light of the challenges identified?
d. What legal, regulatory, and supervisory risks and challenges are encountered when dealing with index-based insurance products in the current legislative framework?
e. How can South Africa effectively introduce index-based insurance and overcome the risks and challenges?

1.4 Methodology

This study adopts a desktop-research methodology using analytical, explorative, and comparative approaches. The analytical method will be used to analyse the intrinsic features of index-based insurance and the distinct types of products available. The explorative approach will be adopted for exploring the legal, regulatory, and supervisory challenges, while the comparative method will be used to compare the regulatory frameworks of South Africa and Kenya.

1.5 Delimitations

The scope of the study is limited to the challenges in legislation and the need to reform South African insurance laws to accommodate index-based insurance products. This study will focus on providing an understanding of index-based insurance products and analysing how to best implement a legal and regulatory framework that accommodates the products.

The inherent challenge of the research is to gain access to sufficient journal articles relating to index insurance and its case law and legislation. As the product is still mainly in the pilot stages, most of the available material on the legal aspects of index-based insurance is published by institutions such as the World Bank Group, the IAIS and the A2ii.

1.6 Outline

Chapter 1 outlines the scope of the paper. This includes a brief background, the research statement, and the questions the study aims to answer.

Chapter 2 focuses on the history of index-based insurance, the definitions of legal, regulatory, and supervisory risks, index-based insurance and the core intrinsic features of the product. The essential requirements of an insurance contract are outlined and analysed in the context of traditional non-life and index-based insurance. The chapter also looks at some of the current types of index-based insurance products and then highlights the developments and the support index-based insurance has gained from international organisations such as the World Bank.

Chapter 3 explores how Kenya, with the help of the World Bank Group, navigated the legal challenges and was able to develop a legal and regulatory framework for index-based insurance. The chapter highlights the recommendations and policy objectives from the Kenya Policy Paper on Index-based Insurance.

Chapter 4 discusses the South African insurance legislative framework, specifically the Insurance Act, the STIA, the Financial Advisory and Intermediaries Act[7] (FAIS Act), the subordinate legislation in terms of the STIA and the FAIS Act, together with the forthcoming Conduct of Financial Institutions Bill (COFI Bill). The chapter further considers the A2ii survey results and outlines the risks identified by the survey, which are relevant to the South African context.

Chapter 5 analyses how an effective legal and regulatory framework can be created for South Africa, drawing on lessons from Kenya and surveys conducted by the A2ii. The chapter also discusses how index-based insurance aligns with the objective of promoting financial inclusion, access to insurance and transformation for the South African market.

Chapter 6 provides a conclusion to the research and proposes recommendations. The chapter also identifies future research areas.

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[7] 37 of 2002.

1.7 Conclusion

In providing answers to the research question and the sub-questions, the study hopes to build on the existing knowledge of index-based insurance products, particularly in the South African context.

CHAPTER 2: UNDERSTANDING INDEX-BASED INSURANCE

2.1 Introduction

This chapter provides an overview of the history of index-based insurance and discusses relevant definitions. The Chapter will further assess the *essentialia* of an insurance contract as it relates to indemnity insurance (used interchangeably with non-life insurance) and index-based insurance. The chapter will investigate the distinct types of contracts that are similar to index-based insurance and discuss the common types of index-based insurance products. Lastly, the chapter will outline the developments in index-based insurance, both internationally and locally.

2.2 History of index-based insurance

The adoption and implementation of index-based insurance is relatively recent in most jurisdictions across the globe, with many products still in their infancy or pilot stages. However, index-based insurance can claim its roots as far back as the 1920s. The Indian economist, JS Chakravarti[8], first designed index-based insurance for India in the form of agricultural insurance using rainfall as the index. The product was in the form of area-yield insurance, which sought to pay farmers based on outcome yields within a specified geographic area, as opposed to an individual farmer yield outcome. In terms of the scheme, a year would be divided into two seasons, with the policyholder being indemnified in cases where the rainfall during the specific season was less than 65% of the expected rainfall.[9] The aim of the proposed scheme was that indemnity was directed at stabilising the farmers' net income and not directed at putting them in the same financial position they would have been in had it not been for the lack of rainfall resulting in lower crop yields.[10] Chakravarti proposed that premiums should be determined by basing them on the likelihood of drought and by considering the determined indemnification amount.[11] Although Chakravarti's work was at the forefront of index-based insurance, discussions of his work could not be found in the literature relating to agricultural insurance.

[8] Supra Note 1.
[9] Ibid.
[10] Ibid.
[11] Ibid.

Following the proposals in India, crop insurance concerning a specified risk (hail insurance) was subsequently introduced in Europe, the United States and Canada and was run by private companies.[12] The public sector followed suit by introducing crop insurance in the United States and Japan during the 1930s.[13] In recent years, African countries, particularly those prone to droughts, have been working on designing index-based insurance products best suited to their needs. These countries include Kenya, Malawi, and Uganda. This study will use Kenya as a case study as Kenya has the most advanced index-based insurance products on the continent.

Index-based insurance products have since gained more attention and popularity, particularly in the context of financial inclusion and protection against climate change risks. However, the nature and design of index-based insurance have created difficulties in the adoption of the product. These difficulties mainly stem from legislative constraints in the form of a lack of enabling provisions for index-based insurance and from the misalignment between indemnification and policy benefits that the insurer is obliged to provide depending on the index.

Defining a number of key concepts is essential in developing a regulatory framework for index-based insurance.

2.3 Definitions

This section provides definitions of the relevant terms used throughout the dissertation, including definitions for alternative forms of non-life insurance cover.

2.3.1 Legal and Regulatory Risk

The International Association of Insurance Supervisors ("IAIS") defines legal risk as any risk that has the potential to impact the insurer adversely, resulting from legal uncertainty of unenforceable contracts, changes to legislative and regulatory frameworks and/or the failure to adhere to applicable legislation.[14] According to A2ii, legal risk may include exposure to fines, penalties, and private settlements.[15] These risks stem from legal issues, which relate to the relationship between the insurer and

[12] Ibid.
[13] Ibid.
[14] https://www.iaisweb.org/?glossary=legal-risk accessed 3 September 2022.
[15] Carpenter R, "Index Insurance Status and Regulatory Challenges" by Access to Insurance Initiative.

policyholder and cover the legal effect that the contract of insurance has on third parties.[16] An example of legal risk in index-based insurance is when the contract fails to meet the requirements for an insurance contract. This would result in a lack of enforceability and the contract being classified as a wager or derivative.

Regulatory risk can be understood as the risk that the insurer is not compliant with applicable legislation.[17] Regulatory risk is sometimes used interchangeably with compliance risk. It includes the risk of increased compliance costs and limitations and/or loss of licence due to changes in the regulatory framework.[18] Regulatory issues are defined with reference to the role that the regulator plays in the regulation and supervision of insurers, underwriters, and insurance intermediaries.[19] Regulation differs from supervision in the sense that regulation is the power to draft the regulatory framework, and supervision refers to the implementation of legislation and the regulatory framework.[20] In the context of index-based insurance, an example of regulatory risk could be that index-based insurance does not fall under any of the classes of business for which the insurer is registered. An example of supervision risk could be inadequate market conduct provisions to ensure consumer protection.

2.3.2 Valued Policies

In English law, valued policy insurance is considered an alternative form of insurance. It is commonly used in marine insurance. Valued policy refers to insurance contracts in which the insurer and the policyholder (used interchangeably with insured) agree on the property's value at inception. The insurer should pay this amount to the policyholder upon total loss, even though the amount paid exceeds the policyholder's

[16] Carpenter R, State of Knowledge Report – Legal Considerations for the Design of Weather Index Insurance: Innovation in Catastrophic Weather Insurance to Improve the Livelihoods of Rural Households. Prepared for GlobalAgRisk Inc May 2012. Accessed at http://globalagrisk.com/Pubs/2012_GlobalAgRisk%20Legal%20SKR_May.pdf on 5 March 2022
[17] Financial Services Board (FSB), "Consultation Paper: Proposed Prudential Risk-based Supervisory Framework for Insurers" (2010) https://www.fsca.co.za/Regulatory%20Frameworks/Archived%20Documents/Consultation%20Paper%20-%20Proposed%20Prudential%20Risk-based%20Supervisory%20Framework%20for%20Insurers.pdf#search=supervisory%20risk accessed 31 August 2022.
[18] Supra Note 15.
[19] Supra Note 16.
[20] Ibid.

actual loss.[21] The policy may also provide the percentage that may be claimed for a partial loss.[22] Valued insurance policies are considered valid and enforceable as they are deemed to comply with the definition of indemnification.[23]

