

MEASURING USAGE OF AND ACCESS TO BANKING SERVICES USING DEMAND-SIDE SURVEYS IN FOUR AFRICAN COUNTRIES

by Illana Melzer and Ria Moothilal

This paper presents an overview of an approach to quantifying access and access constraints for banking services using demand-side surveys and product data based on the Access Frontier methodology as outlined by Porteous (2005). The methodology captures the distinction between usage and access, one that is important for both policymakers who desire a more inclusive financial sector as well as product providers who would like to see greater market adoption of the products and services they provide. The analysis uses data from various FinScope™ surveys to identify and quantify assumptions relating to likely access constraints including physical access, affordability and awareness or financial literacy for the unbanked segment of the market. The analysis indicates that the vast majority of the unbanked in the countries under review do not have access to banking services because one or more components of the banking offering is not aligned to the characteristics of the market.

Measuring Usage and Access

Various researchers¹ have noted the important distinction between usage of and access to various financial products. While the two are often used interchangeably, and indeed data on usage is often used as an indicator of access, they are conceptually quite different. Those who use a product are a sub-set of those who have access to it as some who might have access to a product voluntarily exclude themselves from the market. From both a policymaker and provider perspective an analysis of access as distinct from that of usage provides key insights into the nature of constraints that impede adoption of a given product or service.

¹ See The Basic Analytics of Access to Financial Services by Thorsten Beck and Augusto de la Torre, March 2006

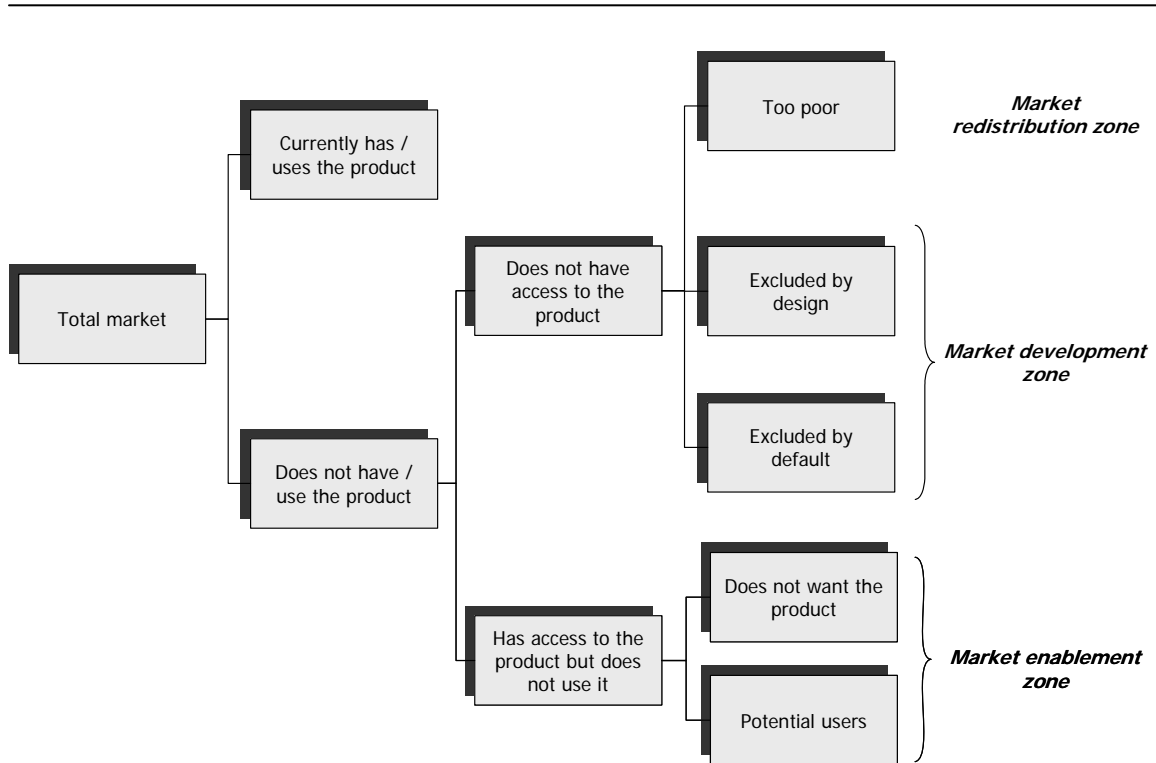
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Various factors inhibit access to various formal financial products and services by those who are currently financially excluded. This paper explores these factors as they relate to banking services in four African countries, namely South Africa, Botswana, Zambia, and Tanzania from a demand-side perspective. The analysis is based on the Access Frontier methodology outlined by Porteous (2005)². This methodology³ provides a useful analytical tool for assessing levels of access to a particular product or service. The analysis generates a market map, comprising a number of market zones or segments corresponding to various levels of access as illustrated below.

Figure 1
Access-Based Segmentation



Source: Based on "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous

² See "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous

³ This section of the document based on Porteous is taken from a paper entitled "Access to Savings Products in LSMs 1 – 5" by Illana Melzer

Each of these segments is described in more detail.

