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Out of the Mattresses and Into the Banks: Unpacking Financial Disintermediation and Liquidity Dynamics in South Sudan

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Abstract: This study investigates the behavioral, structural, and macroeconomic drivers of mattress banking, the widespread practice of hoarding cash outside formal financial institutions in South Sudan. Drawing on mixed-methods field data collected in 2026 (N=800), consisting of 650 structured survey respondents and 150 qualitative interview and focus group participants, the research identifies cultural attachment to traditional saving methods (12.1%) and fear of government scrutiny (11.3%) as the most salient factors, alongside systemic bank liquidity concerns (7.1%) and institutional distrust (6.7%). Macroeconomic impacts include weakened monetary policy, reduced access to private-sector credit, and significant losses to formal bank deposits, with households facing heightened risks of theft (8.3%) and asset destruction from disasters (7.5%). Regression and thematic analyses reveal that women, rural residents, the unbanked, and informal sector workers are particularly vulnerable to mattress banking, which is further exacerbated by chronic salary delays and low financial literacy. The study recommends a multi-pronged approach to reintegrate informal liquidity: expanding digital and mobile banking, strengthening regulatory oversight and deposit insurance, simplifying account opening, and fostering public trust through robust consumer protection and financial education. Theoretically, the findings advance understanding of financial disintermediation in fragile contexts and highlight that penalizing cash hoarding is far less effective than addressing structural and behavioral barriers to formal saving in South Sudan.

Keywords: Mattress Banking, Financial Disintermediation, Informal Savings, South Sudan, Financial Inclusion, Trust in Banks, Digital Financial Services, Regulatory Reform, Economic Vulnerability.

INTRODUCTION

The global landscape of savings behavior reveals a pronounced divergence between mature and emerging economies. In advanced markets such as the United States and Europe, there has been a marked shift toward digital payments and formal financial intermediation: as of 2024, 93% of adults in high-income economies have an account at a financial institution or with a mobile money provider (World Bank, 2023). The COVID-19 pandemic further accelerated the adoption of contactless payments and online banking, with over 60% of European and North American consumers now preferring digital channels for routine transactions (McKinsey, 2024). In the U.S., corporate cash holdings remain at historically high levels, totaling $4.3 trillion at the end of 2023, while in Europe, household savings rates

averaged 14.1% in 2023, driven by both economic uncertainty and evolving trust in banking systems (OECD, 2024; Pinkowitz et al., 2013).

In many parts of Asia and Africa, cash still dominates daily transactions. In India and Southeast Asia, over 60% of payments are made in cash, even as digital alternatives become more widely available (McKinsey, 2024). Limited access to point-of-sale infrastructure and unreliable internet connectivity in rural areas reinforce cash use. In sub-Saharan Africa, 57% of adults lack a bank account and depend on informal savings, driven by barriers to financial infrastructure and persistent mistrust of formal institutions (Global Findex, 2023; Afawubo et al., 2020). Gender disparities remain significant; women are 9% less likely than men to hold a bank account, increasing dependence on informal savings (World Bank, 2023). For example, 47% of Tanzanians keep their savings at home, while in Kenya, informal savings make up 4.7% of household strategies (Finscope, 2017; FSDT, 2021).

Informal savings are common in East Africa, even with the growth of mobile money platforms. While countries like Kenya have improved financial inclusion through mobile money, fewer than 40% of adults in the region have a formal savings account (World Bank, 2023). In Uganda and Ethiopia, the share is even lower, with less than 35% of adults holding formal accounts; low digital literacy remains a key obstacle. In South Sudan, these challenges are even more pronounced. Recent data from the Bank of South Sudan (2024) shows that over 80% of the country’s currency circulates outside the banking system, highlighting the extent of cash hoarding and the widespread use of "mattress banking."

Several factors help explain why mattress banking is so widespread in South Sudan. Most banking services are concentrated in Juba and a few other cities, leaving rural communities who make up over 80% of the population without easy access to formal financial services (World Bank, 2023). Poor roads, frequent flooding, unreliable communication, and periodic insecurity make travel difficult and risky, especially for those in remote areas. As a result, many households store cash at home or within informal groups instead of relying on banks. This geographic exclusion reinforces dependence on informal saving, especially in rural communities where reaching a bank may take hours. Unless agency banking, mobile money, or rural outreach is expanded, this gap will likely remain.

Account-opening requirements such as formal identification and proof of address pose another barrier. Many South Sudanese, especially those in the informal sector or in remote areas, lack the necessary documents (Financial Action Task Force, 2023). Displaced persons and refugees face additional difficulties due to disrupted services and lost records, making it hard to prove identity or residency. These bureaucratic hurdles discourage people from opening accounts, even when they want to save securely. As a result, many are turned away or experience delays, deepening the perception that banks are out of reach. Easing these requirements or adopting biometric identification could help increase formal financial inclusion.

The informal sector's widespread presence in South Sudan further encourages cash-based transactions. Small businesses, vendors, and farmers typically rely on cash, as digital or electronic payments are not practical for everyday use. The International Labor Organization (2023) reports that more than 85% of jobs in South Sudan are informal, reflecting the strong dependence on cash for both savings and daily transactions. Many businesses operate outside the tax system and without bank accounts, managing their finances in cash. Business owners often keep extra income at home, as they see little reason

to use banks. Limited access to credit, insurance, and suitable payment services for the informal sector reinforces the cycle of informal savings and mattress banking.

Long-standing dependence on informal savings in South Sudan stems from mistrust of institutions, frequent cash shortages at banks, and regulatory obstacles. This pattern weakens monetary policy, limits financial inclusion, and increases household risk. Despite the important economic consequences, little research explains why mattress banking is so common in South Sudan. This study aims to address that gap by examining the main causes, economic effects, and potential policy responses to bring more of the country's cash into the formal financial system.

Recent studies highlight a growing move from cash to digital payments in both advanced and developing economies. World Bank data (2023) indicate that the proportion of cash in the M1 monetary supply has dropped in most countries, and 93% of adults in high-income countries now have a bank or mobile money account. In emerging markets, digital payments are increasingly replacing cash, but cultural and institutional habits still encourage cash use in many places (Global Findex, 2023; Bagnall et al., 2016).

In countries like Nigeria and the Philippines, mobile wallets and agent banking have improved access to financial services. However, adoption is often limited by low digital literacy, high fees, and lack of compatibility between providers. Many households continue to hold much of their assets in cash, especially for small transactions or in areas where trust in banks is low or past financial crises are remembered (Stix, 2013; Rösl & Seitz, 2024).

Recent data from the European Central Bank reveal that, even with increased use of digital payments, 59% of people in the euro area still use cash regularly for small purchases and emergencies (ECB, 2023). In many African and Asian countries, cash remains the main method for remittances, paying school fees, and informal lending, showing that physical currency still plays a crucial role in daily life.

Despite progress in financial services, most households in developing countries continue to depend on informal savings methods (Afawubo et al., 2020; Beckmann & Mare, 2017; Dupas & Robinson, 2013). Access to formal savings is especially limited for people without bank accounts (Ochieng & Oluoch, 2023). For instance, the Finscope Survey (2017) found that in Tanzania, 47% of people save money at home, 6% with family, 2% with someone else, 1% with a community group, and 3% by setting money aside to buy goods. In Kenya, 4.7% of households rely on informal savings (FSDT, 2021).

