Discussion of "Back to Bank, Digital Currency, Deposits' Substitution and Credit"

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[1]The views expressed in this presentation are solely the responsibility of the author and should not be interpreted as reflecting the official views.

Growth of Mobile Money in Sub-Saharan Africa

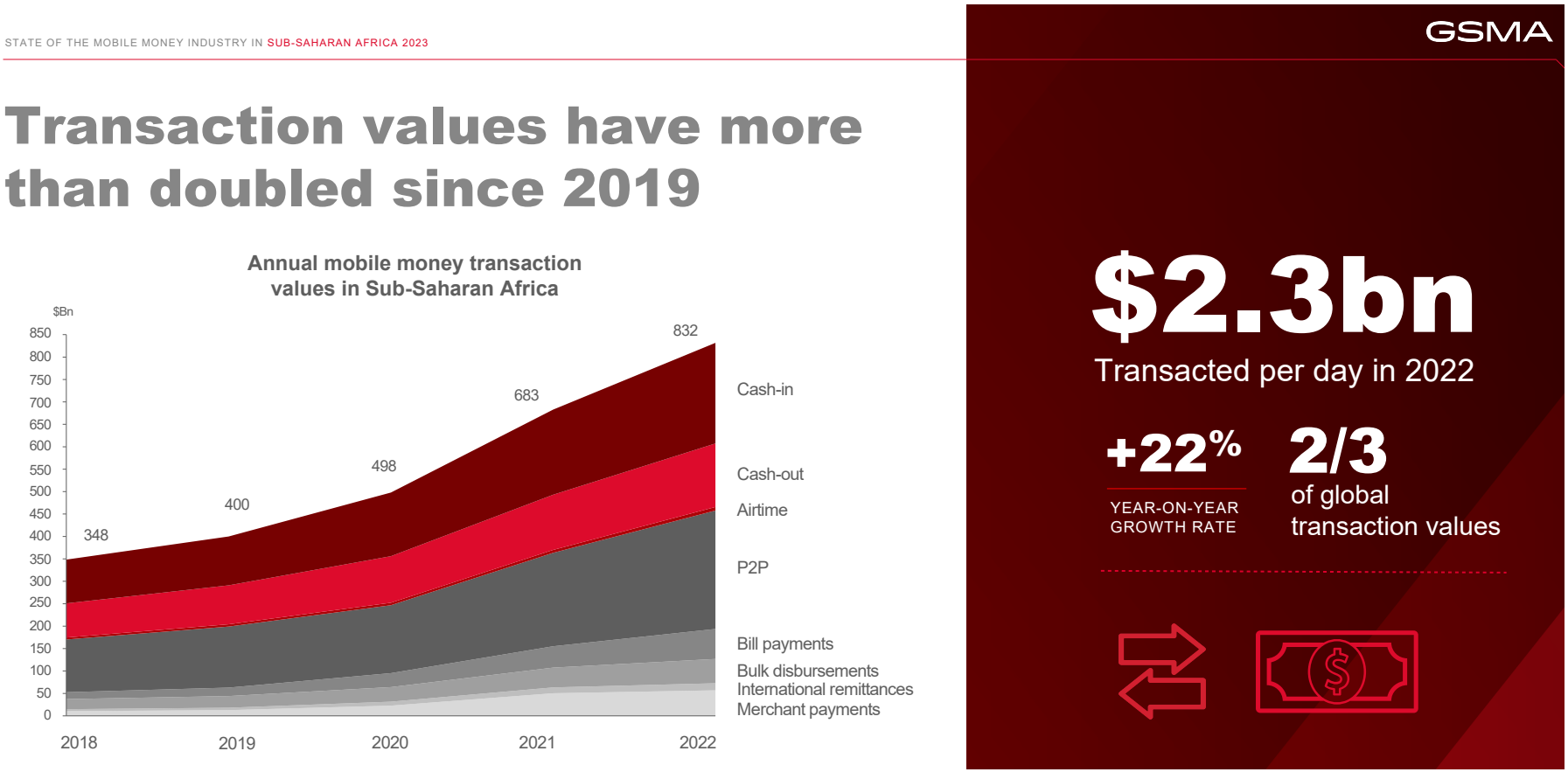


Figure: GSM Association; industry report from 2023.