2.3.3. Business Interruption Insurance

Contingency insurance, which made headlines in 2020 and 2021 due to the Covid-19 lockdowns across the globe, is a type of insurance contract available in the form of business interruption and contingent business interruption cover. Business interruption insurance is defined as indemnification for lost income and extra expenses emanating from an insured peril that caused interruption to the insured's business.[24] The policy benefits provided under a business interruption insurance contract seek to place the insured in the same position they would have been in had it not been for the occurrence of the insured peril and an interruption to the policyholder's business operations.[25] Contingent business interruption insurance is an extension of business interruption insurance. It aims to indemnify the insured against losses incurred as a result of interruption to the business of a supplier or distributor, thus impacting the insured's ability to continue with their everyday business operations.[26] With this in mind, there may be an option of providing index-based insurance as a fixed sum index-based business interruption contract to provide policy benefits when there has been an interruption to a farmer's regular business operations. Arguably, these could also be sold as fixed-sum insurance.[27]

2.3.4 Index-based Insurance

Owing to the limited number of jurisdictions that have formally implemented index-based insurance, there is no universally accepted definition for the products. Index-based insurance, also known as parametric insurance, is defined by the IAIS as a *"relatively new, innovative approach to insurance that centres on insurance contracts*

[21] *Elcock v Johnson* [1949] 2 All E.R. 381.
[22] Ibid.
[23] *Citibank NA, SA Branch v Paul NO* 2003 (4) SA 180 (T).
[24] Rice JC. “Business Interruption Coverage in the Wake of Katrina: Measuring the Insured's Loss in a Volatile Economy.” *Tort Trial & Insurance Practice Law Journal*, 2006 (vol. 41, no. 3) 857–883 at 864. JSTOR, www.jstor.org/stable/25763794. Accessed 26 Apr. 2021.
[25] Ibid.
[26] Ibid.
[27] Supra Note 16.

with a pre-determined index for claims".[28] Index-based insurance can also be defined as an insurance contract in which payment of policy benefits to policyholders is triggered by a pre-agreed index. The amount of the payment is also pre-agreed.[29] In Kenya, the enabling regulations highlight the fact that although index-based insurance provides compensation, it is not necessarily indemnification. The Kenyan Regulations on Index-Based insurances define index-based insurance in the context of a contract and state that it is a contract under which the liability of a licensed insurer to make a payment of compensation in respect of an insured risk is triggered by one or more indexes. The payment amount is determined by following one or more indexes rather than assessing the actual loss incurred by the policyholder.[30] The index aggregates losses over a large group within the same geographic area. This differs from traditional indemnity insurance in that the insurer would usually undertake a risk assessment for a specific policyholder, and the assessment of actual loss would determine policy benefits.

Index-based insurance contracts operate as named peril insurance products in terms of which only specified perils are covered.[31] In countries with traditional multi-peril crop insurance, like South Africa, systemic weather factors are often excluded.[32] In South Africa, the Insurance Act provides for agricultural insurance under Table 2 of Schedule 2, which *"covers damage or loss to crop, forestry, agricultural equipment, other agricultural activities and livestock".* These traditional products determine indemnification through actual loss assessment, which is costly and time-consuming. As such, this makes these products more suitable for commercial farmers than for individual smallholder farmers.[33]

To understand how index-based insurance differs from traditional non-life insurance, the next section will consider the *essentialia* of insurance contracts in relation to both of these insurance products.

[28] Supra Note 2.
[29] Supra Note 15.
[30] *Kenya: Draft Index Insurance Regulations* (18/3/15) at regulation 3.
[31] Mapfumo S, Groenendaal H, and Dugger C. "Risk Modeling for Appraising Named Peril Index Insurance Products: A Guide for Practitioners Washington, D. C", World Bank Publications, 2017. Accessed 22 February 2022.
[32] Supra Note 15.
[33] Ibid.

2.4. *Essentialia* of Insurance Contracts

In *Lake v Reinsurance Corporation Ltd*[34], the court defined an insurance contract as

> *"A contract between an insurer (or assurer) and an insured (or assured), whereby the insurer undertakes, in return for the payment of a price or premium, to render to the insured a sum of money, or its equivalent, on the happening of a specified uncertain event in which the insured has some interest."*

An insurance contract's essential features are an insurable interest, payment of a premium, indemnification, and a specified uncertain event. These requirements should be met for a contract to be considered an insurance contract. These requirements will be considered below.

2.4.1 Insurable Interest

Insurable interest refers to a policyholder's interest in the object of insurance. The validity of an insurance contract is dependent upon the policyholder's insurable interest in the object of insurance.[35] In the case of *Littlejohn v Norwich Union Fire Insurance Society*, the court stated that Roman-Dutch law provides little guidance on the topic of insurable interest, which necessitates the utilisation of English and American case law.[36] Under English common law, the concept of insurable interest was initially not regarded as an essential feature in a contract of insurance.[37] In Roman-Dutch law, the insured needed to have an interest in the property being insured.[38] In both regimes, insurance was only based on physical objects in which ownership was viewed as the ultimate interest of insurance.

Under common law principles for non-life insurance, an insured will have an insurable interest where it is evident that the destruction of the insured object would amount to

[34] 1967 (3) SA 124 (W).
[35] *Lorcom Thirteen (Pty) Ltd v Zurich Insurance Company South Africa Ltd* (54/08) [2013] ZAWCHC 64; 2013 (5) SA 42 (WCC); [2013] 4 All SA 71 at para 21.
[36] 1905 TH 374 at 378.
[37] Supra Note 32 at para 22.
[38] Ibid at para 27.

the insured incurring a loss of an appreciable commercial value.[39] It follows that an insured cannot suffer any loss where they have no interest in the object of insurance. Policy benefits in the absence of the insurable interest would amount to the enrichment of the insured. For policy benefits to be paid, the insurable interest must exist at the time when the claim for policy benefits is instituted. At the contract's inception, total patrimonial policy benefits upon which the contract is concluded are based on the value of the object (value at risk). However, the actual claim is ascertainable and can only be determined on the occurrence of the insured peril.

The concept of insurable interest is also applicable to index-based insurance products. It is suggested that the insured has an insurable interest in the object of insurance throughout the product life cycle. However, the existence of an insurable interest under index-based insurance contracts is not validated at the claims stage.[40]

2.4.2 Premium

A premium refers to the amount that the insured undertakes to pay to the insurer in exchange for the insurer undertaking to provide indemnification upon the occurrence of the insured uncertain event.[41] A contract that does not make provision for the payment of premiums will not be classified as an insurance contract.[42] The payment of premiums is considered as the continuation of the assumption of risk.[43] Insurance contracts may provide that the contract will lapse should the premium not be paid within specified timeframes.[44]

The policyholder’s risk profile determines the premium amount under indemnity insurance. For index-based insurance, the determination of premiums is based on the likelihood of the insured peril occurring, the predetermined indemnification amount and the operational costs of creating a credible index.

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[39] *Littlejohn v Norwich Union Fire Insurance Society* 1905 TH 374 at 380.
[40] Supra Note 2 at page 16.
[41] *Sydmore Engineering Works (Pty) Ltd v Fidelity Guards (Pty) Ltd* 1972 (1) SA 478 (W) at 480.
[42] *Lawsa* Vol 12 Part 1 at para 108–109.
[43] *Steyn’s Estate v SA Mutual Life Assurance Society* 1948 (1) SA 359 (C) at 364.
[44] Ibid.

In the initial pilot stage of index-based insurance products, governments often fully or partially subsidised premiums. In some cases, governments reach out to the World Bank Group for assistance with providing subsidies.

2.4.3 Indemnification

The primary purpose of insurance is to ensure that the insured does not suffer any loss emanating from the occurrence of the peril insured against. Insurance seeks to protect the policyholder's interest by providing policy benefits equivalent to the actual loss incurred by the policyholder. The policy benefits offered under a non-life insurance contract should not amount to unjustified enrichment.

Unlike traditional indemnity insurance, indemnification is not always guaranteed under index-based insurance. The policyholder might incur loss and not receive any policy benefits. On the other hand, the policyholder might receive policy benefits without incurring a loss. This gives rise to basis risk, which undermines the concept of indemnification.

2.4.3.1 Basis risk

Basis risk is the imperfect correlation between the index and the loss incurred by the policyholder. There is the risk that the policy benefits afforded to the policyholder differ from the actual loss that they have incurred.[45] Basis risk will always be present in index-based insurance, but the extent of the risk will be determined by the overall product design – the better the design, the smaller the risk.[46]

a. Adverse basis risk

Adverse basis risk occurs when the policyholder incurs a loss, but the index is not triggered.[47] The risk can be reduced by increasing the number of events that involve payment, thus lowering the trigger point.[48] This will, however, increase the premiums

[45] Supra Note 15 at page 4.
[46] Ibid.
[47] Supra Note 2 at page 18.
[48] Ibid.

payable by the policyholder.[49] The existence of adverse basis risk in index-based insurance gives rise to consumer protection issues as the policyholder runs the risk of not being compensated for an insured event.

b. Perverse basis risk

There may be instances where the index is triggered, and the policyholder receives policy benefits without incurring any loss.[50] This is referred to as perverse basis risk. The presence of perverse basis risk may result in the product not being classified as an insurance contract. Attempting to lower the risk could result in the unintended results of increased operational costs, reducing the efficiency of the product and making the product unaffordable.[51]

The development of a credible index along with a pilot stage (the period in which the insurer works with the regulator and supervisors and is allowed to operate outside the framework so as to test the product and identify areas for improvement within the framework) are essential to bring about mitigation of basis risk and ensure a sustainable product design.

