

# The Economics of Agri-SME Lending in East Africa

**Dalberg**

*In partnership with:*

**CSAF** Council on Smallholder  
Agricultural Finance



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Smallfoundation



# Executive summary: Challenges and knowledge gaps in Agri-SME finance

- **Small and Medium Enterprises (SMEs) are important generators of employment and GDP in emerging economies, but chronic lack of access to credit limits their growth and impact.** Despite employing 50-80% of the workforce, less than half of the East African SMEs in most countries and size segments have access to formal bank finance. Lenders often find it difficult to assess the bankability of SMEs, given their less-formal business practices and small size. Local commercial banks serve larger enterprises, and microfinance models have emerged to address “micro” and small SMEs, but mainstream models to address the needs of the “missing middle” – which in various sectors and economies may be from \$20K or \$100K up to \$500K or \$1-2m in borrowing needs – have not yet emerged.
- **Agri-SMEs in East Africa face an acute need for finance tailored to their specific requirements.** While agriculture contributes to 25-30% of the GDP in the countries covered in this report (Kenya, Rwanda, Tanzania, Uganda, and Zambia), it receives only 2-7% of total bank credit. This is similar to the situation across Africa, where a recent Dalberg-KfW report estimated that there is an annual \$180Bn agri-SME lending gap, of which ~\$65Bn is for medium-sized value chain businesses<sup>1</sup> with revenue of \$200k - \$15m. Lenders find financing agricultural SMEs especially difficult due to external risks (such as price volatility, climate change, and government regulations), business risks (such as management capacity and inadequate financial records), product mis-alignment (caused by the seasonal nature of cashflows and lack of favoured types of collateral), and the expense involved in serving businesses in rural locations.
- **There is limited evidence available on the economics of financing SMEs – especially agricultural SMEs - making it difficult to identify where market interventions are required and how they should be calibrated to incentivize increased lending without distorting markets.** Quantitative assessments of lenders’ and investors’ financial performance are challenging to conduct because of data security and competition concerns, plus the complexity of standardizing and analysing the data. Absent information on financial institutions’ profitability, operating costs, and credit losses, calibrating effective support packages can be a guessing game.
- **This data gap is problematic, as development actors have prioritised blended finance as a tool for catalysing private investment in developing countries and could likely mobilize significant amounts of funding to close the agri-SME finance gap if it could be properly targeted.** The count of blended finance deals has grown from 35 in 2005 to at least 314 in 2017, representing \$100Bn in funding mobilized to date. With initiatives such as the EU-funded AgriFi blended finance facility and the US government’s new International Development Finance Corporation, the use of public and philanthropic resources to mobilise investment in emerging market businesses seems likely only to grow.

1) “Value-chain business” means aggregators, traders, processors, and other non-producers.  
Sources: “The State of Blended Finance 2018,” Convergence; “Africa Agricultural Finance Market Landscape, 2018, Dalberg and KfW.

# Executive summary: The market structure of agricultural lending in East Africa

- We have sought to close this information gap with two reports. A globally-focused report looking at social lenders (“Phase 1”), supported by USAID<sup>1</sup> and in collaboration with CSAF<sup>2</sup>, demonstrated that social lenders have pioneered previously-overlooked agri-SME markets but faced significant economic challenges along the way. Focusing on 9 social lenders, the study showed that loans to the “missing middle” of the SME market (defined there as financing needs between ~\$50k and \$1M) were unprofitable in many cases for these lenders – especially in the early years of their operations in a given market.
- This follow-up (“Phase 2”) seeks to analyse East African lending in greater depth to understand the variety of operating models and lending economics seen in a given region. To do this, we reached out to 29 lenders of various types across Kenya, Rwanda, Tanzania, Uganda, and Zambia, ultimately gathering quantitative data on lending economics or qualitative data on challenges and support needs from 17 local lenders and 2 additional global social lenders. The banks engaged represent an estimated 36% of bank agri-lending across Kenya, Tanzania, Uganda, and Zambia.
- We found three broad categories of actors currently serving financing needs of different agri-SME segments:
  1. **Global social lenders**, a group of impact-oriented actors that use capital from socially-minded investors to lend to agri-SME segments. These lenders tend to lend in hard currency to address financing needs in export oriented value chains and typically target SMEs with borrowing needs over \$200K. They often have substantial agricultural expertise, appropriate lending terms, and access to lower-cost, impact-focused capital, but have limited in-country presence to service loans cost-effectively.
  2. **The agriculture, SME, or agri-SME business units of local deposit-taking banks.** These business units typically provide a range of lending and other products to SMEs of various sizes, although the units in our study all focused on loans smaller than \$100K. Banks had varying levels of agricultural specialization; lenders with no agri-unit mostly considered only loans to producers as “agricultural loans” and served other types of agri-SMEs out of general SME or corporate units. Lenders with a strategic agriculture focus typically showed a broader understanding of the sector and offered tailored products to agri-SMEs across the value chain.
  3. **Other local non-banking financing institutions (NBFIs)**, a more diverse category of lenders with a local operational footprint (although international origin and funding base in all but one case in our sample) that are active in agriculture or SME finance. NBFIs in our study were generally smaller than banks or global social lenders, spanned the range of social and commercial interests, and tended to focus on specific product offerings (e.g., asset leasing or short-term credit lines) or on specific borrower segments (e.g., producer groups or certain value chains). They generally targeted borrowers with needs of between \$10K and \$100K, in rare cases lending up to \$500K.

# Executive summary: Qualitative and quantitative findings

- **Lenders providing data were able to lend below \$100k and above \$1.5M profitably.** The units of local banks we examined appeared to break even on loans of \$40-50k and for loans of \$100k earned modelled returns of 5-9%<sup>1</sup> – although this cannot be extrapolated above \$100k, and revenue estimates might be biased upwards by the small median loan size in our dataset<sup>2</sup>. Local NBFIs generally appeared to make a small loss on small and medium-sized loans, as high interest yields were offset by a high cost of funds and sub-scale operating platforms dragged down efficiency. Global social lenders, which focused on \$200k-\$1M<sup>3</sup> loans in our dataset, had a modelled breakeven of ~\$1.2M, although some break even closer to \$750k.
- **However, the economics of commercial bank agri-loans >\$100k remain opaque.** The bank BUs who were willing and able to provide data only focused on sub-\$100k loans, aimed at primary producers and producer organizations, and did not share corporate loan data. Local NBFIs also had 70% of loans falling in the \$10k - \$100k range. The limited quantitative sample of NBFIs loans above \$100k were largely unprofitable after accounting for their high cost of funds.
- **While we know there is bank agri-SME lending activity in the \$100k+ segment outside our dataset, we believe it is insufficient to meet demand and not always designed appropriately.** First, a review of CSAF borrower records reveals that fully 63% of borrowers in East Africa had no other source of finance when CSAF lenders began working with them. Second, interviews with social lender loan officers highlight a clear gap in bank activity in the \$100k-500k segment specifically. Finally, we see a trend among lenders without specific “agri-units” to accept a smaller range of collateral and to not offer specially-designed agri products. Overall, we infer from this information that bank lending to agri-SMEs requiring \$100k+ is limited, heavily collateralized, and not tailored to agri-SMEs’ seasonal cash flows and other needs.
- **In aggregate, lenders reported a range of different challenges in terms of growing their agri-SME lending portfolio, overall leading to an inability to expand the frontiers of agri-SME finance and fully serve agri-SMEs with mid-range borrowing needs:**
  - **Market challenges** include agriculture-specific risks such as price volatility and climate shocks; adverse government policies such as sudden export bans; and low borrower capacity, which makes building a bankable pipeline very expensive, especially for small loans. These risks drive some lenders to tightly limit agri-exposure, and other lenders to focus only on a narrow set of value chains and markets they know well.
  - **Strategic limitations** varied by lender type, but included limited physical presence in rural areas for NBFIs, and a limited domestic presence for global social lenders, both of which drive up operating costs and make small borrowers difficult to serve. Banks had fewer cost challenges, but faced significant pressure to limit exposure, in the form of tight risk caps and limited executive buy-in.
  - **Capacity gaps** included for some banks and NBFIs a lack of products with agri-specific terms and low ability to assess creditworthiness in the sector, and for global social lenders limited comfort outside well-known VCs like coffee and cocoa.

(1) A range is provided as not all banks were able to estimate operating costs with certainty. (2) The average revenue yield, including fees, was 22% for banks, but on a median loan size of \$30-35k; loans closer to \$100k may thus have lower yields on a percentage basis. (3) Interquartile range was c. \$180K to \$850K for social lenders.

# Executive summary: Takeaways and next steps

- **Overall, lenders showed a high degree of demand for new ways of supporting agri-SME lending.** Interest in the study was high and a large number of lenders (9 in Phase 1 and 20 in Phase 2<sup>1</sup>) participated in either a qualitative or quantitative form despite receiving no tangible benefits other than a customized benchmarking report. Interviews revealed that in part this may be because existing risk-sharing facilities are all similarly structured (i.e., 50% pari passu loan guarantees) and do not always meet lenders' operational and risk management needs – so lenders welcomed the chance to share knowledge that might bring new support mechanisms to market.
- **A multi-faceted support model, targeted at lenders with a strategic commitment to the agriculture sector and tailored through senior executive engagement and light-touch calibration, may be the best way forward.** When presented with a menu of support options broader than the traditional partial risk-share, each option was ranked highly by at least one lender – which is not surprising given the variety of financial and institutional challenges they face. **Recommended interventions include:**
  - **Risk-sharing mechanisms** that provide a first-loss cover rather than a partial pro rata share, to give lenders confidence that the full potential losses from entering new sectors will be covered.
  - **Borrower capacity-building** to increase the pipeline of bankable deals, thus reducing origination costs (a pain point for global social lenders especially) and reducing the perception of risk.
  - **Low-cost capital**, either as **concessional debt** to reduce the cost of funds (a major issue for local NBFIs) or as **innovation grants** to help sub-scale lenders with potentially catalytic business models overcome the challenges of high operating costs.
  - **Lender capacity-building** and senior management engagement to help banks in particular tailor products to the agri-SME market and overcome the perception of high risk that limits engagement. A different type of capacity-building could focus on exploring **local shared service provision** to reduce high costs associated with origination, due diligence<sup>2</sup>, monitoring loans and assessing collateral, and managing impaired loans.
- **Finally, an iterative approach to support provision may be most effective at catalysing agri-lending for local banks.** Despite months of engagement, data gaps still remain for local banks. However, while further quantitative analysis may help pin down exactly what type and degree of intervention is required to support a given type of lending, we believe the bigger obstacles to overcome are executive buy-in and agri-specific capability development. Rather than waiting for “perfect” data, we believe it is better to test and learn - piloting various forms of incentives and creating a “pull mechanism” for lenders to invest more in the agri-SME market - in close collaboration with motivated lenders, adjusting as needed.

(1) One Phase 1 lender has no East Africa activity, so the total dataset for this report is 28 lenders. (2) Keeping in mind that full outsourcing or sharing may not be possible given the fiduciary responsibilities of the lenders.

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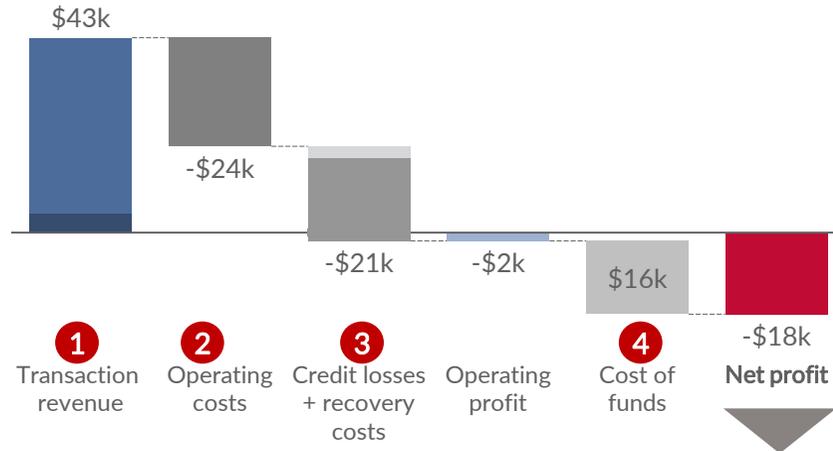
Key findings

Analysis of profitability drivers

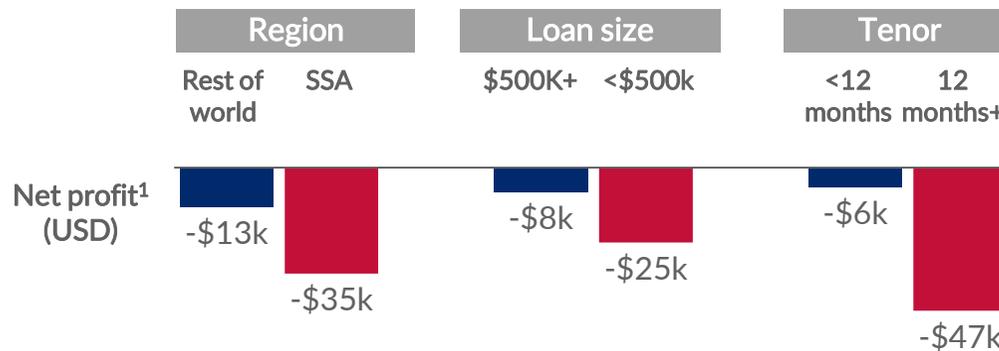
Appendix

# In Phase 1, we found variations in the performance of social lenders' agri-SME portfolios, with location being a key determinant of success

## Loan economics averages for all CSAF loans analysed in Phase One



## Loan economics averages for different segments



- Findings from Phase 1 indicated that CSAF loans lost on average ~\$18k per agri-SME loan (with the average loan size ~\$665,000)
- However, further analysis of the data demonstrated that the performance of agri-SME loans varied substantially by different segments; for example:
  - Excluding Sub-Saharan Africa, average annualized net profit was only -\$13k, while loans in SSA lost over \$35k on average
- Many CSAF members were relatively new to sub-Saharan Africa during the time period analysed (2010-2016), which may partially explain the weaker performance of their portfolios in the region (in addition to other factors described on the next page)

Phase 1 demonstrated that agri-SME lending economics differs sharply by region and suggested that lenders' operations may also play a significant role in performance

(1) Net profit = Interest + Fees - credit losses - Operating costs - Recovery costs - Currency losses - Cost of Funds  
 Source: "CSAF Financial Benchmarking: Final Learning Report," Council on Smallholder Agriculture Finance and USAID

# In Phase 2, we expanded our focus to global *and* local lender types, while narrowing our geographic focus to East Africa

- In Phase 1, social lenders' agri-SME loans performed below their global average in Sub-Saharan Africa by ~\$25k per annum
- Loans in Sub-Saharan Africa fared poorly relative to the rest of the world on three of the four profitability drivers (cost of funds was assumed to be equal across regions)

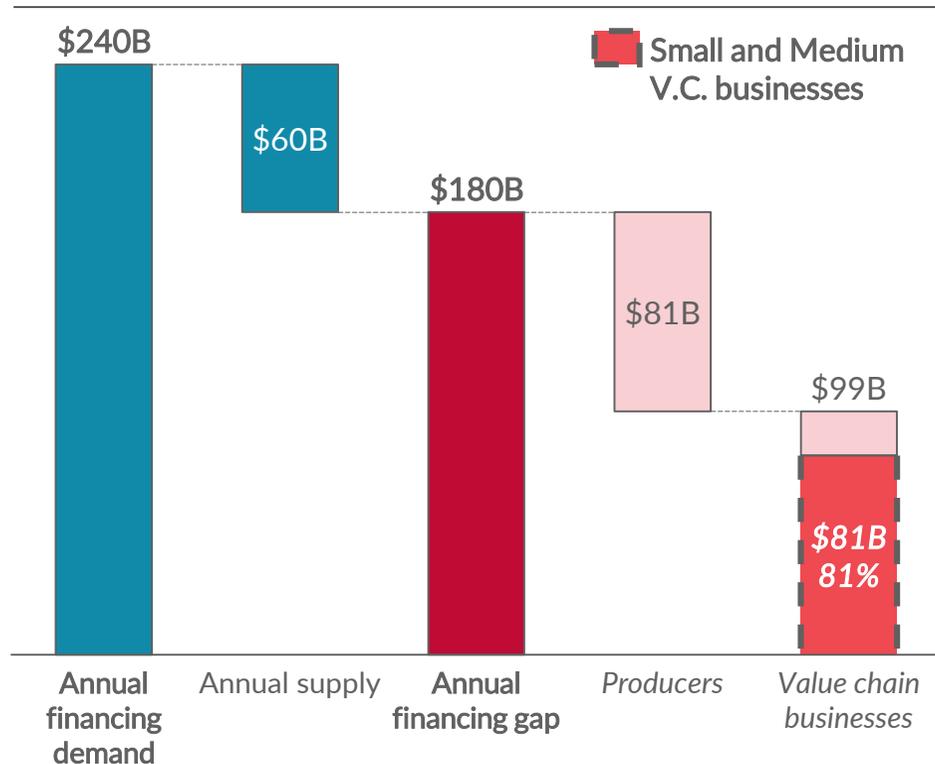
	Profitability driver	SSA performance compared to rest of world
1	Income: loan size	43% lower
1	Income: currency loss	12% higher
2	Operating costs	22% higher
3	Credit losses	205% higher

