

A QUANTITATIVE AND QUALITATIVE COST OF CASH RESEARCH STUDY (BANKNOTES AND COIN) IN SOUTH AFRICA 2026



SOUTH AFRICAN RESERVE BANK



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In this *Cost of Cash Research Study*, the South African Reserve Bank (SARB) provides insights into the direct and indirect costs associated with the use, distribution and management of cash in the Republic of South Africa, including impacts across households, businesses and the broader cash ecosystem.

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The findings and views expressed in this *Cost of Cash Research Study* are based on the data, methodologies and assumptions applied during the study, and do not necessarily reflect official policy positions of the SARB (unless explicitly stated).

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Executive summary

This quantitative and qualitative *Cost of Cash Research Study* was commissioned by the South African Reserve Bank (SARB) to provide a comprehensive assessment of the costs associated with the distribution, access, acceptance and use of cash (banknotes and coin) in South Africa. The study examines both the direct operational costs incurred throughout the cash value chain and the broader economic costs associated with cash usage, using 2024 as the base year of analysis.

Cash remains a significant component of South Africa's payment ecosystem, accounting for approximately 56% of all consumer transactions by volume.¹ Although digital payment alternatives continue to expand, cash remains widely used by consumers and merchants across both the formal and the informal economies. The continued importance of cash is reflected in the extensive infrastructure required to manufacture, distribute, store, transport, access and accept cash throughout the economy.

The study sought to:

- quantify the economic, operational and social costs of cash across the South African cash ecosystem;
- identify the principal cost drivers and opportunities to improve efficiency across the cash value chain;
- benchmark South Africa's cost of cash against international experience and leading practices;
- assess the operational and economic implications of cash usage across different stakeholder groups; and
- provide recommendations to support a secure, efficient, resilient and sustainable cash ecosystem.

The study combined financial analysis, industry data, stakeholder surveys, modelling techniques and international benchmarking. While many cost elements were directly observable, certain indirect and economic costs, including time-related and opportunity costs, were estimated using accepted economic methodologies and supporting assumptions.

Key findings

The study produced two complementary perspectives on the cost of cash in South Africa.

The first perspective measures the direct operational costs incurred across the formal cash value chain. The second estimates the broader economic cost of cash by incorporating both direct and indirect costs borne across the economy.

¹ South African Reserve Bank, [Payments Study Report 2023](#), Pretoria: South African Reserve Bank.

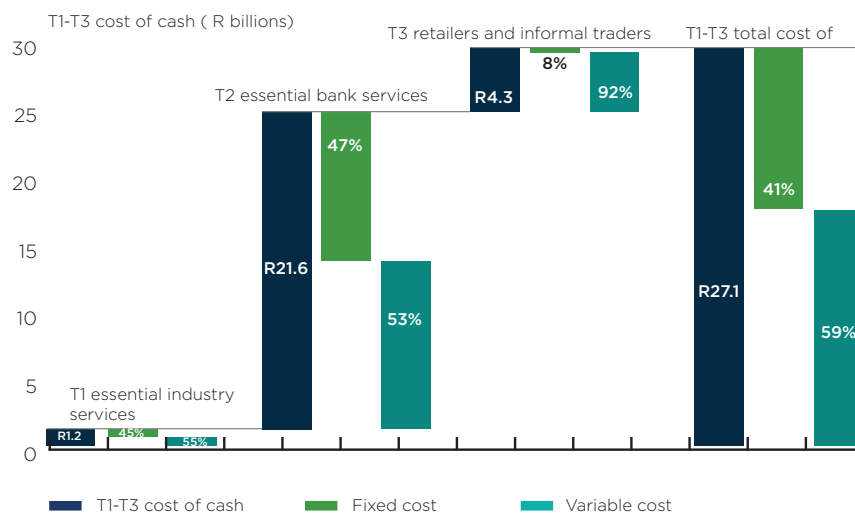
Formal cash value chain cost: R27.1 billion

To assess the operational costs of supplying and using cash, the cash ecosystem was analysed across three tiers:²

- Tier 1 (T1): Essential cash industry services, including cash processing, distribution and supporting infrastructure, incurred costs of approximately R1.2 billion.
- Tier 2 (T2): Essential banking services required to distribute and provide access to cash through automated teller machines (ATMs) and bank branches incurred costs of approximately R21.6 billion.
- Tier 3 (T3): Retail cash acceptance and cash-back services across the formal and informal sectors incurred costs of approximately R4.3 billion.

Together, these costs amounted to approximately R27.1 billion per annum, representing the direct cost of producing, distributing, accessing and accepting cash within the South African cash ecosystem.

Figure 1: The total cost of cash supply chain split by tier and by fixed vs variable components



The analysis indicates that costs incurred across Tiers 1 to 3, including embedded margins, are ultimately borne by consumers through a combination of explicit charges, pricing structures and broader economic incidence.

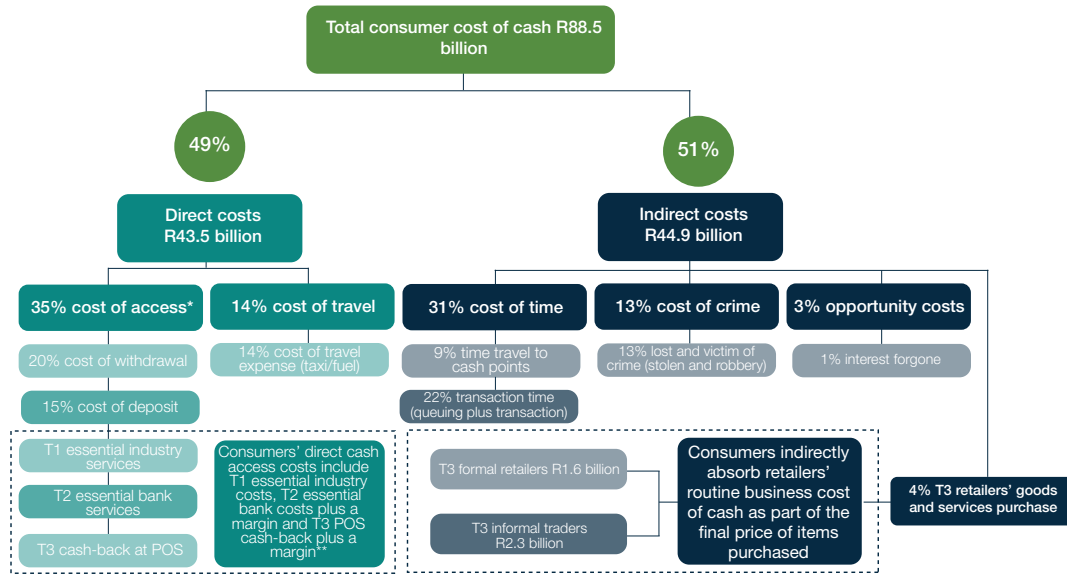
Economic cost of cash: R88.5 billion

The broader economic cost of cash in South Africa was estimated at approximately R88.5 billion per annum.

² For a detailed description of Tiers 1 to 3 (T1-T3), see section 3 of this report. These tiers exclude the costs borne by the SARB in the production and distribution of banknotes and coin (the cost of currency (T0)), which amounted to R1.8 billion in the financial year ending March 2024. Adding this cost (T0) to the total T1-T3 costs shown in Figure 1 (which are for the calendar year 2024) suggests that the costs of supply amount to about R28.9 billion. Please note that the cost of currency (T0) is for the financial year ending March 2024, whereas the costs shown in Figure 1 (T1-T3) are for the calendar year ending December 2024.



Figure 2: The cost of cash for the consumer is composed of direct costs and indirect costs. Consumers' direct cash access costs include T1 essential industry costs, T2 essential bank costs plus a margin, and T3 POS cash-back plus a margin.



* Consumers' access costs were calculated based on the results from the consumer survey and were not calculated directly using costs data from Tiers 1-3.

** The interest rate used to estimate the opportunity costs was 6%.

The R88.5 billion estimate comprises:

- direct costs of R43.5 billion (49%), including withdrawal fees, deposit fees and travel costs incurred specifically to access cash; and
- indirect costs of R44.9 billion (51%), including travel time, queuing time, transaction time, crime-related costs, forgone interest and other economic inefficiencies associated with cash usage.

The largest cost components are detailed within Table 1 below:

Table 1: Breakdown of total cost of cash per component

Cost component	National cost (R billion)	Cost type	Source
Cash withdrawal fees	17.7	Direct	Consumer survey
Cash deposit fees	13.3	Direct	Consumer survey
Travel costs (cash-specific)	12.5	Direct	Consumer survey
Time cost of travel for cash	8.3	Indirect	Derived
Queuing and transaction time	19.5	Indirect	Derived
Crime (loss, theft, robbery)	12.0	Indirect	Consumer survey
Opportunity costs	1.3	Indirect	Modelled
Retailer cost pass-through	1.6	Indirect	Market data
Informal trader cost pass-through	2.3	Indirect	Market data
Total cost of cash	88.5		

The findings indicate that a substantial proportion of the total economic cost of cash is associated with accessing cash rather than merely handling or processing it, with travel-related costs and time-related costs representing a significant share of the overall burden.

While the R27.1 billion estimate reflects the direct operational costs incurred across the formal cash value chain, the R88.5 billion estimate captures the broader economic costs borne throughout the economy. Importantly, the R27.1 billion should be viewed as conceptually embedded within, rather than additional to, the broader costs reflected

in the R88.5 billion estimate, as many cash value chain costs are ultimately passed through to and experienced by consumers and businesses as part of their direct costs of accessing and using cash. The two estimates therefore provide different but complementary perspectives and should not be interpreted as directly comparable measures, as they were developed using different methodologies, scopes and cost definitions.

Additional findings

- The cash-in-transit (CIT) industry is a very important component in the cash supply chain; it facilitates cash services – including storage, movement and insurance – throughout Tiers 1 to 3. It incurred costs of R7 billion. These costs are already included with other cash costs in Tiers 1 to 3, as paid in these tiers. Notably, CIT expenses alone contribute approximately 25% of the total cost of cash within Tiers 1 to 3.
- For every R100 transacted (for withdrawals and deposits), the approximated costs were as follows: retailer cash-back at point of sale (POS) has the lowest cost at 12 cents or 0.12%, ATMs at 68 cents or 0.68%, while bank branches have the highest cost at R1.53 or 1.53% of the value of the transaction.
- Retailers in South Africa, including both formal businesses (those registered for value-added tax (VAT) and informal traders (those that are not registered for VAT), collectively incur a total cost of cash amounting to R4.3 billion annually. The total cost of cash for formal retailers amounts to R2.0 billion, encompassing R399 million on providing cash-back services at POS and an additional R1.6 billion dedicated to routine business operations involving cash handling, storage and security. Informal traders' cost of cash was primarily through routine business activities, which totalled R2.3 billion.
- *Value chain complexity:* The cash life cycle comprises seven interdependent stages, from SARB issuance to destruction. Costs are incurred at each stage, with CIT logistics, ATM networks and retailer operations identified as the major cost drivers.
- *Global benchmarking:* South Africa's cost of cash, currently estimated at 1.2% of gross domestic product (GDP), is in line with figures observed in other emerging markets such as India at 1.7% and Indonesia at 1%.³
- *Barriers to digital adoption:* Key obstacles include a lack of access to technology, digital literacy gaps, security concerns and habitual cash usage. Vulnerable groups – rural, elderly and low-income – are most affected by rising cash costs and limited digital alternatives.

Important considerations

- The estimate reflects the economic cost of cash, not an accounting cost.
- Some costs (e.g. retailer costs) are partially inferred via economic pass-through.
- The survey sample excludes individuals under the age of 18 due to the limitations associated with obtaining guardian consent; the findings therefore reflect adults' cash usage behaviour only.
- Estimates rely on survey data, assumptions and modelling, and should be interpreted accordingly.

³ The details are discussed in section 2.1.



Recommendations

To optimise the cost of cash in South Africa and support financial inclusion, the *Cost of Cash Research Study* recommends a multi-pronged strategy.

Policymakers should seek to expand cash-back at POS facilities and improve ATM networks in underserved areas. They should also consider advancing collaborative models that use shared infrastructure across retailers and ATM networks, while encouraging technologies such as cash-recycling machines and more durable banknotes.

It is also recommended that a comprehensive study be conducted comparing the costs of all the major payment mediums. The phasing out of low-denomination coins is encouraged, supported by advanced inventory management systems. CIT costs should be optimised through mechanisms such as route rationalisation. Introducing higher-denomination banknotes could be considered to streamline processing and transport.

Conclusion

The *Cost of Cash Research Study* demonstrates that the economic impact of cash extends well beyond the direct operational costs incurred by participants in the formal cash value chain. While Tier 1, Tier 2 and Tier 3 activities collectively incur direct costs of approximately R27.1 billion per annum, the broader economic cost rises to approximately R88.5 billion when consumer-borne costs, time costs, crime-related impacts and other indirect effects are considered. These findings provide an evidence base for policymakers and industry stakeholders to identify cost drivers, evaluate improvement opportunities and support decisions aimed at enhancing the efficiency, resilience and long-term sustainability of South Africa's cash ecosystem.

1. Introduction

Cash, in its simplest form, is a universally accepted medium of exchange: tangible, immediate and trusted. In South Africa, as in many economies, cash continues to play a vital role in enabling transactions, especially among low-income groups and underserved populations.

The cost of cash, like any other commodity, is shaped by the efficiency and structure of the underlying cash value chain, which includes production, distribution, storage and acceptance. This complex infrastructure is rarely understood by the general public, yet it plays a critical role in determining the true cost and accessibility of cash. When considering the cost of payment instruments, consumers often focus on visible fees such as those for bank accounts, automated teller machines (ATMs), withdrawals or card usage. However, the financial cost expands beyond these direct charges. Intangible costs such as the time spent travelling to access cash also weigh on households.

This *Cost of Cash Research Study* explores the multifaceted nature of these costs, shedding light on the economic, operational and social implications of cash costs in South Africa. By examining both the direct and the indirect costs borne by consumers, we aim to inform strategic decisions that balance efficiency, accessibility and equity in the national payment landscape.

This study combines direct measurement with economic modelling approaches to estimate the total cost of cash. While several cost components (such as direct fees and operational expenses) can be observed and quantified with a high degree of confidence, other elements (particularly indirect costs) are less readily measurable. These include costs related to time, opportunity cost, and certain behavioural and economic impacts.

Such indirect costs are derived using survey data, proxy indicators as well as a set of underlying assumptions informed by available literature and industry benchmarks. Readers should take this into account when interpreting the results, as these components are subject to a degree of uncertainty. This approach is consistent with international cost of cash studies, where indirect and economy-wide costs are typically modelled rather than directly observed. Overall, the results presented in this study reflect the best available evidence within the constraints of data availability and methodological limitations.

1.1 The South African Reserve Bank's mandate and role in currency management

The South African Reserve Bank (SARB), which is the central bank of South Africa, was established by section 9 of the Currency and Banking Act 31 of 1920 and is governed by the South African Reserve Bank Act 90 of 1989, as amended (SARB Act).

The SARB operates three cash centres: in Cape Town, Durban and Johannesburg. It also has four subsidiaries: the South African Bank Note Company Proprietary Limited (SABN) and the South African Mint Company Proprietary Limited (South African Mint), which produce banknotes and coin respectively; the Corporation for Deposit Insurance (CODI), which manages the country's deposit insurance fund (DIF); and the Corporation for Public Deposits (CPD), which provides investment services. Together with the South African Reserve Bank Retirement Fund (SARBRF), these institutions are referred to as the 'SARB Group'.

Under the SARB Act, the SARB is responsible for managing the life cycle of currency. This includes the production, issuance, distribution and destruction of banknotes and coin. The central bank ensures that there is an adequate supply of currency to meet public demand and maintains the quality of the circulating currency.



The Currency Management Department (CMD) is part of the SARB's departments and functions, focused on enhancing the resilience, effectiveness and accessibility of payments under the SARB's strategic focus area (SFA) 3. CMD supports the SARB's Strategy 2030 by ensuring an optimal currency supply chain.

Against this backdrop, we are assessing the quantitative and qualitative cost of currency, including both banknotes and coin, along the cash value chain. By evaluating the costs associated with the currency life cycle, we aim to provide insights that will support SARB management in making decisions regarding the overall efficiency and optimisation strategies of the currency supply chain.

1.2 The significance of the *Cost of Cash Research Study*

South Africa, like many other countries, has various payment instruments, ranging from sophisticated electronic arrangements to physical cash payments. Whilst widespread adoption of mobile technology and access to the Internet has grown in recent years, and the rural-urban divide is being somewhat reduced by technology, payments via cash remain the predominant mechanism for effecting retail payments. This reliance on cash underscores the importance of understanding the cost of, and optimising, the currency supply chain to ensure greater financial inclusion.

The significance of this *Cost of Cash Research Study* lies in its implications for the South African economy, especially in the context of low-value transactions. Physical cash distribution from the SARB to the public is facilitated through a well-developed supply chain in Tiers 1, 2 and 3 (T1-T3), involving numerous operators and interactions to meet cash demand.

'Financial inclusion' refers to ensuring that all individuals and businesses, regardless of income level or location, have access to affordable, useful and secure financial products and services – such as payments, savings, credit and insurance – that meet their needs and are delivered responsibly and sustainably.

Within the context of South Africa's ever-evolving payment landscape, advancing financial inclusion means not only promoting electronic payments, but also maintaining accessible cash services such as cash-in (deposit) and cash-out (withdrawal) remittance schemes. South Africa's payment system must reflect the realities and habits of financially underserved populations, ensuring access to both cash and digital services in a way that supports inclusive economic participation.

1.3 Problem statement

Recent research highlights the ongoing significance of cash within South Africa's payment landscape. Survey findings show that 64% of South Africans indicate a preference to use cash in the future, while 36% prefer digital payments.

The last comprehensive study on the cost of cash, conducted by Mastercard in 2016, found that cash costs South African consumers about R23 billion – or 0.52% of gross domestic product (GDP). This study quantified the full (direct and indirect) cost of cash for South African consumers, segmented by income groups. The study results highlighted that ATMs and bank branches account for 85% of consumer cash costs. Given the substantial economic cost associated with cash handling, the SARB's current research aims to reassess and update these findings to reflect the present conditions and challenges within the cash supply chain.

A more recent payment study conducted by the SARB revealed that cash payments comprised 56% of all transactions, with the average value per cash transaction being approximately R208.

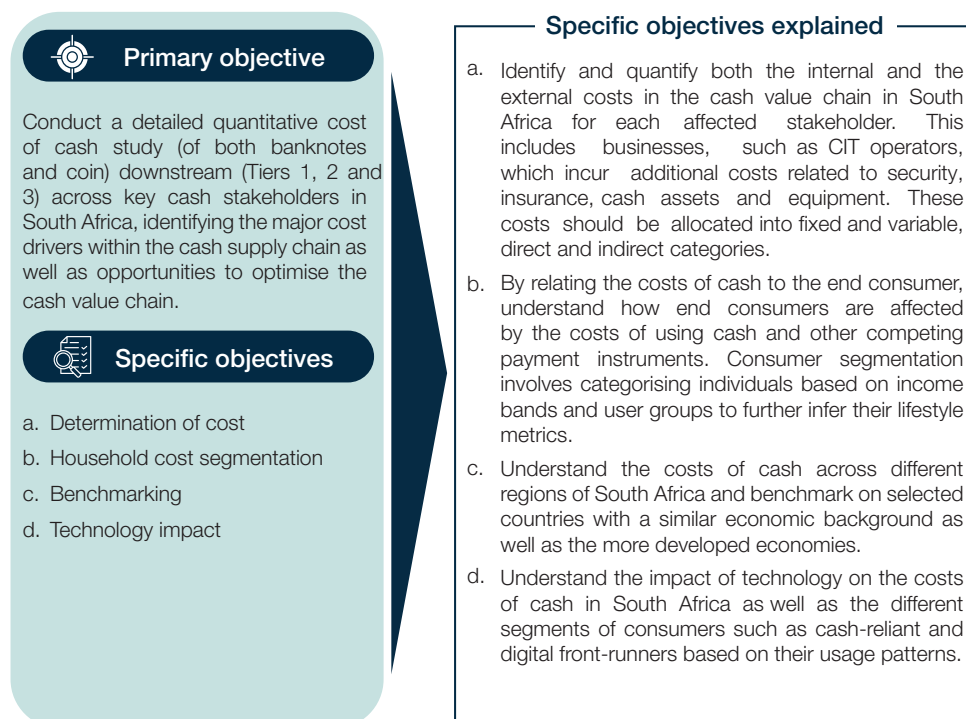
The previously mentioned Mastercard study of 2016 revealed that the costs of cash utilisation disproportionately affected low-income households, consuming up to 4%–5% of their income compared to the national average of 1.1%.

This SARB study provides an assessment of the cost of cash across the value chain, including economic and social factors. It incorporates comprehensive data and stakeholder input to address gaps from previous studies as well as information on cash costs from a diverse range of sources, including banks, retailers, cash-in-transit (CIT) operators, traders, taxi drivers, car guards and consumers. In doing so, it offers policymakers and industry participants robust evidence bases to inform strategic decisions that support both financial inclusion as well as the optimisation of South Africa's cash landscape and wider payment ecosystem.

1.4 Objectives of the study

The primary objective of the study was to conduct detailed quantitative cost of cash (banknotes and coin) analyses across the key cash stakeholders in South Africa, identifying both the major cost drivers within the cash supply chain and the opportunities to optimise the cash value chain. Figure 3 illustrates the primary objective, along with various subtopics, of the study.

Figure 3: The primary objective of the Cost of Cash Research Study



1.5 Scope of the study

A research study was conducted on the cost of cash (banknotes and coin) across the key cash stakeholders in South Africa, identifying both the major cost drivers within the cash supply chain and the opportunities to optimise the cash value chain. The study also benchmarked South Africa's cost of cash against other countries and provided recommendations to optimise the cost of cash.



Table 2: The primary objectives of the *Cost of Cash Research Study*

	Stakeholder and cost drivers mapping				
	Internal costs	External cost	Direct costs	Indirect costs	
Tier 1: SARB			• Currency operations (cash processing) • Cash logistics • Cash production and destruction	• Security and counterfeit prevention • Crime and losses • Insurance and storage	A detailed analysis of the cost categories for each tier in the cash industry will be conducted to provide a clearer understanding. Fixed vs variable costs – Fixed costs: Costs that remain constant regardless of the volume of cash handled. – Variable costs: Costs that fluctuate with the volume of cash handled.
Tier 2: Commercial banks	• Operating expenses of maintaining ATM, and branch networks • Depreciation of cash on ATM and branch networks • Operating expenses on cash operations	• Transaction fees paid to other banks, payment and intermediaries • Payment to cash logistics companies	• Cash-handling costs • Income from electronic payment fees, CDF and CWF	• Branch and ATM infrastructure operations • Security measures (physical and technical) • Security and losses • Insurance and storage	
Tier 3: Businesses, merchants, retailers	• Opportunity costs of time spent handling and managing cash • Depreciation on cash infrastructure • Expected loss linked to the risk of holding cash • Interest foregone on average cash holding	• Transaction fees paid to banks	• Cash-handling cost and infrastructure (accepting, storing, managing, clearing) • Bank fees	• Interest and working capital impacts • Security and losses (theft, damage, counterfeit currency) • Cash-handling time (opportunity cost) • Insurance and storage	
End user: Household consumers	• Opportunity costs of time spent accessing and using branches and ATMs • Expected loss due to the risk of holding cash • Interest foregone on average cash holdings	• Transaction fees paid to banks for the use of ATMs and branches	• Cash withdrawal/ deposit fees • Card usage fees • Transport fees to access cash	• Time cost (opportunity cost) • Interest foregone • Opportunity cost of rewards and discounts	

The following topics were, however, out of scope for this study: the production and distribution costs of banknotes and coin incurred by the SARB (see footnote 2 under the 'Executive summary' section), cross-border payments and general business-to-business transactions.

For clarification, the study did include transactions related to business-to-business interactions specifically concerning the cash supply chain and general cash management – such as cash access, handling, transportation and security – but general business activities not directly related to the cost of cash were excluded from this study. These areas remained outside the purview of this research as they did not directly relate to the primary focus of assessing the cost of cash and its socio-economic impact within South Africa.

2. Global benchmarking

This section adopts a global benchmarking approach to assess the cost of cash across different economies, recognising that direct cross-country comparisons are inherently limited by structural and institutional differences. To address this, a set of standardised metrics is applied to provide a more consistent and meaningful basis for comparison. The framework combines stock, flow and cost indicators to capture the full economic footprint of cash usage. By examining cash relative to GDP, payment activity and overall system costs, this analysis provides a balanced view of cash reliance and its implications for efficiency, inclusion and the broader functioning of national payment ecosystems.