Problem Statement

In a healthy financial system, savings flow efficiently through formal institutions, helping maintain liquidity, support economic stability, and encourage inclusive growth (World Bank, 2023; IMF, 2024). Under these conditions, people expect commercial banks to keep their deposits secure and allow easy access to their money. Governments, in turn, depend on the smooth flow of funds to pay public sector salaries, deliver key services, and keep prices stable (IMF, 2024).

South Sudan faces a very different situation. Since gaining independence, the country has struggled with ongoing fiscal deficits, high inflation, and persistent liquidity shortages (Kouassi, 2025; IMF, 2024). Instead of supporting economic growth, the formal

financial sector often acts as a barrier. In the past decade, repeated delays in public-sector salary payments have left civil servants, including the security forces, going without pay for up to a year (Kouassi, 2025). This has pushed many to seek alternative, informal ways to earn a living.

The banking sector's operational failures worsen these financial challenges. Commercial banks in South Sudan frequently run out of cash, limit withdrawals, and contribute to what some describe as a "moneyless economy" (Rösl & Seitz, 2024; Bank of South Sudan, 2024). In 2024, over 80% of the country's money supply was estimated to be outside the formal banking system—one of the highest rates worldwide (Bank of South Sudan, 2024; World Bank, 2023). This widespread mattress banking both reflects and deepens public mistrust, weak institutions, and ongoing economic stagnation.

While research worldwide highlights the dangers of financial disintermediation and informal saving (Afawubo et al., 2020; Stix, 2013; Rösl & Seitz, 2024), little empirical work specifically examines the behavioral, structural, and policy factors behind mattress banking in South Sudan. To date, no in-depth study has systematically addressed the root causes, economic impact, or possible solutions for the country's widespread currency hoarding and liquidity challenges.

Filling this research gap is crucial. By exploring why such a large share of currency stays outside the banking system, assessing the wider economic and social effects, and recommending practical policy solutions, this study aims to address a key obstacle to financial inclusion, stable monetary policy, and long-term development in South Sudan (World Bank, 2023; IMF, 2024; Bank of South Sudan, 2024)

The Purpose of the Study

This study aims to identify the main factors behind mattress banking in South Sudan, analyze its economic effects, and suggest policy options for reform. It examines why over 80% of the nation's currency is kept outside banks, assesses how this trend affects liquidity and financial stability, and proposes digital and regulatory measures to rebuild trust and encourage better cash flow within the formal financial sector.

THEORETICAL UNDERPINNINGS

Financial Intermediation Theory

Financial Intermediation Theory, developed by Diamond and Dybvig (1983), highlights banks' role in linking savers and borrowers, enabling savings to be used productively in the economy. Banks convert illiquid savings into accessible funds by gathering deposits and providing credit, key elements of economic stability. In South Sudan, this theory is especially relevant; banks' failure to serve this intermediary role, as seen in the prevalence of mattress banking, has contributed to ongoing liquidity shortages and economic slowdown (Diamond & Dybvig, 1983).

A main advantage of Financial Intermediation Theory is that it clearly explains banks' importance in maintaining liquidity and overall economic health (Diamond & Dybvig, 1983). However, its traditional form assumes stable institutions and rational decision-makers,

conditions that do not always hold in fragile or post-conflict countries like South Sudan. Combining this theory with insights from behavioral economics and institutional theory can help explain how mistrust and regulatory breakdowns affect financial decisions (North, 1990; Guiso et al., 2004). Drawing on this framework, the study predicts that weak or missing financial intermediation, as in South Sudan, leads to more currency held outside banks, resulting in widespread mattress banking and economic stagnation (Diamond & Dybvig, 1983).

Trust Theory in Financial Systems

Trust Theory, outlined by Guiso, Sapienza, and Zingales (2004), emphasizes the importance of public trust for financial systems to function properly. The theory argues that trust in financial institutions directly influences whether people deposit money in banks or use informal saving methods. In places where crises, corruption, or policy failures have shaken confidence, people often keep their savings at home, as is common in South Sudan (Guiso et al., 2004).

Trust Theory's strength is its detailed account of the behavioral factors that shape financial choices factors that classical theories often miss (Guiso et al., 2004). That said, it is difficult to measure trust precisely or separate its effects from legal, institutional, or cultural influences. Using mixed-methods research that blends trust surveys with economic data can help overcome this challenge (Guiso et al., 2004; North, 1990). Based on Trust Theory, the study suggests that low public trust in formal financial institutions in South Sudan encourages people to rely more on informal saving practices like mattress banking (Guiso et al., 2004).

Keynesian Liquidity Preference Theory

Keynesian Liquidity Preference Theory Keynesian Liquidity Preference Theory, put forward by John Maynard Keynes in 1936, argues that people often prefer to hold cash over less-liquid investments, especially when times are uncertain or trust in banks is low (Keynes, 1936). Keynes identified three motives for holding cash: transactions, precaution, and speculation. In South Sudan, ongoing instability, delays in salary payments, and a volatile banking sector have strengthened the precautionary motive, making mattress banking a logical choice for many households (Keynes, 1936).

One strength of Liquidity Preference Theory is that it clearly explains why people change their cash-holding habits during crises or uncertainty (Keynes, 1936). However, the theory does not fully account for the effects of new technologies like mobile money or digital finance. Adapting the theory to include these changes can make it more applicable to today's context (North, 1990; Guiso et al., 2004). With this in mind, the study expects that economic uncertainty and perceived banking risk in South Sudan will lead to a stronger preference for holding cash and, thus, more mattress banking (Keynes, 1936).

Institutional Theory

Institutional Theory, developed by Douglass North (1990), highlights how both formal and informal institutions such as laws, norms, and enforcement shape economic behavior. When

institutions are weak, out of reach, or poorly enforced, people and businesses often turn to informal ways to save and conduct transactions. In South Sudan, problems like weak regulation and cumbersome bureaucracy have led many to rely on mattress banking instead of formal savings (North, 1990).

A key strength of Institutional Theory is that it places economic behavior within a wider structural and regulatory context (North, 1990). However, the theory sometimes underestimates how individuals adapt to institutional barriers. Combining institutional analysis with behavioral approaches can provide a fuller picture of how people make financial decisions (Guiso et al., 2004).

Based on this theory, the study proposes that weak and hard-to-access financial institutions in South Sudan push more people to use informal savings methods like mattress banking (North, 1990).

EMPIRICAL REVIEWS

Afawubo and colleagues (2020) conducted a comprehensive analysis of informal saving behavior across sub-Saharan Africa using the 2017 Global Findex microdata. Their quantitative approach relied on probit regression models to assess how demographic, socioeconomic, and attitudinal variables affect the likelihood of engaging in informal saving. The study covered 34 countries, capturing both urban and rural dynamics while controlling for country-specific effects. The researchers found that individuals with lower incomes, limited education, and those living in rural areas were significantly more likely to save informally. They argue, “Mistrust in financial institutions and exclusion from formal banking services remain powerful drivers of informal saving in the region.” The study highlights that women, in particular, face greater barriers to formal financial inclusion and often rely on ROSCAs or saving at home. Afawubo et al. call for more qualitative research to understand the motivations and psychological factors behind informal saving, especially in fragile or crisis-affected states.

