



InFocus Note 3: Combining demand and supply side insights to build a better proposition for banks and clients

May 2012

*This InFocus Note is the last of a three-part series that shares the results from the **InFocus Study**, a knowledge-building exercise sponsored by the Bill & Melinda Gates Foundation (BMGF). Over the course of two years, Bankable Frontier Associates (BFA) conducted extensive analytical studies of four banks in developing countries that have specific savings account offerings targeted towards low-income populations. The studies aim to provide the Financial Services for the Poor (FSP) team at BMGF with a comprehensive understanding of the economics around providing savings services for the poor. To maintain confidentiality we refer to the participating institutions as Banks A, B, C & D.*

In this InFocus Note 3, we combine our perspectives on collecting demand and supply side information on consumers to come up with a new methodology that helps financial institutions to focus on meeting consumer needs in a viable manner. This analysis builds from the demand side analysis covered in InFocus Note 1, the segmentation analysis covered in InFocus Note 2 as well as savings typologies outlined in GAFIS Focus Note 2.

Introduction: Re-aligning paradigms for greater financial inclusion

Achieving the large scale mobilization of small savings on a profitable basis has proven challenging for commercial banks. On the one hand, poor clients do not seem to take full advantage of the opportunity to save in bank accounts, seen through the continued maintenance of funds in informal tools. And banks struggle with the business case of small savings. InFocus Notes 1 and 2 delved deep into the demand and supply side issues, respectively, and emerged with clear suggestions for improving the proposition both for poor clients and for commercial banks attempting to serve these poor clients.

The overall goals of serving the poor and contributing to profitability may be aligned.

Conventional wisdom suggests that the misalignment of the banking needs of the poor clients and the commercial interests of banks retards efforts to advance financial inclusion. Low-income individuals are often new to the formal banking sector, and not immediately willing or able to pay monthly or transactional fees, nor suffer the inconvenience of travel and long lines, even if saving in banks reduces the risk of losing their cash. Banks, on the other hand, are concerned about the high costs to serve poor account holders who often consume costly face time with staff, in addition to the lower revenue potential arising from low balances.

InFocus Notes 1 and 2 both described client savings behavior through two different lenses. InFocus Note 1 took a demand-side perspective, using data gathered from a survey administered to clients across all four banks. InFocus Note 2, on the other hand, drew primarily on account-level analysis of a year's worth of transactional data from all qualifying accounts. While both lenses reaffirmed the general issues clients and banks were facing, when viewed together, they reveal that perhaps commercial interests of the bank and the financial management needs of the poor are not as different as might be thought.

InFocus Note 1, for example, discussed the needs and cash flow requirements of poor clients. It concluded that clients need greater proximity to cash handling outlets to encourage them to make greater

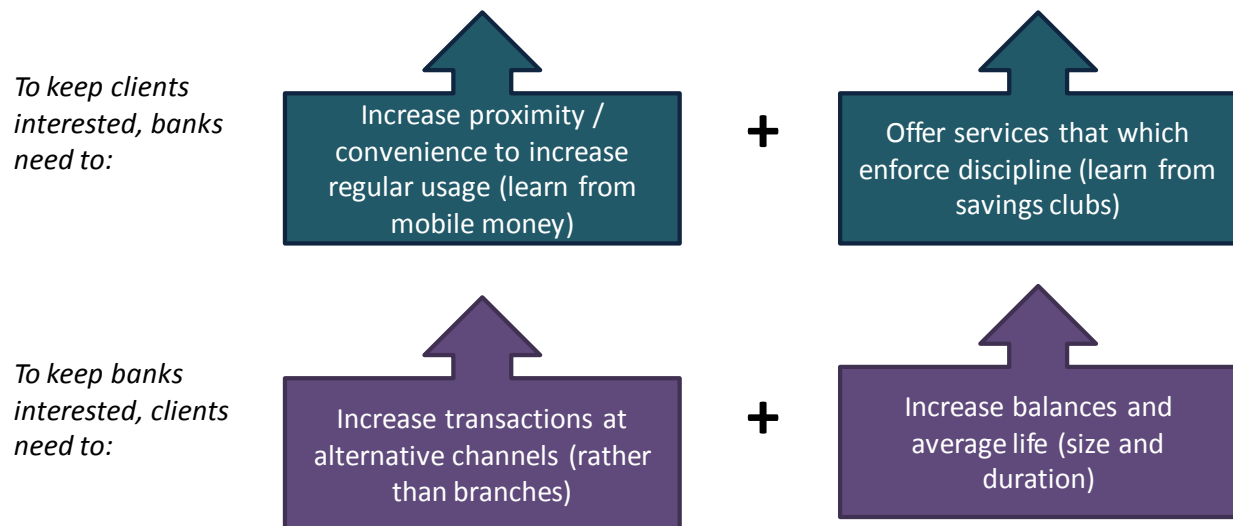


IN FOCUS NOTE #3

use of bank savings accounts, though *usefulness* to the client is often a function of discipline and rules. InFocus Note 2, on the other hand, considered ways of increasing profitability on small savings accounts: increased balances and duration of savings are needed to increase revenue, while alternative channel strategies could lower transactions cost for the bank.

Seen in this light, the needs of the bank and the client may be aligned as Figure 1 depicts: the clients' need for proximity can be resolved through the provision of new alternative banking channels like agents, and the banks' need for increased balances can be enhanced through adding product features which bolster the discipline of the client to save.

Figure 1: The objectives of clients and of financial institutions



What tools did In Focus use?

Deep dive analysis of each InFocus bank gathered information about each, including, on the supply side, the costs associated with servicing savings account holders and on the demand side, a perspective on how the *poor* were engaging with the bank vis-à-vis other formal and informal financial tools. This information supported the following outputs.

Output 1: Demand side analysis

To understand client activity outside the bank, we conducted a client-side survey, for which *we intentionally targeted active clients*. The main components of the analysis included:

- 1) Income / Poverty indicators (actual income, expenditures, assets, household information)
- 2) Usage of and balances in various informal and formal financial tools
- 3) Lump sum financial expenditures (both past and hypothetical) and funding sources.

