

# The impact of Cyclone Idai on Retail Credit in Mozambique

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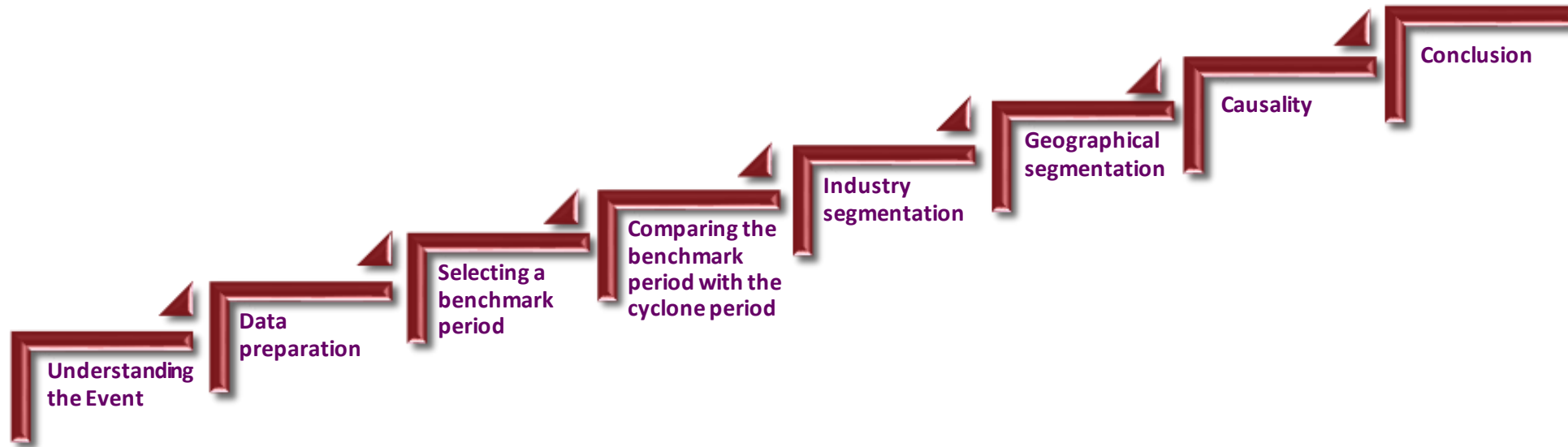
Walton, CGJ., Absa Group Ltd.

# Introduction

- Climate change has presented several risks to financial institutions.
- In March 2019, cyclone Idai caused a humanitarian crisis in Mozambique, Zimbabwe, and Malawi.
- We studied retail repayment behavior following the Idai cyclone in Mozambique.
- Better strategies to help customers become more resilient to such events, and how banks can adjust their lending strategies to help manage their risk.



# Process Flow



# Cyclone Idai



## North Mozambique

1. Niassa
2. Cabo Delgado
3. Nampula

## Central Mozambique

4. Tete
5. Zambezia
6. Manica
7. Sofala

## South Mozambique

8. Gaza
9. Inhambane
10. Maputo

Cyclone Idai formed in central Mozambique (refer to Figure 1) affecting provinces Sofala (7) and Manica (6), then moved north affecting Zambezia (5) and Tete (4).

During the cyclone period, the bank decided to support its customers:

- Payment holidays to customers in affected areas
- Top-up loans for customers to help rebuild after the cyclone

Figure 1: Map of Mozambique

# Data Overview



## Data Inclusions



Mozambique Lending



Retail Customers



Observation period: January 2017 – March 2020



Bad Ever Definition : 2 missed payments

## Data Exclusions

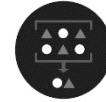


Ex-Staff Lending

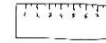


Covid Data

## Data Challenges



Duplications



Short observation (Covid a year later)



Closed Accounts

# Benchmark Period Selection



Finding a period that represents 'business as usual'