- **This phase (Phase 2)** continues the pioneering work of estimating loan-level profitability, with a focus on local lenders in East Africa (plus the East Africa loans from CSAF members collected in Phase 1), while also seeking to understand the macroeconomic, strategic, and operational challenges lenders face. Key areas of investigation include:

<b>Loan segments</b>	<ul style="list-style-type: none"> <li>• <i>Sizes</i>: What ticket sizes do local lenders cover, and does this fill the gap in the 'missing middle'?</li> <li>• <i>Borrower characteristics</i>: Which value chains and borrower types do various lenders focus on, and is there a gap?</li> </ul>
<b>Loan products</b>	<ul style="list-style-type: none"> <li>• <i>Types of financing</i>: Are the specific financing needs of agri-SMEs well-served by local lenders?</li> <li>• <i>Terms</i>: Are screening criteria, collateral requirements, and repayment terms of local lenders tailored to agribusiness needs? If not, how can this be improved?</li> </ul>
<b>Loan economics</b>	<ul style="list-style-type: none"> <li>• <i>Income, Cost to Serve, and Risk</i>: Which economic factors make lending difficult for various lenders, and which agri-SME segments are most affected by these factors? Does the variety of lender business models found in the market allow all segments to be served effectively, or are there cross-cutting gaps due to lending economics?</li> </ul>
<b>Solutions</b>	<ul style="list-style-type: none"> <li>• <i>Blended finance instruments</i>: Which lender and borrower support options could result in increased lending to agri-SMEs in the 'missing middle'?</li> </ul>

# \$180B in agricultural finance demand goes unmet in SSA annually; around \$80B of this is for small/medium value chain businesses

Est. annual gap in agricultural finance,  
Sub-Saharan Africa (USD, 2017)



- Dalberg’s analysis, supported by KfW, expanded the scope of previous studies to assess financing gaps across a greater range of the market in Sub-Saharan Africa
  - Prior research focussed on smallholder finance in three regions (Sub-Saharan Africa, Latin America, and South & Southeast Asia) excluded agribusinesses and emerging commercial farmers.
- This research has estimated a gap in agriculture financing of \$180B annually in Sub-Saharan Africa.
  - Working capital needs represented 66% of the shortfall for VC businesses
  - In addition to the \$81B gap for small and medium VC businesses, the types of small- and medium farmers (above subsistence level) supplying these agri-SME borrowers also face an estimated gap of \$25B per year

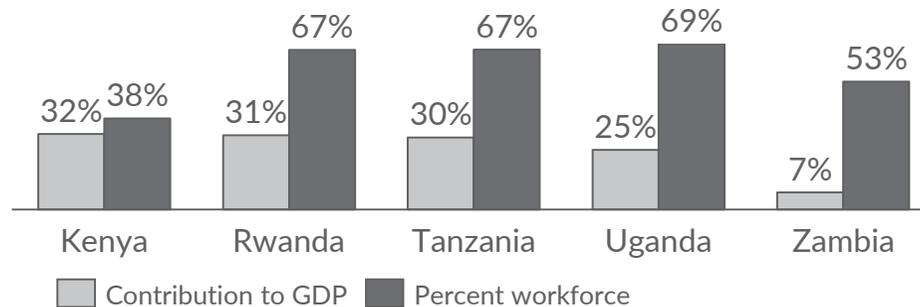
**Note: “Small” and “Medium” value chain businesses are most similar to the target financing market of this report**

“Small” enterprises in value-chain businesses (i.e. traders, processors, and other non-producers) were defined by financing needs of \$10k-\$100k and had a gap of \$15B; “Medium” enterprises by financing needs of \$250k-\$5m and revenues of \$200k - \$15m, and had a \$66B gap.

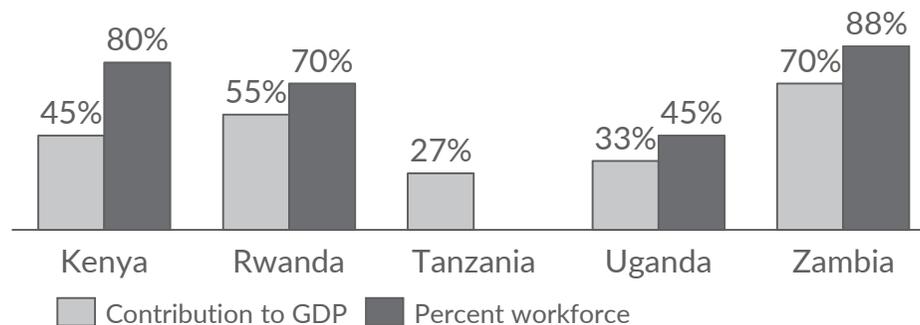
Note: This analysis excludes the financing needs of large-scale agribusinesses  
Source: Dalberg and KfW, “Africa Agricultural Finance Market Landscape”

# In East Africa, agriculture and SMEs make vital contributions to the economy and are a major source of employment

**Role of agriculture in select East African countries - 2017**



**Role of SMEs in select East African countries<sup>1</sup> - 2017**



*The effect of agricultural SMEs on low income workers is likely even larger than suggested by their GDP and employment contributions*

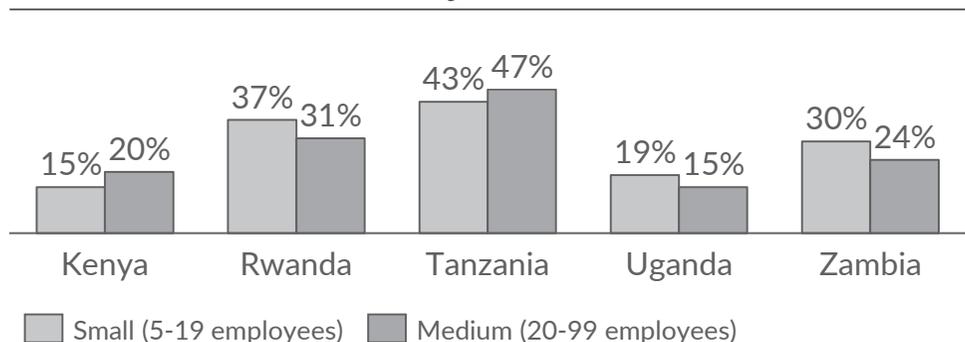
- Because three-quarters of the developing world lives in rural areas, agricultural growth can lead to a four fold-reduction in poverty, according to some studies
- SMEs are not only a source of existing jobs but are more likely to create jobs – 75% of all new jobs were created by SMEs in a sample of 85 countries with net job creation
- Members of low-income households are more likely to obtain employment from SMEs than from large enterprises because SMEs generally have lower skill requirements and are more labour intensive
- Agri-SMEs, in particular, can play an outsized role in poverty reduction by frequently serving as a source of off-farm labour in poor rural areas and helping smallholder farmers to obtain modern inputs and find markets for their produce

(1) includes all funding regardless of SME sector

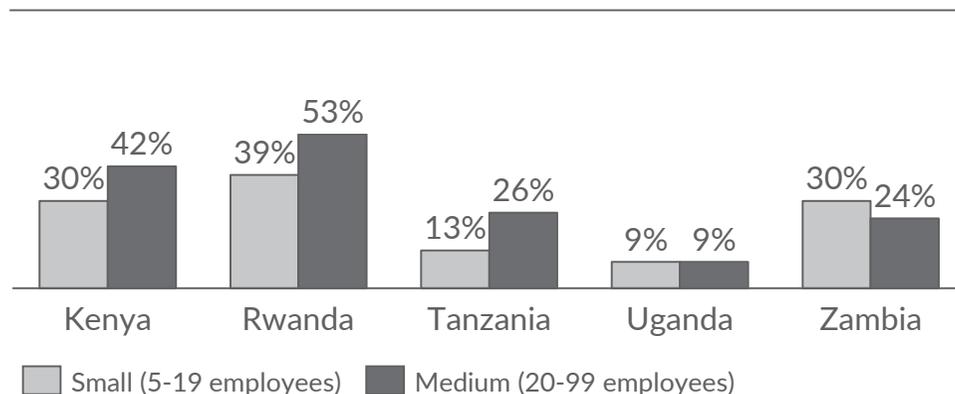
Source: African Review, "SMEs are Growing Kenya's Economy"; AGRA, "African Agriculture Status Report: 2017"; "Tanzania Small and Medium Enterprises," (<https://tanzaniainvest.com/sme>); The World Bank, World Development Indicators (<https://data.worldbank.org/indicator>); The World Bank, "Small vs. Young Firms across the World"; The World Bank, "World Development Report 2008"; Uganda Investment Authority, (<http://www.ugandainvest.go.ug/smes-driving-economy/>); "Zambia to Set Entrepreneurial Fund for SMEs," (<http://www.zambiainvest.com/economy/entrepreneurial-scheme-smes>)

# SMEs in East Africa report facing major constraints in access to adequate financing ...

Percent of firms identifying access to finance as a major constraint



Percent of firms with a bank loan/line of credit

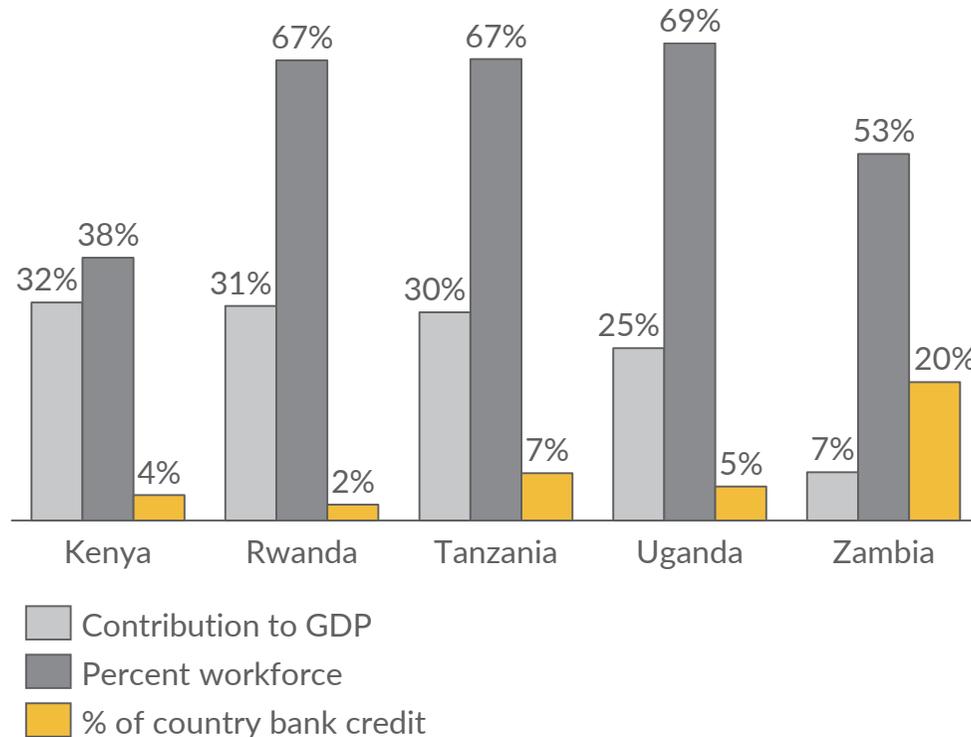


- Globally, constraints exist across SME financing ecosystems, such as:
  - *Demand:* SMEs are often informal, poorly managed, operate in risky environments, and lack access to collateral
  - *Supply:* Financial sectors in developing countries are small and banks have limited SME or agriculture experience
  - *Policies, laws, and support functions:* Contracts are difficult to enforce and little credit information is available
- Strict collateral requirements for all SMEs surveyed also prevented them from accessing the required finance – while collateral requirements were not correlated exactly with access, SMEs in some countries in East Africa reported requirements in excess of 200%, with a country average of 216%.

Note: Staff sizes for small and medium enterprises based on World Bank classifications; agri-SMEs are often on the smaller end of the spectrum if measured by employees

# ... which are typically even more pronounced for agri-SMEs, given commercial banks' low share of lending to agriculture

## Agriculture's economic role vs. share of bank lending (2017)



Agri-SMEs face major constraints as lenders find serving agricultural SMEs even more difficult than SMEs in other sectors, due to sector-specific factors that acutely impact agribusinesses, including:

- Unpredictable external risk factors such as weather shocks and crop disease
- High cost to serve in low population density areas with poor infrastructure
- Irregular cash flow cycles due to crop seasonality
- Low understanding of agricultural enterprises and risks
- Weak enabling environment with inadequate institutional coverage of property rights

Little research has been conducted to assess the economics of lending to agri-SMEs prior to the Phase 1 [CSAF financial benchmarking report](#) and this follow-up report

This study builds on the prior analysis to determine economics of lending to agri-SMEs in East Africa by surveying a spectrum of local and global lenders

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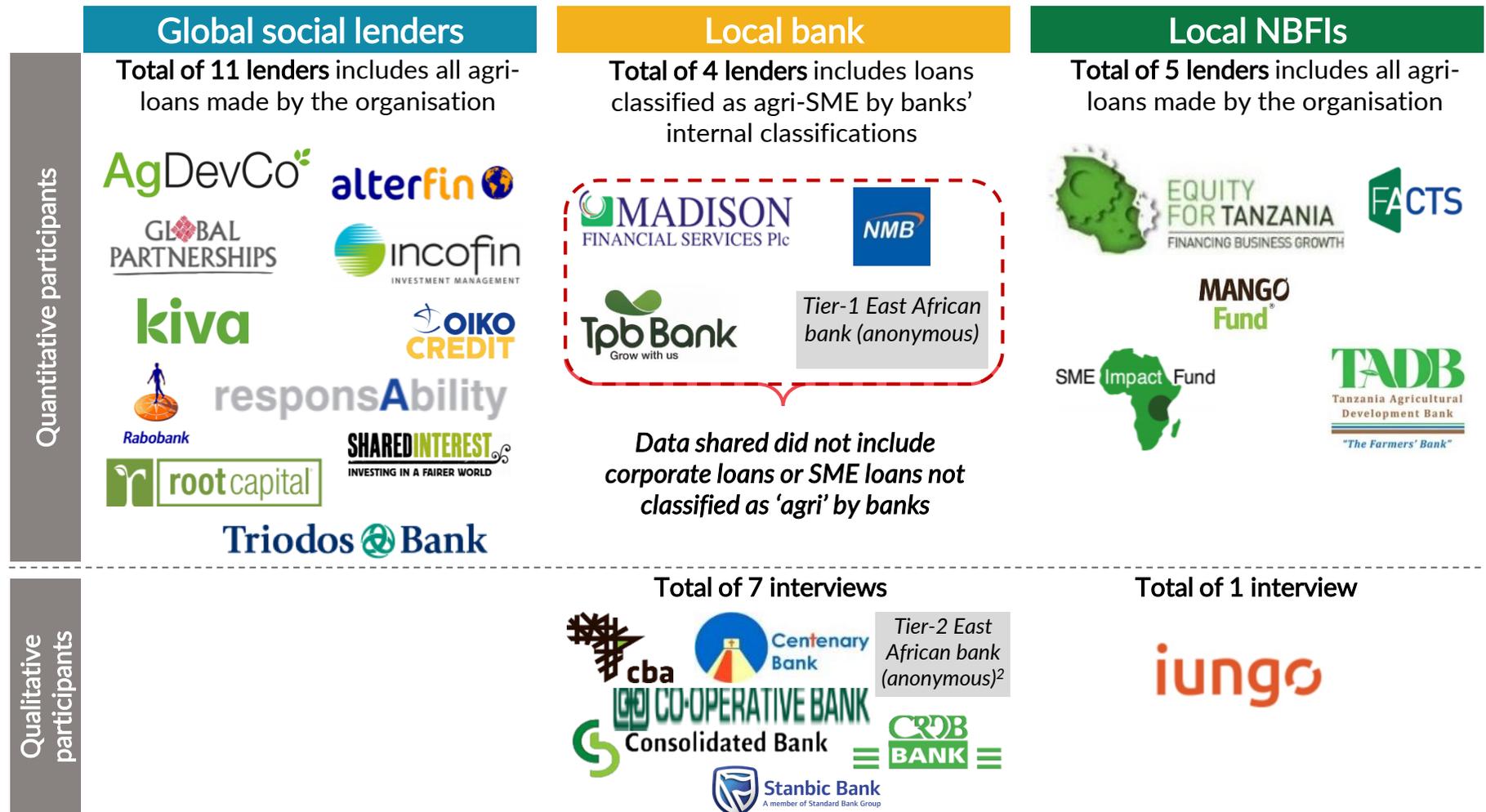
# Three types of lenders with distinct characteristics emerged from our landscape of East African agri-SME lending

	Global social lenders	Local banks	Local non-banking financial institutions (NBFIs)
Lender overview	<ul style="list-style-type: none"> <li>Internationally-based lenders that are impact-oriented</li> <li>Our dataset consists of:                             <ul style="list-style-type: none"> <li>Council of Smallholder Agriculture Financing (CSAF) members (10)</li> <li>Other global social lender (1)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Locally-based commercial, deposit-taking lenders</li> <li>Our dataset consists of:                             <ul style="list-style-type: none"> <li>Tier-1 large-sized banks (2)</li> <li>Tier-2 mid-sized banks (1)</li> <li>Small-sized banks (1)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Locally-based lenders that are not deposit-taking (often with international parent / affiliate / investors); most in operation less than five years</li> <li>Our dataset consists of:                             <ul style="list-style-type: none"> <li>Commercial lenders (2)</li> <li>Impact-oriented lenders (2)</li> <li>Development finance institution (1)</li> </ul> </li> </ul>
Field presence	<ul style="list-style-type: none"> <li>Typically loan origination and monitoring in country with back office operations in Europe or North America</li> </ul>	<ul style="list-style-type: none"> <li>Large local operations through a branch network system</li> </ul>	<ul style="list-style-type: none"> <li>Scale of domestic operations is in between that of social lenders and local banks</li> </ul>
Product types <sup>2</sup>	<ul style="list-style-type: none"> <li>Asset finance: 18%</li> <li>Working capital 82%</li> <li>Mostly short term (~9 to 18 months)</li> </ul>	<ul style="list-style-type: none"> <li>Asset finance<sup>1</sup>: 38%</li> <li>Working capital<sup>1</sup>: 62%</li> <li>Mostly medium to long term (~12 to 36 months)</li> </ul>	<ul style="list-style-type: none"> <li>Asset finance: 38%</li> <li>Working capital: 62%</li> <li>Mostly long term (~24 and 36 months)</li> </ul>
Borrower types <sup>2</sup>	<ul style="list-style-type: none"> <li>Almost three-quarters primary production (e.g., aggregated smallholders) and processors</li> <li>More commonly in tight value chains</li> </ul>	<ul style="list-style-type: none"> <li>Banks do not typically gather data on borrower type or role in the VC, leading to information gaps</li> <li>Predominantly loose value chains</li> </ul>	<ul style="list-style-type: none"> <li>Evenly split between primary production and processing, with less than a tenth trading</li> <li>More commonly loose value chains</li> </ul>

Note: definitions of all categorisations (product and borrower types) can be found in the Appendix

(1) Data is for local banks' agri or SME units; corporate business units may offer other products and are not included in our data set (2) Figures are based on the average of the totals for each lender in the lender type, not an average of all the loans across lenders in the lender type  
Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

# Quantitative analysis in this report is based on data provided by 20 institutions; it covered only a portion of local banks' agri-portfolios



Over the course of Phases 1 and 2, we collected data on 3,959 loans and a loan volume of \$2.7B globally; in East Africa, we collected data on 876 loans and a loan volume of \$327M

Note: (1) Figures for banks' overall and agricultural loans and advances were calculated based on financial statements, where possible; otherwise, figures were calculated based on numbers provided in interviews or based on analysis of data provided by the bank. Numbers for banks not engaged calculated through central bank numbers.