2.4.4 Risk – Uncertain Event

Risk refers to the possibility that a policyholder might incur an undesirable change in his or her fortunes due to the occurrence of an uncertain event.[52] At the conclusion of the contract, the risk must exist, but the uncertain event must not have occurred yet.[53] The insurer's obligation to provide policy benefits depends upon the risk's occurrence.[54] With non-life insurance, the burden of proof is on the policyholder to show that the insured event has occurred when instituting a claim.[55] Under index-based insurance, the policyholder does not need to institute a claim. The insurer will provide the policy benefits when the index is triggered.

[49] Ibid.
[50] Ibid.
[51] Ibid.
[52] *Kent v SA National Life Assurance Co* 1997 2 SA 808 (D) at 814A–E.
[53] Ibid at 813E-G.
[54] Reinecke, Van Niekerk and Nienaber *South African Insurance Law* (2003) page 238 at para 13.27.
[55] *Eagle Star Insurance Co Ltd v Willey* 1956 (1) SA 330 (A) 334B–C.

A risk may either be pure or speculative. Pure risk exists where there is no reasonable chance that the insured will make a profit from the occurrence of the insured peril. This type of risk is considered an insurable risk. Speculative risk is one where the insured either stands to make a profit or incur a loss. This type of risk is generally not covered in insurance law and is part of the family of wagers, betting contracts, investments, and derivatives.

2.5 Is it Insurance?

A contract that fails to meet the above requirements for an insurance contract will be classified as a wager or a derivative. This section will look at contracts with speculative risk as the underlying "insured" event.

2.5.1 Wagers

A wager is defined as an agreement under which one party wins a sum of money or another stake from the other party upon the occurrence of an uncertain future event.[56] Neither party to the contract has a genuine interest other than to win or lose, and no premiums are paid in return.[57] Wager contracts are, therefore, not based on indemnification, nor do they necessitate the existence of an insurable interest or the payment of a premium.

In the case of valued policy insurance, excessive overvaluation could result in the contract being classified as a wager.[58] The contract will be classified as a wager where both parties to the contract are aware of the overvaluation, as this indicates a lack of intention to provide indemnification.[59]

2.5.2 Derivatives

The concept of index-based insurance was derived from weather derivatives. Weather derivatives are financial instruments that use index-based weather variables to determine the value of the contract at the expiration date.[60] In South Africa, derivatives

[56] Supra Note 34 at para 24.
[57] Ibid.
[58] Supra Note 20.
[59] Supra Note 58, page 60 at para 4.21.
[60] Bartkowiak M "Weather Derivatives", *Mathematics in Economics* (2009) 5-16 at 8.

fall under the financial markets framework and are not considered insurance. The Financial Markets Act[61] defines a derivative instrument as follows:

> "a *financial instrument or contract that creates rights and obligations and whose value depends on or is derived from the value of one or more underlying asset, rate or index, on a measure of economic value or on a default event."*

The Act further defines an index as "*an indicator that reflects changes in the value of a group of securities on one or more exchanges or external exchanges."*

Although both insurance and derivatives can be classified as risk transfer contracts, derivatives are aimed at exploring new financial opportunities for investment purposes. The investor either stands to make a profit or a loss based on fluctuations in the value of the underlying asset. Like wagers, derivatives are not aimed at providing indemnification, nor is the existence of an insurable interest a prerequisite.

2.6 Types of index-based insurance products

Index-based insurance is commonly used in the agricultural sector to protect farmers against loss relating to crops and/or livestock in the event of adverse weather events. The classification of the contract determines the index that will be used for the measure of loss.

2.6.1 Weather index-based insurance

Weather index-based insurance is an insurance product aimed at protecting against losses emanating from adverse weather-related events such as drought, floods, rainfall, hurricanes, etc.[62] The index is based on historical data from a specified weather station within a specified period, and policyholders need to be within a specified radius of the station. The policy benefits due to a policyholder are determined by the severity of the weather event reaching the threshold as determined by the contract.

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[61] 19 of 2012.
[62] Simões R, "Index Insurance: 2020 Status and Regulatory Challenges" A2ii.

2.6.2 Area-yield index-based insurance

Under an insurance contract using area yield as the index, the determination of the index is based on data from previous experience in a specified area and may be based on crop yield or livestock mortality.[63] The contract covers only the area used to determine the index, which reflects the average loss incurred by policyholders across that area.[64] The policy benefit is therefore determined with reference to the area and is not based on an assessment of individual loss.

2.6.3 Index-based livestock insurance

Livestock index-based insurance contracts base their policy benefits on the Normalized Difference Vegetative Index (NDVI), which measures the density of green vegetation to indicate the livestock's health.[65] The index is determined by the use of satellite imagery and the assessment of vegetation which is thriving and vegetation which is dry or dead. The assessment of the condition of the vegetation determines policy benefits.

These are some of the commonly used types of index-based insurance products. Given the rapid rate of innovation and modern technologies being developed, new index-based insurance products are bound to emerge.

2.7 Developments and support from international organisations

To effectively assess the feasibility of implementing index-based insurance contracts across various jurisdictions, several organisations have committed to conducting extensive research and surveys and working with regulators across the globe to understand these products. Given the limited information available on the legalities of index-based insurance, these organisations are at the forefront of providing insight into the legal, supervisory, and regulatory challenges of index-based insurance.

[63] Supra Note 2 at page 9.
[64] Ibid.
[65] Ibid.

2.7.1 The World Bank Group[66]

The World Bank Group initiated the Global Index Insurance Facility (GIIF), also known as the Index Insurance Forum, which aims to facilitate access to finance for catastrophic risk transfer solutions, in the form of index-based insurance for smallholder farmers, micro-entrepreneurs, and microfinance institutions. The GIIF is funded by the European Union and governments in Japan, the Netherlands and Germany and operates in collaboration with institutions such as the Geneva Association, AfricaRe and InsuResilience Global Partnership, to name a few. The GIIF's objective is to help build a sustainable market for index-based insurance through financial education, providing subsidies and capacity building, and lending support to ensure effective legislative, supervisory, and regulatory frameworks.

The GIIF has been actively working with governments and the private sector across the globe to build index-based insurance products and frameworks. In Kenya and Uganda, the GIIF worked with the governments to address the legal and regulatory concerns, resulting in new appropriate regulations being published by the said jurisdictions. The GIIF is currently working with Mayfair Insurance in Zambia and Hollard in Mozambique. The Mayfair Insurance project in Zambia commenced in March 2016 when the GIIF granted the insurer a capacity-building grant, thus enabling them to develop and market index-based insurance products. The GIIF has since extended support to the insurer to create additional products, provide training and raising awareness. In Mozambique, GIIF granted financial support to Hollard to assist them in expanding their agricultural insurance business. This followed the index-based insurance feasibility test that was conducted.

2.7.2 International Association of Insurance Supervisors (IAIS)[67]

The IAIS is an international standard-setting body in which membership by supervisors and regulators is voluntary. The organisation published the "*Issues Paper on Index Based Insurances*" on 16 November 2017, followed by the "*Issues Paper on Index Based Insurances, particularly in Inclusive Insurance Markets*" in June 2018. Both

[66] https://www.indexinsuranceforum.org/.
[67] https://www.iaisweb.org/.

papers aimed to provide background on index-based insurance. Current practices and case studies highlighting regulatory and supervisory challenges are described. The idea is to aid jurisdictions in developing their index-based insurance frameworks.

2.7.3 Access to Insurance Initiative (A2ii)[68]

The A2ii is a global partnership that aims to provide access to insurance for the excluded and underserved markets. This is done in collaboration with insurance supervisors and regulators across the globe. The A2ii is a partner to the IAIS on matters relating to financial inclusion and was involved in drafting the IAIS's 2018 paper. In 2018, A2ii published the "*Index Insurance: Status and Regulatory Challenges*"[69] paper based on a survey conducted in 2017 which sought to review the supervisory and regulatory challenges faced by insurance supervisors in implementing index-based insurance products. This was followed by the "*Index Insurance: 2020 Status and Regulatory Challenges*"[70] paper. This paper was based on a survey that sought to provide an overview of how supervisors have addressed the identified challenges. The survey was based on 27 jurisdictions, including South Africa.

2.7.4 A South African perspective

In South Africa, a Regulatory Sandbox[71] was developed by the Intergovernmental FinTech Working Group (IFWG) to provide market players with the "opportunity to test new products and/or services that push the boundaries of existing legislation and regulation" under the supervision of the relevant regulators.[72] The IFWG is a collaborative effort of the South African Reserve Bank (including the Prudential Authority), the Financial Sector Conduct Authority, Financial Intelligence Centre, the National Credit Regulator, National Treasury, the Competition Commission and South African Revenue Services. Santam Insurance is currently testing its soil moisture index

[68] https://a2ii.org/en/home.
[69] Supra Note 15.
[70] Supra Note 62.
[71] https://www.ifwg.co.za/Pages/Regulatory-Sandbox.aspx.
[72] Ibid.

insurance product in the Regulatory Sandbox. The test aims to identify the regulatory framework within which index-based insurance would be able to operate.