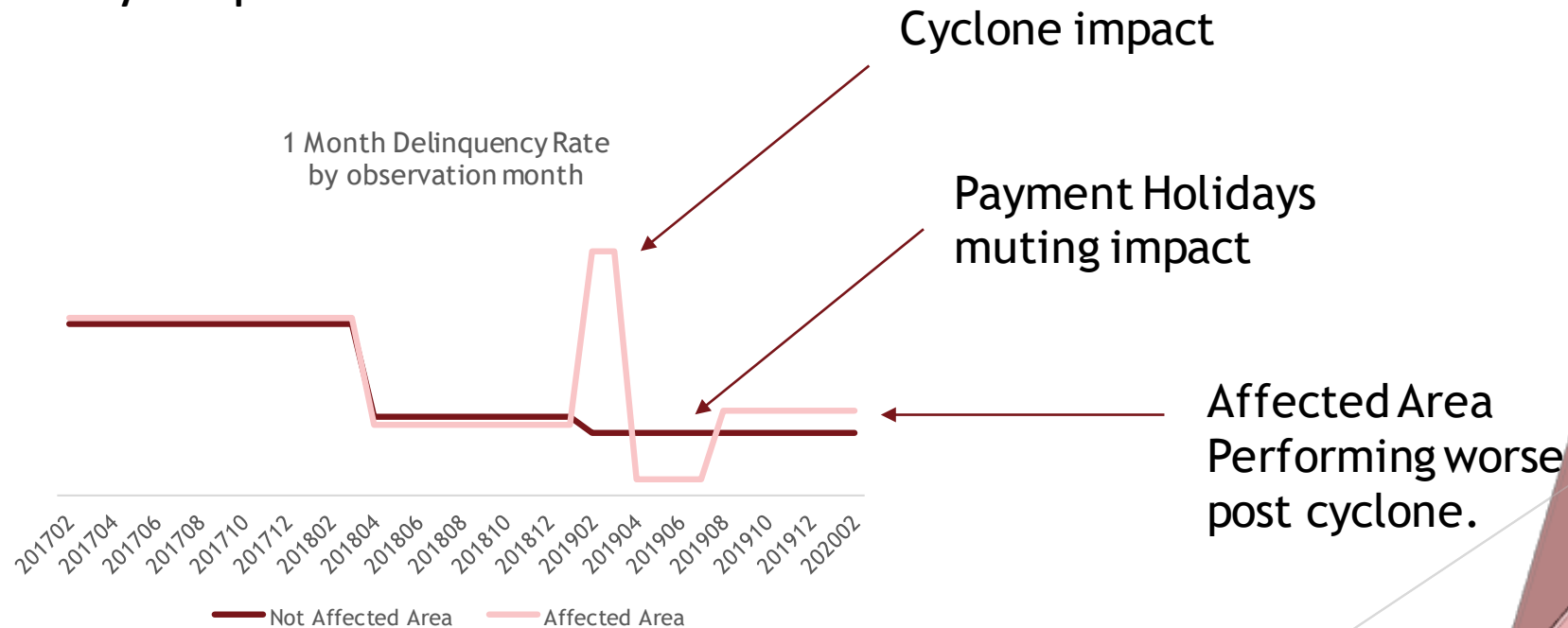
**2017 – High inflation period**

**2020 – Covid period**

Final Decision:

**April 2018 – Business as Usual**

**February 2019 – Cyclone period**

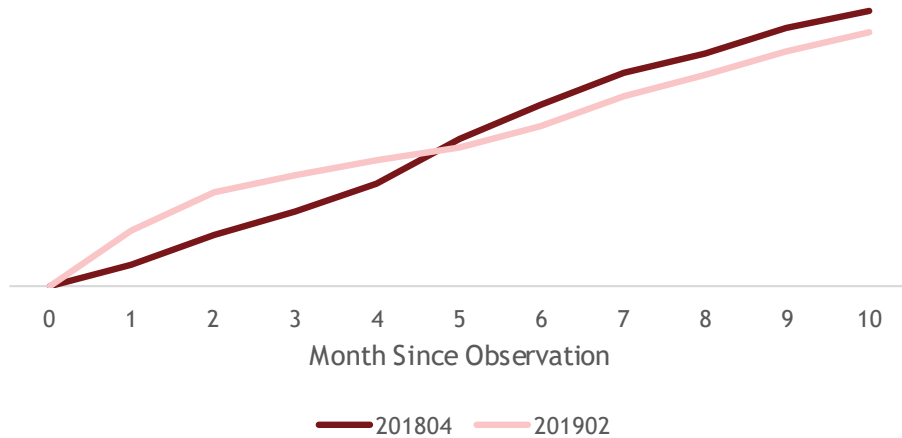


# Comparison: Entire Portfolio

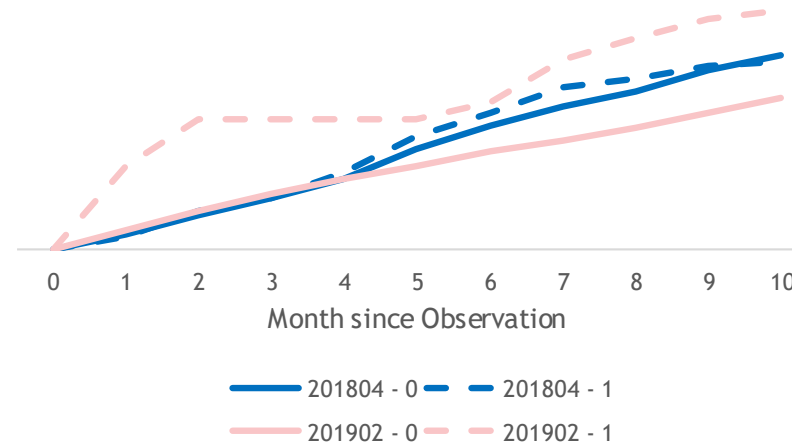
201804 = Benchmark Period  
201902 = Cyclone Period  
0 = Non- Affected Area  
1 = Affected Area



Overall



Overall Segmented



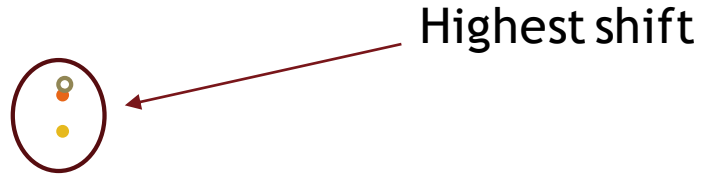
- Overall short term impact (pink line).
- Affected area (dotted lines pink) performed worse post cyclone.

The next step was to analyze the portfolio by various segments to get a deeper understanding of delinquency behaviour.

# Industries Selected



## Industry Risk Ranking



- Government & Staff
- Agriculture
- Construction & Manufacturing
- Hotels & Restaurants
- Financial Intermediation

201804

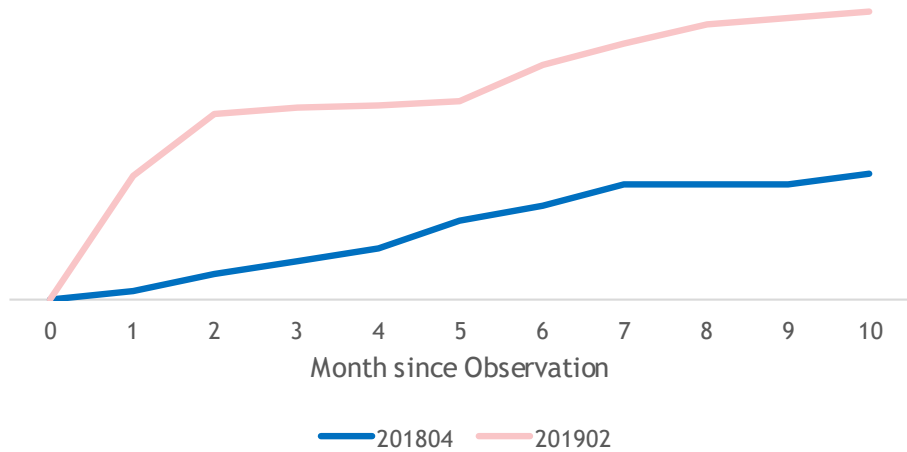
201902

| Industry                     | Scalar |
|------------------------------|--------|
| Agriculture                  | 2.9    |
| Financial Intermediation     | 1.7    |
| Construction & Manufacturing | 1.6    |
| Hotels & Restaurants         | 1.0    |
| Government & Staff           | 0.9    |