# The economics of bank lending above \$100K remain unclear; we have developed a better understanding of activity in other segments

Level of lending activity in East Africa and our understanding of the economics, by size and lender type

Loan size	Global social lenders	Local banks	NBFIs
\$500k+	Activity: High	Activity: Suspected Moderate	Activity: Not a focus
	Economics: Good sample	Economics: Not known	Economics: N/A
\$100-500k	Activity: High	Activity: Suspected Low	Activity: Suspected Low
	Economics: Good sample	Economics: Not known	Economics: Limited Sample
<\$100k	Activity: Low	Activity: High	Activity: High
	Economics: Good sample	Economics: Limited sample	Economics: Good sample

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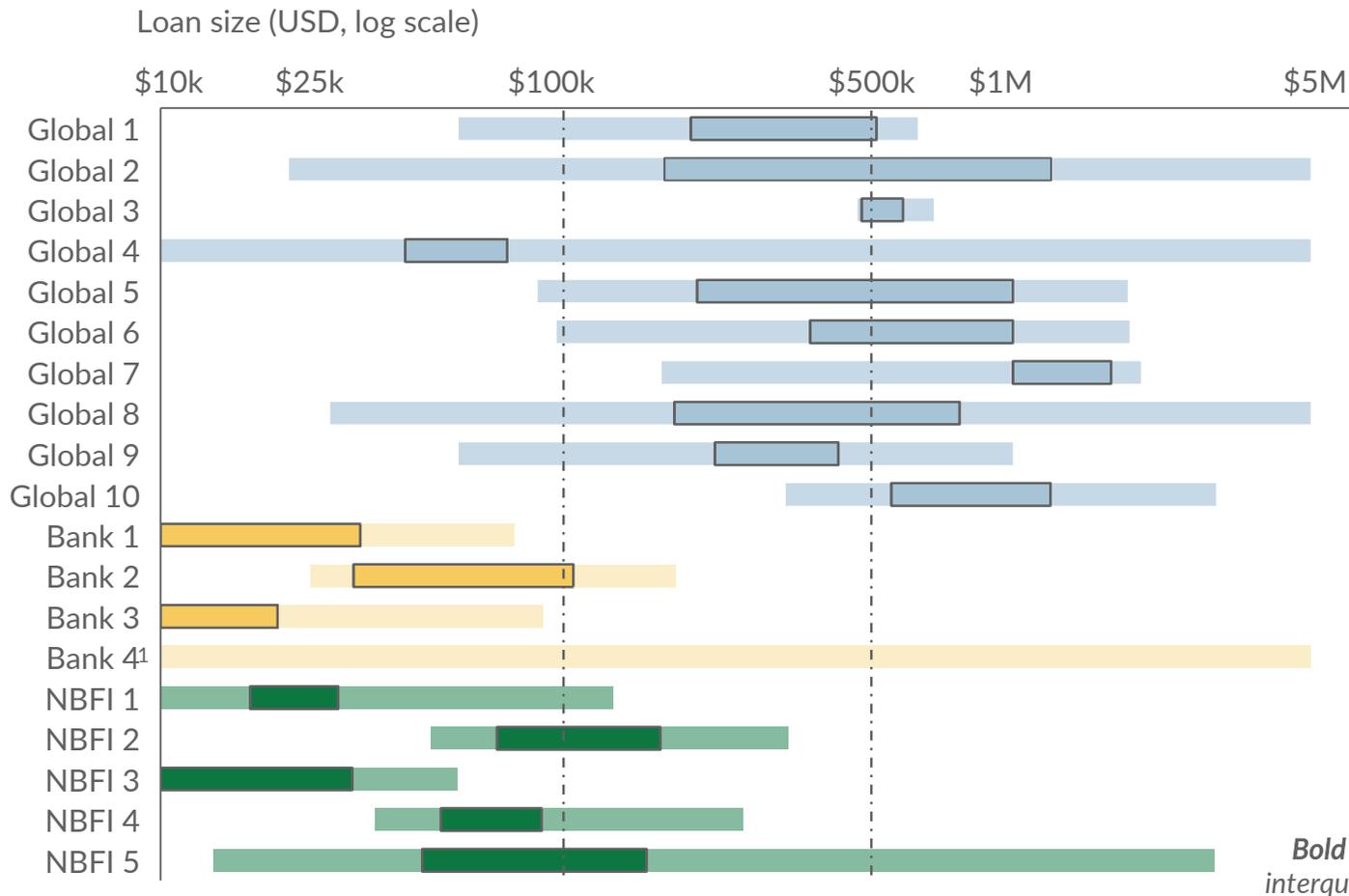
Lender needs and implications

Analysis of profitability drivers

Appendix

# Local banks shared their “Agri” portfolios, which were mainly small-ticket, non-corporate loans; NBFIs and global lenders shared full portfolios

## Distribution of loan sizes by lender



- Local banks in our data set shared information on loans with ticket sizes typically of \$250k and below (though one bank extended loans of \$5M or above)

- Global social lenders and local NBFIs in our data set shared the full range of their portfolios, which showed concentration in the \$250k-\$3M and \$30k-\$200k loan size ranges, respectively

**Note:** bank loans to agri-SMEs not classified by the bank as “agri” were not included in our data set; it is likely that banks made loans at higher ticket sizes through their SME or commercial units but did not tag them as agri

Further research is required to understand the economics of larger agri-loans made by non-agri or SME units in local banks

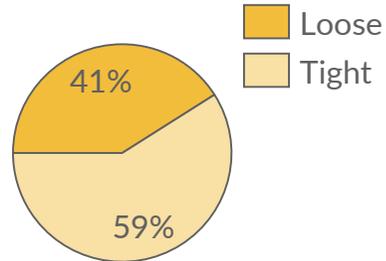
(1) Bank 4 provided estimates and averages on its lending portfolio, rather than a loan by loan breakdown. As a result, the interquartile range of loans is not available  
 Note: To preserve anonymity, the number used for each lender varies from page to page  
 Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

# Based on the data shared, the lenders focused mainly on working capital loans to SMEs in primary production and processing

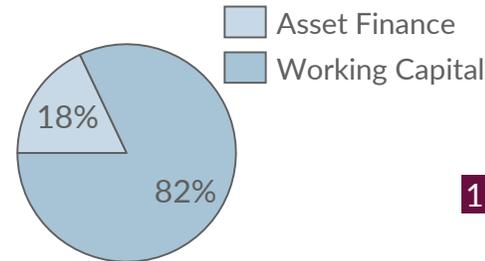
## Portfolio characteristics

**Global social lenders**  
(10 CSAF members; 1 non-CSAF member)

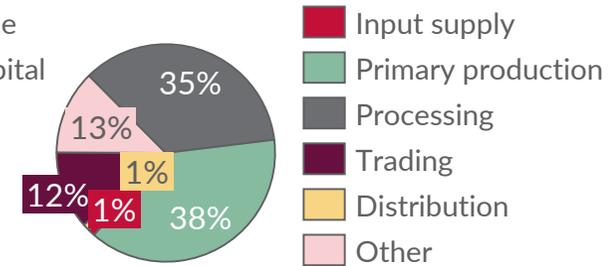
Value chain type



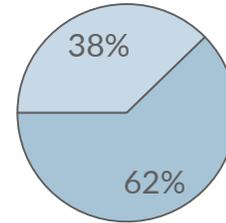
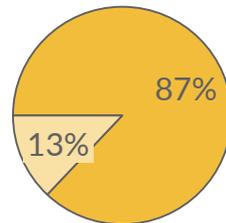
Product type



Borrower value chain position

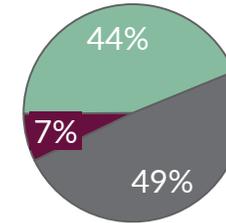
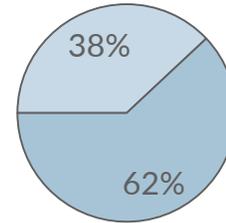
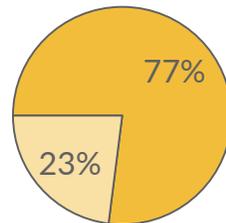


**Local banks (2 TZ; 1 KE; 1 ZB)**



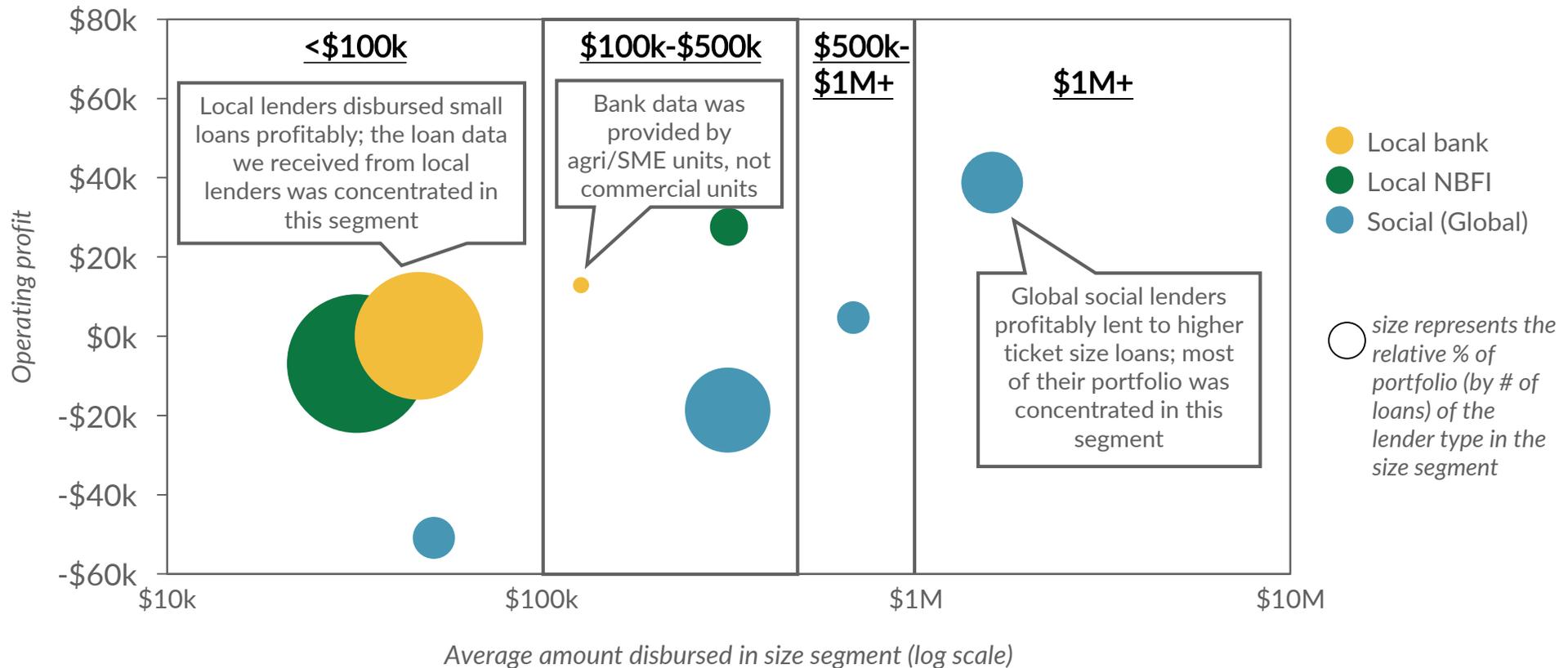
Insufficient data provided by local banks on borrower value chain position

**Local NBFIs (3TZ; 1 KE; 1 UG)**



# In our data set, the profitability (*excluding cost of funds*) and portfolio size of each lender type varied by loan size

## East African lender sample pre-cost of funds profitability comparison<sup>1</sup> (2013-17, n=19)



**Local lenders served small ticket loans profitably, while global lenders' became profitable at larger ticket sizes**

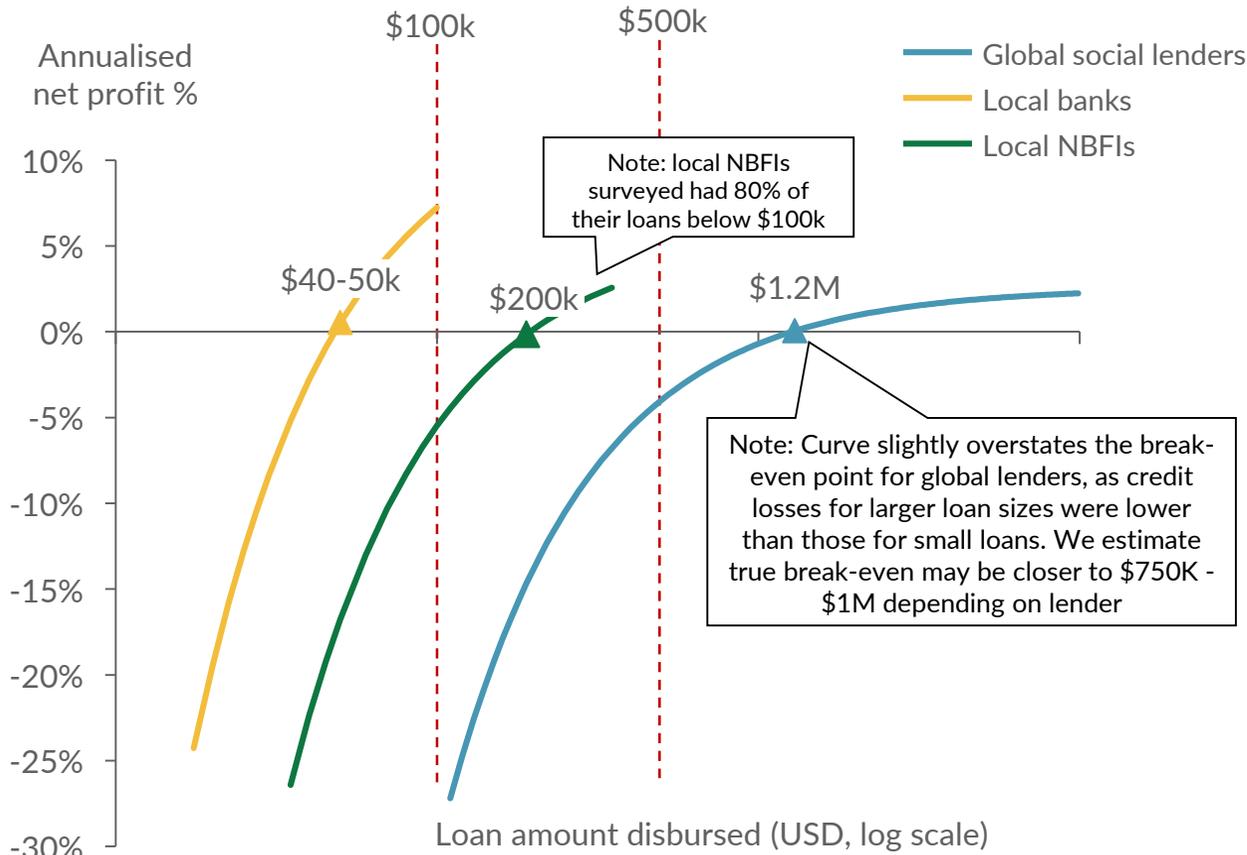
(1) Sample set includes Phase 1 CSAF participants and Phase 2 lenders that provided quantitative data for benchmarking study

(2) Average disbursed amount and average operating profit by for each lender within each lender type between 2013 and 2017 aggregated into four loan size segments

Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Phase 1 CSAF participants, Dalberg analysis

# NBFIs and social lenders were not profitable (*after cost of funds*) in the \$100 - \$500K loan size range; bank economics are unclear

## Evolution of expected net profitability by loan size and lender type



- Participating local banks provided data, for the most part, for loans under \$100k. The higher-scale, efficient operating model in this segment may not be representative of banks' efficiency at larger ticket sizes
- Participating local NBFIs had only ~20% of their portfolio in the \$100-\$250k size range and very little above \$250k; we therefore do not believe their economic model is applicable beyond ~\$250k, at least at this stage of their development
- Loans by global social lenders vary by size; but half of them are more than \$500k. Although they were loss-making on average, it was the only lender category surveyed to lend over \$500k. Many lenders in this category break even in East Africa at around \$750K, although the average breakeven is higher

The Profitability Drivers section (Slides 41-65) contains more details on lender profitability at different sizes and the specific performance on various loan economics components

Note: Calculation use average economics for lender categories on their portfolios between 2015-17 as most lenders' portfolios were in early stages in the sector. In addition, it does not account for variations in profitability parameters for different loan size segments. These variations impact in particular local NBFIs' loans above 100k, which are extended by NBFIs with a higher cost of funds than the NBFIs servicing smaller loans. Because the breakeven point shown above is based on the overall NBFIs average, it is at a higher loan size than the breakeven point for NBFIs servicing smaller loans. For bank loans, there is some uncertainty over the true operating cost burden, so the actual break-even may vary up or down by \$5-10k from what is shown here.