Output 2: Supply side segmentation analysis:

This was based on obtaining the following information on each qualifying account from each bank:



IN FOCUS NOTE #3

- 1) De-identified client information: all information collected about the client at the time of account opening;
- 2) Transaction information: all customer-initiated and bank-initiated transactions over the course of one year;
- 3) Balance information: average daily balances as well as beginning / end of month balances.¹

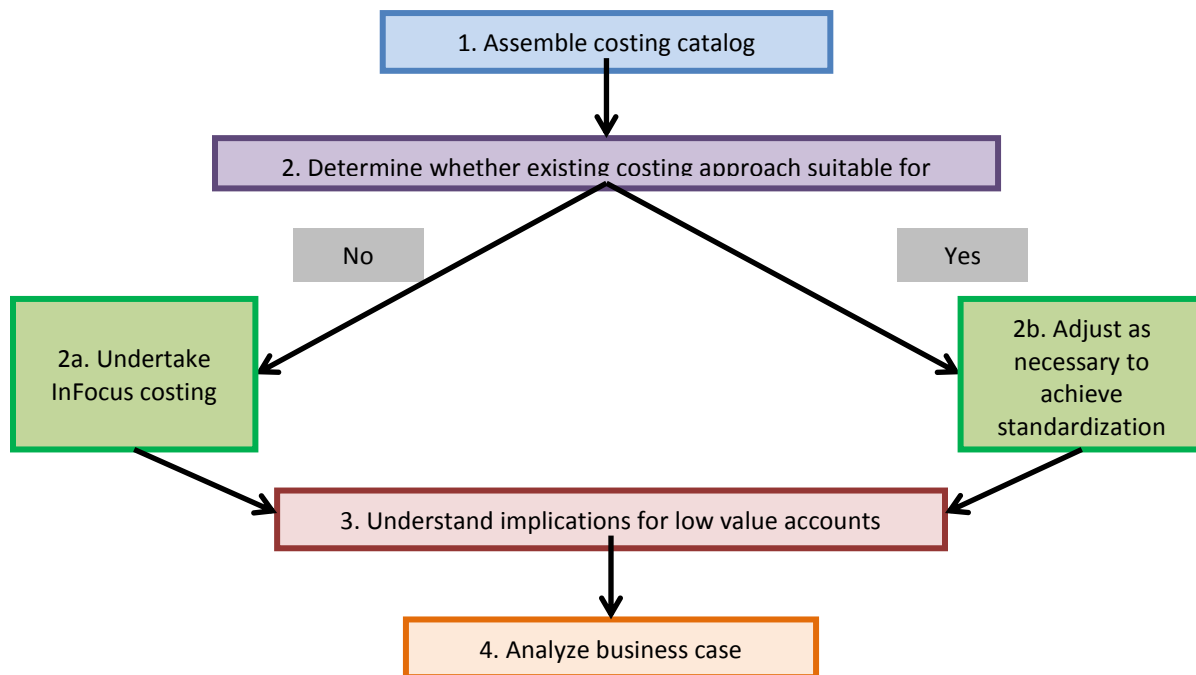
This data supported analyses of various discernible patterns of customer behavior in order to develop distinct customer segments.

Output 3: Supply Side costing analysis:

The In Focus supply side analysis used costing information to assess the economic proposition of a savings account associated with each *defined segment*. As shown in Figure 2 below, there were two approaches: if the bank had its own costing system in place, then we used that. However, if the bank did not already have a suitable approach to costing transactions or accounts, the In Focus process started with estimating transactional costs. This was done by identifying and allocating actual direct costs for the specified year across transactional cost drivers, associated with different transaction types.

The indirect costs were then allocated across accounts. To determine the account level profitability, costs per account based on actual transactional patterns using the calculated or given costs are deducted from the revenue per account, calculated based on actual fees and float interest revenue..

Figure 2: Arriving at a costing method based on each institution





IN FOCUS NOTE #3

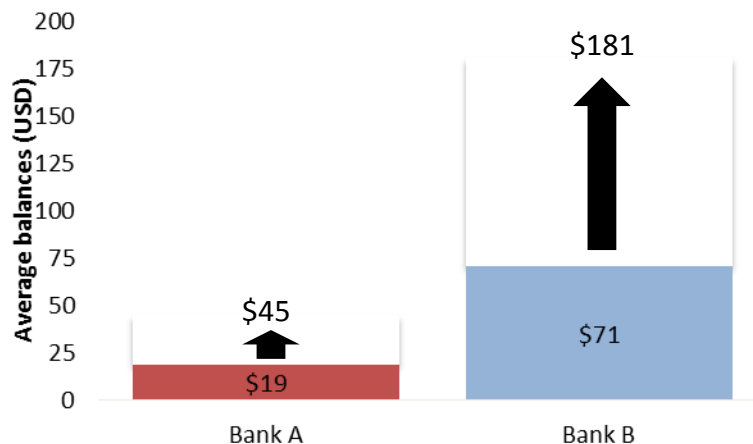
Combining the analysis - successes and limitations

The most useful insights came by directly combining demand and supply side information. We give examples in this section.

- 1) Calculating breakeven account balances to assess whether clients could ever reach them

Using the costing data, a financial model could project the minimum balance required for the account at least to break-even for the bank. For the initial model, we assumed a constant transactional pattern. For example, for Bank A, a minimum balance of \$45 was needed; for Bank B, with a different cost structure, this breakeven level was much higher: \$181.

Figure 3: The distance between current balances to break-even balances in the bank – the case of In Focus Banks A and B



Based on only the supply side information, the prospects for reaching these much greater levels of balances seem low. Yet, the demand-side perspective revealed to us that this is possible since poor clients already maintain similar values in other savings tools. This analysis also shines light on potential strategies to shift those funds into the bank account.

In fact, in the case of Bank A, for example, simply lowering savings in the house by \$26 and bringing these balances into the bank account could potentially be achieved through improving the proximity and convenience of the bank's offering. This could raise the average balance to the breakeven balance of \$45. Alternatively, an appropriate product and marketing strategy could motivate the client to sell a portion of their assets-as-savings and shift this into her bank account. This approach does not expect or assume that poor clients will drop their other means of saving— this is not realistic. However, with appropriate channel and product offerings, as well as innovative marketing tactics, client financial portfolios can shift at the margin to raise savings balances in the bank at least these orders of magnitude. Strategies like these need to be informed through a careful analysis of demand-data to develop a better sense of the propositions which must be made to the clients to motivate the switches in each case.



IN FOCUS NOTE #3

Can clients in fact make these shifts? Research over the last decade has indicated that the poor do in fact save despite low and often infrequent incomes, yet it was not clear whether the specific poor clientele of these InFocus banks could in fact shift enough savings to the bank for their accounts to reach break-even.

A closer look at their portfolios as revealed in the demand side surveys showed that not only are the poor saving sufficiently in other instruments, but also in the kind of instruments from which it should be relatively easy to shift value into their bank accounts. For example, in Figure 4 below, we see that the average poor, low-balance client from one bank need to increase his bank balance by \$26 for the bank to reach break-even. This amount can be taken from the house (as shown in the diagram below), or perhaps even from assets meant to be sold.