Harald Stix (2013) investigates why households in Central and Eastern Europe continue to hold cash despite the availability of formal banking products. Using detailed survey data, Stix applies econometric modeling and correlation analysis to examine how trust and individual memories of economic crises relate to saving behavior. He notes, “The shadow of past instability weighs heavily on current attitudes toward banks and the safety of deposits.” Stix’s findings show that distrust in banks, rooted in both personal and collective memories of financial collapse, plays a central role in the decision to keep savings at home. Many respondents view cash as safer and more accessible than formal savings accounts, even when the latter offer better returns. Stix (2013) notes that rebuilding trust in financial institutions is a slow, generational process. He recommends further research to examine how policy reforms and financial education influence public confidence in the banking system over time.

Dupas and Robinson (2013) conducted a well-known field experiment in rural Kenya, working with a microfinance institution to test whether access to basic formal savings accounts could help micro-entrepreneurs. Using a randomized controlled trial with 279 participants, they collected detailed survey and business diary data. Their findings showed that having access to a savings account led to more business investment, higher daily

household spending, and better resilience to financial shocks, especially for women. The study highlighted that making formal saving easier not only improved business outcomes but also gave women more control over their finances. However, high transaction fees and the distance to banking facilities continued to limit use. Dupas and Robinson emphasize that future research and policy should focus on reducing these barriers and addressing trust and convenience issues that affect saving behavior in rural Africa.

Ochieng and Oluoch (2023) recently examined financial inclusion in South Sudan using both household surveys and focus group discussions in Juba and rural counties. Their study combined qualitative insights on financial exclusion with quantitative analysis for statistical rigor. The main barriers to formal banking were lack of official documents, insecurity, and chronic cash shortages. Many respondents said they do not trust banks because they cannot always access their money. The study shows that mattress banking is not just a rational response to failing institutions but also a survival strategy in a fragile context. The authors recommend more long-term and participatory studies to understand how shifts in political and security conditions influence saving habits over time.

Bagnall and colleagues (2016) conduct a comparative analysis of cash use based on payment diary surveys from seven high-income countries, including Germany, the United States, and Australia. The researchers use both descriptive statistics and econometric analysis to assess the frequency, value, and context of cash versus electronic payments. They state, “Despite technological advances, cash retains a persistent role for small transactions and as a store of value.” The study finds that habit, privacy concerns, transaction size, and institutional trust shape consumer preferences for cash. Even in technologically advanced economies, certain demographic groups, such as the elderly or the unbanked, continue to rely on cash. Bagnall et al. acknowledge a research gap in understanding how these findings translate to lower-income or fragile contexts, where cash is often the only viable means of saving. They recommend extending the same methodology to African and post-conflict settings to gain greater comparative insights.

Rösl and Seitz (2024) conducted a detailed case study of South Sudan, using central bank data, commercial bank liquidity reports, and interviews with sector experts. Their mixed-methods research uncovers why so much currency is hoarded outside banks. They report that over 80% of cash circulates outside the banking sector, an unusually high level of financial disintermediation. Their analysis points to delayed salary payments, mistrust of banks, and strict withdrawal limits as the main reasons people keep cash at home. Although mattress banking has serious economic consequences, Rösl and Seitz argue that more research is needed to guide effective reforms and rebuild public confidence in banks.

The World Bank’s Global Findex Database (2023) compiles survey data from over 140 countries to track financial inclusion, digital finance, and saving habits. The 2021 report added new questions on the effects of COVID-19 and mobile money in Africa. Using rigorous sampling and analysis, the report finds that 57% of adults in sub-Saharan Africa remain unbanked, with informal, cash-based saving especially common among women and rural populations. The World Bank team notes that while digital finance holds promise, major behavioral and infrastructure barriers remain in fragile states. They recommend more country-level studies to identify local challenges and design more effective financial inclusion strategies, particularly in places like South Sudan where mattress banking is widespread.

RESEARCH METHODOLOGY

This study used both quantitative and qualitative methods to investigate the causes, economic effects, and policy responses related to mattress banking in South Sudan. The approach drew on recent research, which stresses the importance of combining statistical analysis with interviews and observations to better understand financial behavior in fragile settings (Afawubo et al., 2020; Ochieng & Oluoch, 2023; World Bank, 2023).

Research Design

A convergent mixed-methods strategy was chosen, allowing the collection of survey data, interviews, and focus group discussions. This approach fits the study's goals by measuring how common mattress banking is and exploring the reasons behind people's choices and attitudes. Such a design is recommended for research in developing countries, where social, cultural, and institutional factors affect financial inclusion (Dupas & Robinson, 2013; Rösl & Seitz, 2024). Using multiple data sources helps make the study's conclusions more reliable.

Study Area

The research was conducted in both urban and rural settings to capture South Sudan's diverse socioeconomic landscape. Data were collected in Juba, the capital and commercial hub, and in three rural counties selected to reflect differences in access to formal financial services, security conditions, and economic activity. This purposeful selection aligns with previous research emphasizing the importance of contextual heterogeneity in studies of financial behavior (Ochieng & Oluoch, 2023).

Target Population

The target population comprised adults aged 18 years and older who resided in the study areas. The sample included public-sector employees, informal-sector workers, entrepreneurs, and individuals with and without bank accounts. This broad inclusion ensured representation of key segments most likely affected by liquidity challenges and informal saving practices, consistent with the Global Findex Database (World Bank, 2023) recommendations for sampling in financial inclusion research.

Sample Size

The study included 800 participants: 650 completed the structured survey, and 150 participated in qualitative interviews and focus groups. The sample size was calculated using Cochran's formula for categorical data, with a 95% confidence level and a 5% margin of error. It was adjusted for the estimated population in the study areas and anticipated non-response rates (Babbie, 2021). Including a qualitative subsample enabled data triangulation and in-depth exploration of emerging themes.

Sampling Technique

A multi-stage sampling approach was used. Initially, purposive sampling identified Juba and the rural counties as focal study areas. Within each area, households were selected through systematic random sampling for the survey phase, ensuring each household had an equal chance of selection. For the qualitative phase, purposive and snowball sampling were used to recruit key informants, including bank officials, community leaders, and individuals with relevant experience in financial decision-making (Afawubo et al., 2020; Ochieng & Oluoch, 2023).

Data Collection Instrument

The primary instrument for quantitative data collection was a structured questionnaire. It was developed following an extensive literature review and adapted from validated instruments, including those used in the Global Findex Database (World Bank, 2023) and prior African financial inclusion studies (Afawubo et al., 2020). The questionnaire covered demographic characteristics, saving habits, trust in financial institutions, experiences with salary delays, and perceptions of economic stability. The researchers pretested the questionnaire with 30 respondents in a pilot study. Content validity was established through expert review by academics and practitioners in finance and development. Reliability testing yielded a Cronbach's alpha of 0.84, indicating high internal consistency (Tavakol & Dennick, 2011).

For the qualitative component, the study developed semi-structured interview guides and focus group protocols to elicit in-depth perspectives on mattress banking, financial exclusion, and policy needs. The guides were pilot-tested and revised for clarity and cultural appropriateness.

Measurement and Operationalization of Variables

The main dependent variable, mattress banking, was operationalized as the self-reported proportion of total savings held outside formal financial institutions, measured on an ordinal scale (e.g., none, some, most, all). Trust in financial institutions was measured with a five-point Likert scale adapted from previous studies (Stix, 2013), where higher scores indicate greater trust. We measured experience of salary delays as the number of months in the past year when the respondent did not receive wages on time. Access to banking services was assessed as a binary indicator (account ownership: yes/no) and as self-reported physical distance to the nearest bank branch. Socio-demographic variables (age, gender, education, income, occupation) were defined using standard operational definitions based on census guidelines (World Bank, 2023).