# While the profitability curves imply that local lenders have an advantage in serving agri-SMEs, this data must be put in context

## Current state: Key differences between local and global lenders

### Differences in risk appetite

- Local banks' profitability may be a reflection of who they currently serve –with strict underwriting standards and collateral requirements that exclude all but the top level of SME borrowers
- While local NBFIs can grow to serve borrowers needing up to \$250-500k in the next few years, their small size means they may not have the capacity in the medium term to provide loans over \$500k that larger SMEs need

### Differences in geographic coverage

- Local banks and local NBFIs are generally limited to one country each; while major banks have cross-region presences, their agri units are run separately in each
- In contrast, the typical social lender in the dataset has borrowers in 11 countries in Africa

### Differences in product and service offerings

- While product customization is improving (see *Slide 28*) at local banks and NBFIs, global social lenders bring a set of products more tailored to agri-SME needs – but this product flexibility imposes costs on social lenders through lower income and higher back office costs
- In addition, interviews highlight that speed of service – critical given the seasonality of agri-SME borrowing needs – is better social lenders than local banks, and this service level likely also has cost implications

## Implications

- Structural differences in the attractiveness of agriculture vs lending to industry and domestic government may naturally impose an upper limit on bank engagement with the sector
- While local NBFIs offer promising solutions, their small scale may mean a long path to full coverage of the sector, and significant coordination costs for donors to achieve pan-Africa coverage
- Overall, impact trade-offs between low-cost and high-customization / high-service models need to be understood; a successful agri-SME finance market likely benefits from both specialized global lenders and diversified local commercial lenders, with specialized local lenders also filling an important niche for smaller loans

While recognizing the cost advantages of local lenders, donors should encourage competition and participation in agri-SME lending by lenders of all types, keeping in mind the short-term limitations of each lender archetype and creating the enabling conditions for the market to mature over time

# Analysis of each of the four profitability drivers highlight variations observed by lender category and loan size segments

## Key findings from analysis of profitability drivers

<b>Income</b> <i>(interest and fees)</i>	<ul style="list-style-type: none"><li>• <b>Local lenders had higher interest yields</b> even after adjusting for foreign exchange risk, suggesting further underlying variations in products and borrowers</li><li>• <b>Headline interest rates</b> showed a decreasing trend with an increase in loan sizes for local currency loans</li><li>• <b>0 out of 8*</b> local lenders surveyed ranked low income as a barrier to growth in agri-lending, while it was a key hurdle for global lenders to making smaller loans<ul style="list-style-type: none"><li>– Lenders' responses may be a result of their ability to charge higher interest rates on loans &lt;\$100k, which may not apply at higher ticket sizes</li></ul></li></ul>
<b>Operating costs</b> <i>(direct and indirect)</i>	<ul style="list-style-type: none"><li>• Operating costs were higher for global lenders than the <b>local lenders analysed, who were more cost-effective</b> for smaller ticket loans</li><li>• In addition, non-bank lenders in our sample showed steadily <b>improving cost efficiency over time</b> as several of the lenders are in early stages of operations in the sector</li><li>• Global social lenders may <b>reduce the operating deficit</b> for smaller-ticket loans through efficiency gains</li><li>• <b>6 out of 8*</b> local lenders recognised high costs to serve as the 2<sup>nd</sup> challenge to the growth of agri-lending activity, especially those that lacked a strong presence in rural areas</li></ul>
<b>Credit losses</b>	<ul style="list-style-type: none"><li>• <b>Local banks realized lower credit losses</b>, and losses were even lower for lenders with dedicated agri units</li><li>• <b>8 out of 8*</b> local lenders surveyed ranked 'high risk' as the <b>biggest hurdle</b> to lending in the sector despite existing risk mitigation mechanisms,<ul style="list-style-type: none"><li>– Some lenders' data vis-à-vis risk ranking and interviews indicate that risk perception is higher than actual loss experience, although low loss experience may also be a function of current strict collateral requirements and lending standards</li></ul></li></ul>
<b>Cost of funds</b>	<ul style="list-style-type: none"><li>• Significant <b>variations in funding mixes</b> among the lenders surveyed result in large differences in their cost of funds</li></ul>

\* Lenders were asked to rank 1-3 low income, high costs, or high risk as the biggest barrier to growing their agri-SME lending portfolio

# Drivers of low profitability (or unprofitability) for NBFIs and global lenders varied; bank loans were profitable on average in our data

	Local banks		Local NBFIs		Global lenders	
	(<\$100k)	(\$100k+)	(<\$100k)	(\$100-500k)	(\$100-500k)	(\$500k+)
<b>1</b> <b>Low income</b> <i>(lower interest and fee revenue)</i>		<b>Unknown</b>		<input checked="" type="checkbox"/> Low interest and fee yields		
<b>2</b> <b>High cost</b> <i>(higher operating costs)</i>					<input checked="" type="checkbox"/> Higher operating cost structure	
<b>3</b> <b>High risk</b> <i>(more frequent and larger credit losses or provisions)</i>			<input checked="" type="checkbox"/> Higher credit loss experience		<input checked="" type="checkbox"/> Higher credit loss experience	
<b>4</b> <b>High cost of funds</b> <i>(higher interest or returns)</i>			<input checked="" type="checkbox"/> High cost of funds			

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# We believe lender constraints drive agri-SME lending gaps across size ranges, both in the scale of lending and in product design

## Insights from our qualitative research on lending gaps

- 1** For the most part, banks participating in our quantitative analysis did not serve SMEs through their agri-units with loans above \$100k; these units instead focused their lending on the sub-\$100k segment
  - Just 3% of bank loans in our dataset were above \$100k
  - However, we are aware of exceptions – including two top tier banks providing a significant share of their agri-lending to the \$100k+ segment<sup>1</sup>
  - As we could not obtain sufficient data on bank lending of more than \$100k, the economics of bank loans in this size segment is not known
- 2** Lending through agri-units likely provides greater value to agri-SMEs than lending through non-agri focused units; in addition, lenders with agri-units seem to be more successful at growing agri-lending than those without
  - Banks with agri-units are more likely to offer custom products and a greater variety of collateral options to agri-SMEs, as interviews conducted with local lenders revealed
  - Agri-SMEs' special financing needs are further indicated by research Dalberg conducted on the additionality of loans provided by CSAF members; banks with agri-units, like social lenders, are more likely to design products and terms that meet these needs
  - In addition, lenders with agri-units seem to be lending increasing amounts to the sector; 6 of 6 local banks and NBFIs with agri-units saw their agri-lending portfolios increase in recent years, compared to 2 of 6 local lenders with no unit
- 3** All lenders report challenges fully serving the agri-SME market, and banks face additional strategic/operational challenges
  - Despite evidence of profitability when targeting certain segments, all lenders highlighted strategic, market, and institutional capacity challenges in expanding agri-lending across size segments
  - In addition, research Dalberg conducted on the additionality of loans provided by social lenders which are members of CSAF<sup>2</sup> revealed that 65% of CSAF borrowers had no other sources of finance when CSAF first began serving them
  - Banks also reported that securing executive buy-in for agri-lending is a major challenge, especially for larger loans, partly due to the risk perception of the agriculture sector, and risk exposure limits can also constrain their growth

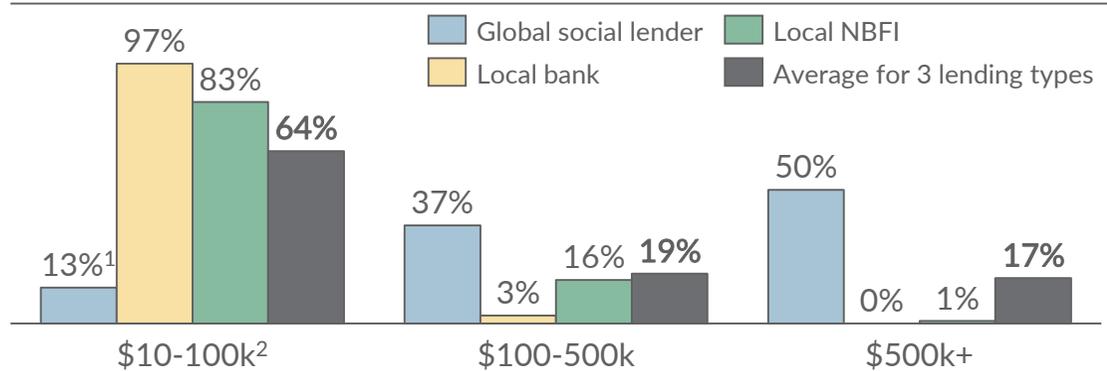
1) Of these two banks, one is included in our database. The other bank did not provide enough data for us to analyse for this report, but did provide data on the loan sizes of its agri-SME portfolio

2.) For full details, see CSAF and Dalberg "Research on CSAF Lenders Additionality in East Africa"

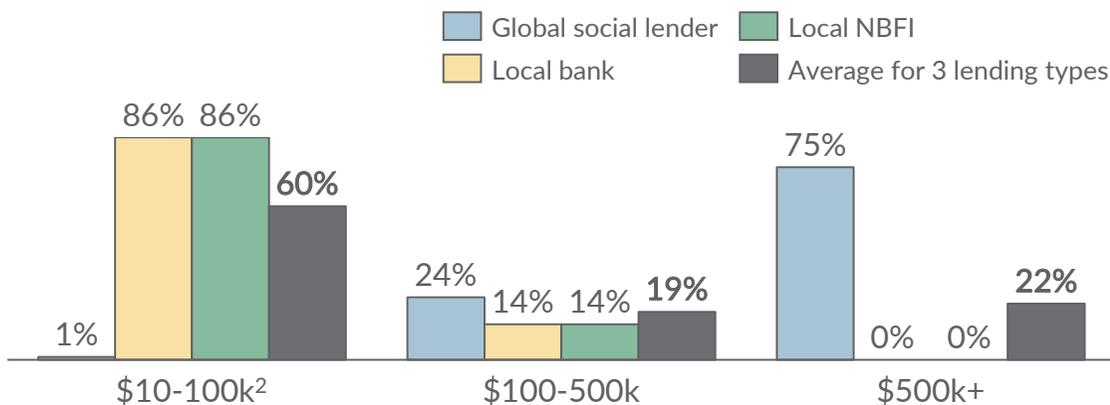
Source: Interviews with lenders; Dalberg analysis

# For the most part, banks participating in our quant. analysis did not extend loans more than \$100k through their agri-units

### Average portfolio split by size segment (# of loans)



### Average portfolio split by size segment (\$)



- The charts depict the average of lenders' portfolio split by size segment of the loan data received (based on the volume and value of loans disbursed as a percent of total number and value of loans in each segment)
- A vast majority of the loans of the participating local banks fell in the under \$100k segment
- Loans by local banks through their commercial units are not included in our data set

(1) Predominantly served by one lender in the data set (without which the average is ~6%); (2) loans below \$25k were excluded from a majority of the global social lenders; some may make loans in the size segment that aren't captured

# Local lenders with agri-units likely provide more tailored products and flexible terms to agri-SMEs than those without ag focused units

## Ag-specific products or terms offered by local lenders (n=8<sup>1</sup>)

	Special ag products/terms?	Description of special products or terms (non-comprehensive)
<b>Lenders WITHOUT agri-units (banks and NBFIs)</b>		
Lender 1	✗	
Lender 2	✗	
Lender 3	✓	Offer same products to ag and non-ag businesses but seasonal repayment terms
<b>Lenders WITH agri-units (banks and NBFIs)</b>		
Lender 4	✓	Seasonal repayment; collateralization through anchor companies
Lender 5	✓	Farm input loans; dairy loans, asset finance for tea processing equipment
Lender 6	✓	Input finance; warehouse receipt finance; outgrower loan schemes
Lender 7	✓	Loans for ag tools and traders working with pastoralists; chattel as collateral
Lender 8	✓	Outgrower loan schemes; weather related insurance; value chain based products

## Types of collateral requirements by local lenders (n=9<sup>1</sup>, yellow indicates collateral form accepted)

← More stringent ————— More lenient →

	Liquid assets/ employer guarantee	Land & specific physical assets	Receivables/ all assets debenture	Informal collateral
<b>Lenders WITHOUT agri-units (banks and NBFIs)</b>				
Lender 1	Yellow	Yellow		
Lender 2		Yellow		
Lender 3		Yellow		Yellow
Lender 4				Yellow
<b>Lenders WITH agri-units (banks and NBFIs)</b>				
Lender 5	Yellow	Yellow	Yellow	Yellow
Lender 6	Yellow	Yellow		Yellow
Lender 7	Yellow		Yellow	
Lender 8		Yellow	Yellow	
Lender 9		Yellow	Yellow	Yellow

Some banks and NBFIs with agri-units have begun innovating to meet agri-SME needs but those without such units mainly offer generic products that do not address agri-SMEs' special financing needs

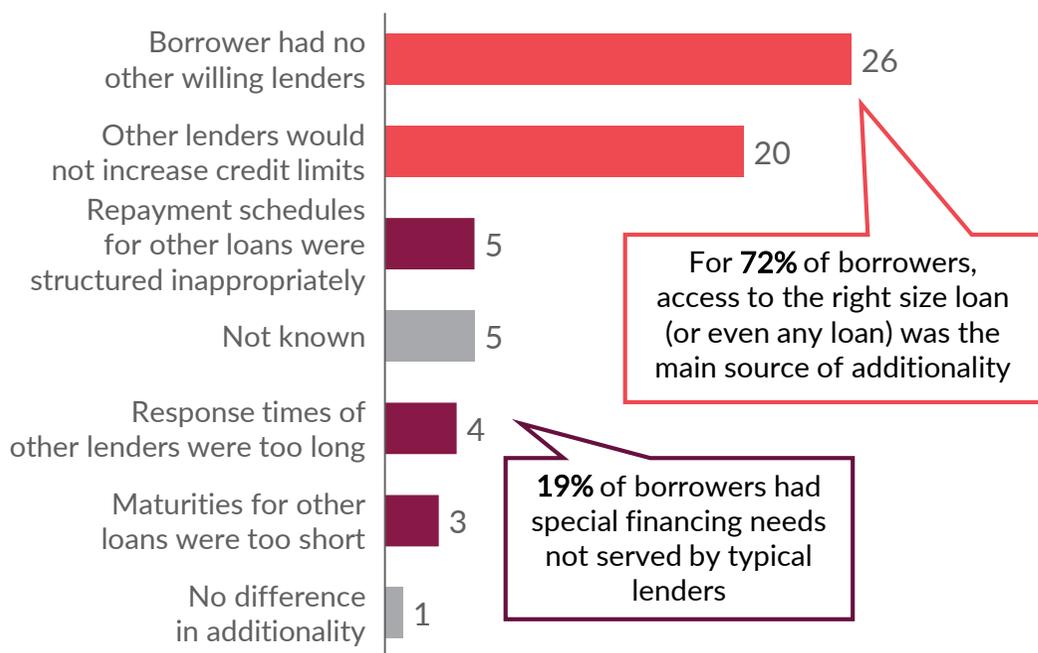
(1): Lenders listed based on data availability (thus, the different number of lenders listed in the tables); numbers provided for lenders is inconsistent across tables to preserve anonymity.

