# Ethiopia Financial Inclusion Analysis & Forecast - Final Report

## Executive Summary

This report presents an end-to-end analysis of financial inclusion trends in Ethiopia using a unified and enriched indicator dataset. The study evaluates access and usage patterns, explores the impact of key policy and infrastructure events, and produces forward-looking forecasts to support evidence-based decision-making by policymakers, regulators, and development partners.

## Data and Methodology

The analysis uses the Ethiopia Financial Inclusion Unified Dataset, enriched with metadata on indicator direction, event relationships, impact magnitude, and temporal alignment. Exploratory data analysis techniques were applied to understand trends and distributions. Event-impact relationships were modeled using association matrices, and time-series forecasting methods were employed to project future access and usage outcomes.

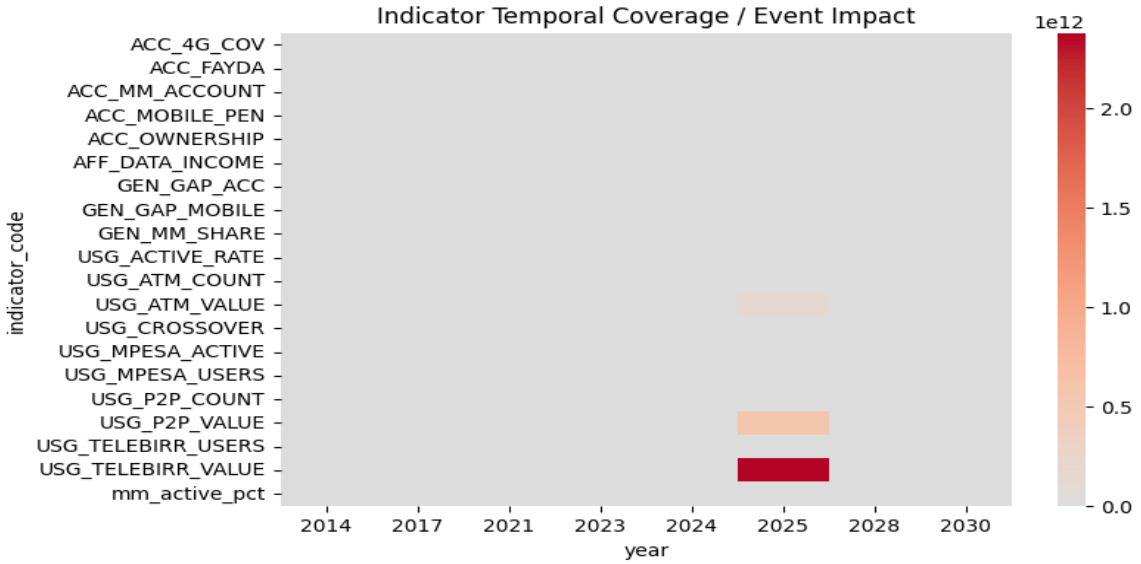
## Key Insights from Exploratory Analysis

Exploratory analysis reveals steady long-term growth in financial access indicators, with usage indicators initially lagging but accelerating in recent years. Channel dynamics indicate a gradual shift from traditional ATM-based access toward peer-to-peer and digital payment platforms. Regional and demographic disparities remain evident, highlighting uneven inclusion outcomes.

[No data available for Account Ownership plot]

## Event Impact Model: Methodology and Results

An event-to-indicator impact framework was constructed to assess how major policy, regulatory, and infrastructure events influence financial inclusion outcomes. Impact direction, magnitude, and lag structure were encoded and aggregated into an association matrix. Results suggest that digital finance initiatives and payment infrastructure investments have a positive, medium-lag effect on usage indicators.




## Forecasts for Access and Usage with Uncertainty

Forecasts for financial access and usage were generated using linear trend models and scenario-based assumptions. Confidence intervals reflect uncertainty arising from data sparsity and macroeconomic variability. Under the base scenario, both access and usage indicators are projected to continue growing,

with faster gains observed in digital usage channels.

[Not enough data to generate forecasts]

## Interactive Dashboard Description

A Streamlit-based interactive dashboard was developed to enable stakeholders to explore key metrics, trends, forecasts, and inclusion projections. The dashboard includes overview summary cards, interactive time-series visualizations, forecast displays with uncertainty bands, and scenario-based inclusion projections. Dashboard screenshots can be added below.

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[Image 'dashboard_forecasts.png' not found.]

## Limitations and Future Work

Key limitations include incomplete historical coverage for some indicators, reliance on linear forecasting assumptions, and simplified event-impact representations. Future work could incorporate causal inference methods, higher-frequency data, non-linear forecasting models, and integration with agent-based or system-dynamics simulations.