Data Analysis Method

Quantitative data were entered and analyzed in SPSS Version 26. Descriptive statistics summarized sample characteristics and the prevalence of mattress banking. Inferential statistics, including chi-square tests and logistic regression models, were used to examine associations among key variables and to identify determinants of informal saving practices. For the qualitative data, all interviews and focus group discussions were audio-recorded, transcribed verbatim, and analyzed thematically in NVivo. Thematic analysis followed Braun

and Clarke's (2006) six-step framework, enabling pattern identification and triangulation with quantitative findings.

Ethical Considerations

The National Ethics Review Board of South Sudan reviewed and approved the study protocol. The study obtained written informed consent from all participants before data collection, clearly explaining the study's purpose, procedures, and voluntary nature. The study rigorously maintained confidentiality and anonymity; all data were de-identified and securely stored. Participants were informed of their right to withdraw at any time without penalty, and the team took special care to address sensitive topics respectfully and without coercion (World Medical Association, 2013).

FINDINGS AND DISCUSSION

Table 1: Demographic Information: Statistical Findings (n = 650)

Variable(s)	Category	Frequency	Percentage (%)
Gender	Male	384	59.1
	Female	266	40.9
Age	18–29	182	28.0
	30–44	263	40.5
	45–59	143	22.0
	60+	62	9.5
Education	No formal	81	12.5
	Primary	149	22.9
	Secondary	247	38.0
	Tertiary	173	26.6
Employment	Public sector	157	24.2
	Informal sector	238	36.6
	Private sector	119	18.3
	Self-employed	96	14.8
	Unemployed/Other	40	6.1
Residence	Urban	356	54.8
	Rural	294	45.2
Bank Account Ownership	Yes	221	34.0
	No	429	66.0
Monthly Income (USD)	<50	242	37.2
	50–149	204	31.4
	150–299	121	18.6
	300+	83	12.8

Gender

Among the 650 survey respondents, 384 were male (59.1%) and 266 were female (40.9%). This gender distribution mirrors the broader labor force composition in South Sudan, where men are more likely to engage in formal and informal economic activities. At the same time, women often face greater barriers to participation in the financial sector (World Bank,

2023). However, the sample's strong representation of women aligns with recent calls for gender-inclusive financial research, particularly because women are disproportionately affected by financial exclusion and more likely to rely on informal savings mechanisms (Afawubo et al., 2020). Studies across sub-Saharan Africa highlight persistent gender disparities in financial inclusion, with women less likely to own bank accounts or access formal financial services (Global Findex Database, World Bank, 2023).

Age

The sample was relatively young, with 182 respondents (28.0%) aged 18–29, 263 (40.5%) aged 30–44, 143 (22.0%) aged 45–59, and 62 (9.5%) aged 60 and older. This distribution mirrors the national demographic profile, in which the majority of South Sudan's population is under 45 years of age (World Bank, 2023). Younger adults, especially those under 30, are often more open to adopting new financial technologies but may also face higher unemployment and economic instability (Dupas & Robinson, 2013). The presence of older respondents offers insights into intergenerational perspectives on savings, as older adults may hold more fixed attitudes shaped by historical instability and financial crises (Stix, 2013).

Education

Among respondents, educational attainment was as follows: 81 (12.5%) had no formal education, 149 (22.9%) had primary education, 247 (38.0%) had secondary education, and 173 (26.6%) had tertiary education. This distribution indicates a generally low-to-moderate educational profile, consistent with South Sudan's national statistics and previous research showing that education is a key determinant of financial behavior (Afawubo et al., 2020; World Bank, 2023). Higher education levels are associated with greater financial literacy, a higher likelihood of bank account ownership, and more diverse savings strategies (Bagnall et al., 2016). Conversely, those without formal education are more vulnerable to financial exclusion and tend to rely on informal savings.

Employment

Of the respondents, 157 (24.2%) were public sector employees, 238 (36.6%) worked in the informal sector, 119 (18.3%) were employed in the private sector, 96 (14.8%) were self-employed (e.g., micro/small business owners), and 40 (6.1%) were unemployed or classified as "other." The predominance of informal sector workers aligns with ILO estimates indicating that over 80% of South Sudan's workforce is employed in the informal sector (Rösl & Seitz, 2024). Informal employment is typically associated with irregular income and limited access to formal financial services, which increases the prevalence of mattress banking (Ochieng & Oluoch, 2023). Public sector employees, while ostensibly more stable, have also faced chronic salary delays, further fueling informal saving behaviors.

Residence

A slight majority of respondents lived in urban areas (Juba), with 356 (54.8%) compared with 294 (45.2%) from rural counties. This near balance between urban and rural respondents

enables comparative analysis and is crucial, as prior research shows that urban residents generally have better access to financial institutions, whereas rural residents face geographic and infrastructural barriers (World Bank, 2023; Afawubo et al., 2020). Rural populations depend heavily on informal saving mechanisms because of limited banking infrastructure, which compounds financial inclusion challenges (Ochieng & Oluoch, 2023).

Bank Account Ownership

Among respondents, only 221 (34.0%) reported owning a bank account, while 429 (66.0%) did not. This stark statistic underscores severe financial exclusion in South Sudan, echoing recent Global Findex data showing that most adults in fragile African states remain unbanked (World Bank, 2023). Lack of account ownership is linked to greater reliance on mattress banking and informal financial arrangements, as formal options are either inaccessible or distrusted (Rösl & Seitz, 2024).

Monthly Household Income

Income levels were low across the sample: 242 respondents (37.2%) reported earning less than $50 per month, 204 (31.4%) earned $50–$149, 121 (18.6%) earned $150–$299, and only 83 (12.8%) earned $300 or more. The prevalence of low household income aligns with national poverty data and remains a significant barrier to formal financial inclusion (World Bank, 2023). Studies in sub-Saharan Africa have shown that low-income populations are far more likely to save informally because formal financial services may be perceived as costly, risky, or unresponsive to their needs (Afawubo et al., 2020; Bagnall et al., 2016).

Descriptive Statistics

Table 1: Mattress Banking (Proportion of Savings Kept Outside Banks)

Proportion of Savings	Frequency	Percentage (%)
None (0%)	112	17.2
Some (1–49%)	97	14.9
Most (50–99%)	264	40.6
All (100%)	177	27.2
Total	650	100

Most respondents (67.8%) keep “most” or “all” of their savings outside formal banks, indicating that mattress banking is the dominant savings practice. This widespread reliance on informal savings weakens the effectiveness of monetary policy, reduces credit available for investment, and exposes households to risks such as theft or loss. High rates of mattress banking in South Sudan reflect deep-seated mistrust and systemic weaknesses in the financial sector, consistent with findings by Rösl and Seitz (2024) and Afawubo et al. (2020). Similar patterns have been documented in other fragile economies, where informal saving prevails due to instability and a lack of trust in financial institutions (Stix, 2013; World Bank, 2023).