2.1 Global trend on cash cost

The cost of cash from one country is not directly comparable to another country; a useful measurement is therefore to define the metrics that can measure the cost and provide some standardisation.

The cost of cash is closely correlated to the institutional reliance on cash; as the dependency on cash increases, so do the associated costs, including logistics, security and handling.

The metrics presented in Table 3 were selected to provide a holistic view of the role of cash across different economies by combining stock-based measures as well as cost-based indicators, such as:

- the cash/GDP ratio;
- the share of cash in payment volume and value; and
- the estimated cost of cash as a percentage of GDP.

Table 3: Key metrics definitions and the rationale for their inclusion in evaluating cash usage and economic impact

Terminology	Definition	Rationale for inclusion
GDP	The total market value of all final goods and services produced in a country annually.	Provides scale context.
Cash/GDP ratio (%)	The value of physical cash in circulation divided by nominal GDP.	Measures liquidity preference and cultural behaviour. High ratios signal cultural/institutional cash reliance and a higher informal economic sector.
Cash percentage of payment volume (%)	The share of cash transactions in total payment count.	Reflects cash reliance and preference.
Cash percentage of payment value (%)	The share of cash in total transactions value.	Captures the economic contribution of cash.
Cost of cash to GDP (%)	The estimated total economic cost of cash to a particular economy.	Provides a quantitative indication of systemic inefficiencies.

These metrics were selected to provide a comprehensive, standardised overview of cash reliance and cost across economies. Each metric serves a distinct purpose in evaluating the economic footprint, transactional dominance and systemic costs of cash usage.



Table 4: An analysis of cash usage, economic impact and corruption perception across selected economies

Country	GDP (US\$ trillion) ^a	GDP per capita (US\$)	Cash/GDP ratio ^b	Cash payment volume (%) ^c	Cash payment value (%) ^d	Cost of cash to GDP (%) ^e	Cash reliance
Nigeria	0.39	1 800–2 200	1.7%	50–70%	54%	0.23–6.4%	Very high
Thailand	0.53	7 345	–	70%	46%	–	Very high
Japan	4.11	37 145	23.5%	57%	41%	–	Very high
Indonesia	1.48	4 925	7.1%	53%	38%	1.0%	Very high
Germany	4.28	44 030	10.9%	51%	32%	2.9%	High
Brazil	2.08	9 570	4.5%	50%	30%	–	High
India	4.19	2 397	11.1%	35%	22%	1.7%	High
South Africa	0.42	5 720	2.7%	56%	21%	1.2%	High
Singapore	0.52	67 710	8.3%	42%	11%	0.1%	Moderate
Canada	2.13	44 410	3.2%	23%	11%	0.2%	Moderate
China	19.23	13 120	9.7%	16%	10%	–	Moderate
Australia	1.75	61 480	6.2%	13%	10%	0.4%	Moderate
Sweden	0.59	54 210	1.1%	10%	5%	1.0%	Low

- a GDP: Referenced the International Monetary Fund's (IMF) *World Economic Outlook (WEO)* 2024 analysis and reports, then converted into US\$ trillions.
- b Cash/GDP ratio: Calculated the cash value in circulation sourced from each country and divided it by the country's GDP.
- c Cash payment volume and value: Sourced the cash volume and value from each country through secondary research.
- d Cash payment value (%) reflects the share of aggregate transaction value accounted for by cash payments.
- e Cost of cash to GDP: Sourced the cost of cash from each country through secondary research or calculated the cost divided by the country's GDP.

3. Tier definitions and segmentation

As outlined in the previous chapter, the movement of banknotes and coin throughout the economy follows a well-defined process. The SARB produces banknotes and coin, then officially issues this currency, recording its value as a liability on the SARB's balance sheet. This amount in issue and in circulation outside of the SARB includes all currency denominated in the rand issued by the SARB as the central bank and monetary authority of South Africa, less any amounts removed from circulation and destroyed.⁴

3.1 Tier 1: Essential industry services

The essential industry services tier involves the movement and storage of bulk cash between the SARB and hosted cash centres as well as host-to-host movements. This includes bulk storage, insurance and operational risk services at SARB vaults located at authorised host cash centres, which serve the greater good without providing competitive advantages. Industry CIT and support vehicles facilitate bulk cash movements, while custodian inventory system (CIS) and/or notes-held-to-order (NHTO) vaults and hosted general ledger (GL) vaults handle storage.

In South Africa, both NHTO vaults and hosted GL vaults are used for cash management and storage, but they serve different purposes within the cash supply chain. NHTO vaults, managed by authorised host cash centres, are primarily used for the secure storage and distribution of bulk cash on behalf of the central bank. Hosted GL vaults, commonly associated with financial institutions such as banks, are used for managing businesses' cash flow and facilitating transactions. Services are provided with service level agreement (SLA) parity to all banks, and costs are aggregated by PayInc's (previously called BankservAfrica) cash independent administrator (CIA) and shared among all 25 participants within the cash payment clearing house (PCH) agreement. The CIA works closely with essential stakeholders – including CIT companies, banks and the SARB – to forecast the demand and supply requirements that support optimal cash availability and effective cost management.⁵

3.2 Tier 2: Essential bank services

This is the domain of commercial banks, which are responsible for the wholesale distribution and recirculation of cash. These institutions ensure industry-wide access to physical currency – including ATM networks, branch infrastructure and retailers – using sophisticated settlement mechanisms.

Encompassing the operations of commercial banks, this tier is critical in the wholesale distribution and recirculation of cash. Commercial banks perform a variety of functions to maintain cash availability, including the processing of branch and cash centre banknote clearances and orders. They also ensure the collection and delivery of wholesale cash – encompassing banknotes, coin and foreign currency – through both branches and cash centres operated by banks, third parties as well as CIT service providers.

ATM services also fall under this tier, involving ATM replenishment, deposit-clearing services, ATM balancing as well as first-line maintenance to ensure that ATMs are operational and stocked with cash. The delivery and collection of ATM cash for replenishments and managing deposits is vital to keeping the ATM network functional and reliable.

⁴ L De Beer and J Shikwane, 'Note on banknotes and coin in South Africa', *Quarterly Bulletin*, September 2021, Pretoria: South African Reserve Bank.

⁵ BankservAfrica, *Business Report 2024*, annual report, Johannesburg: BankservAfrica, 2024.



In retail cash processing, banks handle clients' deposits and withdrawals, ensuring seamless transactions and circulation of cash. Collectively, these services form the backbone of cash management, ensuring that physical currency circulates smoothly through the economy while adhering to strict regulatory oversight.

Banks play a pivotal role within the broader cash ecosystem, not only by issuing payment instruments – such as accounts, cards and electronic funds transfers (EFTs) – and enabling real-time payments, but also by facilitating cash access through innovative services such as cash-back at point of sale (POS). Through their integration in the national payment system (NPS), overseen by the SARB and supported in retail environments by payment system operators (PSOs) such as PayInc, banks ensure seamless clearing and settlement between institutions. This infrastructure enables consumers to withdraw cash conveniently while making purchases at retail outlets, thus enhancing cash availability and supporting the circulation of physical currency throughout the economy.

CIT operators – such as Fidelity Cash Services, G4S/Izicash and SBV – play an important role in ensuring the secure and efficient transportation of currency across the various tiers and the players within a tier. They are responsible for the physical movement of cash within banks' own cash networks as well as between commercial banks and businesses.

Tier 2 essential bank services are characterised by their commercial nature and are subject to a fee structure aligned with market rates. As of 2024, Absa, Capitec, FirstRand/First National Bank (FNB), Nedbank and Standard Bank collectively accounted for approximately 90% of the total market share in South Africa's banking sector, collectively serving close to 60 million retail banking customers.⁶

3.3 Tier 3: The business layer (retailers/informal traders)

Retailers and informal traders form a critical component of the cash value chain in South Africa, acting as primary conduits for cash circulation between consumers and the formal financial system.

This tier includes both formal and informal businesses such as spaza shops, street vendors and the taxi industry, which collectively handle significant volumes of cash on a daily basis. Their responsibilities span acceptance, storage, utilisation, recirculation, security and efficiency as part of their daily business activity. While these entities are not primarily designed for cash distribution, they play a crucial role in its ongoing circulation.

Retailers and wholesalers accept cash from both consumers and other businesses, provide change, manage floats, and deposit their takings via banks or CIT service providers. In addition to cash, businesses are increasingly required to accept and manage a range of new payment methods – such as cards, digital wallets and EFTs – ensuring that customers can pay using their preferred method without friction. This flexibility in payment acceptance is vital for customer convenience and operational efficiency. CIT operators, which are specialised and subject to stringent regulation, facilitate the secure movement of cash between businesses and banks.

Tier 3, which includes the informal market, reflects the complex realities of cash usage in trade, where the flow of currency is deeply woven into daily business operations and the broader acceptance of multiple payment methods is becoming standard practice. The role of informal recyclers as well as the extensive evidence of both consumers and businesses recycling cash (banknotes and coin) amongst themselves outside of the banking system requires greater scrutiny.

⁶ M Mphatsoe, [The Rise of New Competition in the South African Banking Sector](#), accessed October 2025.

The estimated market size of the informal economy in South Africa is R900 billion based on a recent report released by Standard Bank, and 80% of businesses are unregistered, operating outside of the formal regulatory framework.⁷ This includes a wide range of informal activities, from spaza shops and hawkers to informal services and manufacturing. The informal economy contributes roughly 5%–11.5% of GDP and accounts for up to 40% of employment. Cash remains dominant in informal trading and transactions.⁸

3.4 Consumer/end user

Consumers, being end users or the general public, use cash as a medium of exchange and store of value. They interact directly with Tiers 2 and 3: withdrawing and depositing cash at banks (Tier 2), paying for goods and services at merchants (Tier 3), and transferring cash between themselves. Tier 3 also provides cash to end users through cash-back at POS services. Ultimately, consumers bear the costs associated with cash handling by all tiers, while Tiers 2 and 3 earn profits through fees charged to consumers. Consumers have direct and indirect costs of cash that are shown in detail later in the this *Cost of Cash Research Study*.

In this tier, the cost of cash is often most acutely felt, particularly by low-income consumers who, aside from bank fees, also face transport costs, time costs and limited access to formal financial infrastructure. For many, cash is not a choice, but a necessity.

3.5 Cross-tier service providers in cash distribution and circulation

Certain stakeholders operate across multiple tiers of the cash value chain, ensuring the physical movement, accessibility and security of cash. CIT companies such as Fidelity and G4S/Izicash play a pivotal role from Tier 1 through Tier 2 (commercial banks) and into Tier 3 (retailers and informal traders), managing bulk cash logistics, secure transportation and vaulting services. Independent ATM deployers (IADs) – such as Lesaka, NCR Atleos (Spark ATM Systems) and PayCorp – expand cash access beyond traditional bank branches, bridging Tier 2 and Tier 3 by placing ATMs in retail environments and underserved areas. Similarly, financial technology (fintech) and cash management providers such as CashConnect/Vertex and Shop2Shop enable businesses to digitise cash holdings through smart vaults, real-time settlement and value-added services, reducing risk and improving liquidity. These players are essential to maintaining the integrity and efficiency of cash distribution, particularly in a market where cash remains a dominant payment instrument across both formal and informal sectors.

Shop2Shop

Shop2Shop is widely regarded within the industry as an innovative fintech and retail enablement platform, especially for its focus on South Africa's informal sector, including spaza shops, small retailers and independent distribution centres. The company's mission centres on digitising traditionally cash-heavy business environments, reducing financial risk and providing effective working capital solutions. Shop2Shop's model introduces secure, instant payment systems between suppliers, wholesalers and retailers; fosters inclusive access to the digital economy via mobile apps and payment devices; and offers value-added services such as the sale of prepaid airtime, electricity and data. It also streamlines supply chain processes by facilitating direct connections between merchants and suppliers for

⁷ Standard Bank, [Township Informal Economy Report: Powering Growth from the Ground Up](#), research report, Johannesburg: Standard Bank Business and Commercial Banking Research and Insights, 2025.

⁸ C Blumenthal, [‘The “hidden” R280 billion hand driving South Africa's economy’](#), *BusinessTech*, accessed 8 March 2025.



efficient ordering and transactions. In our stakeholder engagement, we connected with a Shop2Shop executive who, while hesitant to share specific cost data due to competitive sensitivities, did provide a wealth of useful insights into their operations, approach to risk reduction and commitment to industry transformation.

Flash-TymeBank collaboration for spaza shops

Flash has partnered with TymeBank (GoTyme) to create a cash withdrawal network, enabling TymeBank customers to withdraw cash at over 172 000 spaza shops and informal traders equipped with Flash POS devices. The service uses an Unstructured Supplementary Service Data (USSD)-based voucher system, allowing withdrawals without smartphones or apps, at a flat fee of R7 per transaction. This collaboration could increase financial inclusion by providing convenient access to cash in underserved areas while generating additional revenue streams for spaza shop owners and accelerating the integration of informal markets into the formal banking ecosystem.⁹

⁹ TymeBank, '[TymeBank customers can now withdraw cash at 172 000 spaza shops and traders](#)', media release, 15 May 2025, accessed 15 September 2025.

4. Approaches and methodology

To obtain comprehensive cost information across the cash value chain, the project team implemented a range of survey methodologies targeting Tier 1 (T1), Tier 2 (T2) and Tier 3 (T3) stakeholders as well as consumers. Recognising the distinctive roles played by financial institutions, retailers, CIT providers and IADs, the survey instruments were tailored to reflect the unique cost structures present within each segment.

This chapter provides a detailed overview of the data collection approaches and methodologies employed. The following sections describe the specific surveys conducted, the rationale for respondent selection as well as the analytical techniques used to ensure the robustness and relevance of the cost data gathered. By differentiating between stakeholder groups and their respective operational contexts, the methodology supported a nuanced understanding of cost drivers and facilitated accurate cost attribution across the tiers of the cash value chain.

4.1 Tier 1: Essential industry services

Within T1, essential industry services are facilitated by PayInc's CIA. The CIA incurs costs in the provision of these services and subsequently allocates these costs across all 25 participating entities. For the purposes of this project, the CIA supplied comprehensive cost data for the financial year 2024 to the project team.

4.2 Tier 2: Essential bank services

After careful evaluation, it was determined that the most effective method for measuring the costs incurred by financial institutions was the direct collection of cost data. Accordingly, the project team requested financial institutions to provide their calendar year 2024 cost information. To facilitate this process, a data collection tool grounded in the activity-based costing (ABC) framework was developed and distributed by the project team. This tool offers a degree of standardisation to enable comparison of responses. Respondents were afforded the flexibility to adapt the tool as necessary, including the addition of relevant cost items specific to their operations.

The ABC framework, which has demonstrated its efficacy in previous studies such as the Canadian central bank cost of cash study¹⁰, enables a comprehensive measurement of cash-related costs by aggregating the expenditures associated with all activities undertaken to provide cash services to clients and customers. The data was collected at the headquarters level to capture the costs of the entire institution, including those incurred at individual branches and ATM networks.

Furthermore, the survey instruments incorporated a qualitative questionnaire designed to capture respondents' perspectives on the future of cash as well as insights into patterns of cash and electronic payment usage among their clients and customers. This qualitative component also solicited recommendations for optimising the cash supply chain and enhancing financial inclusion for the broader public.

For ease of reference, the key cost definitions used in Chapter 2 are summarised below:

- *Internal costs:* These refer to expenses that are borne directly by the entity itself. Examples include staff salaries and the depreciation of assets.
- *External costs:* These are costs or fees paid to external parties or third-party service providers. Typical examples encompass insurance premiums and payments to CIT companies.

¹⁰ A Kosse, H Chen, M Felt, V Jiongo, K Nield and A Welte, [The Costs of Point-of-Sale Payment in Canada](#), Ontario: Bank of Canada, 2017.



- *Direct costs:* These represent the explicit monetary expenditures incurred as a result of cash-related transactions.
- *Indirect costs:* Indirect costs comprise non-monetary and/or social costs as well as implicit monetary expenses that are associated with cash-related transactions but may not be directly reflected in financial outlays.
- *Fixed costs:* Fixed costs are those that remain unchanged regardless of the volume of cash handled by the entity.
- *Variable costs:* Variable costs fluctuate in accordance with the volume of cash processed or handled.

For the major commercial banks – Absa, African Bank, Capitec, FNB, Nedbank and Standard Bank – the project team adopted a structured engagement methodology within T2. The senior responsible officer and the head of the cash department at each institution were initially approached with an official request from the SARB. This was followed by a meeting to outline the project objectives and discuss the requirement for (and the availability of) cost of cash data. T2 banks were then given a week to review and digest the information request form. The project team collaborated closely with the representatives from each institution to ensure the appropriateness of the methodology as well as the quality and consistency of responses.

Follow-up sessions were arranged to address any queries or provide further clarification. Once the banks had prepared their data using the prescribed ABC tool, submissions were securely uploaded via the SARB Secure Centre. Given the sensitive nature of the data, all subsequent analysis was conducted within the SARB environment, ensuring data confidentiality and integrity throughout the process.

To maintain data quality and reliability, a quality control procedure was implemented. Individual responses were assessed for internal consistency and then compared with those from other participants and, when possible, with additional data sources. Clarification was requested from respondents as needed. In cases of non-responses, assumptions were made based on research or information provided by other respondents.

The current internal version of the *Cost of Cash Research Study* includes the names of respondents to provide the SARB with visibility of key market participants; the external version presents merged results as one aggregate total to maintain respondent anonymity.

4.3 Tier 3: The business layer (retailers/informal traders)

The methodology for T3 comprised distinctive subsections: formal retailers and informal traders.

For formal retailers, a similar approach as applied in the T2 methodology was adopted, where the project team requested participating retailers to provide their calendar year 2024 cost information related to cash handling. This was facilitated by a flexible data collection tool, which included a specific section for information on cash-back services and POS transactions, along with the qualitative questions outlined previously.

Tailored survey instruments were developed specifically for informal traders and taxi drivers. The data from these groups formed part of our broader national fieldwork survey, the details of which are provided in the next chapter.

Surveys among informal traders included spaza shops, street vendors, food and beverage stalls, car-wash operators as well as other informal traders. Taxi drivers and car guards were specifically targeted for their roles in daily cash transactions. Interviews with these groups focused on their use of cash in business, the acceptance

of cash as payment, the cost(s) incurred by handling cash and any intentions to limit cash within their transactional networks. Questions also captured information on any alternatives to cash that were in use, and probed participants' perceptions of security and reliability in both cash and electronic transactions.

4.4 Cross-tier stakeholders in cash distribution and circulation

The methodology for CIT operators, IADs and fintech companies mirrored the T2 bank approach: the project team asked the participating retailers to submit their 2024 cash-handling costs using a flexible data tool and previously described qualitative questions.

4.5 Consumers

Stakeholder engagement was carefully structured around a targeted sampling approach, ensuring participation and data collection of the required cross-sections of South Africa's population, including the general public, informal traders in various marketplaces, taxi drivers as well as car guards across city/urban, town (including township) and rural environments. The survey framework was designed to enable comprehensive fieldwork, with intentional participant selection from each group and geographic area, thereby capturing a diverse spectrum of experiences and perspectives essential for a robust analysis of cash usage and emerging trends within the country's demographic and economic landscape.

The primary data collection tools for this study consisted of structured questionnaires and interviews, each meticulously customised to address the specific realities of the different stakeholder groups. Stakeholder engagement took place through in-person interviews and structured questionnaires, tailored to address the unique interactions that each group has with cash. The fieldwork team, selected based on regional familiarity and language proficiency, underwent targeted training to deliver the survey ethically and effectively.

Members of the general public over the age of 18 were engaged to share their experiences with cash usage, the time spent on collecting cash, the cost of collecting cash, the frequency and nature of transactions, the primary challenges faced in handling cash, and their preferences for future payment methods.

Individuals under the age of 18 were not included in the primary survey sample. This reflects the practical and ethical constraints associated with interviewing minors, particularly the requirement to obtain guardian consent and the increased complexity of ensuring appropriate safeguards during data collection.

As a result, the household and individual-level cost estimates are derived from adult respondents only and may not fully capture cash usage behaviours specific to individuals under 18. This limitation is not expected to materially impact on aggregate estimates but is acknowledged for completeness.

During the fieldwork, the survey answers were carefully captured for each stakeholder group, incorporating their gender, age, employment status and other relevant details to capture the nuanced realities of cash usage throughout South Africa's diverse economic landscape. This approach enabled the identification of key income groups and themes as well as the development of actionable insights, creating a solid foundation for national analysis. The construction of data was intended to capture a broad spectrum of experiences and attitudes towards cash, setting the stage for robust and meaningful analysis. The detailed survey instruments used in this study can be found in Annexure A.



4.6 Cost of cash calculation methodology (overview)

4.6.1 Overview

The total cost of cash in South Africa was estimated using a bottom-up, consumer-based methodology, supplemented by data from formal retailers and informal traders.

The approach estimated the economic cost of cash to society, consisting of:

- direct costs incurred by consumers (e.g. fees, travel);
- indirect costs (e.g. time, crime, opportunity cost); and
- pass-through costs embedded in goods and services.

The total cost was calculated by:

Total cost of cash = Consumer direct costs
 + Consumer indirect costs
 + Embedded retailer and informal trader costs

The analysis was based on a national survey of 2 379 consumers, weighted to reflect South Africa's adult population (±43.3 million individuals aged 18 and above) See section 5.2 for details.

4.6.2 Consumer cost estimation

For each respondent, annual cash-related costs were calculated across the following categories:

4.6.2.1 Costs of access (direct costs)

These were made up of:

- cash withdrawal costs; and
- cash deposit costs.

Calculation:

Annual cost per consumer = Monthly reported cost × 12

Where respondents indicated 'Don't know' a conservative proxy value was applied and adjusted for outliers.

The value for 'Don't know' or similar was selected as R12.50 for both withdrawals and deposits. This value was selected based on the banking fees and transaction costs associated with entry-level bank accounts.

4.6.2.2 Travel costs (direct costs)

- Included only dedicated trips made specifically for cash-related activities.
- Excluded travel where cash access was incidental to other activities (e.g. shopping).

Calculation:

$$\text{Annual travel cost} = \text{Cost per trip} \times \text{Number of trips per year}$$

4.6.2.3 Time costs (indirect costs)

Time costs were separated into:

- time costs of travel for cash; and
- queuing transaction time.

Calculation:

$$\text{Annual time cost} = \text{Hours spent} \times \text{Estimated hourly income}$$

- Hourly income was derived from income bracket midpoints as a proxy.
- Time costs represented economic opportunity cost rather than financial expenditure.
- For travel time, we collected data on how often the consumer travelled specifically for cash-related purposes and the average duration of that trip.
- For queuing and transaction time, we asked specifically how long, on average, it took to queue and transact.

4.6.2.4 Crime and loss

This included:

- theft;
- robbery; and/or
- cash loss.

Consumers could select any combination of the above-mentioned three categories.

based on:

- self-reported combined annual loss values from respondents.

4.6.2.5 Opportunity cost of holding cash

This represented foregone interest from holding cash outside of financial institutions.

Calculation:

$$\text{Annual opportunity cost} = \text{Average cash holdings} \times \text{Interest rate}$$

- A 3.1% per annum rate was applied as a conservative estimate of foregone returns, based on average checking-account yields.

4.6.2.6 Embedded business costs (pass-through effects)

These are costs incurred by:

- formal retailers on cash management costs for routine business operations (excluding cash-back at POS cash costs); and
- informal traders (including taxi operators).



These were estimated using:

- direct cost data from participants; and
- market extrapolation.

The cost of cash for informal traders was estimated using a population-based approach informed by Statistics South Africa (Stats SA).¹¹ The total informal business population was proxied at approximately 1.9 million non-VAT-registered enterprises. This population was segmented using industry distribution data from the *Survey of Employers and the Self-Employed 2023 (SESE 2023)*, with transport-related activities accounting for approximately 5.3% of informal businesses. Segment-specific cost estimates, derived from survey results, were then applied to the respective populations to estimate the aggregate cost of cash for informal traders and transport-related operators.

Details of the calculation are given in section 6.3: 'Tier 3: Retailers cost results'.

These costs are assumed to be passed through to consumers via pricing mechanisms.

Important note

These costs represent an estimate of economic incidence rather than directly observed transfers and may be partially absorbed by firms.

National scaling

For each cost category:

- the per-consumer annual cost was calculated;
- the results were weighted to reflect population demographics; and
- the weighted averages were scaled to the national adult population.