2.8 Conclusion

Starting in the 1920s, the development of index-based insurance has been remarkable. However, the restrictive legislative provisions remain a barrier to the implementation of the product. In the South African context, there is an indication of interest in the product take-up, although these would have to be designed to adhere to the current regulatory provisions. If it is impossible to structure contracts within the existing framework, it will be necessary to amend the legislation. To ensure that the product design meets legislative requirements, protects the interest of policyholders, and ensures the insurer's financial stability, pilot projects will be needed to refine the initial product and identify all the obstacles. There are also alternatives to how index-based insurance may be structured, such as contingency and valued policies. Chapter 2 sought to provide an understanding of index-based insurance. The next chapter will analyse how Kenya has successfully introduced index-based insurance products.

CHAPTER 3: THE KENYA CASE STUDY

3.1 Introduction

Kenya is one of the leading jurisdictions in terms of index-based insurance. The Insurance Regulatory Authority of Kenya (IRA) has worked extensively with the World Bank Group, local insurers, reinsurers, and farmers to pilot various programmes. With the help of the World Bank, the IRA was able to make legislative amendments to enable provisions for issuing regulations relating to index-based insurance contracts. Kenya currently offers index insurance contracts that cover maize, beans, wheat, sorghum, coffee, potatoes, and livestock.[73] The contracts use various parameters, including a weather station-based index, area yield index and satellite-based index for drought, excess rain, and diseases.[74]

3.2 Role of the World Bank Group GIIF

The IRA in Kenya approached the GIIF seeking assistance in the form of financing, technical and human resources, and a review of the legal and regulatory framework.[75] The GIIF assisted the IRA with the restrictive regulations that were a hurdle to developing micro-insurance and index-based insurance markets.[76] The review process led to the GIIF working with the IRA in developing new legislative provisions relating to index-based insurance. Before drafting the new framework, the GIIF was extensively involved in the pilot projects to test the viability of the programmes, including those for product design, distribution channels and assisting with financing. The GIIF remains involved in Kenya's adoption of the microinsurance and index-based insurance markets.

The essential features of the product design that were identified are:[77]

i. The rainfall measurement must be objective to ensure a credible index

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[73] International Finance Corporation, "Kilimo Salama - Index-based Agriculture Insurance: A Product Design Case Study. Washington, DC. © International Finance Corporation", (2015) https://openknowledge.worldbank.org/handle/10986/21682 accessed 5 March 2022.
[74] Ibid.
[75] https://www.indexinsuranceforum.org/project/legal-and-regulatory-assistance-kenya accessed 13 April 2022.
[76] Ibid.
[77] Kenya Insurance Regulatory Authority, "The Kenya Index-Based Insurance Policy Paper" (2015).

ii. Establishment of a distribution channel that facilitates financial inclusion and transformation
iii. Inclusion of mobile banking to facilitate delivery for the underserved
iv. Short-term profitability is not the primary objective of the product
v. Consumer education programmes

The sections that follow look at the pilot projects that the GIIF worked on in Kenya, the policy paper based on information gathered from the pilot projects and the new index-based insurance regulatory framework in Kenya.

3.3 Types of index-based insurance in Kenya

3.3.1 *Kilimo Salama*

Kilimo Salama, Swahili for "safe agriculture", was launched in 2009 in a collaborative effort by the GIIF, the Syngenta Foundation for Sustainable Agriculture (SFSA), AUP Insurance Company and Swiss Re.[78] In 2014, *Kilimo Salama* became an authorised registered company named Agriculture and Climate Risk Enterprise (ACRE). The product initially aimed at providing index-based microinsurance to small-scale maize and wheat farmers, while crops and livestock were added later. *Kilimo Salama* monitors weather stations to set the index and to monitor when the index falls below the specified minimum threshold. The index combines weather station statistics, area yield data and high-resolution satellite data. Historical rainfall patterns of specific regions are used when determining the index. Policy benefits are determined by the amount of rainfall during the planting season, as opposed to traditional indemnity insurance, which indemnifies the policyholder after the harvest season based on damage to the crop.[79]

Premiums and policy benefits are calculated by comparing the index to actual data. The premiums are further based on the records of drought frequency in the country. The data collection and assessment process is automated to ensure consistency across all regions.

[78] Mohtasin F, "A case study on disaster insurance in Kenya" *Research in Agriculture, Livestock and Fisheries* 2021 (Vol.8 no.1), 57-64 at 63 https://doi.org/10.3329/ralf.v8i1.53268 accessed 2 March 2022.
[79] Ibid.

To facilitate inclusion and make the product easily accessible, payments are made using the mobile money network in Kenya, M-PESA. This enables policyholders with no bank accounts to pay their premiums and receive their policy benefits using mobile money. The project's success is primarily attributed to the innovative manner of facilitating premiums and policy benefit payments.

3.3.2. Kenya Livestock Insurance Program (KLIP)

The Ministry of Agriculture, Livestock and Fisheries launched KLIP in October 2015 in collaboration with the World Bank Group and the International Livestock Research Institute (ILRI).[80] The product is based on the index-based livestock insurance programme that the ILRI developed in 2009, which aims to indemnify cattle farmers.[81] The GIIF provided a grant for October 2010 – June 2013, when the product was piloted. The farmers who were part of the pilot were not required to pay any premiums.

The product uses satellite data to monitor grazing land in the specified region and pays out to policyholders based on the index threshold. [82] The indemnification amount is determined before the policy is entered into by quantifying the index threshold.

The pilot stage identified a lack of adequate policy benefits and a lack of product awareness resulting in low adoption rates. These factors limited the product's uptake.

3.3.3 Area Yield Index Insurance (AYII)

The AYII was first launched on March 2016 by the Kenyan Government in partnership with the private sector and was mainly targeted at semi-commercial maize farmers.[83] Unlike the KLIP, AYII pilot stage premiums were subsidised by 50% only.[84] Under AYII, insurers were required to identify units of farmland where the annual yield was expected to reach the pre-determined threshold, as informed by research.

[80] Ibid at page 60.
[81] Ibid.
[82] Ibid at page 61.
[83] Ibid at page 62.
[84] Ibid.

Indemnification of policyholders was then triggered when the farm area unit yield did not reach the minimum threshold.

The major limitations identified were a lack of awareness leading to low adoption rates and group policies, which do not account for failure in a specific individual's output.[85]

3.4 The Kenya Policy Paper[86]

Following intensive consultations with the GIIF, the Kenya IRA produced the Draft Kenya Index-based Insurance Policy Paper (Policy Paper) in 2015. This sought to (1) highlight the need for index-based insurance, (2) discuss the legal, regulatory and design issues to be considered, (3) put forward the objectives of an index-based insurance policy framework and (4) provide recommendations on how best to implement the framework. The Policy Paper gave a high-level overview of how insurance contracts differ from non-insurance risk transfer contracts such as derivatives. Insurance contracts require a link between the insured event and the policyholder, which can be described as the insurable interest. The Policy Paper was a stepping stone to amending the Kenya Insurance Act to make enabling provisions for implementing the relevant regulations.

The main objectives of the Policy Paper were (1) to make a case for establishing an index-based insurance regulatory framework, (2) to reduce the legal and regulatory risks by making a clear distinction between index-based insurance and traditional indemnity insurance and (3) to set clear requirements to assist insurers with their product design. Additional objectives included making provisions for prudential regulation to ensure that insurers meet their obligations and that there is fair treatment of customers.

The Policy Paper proposed that well-designed index-based contracts can meet the *essentialia* of insurance contracts. The product design process, therefore, needs to consider the challenges faced from the legal, regulatory, and supervisory perspectives. A well-drafted contract will also assist in avoiding interpretation issues

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[85] Ibid.
[86] Supra Note 62.

should there be a legal dispute based on the contract's content. The following possible legal risks were outlined:

i. Policyholders may be dissatisfied with the mismatch between their loss and the policy benefits from the insurer
ii. The contract does not fall within the confines of the definition of insurance and will therefore be unenforceable
iii. Individuals who are without an insurable interest but want to take out a policy
iv. What would qualify as an insurable interest for a policy for a group such as a co-operative?

From a regulatory risk perspective, the Policy Paper cited the following risks to be considered:

i. Index-based insurance not falling within any of the classes of business for which the insurer is licensed/authorised.
ii. Distribution channels not permitted by the regulator.
iii. The regulator not approving the payment method, thus limiting the product's design flexibility.
iv. Technical provisions applicable to insurers in terms of legislation not allowing for the financial risks associated with the provision of index-based insurance.
v. Market conduct requirements not being sufficient for the protection of policyholders.

The Policy Paper highlighted the importance of ensuring a balance between mitigating regulatory risks and ensuring that compliance costs do not become too expensive for insurers.