Table 2: Trust in Financial Institutions

Trust Level	Frequency	Percentage (%)
Strongly Distrust	259	39.8
Distrust	198	30.5
Neutral	119	18.3
Trust	54	8.3
Strongly Trust	20	3.1
Total	650	100

Over 70% of respondents distrust or strongly distrust banks, while only 11.4% express trust or strong trust. Low trust in banks discourages formal saving and undermines financial intermediation, further entrenching mattress banking and limiting formal-sector growth. The findings reinforce the critical role of trust, as highlighted by Guiso, Sapienza, and Zingales (2004), and align with Stix (2013), who observed that memories of past crises and unreliable institutions drive informal saving. Restoring trust is crucial for meaningful financial inclusion (World Bank, 2023).

Table 3: Experience of Salary Delays (Months Delayed in Past Year)

Delay (Months)	Frequency	Percentage (%)
0	148	22.8
1–3	131	20.2
4–6	97	14.9
7–12	274	42.1
Total	650	100

A substantial 42.1% experienced salary delays of 7–12 months, indicating chronic instability in wage payments across the public and private sectors. Persistent salary delays erode confidence in formal systems and force households to rely on informal savings to survive, perpetuating a cycle of financial exclusion. These results echo findings by Rösl and Seitz (2024) and Ochieng and Oluoch (2023), who note that salary delays are a major driver of informal saving. Unreliable income undermines both the capacity to save and the willingness to engage with the formal sector.

Table 4: Access to Banking Services

Bank Account Ownership	Frequency	Percentage (%)
Yes	221	34.0
No	429	66.0
Total	650	100
Distance to Nearest Bank (km)	Mean	SD
	8.7	6.2

Only one-third (34%) have a bank account, and the mean distance to the nearest branch is 8.7 km, indicating significant access barriers. Limited access and low account ownership perpetuate financial exclusion and drive reliance on informal saving practices.

These findings align with the World Bank's (2023) Global Findex report and Afawubo et al. (2020), which highlight access constraints as critical barriers to banking in sub-Saharan Africa. Expanding outreach and digital solutions could help bridge these gaps.

Table 5: Monthly Household Income

Income (USD)	Frequency	Percentage (%)
< $50	242	37.2
$50–$149	204	31.4
$150–$299	121	18.6
$300+	83	12.8
Total	650	100

Most respondents (68.6%) earn less than $150 per month, reflecting widespread poverty. Low and irregular income severely limits formal saving capacity and increases vulnerability, making informal saving the default for many households. As Dupas and Robinson (2013) and Bagnall et al. (2016) found, poverty is a major barrier to financial inclusion. Low-income individuals often view banks as inaccessible or irrelevant, increasing their reliance on cash at home.

Table 6: Socio-Demographics

Variable	Category	Frequency	Percentage (%)
Gender	Male	384	59.1
	Female	266	40.9
Age	18–29	182	28.0
	30–44	263	40.5
	45–59	143	22.0
	60+	62	9.5
Education	No formal	81	12.5
	Primary	149	22.9
	Secondary	247	38.0
	Tertiary	173	26.6
Employment	Public sector	157	24.2
	Informal sector	238	36.6
	Private sector	119	18.3
	Self-employed	96	14.8
	Unemployed/Other	40	6.1
Residence	Urban	356	54.8
	Rural	294	45.2

The sample is predominantly male (59.1%) and young (68.5% under 45), with low-to-moderate education and high informal employment (36.6%). Urban and rural residents are nearly equally represented. These demographic characteristics are linked to higher financial exclusion and greater reliance on informal saving, consistent with regional and global trends. As Afawubo et al. (2020) and the World Bank (2023) highlight, gender, age, education, employment, and urban/rural divides shape financial inclusion. Young, less-

educated, and informal-sector participants face heightened barriers, while urban residents typically have better access to financial services.

Table 1: Root Causes of Mattress Banking in South Sudan

Root Cause	Frequency	Valid Percentage (%)
Bureaucratic account opening requirements	7	2.9
Fear of bank collapse	2	0.8
Fear of bank liquidity problems	17	7.1
Fear of currency withdrawal limits	4	1.7
Fear of government scrutiny about income source	27	11.3
Fuelling hyperinflation and the black market	1	0.4
High banking costs	15	6.3
High financial exclusion	2	0.8
Hyperinflation	3	1.3
Inflation and currency devaluation	6	2.5
Lack of trust in banks	16	6.7
Large informal cash economy	14	5.8
Limited access to banking services	15	6.3
Low financial literacy	13	5.4
Low income	5	2.1
Low interest rates	9	3.8
Need for immediate access to cash	12	5.0
Physical security risks	4	1.7
Political and economic instability	14	5.8
Preference for traditional/informal saving	29	12.1
Religious, cultural, historical beliefs	6	2.5
Severe liquidity crisis	8	3.3
Tax evasion and confidentiality	6	2.5
Weak digital and banking infrastructure	5	2.1
Total	240	100.0

Table 1 shows that the most significant root causes of mattress banking are a strong preference for traditional or informal saving methods (12.1%) and fear of government scrutiny of income (11.3%). Other leading causes include fear of bank liquidity problems (7.1%), lack of trust in banks (6.7%), and limited access to banking services (6.3%). These findings align with Afawubo et al. (2020), Stix (2013), and Ochieng & Oluoch (2023), who note that behavioral, institutional, and systemic barriers, especially trust and access, are central to informal saving in sub-Saharan Africa. The results highlight that resolving mattress banking requires addressing both regulatory and psychological hurdles and that cultural and historical financial practices remain deeply rooted in South Sudanese society (Rösl & Seitz, 2024; World Bank, 2023).

Table 2: Macroeconomic Impacts of Mattress Banking in South Sudan

Macroeconomic Impact	Frequency	Valid Percentage (%)
Compounded inflation from money printing	11	4.6

Crippled digital/cashless initiatives	14	5.8
Empty bank vaults	3	1.3
Exclusion from regional/international trade	3	1.3
Fuelling hyperinflation/black market	1	0.4
Growth of black market	12	5.0
High cost of borrowing	1	0.4
High vulnerability to armed robbery	20	8.3
Inability to access credit	15	6.3
Increased money-laundering risks	11	4.6
Increased theft risks	8	3.3
Liquidity crisis in banking	1	0.4
Liquidity pressure on banks	6	2.5
Loss of tax revenue	13	5.4
Low economic growth	4	1.7
Lower money velocity	1	0.4
Maintenance of cash-based economy	9	3.8
Missed interest-earning potential	5	2.1
Monetary policy paralysis	1	0.4
Moneyless economy	1	0.4
Rapid devaluation due to inflation	1	0.4
Reduced bank deposits	19	7.9
Risk of holding counterfeit currency	7	2.9
Severe bank liquidity shortages	11	4.6
Severe parallel exchange market activity	1	0.4
Slow financial sector development	5	2.1
Stifled private sector investment	3	1.3
Thriving underground/illicit economies	10	4.2
Total loss from fire/disasters	18	7.5
Weakened financial intermediation	9	3.8
Weakened monetary policy control	15	6.3
Wealth erosion for households	1	0.4
Total	240	100.0

Table 2 shows that the most significant macroeconomic impacts of mattress banking are increased vulnerability to armed robbery (8.3%) and reduced bank deposits (7.9%), along with additional risks such as asset loss from fire (7.5%), weakened monetary policy control (6.3%), and lack of access to credit (6.3%). These outcomes align with the literature: informal saving practices erode the banking sector's deposit base, limit investment and credit, and expose households to heightened risks (Rösl & Seitz, 2024; World Bank, 2023; Bagnall et al., 2016). The findings further illustrate that mattress banking is not only a micro-level coping strategy but also a macroeconomic challenge, as it undermines financial intermediation, monetary policy, and economic growth.