Source: Qualitative interviews with lenders and documents provided by lenders

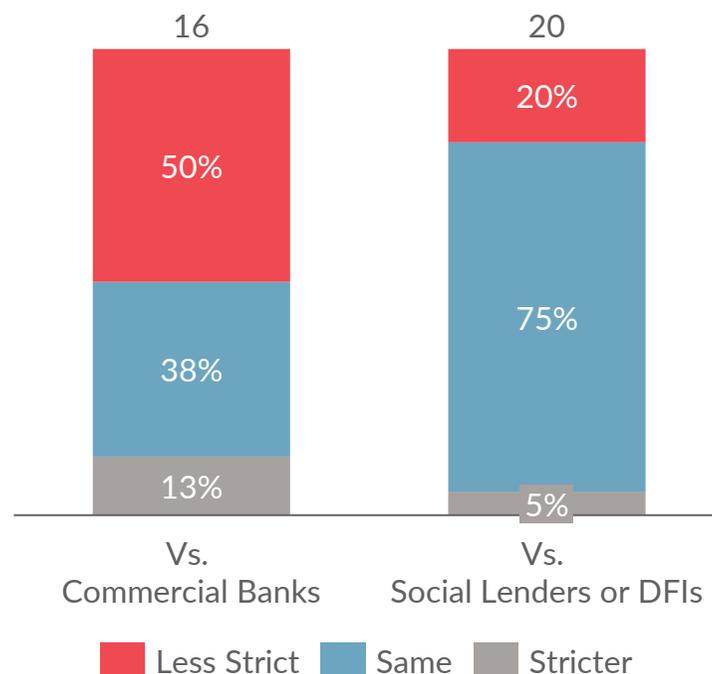
# Additional Dalberg research in East Africa reinforced that both access and product design are issues facing agri-SMEs looking for finance

For an October 2018 study on “CSAF Lenders’ Additionality in East Africa,” Dalberg gathered data on 149 borrowers and their CSAF and non-CSAF sources of finance. The primary finding was that **63% of CSAF borrowers had no other source of finance over \$50K when a CSAF member began serving them.** Additional findings about the additionality provided by the social lenders in CSAF include:

**CSAF lenders’ characterization of the additionality of their first loans to various borrowers<sup>1</sup> (n=64)**



**CSAF lenders’ comparison of security requirements for their first loan vs other lenders’ loans<sup>2</sup> (n=36)**



**Social lenders highlighted lack of access to other sources as a major challenge for their borrowers; in addition, social lenders’ collateral requirements were less strict than those of banks about half the time**

(1) The sample is a mixture of borrowers that are served by other lenders and by CSAF lenders only. 2) Question only relevant for the 39 borrowers who had a loan from another lender; excludes 3 with no data. Source: CSAF and Dalberg “Research on CSAF Lenders Additionality in East Africa”

# All lenders report challenges in serving the agri-SME market; banks face additional challenges related to executive buy-in and risk limits

## Frequent challenges to scaling agri-SME lending, by lender type

	Local banks	Local NBFIs	Global social lenders
<b>A</b> Market challenges	<input checked="" type="checkbox"/> Inherent agriculture sector risks (e.g., price volatility and climate change)		
	<input checked="" type="checkbox"/> Unpredictable and/or unsupportive government interventions <sup>1</sup> (e.g., commodity export bans, interest rate caps)		
	<input checked="" type="checkbox"/> Low bankability of agri-SMEs (due to, e.g., informal management processes and systems)		
<b>B</b> Strategic limitations	<input checked="" type="checkbox"/> Low executive buy-in of profitability of agri-lending	<input checked="" type="checkbox"/> Limited physical presence in rural areas	<input checked="" type="checkbox"/> Limited local presence in countries of operation
	<input checked="" type="checkbox"/> Tight risk limits <sup>2</sup> on agriculture exposure		
<b>C</b> Capability gaps	<input checked="" type="checkbox"/> Low agri-specific credit assessment capabilities (especially for lenders without agri-units)		<input checked="" type="checkbox"/> Limited lending in new value chains
	<input checked="" type="checkbox"/> Lack of agri-tailored product terms (especially for lenders without agri-units)		<input checked="" type="checkbox"/> Limited range of product offerings

(1) Severe impact primarily to local lenders whose exposure is entirely within one country; also affects global lenders but only to a portion of their portfolios (2) Some global lenders have also imposed concentration limits in the past two years

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# We found challenges in scaling up agri-SME lending, but also opportunities to improve support to the sector

## Key takeaways from our engagement with agri-SME lenders:

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- Lenders showed a high degree of interest in new methods to support agri-SME lending, as evidenced by high engagement:
  - Overall, interest in the study was high and **a large number of lenders** (9 in Phase 1 and 19 in Phase 2) participated despite no immediate benefits to them (other than a benchmarking report)
  - Several lenders unable to gain permission to share data for the financial benchmarking were nonetheless willing to share their learning and inputs into the design of support mechanisms for agri-lending
- A multi-faceted support model may be best suited to lenders' needs as reflected in both their loan economics and expressed preferences:
  - When presented with a menu of support options that were broader than the traditional existing partial guarantee schemes, **every proposed option was ranked 1<sup>st</sup> or 2<sup>nd</sup>** by at least one lender
  - Lenders' diverse responses stemmed from the fact that there was **no single driver of poor loan economics** across business models and size segments. While risk was the main concern for some lenders when making larger loans (or loans to new market segments), low interest income was a more salient challenge for others when making smaller loans
- A blended finance facility needs to consider the full lender support process beyond subsidising transactions:
  - Our interactions revealed that lenders need **upfront education** about the various support options, **proactive and long-term engagement** with senior staff, potential **prioritization of effort**, and **ongoing technical assistance** to improve capacity
- As next steps for donor interventions, **piloting support options** and **evolving through learning** based on experience to refine and calibrate blended finance instruments may be the most effective path forward
  - Donors may consider prioritising lenders based on their propensity to increase their agri-lending and calibrate interventions to their lending characteristics

# Donor-led interventions on three fronts can address challenges that prevent lenders from increasing agri-SME lending

	Recommended interventions	Drivers addressed		
Capacity building and TA	<b>Lender technical assistance:</b> Programs that support lenders to develop policies and processes to measure/manage their agri-lending portfolio, or upskill staff with agriculture expertise and design risk evaluation methodologies for agri-lending	3	C	
	<b>Borrower technical assistance:</b> Programs that support agri-SMEs with financial reporting, accounting, governance, and growth strategy:		A	
Blended finance instruments	<b>Results-based incentive payments:</b> Additional revenue payments that make low-margin, high-impact loans sustainable for lenders	1	2	B
	<b>Risk mitigation:</b> First-loss cover to absorb a certain percentage of portfolio losses, to incentivize lenders to target under-served segments with higher systemic risk	3		B
	<b>Direct funding:</b> concessional capital providing net asset infusion to lend in the sector, or challenge grants for innovative lending models to scale	3	4	B
Other supporting mechanisms	<b>Shared services provision:</b> making available a suite of providers with negotiated rates for lenders to outsource high-cost operating expenses, such as legal services	2		B
	<b>Value chain studies:</b> Mapping of market dynamics and risks in key value chains with high unmet financing demands			C
	<b>Advocacy and policy dialogues:</b> Engaging partners to collaborate with actors such as NGOs or int'l organizations to influence enabling policies and funding mechanisms			A

Profitability: 1 Low income 2 High cost 3 High risk 4 Cost of funds  
 Other: A Market challenges B Strategic limitations C Capability gaps

# While the proposed interventions are relevant to all lenders active in agri-lending, segment needs should inform intervention design

## Needs specific to certain lender archetypes or loan segments

### Capacity building and TA

- **Local banks and NBFIs:** Capability development around measuring agri-SME loan portfolio and performance
- **Lenders without agri-expertise:** Support in designing products and processes that suit agribusinesses
- **Global social lenders:** Technical assistance that helps them diversify into new value chains, product types, and borrower-types

### Blended finance instruments

- **Low income / high cost loans:** Incentive payments can help increase lending for segments with low income (e.g., smaller ticket sizes) or borrowers with high cost to serve (e.g., in hard to reach locations)
- **Loans in new segments:** Risk mitigation instruments are more effective in increasing lending in newer segments where risk perception is high (including new value chains and borrower types)
- **Specialised agri-lenders:** Direct funding may be best used by monoline agri-lenders and less applicable to banks without funds transfer pricing (agri-lending will not internalize the full benefits of reduced costs of funds)

### Other supporting mechanisms

- **Sub-scale lenders:** Reducing costs through outsourcing to shared service providers is most efficient here; larger lenders (such as commercial banks) may not find it necessary or desirable
- **Underpenetrated value chains:** Can benefit from investment in value chain and business model mapping shared with all lenders as a public good

# Engaging the right partners with the right support programs is critical to the effectiveness of all interventions



- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>• Engagement with senior management first, with appropriate incentives available, is critical to get banks onboard</li> <li>• Education around opportunities in the sector and proposed support interventions may be important to engender commitment to agri-SME lending</li> </ul> | <ul style="list-style-type: none"> <li>• Lenders with a strategic focus on agri-lending may derive more benefit from interventions</li> <li>• Lenders without internal transfer pricing may not absorb the full benefits of financial incentives for increasing agri-lending</li> <li>• Lenders with exposure caps may not be able to increase agri-lending, even with incentives</li> </ul> | <ul style="list-style-type: none"> <li>• Lenders without agri-expertise may need more technical assistance</li> <li>• Transfer pricing or economic profitability assessment gaps may need to be closed for lenders to fully buy in to financial incentives</li> <li>• Lenders may need capacity building to track and report on agri-lending portfolio and performance</li> </ul> | <ul style="list-style-type: none"> <li>• Lenders' varied preferences for support options suggest a need for a menu of several support mechanisms</li> <li>• Mechanisms may need to be calibrated or lightly tailored to drive maximum impact; this could be done through a standardized light-touch process</li> </ul> |
|---|--|---|--|

Which types of lenders require this step?

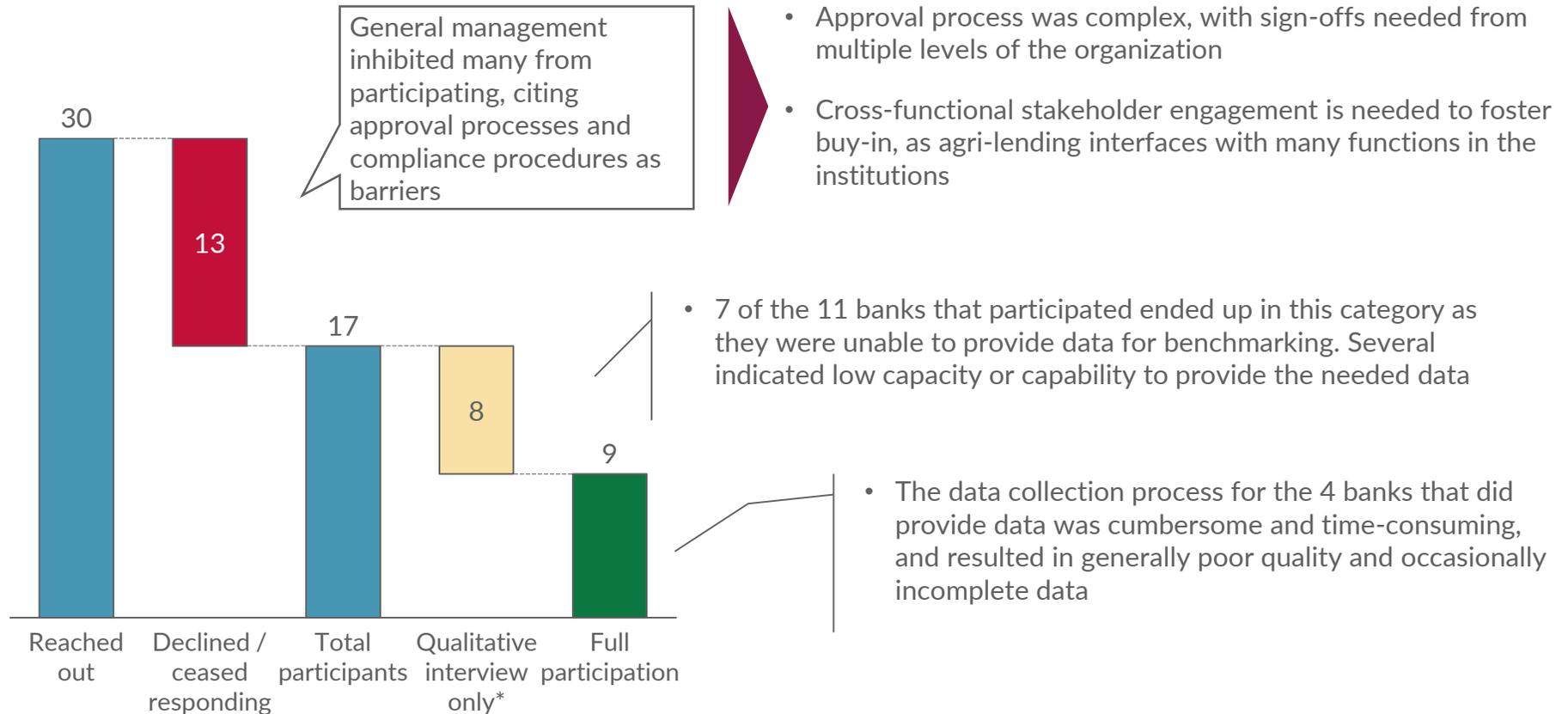
Local banks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Local NBFIs			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Global lenders				<input checked="" type="checkbox"/>

While pull mechanisms of financial incentives may work well for global lenders and NBFIs, local lenders also require capacity building and banks also require buy-in

# Over 55% of lenders reached out to participated in the study, with most dropouts resulting from lack of internal stakeholder approvals



## Participation by local lenders



**Going forward, we believe executive buy-in, rather than a pure focus on data, is essential to successful engagement with local banks**

\* Qualitative interviews were only requested of a selection of lenders who declined full participation in the benchmarking exercise; lenders were selected based on the degree to which they participate in agri-lending

# Donors should consider lender strategic and organizational fit for program interventions



## Observations

4  
of 9

Lenders did not have **dedicated agri-units**



5  
of 7

Lenders did not have **internal transfer pricing** capabilities



2  
of 7

Lenders had a **cap for agriculture exposure** of their portfolio



## Implications

- Lenders that have a strategic agri-sector focus may be more likely to engage with initiatives on increasing their agri-SME lending
  - Lenders without agri-units showed decreases in their historical portfolio growth
  - Most lenders with agri-units had indicated they would increase their agri-lending over the next five years
- Lenders without the ability to assign appropriate risk-adjusted cost of funds at business unit or loan level may not be fully incentivized by financial incentives specific to agri-lending
- Lenders with thresholds that cap agri-lending in some organizations will restrict their ability to expand lending
- Financial incentives may result in only subsidizing existing lending for lenders with portfolios already at their caps

Some prioritization may be useful to ensure that support is allocated to the lenders that can use it most effectively

# Capacity building and technical assistance for local lenders will be critical upfront and throughout the program



## Observations

*Factors used to prioritize lenders can also be used to determine support needed...*

4  
of 9

Lenders did not have **dedicated agri-units**

5  
of 7

Lenders did not have **internal transfer pricing** capabilities

5  
of 7

Lenders believe their agri-lending divisions are **under-resourced** and unable to effectively evaluate agri-lending risk

## Implications

- Lenders without a internal agri-expertise may require additional capacity building in order to develop:
  - Products to suit agribusiness cash flows and collateral availability
  - Appropriate evaluation and risk profiling mechanisms for agribusinesses
- Overall, lenders' lack of sophisticated data management, internal transfer pricing or economic profitability analysis capabilities indicates:
  - Capacity building for systems and processes to track and measure agri-lending loan portfolios and performance may be important to ensure donor support has sustainable impact and high leverage
  - Support with developing processes to cascade economic benefits from blended finance transactions to agri-lending BU P&Ls may be important to ensuring donor incentives lead to behaviour change
- Donor intervention programs may need to offer on-going technical capacity building to improve lender agri-division risk management process and lending policy in order to be most effective

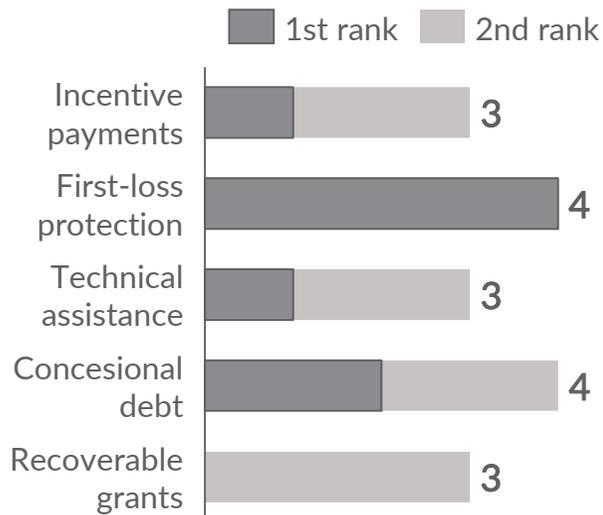
**Note:** Some of the same factors considered in prioritising lenders should be taken into account in assessing their capabilities (e.g., existence of a dedicated agri-units, internal transfer pricing capabilities)

# Lenders will require support mechanisms calibrated to address their economic and non-economic constraints to agri-lending

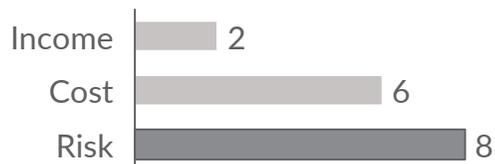


## Dalberg survey results<sup>1</sup>

### Ranking of support options:



### Reasons inhibiting more agri-lending:



## Economic analysis results

- Lending by banks appears **profitable** in our sample, with an estimated **5-9%** return for banks above cost of funds on a \$100k loan – however, there is some uncertainty around the true operating cost burden faced by banks, due to data constraints
- Ag lending can be **lower-risk**, with 3 banks in our dataset having lower agri-unit NPLs than overall commercial NPLs
- However, banks **still cite concerns about the risks of agri-lending** as a major factor holding back lending
- Meanwhile, other lenders' data show **challenges with operating costs for small loans** and the **cost of funds**