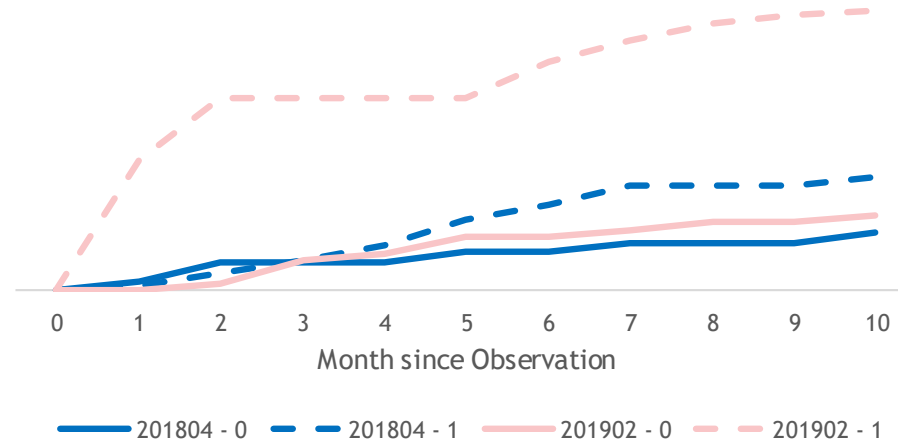
- Once stable industries will no longer have that simply by existing in a particular region - Agriculture
- Customers employed in Finance and Insurance sectors had higher than average delinquencies - indirectly impacted by their own industry's exposure to climate risk by having exposure to a particular region.

# Comparison: Agriculture

Agriculture Overall



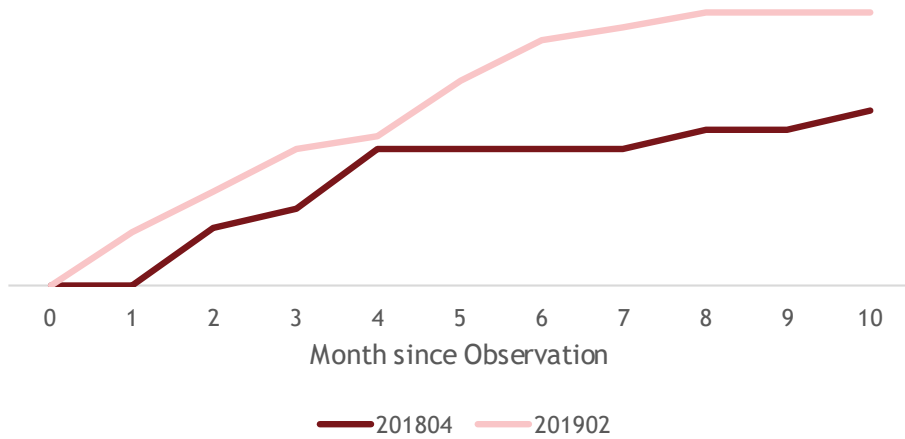
Agriculture



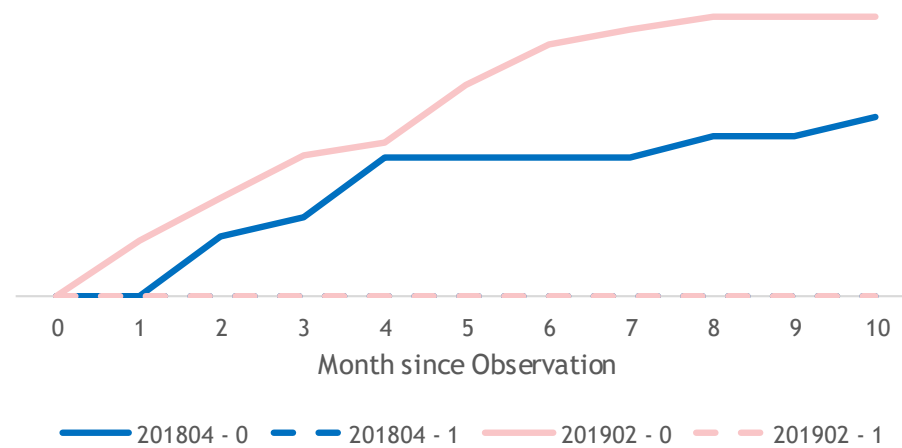
- Sugar, nuts, forestry, maize & tobacco
- Damage to crops – no insurance payout
- Retrenchment of retail customers
- Affected area historically higher risk
- Advance insurance products can have a major impact improving risk on this sector