National cost = Average cost per consumer × Adult population

4.6.3 Cost of cash in Tier 1 to Tier 3 and CIT operators

The cost of cash for T1 is largely transferred to T2. T2 cost of cash and cash-back transactions at POS cost of cash relate to the costs paid by consumers for cash withdrawals and cash deposits. Since these costs are already accounted for in cash withdrawal costs and cash deposit costs for consumers, we did not add the T1 and T2 costs as well as the cash-back transactions at POS cost to the total cost of cash.

Similarly, CIT operators' cost of cash is contained in T1 to T3 and accounted for above; we therefore did not add these costs to the total cost of cash.

This avoided the double-counting of costs from the tiers and CIT operators into the consumer-based total cost of cash calculation.

More details of the cost of cash calculations are given in Annexure B.

¹¹ Statistics South Africa, [Survey of Employers and the Self-Employed \(SESE\) 2023: Statistical Release PO276](#), Pretoria: Statistics South Africa, 2025.

5. Sampling and statistical considerations

The selection of the total sample size was designed to achieve a confidence level of at least 95%, ensuring a margin of error of less than $\pm 5\%$ when applied to the overall South African population.

The selected target sample sizes for this study were 2 500 for the general public (consumers/end users) and 500 for informal traders across South Africa. These sample sizes were designed to exceed the statistical confidence requirements specified above, with some margin to enable room for additional analysis in sub-cohorts and to adjust for any outliers and/or other potential occurrences such as missing or inaccurate data sheets etc.

There was also a need to test if there are differences in the costs of cash and other study outcomes across all nine South African provinces. The total sample was distributed equally among the nine provinces of South Africa, resulting in a target of 278 general-public interviews and 56 informal-trader interviews per province. Furthermore, the rural/urban breakdown within each province was considered, with interviews proportionally allocated according to regional demographic data.

Sampling constitutes a fundamental aspect of statistical analysis, wherein subgroups (strata) of the population are purposefully selected to represent the characteristics of the population. In contexts where population segments differ markedly in size, it is essential to implement strategies that account for these variations, thereby ensuring that the resultant findings reflect the overall population structure with accuracy and validity.

For the purposes of this study, each province was allocated an identical number of interviews, notwithstanding the differences in population size. This approach is best characterised as stratified sampling with equal allocation – a methodology chosen to ensure that every provincial segment, regardless of its relative population, is adequately represented within the national analysis. Proportional allocation was not considered ideal due to the relatively large population size difference between the provinces. For example, the size difference between the largest province in terms of population and the smallest province is approximately 11 to 1. If one considered that the smallest province constituted only 2% of the national population (if proportional allocation was utilised), we would have interviewed only 10 informal traders in that province. This would not have amounted to enough interviews to be statistically significant and would have limited the potential conclusions that could be made looking at the subcategories of the study (e.g. rural versus urban, income categories etc.).

Even though provinces differ in population, equal allocation can be beneficial when:

- *Comparing provinces directly:* Equal sample sizes allow for fair comparisons across provinces without one province dominating due to its population size.
- *Ensuring representation:* Smaller provinces might be underrepresented in proportional sampling. Equal allocation guarantees that their voices are also heard.
- *Controlling for bias:* Equal allocation helps to reduce sampling bias in strata that might otherwise be overlooked.
- *Simplifying analysis:* Equal samples make statistical comparisons and modelling more straightforward.



5.1 Stratified sampling

Stratified sampling is a technique used to ensure that different segments (strata) of a population are adequately represented in a sample. Each segment may differ in size, characteristics or other parameters. By obtaining the same sample size (e.g. 278 samples from each segment or province), stratified sampling provides more precise estimates by reducing sampling bias.

Sample size determination

In instances where an identical number of samples (e.g. 278) is drawn from each segment, irrespective of the segment's proportional size within the total population, this methodology ensures that the unique characteristics of each segment are equally reflected in the overall sample. While this strategy facilitates detailed comparative analysis between segments, subsequent statistical adjustments may be required to accurately represent the influence of each segment on the total population.

5.2 Re-weighting

Re-weighting is a process used to adjust the sample results to reflect the actual proportions of the different segments within the population. After collecting 278 samples from each segment, the outcomes are re-weighted according to the relative sizes of these segments in the overall population.

5.2.1 Weight calculation

Weights are calculated based on the proportion of each segment in the overall population. If one segment constitutes 20% of the population and another constitutes 5%, the sample outcomes from these segments must be multiplied by respective weights to ensure they represent their true impact on the population.

5.2.2 Application of weights

Each sample outcome is multiplied by its corresponding weight to obtain the weighted outcomes. These weighted outcomes are then aggregated to provide an overall result that accurately reflects the population structure.

- *Identify segments:* Define the different segments of the population.
- *Sample collection:* Collect an equal number of samples (e.g., 278) from each segment.
- *Determine weights:* Calculate the weight for each segment based on its proportion in the total population.
- *Re-weight samples:* Apply the calculated weights to the sample outcomes from each segment.
- *Aggregate results:* Sum the weighted outcomes to get the overall result.

The outlined methodology ensured that the analysis accurately reflected the diverse segments of the population, thus delivering insights representative of the overall population structure.

Following the sampling exercise, an assessment was conducted to determine the extent to which the sample was representative. Weightings were adjusted as required to closely align with South Africa's demographic profile.

5.3 Data collection

Fieldwork teams conducted on-site and face-to-face surveys, supported by digital tools where appropriate. All data was collected anonymously to encourage candid responses. Data collection was conducted across all nine provinces and was stratified according to city, town and rural populations.

The sampling framework for each province's rural and urban population was based on the respective population figures reported in the 2022 Census. Additionally, updated population statistics were sourced from the *2024 Mid-Year Population Estimates*¹² and used for other demographic splits and the total population.

A total of 275 in-person interviews were carried out in each of the nine provinces. The breakdown of these 275 interviews aimed to mirror the respective rural and urban populations of each province and was further partitioned into city, town and rural areas. The following definitions were adopted for these classifications:

- *City (metropolitan municipality)*: Defined as a large settlement with comprehensive services, facilitating interaction among residents, government organisations and formal businesses.
- *Town (including township)*: Located in a district or local municipality, typically representing a medium-sized settlement with essential services and interaction among residents, local government as well as both formal and informal enterprises.
- *Rural*: Described as settlements smaller than a town, situated in rural areas where economic activities remain predominantly small and informal, often characterised by extensive agricultural activity.

Each province received an equal allocation of interviews to prevent the less-populated provinces from receiving insufficient sample sizes for statistical significance. For example, the Northern Cape had a population of 1.26 million compared to Gauteng's 15.2 million.¹³

In provinces with imbalanced urban or rural populations (Free State, Gauteng, Limpopo, Northern Cape and Western Cape), a minimum of 34 in-person interviews was administered within each regional category (city, town, rural) to ensure that statistical significance was maintained across provincial samples. Township populations formed a substantial portion of the overall town sample. National Treasury research estimated that approximately 40% of the urban population resided in townships; consequently, the town sample incorporated interviews taken from township areas.

Sample sizes were equalised between provinces, ensuring that provincial characteristics were adequately captured without compromising precision that might result from proportional sampling based solely on economic or population distributions.

The national distribution of the population between urban and rural areas was assumed to be 62.3% urban and 37.6% rural, as indicated by the Department of Water and Sanitation.

To ensure representative sampling across regions, we first analysed the provincial urban-rural distribution using available statistical data. This guided the proportional allocation of interviews, attempting to align the sample with the observed demographic split.

¹² Statistics South Africa, [Mid-Year Population Estimates 2024](#), Pretoria: Statistics South Africa, 2024.

¹³ Statistics South Africa, [Mid-Year Population Estimates 2024](#), Pretoria: Statistics South Africa, 2024.



Table 5: South African population demographics facts and figures

Region	Population	Urban population	Rural population	Urban (%)	Rural (%)
Eastern Cape	7 058 620	2 953 078	4 105 542	42	58
Free State	3 089 602	2 792 076	297 526	90	10
Gauteng	16 174 643	14 559 718	1 614 925	90	10
KwaZulu-Natal	12 369 826	6 018 980	6 350 846	49	51
Limpopo	6 413 041	1 146 748	5 266 293	18	82
Mpumalanga	5 119 993	2 176 311	2 943 682	43	57
North West	4 199 747	1 856 777	2 342 970	44	56
Northern Cape	1 374 879	1 006 501	368 378	73	27
Western Cape	7 627 018	7 048 427	578 591	92	8
Total	63 427 369	39 558 616	23 868 753	62	38

To gain nuanced insights into the different types of informal traders, we divided this group into three distinct categories: informal traders (encompassing street vendors, spaza shops and similar), taxi drivers and car guards. Taxi drivers and car guards were targeted specifically due to their current reliance on, or in some cases exclusive use of, cash for daily transactions. This approach allowed us to explore the unique experiences and challenges faced by each group in the context of cash usage. The selection of 500 informal traders across these categories was intentional, ensuring that we obtained at least a statistically representative sample in each province. The distribution of these trader categories across provinces was determined at the sampling stage, but with the aim of capturing the distinct operational realities and cash utilisation patterns of street vendors/spaza shops, taxi drivers and car guards. Nevertheless, the random sampling of traders within clusters enabled the attainment of a proportionate sample of informal traders for each region.

5.4 Data analysis

The analysis phase incorporated both quantitative and qualitative approaches to comprehensively examine the cost of cash in South Africa.

The quantitative methods focused on aggregating and statistically examining survey responses, which enabled the identification of trends in cash usage, transaction frequency and demographic patterns across urban and rural populations.

In parallel, the qualitative analysis delved into the nuanced perspectives revealed through open-ended survey responses and interviews, extracting themes such as perceived convenience, trust, security concerns and barriers to digital payment adoption.

By combining these methods, the research uncovered not only broad behavioural patterns, but also the underlying motivations and daily realities that informed choices around cash usage. This integrated approach facilitated the identification of insights and recurring themes, including the impact of cash transaction costs in different contexts, the factors influencing the persistence of cash despite digital alternatives as well as the unique challenges faced by informal traders, taxi drivers and car guards. The resulting analysis provided a holistic view of the cost of cash that could be used to make informed recommendations.

Limitations of the data

It is important to note the following limitations in the data.

Inputs from all South African banks, retailers and CIT operators were not available. Where direct data was unavailable, certain assumptions were necessary to extrapolate findings, and these estimations should be considered when interpreting the results. All the data from all the participants was considered accurate, and only where there were queries and clarifications did we ask for additional validation. Data was checked based on the relative size of the cohort that it belonged to in order to gauge for potential outliers or data errors.

Data coverage and data representativeness were also key considerations in the study. The major banks that contributed data to this research collectively represent over 90% of the market share, ensuring that the reported figures are highly representative of the broader banking sector. In terms of formal retail, we were able to obtain data from retailers covering 34.4% of the overall market share. Although access to some retailers was limited due to certain aspects of their business models, the retailers from whom we did secure data account for 80% of the cash-back market share. This breadth of coverage underpins the robustness and reliability of the findings presented.

All the consumer and informal traders survey data was captured in face-to-face interviews. While no survey can be perfectly accurate, this study used rigorous industry-standard methods to ensure that the findings are as reliable and representative as possible.



6. Results: cost of cash analysis per Tier

The cost analysis presents a comprehensive overview across all the tiers, encompassing T1, T2 and T3 as well as the consumer segments.

At the overall level, the total cost reflects the cumulative financial costs, both direct and indirect, of maintaining cash infrastructure, availability and accessibility throughout the value chain.

For T1 (essential industry services), the costs are substantial and dominated by components such as storage, handling, security and logistics, highlighting the operational complexity and resource intensity required to support critical services.

T2 (essential bank services) faces significant expenditures related to the distribution of cash to branches and ATM networks, cash management as well as support services, particularly as this tier often bridges the gap between central bank operations and end users. Retail-level costs are structurally lower relative to the upstream tiers, reflecting optimisation in cash management processes. This reflects the sector's approach to optimising cash management, especially in demand and supply operations.

For consumers, the direct and indirect costs are almost at equal split, with expenses arising from transaction fees, time spent on accessing cash, travel costs, interest foregone and potential security risks.

Collectively, this multi-tiered cost structure underscores the cash-related costs across the South African economy, amounting to a total of R88.5 billion.

To ensure an accurate representation of the total cost of cash, it is calculated by summing the consumer/end user direct and indirect cost of cash, being R43.5 billion and R44.9 billion respectively. Importantly, we do not aggregate the costs from T1 (essential industry services), T2 (essential bank services), T3 cash-back at POS or T3 cost of cash associated with routine business operations, as these expenses are already embedded within the consumer/end user cost of cash figures. This approach avoids double-counting and provides a clearer (unduplicated) view of the financial impact of cash usage across the system. Consumers' direct cash access costs include T1 essential industry costs, T2 essential bank costs plus a margin as well as T3 POS cash-back plus a margin. T3 retailers incur expenses for cash management as part of their routine daily operations. These costs are passed on to consumers through the pricing of goods and services; retailers embed the cost of cash into the final price of items sold/purchased.

6.1 Tier 1: Essential industry services cost results

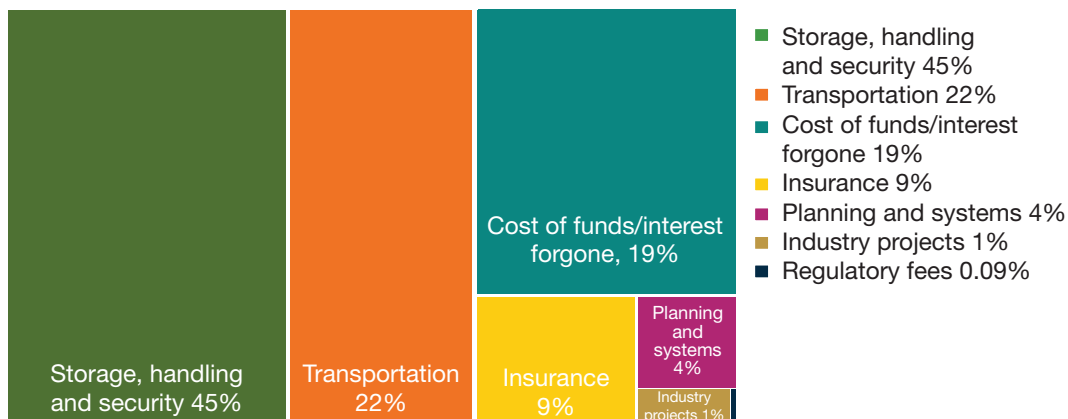
The T1 essential industry services cost results (Table 6) present a comprehensive breakdown of the cost components associated with maintaining critical industry operations.

Table 6: Tier 1 essential industry services cost results

Cost component	Total costs	Internal costs	External costs	Direct costs	Indirect costs	Fixed costs	Variable costs
Cost of funds/interest forgone	R220 000 000	R-	R220 000 000	R-	R220 000 000	R-	R220 000 000
Industry projects	R15 549 797	R7 774 898	R7 774 898	R15 549 797	R-	R-	R15 549 797
Insurance	R101 277 296	R-	R101 277 296	R101 277 296	R-	R-	R101 277 296
Logistics/transportation	R262 300 000	R-	R262 300 000	R262 300 000	R-	R-	R262 300 000
Planning and systems	R44 150 004	R44 150 004	R-	R44 150 004	R-	R-	R44 150 004
Regulatory fees	R1 000 000	R-	R1 000 000	R1 000 000	R-	R-	R1 000 000
Storage, handling and security	R528 947 902	R528 947 902	R-	R528 947 902	R-	R528 947 902	R-
Total	R1 173 225 001	R580 872 806	R592 352 194	R953 225 001	R220 000 000	R 528 947 902	R 644 277 098

This section examines both the direct and the indirect costs incurred by these essential services, providing a detailed analysis of internal and external expenditures as well as distinguishing between fixed and variable financial obligations.

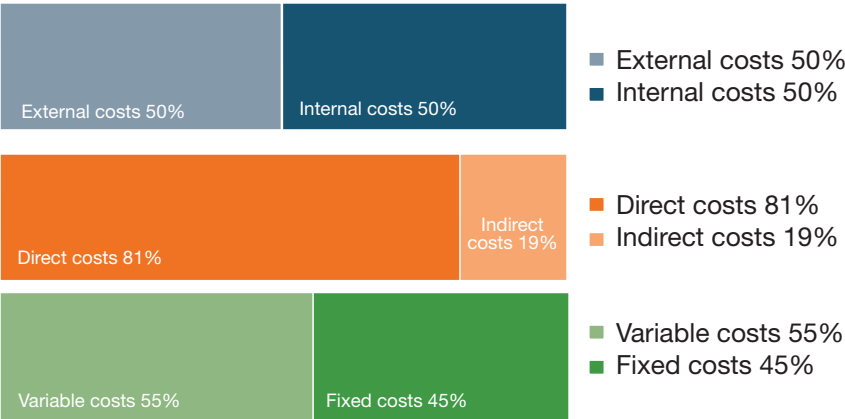
The total cost for T1 essential industry services amounts to R1.17 billion. Notably, the largest individual cost item is storage, handling and security, which accounts for R0.53 billion or 45% of the total, as shown in Table 6. The next-largest category is logistics and transportation, at 22% of the total cost, reflecting the significant expense associated with moving physical currency.

Figure 4: Tier 1 essential industry services cost drivers

The cost of funds/interest forgone accounted for 19% of the total cost in T1; it is an opportunity cost for funds held on behalf of commercial banks, as indicated by an independent administrator. The approximate value of funds held is R3 billion in cash; this is reflected on the GL of banks. To clarify: this is different from the NHTOs that are approximately R6.5 billion and which are at no cost to the industry.

Delving deeper into the various cost categories, it becomes evident that the total cost of T1, as shown in Figure 5, is approximately equally split between internal and external costs. Furthermore, the breakdown between direct and indirect costs shows an 80:20 ratio, emphasising that the majority of expenditures is directly attributable to essential service operations. By evaluating these cost drivers, the report aims to illuminate the economic realities faced by essential service providers as well as the broader implications for operational sustainability within the sector.

Figure 5: Tier 1 cost category contributions for the cash industry are distributed as percentages, totalling R1.17 billion.



To ensure the accuracy of T1 cost data, we asked financial institutions to provide their figures broken down by each tier. We then validated the submitted T1 data by aggregating all the relevant sections from commercial banks’ submissions and cross-checking these against the overall T1 totals, as shown in Table 6.

Ideally, the total T1 costs reported by commercial banks should align with the figure provided by the CIA of R1.173 billion. However, the combined submissions from the major commercial banks amounted to R1.117 billion, leaving a difference of R0.056 billion. This variance arose because 19 of the smaller commercial banks did not submit data. Importantly, the major banks that did provide data represented over 90% of the market share, making the reported figures highly representative of the sector overall.

6.2 Tier 2: Essential bank services cost results

6.2.1 Overview of Tier 2 costs

The total calculated cost for commercial banks, based on the data submitted, amounts to R17.59 billion. This figure represents approximately 90% of the market share, leading us to estimate that the remaining 10% of the market would incur costs in a similar fashion, resulting in a projected total of R19.54 billion for the entire commercial bank sector for the 2024 financial year. Commercial banks have confirmed that these figures exclude the costs associated with their customers using other banks’ ATMs as well as fees paid to IADs. This ensures that the data provided excludes the ‘us-on-them’ transaction cost, and we have taken care to eliminate double-counting.

Additionally, this approach allows for a more precise determination of the cost attributed to IADs. The total cost identified for IADs stands at R1.51 billion, further clarifying the distinct cost components within the ecosystem of essential bank services.

The grand total for T2 essential bank services is comprised of three distinct components: firstly, the T1 CIA costs that have been allocated to commercial banks (R1.17 billion); secondly, the T2 costs associated with providing cash services, which encompass bank branches, ATM networks as well as cash transport, storage and handling; and finally, the costs incurred by IADs. When all these elements are combined, the total expenditure amounts to R21.58 billion, offering a comprehensive overview of the sector’s outlay for the 2024 financial year.

Commercial banks incur a cost structure that is heavily weighted towards direct costs, with approximately 70% linked to branch operations and cash-handling activities. In contrast, fixed costs dominate the cost profile of IADs, accounting for 58%, largely due to ATM infrastructure, depreciation and ongoing maintenance commitment (Figure 8).

Banks face higher direct and variable costs linked to branch-centric cash operations, while IADs carry greater indirect and fixed costs due to asset-heavy ATM networks and technology upkeep. The outsourcing of ATMs shifts banks away from an infrastructure burden but introduces external cost dependency.

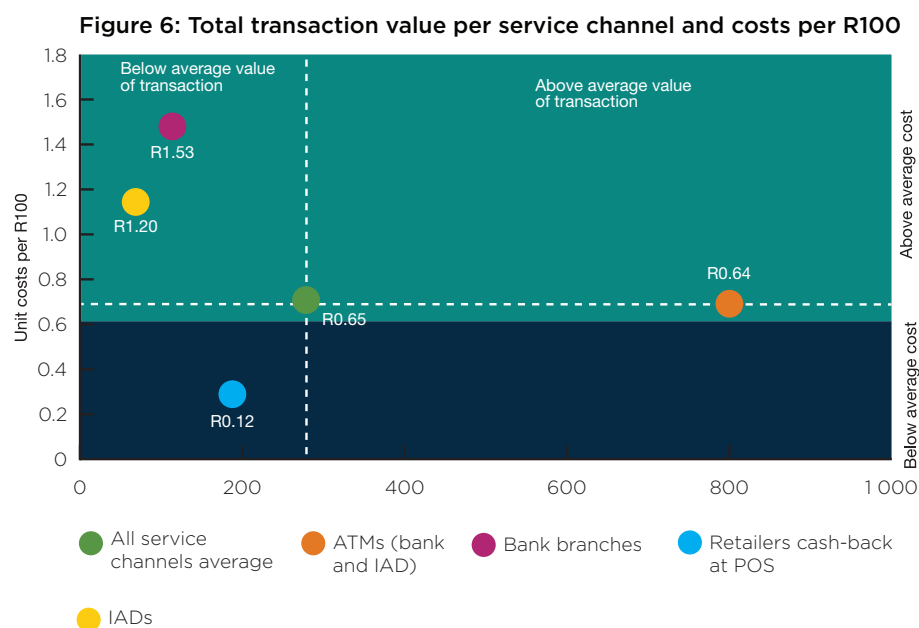
The biggest cost drivers for commercial banks are cash handling (24%), cash movement (15%) and staff costs (14%) (Figure 8). The largest contribution is driven by resources needed for cash processes and transportation as well as the human resources related to these activities. For IADs, costs are heavily asset-driven (depreciation and maintenance) and labour-intensive (Figure 10).

6.2.2 ATM market share and device utilisation insights

- IADs represent approximately 30% of the total ATM network but are responsible for only 10% of cash withdrawals and do not process deposit transactions (Figure 10).
- Commercial banks control around 70% of ATMs, facilitating over 90% of withdrawals and handling all deposits.
- This market dynamic means that IADs experience higher unit costs due to lower transaction volumes per device and offer a limited service focused solely on withdrawals.

According to data from the Bank for International Settlements (BIS), the number of ATMs in South Africa as at 2023 was 31 278.¹⁴ Our data for 2024 indicates a total of 30 643 ATMs, comprising 21 443 bank-owned ATMs and 9 200 IAD-operated ATMs. As commercial banks rationalise their ATM networks, IADs appear to be filling part of the resulting service gap.

The T2 essential bank services average cost per R100 is R0.68, with an average total transaction value of R153 billion per service provider per annum (Figure 6). IADs do not process deposit transactions, so their operational costs are distributed solely across withdrawals. This leads to a higher cost per R100 for IADs compared to banks, as their transaction volumes are lower and they cannot benefit from the economies of scale that banks achieve by handling both withdrawals and deposits.



¹⁴ Bank for International Settlements, [BIS Data Portal](#), 25 March 2025, accessed 25 October 2025.