## Implications

- The range of views on the ideal form of support mean **offering a targeted menu of support options covering risk, cost, and lender/borrower capacity is desirable** to maximize engagement and impact
- Mismatches between risk perception and actual risks mean **support packages chosen through engagement of lender senior leadership are best** to drive uptake and behaviour change
- Local lenders' lower capabilities in data management and economic profitability analysis (e.g. allocating incremental OpEx to loans, assessing the true risk-adjusted return) mean **some light-touch calibration will be required** to finalize the support package for a given lender

A structured, menu-driven support design process with light calibration should strike the right balance between lender uptake, effective use of donor funds, and feasibility

1. Sample size = 8 lenders  
Source: Lender interviews and survey responses; Dalberg analysis;

# Mobilising agri-SME finance is a vital priority; we recommend piloting support packages and committing to iteration and learning

## A clear case for action

- Filling the agri-SME financing gap is a vital development priority
- Despite some data gaps, we know that greater support is needed
- Donor interventions can be catalytic in mobilising greater private sector finance

## Next steps: learning by doing

- Donors have sufficient information to **pilot support packages now**, even though incentives will not be perfectly calibrated on Day 1
- Support pilots can be cost-effective and efficient as long as donors **make data collection for calibration a condition of receiving support** and **learn & adapt** based on experience
- Additional steps may be taken to close knowledge gaps, but they come with downsides:
  - *Benchmarking success* is dependent on lenders' participation – often a challenge
  - *Reverse auctions* (letting lenders bid on the subsidy they require to increase lending) are more difficult to execute in markets with complex lending products such as East Africa

This work revealed a wide range of lenders that are motivated and well-positioned, with assistance, to increase agri-SME lending – there is a clear opportunity for catalytic donor support to the sector

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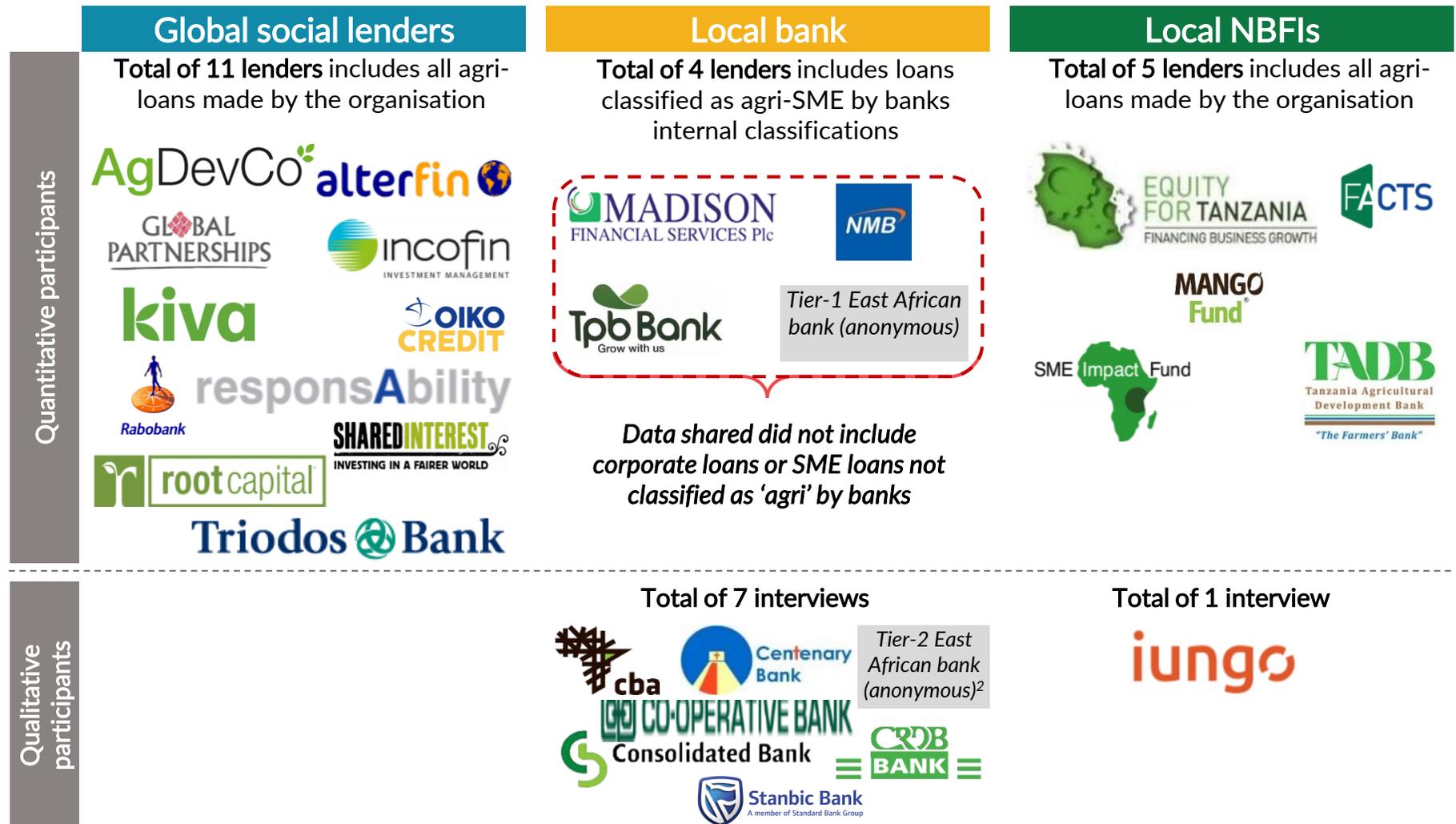
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Recall: quant. analysis in this report is based on data provided by 20 institutions, but covered only a portion of local banks' agri-portfolios



Over the course of Phases 1 and 2, we collected data on 3,959 loans and a loan volume of \$2.7B globally; in East Africa, we collected data on 876 loans and a loan volume of \$327M

Note: (1) Figures for banks' overall and agricultural loans and advances were calculated based on financial statements, where possible; otherwise, figures were calculated based on numbers provided in interviews or based on analysis of data provided by the bank. Numbers for banks not engaged calculated through central bank numbers.

# Global social lenders were mostly funded by impact capital and typically have international operations

Strengths & Weaknesses	Structure				
<ul style="list-style-type: none"> <li>• Challenging to compete with local lenders at low ticket size loans (&lt;\$100k) due to lending business model</li> <li>• Lower cost debt for borrowers, although comparison complicated by currency differences</li> <li>• Higher operating costs compared to local lenders</li> <li>• Early entrants into the market incurring higher cost of experimentation</li> <li>• Narrow borrower outreach due to largely tight value chain focus and larger facility size lending</li> </ul>	<b>Funding sources</b>	<b>Commercial equity</b> <b>0% - 25%</b>	<b>Deposits</b> <b>0% - 25%</b>	<b>Institutional lenders</b> <b>25%-50%</b>	<b>Social investors or donors</b> <b>&gt;50%</b>
<b>Data Limitations</b> <ul style="list-style-type: none"> <li>• Lenders are predominantly CSAF members (11 out of 12), which may introduce some bias</li> </ul>	<b>Organization</b> <ul style="list-style-type: none"> <li>• International HQ, many have satellite regional offices or representatives</li> <li>• Centralized or quasi-centralized decision making</li> <li>• Low cost of funds provided by mainly offshore international capital</li> </ul>	<b>Features</b>			
<b>Loans</b>		<ul style="list-style-type: none"> <li>• Facility size:</li> <li>• Tenor:</li> </ul>	<ul style="list-style-type: none"> <li>• <b>\$179k - \$852k</b> (interquartile)</li> <li>• <b>8 to 16 months</b> (interquartile)</li> </ul>		
<b>Agri-SME Products<sup>1</sup></b>		<ul style="list-style-type: none"> <li>• Working capital:</li> <li>• Asset finance:</li> </ul>	<ul style="list-style-type: none"> <li>• <b>82%</b> of loans disbursed (2013-17)</li> <li>• <b>18%</b> of loans disbursed (2013-17)</li> </ul>		
<b>Value chains<sup>1</sup></b>		<ul style="list-style-type: none"> <li>• Tight:</li> <li>• Loose:</li> </ul>	<ul style="list-style-type: none"> <li>• <b>59%</b> of loans disbursed (2013-17)</li> <li>• <b>41%</b> of loans disbursed (2013-17)</li> </ul>		

(1) Figures are based on the average of the totals for each lender in the lender type, not an average of all the loans across lenders in the lender type  
 Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

# Local banks were deposit funded and served the market through branches; bank units surveyed mostly lent at smaller ticket sizes

Strengths & Weaknesses	Structure				
<ul style="list-style-type: none"> <li>Higher portfolio growth rates and more flexible loan terms are offered by local banks with agri-units compared to banks without agri-units</li> <li>Unable to offer agri-products above \$500k in business units surveyed (in fact, 97% of loans in these units were &lt;\$100k) due to operating model and risk management policies</li> <li>Narrow borrower outreach due to stringent collateral requirements and loan disbursement size cap</li> </ul>	<b>Funding sources</b>	<b>Commercial equity</b> 0% - 25%	<b>Deposits</b> >50%	<b>Institutional lenders</b> 0% - 25%	<b>Social investors or donors</b> 0% - 25%
<b>Data Limitations</b> <ul style="list-style-type: none"> <li>4 of 8 lenders provided quantitative data (incomplete in some cases) for study, which may impair accuracy of results and introduce biases</li> </ul>	<b>Organization</b> <ul style="list-style-type: none"> <li>Local headquarters and back-office operations</li> <li>Largely centralized decision-making<sup>1</sup></li> <li>Local branch presence and funded through mostly local customer deposits</li> </ul>	<b>Features</b>			
<b>Loans</b> <ul style="list-style-type: none"> <li>Facility size: \$25k - \$93k (interquartile)</li> <li>Tenor: 12 to 36 months (interquartile)</li> </ul>		<b>Agri-SME Products<sup>1</sup></b> <ul style="list-style-type: none"> <li>Working capital: 62% of loans disbursed (2013-17)</li> <li>Asset finance: 38% of loans disbursed (2013-17)</li> </ul>			
<b>Value chains<sup>1,2</sup></b> <ul style="list-style-type: none"> <li>Tight: 35% of loans disbursed (2013-17)</li> <li>Loose: 65% of loans disbursed (2013-17)</li> </ul>					

(1) Figures are based on the average of the totals for each lender in the lender type, not an average of all the loans across lenders in the lender type (2) Local banks did not provide value chain categorization for 241 of 725 (~33%) loans disbursed between 2013 and 2017  
 Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

# Local NBFIs were largely funded by institutional debt and were specialised in their lending; ticket sizes were typically smaller

Strengths & Weaknesses	
<ul style="list-style-type: none"> <li>• Most expensive debt pricing for borrowers given high cost of funds; offer agri-loan products up to \$500k due to their current operating models</li> <li>• High cost of funds from largely offshore institutional debt funding requiring FX depreciation hedging</li> <li>• Greater operating costs compared to local banks from increased origination, servicing and recovery costs due to no field presence</li> </ul>	
Data Limitations	
<ul style="list-style-type: none"> <li>• The NBFIs surveyed each had different focusses covering a wide spectrum of ticket sizes and product types as a group, therefore segment averages can mask significant underlying variance</li> </ul>	

Structure				
Funding sources	Commercial equity	Deposits	Institutional lenders	Social investors or donors
	25%-50%	0%-25%	>50%	0% - 25%
Organization	<ul style="list-style-type: none"> <li>• Local headquarters and back office located in capital cities</li> <li>• Mostly centralized decision-making</li> <li>• No field presence and funded from mainly international capital</li> </ul>			
Features				
Loans	<ul style="list-style-type: none"> <li>• Facility size: \$33k - \$180k (interquartile)</li> <li>• Tenor: 30 to 36 months (interquartile)</li> </ul>			
Agri-SME Products <sup>1</sup>	<ul style="list-style-type: none"> <li>• Working capital: 62% of loans disbursed (2013-17)</li> <li>• Asset finance: 38% of loans disbursed (2013-17)</li> </ul>			
Value chains <sup>1,2</sup>	<ul style="list-style-type: none"> <li>• Tight: 23% of loans disbursed (2013-17)</li> <li>• Loose: 77% of loans disbursed (2013-17)</li> </ul>			

(1) Figures are based on the average of the totals for each lender in the lender type, not an average of all the loans across lenders in the lender type (2) Local NBFIs did not provide value chain categorization for 188 of 410 loans (~46%) loans disbursed between 2013 and 2017. Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

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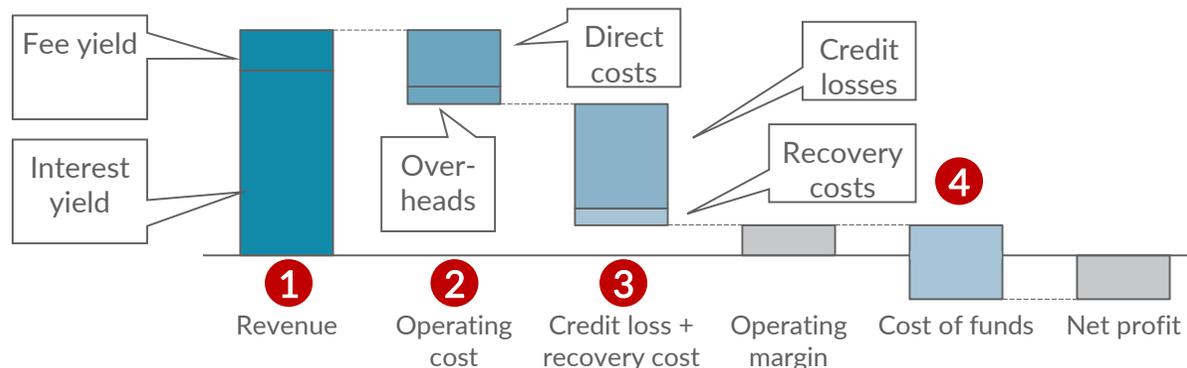
# For each lender type, we analysed the data received to determine average net profit for small, medium, and larger loans

## Standardisation

- Economics for each lender were aggregated at a portfolio level for three size segments: less than \$100k, \$100k-500k, and more than \$500k
- Data was standardised to adjust for varying tenors and repayment schedules by using a 'weighting factor' (dollar duration<sup>1</sup>) defining interest yields and credit loss rates for a given principal amount outstanding for 12-months
- Operating costs related to servicing and overheads were annualised for a 12-month period and added to one-time costs such as origination and recovery-related costs<sup>2</sup>

## Analysis

- All standardised variables were averaged across each lender within each lender type to evaluate revenue, operating costs, credit losses and cost of funds variances between the three lender groups



(1) See Appendix for further details on definition and approach to the calculation of the weighting factor and dollar duration

(2) See Appendix for further details on definition and calculation approach for operating costs

# In the datasets provided, global social lenders were the only lender type with loans of more than \$500k

\$500k+  
(% loans)

## Breakdown of expected economics for a \$1M, 12-month loan

**Global social lenders**

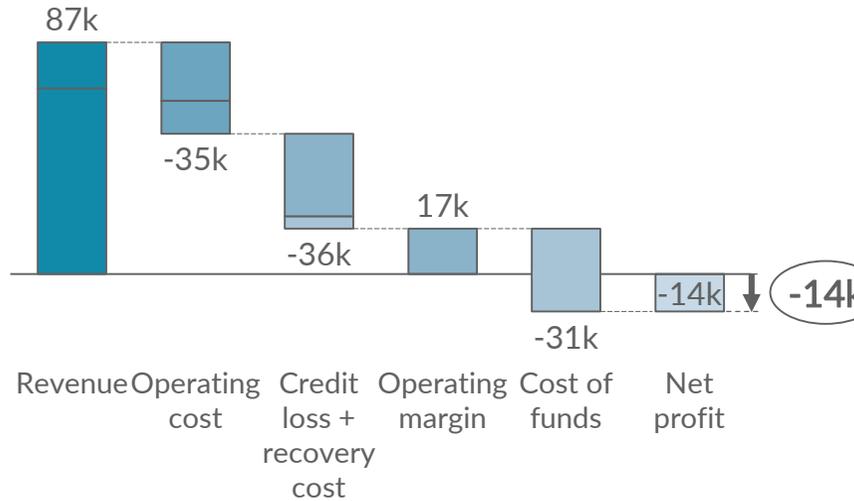
~50% of total loans

**Local banks**

0% of total loans

**Local NBFIs**

9% of total loans



- With nearly 60% of their total disbursed amounts in the \$1M+ range, global social lenders earn an operating profit, but the gross yield is below their estimated cost of funds
- Participating global social lenders targeted export-oriented borrowers with an average loan size of ~\$700k

Participating local banks did not make agri-loans in the \$1M loan range from the business units that shared data.