Figure 4: How a modest portfolio shift in the average account holder at Bank A can bring the bank balance up to break-even balance

	Current Balance		New Balance
Savings account in bank	\$19	+\$26	\$45
Saving money in the house/person	\$45	(\$26)	\$19
Assets meant to be sold if short of cash	\$1578	=	\$1578
Saving in a group	\$39	=	\$39
Providing small credit / loans	\$29	=	\$29
Account balance with another bank	\$54	=	\$54
Saving with a money guard	\$31	=	\$31
Total	\$1795	=	\$1795

But the limitation is that it did not give us an idea of how that shift might happen.

The static portrayal of a financial portfolio through a one off survey does not give a clear idea about how the client is dynamically managing funds already, and for what reason certain funds are kept in the various tools. Therefore, it provides a limited guide as to how to encourage the shift.



IN FOCUS NOTE #3

Furthermore, the desired outcome of profitability will only hold if no other features change. For example, in *InFocus* Note 2, we discussed the positive relationship between balance levels and transaction frequency. Therefore, if the bank succeeds in attracting higher balances, this may happen at the cost of increased transactions which will adversely affect account profitability.

2) Profiles of poor clients which brought demand and supply together

To overcome the limitations of the static analysis, we sought to marry the transactional profiles of the bank account over the year with the demand side picture for two of the banks. To do this, we first needed to seek permission directly from the respondents to look into their account information. Unfortunately, across the banks, only a small percentage of respondents granted us permission to look at their account information. To do this, we first needed to seek permission directly from the respondents to look into their account information, which unfortunately did not render useful results. The respondents at Banks A and B were asked to provide their full names if they agreed to allow us to probe further into their bank account information, and while a large percentage agreed (72% at Bank A, and 100% at Bank B), due to either clerical errors, spelling variations, and other reasons, we could only match a handful of bank accounts to the respondents. Learning from this experience, we then asked Bank C and D respondents to provide their national ID numbers, which we believed would lead to a higher success rate. However, only 10% of Bank D respondents granted us permission, of which we could only match about half.

We did have a bit more success at Bank C, where 48% of interviewed clients gave permission, and just about 20% actually matched the accounts under scrutiny (i.e. they had a positive account balance, belonged only to a natural person, and transacted at least once in 2010).

We then classified the matched accounts by income levels and income sources in an attempt to arrive at a more nuanced understanding of these client groups. The mean balances across the accounts tend to be somewhat lower than the self-reported figures. Such a discrepancy isn't necessarily surprising, since the balances recorded by the survey were static figures, reported only at the time of the survey, while the average balances accounted for fluctuations over a period of time.

Matching the data did, however, enable us to develop some interesting anecdotes, like the one about Maria in the box below. Such analyses proved interesting as it provided us with a fuller picture of one client's behavior. The supply side data provided a year long look at her account behavior, while the demand side data showed us what other tools she was using to manage her money. Through this type of anecdotal exercise, we can surmise that for Maria at least, there may be a strong case for new product development to extend her portfolio. However, such anecdotes provide limited insight into the full business case, primarily because we could not determine the representativeness of these clients, without which a larger strategy could not be built.

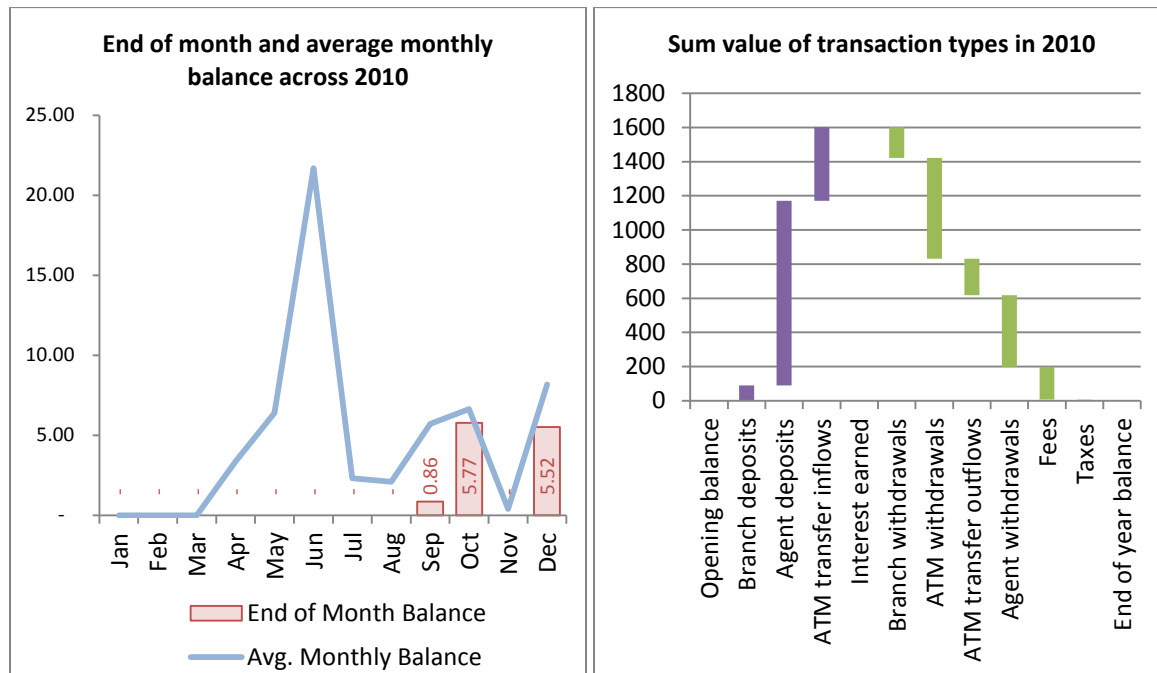
Profile: Maria

Maria is a 29 year old female from the city. She completed technical school, but does not work. Rather, her primary source of income is through remittances. She lives with 2 kids and one other adult, presumably the head of the household. The total household monthly income per capita is USD 301. We do not know what exactly the other income earner does, but do know that he receives payments on a weekly basis.



Supply side data tells us that she holds a basic savings account, but barely maintains any balance in it. Her transaction frequency is low, but the sizes are significant. In 2010 she transacted 13 times at the agent and withdrew 4 times at the ATM, with an average transaction size of USD 36. Her end of year balance is close to 0.

Figure 5: Maria’s balances and transactions over 2010



Interestingly, Maria also participates in a savings group, where her expected payout is USD 180. The details of how this group operates is unclear, but we do know that she contributes USD 36 into the group each cycle (equivalent to the average transaction size at the bank). Again, we see the ability to save, but the manifestation of it outside of the bank. These savings groups are a particularly useful tool for remittance receivers who receive a lump sum, which must last them for often a lengthy duration of time. Therefore, she cannot spend it all at once. Parking the money away in a savings group may help her achieve the necessary discipline to ensure that funds continue to be available until the next cycle.