Figure 7: The Tier 2 costs of cash contributions for commercial banks and independent ATM deployers (IADs)

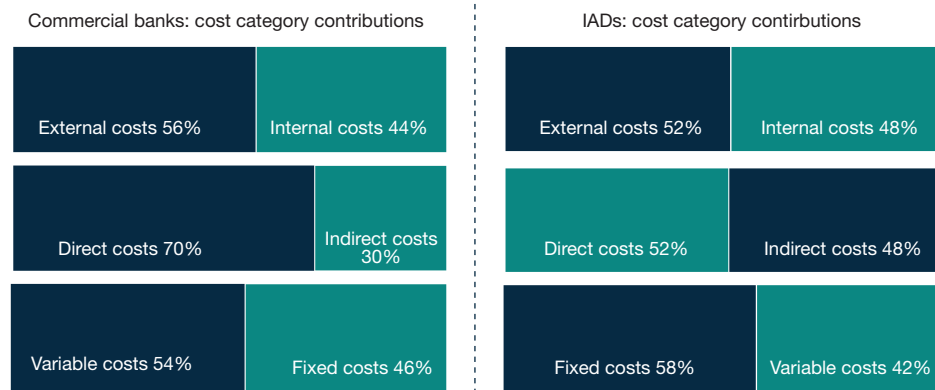


Figure 8: The Tier 2 costs of cash cost categories for commercial banks and independent ATM deployers (IADs) providing insight into cost drivers

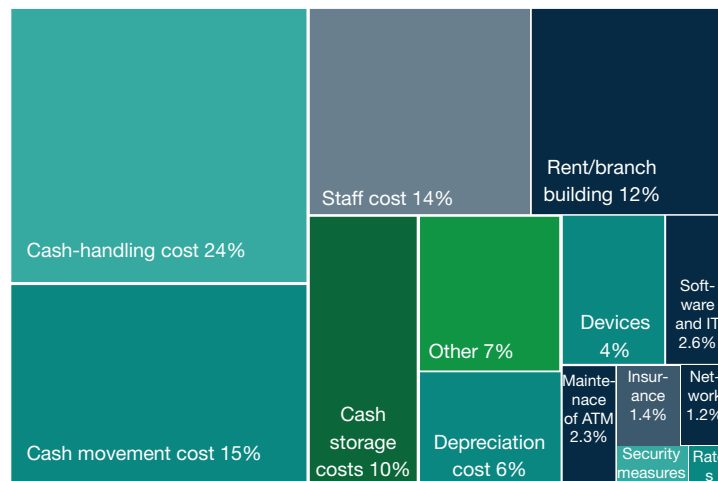


Figure 9: The Tier 2 costs of cash cost categories for commercial banks providing insight into cost drivers

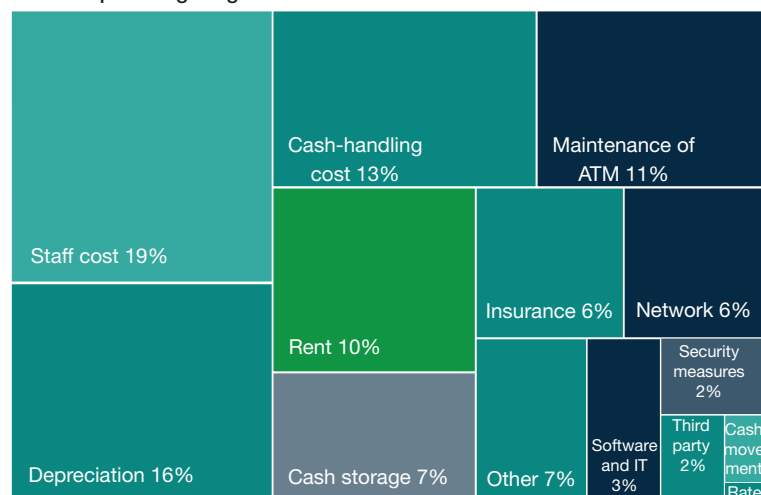
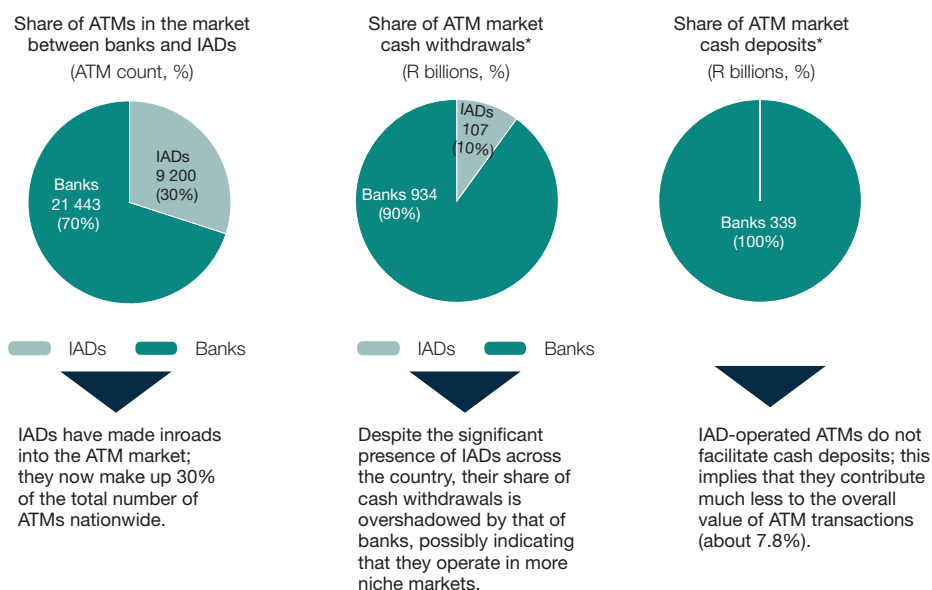


Figure 10: Comparison of ATM market participation and transaction volumes: banks vs independent ATM deployers (IADs)



There is a compelling relationship between ATM cost structures and transaction volumes across banks and IADs: banks' ATMs process more transactions on average, further lowering their per-transaction costs (see Figure 10 and Figure 6).

- *Cost efficiency:* Although banks incur 6.3 times higher total ATM costs than IADs, their average unit cost per R100 is only 53% of IADs', indicating strong economies of scale.
- *Transaction volume:* Banks handle seven times more transactions than IADs, reinforcing the cost-volume efficiency.
- *Value facilitated:* Banks process 12 times more monetary value than IADs.
- *Withdrawal value:* The average withdrawal value at bank ATMs is R1 019, nearly double that of IADs at R669, suggesting that banks serve higher-value transactions.
- *Location impact:* While location data is unavailable, internal and external sources suggest that IADs are more prevalent in rural and retail-heavy areas, where transaction volumes are lower and logistics costs are higher. This geographic distribution likely contributes to the higher per-unit cost of IADs.

ATMs process a higher volume of cash withdrawals than bank branches, with approximately 23 times greater transactional value. Cash deposits at ATMs are 2.5 times higher compared to those at bank branches. The cost per transaction and per R100 handled is higher at branches than at ATMs; the cost per R100 at branches averages R1.53, which is 125% more than at ATMs. The average withdrawal and deposit values at branches are R16 898 and R21 323 respectively, exceeding those at ATMs. Branches also see deposit values and volumes that are 2–3 times greater than withdrawals.

Cost efficiency improves with volume; the higher the transaction volume (as seen with ATMs), the lower the unit cost.

Branches are essential for high-value and deposit transactions but are much less efficient for withdrawals compared to ATMs.

ATMs, especially those operated by banks, are the most cost-effective channel for cash withdrawals in T2.



IADs fill gaps in the market but at a higher cost per transaction and lower average withdrawal value.

Our two bank data points of R293.9 billion in retailer cash deposits versus R32.9 billion in retailer withdrawals support the following key insights: the cash cycle in South Africa is largely driven by individual customers withdrawing cash at ATMs, spending it at retailers and small businesses, and then retailers depositing that cash back at the banks.

Retailer deposits versus withdrawals

Retailers deposit nearly nine times more cash than they withdraw (R293.9 billion versus R32.9 billion).

This suggests that most of the cash that retailers receive comes from customer spending, not from their own withdrawals.

Cash circulation pattern

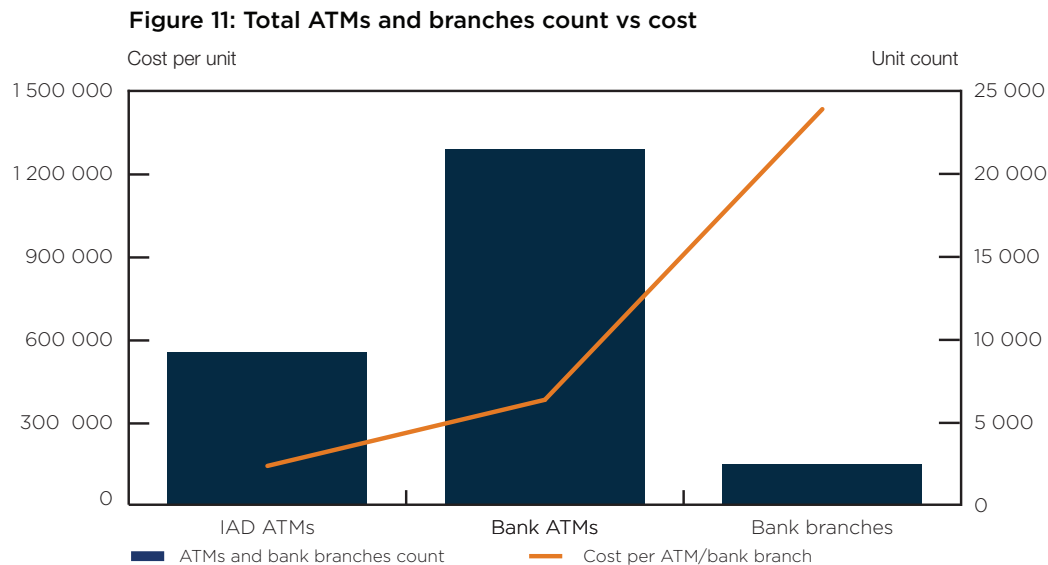
- Individuals withdraw cash at ATMs (higher volume, lower value per transaction).
- Cash is spent at retailers and small businesses.
- Retailers accumulate this cash and deposit it back at the bank (higher value, lower frequency).

Systemic efficiency

This cycle explains why ATMs are optimised for withdrawals and branches for deposits.

Policy and network design

Understanding this flow helps banks and regulators optimise ATM and branch networks, and informs strategies for cash management, security and digital payment adoption.



6.3 Tier 3: Retailers cost results

The total cost of cash for formal retailers was determined using actual cost data provided by some of the largest South African retail groups. The information obtained from these retailers accounted for 34.4% of the total retail trade market, offering a substantial and representative sample of the sector.

Based on the data submitted by these major players, the project team extrapolated the findings, applying proportional assumptions to estimate the overall cost of cash across the entire formal retail market.

According to Stats SA, the 2024 market size for retail trade sales was R1.5 trillion. The industry is characterised by the presence of several major groups, each operating extensive store networks and offering a diverse range of products and services. Market size estimates for major retailers were calculated using published revenue figures divided by a total market size of R1.5 trillion. To determine the total market cost of cash for formal retailers, data submitted by 34.4% of the retailers was used and then extrapolated to represent the entire market.

To provide further clarity, we separated the calculation for the total cost of cash for formal retailers into two distinct components: the cost of cash related to routine business activity and the cost of cash associated with offering cash-back at POS. This distinction was made to give a transparent overview of the costs involved in running a retail business compared to the additional costs incurred when retailers act in a capacity similar to a bank teller, dispensing cash to customers at the till. Furthermore, not all retailers offer cash-back services at POS. We have volume data on cash-back transactions at POS. Using this information, we applied the same calculation method to estimate cash-back volumes across the entire market.

To calculate the cost of cash-back services at POS, we first identified the relevant cost categories associated with the activities of providing this service from the submitted data.

6.3.1 Card transactions

These include:

- balance enquiry;
- cash-back only (without purchase or any other activities);
- declined transaction;
- other card transaction type;
- product purchase;
- purchase with cash-back (cash-back component);
- purchase with cash-back (purchase component);
- refund;
- value-added service (electricity/airtime/vouchers) purchase;
- cardless cash withdrawal;
- cross-border remittance;
- government to person (G2P)/business to person (B2P) POS cash withdrawal;
- other cash transaction;
- refund (cash purchase);
- store-to-store cash-out; and
- store-to-store cash-send.



To estimate the cost of cash withdrawal services provided by retailers, all potential retail cash cost categories were first identified and assessed. Only those costs directly attributable to the provision of cash-back and cash withdrawal services were retained for the analysis. Based on retailer survey responses, an allocation of 1% of total cashier salary costs was applied to reflect the proportion of staff time dedicated to processing these transactions. The resulting cost estimate was derived by aggregating the relevant cost components across the following retail cash withdrawal channels:

- cash-back only (without purchase or any other activities);
- purchase with cash-back (cash-back component);
- cardless cash withdrawal;
- G2P/B2P POS cash withdrawal;
- store-to-store cash-out; and
- store-to-store cash-send.

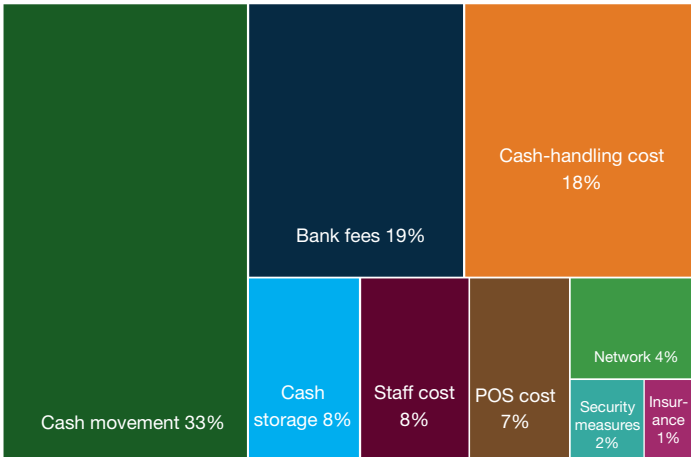
Our analysis indicates that the cost of cash for retailers' routine operations amounts to R1.613 billion while the cost specifically attributable to cash-back services at POS is R399 billion. The aggregate expenditure associated with both cash operations and the provision of cash-back services in the retail sector amounts to R2 012 billion.

The analysis also reveals that the total value of cash handled through both cash-back and POS transactions is R326 billion. With an average cash-back amount of R492 per transaction, this translates to an estimated 663 million cash-back transactions across the retail sector.

These figures highlight the substantial scale at which cash-back services operate, underscoring their significance in routine retail cash operations and the considerable number of transactions processed annually. The cost per R100 at the retailer is 12 cents, which is lower compared to other channels such as ATMs and bank branches.

A breakdown of the cost structure reveals that the majority of expenses in providing cash-back services is operational in nature. Cash movement, at 33%, is the largest driver, followed by bank fees at 19% and cash handling at 18% (Figure 12), together accounting for nearly 70% of the total costs. When storage and staff costs (each at 8%) are included, approximately 86% of all costs are attributed to day-to-day operations. This highlights that controlling physical cash logistics and operational processes is key to managing overall expenses in the retail cash-back environment.

Figure 12: The Tier 3 formal retailer costs of cash cost categories providing insight into cost drivers



6.3.2 Insights from formal retailers' analysis

- *The major cost driver is logistics, not technology:* Cash movement (33%) and cash handling (18%) dominate; over half the cost is tied to moving and touching cash, not information technology (IT) or card rails. Any structural play that reduces the kilometres driven, the number of trips and touches as well as dwell time would materially lower the cost intensity. Enabling shared CIT operations and cash recycling across retailers (rather than siloed, high-frequency collections) would directly target the largest bucket of cost (cash movement at 33%), with second-order benefits for cash handling and storage.
- *Bank fees are the single largest non-operational line (19%):* This is a potential area for renegotiation or rerouting (e.g. settlement/processing partners, pricing tiers and/or volume commitments).
- *Storage and staff is the on-premises cost (16%):* Smart safes, automated reconciliation and deposit frequency optimisation can compress both storage time and staff minutes per transaction.

6.3.3 Cost efficiency across cash access channels – cost per R100 (Figure 6)

- Retailer cash-back at POS: R0.12

This is the most cost-efficient channel due to leveraging existing retail infrastructure and high transaction volumes.

- Bank ATMs: R0.64

This is below-average cost, benefiting from scale and established networks.

- IAD ATMs: R1.20

Nearly double the bank ATM cost; this channel cost is driven by higher fixed costs and lower transaction volumes.

- Bank branches: R1.53

This is the least cost-efficient channel, as branch operations and staff overhead costs dominate.

- All ATMs: R0.68

This average is weighted by bank ATM dominance in volume.

- T2 average (branches and ATMs): R0.76

This is higher than the ATM-only average due to the costly branch component.

- Overall average (T2-T3): R0.65

This is close to the ATM average because POS cash-back volume offsets branch inefficiency.

Efficiency improves dramatically when shifting from branch-based cash access (R1.53 per R100) to retail-assisted models (R0.12 per R100). ATMs remain mid-range, with bank ATMs outperforming IAD ATMs due to scale. The strategic focus should be on expanding POS cash-back and optimising ATM networks to reduce the cost per R100.

The results presented in Tables 7 and 8 suggest that greater utilisation of cash-back at POS may provide a more cost-efficient means of distributing cash than further expansion of traditional ATM infrastructure. While retailers incur costs in providing the service, these costs are substantially lower than the costs associated with



operating and servicing ATM networks. As commercial banks continue to rationalise ATM deployments, expanding cash-back availability and optimising ATM placement in high-demand locations may reduce the overall cost of providing cash access while preserving service availability for consumers.

Table 7: Adjusted Tier 3 formal retailer cash management costs for routine business operations

Respondent	Market share (% of total market size)	Routine business cost of cash management (actual)	Adjusted costs
Retailer 1	6.66%	R46 181 031	R46 181 031
Retailer 2	16.43%	R236 533 722	R236 533 722
Retailer 3	11.35%	R272 635 006	R272 635 006
Others	65.56%	-	R1 057 209 417
Total	100.00%		R1 612 559 178

Table 8: Adjusted Tier 3 formal retailer costs of cash for providing cash-back at POS

Respondent	Cash-back at POS volume (% of formal total market)	Total cost cash back POS costs	Recalculated costs
Retailer 1	1%	R1 541 064	R1 541 064
Retailer 2	54%	R280 390 536	R280 390 536
Retailer 3	25%	R37 544 231	R37 544 231
Retailer 4	18%		R71 882 062
Retailer 5	2%		R7 986 895
Total	100%		R399 344 790

6.3.4 Informal traders' cost of cash

The estimation of cash-related costs for informal traders is based on a population-driven modelling approach using Stats SA data. The total number of informal businesses is proxied using Stats SA's *SESE 2023*¹⁵, which estimates approximately 1.9 million non-VAT-registered businesses operating within the informal sector.

This population is segmented to reflect differences in cash usage behaviour across key informal subsectors. Specifically, the distribution of informal businesses by industry, as reported in *SESE 2023*, is used to estimate the relative size of transport-related activities. Transport activities account for approximately 5.3% of informal businesses and are used as a proxy for segments such as informal taxi operations.

The total cost of cash is then calculated by applying segment-specific cost estimates to these populations. This involves multiplying the estimated number of informal traders and the estimated number of transport-related operators by their respective per-operator cost of cash values derived from survey data. The combined result provides an aggregate estimate of the cost of cash for the informal sector, incorporating both general informal trading activity and transport-related subsegments.

The estimated total cost of cash using this methodology for the entire (informal trader) sector is R2.28 billion.

¹⁵ Statistics South Africa (Stats SA). 2025. Survey of Employers and the Self Employed (SESE) 2023: Statistical Release P0276. Pretoria: Statistics South Africa. Available at: Survey of Employers and the Self Employed (SESE) 2023.

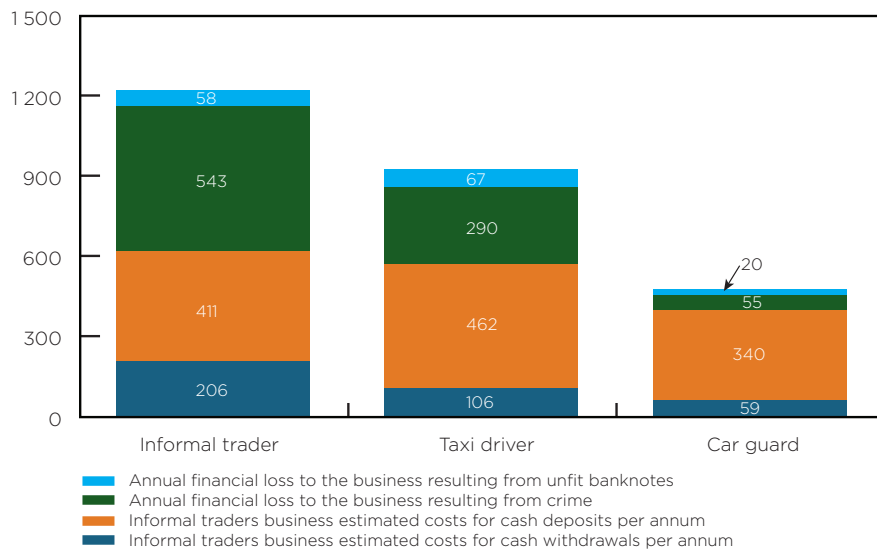
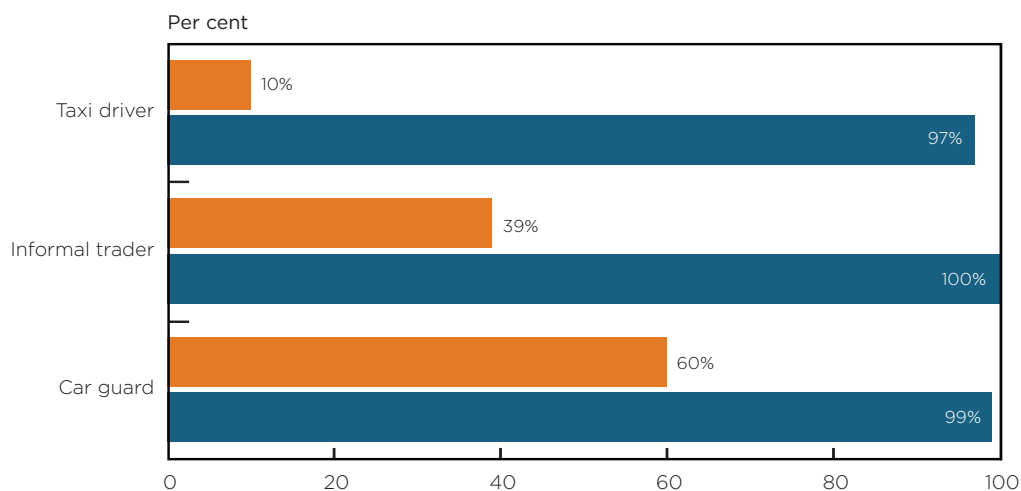
Figure 13: Total cost of cash for informal traders per annum

Figure 13 shows the detail of the different costs of cash. Of particular concern is the share of lost, stolen or robbed cash for the full year, for both informal traders and taxi drivers.

To estimate the total annual cost of cash for informal traders and taxi drivers, we first calculated the average yearly cash-related cost per business type in each group (R1 217 for informal traders and R926 for taxi drivers) based on our survey data. We then multiplied these per-annum costs by the estimated total number of informal businesses in each sector, which was derived by applying the relevant industry market share based on Stats SA data (a 5.3% transport-related share used as a proxy for taxi-related activity and 94.7% for all other informal traders – from a total population of 1 900 000 informal businesses). This extrapolation provided an aggregate national estimate of the economic cost of cash handling for each group.

Figure 14 shows the low level of acceptance of electronic payments by the informal trader sector.

Figure 14: Payment type acceptance

6.3.5 Key results and insights

The estimated annual cash-handling cost amounts to R1 217 per informal trader and R926 per taxi driver. When these individual costs are scaled up to the national level, informal traders are found to bear a collective annual cost of approximately R2.19 billion while taxi drivers face a total of around R93 million each year in cash-related expenses.

- The cost of cash is a significant and recurring cost for South Africa's informal sector.
- The informal trader industry is cash-heavy and therefore bears a higher cost compared to the formal retailers. Only 39% of informal traders and 10% of taxi drivers accept electronic payments.
- These costs include not just bank fees, but also losses from theft and counterfeit banknotes.
- Policy interventions that lower the cost of cash (e.g. cheaper deposit/withdrawal options and a safer cash-handling infrastructure) or that promote digital payments could decrease the total and per-unit costs of cash for informal traders.

6.4 CIT costs across T1-T3

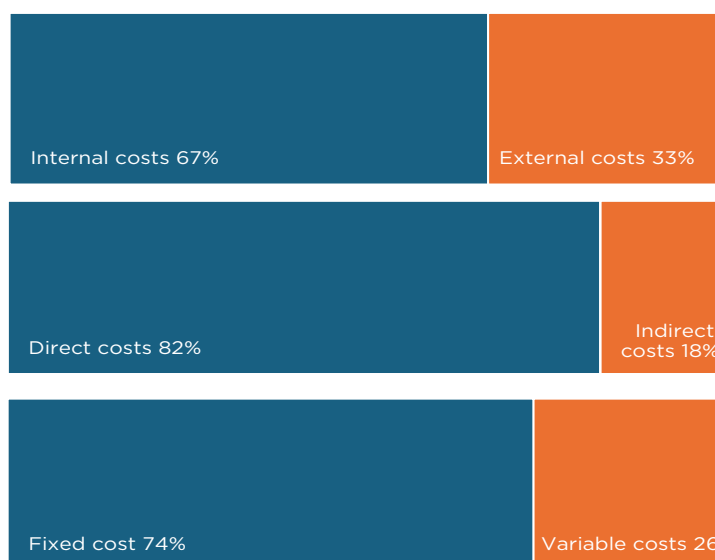
Due to the sensitivity of the data, we are reporting only aggregated-level data to ensure anonymity.