- *The current market:* This zone comprises those who currently have or use the product (who by definition have access to the product)
- *The market redistribution zone:* Those who are lie beyond the reach of the product because they are too poor lie in the *market redistribution zone*. Individuals in this zone typically require non-market interventions such as subsidies to enable them to meet their needs. Where this boundary lies is, of course, open to debate and might change depending on the product under consideration. In the case of a bank account it appears reasonable to assert that those who cannot meet their very basic needs, including adequate nutrition, shelter and clothing, would lie in the redistribution zone
- *The market development zone:* This zone comprises those who cannot access the product given their location or income profile and the product's current pricing structure but who may well be able to access the product in the near-term given the likely trajectory of product innovation and / or market dynamics. Those in the market development zone would include those who are currently excluded by design (i.e. with intent to exclude) on the part of product providers. An example within the financial services domain might include exclusions that would prevent those who engage in risky behaviour from purchasing insurance products. The development zone also includes those who are excluded not necessarily with intent on the part of the provider. For example, it may not be the intention of a product provider to exclude those who are not aware of the benefits of using a particular product or who do not know how to purchase it (indeed, providers may have a limited appreciation of the extent to which awareness is a barrier to access). However, such potential clients cannot be thoughts of as having effective access to a product if awareness levels are low.
- *The market enablement zone:* Those who are within reach of the market given the parameters of an existing product but who do not currently have the product lie in the market enablement zone. This zone can be further sub-segmented into those who actively choose not to have a product (they make an informed choice to self-exclude) and therefore lie beyond the natural limits of the market and those who have not yet purchased the product but are candidates for doing so.

By defining these market spaces, policymakers can identify and size market segments where;

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- a. Non-market interventions are required because individuals are likely to be too poor to afford even the most basic product (the market redistribution zone).;
- b. The market may be able to function in the future (the market development zone) as consumers change, as competition encourages greater innovation or as technology facilitates the development of new models and processes. Within the market development zone, the analysis also helps to assess the magnitude of possible blockages to access thereby highlighting policy priorities;
- c. Markets can currently function given existing products, technologies and customer characteristics (the market enablement zone).

In order to apply the Access Frontier Methodology a specific product is selected and information gathered regarding various aspects of the offering to the client, including stipulated exclusions, pricing parameters, payment frequency, marketing messages and media, sales channels and services channels. These features of the offering are used to determine the degree to which the offering broadly defined aligns with the observed characteristics of the market as captured by demand-side surveys.

It is by no means the case that a demand-side analysis of access presents a complete picture of usage of or access to a given product or service for the poor. By their nature, demand side surveys reflect the perceptions and prejudices of respondents, relating both to how the questions are interpreted and to the answers provided. Reported activity can differ from supply-side indicators, particularly where social stigma or status might play a part in biasing findings. Questions may also be poorly formulated or answers inaccurately captured. Nevertheless, demand side survey provide an indication of usage as well as the magnitude of access constraints, which together with industry data can provide a fairly useful indicator of levels of access⁴.

The analysis makes use of various assumptions regarding what might constitute an access constraint (for example, a physical proximity or affordability constraint). In some cases rival assumptions for a given constraint (which are arguably as valid) differ markedly from the ones used in the analysis, with obvious implications for the findings. The analysis should therefore be seen as a point of departure for further investigation and debate on the nature and magnitude of

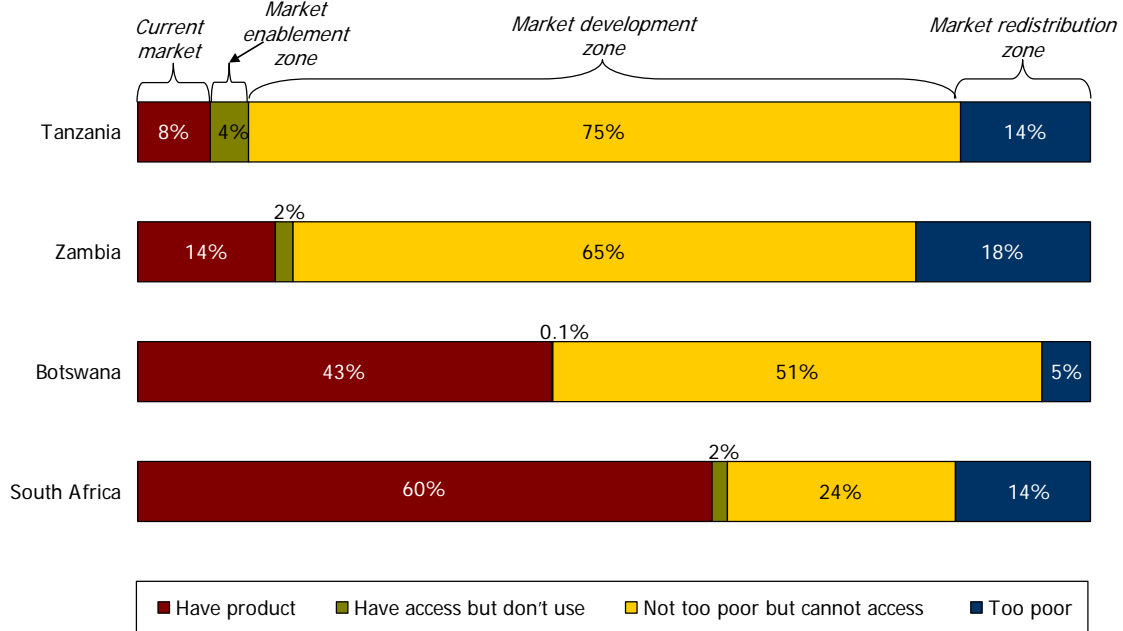
⁴ The analysis cannot explain what factors give rise to access barriers or access problems. The Financial Inclusion Assessment Tool developed by CGAP and the FinMark Trust which identifies potential constraints at the policy, regulatory or institutional layer, the support or infrastructure layer or the competitive layer is a particularly useful framework that can provide greater insight in this regard. For a description of the tool see Designing Context Specific Solutions: Reforms in weak institutional environments - A Framework for Reform by Mark Napier, CEO, FinMark Trust