Note: large agri-loans are made by some local banks' corporate units; the economics of these segments are not known due to lack of data

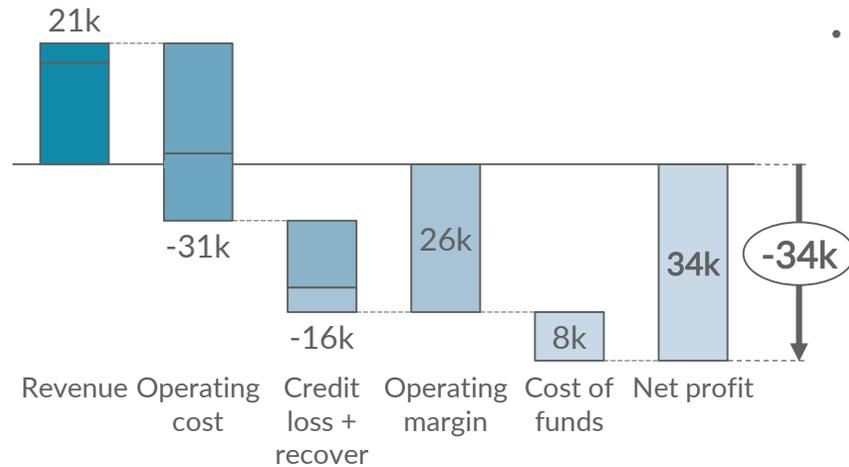
Only one of the five local NBFIs surveyed made agri-loans in the \$1M loan range; the NBFIs is not representative of the overall lender type

# After cost of funds, both global and local lenders we analysed experienced losses on loans in the \$100k to \$500k range

**\$100-500k (% loans) Breakdown of expected economics for a \$250k, 12-month loan**

**Global social lenders**

~37% of total loans



- Global lenders with largely international operations, and early entrants into the segment, see lower operating efficiencies for smaller-ticket loans
- Credit loss rates were also significantly higher (4.6% vs. 3.1%) for this size segment compared to loans over \$500k

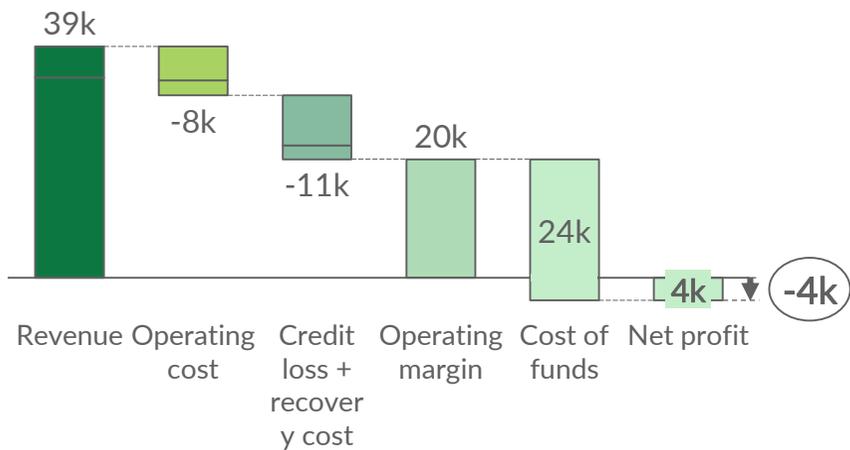
**Local banks**

~3% of total loans

Participating local banks did not make agri-loans in this size range within the business units that shared data.  
 Note: some medium-sized agri-loans were noted to have been made by commercial business units

**Local NBFIs**

~21% of total loans



- Local NBFIs performed better than social lenders but were still unprofitable in this size range
- NBFIs' interest yields in this segment were low compared to their high cost of funds
- NBFIs tended to focus on the smaller end of this loan segment; only one participating NBFIs had loans of more than \$200k

# Serving the under \$100k size segment appears profitable for local banks due to higher interest income and lower operating costs

<\$100k  
(% loans)

## Breakdown of expected economics for a \$100k, 12-month loan

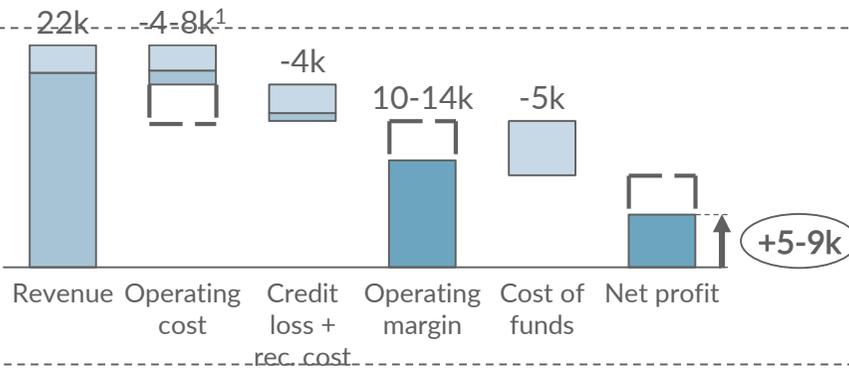
Global social lenders

~13% of total loans

Loans in this size segment were predominantly served by one lender, whose operating model is not representative of the group of global social lenders in this study

Local banks<sup>1</sup>

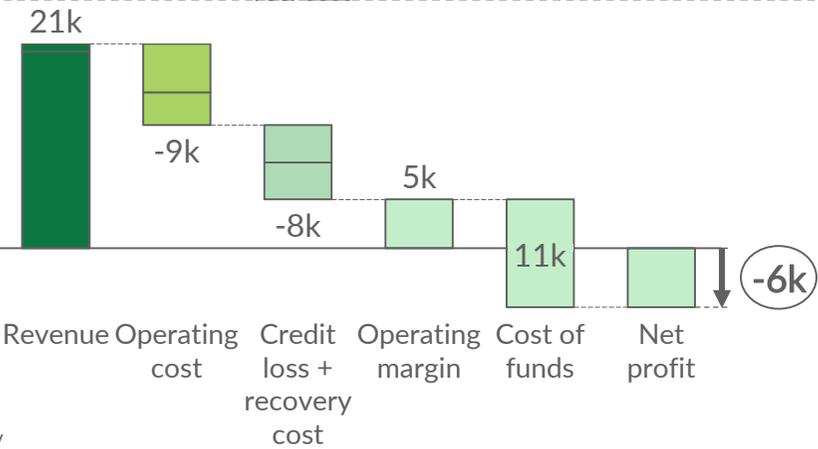
~97% of total loans



- The units of local banks providing data mostly made loans below \$100k, with low incremental operating costs to originate small-ticket loans, and high revenue
- Note: there is high uncertainty on the operating cost data provided, illustrated by the range

Local NBFIs

70% of total loans



- Participating local NBFIs earned high interest yields on small-ticket loans, resulting in profitable lending at the operating and net margin levels

<sup>1</sup> Low fidelity of operating cost data provided by local banks; range provided to reflect uncertainty

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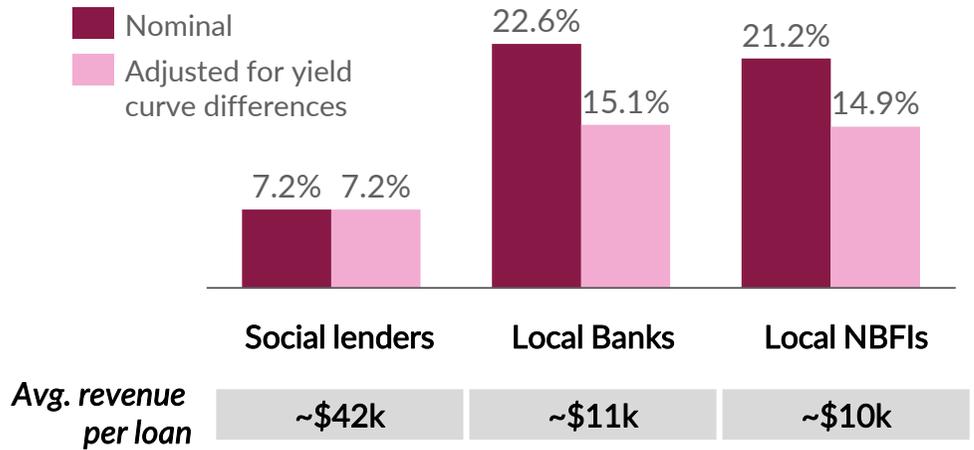
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# Local lenders earned higher interest yields, even after adjusting for FX; their riskier clientele and smaller loans may be partly responsible

## Average realized revenue yields <sup>1</sup>



- Participating local lenders charged higher headline interest rates than global lenders, which may have been a result of:
  - Factoring in a risk premium for lending to riskier segments such as informal businesses and loose value chains
  - Compensating for smaller ticket-size loans that yield lower interest income
  - Compensating shorter tenor products (especially for certain NBFIs) that yield lower interest income

## Example interest rates charged by local lenders

Lender	Headline interest rate	Lender	Headline interest rate
Bank 1	13% (Local currency)	NBFI 1	35% (Local currency)
Bank 2	40% (Local currency) <sup>2</sup>	NBFI 2	29% (Local currency)
Bank 3	19% (Local currency)	NBFI 3	26% (Local currency)

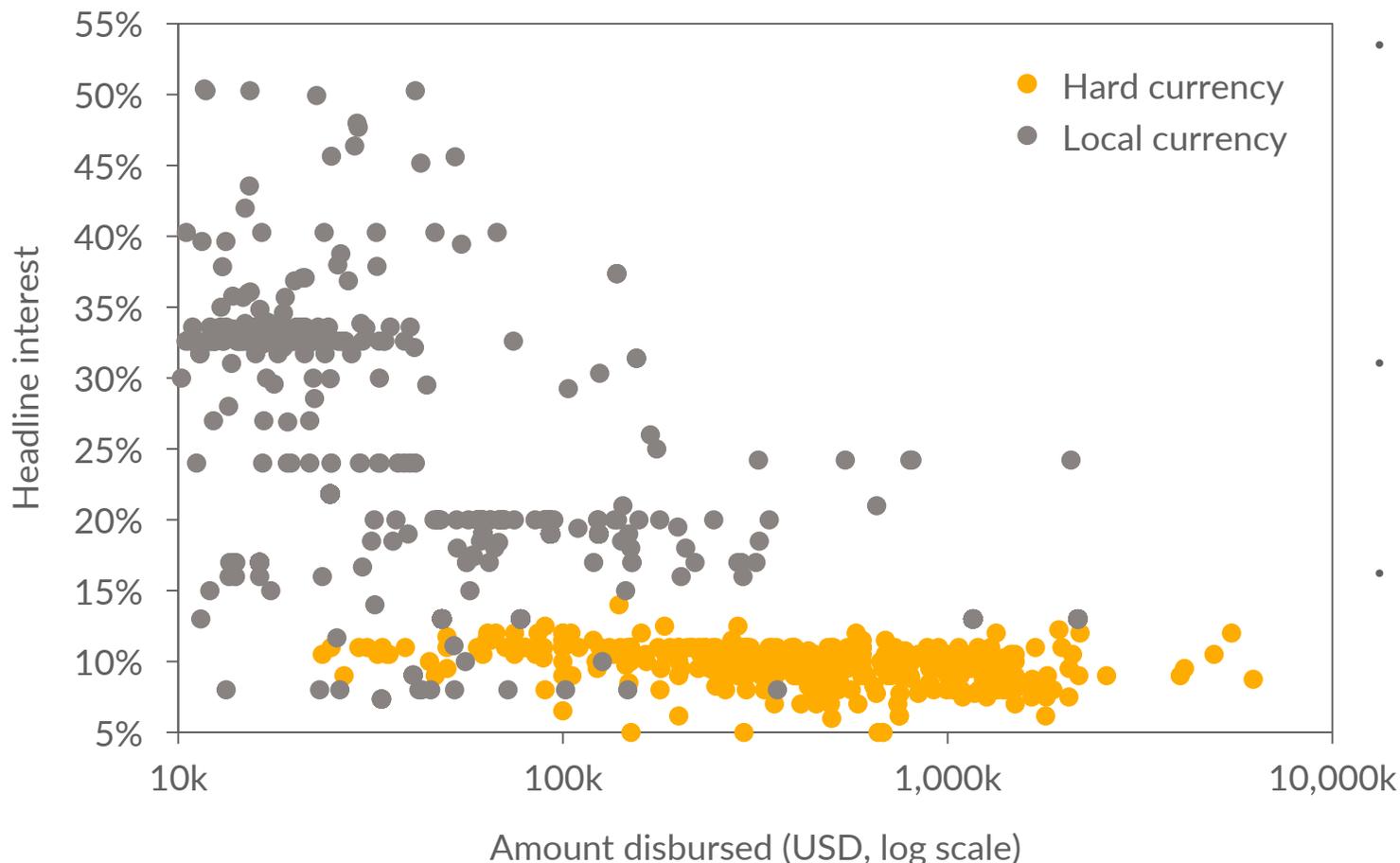
Lender	Headline interest rate
CSAF Average	10.5% (Hard currency)

- Participating global lenders predominantly served export-oriented processors in tight value chains, and may have faced more competition in making loans in hard currency – leading to their dropping their interest rates
- Despite lower yields, global social lenders received higher average revenue per loan because of their significantly larger ticket sizes

(1) FX adjusted yields are adjusted down based on the difference between 1-year local currency bond yields of the respective countries against the US 1-year T-bills  
 (2) headline interest rates of this bank may be exceptionally high due to its small ticket sizes and high interest environment

# Across lender types, headline interest rates for local currency loans trended lower as loan ticket size grew

## Headline interest rate by loan size



- Participating global lenders predominantly serve export-oriented processors in tight value chains and make loans in hard currency, where rates are more aligned with global rate environment
- Borrowers of larger loans may be more sensitive to higher interest rates, especially as they take on currency risk
- Loans in tight value chain may also be more competitive as they tend to be less risky

Note: For reasons of confidentiality, one local lender provided their lending activity in several size buckets, rather than as exact sizes. As a result, some grey dots on the above chart represent more than one loan.

# Consistent with our analysis on interest yields and headline rates, local lenders indicated that income was not a hurdle to growth

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local lenders surveyed ranked “low income” as biggest challenge to growth of their agri-lending portfolio

## Interview insights

Several factors were noted for higher interest rates charged by local lenders, including:

- Compensating for the cost to serve borrowers in locations further away from offices and branches
- Compensating for the inherent risk involved with the agri-sector. The sector is frequently affected by macroeconomic factors such as government intervention and climate conditions and rainfall, for example:
  - The Kenyan central bank has capped the prime interest rate that banks can lend at to 13%
  - The Tanzanian government banned the export of maize, sending prices into a downward spiral
- Certain NBFIs noted the need to compensate for their higher cost of funds
- One lender noted borrowers from local banks’ agri-units have low sensitivity to interest rates because they are more likely small producers for whom working capital is essential

Interest yields may be a reflection of the market conditions in which local lenders operate and borrower segments they serve

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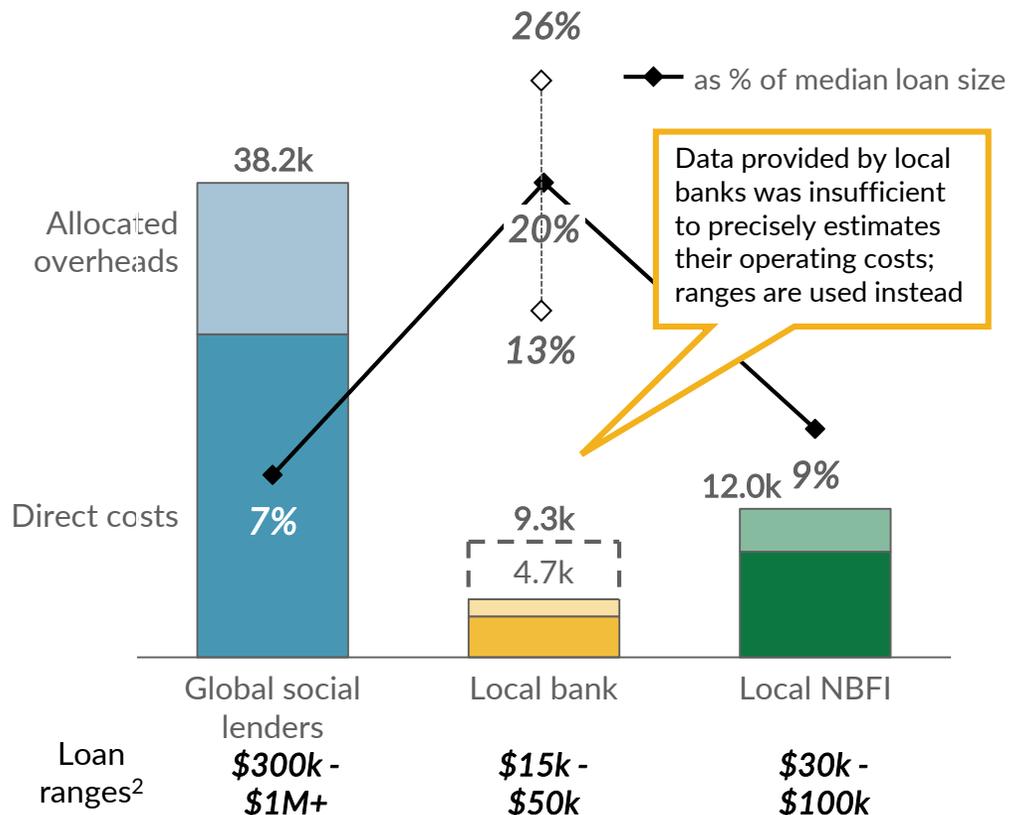
Credit loss

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# Though low in absolute terms, local lenders' operating costs as a percent of loan size were at least double that of social lenders'