The dataset summarises the market-wide CIT cost at R6.95 billion, decomposed through three lenses that sum to the same total: internal versus external (67%/33% or R4.66 billion/R2.29 billion), direct versus indirect (82%/18% or R5.7 billion/R1.25 billion) and fixed versus variable (74%/26% or R5.14 billion/R1.81 billion). These lenses are orthogonal views of the same pool (not separate buckets), so their percentages are not additive.

The cost base is operational and structural, reflecting the dominance of direct (82%) and fixed (74%) costs. Given that 67% of CIT costs are classified as internal, this indicates that CIT service providers largely incur these expenses through directly supporting their clients' operations, such as in-store handling, reconciliation, storage and scheduling. This substantial proportion of internal costs demonstrates that CIT companies predominantly run these aspects themselves rather than outsourcing them, with the remaining 33% of costs relating to external suppliers where targeted improvements can also be made.

Possible impact levers therefore include route/frequency optimisation, shared or multi-tenant runs, smart safes and in-store recycling to cut the number of touches and dwell time, risk-based staffing and off-peak scheduling as well as commercial redesign to convert retainers/minimums into pay-for-use with performance SLAs. As a sizing cue, every 1% reduction in total CIT costs saves about R69.5 million, so even modest improvements to the direct and fixed cost components could deliver value.

Figure 15: The CIT costs of cash contributions



6.5 Consumer total cost of cash

6.5.1 Survey sample and weighting methodology

The demographic breakdown of the general public from the survey reveals a diverse representation across gender, with participation balanced between men (52.5%), women (46.5%) and other (1%). Age distribution spans a broad spectrum, encompassing young adults through to pensioners, highlighting perspectives from multiple life stages. Ethnic backgrounds are similarly varied, providing insight into the attitudes and behaviours of different demographics within both urban and rural settings.

For our survey, we utilised a stratified sampling method, randomly selecting approximately 278 participants from each province. Once the data collection was completed, we analysed the results at a national level by dividing the total sample of 2 379 respondents into key demographic cohorts, including race, age, gender and income band. The outcomes were then weighted in accordance with national statistics from Stats SA to ensure that our findings accurately reflected the demographic composition of South Africa.

The distribution of our study sample across these demographic categories is presented in Table 9, while the national distribution figures are sourced from Stats SA data for 2024 and shown in Table 4. Because our sample selection was both randomised and stratified, some variation between our survey results and the national statistics is to be expected; this is a natural outcome of random sampling.

To further enhance the representativeness of our findings, we adjusted our key results, including the cost of cash, by applying weighting factors. These weights account for any over- or under-representation in our sample relative to the actual population distribution. For example: if a particular age group is under-represented in our survey compared to the national figures, the responses from that group are given a greater weight in the analysis. This adjustment ensures that our findings reflect the demographic reality of South Africa more accurately, thereby strengthening the robustness and credibility of our conclusions.



6.5.2 Demographic profile of survey respondents

In this survey, participants from the general public could select 'Prefer not to say' for both the gender and the race metrics. The percentages of respondents choosing the 'Prefer not to say' option are shown in Table 9 along with the target demographic sizes based on statistical data from the data source. To address the inclusion of the 'Prefer not to say' option, a proportionate percentage was allocated from all metrics to this category. As a result, the percentage allocation for each metric was adjusted so that the total equals 100% inclusive of the 'Prefer not to say' responses.

Table 9: Demographic distribution of the survey sample in comparison to the population distribution, along with the weighting factor applied for cost calculations

	Metric	Distribution of sample	Statistics from source distribution	Weighing factor
Income band	R0-1 250	 9.29%	6.70%	0.72
	R1 250-2 500	 15.22%	16.30%	1.07
	R2 501-5 000	 18.28%	22.90%	1.25
	R5 001-8 000	 15.59%	17.20%	1.10
	R8 001-13 000	 12.90%	14.80%	1.15
	R13 001-20 000	 11.69%	7.60%	0.65
	R20 000+	 17.02%	14.50%	0.85
Gender	Male	 52.54%	48.45%	0.92
	Female	 46.49%	50.58%	1.09
	Prefer not to say	 0.97%	0.97%	1.00
Age group	18-24	 12.06%	16.16%	1.34
	25-34	 35.90%	24.19%	0.67
	35-44	 31.78%	23.70%	0.75
	45-54	 12.99%	15.01%	1.16
	55-64	 4.62%	10.61%	2.30
	65+	 2.65%	10.33%	3.90
Race	Black African	 81.34%	81.09%	1.00
	Coloured	 12.06%	8.40%	0.70
	Indian or Asian	 3.24%	2.60%	0.80
	White	 2.52%	7.07%	2.80
	Prefer not to say	 0.84%	0.84%	1.00
Province	Gauteng	 11.9%	25.40%	2.14
	KwaZulu-Natal	 10.3%	19.40%	1.88
	Northern Cape	 11.0%	2.20%	0.20
	Eastern Cape	 11.4%	11.40%	1.00
	Free State	 11.4%	4.80%	0.42
	Limpopo	 8.4%	10.10%	1.20
	Mpumalanga	 11.7%	8.00%	0.68
	North West	 12.0%	6.60%	0.55
	Western Cape	 11.9%	12.00%	1.01

6.5.3 Weighted consumer cost of cash estimate

Table 10 presents the key findings from our survey regarding the cost of cash in South Africa. After applying the appropriate weighting to the total sample, the calculated cost of cash amounted to R84.6 billion. This figure is based on a weighted sample cost of R1 953 per person, with the population size under consideration comprising 43 million individuals aged 18 and over. These results offer important context for understanding the broader financial implications explored in the subsequent analysis.

Table 10: Estimated total cost of cash in South Africa (weighted survey results)

Cost components	Calculated consumer costs
Total weighted sample cost	R4 647 224
Weighted sample cost per person	R1 953
Population size under consideration (≥ 18 years)	43 285 292
Weighted total cost	R 84 555 039 705

6.5.4 Consumer banking and payment behaviour

An analysis of employment income levels among survey participants (Figure 17) revealed a diverse financial background, with respondents spanning a range of earnings brackets. This distribution provided a nuanced view of the economic realities faced by both formal and informal sector workers, reflecting disparities in earning potential and highlighting the prevalence of low- to middle-income households. Understanding this distribution was important for interpreting broader patterns in cash usage and economic behaviour across different segments of the population.

The survey investigated the various ways in which individuals receive their income, recognising the diversity of payment channels in South Africa's economy. These include receiving wages or salaries:

- directly in cash (18.1%);
- via electronic transfer into a personal bank account (68.5%);
- via electronic transfer into a South African Social Security Agency (SASSA) bank account (9.6%) (Table 17);
- through mobile money services such as e-Wallet and Instant Money;
- at retail outlets using remittance services such as HelloPaisa and Mukuru; or
- by other specified methods.

This multifaceted approach to income receipt illustrates the flexible and adaptive financial behaviours employed to navigate both formal and informal economic environments.



Figure 16: Distribution of respondents by type of employment

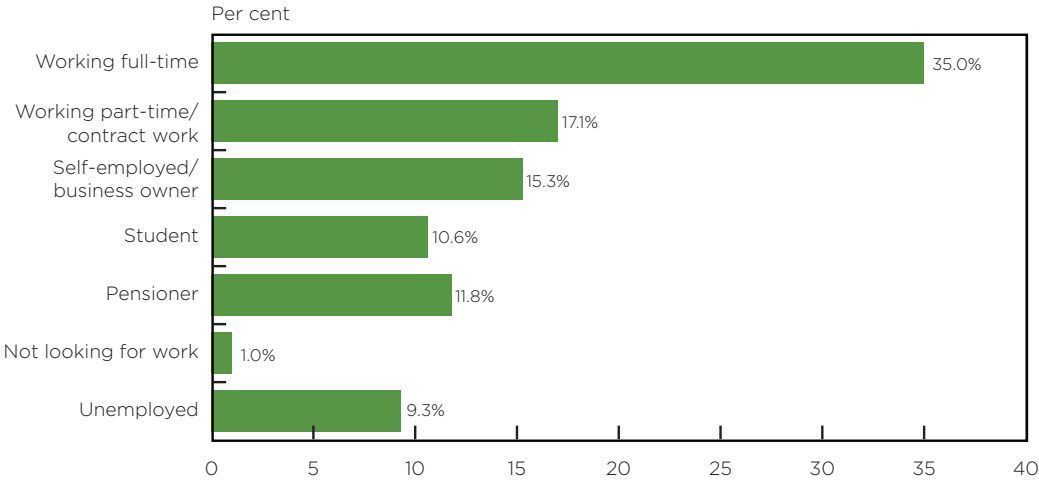
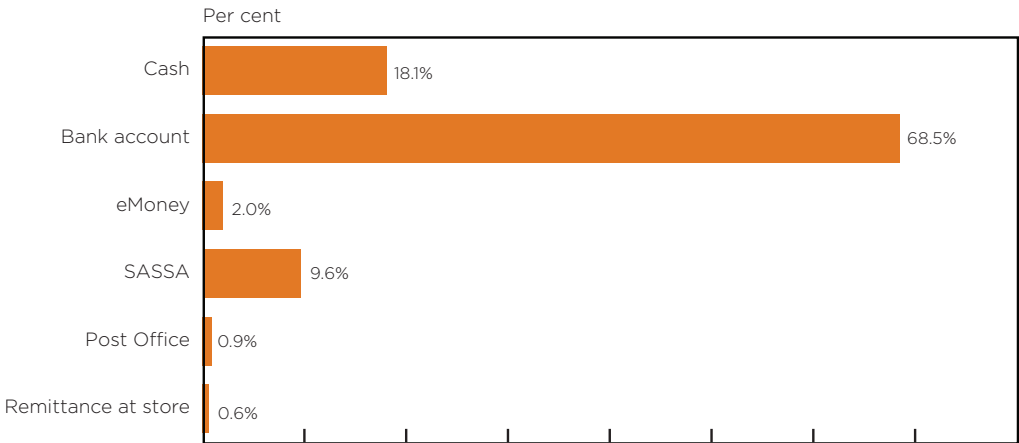
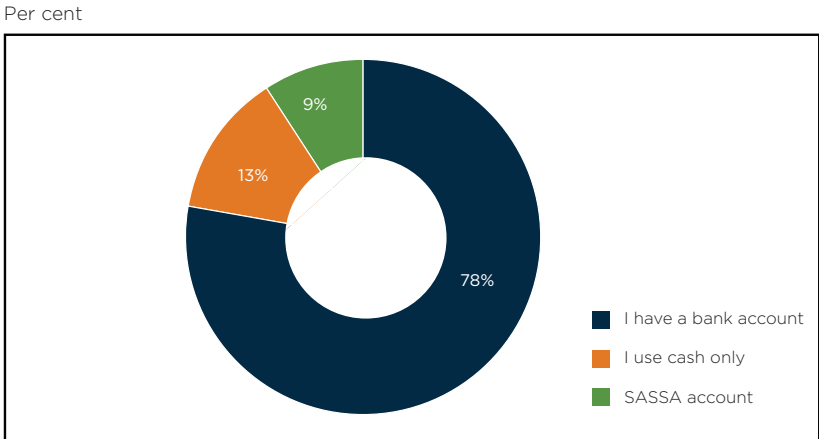


Figure 17: Percentage distribution of survey participants receiving their income



Our results reveal that 78% of the surveyed population have a bank account and 9% have a SASSA account (which is similar to a bank account) (Figure 18). This finding aligns with the high level of bank account penetration observed across the South African market.

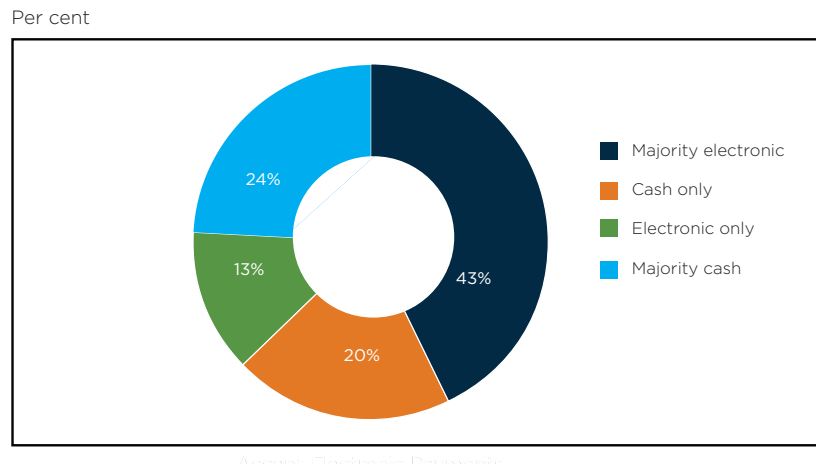
Figure 18: Bank account penetration rate distribution amongst survey participants



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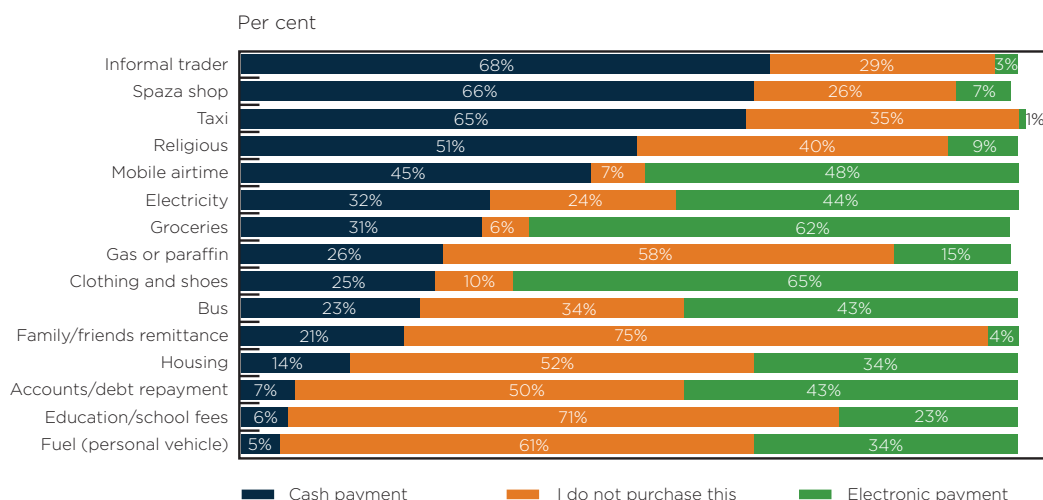
The survey's exploration of payment patterns among participants provides valuable insight into the shifting consumer preferences in South Africa. The data reveals that, while electronic payments are increasingly favoured (mirroring the widespread bank account ownership), cash still maintains a notable presence in everyday transactions (Figure 19).

Figure 19: Payment methods reported by survey participants



When it comes to purchasing essential goods and services, many individuals display a pragmatic approach, selecting payment methods that best suit their access and convenience (Figure 20). The results suggest a gradual yet discernible transition towards electronic payments, though cash remains indispensable for certain segments, particularly in informal settings or where digital payment accessibility is limited. Overall, these trends underscore the coexistence of traditional and modern payment methods, reflecting both the adaptability and the ever-evolving needs of consumers navigating South Africa's diverse economic landscape.

Figure 20: Trends in payment choices for essential goods and services reported by survey participants

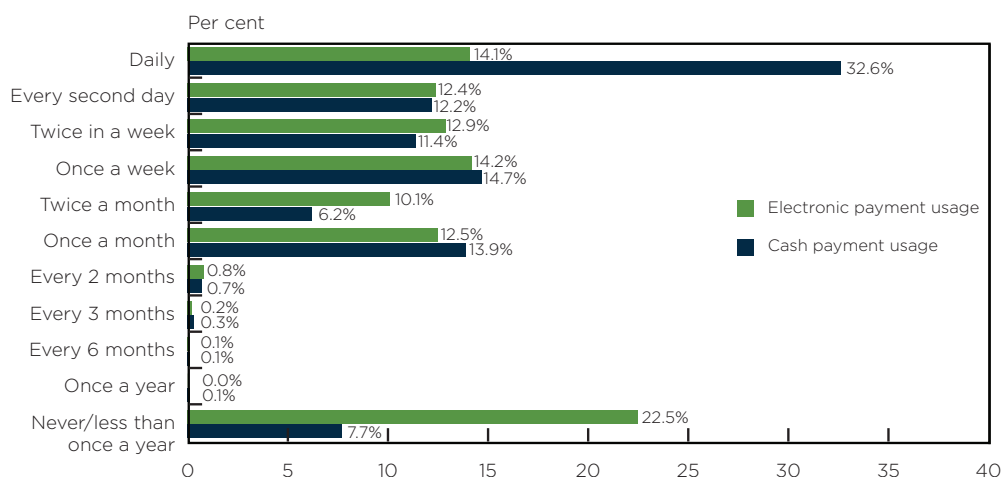


When comparing cash and electronic payment utilisation rates, our findings reveal that 70.9% of the sampled population use cash at least once a week, with 32.6% using cash daily. In contrast, electronic payment methods are used by 53.6% of the sampled population at least once a week, with only 14.1% daily. Around 23% report that they almost never use electronic payments, while this number is 7.7% for cash payments.



This highlights that, despite the growing presence of digital options, cash remains the predominant method for everyday transactions, with electronic payments lagging behind in regular usage among the surveyed groups.

Figure 21: Trends in payment frequency for electronic payment compared to cash payment reported by survey participants



6.5.5 Cash access and consumer risks

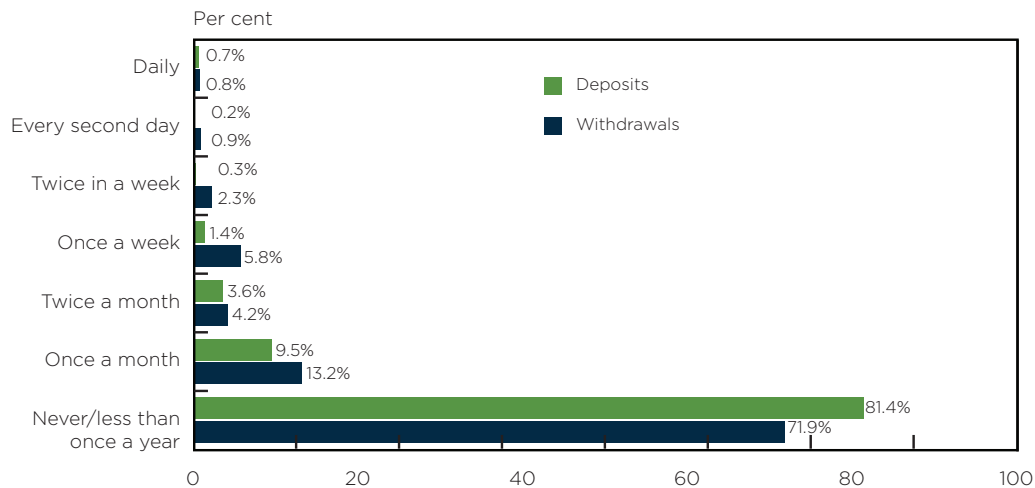
Our survey results, as shown in Table 11, indicate that ATM withdrawals are used by 67.6% of individuals at least once per month compared to cash-back at POS which is utilised by 42% of participants. The use of bank branches for cash withdrawals has decreased compared to the 2016 data presented from a Mastercard study, with only 16.5% using this method at least once per month. The Mastercard study reported approximately 61 million branch transactions, highlighting the significant reliance on traditional banking channels. In contrast, our study revealed a markedly lower figure, with only 10 million branch transactions.

Table 11: Distribution of cash withdrawals across different channels

Frequency	Receive cash from another person	ATM withdrawal	Cash-back at POS	Bank branches
Never/less than once a year	39.3%	27.7%	52.4%	80.9%
Once a year	0.2%	0.3%	0.4%	0.6%
Every 6 months	0.4%	0.3%	0.4%	0.7%
Every 3 months	1.5%	1.2%	1.7%	0.5%
Every 2 months	2.3%	2.39%	3.1%	0.8%
Once a month	29.1%	21.1%	14.9%	10.2%
Twice a month	7.7%	15.9%	8.3%	2.2%
Once a week	8.8%	16.6%	11.3%	1.7%
Twice in a week	2.3%	7.7%	4.3%	0.9%
Every second day	1.6%	4.5%	2.3%	1.1%
Daily	6.9%	1.8%	0.9%	0.4%

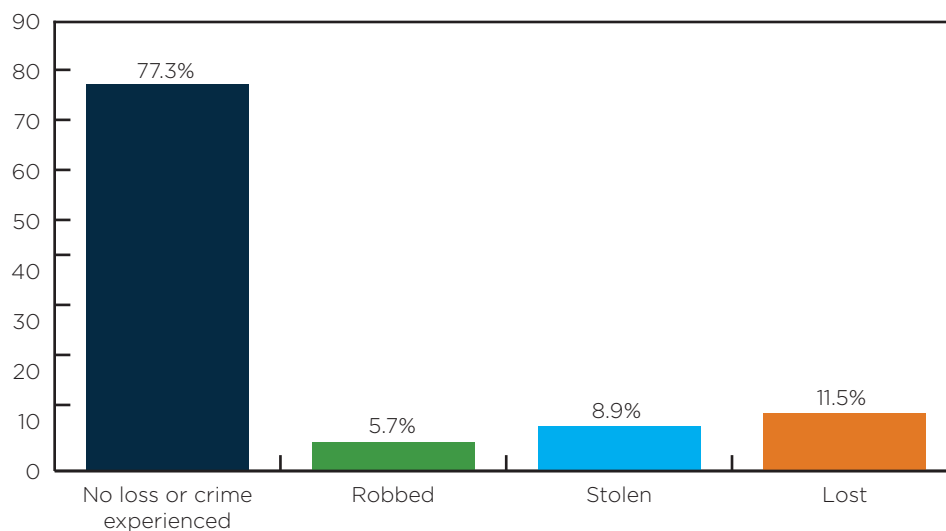
We also examined whether respondents travelled specifically to deposit or withdraw cash. The results, as shown in Figure 22, indicate that a majority of the sampled population (81.4% for deposits and 71.9% for withdrawals) does not travel solely for these purposes. This result suggests that depositing or withdrawing cash is most probably incorporated into daily routines or that individuals may receive cash payments directly from others. Additionally, this trend may be related to the increased accessibility to cash such as through the option of cash-back at POS'.

Figure 22: Trends in consumer travel specifically for cash withdrawals or deposits



Crime and loss remain a concern for participants who carry cash. According to the survey, 5.7% of respondents reported having experienced cash robbery while 8.9% indicated they had been victims of cash theft and 11.5% of cash loss. These findings underscore the risks associated with handling cash and may influence attitudes towards alternative payment methods.