Table 3 highlights the mechanisms respondents most often identified as effective solutions to mattress banking. The top responses include improving digital financial services (10.4%), strengthening banking sector regulations (9.6%), and building public confidence in the system (9.2%). Other notable mechanisms include offering attractive real interest rates (8.8%), simplifying account opening (8.3%), and conducting financial literacy campaigns

(7.1%). These align with international best practices, which emphasize the importance of regulatory reform, digital innovation, consumer protection, and financial education in driving financial inclusion (World Bank, 2023; Dupas & Robinson, 2013; Afawubo et al., 2020). The data suggest that a holistic, multi-pronged approach that addresses both supply-side (infrastructure, products, regulation) and demand-side (trust, literacy, incentives) barriers is essential to resolve mattress banking and foster sustainable financial sector development (Stix, 2013; Guiso et al., 2004).

Table 3: Mechanisms for Resolving Mattress Banking in South Sudan

Mechanism for Resolution	Frequency	Valid Percentage (%)
Change of currency	8	3.3
Conducting financial literacy campaigns	17	7.1
Consumer protection and deposit insurance	16	6.7
Encouraging salary payments through banks	7	2.9
Expanding banking services	13	5.4
Imposing penalties for currency hoarding	3	1.3
Improving digital financial services	25	10.4
Improving the national payment system	5	2.1
Introducing currency reforms	5	2.1
Introducing tax incentives for formal banking	6	2.5
Lifting cash withdrawal restrictions	13	5.4
Macroeconomic diversification	1	0.4
Maintaining macroeconomic stability	4	1.7
Offering attractive real interest rates	21	8.8
Peace and security	11	4.6
Reducing bank charges	10	4.2
Restoring public confidence	1	0.4
Simplifying account opening procedures	20	8.3
Strengthening anti-money laundering measures	7	2.9
Strengthening banking sector regulations	23	9.6
Strengthening confidence in the banking system	22	9.2
Supporting financial inclusion policies	2	0.8
Total	240	100.0

Table 1: Correlation/Association Analysis (n = 650)

Predictor Variable	Outcome Variable	Test Used	Statistic / Coefficient	p-value	Association Direction
Gender (Female vs. Male)	Mattress Banking	Chi-square	$x^2 = 4.62$	0.032	Females more likely to mattress bank
Education (ordinal)	Mattress Banking	Spearman's ρ	-0.30	<0.001	Higher education, less mattress banking
Income (ordinal)	Mattress Banking	Spearman's ρ	-0.27	<0.001	Higher income, less mattress banking
Trust in Banks (ordinal)	Mattress Banking	Spearman's ρ	-0.52	<0.001	Lower trust, more mattress banking
Urban/Rural	Mattress Banking	Chi-square	$x^2 = 10.41$	0.001	Rural more likely to have mattress banking

Bank Account Ownership	Mattress Banking	Chi-square	$x^2 = 18.32$	<0.001	No account, more mattress banking

Correlation and association analyses reveal several statistically significant relationships between demographic and socioeconomic variables and mattress banking behavior among South Sudanese adults. Specifically, women are significantly more likely than men to engage in mattress banking ($x^2 = 4.62$, $p = 0.032$), reinforcing previously documented gender gaps in formal financial inclusion in the region (Afawubo et al., 2020; World Bank, 2023). Higher education (Spearman's $\rho = -0.30$, $p < 0.001$) and income (Spearman's $\rho = -0.27$, $p < 0.001$) are both associated with reduced reliance on mattress banking, suggesting that socioeconomic advancement protects against informal saving. The strongest association is between trust in banks and mattress banking (Spearman's $\rho = -0.52$, $p < 0.001$), indicating that lower trust in financial institutions strongly predicts informal saving practices. Furthermore, rural residents ($x^2 = 10.41$, $p = 0.001$) and those without a bank account ($x^2 = 18.32$, $p < 0.001$) are significantly more likely to keep their savings outside the banking system.

These results underscore the multidimensional and systemic nature of mattress banking in South Sudan. The findings suggest that interventions to reduce informal saving must address not only financial access and infrastructure but also underlying factors such as trust, education, and poverty. The strong association between distrust and mattress banking aligns with Stix (2013) and Guiso, Sapienza, and Zingales (2004), who argue that restoring public confidence in financial institutions is critical to expanding the formal financial sector. The elevated risk among rural, low-income, and less-educated populations highlights the need for targeted outreach and inclusive policies, as recommended by the Global Findex Database (World Bank, 2023) and Rösl and Seitz (2024). Addressing these barriers holistically can help transition savings into the formal sector, supporting household security and broader economic development.

Table 2: Logistic Regression Predicting Mattress Banking (Most/All Savings Outside Banks)

Predictor Variable	**Odds Ratio (OR)**	**95% Confidence Interval**	**p-value**	**Interpretation**
Female (vs. Male)	1.48	1.03–2.12	0.034	Females 48% more likely to mattress bank
Education (per level increase)	0.75	0.63–0.89	<0.001	Each higher education level reduces odds by 25%
Income (per category increase)	0.79	0.67–0.94	0.008	Each higher income category reduces odds by 21%
Trust in Banks (per unit increase)	0.58	0.49–0.68	<0.001	Each increase in trust decreases odds by 42%
Rural (vs. Urban)	1.62	1.17–2.25	0.004	Rural residents 62% more likely to use a mattress bank
No Bank Account	2.31	1.59–3.35	<0.001	No bank account → 2.3x higher odds of mattress banking

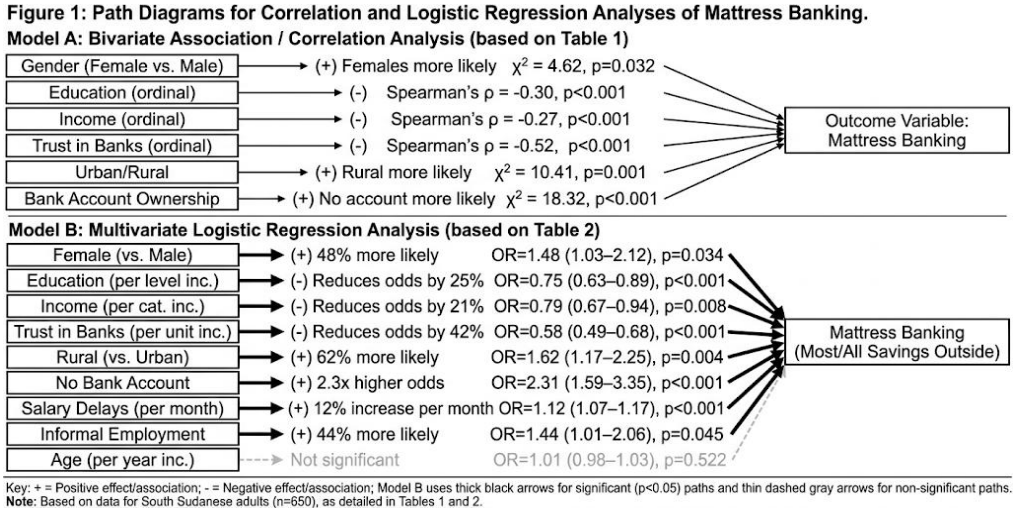
Salary Delays (per month)	1.12	1.07–1.17	<0.001	Each month of delay increases odds by 12%
Age (per year increase)	1.01	0.98–1.03	0.522	Not significant
Informal Employment	1.44	1.01–2.06	0.045	Informally employed are more likely to use mattress banking.