# Comparison: Financial Intermediation

## Financial Intermediation Overall



## Financial Intermediation

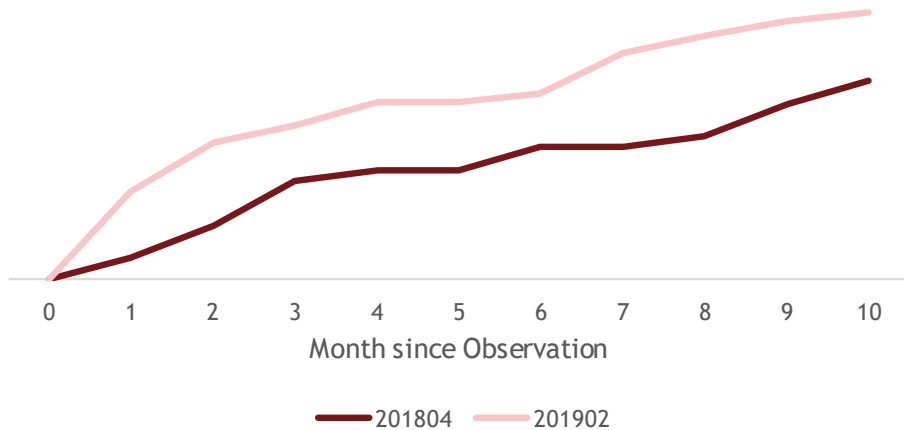


- Other banks, Microfinance, Insurance and Pensions
- Based in non affected areas
- Secondary impact due to exposure to affected areas

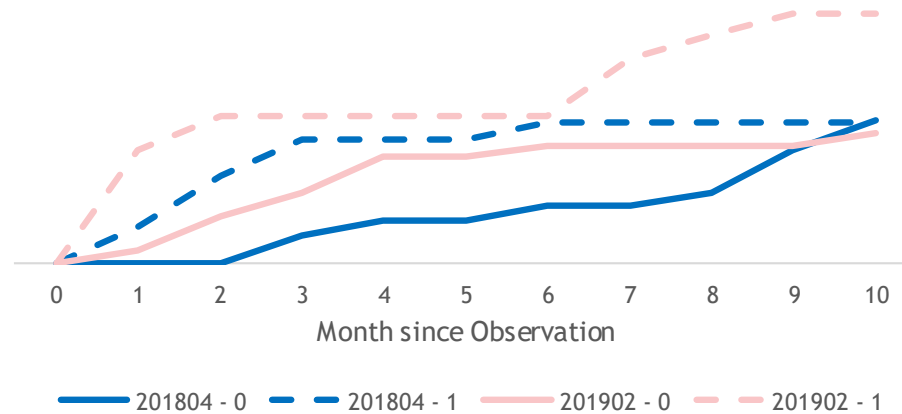
# Comparison: Construction & Manufacturing



### Construction & Manufacturing Overall



### Construction & Manufacturing

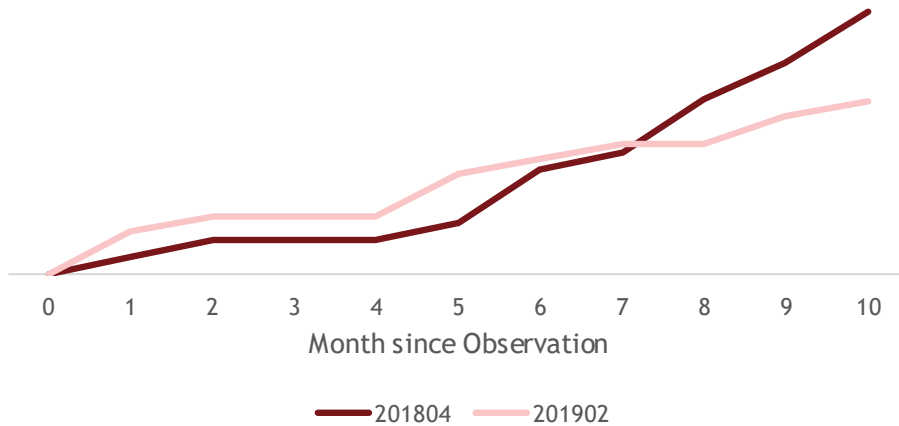


- The manufacturing sector include the manufacturing of cement, cables, aluminum, iron, copper, cobalt, and other mining output. Construction is all types of construction
- Severe physical damage
- Unaffected areas also saw a rise due to supply chain issues and raw material availability