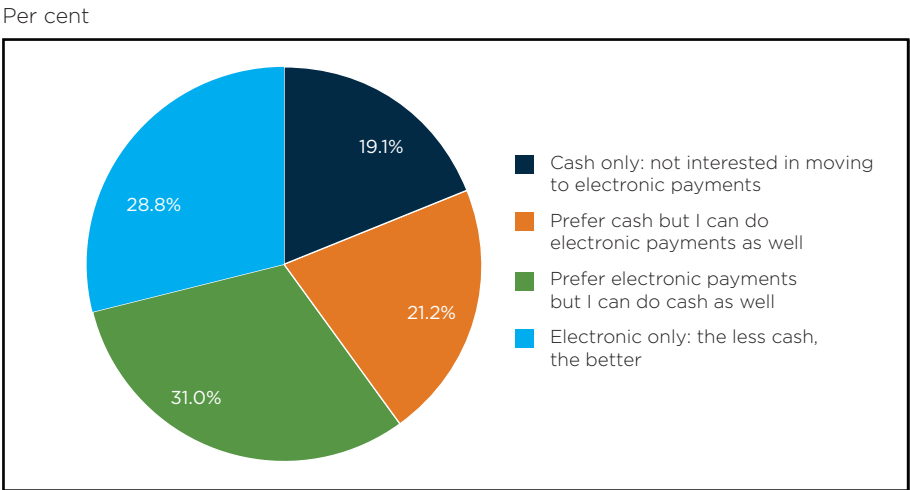
Figure 23: Distribution of survey participants' experience of cash crime and loss



6.5.6 Consumer payment preferences and barriers

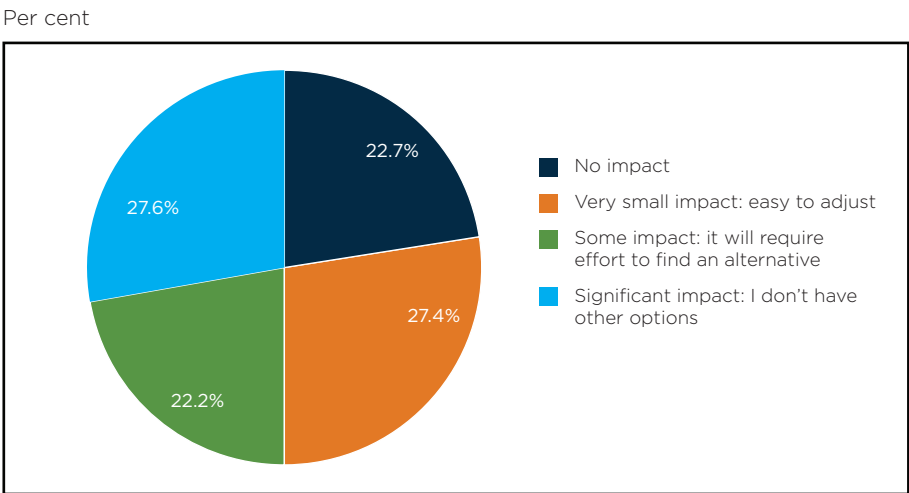
The survey also explored future preferences in payment methods. Participants were asked to select statements that best described their attitudes towards cash and electronic payments, ranging from a strong preference for cash with reluctance to adopt electronic methods (40.3%) to a clear endorsement of electronic payments as the preferred choice (59.8%). This spectrum of preferences offers valuable insights into the ever-evolving landscape of consumer payment behaviour.

Figure 24: Survey results on future preferences for cash and electronic payments methods



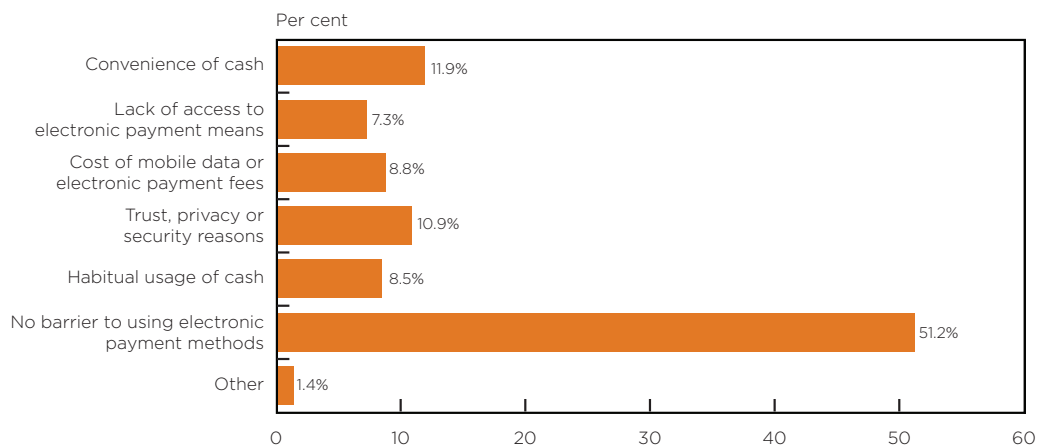
In addition, the survey assessed the effects of restricted access to cash on individuals, identifying how limitations can disrupt daily routines and financial inclusion, particularly for those who rely primarily on cash for transactions or budgeting. The findings suggest that restricted cash access may lead to significant negative impacts for at least 27.6% of the population, who would not have any other payment options.

Figure 25: Assessment of the effects of restricted cash access on individuals



The survey further investigated barriers that prevent participants from adopting electronic payment methods. These include concerns about digital security, lack of access to the necessary technology or Internet connectivity, unfamiliarity with digital platforms as well as apprehension about incurring additional fees. Such barriers highlight the importance of inclusive financial innovation that addresses the diverse needs and capacities of the population.

Figure 26: Key barriers that prevent participants from adopting electronic payment methods



6.5.7 The total cost of cash for consumers

The total annual consumer cost of cash in South Africa is estimated at R88.5 billion, reflecting both direct and indirect expenses borne by individuals. Direct costs – which include withdrawal charges (R17.7 billion), deposit fees (R13.3 billion) and travel costs for accessing cash (R12.5 billion) – account for roughly half of the total. Indirect costs – such as time spent queuing (R19.5 billion), cash-related crime losses (R12.0 billion), the time cost of travelling for cash (R8.3 billion), retailers' routine business cash costs (R3.9 billion) and interest foregone (R1.3 billion) – make up the other half. This breakdown highlights that the cost of cash is not limited to visible bank fees, but also includes significant hidden costs related to time, security, indirect retailer and informal trader costs as well as access.

Table 12: Aggregate consumer cost of cash in South Africa, including retailer and informal sector costs

Cost components	2024 costs
Calculated total cost from consumer survey	R84 555 039 705
Formal retailer cost of cash for routine business	R1 612 559 178
Informal traders cost of cash for routine business	R2 283 709 304
Total	R88 451 308 187

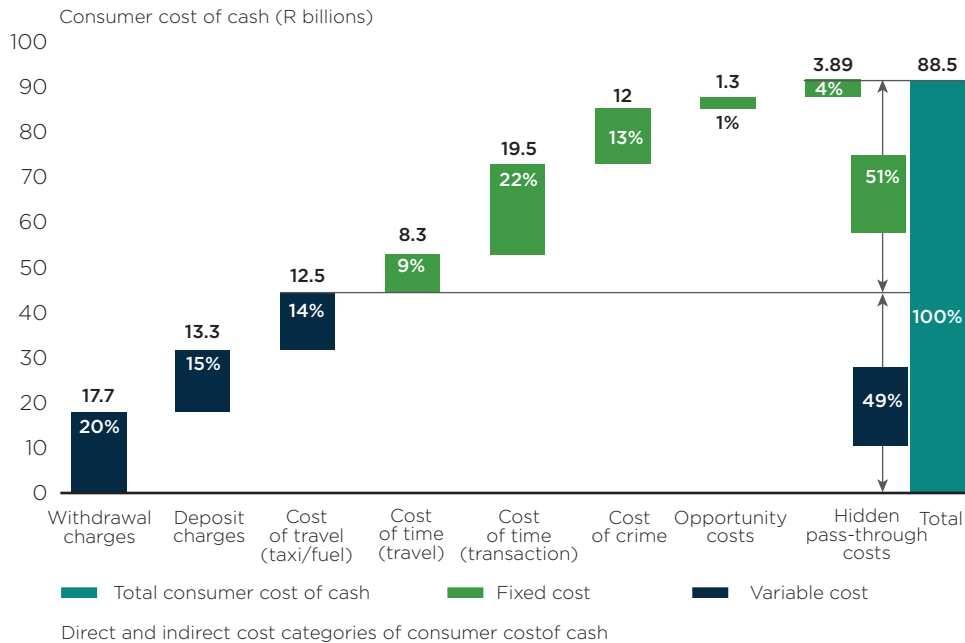
6.5.8 Key insights from the consumer cost of cash analysis

- The cost of cash is equally split between direct and indirect costs.
 - Direct costs (R43.5 billion or 49%) and indirect costs (R44.9 billion or 51%) contribute almost equally to the total cost.



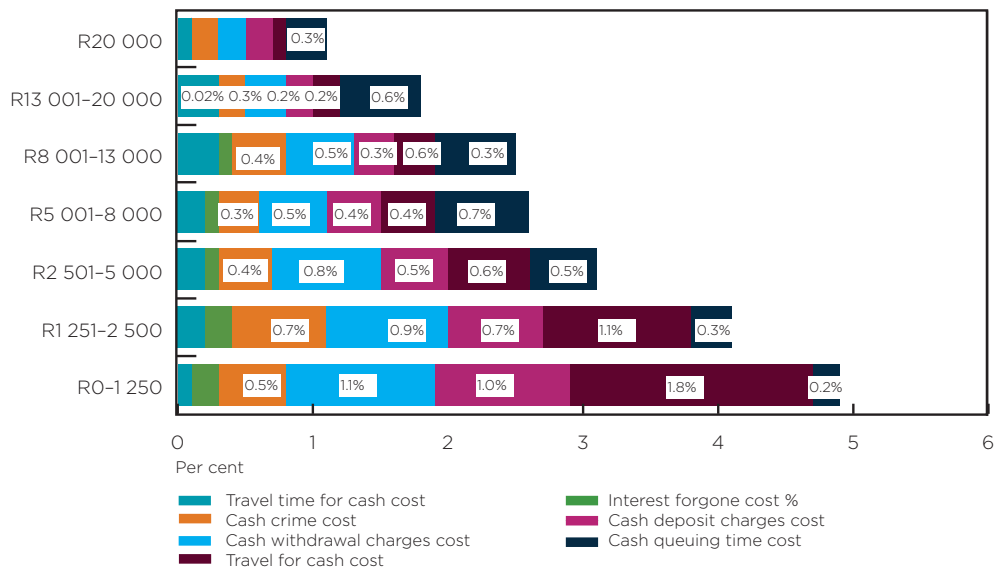
- Indirect costs are significant but often overlooked.
 - The cost of queuing for cash is the single largest indirect cost at R19.5 billion (22% of total), highlighting the time lost by consumers waiting to access cash.
 - Cash crime value (R12.0 billion or 14%) and the time cost of travelling for cash (R8.3 billion or 9%) show that safety risks and time spent travelling are major hidden costs.
 - Interest foregone (R1.3 billion or 1%) is relatively small but still notable, representing the opportunity cost of not keeping money in interest-bearing accounts.
 - Hidden pass-through raises everyday prices. Roughly 4% of consumer cost comes from retailers' cash-handling costs embedded in goods and services, particularly salient for informal traders which contribute a larger share (R2.3 billion) compared with formal retailers contributing R1.6 billion.
- Direct costs are driven by transaction fees and access costs.
 - Estimated withdrawal charges (R17.7 billion or 20%) and deposit charges (R13.3 billion or 15%) together make up more than a third of the total cost.
 - Travel costs for accessing cash (R12.5 billion or 14%), such as taxi fares and fuel, are a substantial direct expense, especially for rural and low-income consumers.
- Time and access remain major barriers.
 - The combined impact of time spent queuing (22%) and the time cost of travelling for cash (9%) amounts to 31% of the total cost of cash. Additionally, 14% of the total cost of cash relates to money spent to travel for cash-related reasons specifically. This means that over 45% of the total cost of cash is related to physical access and time lost, not just bank fees. This highlights the inefficiency of the cash ecosystem, especially for those far from banking infrastructure.
- The findings highlight several policy implications for reducing the cost of cash.
 - Improving access to cash (e.g. through more ATMs and cash-back at retailers) could reduce travel and queuing costs.
 - Addressing crime and safety around cash handling would have a direct economic benefit for consumers.
 - Embracing digital transformation and expanding access to electronic payment options has the potential to substantially reduce both the visible and the hidden costs associated with traditional payment methods.
- The findings highlight several strategic considerations for reducing the cost of cash.
 - The cost of cash is not just about visible bank fees; hidden costs such as time, travel and crime are equally important.
 - Any strategy aimed at reducing the cost of cash must address both the direct and the indirect components to have a meaningful impact on consumers.

Figure 27: Breakdown of the total cost of cash, illustrating the proportion attributed to direct and indirect costs



6.5.9 Distributional impact of cash costs by income group

Figure 28: The total cost of cash as a percentage of income varies significantly by income group

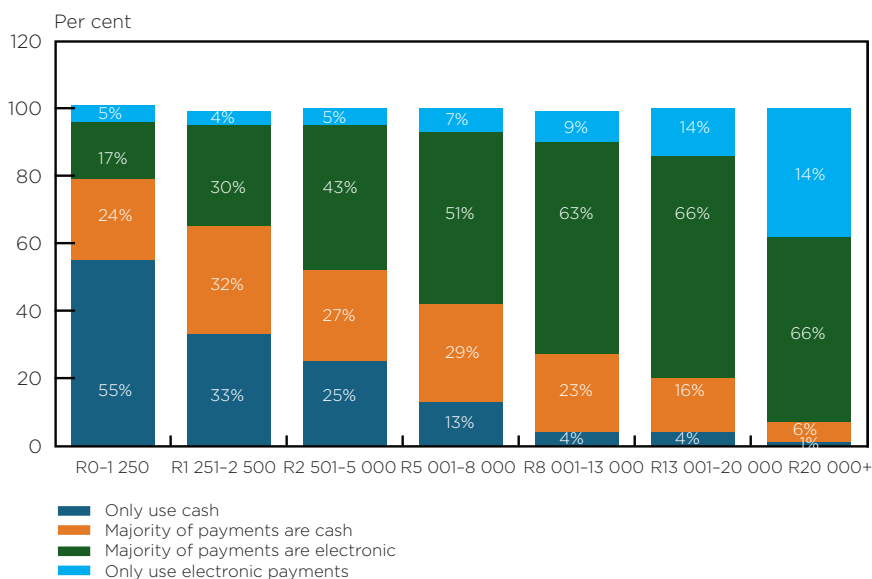


As shown in Figure 28, the proportion of income spent on the cost of cash decreases as income rises. Consumers earning up to R1 250 per month spend about 5% of their income on cash-related costs, while those earning R20 000+ per month spend only 1%. Middle-income groups (earning R2 501-R8 000 per month) spend around 3% and higher-income groups (earning R8 001-R20 000 per month) spend 2%.

As shown in Figure 29: as income rises, the use of electronic payments increases and the use of cash decreases. Of the consumers earning up to R1 250 per month, 55% use cash only and another 24% mostly use cash, while for consumers earning R20 000+ per month only 1% use cash only and only 6% mostly use cash.



Figure 29: Distribution of cash vs electronic payment usage across different income bands



6.5.10 Key findings and policy considerations

- *The impact of cash costs:* Lower-income households bear a disproportionately higher cost that is, on average, up to five times more (as a share of income) compared to higher-income households. It should also be noted that higher-income households utilise electronic transactions significantly more often, so their costs of transaction may have shifted away from costs of cash to costs of electronic transactions.
- *The financial inclusion challenge:* Improving access to services – both cash services and electronic services – could improve financial inclusion and have a significant impact on low-income households where large portions of costs are for travel costs (1.8%).
- *Policy priority:* Reducing cash-related costs for all groups (e.g. travelling, queuing and withdrawal fees) could have significant welfare benefits.
- *A digital transition opportunity:* Encouraging more affordable digital payment solutions for low-income consumers could reduce the total of cash costs.
- *Behavioural insight:* Despite the high relative cost, low-income groups may still prefer cash for budgeting and trust reasons, indicating that cost alone does not drive payment choice.

7. Global perspectives

This chapter begins by outlining the approach taken to gather international perspectives on the cost of cash. At the initial stage, we conducted a qualitative survey in collaboration with selected central banks from a diverse range of countries. These countries were chosen for their relevance to global benchmarking, representing both advanced economies and those with comparable economic structures to South Africa. By engaging directly with central banking authorities, the study ensured that insights were rooted in practical experience and informed by the realities faced in various national contexts.

The selected countries provide a diverse representation of varying economic environments, enabling a robust comparison and evaluation of the cost of cash, transaction impact, banking infrastructure efficiency and consumer trust in digital payment systems versus physical cash. This cross-sectional analysis aims to uncover patterns and insights that can guide policies and innovations in optimising monetary practices.

In our survey, we conducted a comprehensive investigation by posing a set of 16 meticulously crafted questions aimed at gaining a deeper understanding of the specific currency situations of the central banks involved. These questions were designed to elicit detailed and nuanced responses, enabling a thorough assessment of each central bank's unique circumstances and challenges.

Summary of the responses

Responses were received from the following seven central banks:

- Oesterreichische Nationalbank (Austrian National Bank);
- Bank of Canada;
- Central Bank of Chile;
- Deutsche Bundesbank (the German central bank);
- Banco de México (Bank of Mexico);
- Bank of Namibia; and
- Riksbank (the Swedish central bank).

7.1 Key insights from the central bank survey

The following key insights summarise the responses received from seven surveyed central banks (Austria, Canada, Chile, Germany, Mexico, Namibia and Sweden), covering governance arrangements, cost of cash research and reduction strategies, inflation-related denomination changes, cash usage trends, cost drivers, public impacts as well as barriers to digital payment adoption. The findings highlight both common themes across jurisdictions and important differences between advanced and emerging-market economies, providing a comparative basis for assessing cash management developments relevant to South Africa.

7.1.1 Governance and structure

All the central banks surveyed operate under a centralised governance model, although Deutsche Bundesbank also maintains a regional network of offices.



7.1.2 Cost of cash: research studies and strategies

Research studies conducted:

- Three banks, representing 43% of the respondents – namely the Swedish Riksbank, the Bank of Canada and Deutsche Bundesbank (all from advanced economies) – have conducted studies on the cost of cash. The remaining 57% of respondents reported that no such studies were available; this group included Banco de México and the Bank of Namibia, which have economic backgrounds similar to South Africa.

Cost reduction initiatives:

- *Optimisation of transportation routes:* 71% of the respondents selected this strategy, including Austria, Canada, Chile, Mexico and Namibia.
- *Cash-recycling systems:* 57% of the respondents used this technology, including Austria, Chile, Germany and Mexico.
- *Collaboration with the private sector for cash handling:* 43% of the central banks responded positively, including Austria, Namibia and Sweden.
- *Digital solutions for logistics:* Austria and Germany (29% together) use this initiative to reduce the cost of cash logistics.
- In addition, Oesterreichische Nationalbank also uses automated processing and just-in-time logistics, while Canada uses the Bank Note Distribution System (BNDS) to ensure efficient and cost-effective cash distribution across the country.

7.1.3 The impact of inflation and cash usage

- Central banks from advanced economies (four of the seven respondents) reported that inflation had not resulted in any physical impact on their denomination structures.
- *Decreasing the use of cash:* A decrease in the use of cash was reported by four of the seven central banks, namely the Central Bank of Chile, Deutsche Bundesbank, Oesterreichische Nationalbank and the Swedish Riksbank.
- *Increasing the use of cash:* The Canadian and Namibian central banks had seen an increase in the use of cash.
- *Stable use of cash:* Banco de México indicated that the country's use of cash was currently stable.

7.1.4 Cost drivers and the effect on the public

The cost impact of changes in cash usage:

- *An increase in the cost of cash management:* 43% of the respondents reported seeing this increase, including Austria, Chile and Sweden.
- *A decrease in the cost of cash management:* The Bank of Namibia selected this option, representing 14% of the respondents.
- *No significant impact:* 29% of the respondents selected this option, namely Canada and Mexico.
- Deutsche Bundesbank selected 'Other' (14%) and noted that the reduction in traditional cash access points may have increased relative costs for consumers, retailers and CIT companies. In contrast, banks may have experienced a decrease in absolute costs due to the operational savings associated with a smaller cash access footprint.

- Most of the surveyed central banks (six of the seven) reported that rural populations, elderly citizens and low-income groups are consistently identified as being more affected by, and more exposed to, the cost of cash. The Bank of Canada indicated that it conducts transactions at the wholesale level with its BNDS members and therefore does not have direct insight into retail-level impacts. BNDS members would be better positioned to provide information from a retail perspective.

7.1.5 Digital payment risks and barriers to adoption

The survey shows that accessibility is the leading digital payment risk, identified by all seven central banks, reflecting concerns about exclusion linked to access, affordability, digital literacy and dependence on cash. Infrastructure and technological limitations were also significant, reported by 71% of respondents, while security risks, fraud and privacy concerns were each cited by 43%. One respondent further noted that natural disasters, strikes and curfews may restrict access, underscoring the need for inclusive and resilient payment systems (Table 13).

Table 13: Digital payment risks and challenges

Risks and challenges	Percentage
Security risks and fraud	43% (3 of 7)
Loss of privacy	43% (3 of 7)
Accessibility issues for certain populations	100% (7 of 7)
Infrastructure and technological limitations	71% (5 of 7)
Other: restrictions/limitations on accessibility and infrastructure during natural disasters, strikes and curfews	14% (1 of 7)

The survey results indicate that high transaction fees are the most frequently cited barrier to digital payment adoption, identified by 57% of the seven central banks. Lack of trust in digital systems was also significant, reported by 43% of respondents, while limited access to technology and digital literacy gaps were each noted by 29%. These findings suggest that both cost and confidence, alongside access and capability constraints, continue to hinder broader digital payment adoption (Table 14).

Table 14: Barriers to adoption

Barriers	Percentage
Lack of trust in the digital system	43% (3 of 7)
Limited access to technology	29% (2 of 7)
Digital literacy gaps	29% (2 of 7)
High transaction fees	57% (4 of 7)
Other	14% (1 of 7)

Most of the surveyed central banks reported a decreasing use of cash driven by factors such as the rise of online shopping, contactless payments and card usage. However, some countries – specifically those with limited digital infrastructure or a large informal sector – still see their cash demand increasing (Table 15).

Table 15: Barriers to adoption

Barriers	Percentage
Increasing non-acceptance of cash at POS	29% (2 of 7)
Legal restrictions on cash payments (value cap)	29% (2 of 7)
Online shopping and e-commerce	43% (3 of 7)
Security concerns	29% (2 of 7)
Increasing adoption of contactless payments	57% (4 of 7)
Increasing use of card payments	43% (3 of 7)



Table 16: Central-bank survey results

	Austria	Canada	Chile	Germany	Mexico	Namibia	Sweden
Central bank	Oesterreichische Nationalbank (OeNB)	Bank of Canada	Central Bank of Chile	Deutsche Bundesbank	Banco de México	Bank of Namibia	Riksbank
Region	Europe	North America	South America	Europe	North America	Southern Africa	Northern Europe
IMF classification	Advanced economy	Advanced economy	Emerging market economy	Advanced economy	Emerging market economy	Emerging and developing economy	Advanced economy
World Bank income group (2024-25)	High income	High income	High income	High income	Upper-middle income	Upper-middle income	High income
Central bank governance structure	Centralised	Centralised	Centralised	Centralised decision-making with regional networks	Centralised	Centralised	Centralised
Type of clients serviced	Commercial banks; wholesale cash; retail clients; Geldservice (100% OeNB subsidiary)	Commercial banks	Commercial banks	Commercial banks; retail clients	Commercial banks	Commercial banks; SBV Namibia	Commercial banks
Nature of CIT industry	Partially competitive	Partially competitive	Four CIT companies	Competitive, with enough market players	Partially competitive	Partially competitive	Not competitive; only one or two major players dominate the market
Research data on cost of cash	No	Yes	No	Yes	No	No	Yes
Impact of inflation on long-term currency denomination structure	No impact, with no anticipated changes in future	No impact, with no anticipated changes in future	Have already introduced higher-denomination banknotes to facilitate larger transactions; have already phased out or are considering phasing out other lower-denomination coins	No impact, with no anticipated changes in future	Have already phased out or are considering phasing out other lower-denomination coins	Adjustments to the currency denomination structure are anticipated if the current inflation trends persist	No impact, with no anticipated changes in future
Did the cost of cash change when the utilisation pattern changed?	An increase in the cost of cash management	No significant impact	An increase in the cost of cash management	As the number of traditional cash access points has been reduced, the relative costs for consumers, retailers and CIT companies may have increased, while the absolute costs for banks may have decreased due to savings	No significant impact	A decrease in the cost of cash management	An increase in the cost of cash management
Are any groups more affected by the cost of cash than others?	Rural populations; elderly citizens; low-income groups	-	Rural populations; elderly citizens; low-income groups	Rural populations	Rural populations	Rural populations; elderly citizens; low-income groups	Elderly citizens; low-income groups
Public opinion on cash and digital payments	Mixed opinions	Mixed opinions	Mixed opinions	Mixed opinions	More favourable towards cash	Mixed opinions	More favourable towards cash
Is the use of cash increasing or decreasing locally?	Decreasing	Increasing	Decreasing	Decreasing	Currently stable	Increasing	Decreasing



7.2 Lessons learnt from other economies

Given the critical importance of physical currency in any economy, central banks need to explore ways to enhance efficiency and optimise the cost of cash management by examining successful international practices. By adopting technological solutions such as durable currency design, advanced anti-counterfeiting measures, infrastructure rationalisation, cash-recycling technologies and digital payment systems, central banks can streamline operations and reduce costs.

Although digital payment systems are evolving rapidly and reshaping payment behaviour, cash continues to play an important role in many economies and remains the dominant method of payment in certain regions. Central banks and financial institutions should therefore consider a dual-track strategy: embracing the opportunities presented by digital innovation while continually optimising the efficiency, security and accessibility of the physical cash ecosystem.

