



Munich Personal RePEc Archive

**The impact of foreign direct investment
on the development of weather index
insurance for low-income farmers in
Southern Africa**

Mathithibane, Mpho Steve

University of KwaZulu Natal

2021

Online at <https://mpra.ub.uni-muenchen.de/108890/>
MPRA Paper No. 108890, posted 28 Jul 2021 13:20 UTC

The impact of foreign direct investment on the development of weather index insurance for low-income farmers in Southern Africa

Mathithibane, Mpho, Steve

University of KwaZulu-Natal, South Africa

Abstract

This paper investigates the effect of Foreign Direct Investment (FDI) on the growth of agricultural insurance markets for low-income farmers in Southern Africa for the period 2010 to 2020. Agricultural insurance products for low-income farmers are typically based on weather index insurance contracts. These insurance contracts are cost-effective responses to uninsured agricultural risk in developing economies, and are often considered part of effective ex-ante climate change adaptation strategies. The approach followed in this paper is to assess the extent of FDI transactional flows based on a literature review of past and present pilots as well as market-based weather index insurance schemes. The findings revealed that FDI is relatively low to support weather index insurance development and there exists massive scale for expansion and economic growth opportunities. The study advocates for an improved policy environment with a focus on increasing agricultural productivity among low-income farmers while promoting parallel climate change mitigation strategies, this is likely to have spill-over effects on the acceleration and development of appropriate insurance solutions.

Key words: *Foreign Direct Investment, weather index insurance, Southern African Development Community, Southern African.*

Introduction

The Southern African Development Community (SADC) is a regional grouping founded by countries in Southern Africa with the aim to further the socioeconomic, political and security cooperation among its Member States. The member states constitute: Angola, Botswana, Union of Comoros, the Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, United Republic of Tanzania, Zambia and Zimbabwe. Collectively, SADC has an estimated 360 million people. Within these countries, agriculture is a prevalent economic activity to a varying degree and scale. Overall, it contributes 7.3% to Gross Domestic Product (GDP) and it is the largest creator of employment in the region, where 65% and 66% of the labour force in the Democratic Republic of Congo and Zimbabwe respectively are employed in Agriculture (SADC, 2020a).

Africa has a natural competitive advantage in agriculture because of the availability of arable land and the potential of agribusiness (Benin et al., 2010). There is wide recognition that agriculture and rural development must play a central role in economic growth, poverty reduction, and food and nutrition security improvement in Africa (Chakoma & Chummun, 2019). South Africa is the most advanced in terms of industrialisation and mechanisation of agriculture. The country is a major producer of cereal grain crops for export to the rest of Africa. Grain crops are a major staple food in Africa with maize in particular being the second most produced crop in the world and African production is scaling up to meet global current and future food demands for both human consumption and livestock feed (Santpoort, 2020).

Crop production and livestock farming within SADC mainly takes place under rainfed conditions. Due to the high dependency of rainfall, drought has emerged as perhaps the biggest source risk to low-income farmer's welfare, livelihood and production sustainability. Southern Africa is prone to recurrent extreme climatic shocks, and lacks appropriate risk coping and risk mitigating tools. Authors such as Di Marcantonio & Kayitakire (2017); Chummun & Bisschoff (2014); Mahembe & Odhiambo (2013) put forward that the lack of insurance markets for low-income farmers means that there are limited risk transfer mechanisms available both within SADC and the rest of the continent. To solve the problem of uninsured risk which reduced agricultural productivity and intensity, international institutions and governments have looked to weather index insurance as a promising solution to climate risk. It is reported that weather index insurance is possibly the most feasible and appropriate form of agricultural insurance solution for smallholder, emerging and low-income farmers in sub-Saharan Africa (World Bank, 2017). Weather index insurance is designed for low-income farmers, on a cost-effective basis, taking into account structural and infrastructure impediments associated with small-scale farming. It is also a means of savings to enhance financial inclusion (Chummun & Ojah, 2016). The aim of this paper is to investigate the extent of FDI in weather index insurance development through a literature review of past and present pilots and market-based products.