access constraints in an environment characterised by both poverty and exclusion as well as rapid technological change.

The Analysis

An analysis of access to banking services has been undertaken for four African countries, namely South Africa, Zambia, Tanzania, and Botswana. A summary of the access frontier for a basic bank account based is illustrated for the countries under review.

Figure 2
Access Frontiers for Bank Accounts: Various African Countries



The sizes of the various segments (with the exception of the current market) are sensitive to the underlying parameters and assumptions used to quantify the various access constraints. In this analysis the enablement zone is sized as the residual segment; that is, it comprises those for whom access constraints as identified do not appear to be binding and is thus highly dependent on the assumptions used to quantify access constraints. Assumptions used to identify each zone are discussed below.

The Banked Market

Data from various FinScope™ surveys has been used to estimate the percentage of the adult population who is banked as summarised in the table below.

Table 1
Percentage of Adults with a Bank Account

Country	Survey Year	Percentage Banked
Zambia	2005	14
Tanzania	2006	8
Botswana	2004	43
South Africa	2007	60

It is worth noting that having a product, in this case a bank account, does not necessarily mean that the financial management capability of the account holder is enhanced in the way policymakers might hope. This is particularly the case where other parties, such as an employer, may compel an individual to have an account. In South Africa, for instance, almost 40% of those who are banked agree with the statement "As soon as money is deposited into your account you withdraw it". Clearly, the access debate must consider more than product adoption only.

The Market Redistribution Zone

As highlighted above, the Access Frontier Methodology places those who appear to be too poor for a product in the market redistribution zone. It is not at all clear what criterion should be used to identify the poor. While per capita income measures (such as the World Bank's measure of \$1 per person per day) have merit, calculations require accurate and stable data on household incomes and household dependency ratios. With reference to the former in areas where subsistence farming and or barter systems are common, or where cash incomes are earned at best sporadically, an income measure becomes difficult to use in practise. Many respondents do not know their household incomes and others prefer not to disclose it (see Table 2. below). With

reference to the household as a unit of analysis, particularly for the poor these too are not necessarily easily identifiable or stable.

Table 2
Household Income Data not available in FinScope™ Surveys:
Percentage of Adults (16+)

Country	Refuse to Provide	Do Not Know
Zambia	—	48
Tanzania	48	
Botswana	9	29
South Africa	8	13

Living standards measures or indicators of experience of poverty may be more appropriate. FinScope™ contains questions on experiences of deprivation including the frequency (as subjectively assessed by respondents⁵) within the household of a lack of sufficient food, lack of required medical treatment or medication and lack of clean water to drink or cook with. Given that income data is poorly recorded, such measures can provide an alternative indicator for the poor.

In this analysis data relating to a household's experience of poverty has been used to identify those who might be too poor for a bank account. For each country, the indicators used are noted below.

Table 3
Identifying the Poor

Market Redistribution Zone	
Zambia	Respondents or their households have often or always gone without

⁵ Respondents indicate whether they always, often, sometimes, rarely or never go without basic necessities

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	enough food to eat in the past 12 months
Tanzania	Respondents or their households have often gone without enough food to eat in the past 12 months
Botswana	Respondents or their households have gone without enough food to eat always or many times in the past 12 months
South Africa	Respondents or their households have often gone without enough food to eat in the past 12 months or the respondent does not have any monetary income

The Market Development Zone

This zone comprises those who cannot access the product because one or more product or channel features effectively prevents them from doing so. A set of access constraints has been identified for each country. These include physical access, affordability and awareness.

Affordability Constraints: Account Running Costs

Affordability is a function the income of the individual, a subjective threshold relating to the share of income allocated to banking or transaction services, a usage profile and the cost of transactions. The table below summarises assumptions in this regard for each country and presents the minimum personal monthly required to maintain and use a bank account in local currency.