For communities in rural areas, the informal sector and low-income households, cash continues to provide a critical means of transacting where digital infrastructure, connectivity or financial literacy may be limited. By investing in both robust digital payment systems and advanced cash management capabilities, policymakers can ensure that progress towards a digital future does not come at the expense of financial inclusion.

International experience demonstrates that reducing the cost of cash does not necessarily require eliminating cash. Several countries have successfully expanded digital payments while simultaneously preserving resilient cash ecosystems. Their approaches have included government policy interventions, investment in digital infrastructure, high levels of public trust, widespread financial inclusion, innovations in cash distribution and logistics, and the use of technology to improve operational efficiency.

The international examples examined in this report illustrate different approaches to balancing digital transformation with the continued provision of cash. Brazil demonstrates how digital payments and physical currency can coexist and complement one another. Canada highlights opportunities to optimise the cash cycle through cost measurement, route optimisation and durable polymer banknotes. China provides an example of rapid digital-payment adoption alongside continued investment in cash infrastructure, cash-recycling technologies and logistics optimisation. India has strengthened access to cash through white-label ATMs and interoperable cardless cash withdrawals. South Korea illustrates how government incentives and policy interventions can accelerate the transition towards electronic payments. Sweden demonstrates the importance of maintaining resilient cash infrastructure and supporting access to cash, even in one of the world's most digitally advanced payment environments.

Taken together, these case studies show that there is no single pathway to reducing the cost of cash. Rather, successful strategies typically combine digital innovation, efficient cash-management practices, supportive public policy and a continued commitment to financial inclusion and operational resilience. The following sections examine these international experiences and identify lessons that may assist central banks in optimising the cost, accessibility and sustainability of cash while supporting the ongoing development of digital payment systems.

7.2.1 Brazil

Based on the 2023 and 2024 annual reports of the Central Bank of Brazil (BCB)¹⁶, from 2023 through to 2024 Brazil experienced a simultaneous increase in both digital and physical currency usage:

¹⁶ Banco Central do Brasil, [Annual Report 2024](#), Brasília: Banco Central do Brasil, 2025, pp 61, 63–64.



- PIX, the country's instant payment system, continued to revolutionise digital transactions, reaching over 156 million individuals and 15.2 million organisations by the end of 2024, surpassing cash in transaction volume.
- Despite this digital surge, cash (both banknotes and coin) also saw increased circulation, underscoring its enduring role in financial inclusion and economic resilience. According to BCB's monetary statistics, cash in circulation reached approximately BRL360 billion (US\$67.5 billion) in 2025 compared to BRL277 billion (US\$54.45 billion) in 2020. Banknote production increased from BRL935 million (US\$187.37 million) in 2023 to BRL1.54 billion (US\$286.9 million) in 2024, which presented a 65% year-on-year increase.
- The BCB has emphasised the complementary importance of both forms of currency: digital currency for efficiency and innovation, and physical currency for accessibility, trust and financial inclusion.

To support the growing demand for both physical and digital payment instruments, the BCB employs structured currency planning and forecasting mechanisms to ensure the timely production and distribution of banknotes and coins while minimising operational inefficiencies.

Cash transportation and distribution remain important cost and operational considerations within Brazil's national cash cycle. The BCB therefore maintains oversight of logistics arrangements and associated operational risks to ensure the resilience, security, and continuity of currency supply across the country.

Furthermore, the BCB is leveraging emerging technologies, including artificial intelligence (AI) and machine learning, as part of its ongoing digital transformation strategy. These technologies are expected to strengthen analytical capabilities, improve forecasting accuracy, and enhance the efficiency of currency management and other central banking operations.

The BCB has launched the Centre of Excellence for Data Science and Artificial Intelligence (*Centro de Excelência em Ciência de Dados e Inteligência Artificial*) (CdE IA) to integrate AI into forecasting and operational processes. This initiative is aimed at improving demand forecasting for cash and digital services.

7.2.2 Canada

The Bank of Canada conducted research on the cost of POS payments in Canada in 2017. The results indicated that the total resource cost of POS payments, including both cash and card payments, amounted to CAD15.3 billion, representing approximately 0.78% of GDP. The cost was distributed across private and resource costs incurred by society. When considering private costs- including labour, equipment, premises, ATMs and branches, CIT operations as well as overheads for individual stakeholders cash accounted for 31% of total costs, credit cards for 48% and debit cards for 21%.

In terms of variable resource costs per transaction, cash was the least costly payment method for transactions up to CAD6, while debit cards were the least costly for transactions above CAD6. ATMs, over-the-counter banking services, retailer back-office activities as well as consumer time spent withdrawing and making payments were identified as the primary drivers of cash-related costs.

The Bank of Canada outlined the measures implemented to optimise cash-related costs in our survey. These initiatives include the optimisation of cash transportation routes as well as the utilisation of the central bank's BNDS to ensure efficient and cost-effective cash distribution.

Since Australia has pioneered polymer banknotes, countries such as Canada and the United Kingdom have followed suit. While the upfront cost of polymer banknotes is roughly double that of traditional cotton-based banknotes, their durability is at

least 2.5 times greater.¹⁷ This increased longevity not only offsets the higher initial investment, but also enhances security and reduces the environmental impact over their life cycle when compared to cotton-based currency. The Bank of Canada launched the polymer banknote series in 2011 and conducted an analysis of the life cycle of both polymer and cotton-paper banknotes. Polymer banknotes last about four times longer. A longer life means that fewer new notes need to be produced, there is less cash movement, and wear-and-tear processing is also reduced.¹⁸

7.2.3 China

China's broader strategy is to balance digital financial innovation with cash infrastructure resilience. Equitable access to financial services is promoted, especially for the elderly and rural populations.

The Chinese approach is to ensure that consumers retain the flexibility to select their preferred payment methods and instruments, and to enhance the environment supporting cash transactions for essential goods and services.

- In 2022, China had over 14.167 billion bank accounts and a national population of 1.4 billion.¹⁹
- China's currency system is a dual framework, integrating advanced digital payment platforms with significant physical cash utilisation.
- Over 80% of transactions in urban areas are digital.
- *Mobile payment usage:* Alipay and WeChat Pay account for over 90% of mobile payments in China.
- *Business/retail acceptance:* Mobile payments are accepted by most businesses, including street vendors.

China mobilised the rapid deployment of mobile infrastructure such as the 3G/5G networks and ensured that mobile data was affordable. The country's affordable mobile data and Internet access has driven digital adoption across various parts of the country.

Low-cost smartphones manufactured locally have also played a key role in increasing the country's smartphone penetration rate. China has also leveraged loyalty rewards to shift incentives away from cash and encourage a widespread uptake of digital payments through this approach.

The People's Bank of China and the State Administration of Foreign Exchange have issued guidelines and formed a working group aimed at enhancing financial services for visitors to the country. These measures include increasing the number of businesses and ATMs that accept foreign cards as well as expanding the acceptance of e-wallets.²⁰

Despite this advanced digitalisation evolution, cash remains crucial, particularly in rural areas, among older populations and for low transactional values. Cash circulation – through the central bank, commercial banks and ATMs – is essential for inclusivity, with cultural preferences for tangible cash.

¹⁷ A Rafiei, A Karimi and M Bodaghi, 'Polymer banknotes: a review of materials, design, and printing', *Sustainability* 15(4), 2023, article 3736.

¹⁸ Ibid.

¹⁹ People's Bank of China, *Payment System Report (Q4 2022)*, 2023, accessed 20 March 2025.

²⁰ D Torre, D and Q Xu. (2020). Digital payments in China: Adoption and interactions among applications. *Revue d'économie industrielle*, 172(4), 55–82. <https://doi.org/10.4000/rei.9471>



China's approach to optimising the cost of cash is multifaceted, leveraging policy reforms and technological advancements.

In terms of cash-recycling machines and ATM infrastructure, China had over 1.3 million ATMs in 2023 and approximately 40% of those were equipped with cash-recycling systems, enabling automated cash deposits and withdrawals, authentication as well as recirculation. This reduced the CIT frequency by 30% and lowered operational costs for commercial banks.

7.2.4 India

India has been encouraging the implementation of WLAs to enhance the ATM infrastructure in underserved and rural regions without imposing additional capital expenditures on banks. Operated by non-bank entities, WLAs contribute to lowering the costs associated with ATM deployment while significantly improving access to cash for the population.

Building on India's drive to improve ATM accessibility through WLAs, another notable advancement in that country is the Interoperable Cardless Cash Withdrawal (ICCW) System enabled by the Unified Payments Interface (UPI). This innovation allows customers to withdraw money from any participating ATM without needing a physical card. Using UPI for authentication and the National Financial Switch or ATM networks for settlement, the ICCW System further enhances access to cash and convenience for users while also reducing reliance on traditional card-based infrastructure.²¹

7.2.5 South Korea

South Korea is widely recognised as one of the global leaders in digital payments, with a bank account ownership rate of approximately 95% of the population, a credit card penetration rate of over 60% and smartphone ownership of about 96%. To achieve this, the South Korean government applied several measures to promote the growth of electronic payments from the 1990s to date.

A zero-pay initiative was introduced to facilitate cashless transactions for small businesses through a quick response (QR) code payment system, offering significantly reduced transaction costs. Additionally, a VAT deduction based on credit card sales was implemented, along with tax relief for credit card transactions. The tax credit rate was increased from 1% to 2%, benefiting sectors that provide products or services directly to end users, such as retail, restaurants and accommodation.

In 2017, South Korea introduced the Coinless Society Initiative with the objective of gradually eliminating coins and reducing cash circulation within the country. This initiative encouraged retail stores to provide small change through mobile wallets and bank accounts.

The integration of digital payments into everyday activities has become increasingly prevalent in South Korea. This includes cashless transactions for public transportation and the growing popularity of e-commerce, encompassing online shopping, food delivery and technology purchases. These advancements have contributed to a seamless and efficient payment ecosystem, encouraging both consumers and merchants to embrace digital payment methods over traditional cash-based transactions. This shift not only enhances convenience and security but also supports the broader economic framework by reducing reliance on physical currency and fostering greater financial inclusion.

Incentives introduced for merchants include a credit card sales tax relief scheme, where the South Korean government increased the tax credit rate from 1% to 2% to encourage the active use of credit cards for commercial transactions. Additionally,

²¹ Reserve Bank of India, [Payment Systems Report, 2025](#), accessed 27 January 2025.

there is a tax deduction incentive based on the increase in the amount paid through credit cards in the relevant taxation year compared to the previous year. This deduction is applied to the tax due, promoting greater credit card usage.

Administrative sanctions are also in place, including a 5% tax penalty on merchants that refuse to issue credit card slips. Furthermore, individuals who report merchants' non-compliance are rewarded financially, receiving a reward worth 20% of the transaction value. These measures aim to foster adherence to the electronic payment systems and discourage cash-based transactions.

As South Korea's digital payment ecosystem continues to expand, the integration of cashless transactions into everyday activities has become increasingly prevalent, enhancing convenience and security while supporting the broader economic framework.

7.2.6 Sweden

Sweden provides a useful example of an economy with low cash reliance and a highly advanced digital payments ecosystem. Its transition away from cash has been supported by widespread digital transaction adoption, strong mobile payment penetration, supportive government policy, near-universal financial inclusion and robust digital infrastructure. The following points summarise the key factors that have enabled Sweden's low dependence on cash:

- *Digital transactions:* More than 90% of all transactions in Sweden are digital.
- *Mobile payment usage:* Over 8 million people out of a total population of 10.2 million use the Swish app. In the age group 15 to 65, about 95% had the Swish app downloaded on their smartphone as of June 2022.
- *Government support:* Policies that promote digital banking are enforced.
- *Financial inclusion:* Bank account ownership is almost 100%.
- *Solid digital payment infrastructure:* Sweden is considered a pioneer in digital technologies, with nearly 99% of households reported to have access to the Internet. There is strong broadband coverage, even in remote areas.

Cash in circulation has decreased substantially over the years. In Sweden, only 10% of transactions are in cash – one of the lowest rates globally. Cash as a share of GDP has also dropped, currently standing at just over 1%.

However, despite being at the forefront of the digital payment evolution, the Swedish government has recognised that cash remains a vital component of the financial system. In response, authorities have mandated the establishment and maintenance of a sustainable cash supply chain, ensuring that all citizens retain reliable access to cash for essential needs.

Sweden has implemented several initiatives to strengthen, optimise and safeguard its cash supply chain in response to increasing digitalisation and heightened geopolitical risks. These efforts are led by the Riksbank, with support from the Ministry of Finance. In September 2024, the Riksbank submitted proposals to the Ministry of Finance aimed at ensuring that businesses and public sector entities that accept cash have access to daily cash deposit services and petty cash facilities. The Riksbank emphasises that Sweden must strengthen its ability to maintain cash payments during crises or heightened alert states.²²

²² Sveriges Riksbank, [Payments Report 2025, 2025](#), accessed 10 March 2025.



The Cash Inquiry, commissioned by the Ministry of Finance and completed in late 2024, proposed several measures to preserve the role of cash in Swedish society and ensure that it remains a viable and accessible payment method, particularly for essential goods and services and during emergency situations. Key proposals and initiatives include:

- *Improving daily cash deposit and petty-cash services:* The Riksbank has recommended that banks provide adequate services to enable businesses and public sector entities to deposit daily cash takings and obtain petty cash to support operational needs.
- *Strengthening banks' obligations to provide cash services:* The Riksbank has advocated for stronger legal requirements on banks to ensure the availability of cash deposit and withdrawal services for businesses and public sector entities, rather than limiting such services primarily to commercial customers.
- *Enhancing payment resilience through offline payment infrastructure:* In response to growing geopolitical and cyber-security risks, the Riksbank is promoting the development of offline card payment capabilities to ensure that payments can continue during disruptions to telecommunications networks, power supply failures or cyberattacks.
- *Mandating cash acceptance for essential services:* The Cash Inquiry proposed that certain categories of businesses, including supermarkets and pharmacies, be required to accept cash in order to safeguard financial inclusion and ensure access to essential goods and services for vulnerable groups.
- *Promoting public preparedness:* Authorities have encouraged citizens to maintain access to both cash and electronic payment instruments and to use cash periodically so that it remains a functional and reliable means of payment during digital outages or emergency situations.

High public trust in financial institutions and fintech was achieved through clear and open communication regarding security and fraud prevention in the country. In addition, the use of reputable suppliers of payment services has encouraged citizens' willingness to embrace technology.

Sweden has introduced government policy and regulation ensuring adequate geographic coverage of ATMs as well as an amendment to the Swedish Act on Payment Services obligating large banks to provide certain cash services to ensure a minimum level of access to cash for consumers. While its society is increasingly digital, maintaining access to cash can support resilience, social inclusion and an effective response during crises.

Alignment of infrastructure and policy is essential. The effectiveness of mandated cash acceptance depends on the continued maintenance of supporting infrastructure such as facilities for cash deposits, withdrawals and transport. The Swedish government has begun reviewing legal requirements to ensure that banks offer adequate cash services, especially for businesses and public institutions. Without clear obligations and oversight, banks may underdeliver on essential cash services.

8. Recommendations

Drawing on recent international best practice and leveraging insights from advanced cash management strategies, the following recommendations aim to optimise costs while preserving accessibility and financial inclusion:

- *Promote cash-back at POS facilities at retailers:* Given that the unit cost of cash is lowest at formal retailers utilising cash-back at POS, regulators and industry stakeholders should actively incentivise and expand these services. Retailers are naturally positioned to optimise cash recycling due to their high cash turnover, and they bear significantly fewer bank charges and CIT costs when they match their cash inflows to cash-back at POS outflows. Encouraging wider adoption of cash-back at POS, particularly among informal traders and through partnering with banks and fintech providers, would reduce the indirect handling costs and could provide consumers with more convenient access to cash, minimising their cash-related travel and time expenses. Targeted incentives and/or regulatory support could further lower costs and enhance financial inclusion, especially when compared to traditional ATM infrastructure.
- *Expand and incentivise ATM networks in rural and township areas:* Consumer travel and associated time costs represent the largest expense for accessing cash, especially outside of urban centres. Regulators should incentivise initiatives that increase ATM coverage in underserved locations, such as the deployment of WLAs. Although ATM costs for IADs are higher than those for commercial banks, shared infrastructure models and targeted subsidies could help close this gap, improving accessibility and reducing consumer costs. This approach supports the broader financial inclusion objectives by ensuring that rural and semi-rural communities have reliable and convenient access to cash.
- *Support shared infrastructure and cash recycling across the ecosystem:* Optimising the use of shared infrastructure, by leveraging both retailers and ATM networks, could further reduce the overall cost of cash in circulation. Policymakers should encourage collaborative models where routine business operations (e.g. retail cash handling) are integrated with cash access points for the public. This would reduce the need for dedicated, costly cash transport and storage, and would enable more efficient cash flow management across the value chain. Incentivising such models would deliver cost savings for all stakeholders and would support a more resilient and more accessible cash ecosystem.
- *Conduct a comprehensive payment medium cost study:* The SARB should undertake a dedicated research study to compare the total costs associated with all the major payment mediums, including cash, debit cards, credit cards and the emerging digital options. While the costs of supplying and using cash are often highlighted, it does not necessarily follow that alternative transaction methods would reduce overall costs for consumers. A robust comparative analysis is essential to assess the true cost implications for end users and the broader financial system. Furthermore, the cash logistics value chain supports employment and businesses, contributing positively to the South African economy. Any shift in payment preferences should account for these socio-economic benefits, ensuring that policy decisions are informed by a holistic understanding of both direct and indirect impacts.
- *Minimise CIT costs:* CIT operations as a cost driver make up more than 7.8% of the total cash costs within the cash life cycle. Optimisation could be achieved by route rationalisation, deploying real-time demand forecasting (using AI and advanced analytics) and investing in secure high-capacity vehicles to reduce trip frequency and consolidate loads. It should be noted that CIT companies are for-profit organisations and therefore have an incentive to optimise operations as much as possible to improve profits and competitiveness. Banks and retailers, and other major users of CIT services, will also always push for lower fees.



- *Expand the ATM and cash-recycling infrastructure:* Deploy cash-recycling machines at both in-branch and off-site locations to enable the immediate reuse of deposited banknotes. This would reduce the volume of cash handled by CIT operators and streamline the cash flows between banks, retailers and customers.

Overall, the proposed approach would not only reduce operational overheads for banks, but also enhance financial inclusion, particularly in rural or remote communities where bank branches may be sparse. Retail partnerships could help ensure that essential cash services remain available, supporting vulnerable populations and promoting overall ecosystem efficiency. To maximise effectiveness, such collaborations would have to be supported by clear service standards, staff training and robust security protocols. Additionally, ongoing monitoring and feedback mechanisms would help maintain service quality and adapt to the ever-evolving customer needs.

In summary, leveraging retailer networks for cash services would be a cost-effective, scalable solution that aligns with international best practice and supports both accessibility and operational efficiency within South Africa's cash management strategy.

Strategically implementing these recommendations would assist South Africa in managing the cost of cash more effectively, ensuring a more robust and more inclusive financial ecosystem, and transitioning smoothly towards a more modern, more efficient and more secure currency environment.

9. Conclusion

The SARB's quantitative and qualitative *Cost of Cash Research Study* provides a comprehensive assessment of the economic, operational and social costs associated with cash usage in South Africa. The study reveals that the total annual cost of cash amounts to R88.5 billion – a burden that is ultimately borne by consumers/end users rather than businesses or banks alone. This figure encapsulates both direct and indirect costs, which are almost equally split: direct costs account for R43.5 billion (49%) while indirect costs total R44.9 billion (51%).

Direct costs are those costs that consumers pay explicitly, such as withdrawal and deposit fees, travel expenses incurred to access cash as well as charges for cash-back at POS and bank services. Indirect costs, on the other hand, are less visible but equally significant. These include the time spent queuing and travelling for cash, lost income due to the opportunity cost of not keeping money in interest-bearing accounts, crime-related losses, and the embedded costs that retailers pass on to consumers through the pricing of goods and services. For consumers/end users, direct costs represent the immediate financial outlay, while indirect costs reflect broader economic losses and risks that impact on overall welfare.

The cost structure is distributed across three main tiers in the cash value chain. T1, representing essential industry services, incurs costs of R1.2 billion, driven primarily by storage, handling, security and logistics. These costs are split evenly between internal and external expenditures, with the majority being direct and variable in nature. T2, which encompasses essential bank services, is responsible for R21.6 billion in costs, largely attributed to the management of ATM and branch networks, CIT operations as well as the processing of banknotes and coin. T3, comprising formal retailers and informal traders, accounts for R4.3 billion in costs, with formal retailers incurring significant expenses for cash-back services and routine operations, while informal traders remain highly reliant on cash and face substantial costs through their daily business activities.

The study further categorises costs as direct versus indirect, variable versus fixed and internal versus external. Direct costs include transaction fees and travel, while indirect costs encompass time, crime and opportunity costs. Variable costs scale with transaction volume, such as transportation fees and losses, whereas fixed costs remain constant, including infrastructure and staff salaries. Internal costs are borne within businesses or households, while external costs are paid to third parties such as CIT providers and banks.

Across the tiers, T1 is dominated by direct and variable costs, T2 by direct and fixed costs, and T3 by operational expenses related to cash movement, cash handling and bank fees.

Efficiency within the cash supply channels is a critical focus of the report. Retailer cash-back at POS emerges as the most efficient channel, with a cost of just 12 cents per R100 transacted. Bank ATMs follow at 68 cents per R100, while IAD ATMs (R1.15–R1.96 per R100, with an average of R1.20) and bank branches (R1.53 per R100) are less efficient, reflecting higher costs per transaction due to lower volumes and service limitations. Retailers' routine business costs are embedded in the prices of goods and services, further illustrating how consumers ultimately pay for cash handling throughout the value chain.

Cost drivers vary across the tiers. In T1, storage, handling, security, logistics and insurance are predominant. T2 is characterised by ATM and branch network management, CIT operations, cash processing and staff costs. T3 faces challenges related to cash movement, cash handling, bank fees, storage, staff and losses from theft or counterfeit banknotes. For consumers/end users, the main cost drivers are withdrawal and deposit fees, travel and queuing time, crime, opportunity cost as well as retailer pass-through costs. The CIT industry, with costs nearing R7 billion, is



largely composed of direct, fixed and internal expenses, suggesting that route and frequency optimisation could yield substantial savings.

Benchmarking against other countries, South Africa's cost of cash stands at 1.2% of GDP, aligning with figures from other emerging markets such as India, Indonesia and Nigeria. High cash reliance is observed in these countries as well as in Germany and Japan, while nations such as Australia, Canada, China and Sweden demonstrate lower reliance on cash and reduced cash-related costs. However, the study notes that, as cash usage declines, the unit cost per transaction can paradoxically rise due to persistent, fixed infrastructure costs.

The impact of cash costs is not uniform across population groups. Lower-income households spend up to 5% of their income on cash-related costs compared to just 1% for higher-income groups. Vulnerable and underserved groups – including those in rural areas, the elderly and informal sector workers – are most affected by rising cash costs and limited access to digital alternatives. Barriers to digital adoption – such as lack of access to technology, digital literacy gaps, security concerns and habitual cash usage – remain significant. The report underscores that cash is essential for social inclusion and economic resilience, and any transition to digital payments must ensure continued access to cash for vulnerable groups.

In summary, the cost of cash in South Africa is shaped by a complex interplay of direct and indirect costs, operational inefficiencies as well as structural challenges across the value chain. Strategies to reduce these costs must address both visible and hidden components, improve access to efficient cash channels, reduce crime and support digital adoption – all while safeguarding financial inclusion for the most vulnerable segments of society.

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Annexure A: Consumer Survey Questionnaire

1. Cover letter and introduction for the national survey on the cost of cash

1.1 Cover letter

The South African Reserve Bank (SARB) is undertaking a comprehensive national survey to gain insights into the cost of cash and its usage patterns among members of the public. In pursuit of an objective and thorough analysis, the SARB has appointed Deloitte to conduct this survey on its behalf.

Your participation is vital to the success of this study and will directly inform future policy and initiatives relating to cash usage in South Africa. The survey has been designed to take approximately five minutes of your time and will be conducted in a manner that respects your privacy and confidentiality.

Please be assured that all responses will be recorded anonymously. Any personal information collected will solely be used as a classifier for analytical purposes and will not be used to identify individual respondents. The information provided by participants will remain strictly confidential and will be aggregated for reporting purposes.

We encourage your engagement and thank you in advance for your valuable input. Should you have any questions regarding the survey, please contact the appointed survey administrator at Deloitte.