Problem statement

To scale index insurance application and penetration requires expertise in product development, product pricing, and distribution approach, in addition to marketing and education initiatives. The value chain of services from conceptualisation to delivery of weather index insurance programmes requires an integration of key actors: underwriters, climatologists,

agronomists and actuaries. Most often local insurance companies and governments lack the financial and technical capacity to deliver these promising solutions (Di Marcantonio & Kayitakire, 2017). Therefore, the role of FDI inflows with respect to financial support and expertise is vital in developing insurance markets for low-income farmers. FDI inflows in SADC have been on a rapid decline since 2015 (SADC, 2020b). With the decline in FDI, it stands to reason that the agricultural sector is performing below its productive capacity lead by an environment of unmanaged risk as a result of insurance market failure.

Objectives

The aim of this paper is to investigate the extent of FDI in weather index insurance development through a literature review of past and present pilot and market based products in Southern Africa. The main objectives of the study are to:

- Review literature on the extent of FDI in weather index insurance projects.
- To evaluate the impact of weather index insurance in terms of number of farmer beneficiaries in Southern Africa.
- To provide recommendations based on the findings that can scale or continue to support weather index insurance development.

Literature review

Foreign Direct Investment

Inward FDI in Africa was estimated at \$49 billion in 2020, this represents 4% of global FDI (UNCTAD, 2020). An analysis of FDI trends in SADC shows that compared to other regional blocs around the world, SADC struggled to attract inward FDI both from the region and globally mainly due to the cost of finance, unfavourable tax legislation, restrictive macroeconomic policies, red tape in setting up business as well as political risk. In their study, Rashid, Abu Bakar & Razak (2016) examine determinants of FDI in the agricultural sector and find that that poverty levels are the most important factor that foreign investors consider whenever investing in a country. If the poverty level is high by acceptable standards then attracting FDI becomes more difficult. This paints a bleak picture for Africa where extreme poverty is persistent, particularly in sub-Saharan Africa, where close to 350 million were considered extremely poor (FAO, 2017). In Zambia, Malawi and Mozambique, between a quarter and half of the population are classified as chronically undernourished (Oxfam, 2015).

This has a bearing on FDI, over the last five (5) years as reported in Table 1, SADC FDI has declined sharply from high inflows in 2015.

Table 1: Foreign Direct Investment inflows in SADC. (US \$ million). 2015 - 2019

	2015	2016	2017	2018	2019
SADC - FDI	23 206	9 048	236	4 528	5 721

Source: SADC (2020b).

To reduce poverty requires improving farmer resilience, productivity and adaptive capacity to climate shocks which prohibit agricultural expansion. The modern practice to achieve poverty reduction has been the strengthening of climate risk solutions and mitigating strategies. Several important initiatives have been launched by governments and the private sector with increasing interest on weather index insurance as a solution.

Foreign Direct Investment and weather index insurance

Pilot schemes and operational programmes have been initiated within the SADC region for weather index insurance implementation with the aid of international support and finance. There are a number of multi-country programmes and country specific schemes in operation. . In 2011, The United Nations World Food Programme (WFP) and Oxfam America funded by USAID (United States Agency for International Development) and Swiss Re launched R4 Rural Resilience initiative a multi-country comprehensive smallholder risk management scheme which includes weather index insurance for risk transfer in addition to improved natural resource management and access to microcredit. Southern African countries that form part of the programme are Malawi, Zambia and Zimbabwe. In Malawi, the R4 Rural Resilience initiative through the participation of the Adaptation Fund which is largely funded by governments and private donors has committed US\$ 9.9 million for the scale-up of index insurance, expanding the number of beneficiaries from 37 891 to 85 000 (R4 Rural Resilience, 2020). The Green Climate Fund (GCF) one of the largest climate funds which includes international and national commercial banks, multilateral, regional and national development finance institutions, equity funds institutions and United Nations agencies, committed US\$ 8.86 million for the expansion of R4 in Zimbabwe which currently serves 1 651 farmers, allowing it to reach a target of 10 000 vulnerable households. Moreover, GCF also approved WFP’s proposal for the scale-up of R4 in Mozambique to the value of US\$ 10 million (R4 Rural Resilience, 2020). Details of other country specific programmes are as follows:

Malawi

Over the last two decades, Malawi has increasingly been affected by the impacts of more frequent extreme weather events as a result of climate variability and climate change. This has had significant impact on economic activity where agriculture contributes close to 27% of the GDP in Malawi (SADC, 2020b). The World Food Programme, with support from the Government of Flanders in the form of technical and financial support to the value of US\$ 2.2 million, is implementing an Integrated Risk Management Programme, reaching over 40 000 low-income farmers with a wide range of climate-smart interventions including weather index insurance (WFP, 2020).

Mozambique

Hollard Mozambique, though support from the Global Index Insurance Facility (GIIF) developed three index insurance products for maize, cotton, and sesame. The scheme has been supported by strong public-private collaboration, which is critical for creating markets for agricultural insurance. In 2018, the government of Mozambique committed \$1 million for five-years to support premium subsidies. By 2020, the scheme had already provided insurance to around 17 000 farmers and benefitting over 85 000 people indirectly (GIIF, 2020). In 2020, the USAID in collaboration with local and international non-governmental agencies launched a weather-based index insurance scheme which provided protection for 5 000 small-scale producers. In the long-term the programme is expected to benefit approximately 50 000 Mozambican farmers (NCBA CLUSA, 2016).

South Africa

With the exception of the Seychelles - a predominantly tourism based economy, South Africa has the lowest contribution of agriculture to GDP of 1.9%, however, the country remains one of the largest producers and exporters of grain, fruits and beef in Africa. This is an indication of the vastness and diverse nature of the economy of the country (SADC, 2020b). In South Africa the concept of index insurance is still at a developmental stage. The South African Insurance Association (SAIA) and its representative industry members has been working for a number of years to establish a private-public-partnership model with national government for the promotion of index insurance in the country (SAIA, 2020). South Africa is among the few well developed emerging markets where weather index insurance as a climate risk solution remains untested. Index insurance is not mentioned at all in legislation and there are concerns

that the current insurance regulations are not geared for proper supervision and oversight of these products (Musakwa & Odhiambo, 2019).

Tanzania

The agricultural sector in Tanzania is the second largest in Southern Africa in terms of the share of agriculture value added to GDP which is 26.5% (SADC, 2020b). More than 12 pilots and market based projects have been undertaken on index since 2014-2015 in more than 10 regions but none have reached scale (Osumba & Recha, 2019). The largest project was a pilot from 2013-2017 which saw 205 584 farmers supported (GIIF, 2018).

Zambia

Weather index insurance forms an integral part of the strategic objective of improving climate resilience in Zambia and has been implemented since 2013. There are two main insurers that provide index insurance: Mayfair Insurance and Focus Insurance. By January 2018, Mayfair had covered 1 059 214 farmers. While, Focus Insurance with assistance of international consultants developed and implemented a pilot programme which insured more than 10,000 farmers (Mookerjee, 2016). In efforts to further increase penetration of weather index insurance in Zambia, WFP is providing technical support to the national government to improve the design insurance contracts a livestock index insurance product has been launched that is expected to reach an estimated 600 000 farmers across the country (Smeulders, 2021).

Zambia

A weather index insurance product bundled with funeral cover, farming inputs and agronomic advisory services was piloted in Zimbabwe between 2012 and 2018. The project received funding to the value of US\$ 3 million by Swiss Development Cooperation (GIZ, 2017) and over 20 000 farmers subscribed to the programme (FAO, 2018).