Especially High Penetration in East & West Africa

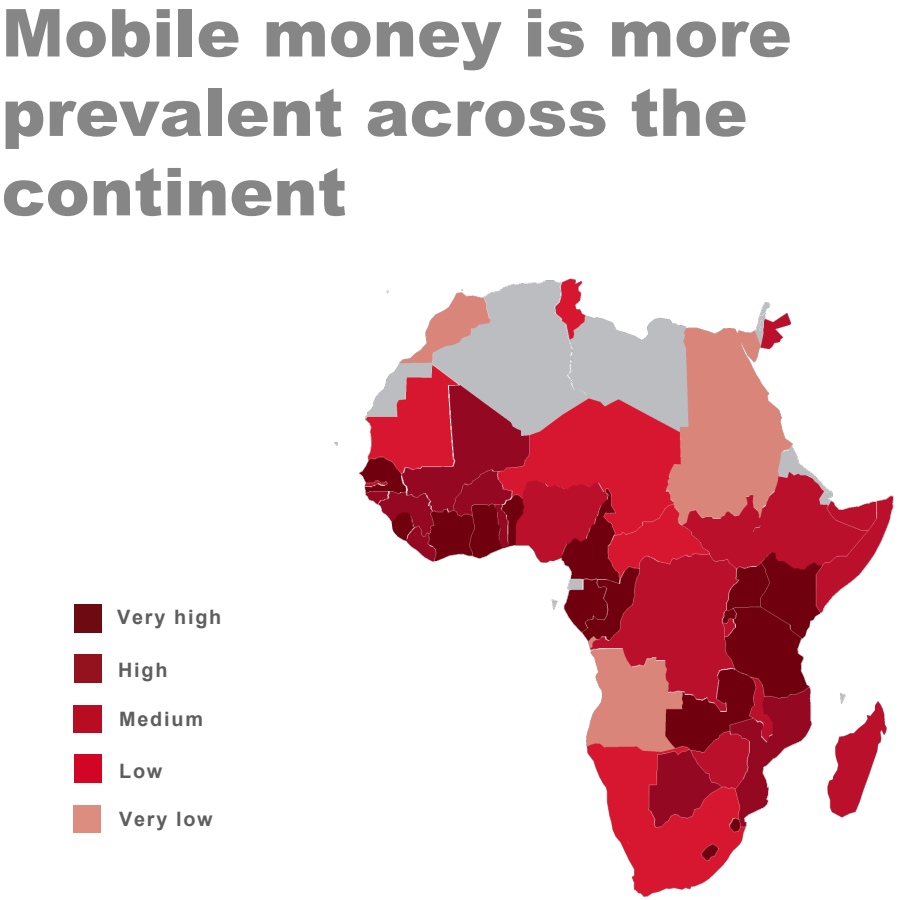
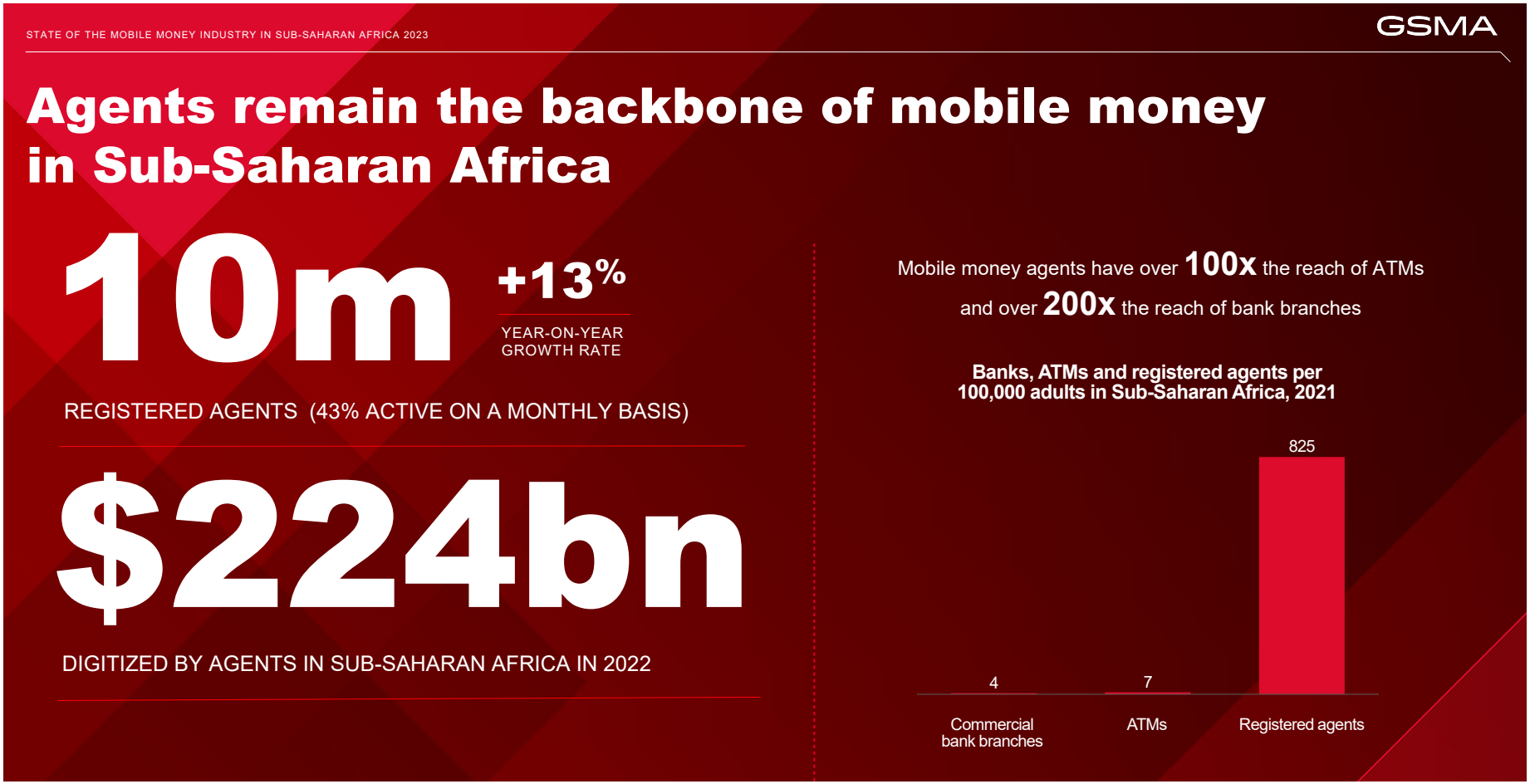