Towards a new approach: combining demand and supply

The key to undertaking a more useful exercise is combining elements of the demand and supply side exercises to develop a coherent and complete understanding of the current and potential business case across various client segments and to use specific consumer data to offer insights into how consumer behavior might be shifted.

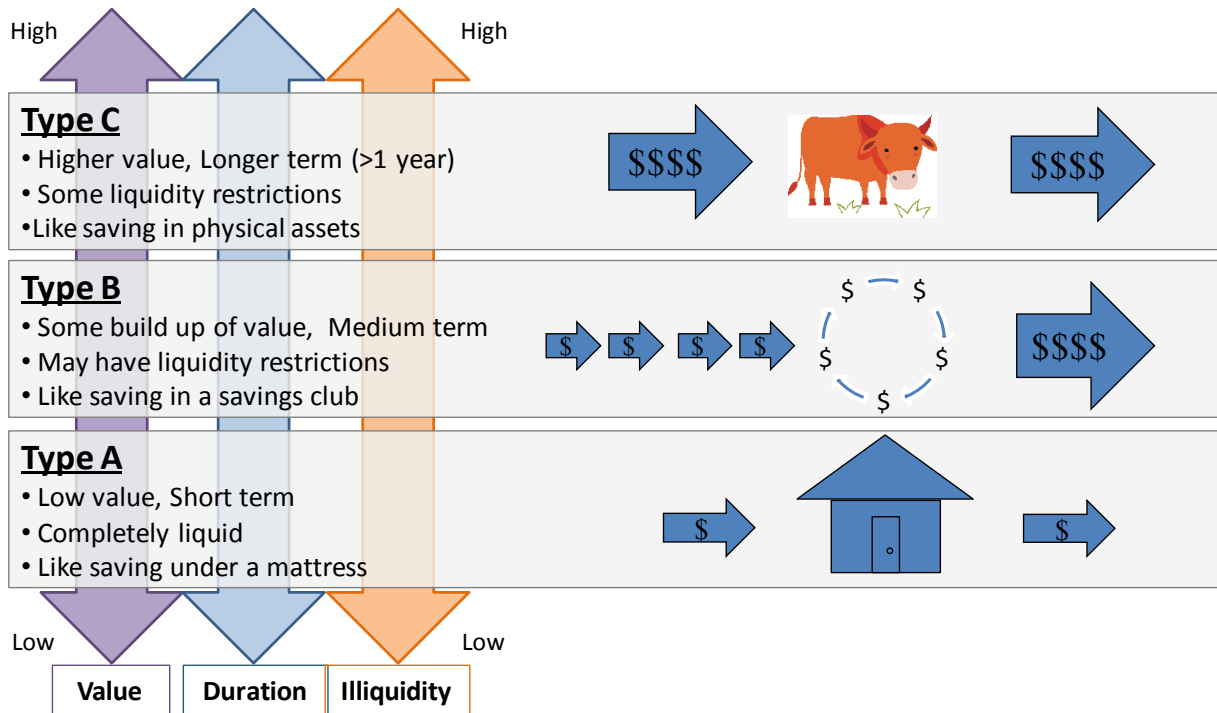
In order to segment accounts into different types of savings patterns, we first need to define them based on the savings typology established in GAFIS Focus Note 2. As show in Figure 6, this savings typology



IN FOCUS NOTE #3

is based across different levels of value, duration and illiquidity and also related to the major types of savings seen in the informal financial portfolios of low income households.

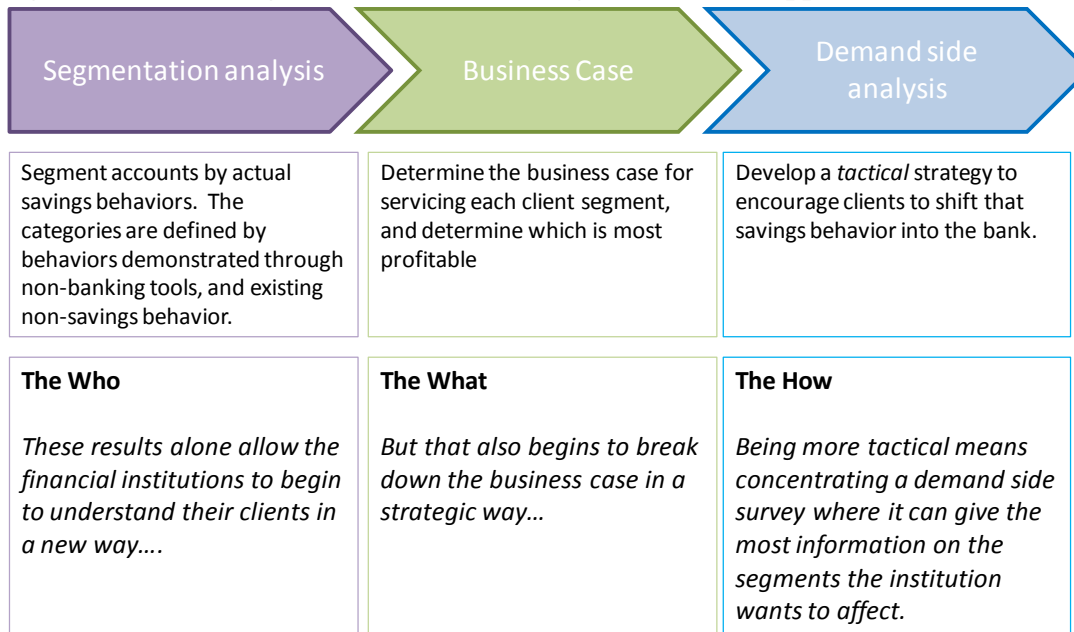
Figure 6: Savings behavior classified into three main “types” that account for differences in value, duration, and illiquidity



We define the categories specifically applied to the segmentation exercise in Annex A. Figure 7 below shows the outcome of applying these definitions to obtain exclusive segments.