In addition to the legal and regulatory risks, the Policy Paper further outlined the key challenges encountered in designing index-based insurance contracts. These challenges can be summarised as follows:

i. The existence of basis risk.
ii. Lack of adequate data to create a credible index.
iii. Automating data monitoring to ensure the integrity of the information from the weather stations.
iv. Customers not understanding the product.

v. The frequency of policy pays outs
vi. The valuation method and capital requirements for index-based insurers might not accurately reflect the nature of the risks
vii. Due to the distribution channels that will be used for index-based contracts, the current regulations to sell insurance through licensed insurers and agents might not be applicable.

Regarding basis risk, the Policy Paper proposed that this can be minimised by using claims assessment as a fall-back approach. It was argued that this approach could help ensure that the index is more credible in the long term. However, the short-term effect would be increased premium costs for the policyholder due to increased operational costs for the insurer. The Policy Paper further suggested using a hybrid index that considers more than one specific index to ensure increased accuracy and provide more trigger points.

The Policy Paper also provided recommendations for establishing the regulations relating to index-based insurance and a framework that would inform the issuance of guidance notes and circulars on index-based insurance. The key recommendations were as follows:

i. Index-based insurance should be sold as fixed-sum insurance as its fundamental features could never fall within the scope of traditional indemnity insurance. The contract can specify the maximum assured amount, and the payments can reflect the different index triggers. The Policy Paper emphasised that the amount should not be determined by the regulations as that would be too restrictive. To this extent, the contract should not purport to provide indemnity to the policyholder so as to avoid any confusion, and the maximum assured sum should accurately reflect the risk posed by the policyholder and the likelihood of the insured event;
ii. The concept of insurable interest in index-based insurance should go beyond economic interests. A policyholder would merely have to show that the occurrence of the insured event would result in adverse effects for them (e.g., institutions providing loans to farmers can take out a policy against loss of farmers' livestock);

iii. The insurer should obtain the regulator's approval before providing index-based insurance products. The applications must adhere to the set guidelines, include an actuarial report on how the insurer intends to minimise basis risk and details on marketing information;

iv. There should be no prescribed premium, and insurers should be able to underwrite policies as they deem fit;

v. Insurers should be prohibited from cancelling policies or requesting additional premiums for the policy to remain in force. However, the insurer should be allowed to decline the renewal of policies should they determine that the risk is no longer acceptable;

vi. The insurer should have a clear eligibility criterion for purchasing the product and should ensure that at the sale stage, the product is not sold to ineligible parties;

vii. There should be no waiting periods;

viii. Grace periods should not apply to index-based insurance contracts. Neither party to the contract should be allowed to cancel the contract once it is in force;

ix. An insurer should provide information on the data used to determine the index;

x. The index must be measurable and readily observable, transparent, and independently verifiable;

xi. Since the index is accessible to the insurer, the payments should be made without the policyholder instituting a claim;

xii. The policy should make provisions for dispute resolution;

xiii. Index-based insurance should be categorised as a stand-alone class of business;

xiv. Commission caps should reflect the costs of distribution;

xv. Index-based insurance products may be bundled with other types of products;

xvi. Index-based insurers should have their own set of capital requirements which take into account the nature of the product;

xvii. The policy must stipulate the premium collection frequency, and policyholders should not face unreasonable barriers upon the expiration of the policy; and

xviii. The marketing material should clearly explain basis risk, the risk insured, and clearly state that the contract is not one of indemnification, explain the index and how it was calculated and state the eligibility criterion.

3.5 A new dawn: Amendment to the Kenyan Insurance Act and new Index Insurance Regulations

The Kenyan Insurance (Amendment) Act, 11 of 2019 and Index Insurance Regulations, became effective on 23 July 2019. Section 2 of the Insurance Act was amended to include a definition for Index-Based Insurance. This amendment was directed at creating an enabling provision for issuing regulations relating to index-based insurance. In addition, section 203, which sets out the provisions for the settlement of claims, was amended to include subsection 1A, which exempts index-based insurance claims from the provisions of the section. Prior to these amendments, index-insurance products were classified as "Miscellaneous" under the class of business requirement.

Concerning insurable interest, regulation 4(2) of the Regulations states that a person will be considered as having an insurable interest where they may incur economic loss, or property damage. It also includes the costs of mitigating the impact of the insured risk. Regulation 4(3) states that the policyholder need not be the insured property owner to have an insurable interest.

The Regulations make provisions for a product design criterion under regulation 6. The regulation states that the insurer should minimise basis risk, ensure the contract is fair and provides value to policyholders, specify the maximum sum assured, and ensure that exclusions are appropriate.

3.6 Conclusion

The Kenyan research and the Insurance (Amendment) Act could be used to understand and develop the necessary amendments to the South African legal, regulatory, and supervisory framework. South Africa could also draw on Kenya's experiences to identify limitations during the product design stage. This will ensure that products not only adequately protect policyholders' interests but it will also highlight the specific risks faced in South Africa. It is also evident that fintech in Kenya played a considerable role in providing an affordable and easily accessible distribution channel for insurance products, thus promoting financial inclusion.

CHAPTER 4: SOUTH AFRICA'S INSURANCE LEGISLATIVE FRAMEWORK AND CHALLENGES OF INDEX-BASED INSURANCE

4.1 Introduction

South Africa adopted the Twin Peaks regulatory framework in 2017 through the promulgation of the Financial Services Regulation Act ("FSR Act).[87] Implementing Twin Peaks required revision of existing legislation to address ambiguities and to distinguish between regulators looking after prudential oversight and those looking after market conduct. As a result, what was previously known as the Financial Services Board ceased to exist and gave way to the Prudential Authority ("PA") and the Financial Sector Conduct Authority ("FSCA").

Both prudential and market conduct regulations govern the insurance framework. Insurers and insurance products and/or services must comply with legislation under both peaks. This chapter analyses the current legislative framework in relation to the relevant index-based insurance challenges identified in the A2ii surveys.

4.2 The overarching legislation: FSR Act

In its preamble, the FSR Act seeks to establish (1) the PA and FSCA, (2) preserve and enhance financial stability, (3) regulate and supervise financial products and service providers, and (4) provide for the drafting of regulatory instruments. The regulations of the FSR Act refer to prudential standards (issued by the PA), conduct standards (issued by the FSCA) and joint standards (issued by both authorities). Schedule 2 of the FSR Act determines which authorities are responsible for the various financial sector laws. From an insurance perspective, the PA is the responsible authority for the Insurance Act, while the FSCA is the accountable authority for the STIA and the FAIS Act. Once promulgated, the COFI Bill will repeal both the STIA and FAIS Act.

4.3 Prudential Regulation

The PA was established under section 32 of the FSR Act. In terms of section 33 of the FSR Act, the PA's objectives include the promotion and enhancement of the safety

[87] 9 of 2017.

and soundness of financial institutions, assisting in the maintenance of financial stability and protecting customers against the risk of financial institutions failing to meet their obligations.

4.3.1 Insurance Act

The Insurance Act was promulgated in 2017 and provides for prudential regulation and supervision of the insurance market. In terms of section 3, the objectives of the Act are to "promote a fair, safe and stable insurance market" and to monitor the safety and soundness of insurers, enhancing policyholder protection, increase access to insurance, promoting transformation, and contribute to the stability of the financial system. The Insurance Act repealed certain parts of the STIA that referred to prudential matters.

All insurers operating in South Africa must be licensed in terms of Chapter 4 of the Insurance Act and may only conduct insurance business that can be classified under one of the classes of insurance business in terms of Schedule 2 of the Act. Table 2 of Schedule 2 outlines the classes and subclasses for non-life insurance business. Although agriculture is included as an insurance class, index-based insurance is not. This can be attributed to the definition of non-life insurance under section 1, which states that:

> *"non-life insurance policy means any arrangement under which a person, in return for provision being made for the rendering of a premium to that person, undertakes to meet insurance obligations that fully or partially indemnifies loss on the happening of an unplanned or uncertain event".*

An insurer's insurance obligations that arise from an insurance policy may be in the form of an obligation to pay a sum of money or to render a service. As such, index-based insurance cannot be classified under the Insurance Act because, under those contracts, the insurer is under no obligation to indemnify the policyholder for losses incurred if the index is not triggered. The definition of non-life insurance also reflects the *essentialia* of insurance contracts discussed in paragraph 2.4 of Chapter 2. It is thus clear that in the absence of payment of a premium, indemnification, and an uncertain event, the contract will not be classified as a non-life insurance contract. It is evident from the definition that indemnification is the cornerstone of non-life insurance under South African insurance law.

4.4 Market Conduct Regulation

The FSCA was established in terms of section 57 of the FSR Act. The FSCA is tasked with enhancing and supporting the financial market efficiency and integrity, protecting customers by promoting the fair treatment of customers, financial education programs, financial literacy and assisting in maintaining financial stability. The current market conduct legislation is fragmented, although work is currently being done on the Conduct of Financial Institutions Bill (COFI Bill), which seeks to consolidate market conduct legislation.