Figure: Mobile money penetration index constructed by the GSM Association for the year 2022; industry report from 2023.

Key Role of Mobile Money Agents and Comparison to Traditional Banking



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Transaction with a MTN Mobile Money Agent in a Busy Street: Cashing-in & Cashing-out

Figure: Produced with Dall·E.

Lorenzo's Paper: Study Introduction of a Tax on Mobile Money Transactions in Uganda in July 2018

- Taxes on mobile money transactions have been introduced by many Sub-Saharan countries
  - Main motives: plugging urgent holes in fiscal budgets; finding ways to tax the informal sector
- Policy interventions such as taxes on certain types of money or phasing out higher denomination banknotes can provide an ideal laboratory to learn about the substitutability between monies!

Figure 1: Mobile Money customer balance

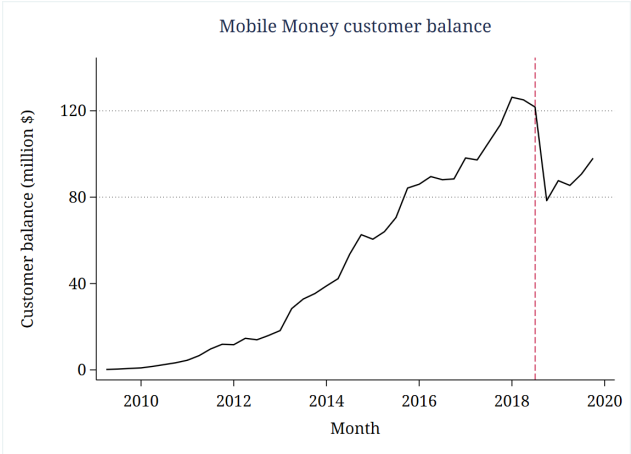

Figure: Spadavecchia et al. (2024)

Data and Methodology

- 2018 mobile money transactions data from a big operator
  - 50m transactions: cash-in/-out, P2P, sender, receiver, mobile agent identifier, amount, time stamp, fees
  - District-level location for 1.5m out of 5m users
- Central Bank of Uganda
  - Issuance of cash (daily) by private bank branches
- Credit registry loan-level data for commercial and household borrowers over the period 2017-2023
- Traditional bank data
  - Monthly bank-level data on deposits
  - Location of branches and ATMs on the district level
  - Deposits & withdrawals by banking agents since 04/2018
- District level GDP proxy
- Uganda National Panel Survey with 5,000 respondents; includes information on mobile money usage

Data and Methodology (continued)

- Quasi-natural expriment
  - Time variation: Unexpected introduction of a 1% tax on mobile money transfers on 1 July 2018
  - Cross-section variation: Heterogeneous access to alternative monies, proxied by the ATM density at the district level
- Two-way fixed effects difference-in-differences framework

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3. Bank deposits
   (a) Increase in (short-term) bank deposits in districts with a higher bank penetration and for largest banks
   (b) These bank branches also experience an increase in ATM withdrawals (and in interbank deposits)
      ◇ New bank deposits used for transactions $\rightarrow$ CBDC

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4. Bank credit
   - Banks tighten repayment terms for all borrowers
   - Banks increase credit to low risk borrowers and reduce lending to new/risky customers

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Figure: Exchange rate over the period January 2018 to December 2020 from Xe Currency Converter.

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- Endogeneity of treatment?
- Macro shocks/change in expectation about future tax policies that negatively affect borrowers' repayment probability, disproportionately affecting riskier borrowers?

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- What happens to banks? An inflow of short-term transaction deposits leads to
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- Suggestions
  - Study **net** withdrawals, interbank position, reserves
  - Large banks can deal better with payment risk, does it matter for credit?

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Thank you!