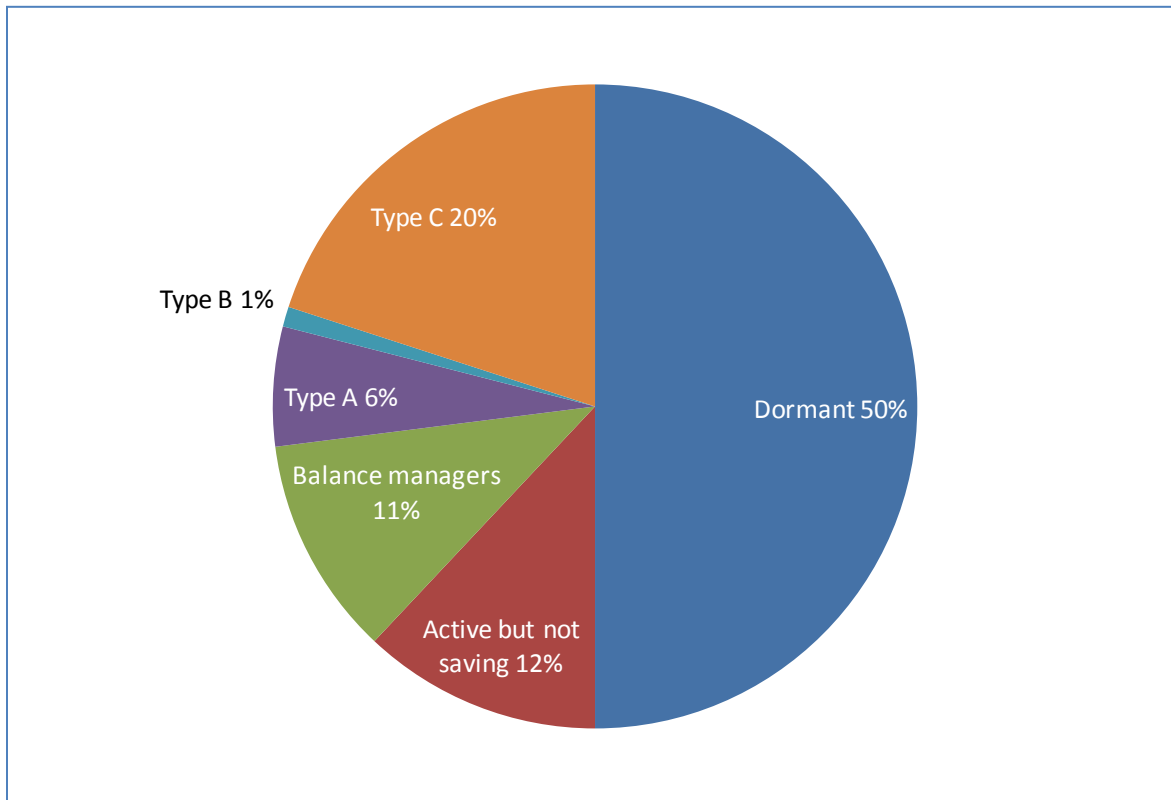


Figure 7: Envisioning a new way of combining demand and supply side views



A. Re-purpose transaction and balance analysis as first as a segmentation exercise

Figure 8: Results of segmentation on Bank C balance and transaction data



Notes: The chart categories can be defined as follows: Dormant are all accounts without a transaction in 6 months; Type C are all accounts where the balance for three consecutive quarters is above a defined threshold limit (in this



IN FOCUS NOTE #3

case, \$72); Type B are all accounts where the average annual balance is greater than the first month balance and the ratio of credit to debits is at least 6:1; Type A are all accounts where the balance of at least one of the quarters is less than 25% of the defined threshold limit; Active but not saving are accounts where the balance for at least one quarter is less than 25% of a defined threshold limit (in this case \$72) and where the ratio of debits to credits is greater than 1/6 but less than 2; Balance managers are the residual accounts from these other definitions, but have the common attributes of being both high transacting but with irregular and intermittent high balances. See Annex A for more details about how this segmentation was performed.

The results above show several interesting patterns. First, of the half of accounts which were not dormant, about half exhibit savings behavior as defined. Type C is the most prevalent types of savings behavior – 20% of the total. Much less well represented is Type B – not surprising given how difficult it is to mimic the steady cash flow accumulation profile of a savings club without the accompanying features of social discipline. Type A savings behavior represents 6% of the total. Two remaining segments which do not exhibit savings behavior (‘non-savers’) are left. First, active but not saving accounts represent 12% of the total – many of these reflect the so called “dump and pull” behavior that is often seen when salaries or social grants are deposited and immediately and fully withdrawn, leaving a zero or very low balance in the account. Lastly, the residual group, labeled ‘balance managers’ comprises 11% of the total, all share the same characteristic of balances that can be high but not perpetually so.

B. What is the implication of each of these diverse transaction and balance patterns on the business case?

Figure 9 below shows, first, that accounts exhibiting types B and C savings behavior have much higher balances than for Type A, although they also have more transactions. Figure 10 shows the result of these patterns on the business case at the account level. For virtually all segments except for the thin slice of Type B which holds such high balances, net revenues per account are negative.

Figure 9: Transaction and balance patterns of savings types for Bank C

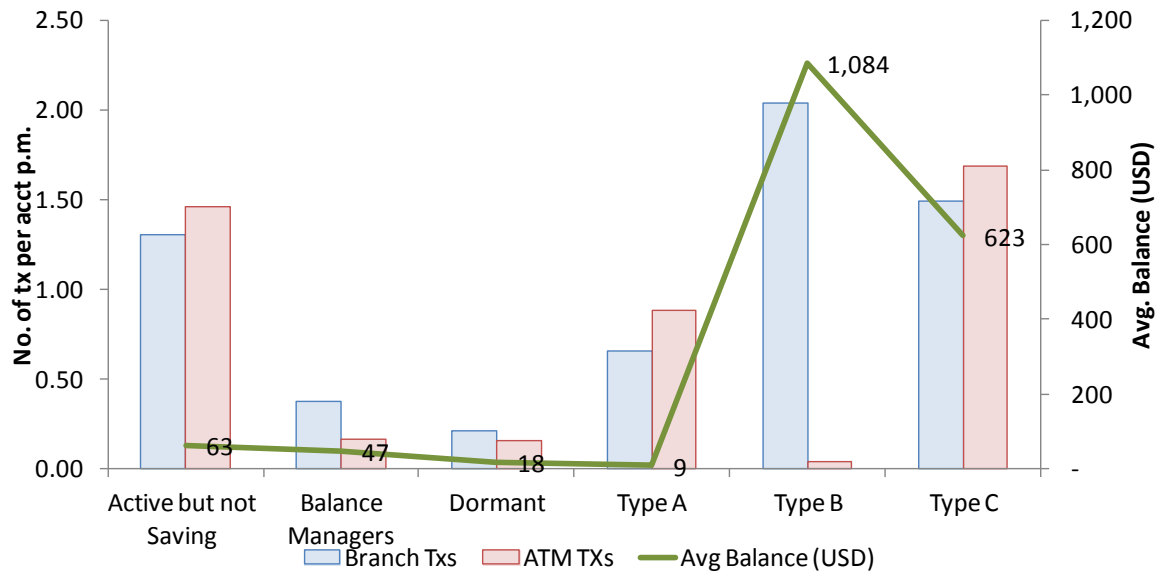
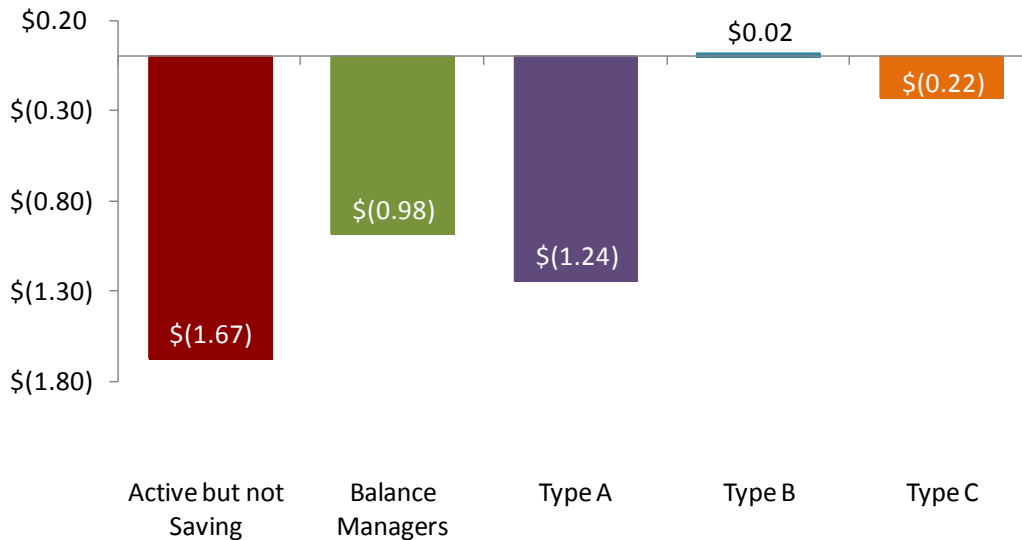