Table 4
Affordability Assumptions⁶

Banking Requirements	South Africa	Botswana	Tanzania	Zambia
Monthly service fee	Free	Free	Tshs 400	K 2,500
Deposit	1 x R 0.00	1 x P 0.00	1 x Tshs 0	1 x K 0
ATM transactions	2 x R 4.30	1 x P 0.00 + 2 x P20	3 x Tshs 300	3 x K1,500

⁶ As at June 4 2008 prevailing exchange rates to the US\$ were as follows: South African Rand: R7.84, Botswana Pula: P6.67, Tanzanian Shilling: Tsh1,203, Zambian Kwacha: K3,425

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Statement retrieval ⁷	Not included	Not included	Not included	2 per annum x K10,000
Total monthly charges	R 8.60	P20.00	Tshs 1,300	K 8,667
Affordability ratio ⁸	2.70%	2.00%	2.00%	2.00%
Implied minimum personal income	R 318.52	P1,000	Tshs 65,000	K 433,350
Minimum income band provided by the survey	R 250.00	P1,000	Tshs 60,000	K 450,000

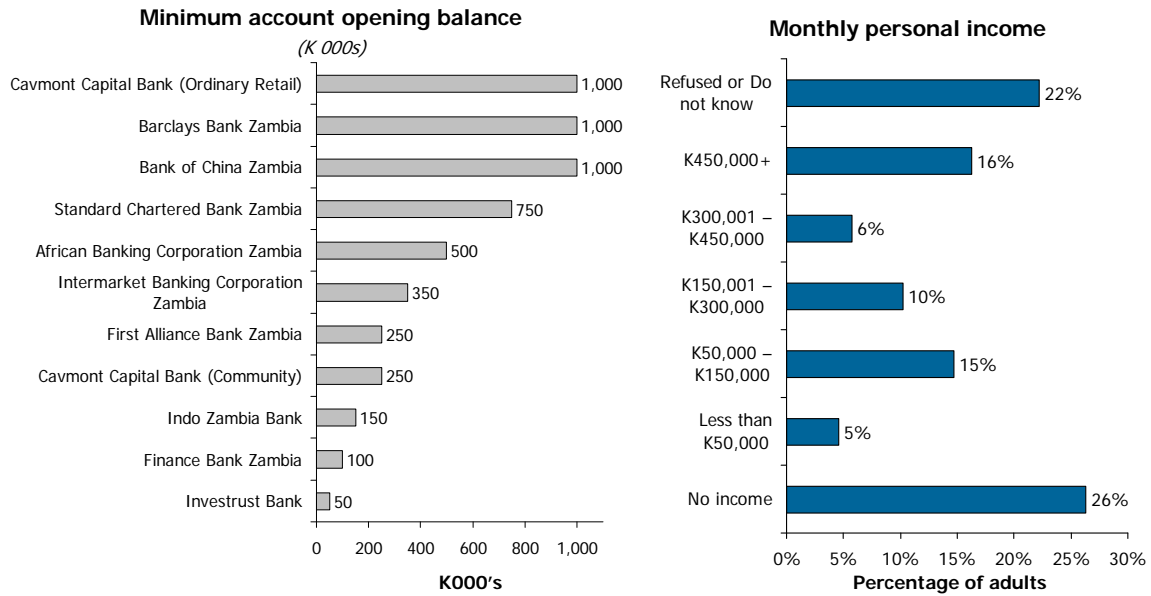
Affordability Constraints: Threshold Costs

Threshold costs include high opening balances and minimum account balances. These are less of a constraint in some countries such as South Africa where relatively small deposits, if any, are required. In contrast in Tanzania, where over one quarter of adults earn less than Tsh20,000 a month, this amount is required as a minimum account opening balance. Likewise, data from FinScope™ indicates that in Zambia required opening balances are often much higher than reported monthly incomes and are likely to materially impact on access.

⁷ A number of correspondent banking models have been developed in various African countries leveraging mobile technology. Mpesa in Kenya is perhaps the best known of these. In South Africa Standard Bank has recently piloted a community banking model in a number of communities. Where these models exist physical access constraints are effectively removed

⁸ Bank charges-to-personal income ratio. For South Africa this is derived from the Income & Expenditure Survey 2005/6 conducted by Statistics South Africa. For the other African countries this assumption has no analytical foundation

Chart 1
Comparison between Account Opening Balances and Monthly Personal Income in Zambia



Source: Bank of Zambia, December 2006, FinScope™ Zambia 2005

The impact of this constraint has not been incorporated into the analysis as there is no data to assess whether survey respondents have cash or other relatively liquid assets that could be used for this purpose.