Table 2: Summary of inward Foreign Direct Investment

Country	Participants	Value of FDI
Malawi	Adaptation Fund	US\$ 9.9 million
	World Food Programme	US\$ 2.2 million
Mozambique	Green Climate Fund	US\$ 10 million
	GIFF and the national government	US\$ 1 million
Zimbabwe	Green Climate Fund	US\$ 8.86 million
Zambia	Swiss Development Cooperation	US\$ 3 million

Source: various weather index insurance scheme reports

Methodology

This paper is based on a desk top review of FDI reports in SADC, Global FDI reports, policy documents from various government sources and international sources, institutions aligned to promote weather index insurance, insurance companies providing index insurance solutions and reports from past and present weather index insurance schemes. Among such policy documents is the work of the United Nations specialised agencies and World Bank agencies. The search strategy in conducting this research was to identify relevant reports and data on FDI investments in development of weather insurance markets as well as to identify any potential studies from online databases such as Google search, Google scholar, Science Direct, Scopus and websites of international organisations to aid on the literature review. Published studies that are peer reviewed and leading scholars on the subject of weather index insurance products and development of appropriate and suitable insurance markets were considered. The search identification concentrated on studies and reports generated in the SADC region.

Conclusion and policy implications

Low-income farmers in Southern Africa are considerably vulnerable to the effects of climate change due to their low adaptive capacity and absence of risk transfer markets. The advent of technology has given rise to new insurance markets and gives hope to implementation of reforms that can transform smallholder agriculture (SAIA, 2020). In the SADC regional bloc, Malawi and Mozambique are receiving much attention and attracting a high level of inward FDI compared to other countries. This can be attributed to a combination of factors which emanate from the size of the agricultural sector, an enabling policy environment and support by government in the form of subsidies. Other countries that are highly agricultural orientated

such as, Angola, Comoros, and Madagascar where each employs over 45% of the total labour force in agriculture are lagging behind with respect to attractive FDI for development of agricultural insurance markets. This study indicates that weather index insurance investment in SADC remains low and farmers remain highly vulnerable to drought risk. Overall, given the fact that agriculture plays a key role in economic development and in global food supply, it is of concern that intervention measures against climate change are slow to gain traction and low-income farmers remain uninsured against climate risk. Although interest in weather index insurance within SADC countries is slowly increasing, Different institutions are piloting various programmes to varying degrees of success. A more consolidated effort to integrate learnings and implement pilots for longer periods is likely to achieve better results in developing effective products and solutions for the SADC region. This coordinated, concerted effort would form part of demonstrating collective unity and action to mitigate the impact of climate change for low-income farmers who hold the potential for enormous economic growth, employment and sovereign level food security.

References

Benin, S., Kennedy, A., Lambert, M., & McBride, L. (2010). Monitoring African agricultural development processes and performance: A comparative analysis. ReSAKSS annual trends and outlook report.

Born, L., Spillane, C., & Murray, U. (2018). Integrating gender into index-based agricultural insurance: a focus on South Africa. *Development in Practice*. Routledge Taylor & Francis Group.

Chakoma, I.C., & Chummun B.Z. (2019). Forage seed value chain analysis in a subhumid region of Zimbabwe: perspectives of smallholder producers. *African Journal of Range and Forage Science*, 36(2): 1-10.

Chummun, B.Z., & Ojah, K. (2016). Aggregate savings and financial inclusion: lessons for developing African economies. *Africagrowth Agenda*, 2016(07): 4-9.

Chummun, B.Z., & Bisschoff, C.A., (2014). A perspective of microinsurance (MI): The case of South Africa. *Mediterranean Journal of Social Sciences*, 5(23): 63-71.

Di Marcantonio, F., & Kayitakire, F. (2017). Review of Pilot Projects on Index-Based Insurance in Africa: Insights and Lessons Learned. In *Renewing Local Planning to Face Climate Change in the Tropics* (pp. 323-341). Springer, Cham.

FAO. (2017). *The future of food and agriculture: Trends and challenges*. Rome: Food and Agriculture Organization of the United Nations.