2. Interviewer instructions and introduction script

2.1 Instructions for interviewers

- Introduce yourself and clearly state the purpose of the survey.
- Inform the respondent that the survey is being conducted on behalf of the South African Reserve Bank.
- Communicate the expected duration of the survey (5–10 minutes).
- Emphasise the anonymous nature of the survey and the confidentiality of all responses.
- Express appreciation for the respondent's cooperation and willingness to participate.

2.2 Recommended introduction script

Good day, Sir/Madam. I am conducting a survey on behalf of the South African Reserve Bank to understand how and why you use cash and how you use money. Can I please have approximately 10 minutes of your time? All your answers will be recorded anonymously. Your cooperation to participate in this study is highly appreciated. We thank you for your participation and valuable contribution towards this important national initiative.

3. Definitions of payment options and examples

Payment options	Examples
Card-based (cheque/savings/debit)	A cheque/savings/debit card with any of the commercial banks such as Absa, African Bank, Capitec, First National Bank (FNB), Nedbank, Post Bank, Standard Bank and TymeBank
Credit card	A credit card with any of the commercial banks such as Absa, African Bank, Capitec, FNB, Nedbank, Post Bank, Standard Bank and TymeBank
Electronic funds transfer (EFT) (app or Internet)	EFTs using an app or Internet banking from banks or other channels
Debit order	A debit order is an agreement where you authorise a third party (service provider/business) to directly withdraw funds from your bank account
Banking apps or other apps	Buying airtime, prepaid electricity or other services using your banking app or other commercial apps
Mobile money: e-wallet	E.g. MTN MoMo, VodaPay
Bank: e-wallet	E.g. Absa CashSend, Capitec Send Cash, FNB eWallet, Nedbank Send-iMali, Standard Bank Instant Money
Money transfer: other e-wallets	E.g. Boxer/Pick n Pay, TymeBank Send Money, Flash, HelloPaisa, Kazang, PEPmoney, Shop2Shop, Shoprite Money Transfer, Spot Money
PayShap	Using the PayShap service via any service provider
Unstructured supplementary service data (USSD): cellphone payment	Doing transactions using USSD codes and your bank or other financial service provider enables customers to make payments, transfer money, buy airtime and check balances directly from a cellphone without requiring Internet access

4. The languages used to conduct our interviews

Language of interview	English		IsiXhosa		Sesotho	
	Afrikaans		Tshivenda		Sepedi	
	IsiZulu		Setswana		SiSwati	
	Xitsonga		IsiNdebele		Sign and other	

5. Interview questionnaire

5.1. Optional: first name?

5.2. How do you receive your income?

	Mark with X if yes. (Choose as many as you like.)
Directly in cash	
Directly into your bank account	
Into your SASSA account	
Via e-Wallet or Instant Money	
Remittance at store (e.g. Hello Paisa, Mukuru)	
Other/(name):	

5.3. What types of accounts do you have?

Do you:	Mark with X for all relevant.
Have a bank account?	
Have a SASSA account?	
Only use cash?	



5.4. How often do you use cash and/or electronic payments? Mark the most appropriate with X.

	Never/ less than once a year	Daily	Every 2nd day	Twice in a week	Once a week	Twice a month	Once a month	Every 2nd month	Every 3rd month	Every 6 months	Once a year
Cash											
Electronic payments											

5.5. On average, how often do you withdraw/collect physical cash from the below options? (Select the most relevant.)

	Never/ less than once a year	Daily	Every 2nd day	Twice in a week	Once a week	Twice a month	Once a month	Every 2nd month	Every 3rd month	Every 6 months	Once a year
Receive cash as payment or income											
ATM withdrawal											
At the till of a store (cash-back at POS)											
Bank branch cash withdrawal											
Receive an e-wallet from someone as payment											
Remittance at store (e.g. Hello Paisa, Mukuru)											
Post Office											
From stokvel											
Other/ (name):											

5.6. How much do you estimate you spend on bank fees and/or other charges to collect/withdraw your cash per month?

Option 1: Participant to give a value in rand: R _____

Option 2: Participant to respond "I don't know"

5.7. How often, on average, do you deposit/send/give your physical cash from the below options?
(Select the most relevant.)

	Never/ less than once a year	Daily	Every 2nd day	Twice in a week	Once a week	Twice a month	Once a month	Every 2nd month	Every 3rd month	Every 6 months	Once a year
ATM deposit											
Bank branch cash deposit											
Stokvel											
At a retailer's till for deposits (e.g. Checkers, Pick n Pay, Shoprite)											
Invest your cash											
Remittance service											
e-wallet											
Other/ (name):											

5.8. How much do you estimate you spend on bank fees and/or other charges to store/send your physical cash in a month? This can be deposits (ATMs, bank branches, POS at retailers) and sending remittances.

Option 1: Participant to give a value in rand: R _____

Option 2: Participant to respond "I don't know"

5.9. When making payments for goods and services, which method do you use most frequently?
Please indicate the most relevant option by marking with X: cash or electronic payments.

	Only use cash	Majority of payments are cash	Majority of payments are electronic	I only use electronic payments
Select the relevant option.				

5.10. On average, how many minutes do you spend queuing and completing a cash collection or deposit (not including travel time)?

Option 1: Participant to provide time in minutes: _____ minutes

Option 2: Participant to respond "I don't know"

5.11 Do you travel specifically to get cash?

Option 1: Yes

Option 2: No

If the answer to question 5.11 is 'Yes', please answer questions 5.12 to 5.15 otherwise, proceed to question 16



5.12. How frequently do you make a dedicated trip to withdraw, collect, deposit or send physical cash? (One trip refers to travelling to an ATM, a bank branch, a store or a similar location, and returning.)

	Never/ less than once a year	Daily	Every 2nd day	Twice in a week	Once a week	Twice a month	Once a month	Every 2nd month	Every 3rd month	Every 6 months	Once a year
Withdraw or collect											
Deposit or send											

5.13. On average, for each trip to withdraw/collect and/or deposit/send cash, how many minutes do you spend travelling? (One trip means there and back.)

Option 1: Participant to provide time in minutes: _____ minutes

Option 2: Participant to respond "I don't know"

5.14. How much, on average, do you estimate you spend on travelling to withdraw/collect and/or deposit/send cash for each trip?

Option 1: Participant to give a value in rand: R _____

Option 2: Participant to respond "I don't know"

5.15. What is the nearest location to access cash from your home residence or workplace, measured in kilometres?

Answer: _____ km

5.16. Where do you store your cash?

	Select
Cash is on me, in a wallet or similar	
Store in a safe place (e.g. a safe, a special hiding place etc.) (not on you, nor at a bank or <i>stokvel</i>)	
Other:	

5.17. How much physical cash do you keep, on average, through a month in rands? R _____
(Provide a value.)

5.18. In the past 12 months, have you lost any cash, had it stolen or have you been robbed?

	Select	Value in Rand
Lost		
Stolen		
Robbed		
None of the above		

5.19. What is the total amount of cash that the survey participant has reported as lost, stolen or robbed in the past 12 months?

Value in rands: R _____

5.20. How would you describe your future preference regarding cash versus electronic payments?

	Mark the most applicable (X).
Cash is my preference, and I don't want to move to electronic payments any time soon	
Cash is my preference, but I can do electronic payments as well	
Electronic payments are my preference, but I am also OK with cash	
Electronic payments are the best; the less cash the better	

5.21. How would you be impacted if you could not get physical cash?

	Mark the most applicable (X).
Big impact on my life – I would be directly impacted without options	
Some impact – I could make a plan, but it would require effort	
Very small impact – it would be easy to adjust where I needed to	
No impact – I would not notice	

5.22. How do you pay for the following goods and services?

	I don't pay for that	Cash	Card-based (savings, debit)	Credit card	EFT	Debit order	Banking or another app	Banking e-wallet (e-Wallet, Send Cash, Instant Money)	PayShap	Mobile money – MoMo, Vodapay	Money transfer – Hello Paisa, PEPmoney, Shoprite Money Transfer etc.	USSD – Cell phone payment
Housing (rent, bond etc.)												
Electricity												
Gas, paraffin, wood												
Groceries at big stores (Checkers, Pick n Pay, Spar etc.)												
Spazas												
Informal traders												
Taxis												
Buses												
Petrol for personal vehicle(s)												
Clothing and shoes												
Remittance (sending money)												
Account or debt payments												
Religious contributions												
Mobile airtime and data												
Education/ school fees												



5.23. Are there any goods or services that cannot be purchased with cash or for which using cash presents significant difficulties? Please indicate your response by marking with X.

	Mark the most applicable (X).
Yes	
No	

5.24. If you answered 'Yes' for question 5.23, please specify: _____

—

5.25. Are there any goods or services that can only be purchased with cash or for which using electronic payment presents significant difficulties? Please indicate your response by marking with X.

	Mark the most applicable (X).
Yes	
No	

5.26. If you answered 'Yes' for question 5.25, please specify: _____

5.27. Do you use 'tap and go' or other contactless payment options such as Apple Pay, Google Pay, Samsung Pay or virtual cards?

	Mark the most applicable (X).
Yes	
No	

5.28. What factors, if any, prevent you from utilising electronic payment methods more frequently? Please list all the applicable reasons. *[Allow respondents to provide their reasons and indicate those that are relevant.]*

Convenience reasons	
Electronic payment is not accepted where I buy goods	
I just like cash more	
I keep on using cash out of habit	
It takes too long to make electronic payments	
Access reasons	
I don't have access to electronic payments <i>[Ask why/how and mark under 'Other'.]</i>	
I don't have access to banks	
It is too complicated to use electronic payments	
Cost reasons	
Mobile data or USSD is too expensive	
Electronic payment fees are too expensive	
It is costly or difficult to give money to family or friends using electronic payments	
Cash has no direct fees so why use electronic payments?	
Devices such as cellphones are too expensive	
Trust/privacy/security reasons	
I don't like being tracked and monitored	
Cash gives me privacy	
I don't trust the financial institutions	
The risk of payment fraud is too high	
Other reasons	
Please specify:	

5.29. If these issues were resolved, would you use electronic payments more often? Mark with X.

	Mark the most applicable (X).
Yes	
No	

5.30. [Assess participants' sentiment towards cash and electronic payments by selecting 'Cash', 'Electronic payments' or 'Both', marking X for each question.]

	Cash	Electronic payments	Both are similar; I don't mind cash or electronic payments
What is more accessible to use: an ATM to withdraw money, card payment or 'tap and go' to pay at a till?			
What is quicker to make payments when paying for something (the time it takes)?			
What is more cost-effective/cheaper to make payments?			
Where is your money safer from loss or theft?			
Are you fearful of your spending being tracked?			
What makes you more fearful for your own safety?			
What is more trustworthy?			
What is easier to budget or plan with?			

5.31. What is your employment category?

Employment category	Mark the most applicable (X).
Working full-time	
Working part-time/contract work	
Student	
Self-employed/business owner	
Pensioner	
Not looking for work	
Unemployed	
Other:	

5.32. What is your approximate total average monthly income category? (This includes salaries/wages, SASSA grants, rent income and any other income.)

Average monthly income category	Mark the most applicable (X).
R0-1 250	
R1 251-2 500	
R2 501-5 000	
R5 001-8 000	
R8 001-13 000	
R13 001-20 000	
R20 000+	



5.33. What is your gender?

Male	
Female	
Prefer not to say	

5.34. What is your age group?

Age group	18-24		45-54	
	25-34		55-64	
	35-44		65+	

5.35. What is your ethnic group? (For statistical purposes only.)

Population group	Black African		White	
	Coloured		Other	
	Indian or Asian		Prefer not to say	

5.36 The language of the interview?

The language of the interview	English		IsiXhosa		Sesotho	
	Afrikaans		Tshivenda		Sepedi	
	IsiZulu		Setswana		SiSwati	
	Xitsonga		IsiNdebele		Sign and other:	

Annexure B: Total cost of cash calculation methodology

Our calculations used data from consumers/end users, formal retailers and informal traders.

Consumers' data for calculation

It is assumed that the cost of cash is predominantly carried by adult consumers aged 18 years and older.

Our calculations, based on census data, showed a South African consumer population of 43.3 million in this age group (18+).

The survey sample excluded individuals under the age of 18 due to limitations associated with obtaining guardian consent; the findings therefore reflect adults' cash usage behaviour only.

We interviewed 2 379 consumers across all nine provinces – including urban, rural and towns – to gather the data required to estimate the cost of cash and other cash use statistics.

The sample of consumers was adjusted with different weightings to match the demographic representation of South Africa. The details of the sampling and adjustments are given in section 5.2 ('Re-weighting').

For each of the different cost components for consumers, the adjusted average annual values were calculated to get to an average cost per person of the adjusted sample. This value was used as the estimate for all consumers in South Africa.

Consumers' cost of cash calculation methodology

We considered the following cost of cash areas for consumers:

Cost of access categories

- a) Cost of withdrawals
- b) Cost of deposits
- c) Travel costs for cash-related activities (where there is specific travel for cash-related reasons)

The cost calculation methods

The cost of access was broken down into two components, namely the cost of withdrawals and the cost of deposits.

For each survey participant, we gathered data on what they indicated they spend to withdraw cash and to deposit cash each month.

- a) Cost of withdrawals

Annual cost of cash withdrawal per consumer = (Monthly withdrawal costs given) × 12

Monthly withdrawal costs were adjusted for outliers. An assumed value of R12.50 per month was given to consumers who indicated they did not know their cost; this value was selected based on the banking fees and transaction costs associated with entry-level bank accounts considering automated teller machine (ATM) options as well as the many free options for cash-back at point of sale (POS).



The average cost of cash withdrawal per consumer was calculated as R410 per year and the total for South Africa as R17.7 billion per year.

b) Cost of deposits

Annual cost of cash deposit per consumer = (Monthly deposit costs given) × 12

Monthly deposit costs were adjusted for outliers. An assumed value of R12.50 per month was given to consumers who indicated they did not know their cost; this value was selected based on the banking fees and transaction costs associated with entry-level bank accounts considering ATM options as well as the many free options for cash-back at POS.

The average cost of cash deposit per consumer was calculated as R307 per year and the total for South Africa as R13.3 billion per year.

c) Travel costs for cash-related activities

For cash-related activities, we collected each survey participant's average spend per trip and how often they travel specifically for cash-related purposes. We asked the participants to indicate if they travel specifically to withdraw or deposit cash.

Annual travel cost for cash per consumer = (Travel cost per trip) × (Trips per year)

The average travel cost for cash per consumer was calculated as R289 per year and the total for South Africa as R12.5 billion per year.

Cost of time categories

The cost of time was broken down into five sub-costs:

- a) time costs of specific travel for cash-related reasons;
- b) time costs of queuing and transaction time for cash;
- c) costs of cash theft/robbery or cash loss;
- d) opportunity costs of holding cash; and
- e) costs of conducting business in cash that impacts on the consumer.

The cost calculation methods

a) Time costs of travelling for cash

We collected each survey participant's income bracket, how often they travel specifically for cash-related purposes as well as the average trip duration.

For each participant, we calculated:

- their effective hourly wage, based on the midpoint of their income bracket; and
- their travel hours, meaning the hours they spent travelling specifically for cash per year (by multiplying the frequency for the year by the average time spent per trip).

Annual time cost of travel for cash per consumer = (Travel hours) × (Effective hourly wage)

The average time cost of travel for cash per consumer was calculated as R191 per year and the total for South Africa as R8.3 billion per year.

b) Time costs of queuing (and transaction time) for cash

For each survey participant, we gathered information about their income bracket, the frequency with which they queue specifically for cash-related reasons as well as the average duration of queuing.

For each participant, we calculated:

- their effective hourly wage, based on the midpoint of their income bracket; and
- their queuing and transaction hours, meaning the hours they spent queuing plus the transaction time specifically for cash per year (by multiplying the frequency for the year by the average time spent).

Annual queuing time cost for cash per consumer = (Queuing hours) × (Effective hourly wage)

The average queuing time cost for cash per consumer was calculated as R450 per year and the total for South Africa as R19.5 billion per year.

c) Combined cost of cash theft/robbery and cash loss

For each survey participant, we gathered information on if they lost cash, if they were robbed of cash and/or if their cash was stolen during the year. We also requested the total value of all these categories combined for the year.

The average combined cost of cash theft/robbery and cash loss per consumer was calculated as R280 per year and the total for South Africa as R12 billion per year.

d) Opportunity costs of holding cash

For each survey participant, we gathered information on how they store or keep cash as well as the average value of the cash they keep in a typical month. We made it clear that it was not about the value they start or end with, but about the average value. A simple interest rate of 3.14% per year non-compounding for this average value was assumed to calculate the opportunity costs of holding cash.

The opportunity costs of holding cash were estimated using an average household deposit rate of approximately 3.14% derived from South African Reserve Bank (SARB) BA 930 data for 2014. This rate reflected the returns available to typical retail savers at the time, based on widely accessible deposit products rather than higher-yielding institutional or long-term investment instruments. The use of this proxy was intended to reflect realistic consumer behaviour, where households prioritised liquidity, security and ease of access to funds over yield maximisation. As such, the selected rate provided a reasonable and defensible estimate of the foregone earnings associated with holding cash in a form that does not accrue interest.

Annual opportunity costs of holding cash per consumer = (Average cash held per month) × (3.14%/12) × (12)

The estimated opportunity costs of holding cash per consumer were calculated as R56 per year and the total for South Africa as R1.3 billion per year.

e) Costs of conducting business in cash that impacts on the consumer

A portion of these costs is expected to be passed through to consumers via pricing mechanisms, consistent with standard economic incidence principles. However, these costs may be partially absorbed by businesses.

These costs represent estimated economic effects rather than directly observed transfers.



We collected data from formal retailers about their cash management costs for routine business operations. We used the information from the retailers to estimate the total formal retailer market. Details of the calculation are given in section 6.3 ('Tier 3: Retailers/cost results').

The estimated formal retailer cost of cash for routine business was calculated to be R1.6 billion in 2024.

We did not include cash-back transactions at POS cash costs as they were indicatively accounted for in the cash withdrawal costs and cash deposit costs.

We collected data from 422 informal traders, specifically taxi operators and general informal traders, about their cash management costs for routine business operations. Details of the calculations are given in section 6.3 ('Tier 3: Retailers cost results').

Estimation of informal traders' cost of cash

The estimation of the cost of cash for informal traders was based on a population-driven modelling approach using data from Statistics South Africa (Stats SA), specifically the *Survey of Employers and the Self-Employed (SESE) 2023*. This dataset provided a comprehensive view of non-VAT-registered businesses, which served as a proxy for informal sector activity.

The total number of informal businesses was estimated at approximately 1.9 million based on *SESE 2023*. This population formed the basis for estimating the aggregate cost of cash within the informal sector.

To reflect the differences in cash usage behaviour across economic activities, the informal business population was segmented by industry. Industry distribution data from *SESE 2023* indicated that transport-related activities accounted for approximately 5.3% of informal businesses, with the remaining share primarily concentrated in trade, community and social services as well as other sectors. The transport category was used as a proxy for segments such as informal taxi-related operations.

The total cost of cash was calculated by applying segment-specific per-operator cost estimates, derived from the survey results to each population segment. This involved:

- estimating the number of informal traders (non-transport-related);
- estimating the number of transport-related informal operators using the 5.3% industry share; and
- multiplying each segment population by the corresponding cost of cash per operator.

The combined result provided an aggregate estimate of the cost of cash for the informal sector, capturing both general informal trading activity and transport-related sub-segments. This approach ensured alignment with available statistical data while enabling the segmentation of cash usage patterns across informal sector activities.

The estimated informal traders' cost of cash for routine business was calculated to be R2.3 billion in 2024.

Reconciliation to total cost of cash

This section provides a reconciliation of all the cost components to the total estimated cost of cash in South Africa.

Each component is calculated at per-consumer level and scaled to the national population, then aggregated with embedded business costs.

Component-level reconciliation

Cost component	Cost per consumer (R/year)	National cost (R billion)	Cost type	Source
Cash withdrawal fees	410	17.7	Direct	Consumer survey
Cash deposit fees	307	13.3	Direct	Consumer survey
Travel costs (cash-specific)	289	12.5	Direct	Consumer survey
Time cost of travel for cash	191	8.3	Indirect	Derived
Queuing and transaction time	450	19.5	Indirect	Derived
Crime (loss, theft, robbery)	280	12.0	Indirect	Consumer survey
Opportunity costs	56	1.3	Indirect	Modelled
Retailer cost pass-through	n/a	1.6	Indirect	Market data
Informal trader cost pass-through	n/a	2.3	Indirect	Market data
Total cost of cash		88.5		

Important considerations

- The estimate reflects economic cost, not solely financial outflows.
- Individuals under the age of 18 were excluded from the survey sample due to the practical and ethical constraints associated with interviewing minors, including the requirement to obtain guardian consent and ensure appropriate participation safeguards. As a result, all household- and individual-level estimates are based on responses from adult participants only. While this approach is consistent with standard survey practice, it may result in limited representation of cash usage behaviours specific to individuals under 18. This is not expected to materially impact on the aggregate cost estimates, but it is noted as a limitation to the scope of the analysis.
- Some components (particularly the pass-through costs) are modelled estimates.
- The results are sensitive to key assumptions, including:
 - time valuation (income proxy);
 - travel frequency; and
 - reported loss values.



Glossary

Gross domestic product (GDP) refers to the total monetary value of all goods and services produced within a country's borders in a specific period of time.

The **International Monetary Fund (IMF)** is a global financial institution that provides economic analysis, policy advice and financial assistance.

The **World Economic Outlook (WEO)** is the IMF's flagship report that provides analysis and projections of global economic developments, including GDP growth forecasts for countries and regions.

The **Transparency International Corruption Perception Index (CPI)** ranks 180 countries and territories by perceived levels of public sector corruption on a scale of 0 (highly corrupt) to 100 (very clean).

Government-to-person (G2P) refers to the transfer of funds from a government entity directly to an individual. These payments are typically disbursed as South African Social Security Agency (SASSA) grants, for example the Social Relief of Distress (SRD) grants.

Business-to-person (B2P) refers to the transfer of funds from a private entity (excluding retailers) directly to an individual. These may include disbursements such as salary payouts and refunds by non-retail businesses.

G2P/B2P point-of-sale (POS) cash withdrawals are cash withdrawals made at a POS without a card, where the funds are disbursed by a government entity or a private entity (e.g. SASSA grants or insurance payouts) rather than initiated by an individual. This includes, among others, cash collections using a personal identification number (PIN) and vouchers. Private entities exclude retailers.

Abbreviations

ABC	activity-based costing
AI	artificial intelligence
ATM	automated teller machine
B2P	business-to-person
BIS	Bank for International Settlements
BNDS	Bank Note Distribution System
BRL	Brazilian real
CAD	Canadian dollar
BCB	Central Bank of Brazil
CDF	Cash deposit fee
<i>CdE IA</i>	<i>Centro de Excelência em Ciência de Dados e Inteligência Artificial</i>
CIA	cash independent administrator
CIS	custodian inventory system
CIT	cash-in-transit
CMD	Currency Management Department
CODI	Corporation for Deposit Insurance
CPD	Corporation for Public Deposits
CPI	Corruption Perception Index
CWF	Cash withdrawal fee
DIF	deposit insurance fund
EFT	electronic funds transfer
fintech	financial technology
FNB	First National Bank
G2P	government-to-person
GDP	gross domestic product
GL	general ledger
IAD	independent ATM deployer
ICCW (System)	Interoperable Cardless Cash Withdrawal (System)
IMF	International Monetary Fund
IT	information technology
n/a	not applicable
NHTO	notes-held-to-order
NPS	national payment system
PEOC	People's Bank of China
PCH	payment clearing house
PDFs	Portable Document Format files
PIN	personal identification number
POS	point of sale
PSO	payment system operator
Q4	Fourth quarter
QR (code)	quick response (code)
R	rand
SA	South Africa
SABN	South African Bank Note Company Proprietary Limited



SARB	South African Reserve Bank
SARB Act	South African Reserve Bank Act 90 of 1989, as amended
SARBRF	South African Reserve Bank Retirement Fund
SASSA	South African Social Security Agency
SESE	<i>Survey of Employers and the Self Employed</i>
SFA	strategic focus area
SLA	service level agreement
SMMEs	Small, medium and micro enterprises
South African Mint	South African Mint Company Proprietary Limited
SRD (grant)	Social Relief of Distress (grant)
Stats SA	Statistics South Africa
T1	Tier 1
T2	Tier 2
T3	Tier 3
UPI	Unified Payments Interface
URL	Uniform Resource Locator
US	United States
USSD	Unstructured Supplementary Service Data
VAT	value-added tax
WEO	<i>World Economic Outlook</i>
WLA	white-label ATM