Physical Access Constraints

A physical access constraint relating to banking infrastructure has been included in the analysis. Despite recent developments with respect to cell phone banking and the use of third party infrastructure to facilitate basic banking transactions (such as cash withdrawals at retailer point of sale terminals) it is still the case, in the main, that deposits cannot be made at non-bank outlets⁹. In addition, while potential clients may have access to technology that could facilitate

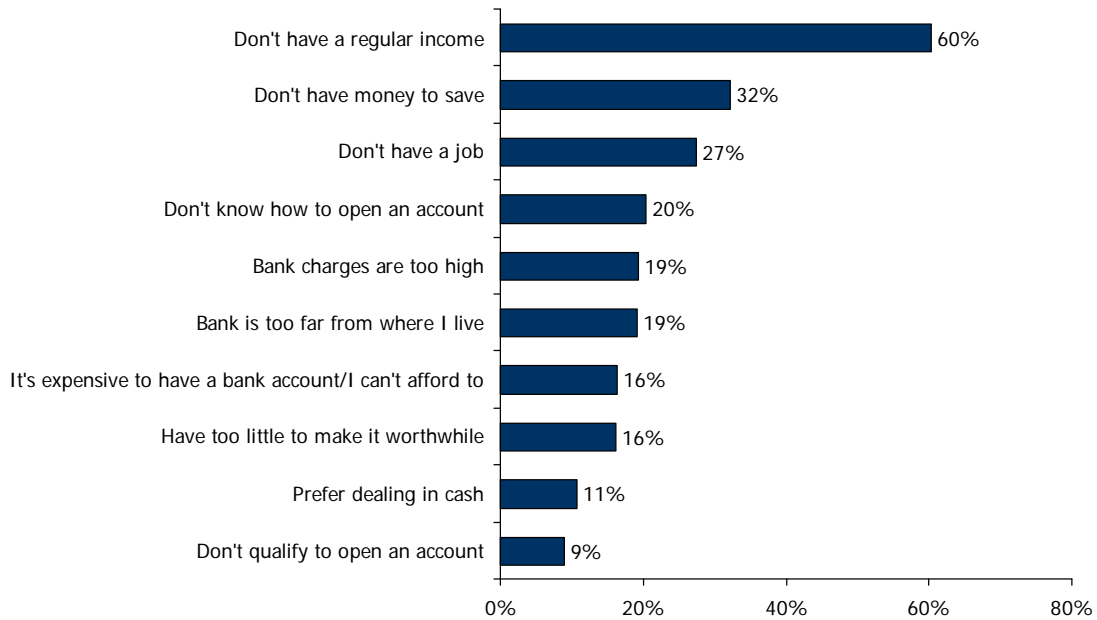
⁹ A number of correspondent banking models have been developed in various African countries leveraging mobile technology. Mpesa in Kenya is perhaps the best known of these. In South Africa Standard Bank has recently piloted a

various transactions (for example using cell phones to facilitate person-to-person transfers) the data indicates some reluctance to use these channels. A physical access constraint has therefore been included, although it is one which should decline in the future with further innovation and increased market adoption of mobile and other technologies.

Constraints relating to physical proximity are not frequently cited by respondents as the reason they do not have a bank account. In Tanzania where 81% of the unbanked who are not in the redistribution zone say there is no bank within a one hour walk only 19% say the reason they are unbanked is because the bank is too far away from where they live¹⁰.

Chart 2

Top Ten Reasons for not having a Bank Account: Unbanked in Tanzania



Source: Finscope Tanzania 2006

However, it seems plausible to assume that the ability to conduct transactions at a convenient time and place must be an important consideration in obtaining a bank account for the first time. Where service infrastructure is not available (or where transport costs must be incurred to access

community banking model in a number of communities. Where these models exist physical access constraints are effectively removed

¹⁰ The most frequently cited reason for being unbanked in Tanzania is "I don't have a regular income" (60% of the unbanked cite this reason), followed by "I don't have money to save" (32%) and "I don't have a job" (27%)

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it), or where it is over-subscribed, the banking proposition for potential clients would be diminished. In South Africa for instance long queues are common at ATMs and branches in townships where these exist (see image below). In December 2006 for example, there was one bank branch in Alexandra, a large township in Johannesburg serving a population of approximately 173,000¹¹