4.4.1 FAIS Act

The FAIS Act was promulgated in 2002 and came into full effect in 2004. As stated in its preamble, the Act aims to regulate the rendering of financial services by means of advisory services and intermediary services. The Act applies to registered financial services providers (including insurers), insurance agents, brokers, and representatives. The bulk of the market conduct regulations is linked to the FAIS Act. The FAIS Act governs the authorisation of financial services providers by providing for application for authorisation and by requiring continued compliance with the set fit and proper requirements post-authorisation. In addition to being licensed under the Insurance Act, insurers must be authorised as financial service providers under the FAIS Act.

There are several forms of subordinate legislation to the FAIS Act, the most notable being the “General Code of Conduct for Authorised Financial Services Providers and their Representatives” (as amended). The Code sets out specific duties for the insurers and their agents, particularly concerning their conduct when furnishing advice or rendering intermediary services. Another critical piece of subordinate legislation is the “Determination of the Fit and Proper Requirements for Financial Service Providers, 2017” (Board Notice 194 of 2017). This sets out the fit and proper requirements (honesty and integrity, competency, operational ability, and solvency) for financial services providers and their representatives.

Insurers wishing to provide index-based insurance products will need to ensure that along with being classified under the Insurance Act, the products will also need to fit into the categories, subcategories and classes of business as listed in Board Notice 194. As it stands, index-based insurance is not provided for in the legislation but could potentially be classified under the miscellaneous policy provisions, should there be an enabling provision that allows for insurers to sell these products.

4.4.2 STIA

The promulgation of the Insurance Act resulted in the prudential aspects of the STIA being repealed. The STIA though still provides for market conduct matters and operates alongside the Insurance Act. The STIA defines a premium as consideration given in return for an undertaking to provide policy benefits. Policy benefits refer to the sum of money or benefits to which the policyholder is contractually entitled under a non-life insurance policy. As in the discussion under the Insurance Act, these definitions are not aligned with the features of index-based insurance as policy benefits are not guaranteed, and payment thereof is based upon the index being triggered.

The Policyholder Protection Rules (PPRs) of 2017 were implemented under the STIA, with the latest draft updates being published for comment in July 2021. The PPRs make provision for the following: fair treatment of policyholders (chapter 2 of the PPRs), product design (Rule 2 and Rule 2A, where the policy is classified as microinsurance), advertising and disclosure (Rule 10 and 11, respectively), intermediation and distribution (Rule 12), product performance (Chapter 6) and unreasonable post-sale barriers (Chapter 7). Rule 6 covers the determination of premiums and states that the premium payable must balance the insurer's interests and the reasonable benefit expectations of a policyholder based on realistic assumptions that the insurer believes are likely to be met over the term of the policy. In the context of index-based insurance, this last requirement does not create much of a barrier, considering that the index would be based on historical data and would be a fair representation of what could be realistically expected to occur within the specified area.

The basis risk associated with an index-based insurance product, however, is problematic in the context of the PPRs, as basis risk does not meet the requirement of fair treatment of customers.

The FAIS Act and the STIA are set to be repealed when the COFI Bill comes into effect. The Bill is set to consolidate the fragmented market conduct framework into one comprehensive piece of legislation.

4.4.3 COFI Bill

The first draft of the COFI Bill was published for public comment in December 2018 and was accompanied by a comprehensive explanatory policy paper. Following robust industry interactions, the second draft of the Bill was published in September 2020. It is stated that the Bill forms part of the revised legal framework and aims to streamline the market conduct requirements by consolidating the fragmented market conduct laws. The Bill is geared to build a consistent, robust, and effective legislative market conduct framework for all licensed financial institutions. Furthermore, it is envisaged that customers will benefit from a strengthened market conduct framework as the Bill will improve transparency in the sector. The COFI Bill completes the second phase of the Twin Peaks strategy and is the final milestone for Treating Customers Fairly (TCF) by making the TCF principles legally binding and enforceable. The six TCF principles are:

> *"Outcome 1 - Customers are confident that they are dealing with firms where the fair treatment of customers is central to the firm culture.*
>
> *Outcome 2 - Products and services marketed and sold in the retail market are designed to meet the needs of identified customer groups and are targeted accordingly.*
>
> *Outcome 3 - Customers are given clear information and are kept appropriately informed before, during and after the time of contracting.*

Outcome 4 - Where customers receive advice, the advice is suitable and takes account of their circumstances.

Outcome 5 - Customers are provided with products that perform as firms have led them to expect, and the associated service is both of an acceptable standard and what they have been led to expect.

Outcome 6 - Customers do not face unreasonable post-sale barriers to change product, switch provider, submit a claim or make a complaint."[88]

In its preamble, the Bill aims to protect financial customers by promoting fair treatment to ensure trust and confidence in the sector. The Bill further purports to support a fair, transparent, and efficient financial sector while supporting innovation and the development of innovative technologies, processes, and practices. Sustainable competition, financial inclusion and transformation are also addressed in the preamble. The Bill aims to achieve a "consolidated, comprehensive and consistent regulatory framework" that will also aid the FSCA in carrying out its objectives and functions as per sections 57 and 58 of the FSR Act. The COFI Bill seeks to be easy to understand and free of complexities.

Once the COFI Bill comes into effect, insurers will need to be licensed under both COFI and the Insurance Act.

4.5 Application of the A2ii survey in South Africa

As highlighted in Chapter 2, A2ii published the "Index Insurance: Status and Regulatory Challenges"[89] (2017 survey) paper. The paper was based on a study conducted in 2017 and sought to review the supervisory and regulatory challenges faced by insurance supervisors in implementing index-based insurance products. This was followed by the "Index Insurance: 2020 Status and Regulatory Challenges"(2020 survey) paper, which was based on a study that sought to provide an overview of how

[88] Financial Services Board, Republic of South Africa, "Treating Customers Fairly. The Roadmap", in Financial Services Board Policy Document, Financial Services Board, 31 March 2011, 7.
[89] Supra Note 15.

supervisors have been addressing the identified challenges. South Africa was one of the jurisdictions that formed part of the survey.

The 2017 survey highlighted prudential and market conduct risks stemming from index-based insurance. This section will only highlight the risks that were considered significant. These can be summarised as follows:

4.5.1 Prudential Risks

Underwriting Risk: the possibility of premiums being set too high, which could reduce value to the client and/or result in low product take up, thus affecting profitability and viability. On the other hand, underwriting risk may result in premiums that are too low, resulting in insurers withdrawing from the index-based insurance market and reinsurers declining to provide policy benefits. Underwriting risk could stem from inadequate data, lack of actuarial and technical capacity of insurers, and higher sales costs resulting from poor distribution channels. According to the survey, this was highlighted as a significant risk by three supervisors that took part in the survey.

The survey results showed that five supervisors considered legal and regulatory risks as significant. These risks were classified as the most important, followed by basis risk. The supervisors highlighted that their concerns stem from the fact that index-based insurance contracts might not even be legally classified as insurance due to their unique characteristics. Insurers and insurance supervisors could explain these concerns as a result of not having an index-based insurance regulatory framework to provide guidance and the lack of enabling provisions in legislation as the product is still relatively new. The survey cited that legal and regulatory risks can be minimised by using pilot projects for testing product design, how to incorporate index-based insurance optimally into the regulatory framework, and how to develop the regulatory framework for index-based insurance. It was stated that most projects do not go beyond the pilot stage due to poor product design, failure to prove commercial viability, high basis risk, limited data available for a credible index, little knowledge of index-based insurance contracts, increased premiums, and lack of suitable distribution channels.

4.5.2 Market Conduct Risks

Basis risk was one of the significant risks identified under market conduct. As highlighted in Chapter 2, basis risk may be adverse or perverse. With adverse basis risk, the policyholder incurs a loss but receives no policy benefits due to the index not being triggered. Perverse basis risk would exist where the policyholder receives policy benefits without incurring a loss. The survey highlighted that basis risk might be due to the index not being aligned to the losses, variations of weather stations not being accounted for in the index and lack of alignment between crop season and period of insurance. A potential impact identified by the survey was that the policyholders might suffer severe hardship from not receiving any indemnification when they have incurred a loss.

On the other hand, receiving a policy benefit without incurring a loss could create unrealistic expectations for the future, and policyholders could lose faith in the product. The survey cited that basis risk becomes a more significant concern where the product is sold as a form of indemnity insurance, as this would suggest that indemnification under the contract is linked to the loss incurred. It was further stated that selling the product as a fixed-sum contract would shift the focus from whether the index is a good proximation of loss to whether the index is a credible predictor of loss.

Due to the product's infancy, there was no data available at the time the survey was conducted to assess the significance of policyholder value risk and policyholder understanding risk. Policyholder value risk is the risk of poor value outcomes for policyholders, while policyholder understanding risks is the risk that the policyholders do not understand the product. The researcher believes these should be considered significant risks in the South African context as these would determine the level of demand for the product.

On the question of reinsurance, the 2017 survey found that the reinsurer's interests are not necessarily aligned with those of the domestic policyholder or insurer.

In the 2017 survey, one of the supervisors highlighted the fact that index-based insurance in their jurisdiction is also sold as a business interruption cover to make provision for losses beyond crop or livestock loss.