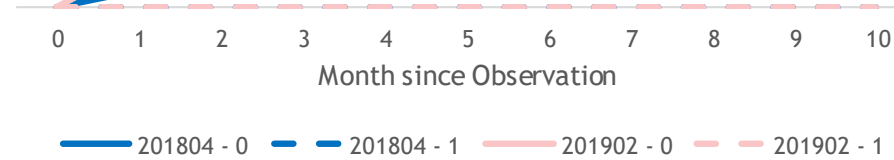
# Comparison: Hotels & Restaurants



Hotels & Restaurants Overall



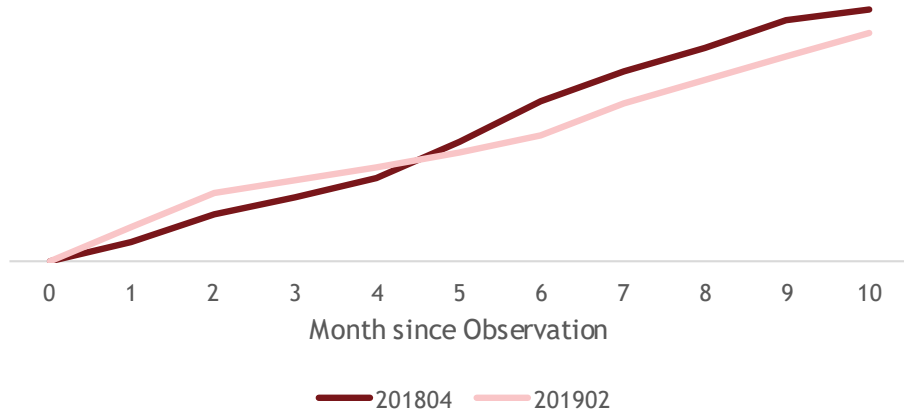
Hotels & Restaurants



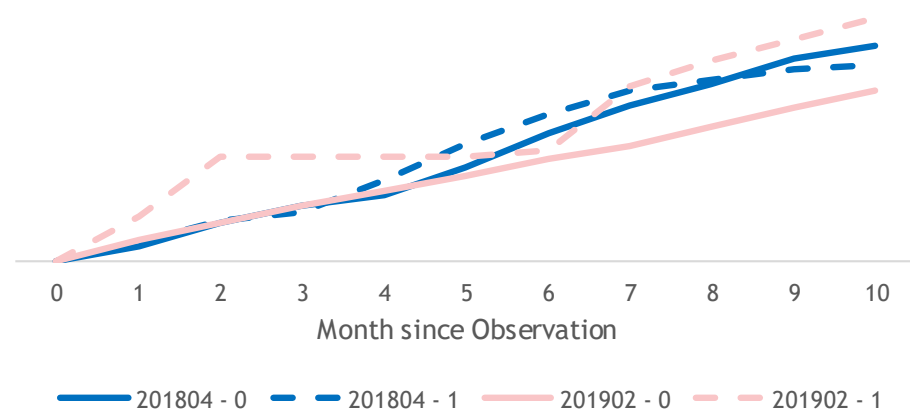
- Hotels and Restaurants
- Mostly in non affected areas – remained stable
- Some secondary impacts after cyclone

# Comparison: Government & Staff

Government & Staff Overall



Government & Staff



- Government and staff selected as the lowest risk industry
- Government and staff received salaries during the cyclone period
- Secondary behaviour of moving salary deposits indicates financial constraints in affected areas
- The difference in the overall graph is really small

# Conclusion

- The biggest damage was due to physical damage.
- The retail customer was affected as employers had physical damage, decrease in activity, and disruptions to supply chain that led to retrenchments.
- Retail customers also moved their salary deposits tied to the bank that is a sign of financial difficulty.
- Financial and Insurance was protected from physical damage but had an indirect exposure to companies that did.
- There is opportunity for better insurance products to mitigate the impact of a cyclone.

# Any Questions



# THANK YOU



## **Contact details**

**Your comments and questions are valued and encouraged.**

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