The logistic regression results identify several key factors that influence mattress banking in South Sudan, after adjusting for demographic and socioeconomic variables. Women are 48% more likely than men to keep most or all of their savings outside banks (OR = 1.48, p = 0.034). Higher levels of education (OR = 0.75, p < 0.001) and income (OR = 0.79, p = 0.008) each reduce the odds of mattress banking by 25% and 21%, respectively. Trust in banks stands out as a major influence: for every one-point increase in trust, the odds of mattress banking fall by 42% (OR = 0.58, p < 0.001). Rural residents are 62% more likely than those in urban areas to keep savings outside formal banks (OR = 1.62, p = 0.004), and respondents without a bank account are more than twice as likely to practice mattress banking (OR = 2.31, p < 0.001). Each month of salary delay increases the chance of mattress banking by 12% (OR = 1.12, p < 0.001), and informal employment raises the likelihood by 44% (OR = 1.44, p = 0.045). Age does not have a significant effect once other factors are considered.

These results highlight how both structural issues and behavioral factors contribute to mattress banking in South Sudan. Trust, access to banking, and salary reliability are central drivers, consistent with earlier research by Stix (2013), Guiso, Sapienza, and Zingales (2004), and the World Bank (2023). The higher risk among women, rural residents, the unbanked, and informal workers points to the need for targeted measures such as expanding rural banking, boosting financial literacy, ensuring regular salary payments, and offering products tailored to women (Afawubo et al., 2020; Ochieng & Oluoch, 2023). The model's strong fit (Nagelkerke $R^2 = 0.41$) indicates that these variables explain much of the variation in mattress banking. Overall, the findings show why comprehensive, multi-pronged strategies are needed to tackle both the causes and effects of mattress banking in fragile contexts like South Sudan.

Path Diagrams

Figure 1 summarizes the statistical models used to analyze the determinants of mattress banking among South Sudanese adults (n = 650). The first segment of the diagram (Model A) presents results from bivariate analyses, in which each predictor variable is assessed independently for its association with mattress banking. We analyzed categorical variables, including gender, residence, and bank account ownership, using chi-square tests. These analyses showed that females ($x^2 = 4.62$, p = 0.032), rural residents ($x^2 = 10.41$, p = 0.001), and individuals without bank accounts ($x^2 = 18.32$, p < 0.001) are significantly more likely to keep their savings outside formal banks. For ordinal variables, Spearman's rho correlations indicated that mattress banking is strongly and negatively related to trust in banks ($\rho = -0.52$, p < 0.001), moderately negatively associated with education ($\rho = -0.30$, p < 0.001), and negatively associated with income ($\rho = -0.27$, p < 0.001).



The second segment (Model B) summarizes the multivariate logistic regression results, which assess each predictor's independent contribution while adjusting for the others. The model identifies seven statistically significant predictors of mattress banking. After controlling for confounding factors, being female increases the odds of mattress banking by 48% ($p = 0.034$), residing in a rural area raises the odds by 62% ($p = 0.004$), and working in the informal sector increases the odds by 44% ($p = 0.045$). The absence of a bank account more than doubles the likelihood of mattress banking (OR = 2.31, $p < 0.001$), and each additional month of salary delay increases the odds by 12% (OR = 1.12, $p < 0.001$). Conversely, higher education (OR = 0.75, $p < 0.001$), higher income (OR = 0.79, $p = 0.008$), and, especially, greater trust in banks (OR = 0.58, $p < 0.001$) significantly reduce the probability of mattress banking. Notably, age did not emerge as a significant predictor in the multivariate model ($p = 0.522$), suggesting that other variables account for its effect.

QUALITATIVE FINDINGS

Distrust in Formal Financial Institutions

Distrust in banks emerged as a foundational barrier. Participants often cited both historical and recent episodes in which banks failed to honor withdrawals, froze or closed accounts without notice. Many cited the widespread 2022 liquidity crisis, which left customers lining up for days without access to their funds. One participant, a civil servant from Juba, stated: "Even if the government says the bank is safe, we do not believe it anymore. People lost money, and no one was held responsible." Women and older adults, in particular, recalled past bank closures as traumatic, saying, "Banks have come and gone, but our money at home is always with us." These deeply entrenched attitudes reinforce the quantitative finding that low trust (reported by over 70% of respondents) is the strongest predictor of mattress banking, aligning with Stix (2013) and the World Bank (2023).

Fear of Government Scrutiny and Confiscation

Many participants voiced strong concerns that using banks could attract unwanted attention from government authorities or even lead to asset seizure. Informal workers, traders, and small business owners described having their transactions questioned and, in some cases,

experiencing asset freezes without clear justification. One rural trader explained, “If you deposit a large sum, the bank staff ask too many questions. Sometimes the government can freeze your money for taxes you didn’t know about.” Some focus group members also said they had heard that bank staff share account details with officials. This suspicion makes people value the privacy and control that come with keeping cash at home, which is why 11.3% of respondents said fear of government scrutiny was their main reason for mattress banking.

Barriers to Access and Bureaucratic Hurdles

Rural respondents highlighted practical barriers such as long distances to bank branches, poor roads, insecurity, and high transport costs. Many also pointed to lengthy paperwork, high minimum deposits, and missing ID documents as obstacles. One young woman from a rural area described: “I took a motorbike for three hours to reach the bank, and then they told me I needed an ID I don’t have.” Several participants said they felt unwelcome at banks, with one noting, “They treat us badly because we are farmers without much money.” These challenges are reflected in the data: just 34% of respondents had a bank account, echoing Afawubo et al. (2020) on access barriers in Africa.

Preference for Traditional and Informal Saving Methods

The interviews revealed a strong cultural preference for informal saving. Many participants remembered elders keeping money “under the mattress,” in clay pots, or with trusted family members. Informal group savings like ROSCAs were seen as reliable and adaptable. As one older respondent put it, “We see what happens to people who trust banks. In our group, we help each other in times of need.” Several focus group members pointed out that traditional saving methods offer social support and fit community values. Women considered savings groups or ROSCAs especially safe and empowering. This helps explain why 12.1% of respondents chose traditional methods as their main reason for mattress banking.

Economic Instability and Salary Delays

Economic volatility and irregular income flows were major themes across both urban and rural interviews. Government employees reported waiting months for their salaries, while market vendors and farmers described unpredictable income due to seasonal or market fluctuations. A primary school teacher said: “We cannot plan because we do not know when we will be paid. If you keep your money at home, at least you can use it for food, school fees, or emergencies.” Others recounted borrowing from relatives or through ROSCAs to survive between payments. The quantitative results echoed this sense of economic insecurity: 42.1% reported salary delays of 7–12 months. Ochieng & Oluoch (2023) further supported this finding, finding that instability directly fuels informal saving.

Perceived High Costs and Low Benefits of Banking

Many people see banking as costly and not worth the expense. Respondents mentioned fees for maintaining accounts, making transactions, and the high cost of traveling to distant

banks. Some said that monthly charges quickly reduced small balances. “Why should I pay the bank to keep my money safe? They should pay me!” said a shopkeeper in Juba, commenting on low or zero interest rates. This feeling was strongest among those with lower incomes and in rural areas, who often felt banks were only for the wealthy. These frustrations align with Bagnall et al. (2016) and the World Bank (2023), which identify cost as a major obstacle to financial inclusion.