Figure 10: Net revenue per account per month (US\$)



Includes actual amortized customer acquisition costs & monthly account maintenance charge for Bank 3, and assumed ones for Bank 4.

C. Who are the clients behind the different segments?

Using matched data, it is possible to draw survey data about clients having accounts exhibiting each type of behavior, with the exception of Type B saving which was too small to have any matches. Ideally, we would sample on each segment proportionally so that we could make robust comparisons between different segments.²

Table 1 below provides some details from the survey data of the different segments. First, it is unclear whether clients exhibiting Type C behavior are really much better off than those who save less, i.e. such as in the dormant or the active but not saving segments – in fact, poverty levels among clients in these two segments seem to be about the same. Moreover, it seems that the income sources of clients in both of these segments are mixed– there are formal job holders and business owners in both segments. In short, they do not look much different.

Balance managers, on the other hand, have a disproportionate share of small or micro business owners. This would stand to reason as the cash flow patterns of small business tend to be highly irregular. Moreover, these account holders tend to be among the poorest in the sample.

² Although not all banks have good enough MIS content to do this, we did find that we could successfully sample and contact clients in two of that banks we looked at.



Table 1: Client profiles of each segment

	Dormant	Active but not Saving	Balance Managers	Type A	Type C
Number of matched demand side with each type*	N=198	N=60	N=44	N=26	N=69
% poor- National expenditure poverty line	54%	48%	52%	42%	36%
% Male	48%	52%	36%	31%	43%
Avg. Age	34	35	35	34	36
% Main income is formal	22%	25%	18%	19%	31%
% Main income casual	16%	15%	9%	15%	12%
% Main income business	28%	35%	55%	23%	33%
% Main income agriculture	21%	10%	11%	19%	10%

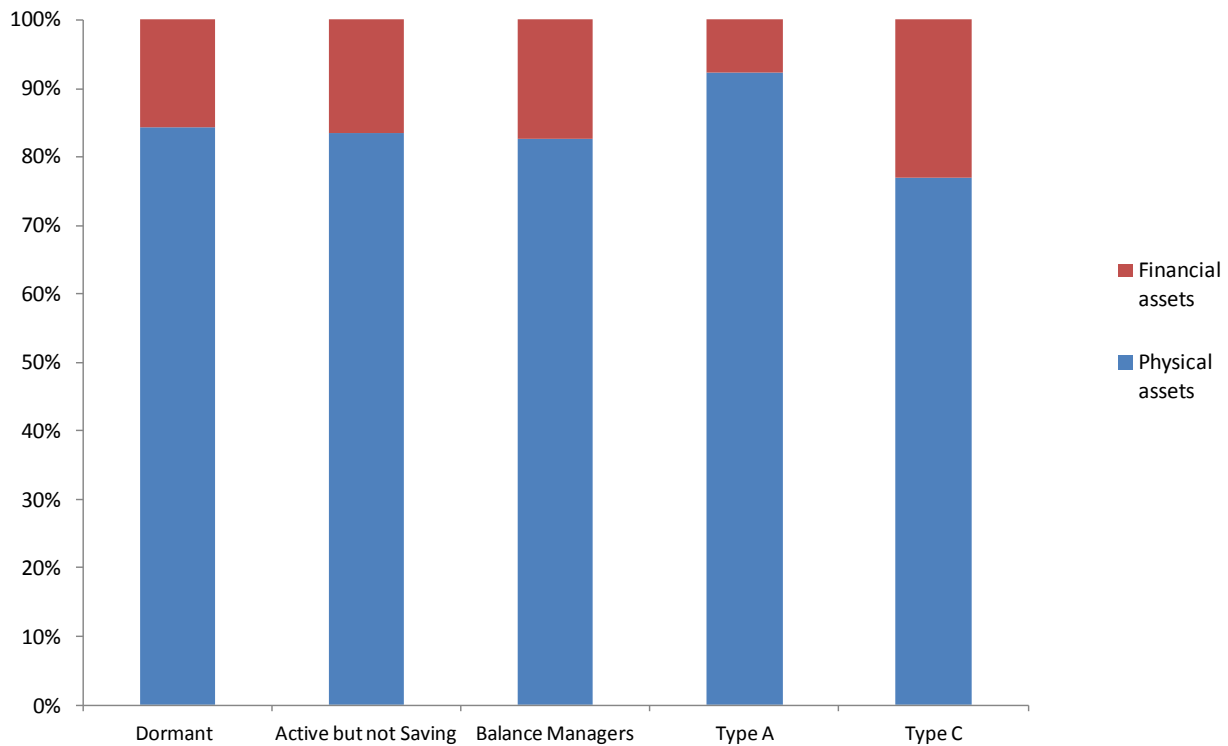
* Note that these samples are small and not stratified to be representative. Type B, for example, was missed altogether. **By doing segmentations first, the demand side could be focused to be representative of each segment.**

Using demand profiles, what other types of assets do households in these segments hold in their portfolios? Figure 11 shows that, as was the case for all banks as show in *InFocus* Note 1, for all segments, clients hold the majority of their assets in physical assets – on average 81%. This level is unusual compared to more developed countries. For low income households in the U.S., this ratio is 1.9%, although middle income households have ratios closer to 65%.³ Notice as well that Type C savings account holders have a slightly lower proportion of financial assets – 77% - than the others, suggesting that they might have shifted some of their Type C savings from physical to financial. With the right proposition, other segments might be tempted to do the same.