Queuing for an ATM in Khayelitsha, Cape Town

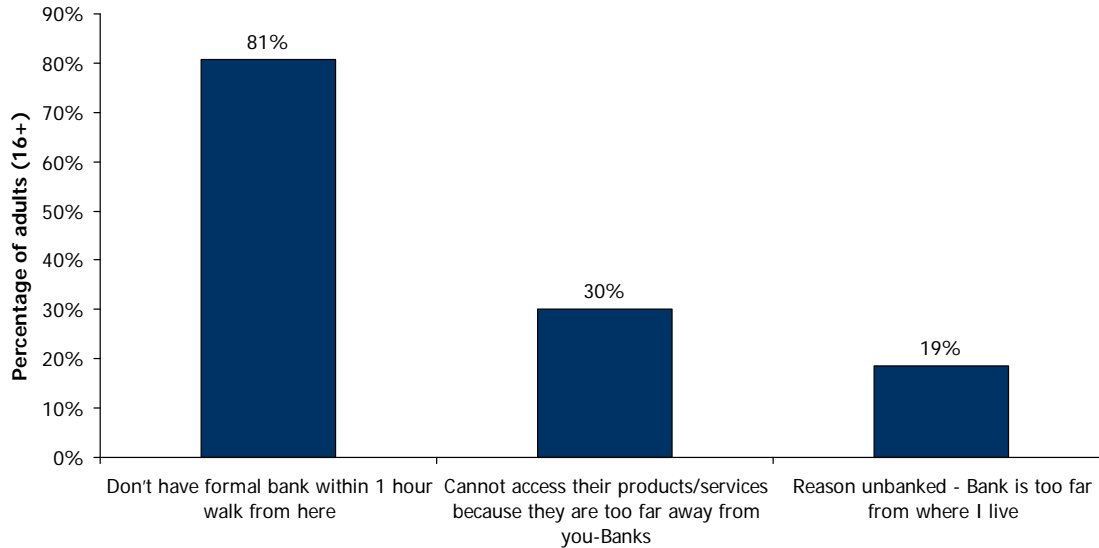


Of course, determining how near is near enough, or how responsive service should be (is a waiting time of 20 minutes acceptable to withdraw funds from a bank account?) is always subjective. Quantifying physical access constraints using demand side surveys will therefore tend to yield controversial results. This is particularly the case where potential indicators differ markedly, as they appear to do. By way of example a set of very divergent, but all nevertheless plausible, indicators relating to physical access is provided below for Zambia.

¹¹ Sourced from a presentation by Colin Donian made in 2007

Chart 3

Physical Access Barriers in Tanzania: Unbanked who are not in the Redistribution Zone



Source: FinScope Tanzania 2006

The assumptions used in the access frontier relating to physical access are summarized below:

Table 5
Survey Data used to Identify Physical Access Constraints

Country	Physical Access Constraint	Physical Access Constrained ¹²
South Africa	The statement "There is a bank nearby" does not apply to the respondent	5.7 million (71%)
Botswana	Respondent characterizes banks as having too few bank branches, too few ATMs, or that these are too far away	432,000 (83%)

¹² Number of the unbanked who are not in the redistribution zone who appear to have a physical access constraint

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Tanzania	Respondent associates the statement “you cannot access their products / services because they are too far away from you” with banks	6.2 million (37%)
Zambia	Respondent associates the statement “they have too few branches” with banks	2.1 million (51%)

Awareness and Financial Literacy Constraints

Financial literacy is an important access barrier. Those who do not have a product or service but are not sufficiently aware of its potential benefits cannot be regarded as making an informed choice to self-exclude. FinScope™ surveys contain a range of questions relating to the understanding of financial terminology which might indicate insufficient awareness.

The data varies significantly across countries. In South Africa for example there is relatively high awareness of terminology relating to basic banking products and channels. However, while employment is no longer a pre-requisite for obtaining a bank account in that country, many respondents still cite not having a job as the reason they remain unbanked. This may well indicate an awareness constraint. In Zambia and Tanzania levels of awareness with regard to banking terminology appear to be low. In Zambia for instance 77% of unbanked adults who are not in the redistribution zone do not understand the term “ATM or Cashpoint card”¹³.

FinScope™ also contains some data on the extent to which functional knowledge relating to opening a bank account is a barrier to access. In Tanzania for instance 20% of the unbanked who are not in the redistribution zone say they are unbanked because they do not know how to open a bank account¹⁴ (see Chart 2 above).

The table below summarises indicators used to identify awareness constraints.

Table 6
Survey Data used to Identify Awareness Constraints

Country	Awareness Constraint	Awareness Constrained ¹⁵
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¹³ While terminology may be poorly understood this may reflect a language barrier rather than a true lack of awareness relating to the functions and concepts underlying various financial services

¹⁴ This is slightly higher than the 19% who cite physical access as a barrier to being banked

¹⁵ Number of the unbanked who are not in the redistribution zone who appear to have insufficient levels of awareness to obtain and use a bank account

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South Africa	Respondent has never heard of an Mzansi ¹⁶ account, does not know how get an Mzansi account, or says that the reason for not having the account is because they do not have a job	5.5 million (69%)
Botswana	Respondent does not know how to get an account, or has never had a bank account <i>and</i> has a education level that does not reach high school level	234,000 (45%)
Tanzania	Respondent has not heard of or does not understand any of the financial terms asked in the survey or respondents don't know how to open a bank account	4.9 million (29%)
Zambia	Respondent says that they have either never heard of the term "bank" or have heard of it but do not know what it means	552,000 (14%)

Other Requirements to Open a Bank Account

In all countries under review some form of identification is required to obtain a bank account. In addition in Tanzania and Zambia photographs and reference letters from other existing account holders or employers are also required. The impact of these requirements can be noticeable. In Zambia for instance FinScopeTM indicates that around 670,000 unbanked individuals (around 13% of the unbanked) do not have required identification documentation.

Conclusion

In most countries, key constraints relate to affordability and physical access¹⁷ although in South Africa, given recent changes in the pricing structure of entry level bank accounts affordability appears to be less significant, while awareness issues in that country appear to prevent access for many. The small size of the enablement zone in the countries under review indicates that given relatively low incomes within these countries and the constraints around physical access it is unlikely that banking penetration will increase significantly if the banking offering, defined broadly to include pricing, product functionality, channels and marketing, remains unchanged.