The 2020 survey indicated that at the time of the survey, five African jurisdictions offered index-based insurance products, with Kenya being the most established. The survey showed that the significant issues were the similarity of the products to weather derivatives and the concept of indemnification in insurance law. The survey results indicated three stages in the process of implementing index-based insurance. Firstly, the approval of an initial regulatory framework for index-based insurance followed by several pilot projects to aid with the finalisation of the framework and lastly, the issuance of a legal opinion supporting index-based insurance products based on the existence of an insurable interest at the time the contract is entered into. As indicated in the previous chapter, Kenya successfully moved from the pilot project stage to approving a regulatory framework for index-based insurance. The survey briefly references the South African regulatory sandbox currently underway for index-based insurance contracts and highlights that the Insurance Act does not cover index-based insurance. It is presently considered a derivative instrument.

Similar to the 2017 survey, the 2020 survey indicated that basis risk (specifically adverse basis risk), legal risk and regulatory risk were still considered significant challenges. However, the most critical risk in the 2020 survey was inadequate data to develop a credible index. Lack of prudential rules, lack of insurers capacity and supervisory capacity also emerged as significant risks in 2020.

4.6 Conclusion

Based on the results of the surveys conducted by A2ii and the definitions stated above from the relevant legislation, it is evident that the major hurdles for South Africa are the lack of enabling provisions in our legislation and the existence of basis risk. Based on the *essentialia* discussed in Chapter 2 and the definition of non-life insurance outlined in this chapter, it is clear that indemnification forms the basis of insurance. Adopting index-based insurance products is impossible without the necessary enabling statutory provisions, particularly relating to the definition of non-life insurance.

Developing a credible index is essential to curb basis and underwriting risk, as was highlighted above. Policyholder value risk and policyholder understanding of risk could be addressed through consumer education programmes once the necessary enabling provisions are approved.

CHAPTER 5: A CASE FOR SOUTH AFRICA

5.1 Introduction

In this chapter, the researcher seeks to analyse whether it is possible to effectively introduce index-based insurance by mitigating the risks and challenges in South Africa. Chapter 5 uses Chapters 3 and 4 as the foundation upon which a case will be made for index-based insurance in South Africa. This includes making proposals for overcoming the risks and challenges. This chapter will also assess the prospects of implementing the recommendations made by the Kenya Policy Paper within the South African context.

5.2 The South African Dream: Inclusion, Access, and Transformation

In a policy document, "*A safer financial sector to serve South Africa better*"[90] (2011 Policy Paper), National Treasury outlined specific proposals to promote sustained economic growth and development, which included financial stability and financial inclusion. The policy document proposed that financial inclusion encompasses access to financial services by the poor, vulnerable and those in rural areas and is a key policy priority. Section 1 of the FSR Act defines financial inclusion as *"all persons have timely and fair access to appropriate, fair and affordable financial products and services".*

In 2020, the National Treasury published another policy document entitled "*An inclusive financial sector for all – Draft for consultation*"[91] (2020 Policy Paper). The purpose of the 2020 Policy Paper was to establish a framework for financial inclusion in South Africa to ensure the delivery of affordable financial services to the "historically excluded or underserved by the formal financial sector". Priority 6 of the 2020 Policy Paper was to promote appropriate, affordable, and quality insurance by conducting demand-side research to understand the current impediments in the market's uptake of insurance products. These impediments may relate to product suitability,

[90] National Treasury Policy Document: A safer financial sector to serve South Africa better, December 2011 http://www.treasury.gov.za/twinpeaks/20131211%20-%20item%202%20a%20safer%20financial%20sector%20to%20serve%20south%20africa%20better.pdf accessed 3 March 2022.
[91] National Treasury Policy Document: An inclusive financial sector for all – Draft for consultation, 2020 http://www.treasury.gov.za/comm_media/press/2020/Financial%20Inclusion%20Policy%20-%20An%20Inclusive%20Financial%20Sector%20For%20All.pdf accessed 31 August 2022.

affordability, and bottlenecks in the distribution channel. Priority 6 further proposed an assessment of the market conduct requirements and the development of simplified product standards that would target low-income markets, which would be provided for under the new framework on microinsurance. To this end, the South African Insurance Act makes provision for microinsurance as a license category. This was subsequently followed by amendments to the PPRs to include Rule 2A, which makes specific provisions for the fair treatment of microinsurance policyholders.

In the Microinsurance Policy Document,[92] National Treasury highlighted the promotion of better access to affordable insurance as one of the features that need to be addressed in the insurance market. In its preamble, the Insurance Act states that it aims to introduce a legal framework for microinsurance to promote financial inclusion. Thus, the inclusion of the microinsurance framework in the Insurance Act and the rules under Rule 2A of the PPRs indicate that adopting new insurance products and approving legislative amendments to aid the adoption, is possible. Index-based insurance offers an alternative form of insurance to farmers apart from the traditional agricultural insurance currently being provided.

The FSCA Financial Inclusion Strategy (Strategy)[93] highlights the idea that financial inclusion involves access to financial services, improving the usage of financial services and ensuring that the products and services are of superior quality. The Strategy defines access as the ease of obtaining financial services, either physically or electronically, and includes affordability. Usage was defined as the appropriateness of the product, while quality was defined with reference to consumer experience, fair customer treatment, and financial literacy.

As demonstrated by Kenya, using fintech as a distribution channel and platform for paying premiums and policy benefits was a contributing factor to the success of *Kilimo Salama*. Anyone with access to the M-PESA mobile money network is able to buy the product. This is particularly beneficial in rural areas where there might not be any insurers close enough to where the policyholders live or where potential policyholders

National Treasury Policy Document: The South African Microinsurance Regulatory Framework", July 2011.

[93] https://www.fsca.co.za/Documents/FSCA%20Financial%20Inclusion%20Strategy.pdf accessed 31 August 2022.

do not have bank accounts. Banks in South Africa have the capacity to facilitate fintech innovations similar to M-PESA and do currently have a few operational providers, such as MTN Mobile Money. The use of mobile money networks to provide access to index-based insurance products would be aligned with the FSCA Financial Inclusion Strategy, which aims to promote financial inclusion in the financial sector. Policyholder educational programmes will be essential and should be established through a collaborative effort between insurers and regulators.

5.3 Market Conduct Considerations

The TCF framework is at the core of market conduct regulation. In providing index-based insurance, insurers must ensure that they adhere to the TCF principles, and this will be more so once COFI Bill is in effect. To ensure compliance with TCF principles, consumer education programmes will be essential. These will enable consumers to determine whether index-based insurance products are suited to their needs and will assist them with understanding basis risk and how the index was developed. Understanding how the index was developed will enable policyholders to be confident that they will receive fair treatment from the insurers. Clear and understandable product information is key.

5.3.1 Basis Risk

Basis risk is viewed as one of the significant risks of index-based insurance products. Basis risk, specifically adverse basis risk, can be mitigated by ensuring the integrity of the data collected to determine a credible index. This could also be achieved by lowering the trigger point or having various trigger points, with each point determining the amount that would be paid to the policyholder. Consumer education is necessary to ensure that the policyholders understand that the index does not serve as a proxy for actual loss incurred and that while index-based insurance does provide some form of compensation, this should not be confused with indemnification. To this end, the researcher agrees with the Kenya Policy Paper recommendation that the marketing material should clearly explain the contract, basis risk, and the risk insured. It should clarify that the contract is not an indemnification of the loss suffered. To avoid issues of basis risk, the index-based insurance contract can be classified as a valued insurance policy or as a fixed-sum insurance whereby the policyholder agrees on the compensation amount at the time the contract is concluded. The fixed sum should be determined in relation to the index and the premiums payable under the insurance contract. Lastly, bundling index-based insurance with traditional agricultural insurance can mitigate the effects of basis risk. However, the disadvantage to bundling products is that it could result in higher premiums for policyholders and thus make the product less attractive.

5.3.2 Waiting Periods

The Kenya Policy Paper recommended that there should be no waiting periods for index-based insurance contracts. The researcher disagrees with the recommendations and advocates for provisions similar to Rule 2A.6.4 of the PPRs, which gives instances where the insurer may not impose a waiting period. For index-based insurance, the researcher proposes that no waiting period should be set where the policyholders can confirm that they had previously been policyholders of agricultural insurance (either traditional or index-based) at least 31 days before entering into a new index-based policy with the new insurer.

5.3.3 Premiums

Rule 6 of the PPRs already makes provisions for the determination of premiums. Rules 6.1 provides that the premium payable must reflect the interests of both the insurer and the reasonable benefit expectation of the policyholder and should be based on realistic assumptions that the insurer believes they are likely to meet over the contract term. The Kenya Policy Paper recommended that the regulatory framework should not prescribe the premiums and that the frequency of premium payment should be stipulated in the policy. The provisions of the PPRs sufficiently cover this recommendation. Since the regulators do not prescribe premiums in South Africa, the policy should clearly explain how the premiums are determined based on the index.