³ Survey of Consumer Finances, 2009.

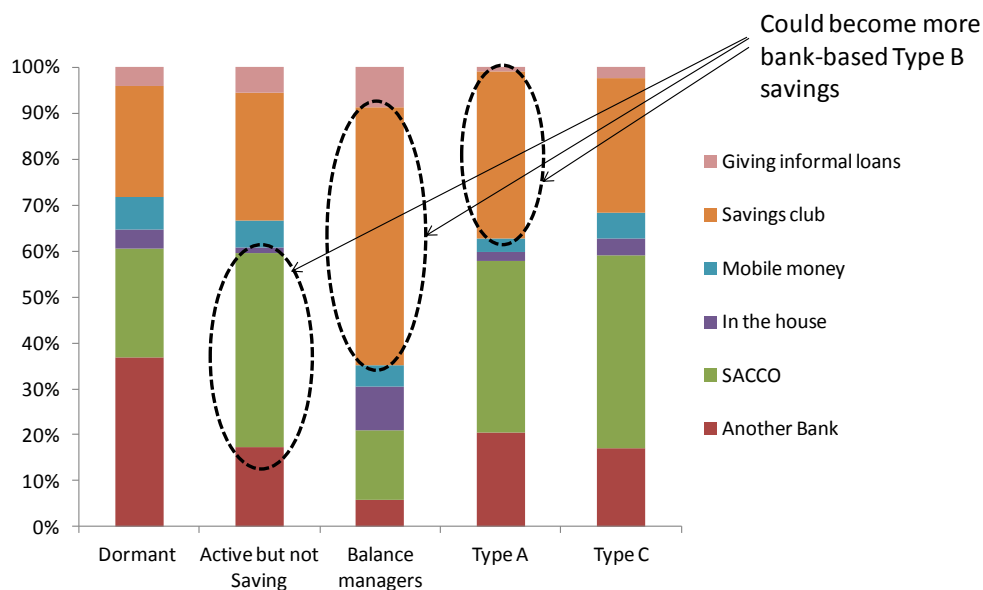


Figure 11: Share of financial and physical assets out of total



Further analysis of financial assets, shown in Figure 12, also suggests that there is a heavy focus in alternative financial portfolios towards other instruments for Type B savings. However, savings clubs, which hold most of this type of savings, can be unreliable. This can be part of the proposition to clients to encourage a shift towards bank accounts and this diversification may well be beneficial to clients.

Figure 12: Percentage of financial assets outside Bank C



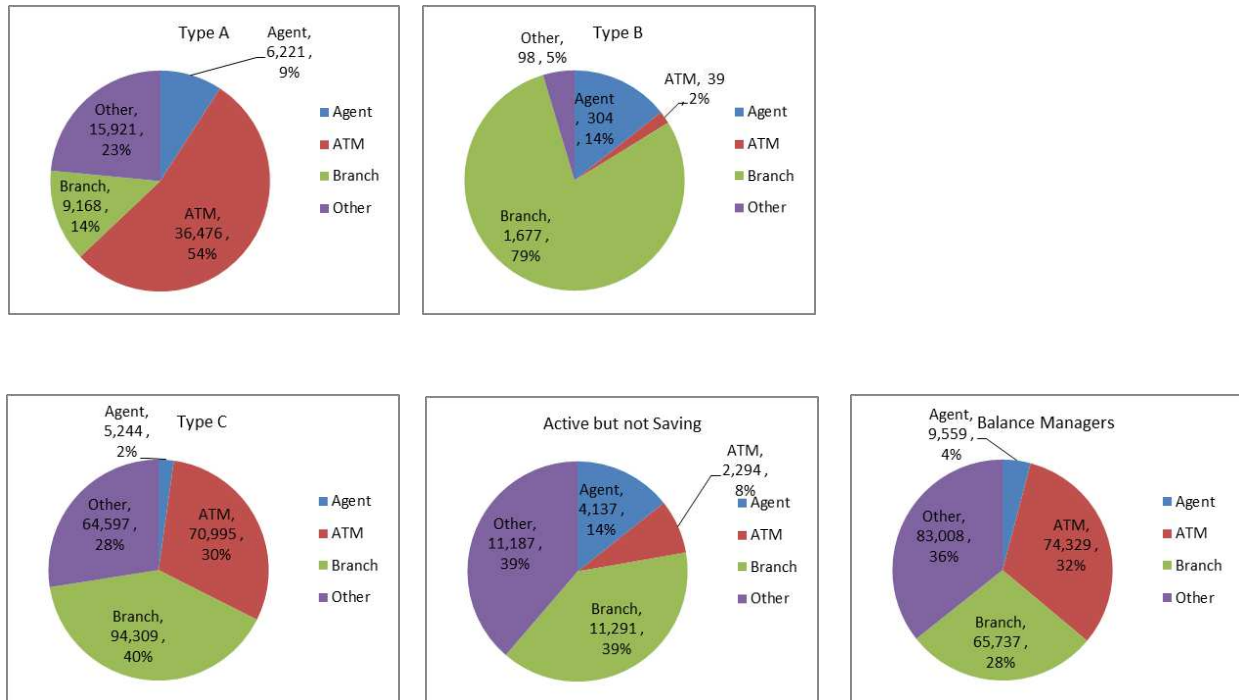


Looking through the lens of channel dominance—the case of Bank D

Clients can also be distinguished based on their usage of bank channels: analysis of data from Bank D identified four sizable but distinct client groups based on which of three channels—bank branch, ATM or agent (or none)—they used ‘dominantly’ (meaning more than 50% more than the other types together). This channel-based lens can be overlaid with the lens of savings behavior from the previous section.

Figure 13 shows the result of this analysis for Bank D, the only InFocus bank at which this was possible. Type A savings behavior, for example, is strongly associated with ATM channel dominance – which stands to reason as this pattern is based on frequent withdrawals. Type B are strongly associated with branch transactions. While agents are reasonably well used by both A & B, accounts exhibiting Type C appear different – with almost no agent transactions. Typically, clients using agents show a high level of transactional activity.