¹⁶ An Mzansi account is an entry level bank account provided by the largest banks and Postbank. Fees and threshold costs are low to enhance affordability for the low income market. The product was launched specifically to enhance access to banking services for the poor

¹⁷ The appendix to this document contains the underlying detailed frontier 'trees' showing the relative impact of the various access constraints

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FinScope™ South Africa 2007

FinScope™ Tanzania 2006

FinScope™ Zambia 2005

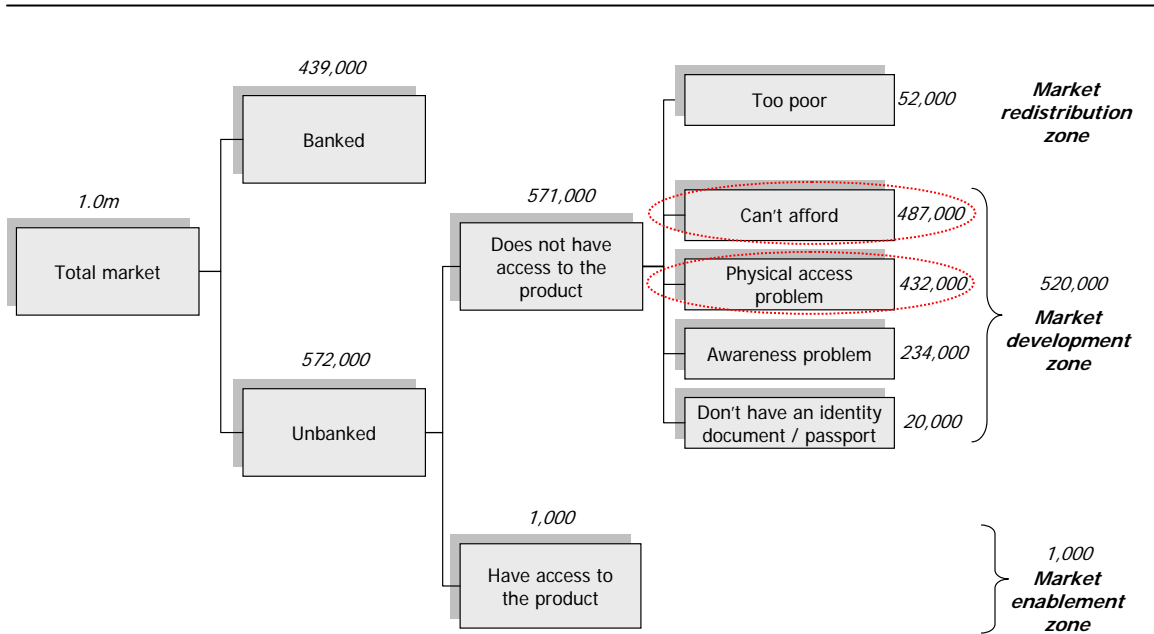
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Appendix

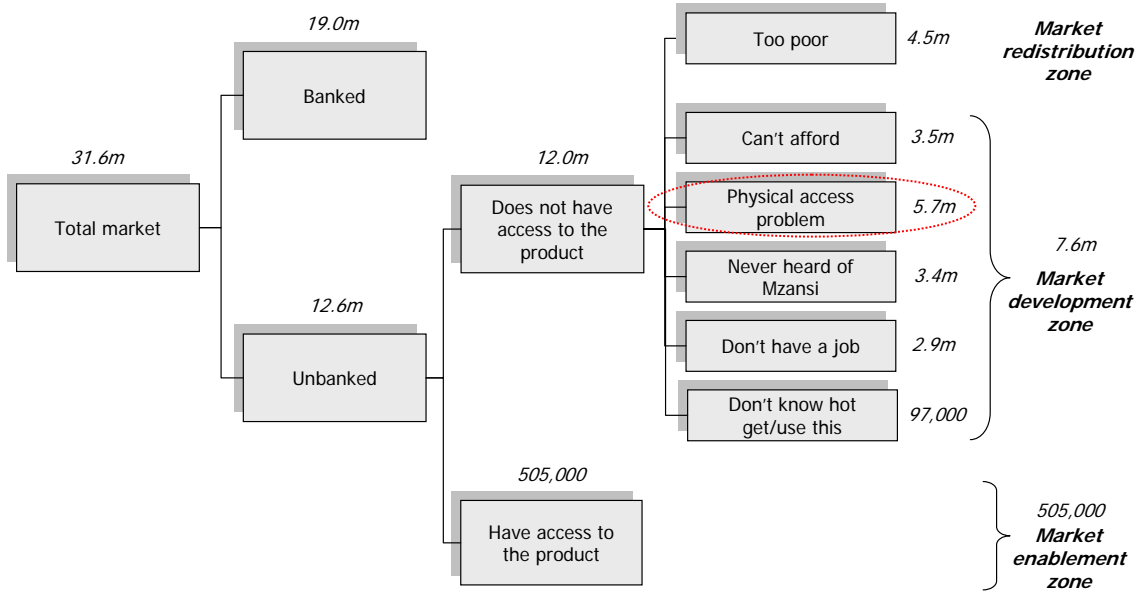
Chart 1
Access Frontier and Access Constraints: Botswana



Based on a paper entitled "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous
 NB. Figure's may not add up exactly due to rounding