5.5 Prudential Considerations

In the South African context, the main obstacle to adopting index-based insurance remains the definition of non-life insurance in the Insurance Act. The definition provides that there must be full or partial indemnification. The contract will not fall within the ambit of the Insurance Act where there is no indemnification, or the policyholder is over-indemnified. As discussed under Chapter 2, such contracts will be classified as derivatives regulated by the Financial Markets Act or, in terms of common law, as a wager. Therefore, an amendment to the non-life insurance definition is required to ensure that index-based insurance falls within the insurance framework. This would address the legal and regulatory risks identified in the A2ii survey, as discussed in Chapter 4.

Underwriting risk was identified in Chapter 4 as one of the potential risks. As is the case with basis risk, a credible index would assist insurers in pricing their index-based insurance products appropriately.

5.6 Conclusion

Introducing index-based insurance contracts will lead to legal, regulatory, and supervisory challenges for South Africa. Given the country's policy objective of inclusion in the financial sector, it is evident that the adoption of index-based insurance will assist in delivering on the policy imperative. South Africa has a well-established and comprehensive insurance legislative framework capable of being amended to provide for the possibility of index-based insurance products. The country also has advanced technological skills and infrastructure to accommodate the digital distribution channels that would be required.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The insurance industry was an early adopter of the fintech innovations that have taken the financial sector by storm. Index-based insurances are one such innovation. The problem statement of this study was that there are currently no index-based insurance products in South Africa owing to the lack of enabling provisions in legislation. This study's objective was to understand the intrinsic features of index-based insurance and its challenges and assess whether it is possible to adopt index-based insurance products within South Africa's current insurance legislative framework. The section that follows will provide a summary of the findings.

6.2 Summary of findings

In understanding the features of index-based insurance products, Chapter 2 showed that index-based insurance is a new and innovative approach to insurance in terms of which payment to policyholders is triggered by a pre-agreed index and is a pre-agreed amount. The Chapter highlighted that although the product provides some form of compensation, this should not be confused with indemnification. Unlike traditional indemnity insurance, index-based insurance has no individual risk assessment to determine premiums and no claims stage, therefore eliminating the need for loss assessment. Alternative forms of insurance, namely contingent and valued insurance policies, were identified. The Chapter further outlined the insurance contract *essentialia* as they relate to non-life and index-based insurance. This led to the conclusion that a contract that does not meet the insurance contract *essentialia* will be classified as either a wager or a derivative.

It was found that restrictive legislative provisions remain a barrier to adopting index-based insurance in South Africa. However, the IFWG regulatory sandbox project indicates a market for the said products in South Africa. The following is needed to introduce these products in South Africa: A regulatory review process to ensure that parametric products can legally be classified as insurance products. After that, some pilot products are essential to ensure robust product design processes.

Chapter 2 also showed that the commonly used index-insurance products are weather-index-based insurance, area-yield index-based insurance and index-based livestock insurance.

In Chapter 3, it was found that fintech was one of the significant factors that contributed to the success of index-based insurance in Kenya. The mobile money network, M-PESA, is used as the distribution channel for *Kilimo Salama* and thus promotes financial inclusion by providing easy access to insurance. The Chapter also outlined the World Bank Group's significant role in developing Kenya's regulatory framework for index-based insurance. The Kenyan Insurance Act was amended to include an enabling provision for issuing regulations relating to index-based insurance. The key recommendations from the Policy Paper were outlined, and the chapter concluded that these could serve as a basis for understanding and developing the requisite amendments to the South African legislative framework.

In Chapter 4, the current South African legislative framework was discussed. It was found that adopting index-based insurance products is impossible without developing the necessary enabling provisions in legislation. The chapter also found that the FSR Act allows the authorities to issue enabling regulatory instruments as required. The issuing of regulatory instruments will be necessary to build a comprehensive index-based insurance regulatory framework once the enabling provisions in primary legislation have been approved.

The A2ii surveys were also discussed the Chapter 4, and the significant risks from the surveys, as applicable to the South African context, were identified. The risks from a prudential perspective include underwriting risk, legal risk, regulatory risk, a lack of prudential rules on index-based insurance and a lack of insurers and supervisory capacity. From a market conduct perspective, the risks identified were basis risk, policyholder value risk, policyholder understanding risk and inadequate data to develop a credible index.

In making a case for South Africa, Chapter 5 found that the key factors to consider when advocating for the regularisation of index-based insurance are financial inclusion, access to insurance, transformation, and affordability. The Chapter found that on a policy level in South Africa, there is already some alignment with the recommendations made in the Kenya Policy Paper. The biggest challenge remains the lack of enabling provisions and data on basis risk.

6.3 Recommendations

6.3.1 Legal

The need for legal certainty is at the forefront when considering whether index-based insurance can be adopted, more so in a jurisdiction like South Africa, where indemnification is a core feature in the definition of insurance. Although the current legislative framework does not have enabling provisions for index-based insurance products, nothing precludes the drafting of amendments to the legislation, as was done in the case of microinsurance. Including a definition for index-based insurance will assist insurers in their product design so that the contract can be classified as insurance and not as a derivative. The researcher, therefore, recommends that the regulatory sandbox be utilised to find the most suitable way to make the necessary changes. Such changes could then bring the contracts into the insurance framework and avoid issues of unenforceability. A definition for index-based insurance and a supportive regulatory framework could also clear up confusion as to what could be considered an insurable interest for the purposes of the product.

Although index-based contracts may exist outside the insurance framework as wagers and derivatives, they are recommended to be brought into the insurance framework. This will promote inclusivity and access to insurance for underserved communities and facilitate better consumer protection.

The question relating to the legal certainty of index-based insurance contracts becomes moot in the absence of a comprehensive regulatory framework that enables the provision of index-based insurance contracts.

6.3.2 Regulatory

In addition to defining index-based insurance in the primary legislation (Insurance Act), the researcher recommends that the Insurance Act includes index-based insurance as a sub-class to the agriculture class of business or a stand-alone class of business under Table 2 of Schedule 2. As with any other form of insurance, insurers providing index-based insurance should have to apply for and obtain an insurance license in Chapter 4 of the Insurance Act. The insurer would also have to be authorised in terms of the FAIS Act (once COFI is in effect, approval will have to be both under the Insurance Act and COFI). Index-based insurance-specific rules should be included in the PPRs, including rules on determining premiums under index-based contracts. Pending amendments to legislation, regulators could consider issuing exemptions regarding the definition of non-life insurance and the relevant classes of business in Table 2 of Schedule 2 of the Insurance Act to insurers providing index-based insurance. This will ensure that consumers are adequately protected and that insurers will operate within the legislative confines. This will also provide insurers and regulators with the opportunity to examine the effectiveness of index-based insurance products.

In the Kenyan pilot projects, limitations were set on policies. These related to the number of livestock covered under one policy. This low-cost solution might also make way for bundling index-based insurance with traditional insurance to cover livestock beyond the policy limitations. Therefore, the researcher recommends that South Africa adopt the same approach in the preliminary stages of allowing index-based insurance.

6.3.3 Supervisory

Ensuring that index-based insurance supervisors are educated about the products is as essential as educating consumers. Regulators should be sufficiently resourced to supervise index-based insurance providers effectively. To enable effective supervision of index-based insurance providers, supervisory frameworks for licensing and compliance issues will have to be updated.

6.4 Implications for further research

This study focused mainly on the necessary changes to legislation that are required, particularly relating to applicable definitions. As highlighted in Chapter 4, the lack of prudential rules relating to index-based insurance was identified as a challenge. The Kenyan Policy Paper highlighted that the valuation method and capital requirements for index-based insurers might not accurately capture the nature of risks. Those technical provisions applicable to insurers might not align with the financial risks associated with index-based insurance. This makes room for the possibility of studying how the approval of an index-insurance regulatory framework may necessitate a new or updated Framework for Governance and Operational Standard for Index-based Insurers and how to incorporate index-based requirements into the Prudential Standard Framework for Financial Soundness of Insurers. Further research may also be necessary for the actuarial modelling of premiums to accurately reflect the risks of such products in relation to the identified index. Lastly, as technology plays a pivotal role in index-based insurance products, not only for the distribution channel but also for ensuring that the determined index is credible, there is room for studies of the various fintech options available to aid the development and distribution of the product.

6.5 Conclusion

The Insurance Act was promulgated to promote transformation and increase access for all South Africans to financial products, enhance policyholder protection, contribute to financial stability, and preserve insurers' safety and soundness. It is the researcher's view that through adequate research and with the help of pilot projects, insurance law in South Africa should be able to make the necessary amendments to the regulatory framework to enable the provision of index-based insurance, as was done with the microinsurance framework. The short-term costs to insurers should not deter the provision of index-based insurance products. The long-term benefit will be the attainment of the "South African dream", which is the transformation of the financial sector and financial inclusion of the previously underserved. With the increased rate of fintech innovations in South Africa, it should be possible to find a distribution channel that fits not only the insurance regulatory framework but also the financial sector framework in general. Santam's participation in the IFWG regulatory sandbox indicates a willingness from insurers to provide index-based insurance products.

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