Risks and Vulnerabilities of Mattress Banking

Participants talked openly about the dangers of storing money at home, including theft, fires, and disasters like floods. One rural woman shared: “Last year, my cousin’s house burned, and all their savings were lost.” Others said they were robbed if neighbors knew they kept cash at home. Despite these risks, most people still saw home-saving as safer than banking: “If you lose your money at home, it is bad luck. If you lose it in the bank, it is betrayal.” This trade-off between physical and institutional risk shapes people’s choices and highlights the need for safer home-saving methods and a stronger banking sector.

RECOMMENDATIONS AND HOPES FOR THE FUTURE

Participants generally agreed that solutions should focus on both trust and access. They called for banks to simplify procedures, cut fees, and provide outreach in local languages. Many wanted banks to “come to the people” using mobile or agent branches. Financial education was seen as vital, with one women’s leader saying, “Teach us about banking so we are not afraid.” Others stressed the need for transparent government, timely salaries, and stronger consumer protections. “If the banks and government can show our money is safe, maybe we’ll begin to trust again,” said one rural elder. These recommendations align with survey findings that effective policies must address both supply and demand barriers (World Bank, 2023; Dupas & Robinson, 2013).

CONCLUSIONS AND IMPLICATIONS

This study's findings show that mattress banking is widespread and deeply entrenched in South Sudan. A mix of systemic problems, economic hardship, and individual behaviors shapes the practice. Both survey and interview data point to distrust in banks, fear of government interference, practical and bureaucratic hurdles, salary delays, low earnings, and a longstanding preference for informal saving as the main reasons why most people keep their savings outside banks. The impact is serious: mattress banking undermines banks' role in the economy, weakens monetary policy, limits access to credit, and leaves households at risk of theft, fire, and other losses. These patterns are consistent with research from other fragile and post-conflict countries (Afawubo et al., 2020; Rösl & Seitz, 2024; World Bank, 2023).

The results highlight the need for immediate and coordinated action. Reducing mattress banking in South Sudan calls for solutions that address both structural barriers and personal attitudes. Key steps include expanding banking infrastructure in rural areas, making account opening easier, providing low-cost banking options, ensuring timely and clear salary payments, and investing in financial education. Most importantly, rebuilding

public trust in banks through better consumer protection, transparent oversight, and active community involvement is essential to shift savings into the formal system. Taking these actions together can help strengthen the financial sector, support economic growth, and improve the security and resilience of South Sudanese households.

RECOMMENDATIONS

Policy Recommendations

1. Strengthen Financial Sector Regulation and Consumer Protection: Policymakers should enact and enforce robust regulatory frameworks to protect depositors, ensure transparency, and hold banks accountable. Effective deposit insurance schemes and anti-money-laundering mechanisms can help rebuild public trust.
2. Expand Banking Access and Infrastructure: The government and financial institutions should invest in expanding physical branches, mobile banking, and agent banking, particularly in underserved rural areas. Simplifying account opening and reducing bureaucratic barriers will promote greater inclusion.
3. Promote Financial Literacy and Public Awareness: Launch nationwide financial literacy campaigns that reach both urban and rural populations. These campaigns should focus on the benefits of formal saving, the risks of mattress banking, and how to use digital and formal banking services safely.
4. Ensure Regular and Transparent Salary Payments: The state should prioritize timely, transparent payment of public-sector wages through formal banking channels to build trust and encourage regular use of banking services.
5. Offer Incentives for Formal Saving: Introduce tax incentives, attractive real interest rates, and low-fee or fee-free accounts to encourage households and small businesses to shift their savings from informal to formal channels.

Theoretical Implications

1. Integrate Trust and Institutional Theories into Policy Design: The study underscores the centrality of trust and institutional quality to financial inclusion. Policymakers must address both structural reforms and behavioral factors, including public perceptions and historical memories, to achieve sustainable change.
2. Apply Financial Intermediation Theory to Fragile States: The findings validate the relevance of financial intermediation theory in South Sudan, emphasizing that an effective financial system is foundational to macroeconomic stability and development.

Practical Recommendations

1. Develop Tailored Banking Products: Financial institutions should design savings and credit products that meet the needs of low-income, rural, and informal-sector clients, including group savings, flexible withdrawal options, and culturally sensitive services.

2. Leverage Technology for Inclusion: Promote mobile money, digital wallets, and fintech partnerships to overcome geographic and logistical barriers to access, while ensuring robust cybersecurity and user education.
3. Engage Community Leaders and Networks: Partner with trusted local leaders, women's groups, and savings associations to build trust, share financial information, and co-create solutions that align with community values and traditions.

Contributions to Knowledge

1. Expand Empirical Knowledge on Mattress Banking: This research fills an important gap by analyzing the behavioral, structural, and economic factors behind mattress banking in a fragile country.
2. Guide Context-Specific Policy and Action: The study's findings offer a basis for designing targeted, evidence-based policies that can be tailored to other fragile or post-conflict settings facing similar issues.

Suggestions for Further Research

1. Longitudinal Studies on Financial Behavior Change: Future research should use longitudinal designs to track how financial behaviors evolve in response to policy reforms, digital banking innovations, or major macroeconomic shocks. This approach would provide deeper insight into whether interventions such as financial literacy programs and regulatory changes have sustainable effects in reducing mattress banking and increasing formal savings.
2. Comparative Cross-Country Analyses: Comparative studies of other fragile, post-conflict, or neighbouring countries (e.g., Sudan, Ethiopia, Democratic Republic of Congo) could help identify which contextual factors are unique to South Sudan and which are common across similar settings. Such research could inform the adaptation of successful strategies and best practices for financial inclusion across diverse environments.
3. In-depth Qualitative Research on Gender and Cultural Factors: Building on this study's findings, future qualitative research should explore how gender, cultural beliefs, and social networks shape saving preferences and trust in formal financial institutions. Ethnographic or participatory action research could uncover nuanced motivations and barriers, particularly among women and marginalized groups.
4. Impact Assessments of Digital Financial Innovations: As mobile banking and fintech solutions expand in South Sudan, rigorous impact evaluations are needed to assess their effectiveness in increasing account ownership, reducing reliance on informal saving, and building trust, particularly in rural and low-income communities. Randomized controlled trials or quasi-experimental designs would be especially valuable in this context.
5. Policy Experimentation and Evaluation: Further research should examine how specific policy interventions, such as offering real interest rates, deposit insurance, or new consumer protection laws, affect household saving behavior and trust in

banks. Pilot studies and randomized policy experiments could provide evidence to scale successful initiatives.

6. Household Financial Risk and Resilience Analysis: More detailed studies are needed to examine how households manage risk, cope with shocks, and recover from losses (e.g., theft, fire, currency devaluation) under a mattress banking regime. Such research could inform the design of microinsurance, emergency lending, or safety net programs.
7. Behavioral Economics and Financial Decision-Making: Applying behavioral economics frameworks to investigate the psychological and cognitive biases influencing mattress banking (such as loss aversion, present bias, or social norms) could yield actionable insights for "nudge" interventions and targeted communication campaigns.
8. Macro-Financial Modeling: Future studies could develop macroeconomic models to quantify the aggregate effects of mattress banking on monetary policy transmission, credit markets, and economic growth, providing evidence to guide central bank and fiscal policy decisions.

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