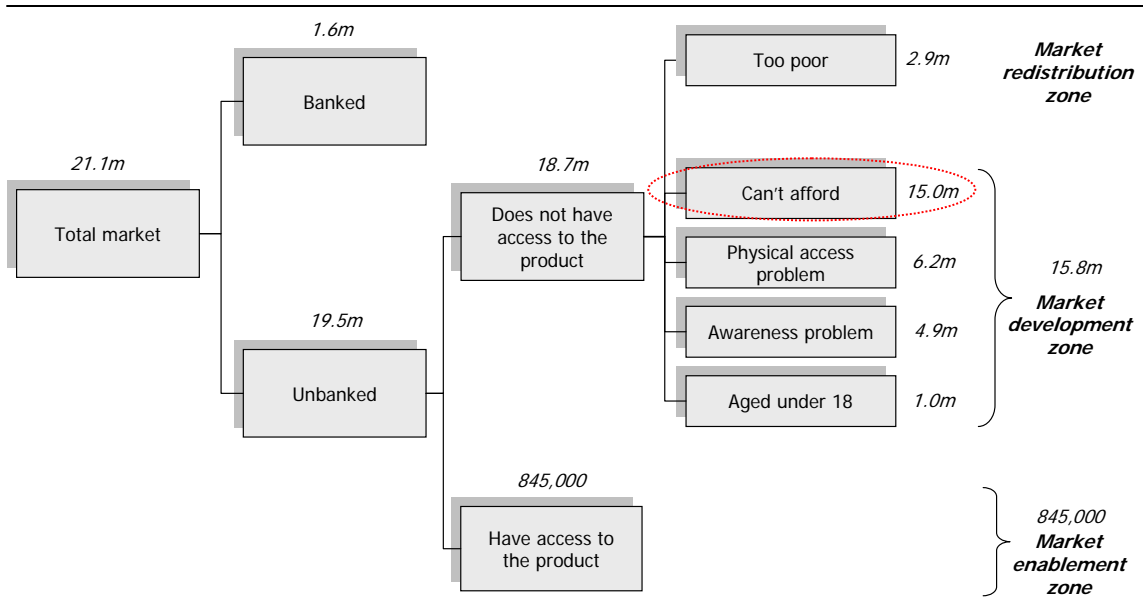
Chart 2

Access Frontier and Access Constraints: South Africa



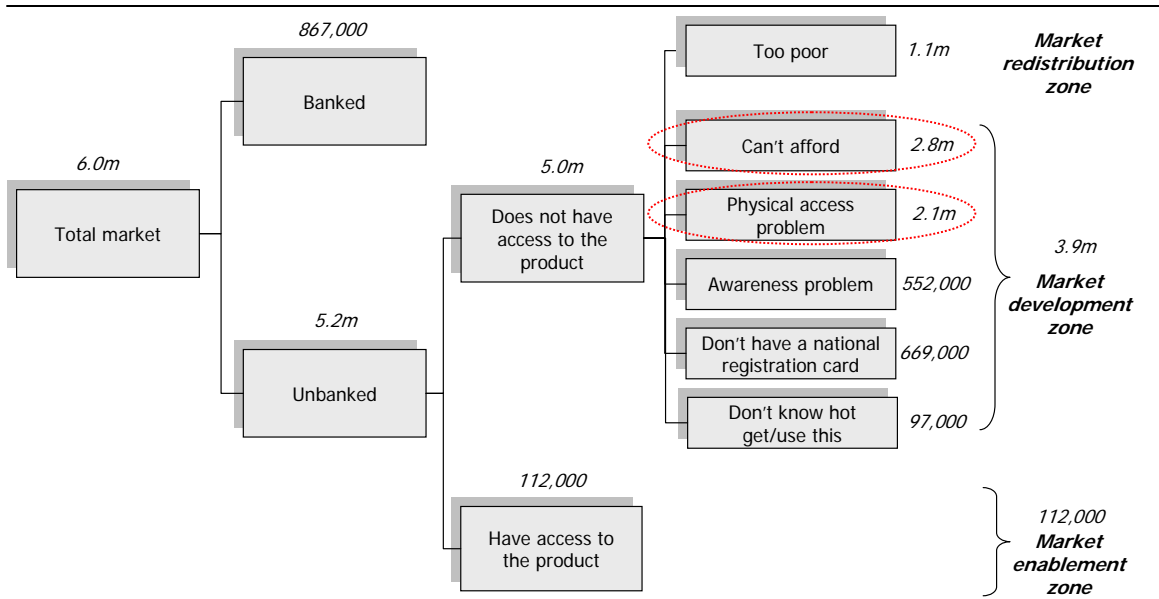
Based on a paper entitled "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous
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Chart 3
Access Frontier and Access Constraints: Tanzania



Based on a paper entitled "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous
 NB. Figure's may not add up exactly due to rounding

Chart 4
Access Frontier and Access Constraints: Zambia



Based on a paper entitled "The Access Frontier as an Approach and Tool in Making Markets Work for the Poor" by David Porteous
 NB. Figure's may not add up exactly due to rounding