FAO. (2018). *e-Agriculture Good Practice ZFU EcoFarmer Combo*. Rome: Food and Agriculture Organization of the United Nations.

GIIF. (2018). Kenya. Global Index Insurance Facility. Retrieved: <https://www.indexinsuranceforum.org/pdf-reader/59/2185>.

GIIF. (2020). GIIF in Mozambique: Advancing Agriculture Insurance with Hollard Mozambique. Retrieved from: <https://www.indexinsuranceforum.org/news/giif-mozambique-advancing-agriculture-insurance-hollard-mozambique>.

GIZ. (2017). ZFU Ecofarmer Combo - A partnership between Mercy Corps, EcoFarmer (Econet), and the Zimbabwe Farmers Union. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Retrieved from: https://cdn.indexinsuranceforum.org/sites/default/files/Current_Factsheet_19%20Mercy%20Corps_Zimbabwe_WEB_23072018.pdf.

Mahembe, E., & Odhiambo, N.M. (2013). The dynamics of foreign direct investment in SADC countries: experiences from five middle-income economies. *Problems and Perspectives in Management*, 11(4): 35-45.

Markowitz, C. (2020). FDI trends in SADC: Implications for value chains, industrialisation and inclusive Growth. Occasional Paper 306. Southern African Institute of International Affairs.

Mookerjee, A. (2016). Support agencies promoting weather based insurance schemes for smallholder farmers” in Uganda and Zambia. Johannesburg: Food Agriculture and Natural Resources Policy Analysis Network.

Musakwa, M.T., & Odhiambo, N.M. (2019). Foreign Direct Investment dynamics in South Africa: Reforms, trends and challenges. *Studia Universitatis “Vasile Goldis” Arad. Economics Series*, 29(2): 33 – 53.

NCBA CLUSA. (2016). NCBA CLUSA among USAID-Funded “Partners for Innovation” in Mozambique. Retrieved from: <https://ncbaclusa.coop/blog/ncba-clusa-among-usaid-funded-partners-for-innovation-in-mozambique/>.

Osumba, J., & Recha, J. (2019). Scoping study brief-State of index-based crop insurance services in East Africa. Retrieved from: https://snv.org/cms/sites/default/files/explore/download/ccafs_briefing_paper_-_index-based_crop_insurance.pdf.

R4 Rural Resilience Initiative. (2020). Annual report: January – December 2019. <https://docs.wfp.org/api/documents/WFP-0000115140/download/>.

Rashid, I.M.A., Bakar, N.A. and Razak, N.A.A. (2016). Determinants of Foreign Direct Investment (FDI) in agriculture sector based on selected high-income developing economies in OIC countries: An empirical study on the provincial panel data by using stata, 2003-2012. *Advances in Economics and Business*, 4(9): 477-481.

SADC. (2020a). Demographics and Social Statistics 2019. Gaborone: Southern African Development Community.

SADC. (2020b). SADC Selected Economic and Social Indicators 2019, Gaborone: Southern African Development Community.

SAIA. (2020). Annual review. Johannesburg: South African Insurance Association.

Santpoort, R. (2018). The drivers of maize area expansion in Sub-Saharan Africa. How policies to boost maize production overlook the interests of smallholder farmers. *Land*, 9(68): 1 – 13.

Smeulders, S. (2021). Weather index insurance enhances the resilience of Zambian farmers. Retrieved from: <https://zambia.un.org/en/111989-weather-index-insurance-enhances-resilience-zambian-farmers>.

UNCTAD. (2020). Investment trends monitor. Global FDI flows flat in 2019 moderate increase expected in 2020. Geneva: The United Nations Conference on Trade and Development.

World Bank. (2017). Agriculture and climate risk enterprise: Kilimo Salama - Kenya, Rwanda, Tanzania (English). Global Index Insurance Facility (GIIF) partner profile. Washington, D.C. World Bank Group.