Figure 13: Segmentation results by savings type and channel dominance for Bank D

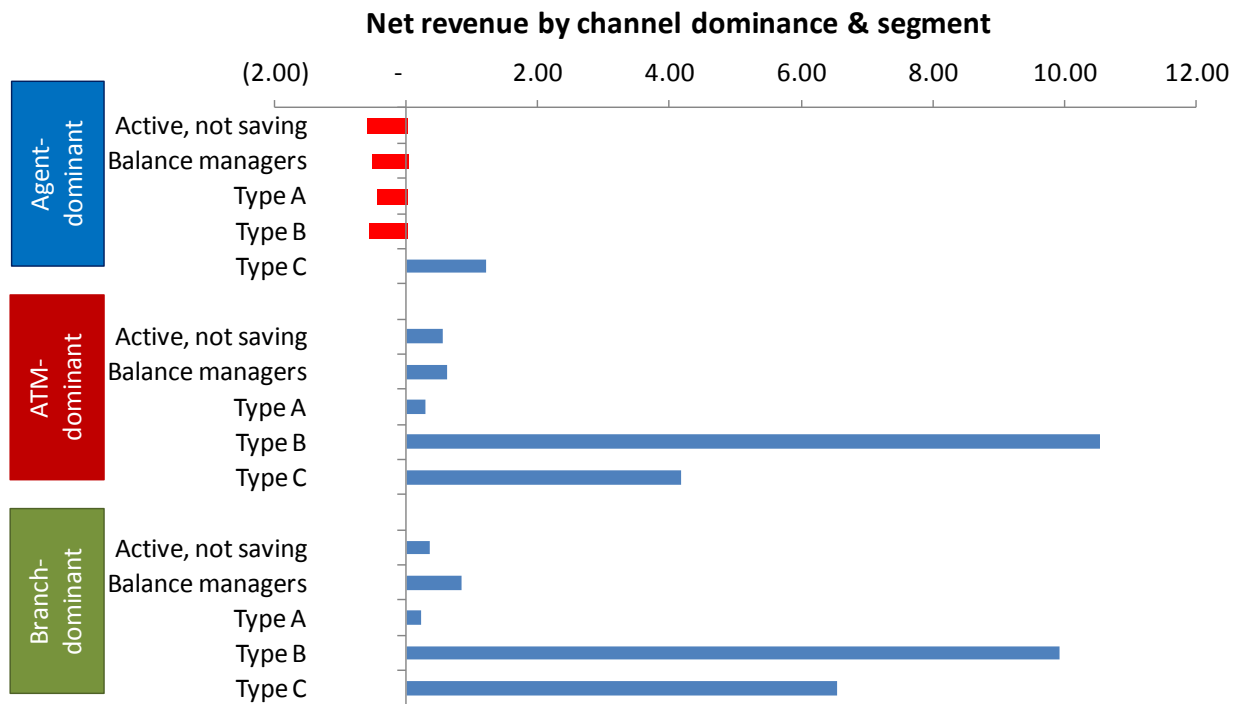


Channel Dominance: An account is said to display channel-dominance for a certain channel if the total number of transactions it conducts in that channel is more than 50% that which it conducts in any other available channel.

These overlaid lenses can be translated into implications for the account level business case shown in Figure 14. Most agent-dominant types, except for Type C, have negative net revenues, as opposed to both ATM and branch channel dominant types. This suggests that certainly a push for larger balances held in the bank, as well as the development of a channel that is even more cost-effective than the agent.



Figure 14: Business case by savings type and channel dominance



Includes assumed amortized customer acquisition costs & monthly account maintenance charge

Implications

This InFocus Note has illustrated the development of several methodologies through the In Focus project. It has now brought them together to show the value of a framework that truly combines demand and supply side perspectives on financial activity. The data were viewed through two new lenses - savings types and channel dominance - to understand both the business case for the bank and the broader demand side perspective of the client’s financial portfolio.

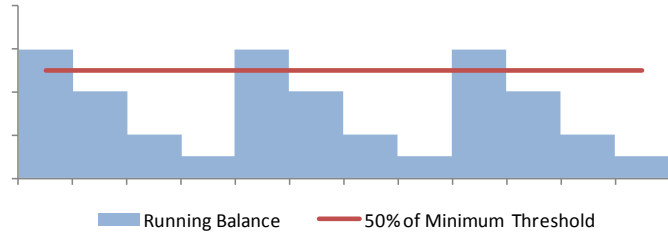
These initial results support the view that this methodology can be useful from both a diagnostic and tracking perspective. The diagnostic perspective supports both a strategic focus and a tactical one for the bank. Perhaps more importantly, the use of these lenses provides a tracking mechanism to monitor how clients behavior and channel activity is changing over time, and translate this back to how it affects both business case and client portfolios over time.



ANNEX A: Segmenting accounts into savings types

Type A

Balance definition: The balance every one of the quarters is less than 50% of the defined threshold minimum
Transaction definition: The ratio of debit:credit is at least 2:1



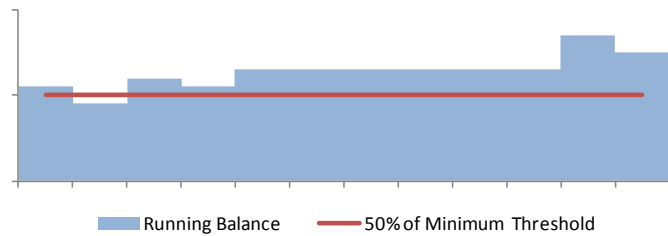
Type B

Balance definition: The average annual balance is greater than the first month balance
Transaction definition: The ratio of credit:debit is at least 6:1



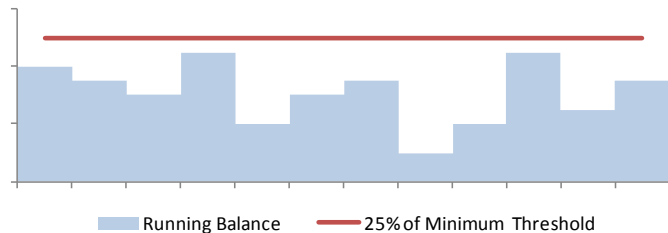
Type C

Balance definition: The balance for 3 consecutive quarters is greater than 50% of the defined threshold minimum
Transaction definition: None



Active but not savings

Balance definition: The balance of every one quarter is less than 25% of the defined threshold minimum
Transaction definition: The ratio of debits:credits is greater than 1/6 and less than 2





IN FOCUS NOTE #3

Balance managers

These accounts were the residual and therefore have no definition applied ex ante. However, they do have the commonality of being both active and having long stretches of balances but not enough to bring them into Type C