## Average operating cost per loan<sup>1</sup>



- Participating global social lenders had higher absolute operating costs; potential causes include:
  - Origination of higher value loans, which may require more diligence efforts
  - Higher direct costs of servicing due to travel from overseas, plus higher indirect costs due to a significant presence in higher-cost countries
  - The overhead burden due to lower-scale East Africa operations; many social lenders were still ramping up operations in the region during the period covered by this analysis
- Local banks were able to maintain a low cost structure, as they leverage existing infrastructure and branch networks and originate low-value loans at a low incremental cost
  - Note: local banks surveyed provided information for their agri-units; larger agri-loans are likely serviced by units with different cost structures
  - The overall "cost to assets" ratios for large African banks is estimated at 3.6% by McKinsey<sup>3</sup>, although this would include banks' corporate lending as well and thus cannot be compared to the 20% figure at left
- Local NBFIs may benefit from low-cost local staffing and operating models, but still incur more travel costs than banks due to significantly smaller scale

Note: Ranges provided for local banks due to low fidelity in data provided

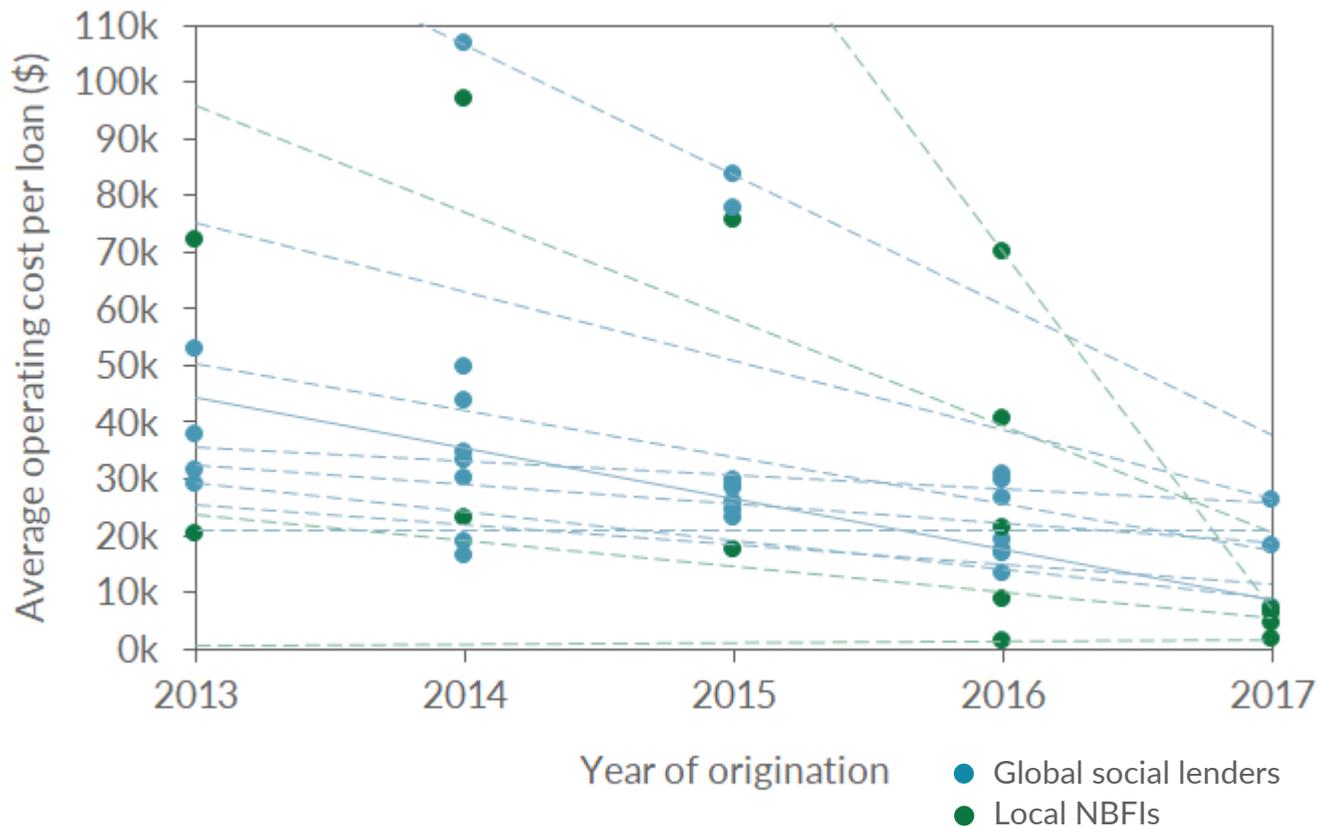
(1) Average direct costs include origination and servicing costs

(2) Approximate 20<sup>th</sup> percentile to 80<sup>th</sup> percentile ranges

(3) "Roaring to Life: Growth and Innovation in African Retail Banking", McKinsey 2018

# Social lenders and NBFIs in our sample showed steadily improving cost efficiency over the time period analysed

## Average operating costs of lenders over time



- Average cost per loan for both local NBFIs and global social lenders decreased over time – by an average of 55% and 74%, respectively – as their lending activity increased
- As lenders grew their portfolios, average operating cost dropped possibly because:
  - Staff was better utilised through optimised allocation of time
  - Overhead costs per loan decreased with economies of scale

Although the time series is still too short to draw firm conclusions, the significant cost reductions observed imply that providing support to sub-scale lenders while they grow to an optimal size could help make some currently marginal types of lending more profitable

## Looking to the future, the fairly new and sub-scale NBFIs may come close to breaking even on \$250k loans with some efficiency gains

### Base Case

- Current average annual operating cost per loan and operating profit for the global social lenders in the data set provided

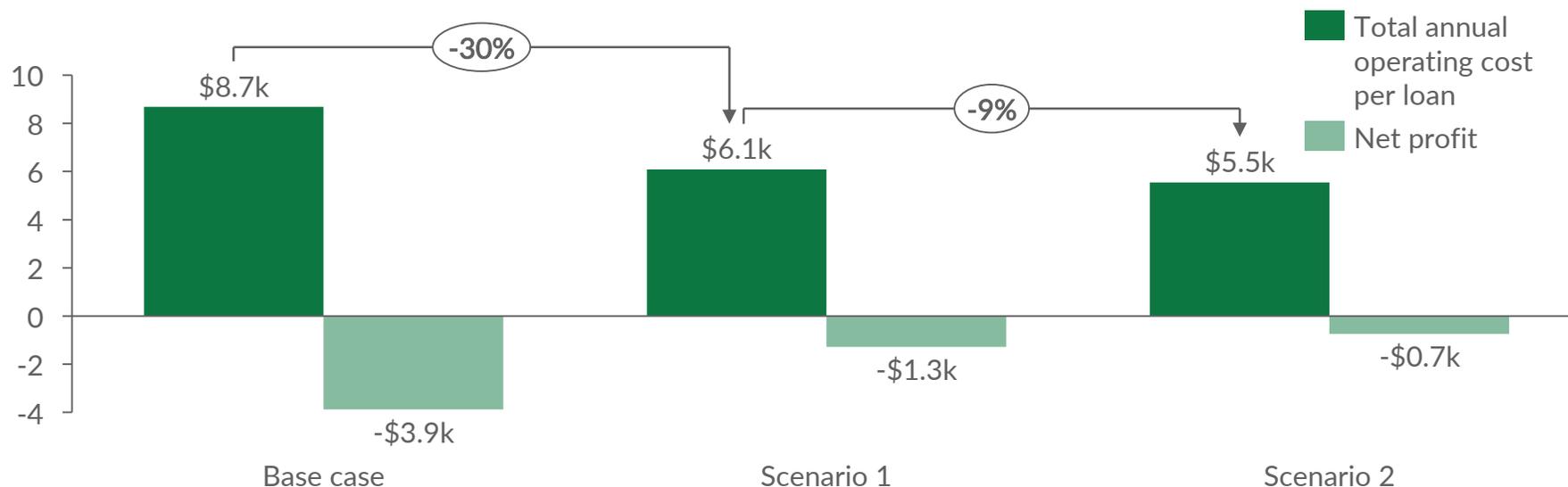
### Scenario 1

- **Increased:** Volume of loans by 30%
- **Held constant:** total overhead costs and direct costs per loan

### Scenario 2

- **Increased:** Volume of loans by 50% with overheads direct cost per loans constant for each lender
- Set direct costs to the 75<sup>th</sup> percentile of all NBFIs
- **Held constant:** Overheads

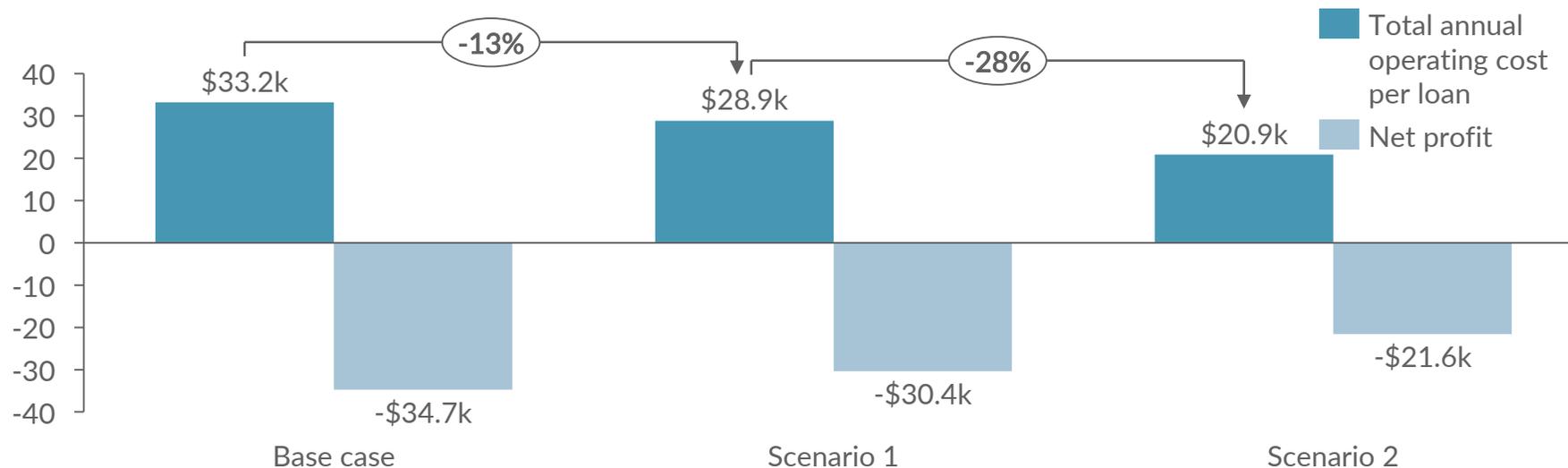
### Operating economics of a \$250k 12-month loan



## For global social lenders, reaching breakeven at \$250k will likely remain difficult even with efficiency gains

Base Case	Scenario 1	Scenario 2
<ul style="list-style-type: none"> <li>Current average annual operating cost per loan and operating profit for the global social lenders in the data set provided</li> </ul>	<ul style="list-style-type: none"> <li><b>Increased:</b> Volume of loans by 30%</li> <li><b>Increased:</b> origination efficiency by 10%</li> <li><b>Held constant:</b> total overhead costs and direct costs per loan</li> </ul>	<ul style="list-style-type: none"> <li><b>Increased:</b> Volume of loans by 30%</li> <li><b>Increased:</b> origination efficiency by 10%</li> <li>Set direct and overhead costs per loan to a maximum of the 75<sup>th</sup> percentile of all global social lenders</li> </ul>

### Operating economics of a \$250k 12-month loan



Local banks and NBFIs – especially those without a rural presence – recognized that high OpEx can be a challenge to agri-lending growth

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local lenders surveyed cited “high cost to serve” as the second biggest challenge (after risk) to the growth of their agri-lending portfolio

### Interview insights

Lenders pointed out several strategies for reducing operating costs and servicing small agri-loans effectively, including:

- Combined monitoring visits by geography to minimize travel and staff time costs, noting that a large proportion of borrowers are further away from office centers and branch locations
- Cross-training of staff to originate agri- and non-agri loans within the branch offices
- Simplified origination processes and collateral requirements to suit agri-borrowers, with decentralized decision-making for small loan sizes

Note: Local banks also noted their ability to cross-sell other products to borrowers such as checking and savings accounts, which also reduces risk. As a result, operating costs incurred by banks were in some cases incremental to generating new business.

Local banks have relatively low cost bases at present, but efficiency gains seem possible at local NBFIs to reduce costs and increase profitability, and potentially at global lenders to a lesser degree

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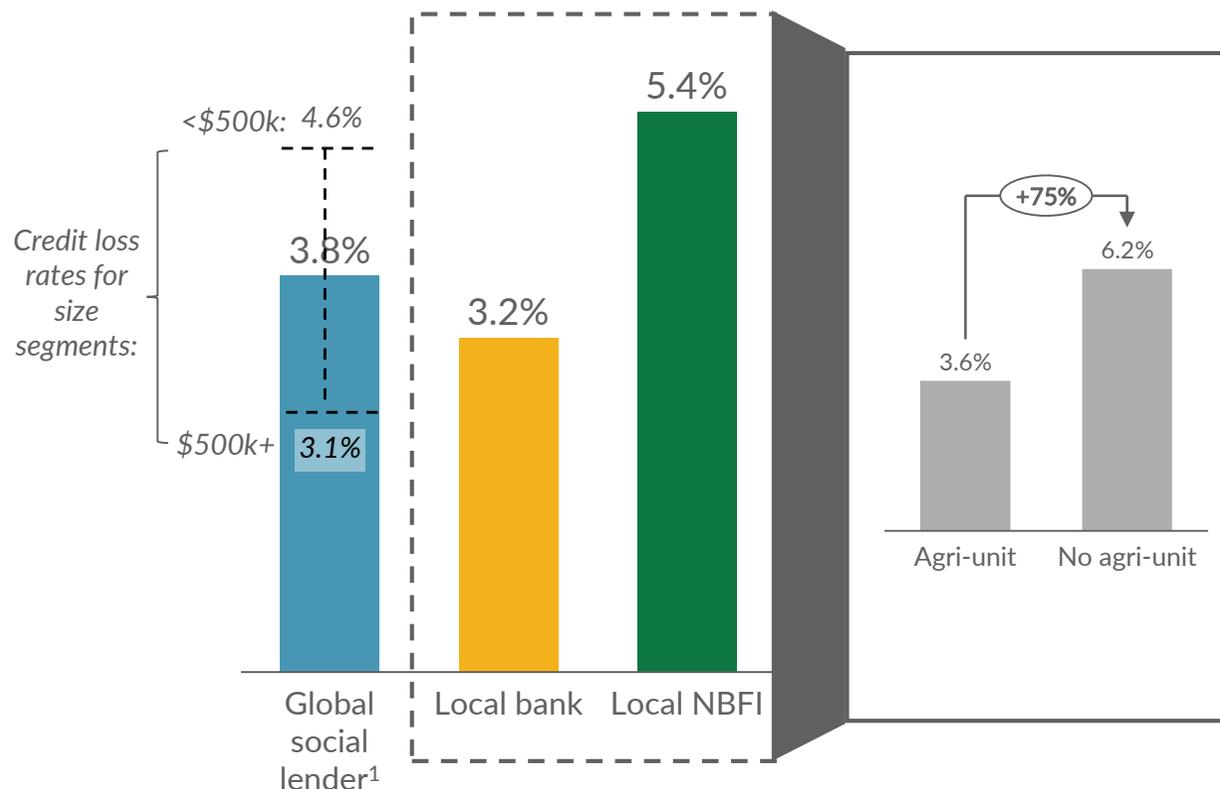
Credit loss

Cost of funds

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# Local banks realized lower credit losses than global lenders and local NBFIs; losses were even lower for local lenders with agri-units

## Annualized credit losses by lender type (2013-2017 data)



- Global social lenders realized significantly higher credit losses on loans under \$500k (4.6%) than on those above \$500k (3.1%)
- Local banks provided relatively small ticket size loans for their agri-SME loans; therefore, losses on their non-performing loans were limited
- Local lenders with dedicated agri-units saw significantly lower credit losses than local lenders without agri-units

(Note: CSAF lenders from the prior phase of analysis showed an average annualised credit loss rate of 3.3% in all other regions outside sub-Saharan Africa (primarily Latin America))

# Risk was ranked the biggest hurdle to lending in the sector by all lenders surveyed

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local lenders surveyed ranked “high risk” as the biggest challenge to growth of their agri-lending portfolio

## Interview insights

The riskiness of agri-lending was a prominent concern in lender interviews, with highlights including:

- Lenders who do not have products designed around the cash-flows of agriculture see seasonal spikes in their portfolio at risk, which drives up management perception of the riskiness of the segment
- NPLs in agri-units are sometimes lower than within the bank’s overall loan book for bank; yet the risk department sets a maximum limit to agri-exposure, limiting growth
- Credit departments may not be well-equipped to assess the risk associated with agri-lending, leading them to set restrictive limits on agri-exposure
- A few banks use more flexible collateral requirements more often as a commitment device than for the ability to recover in the event of default
- Even for more stringent collateral requirements, asset sales through auctions were noted to be lengthy and cumbersome
- Sensitisation at the executive level was also noted as a factor that determined the investment in agriculture

**Addressing risk perceptions of local banks is key to driving more deliberate agri-lending**

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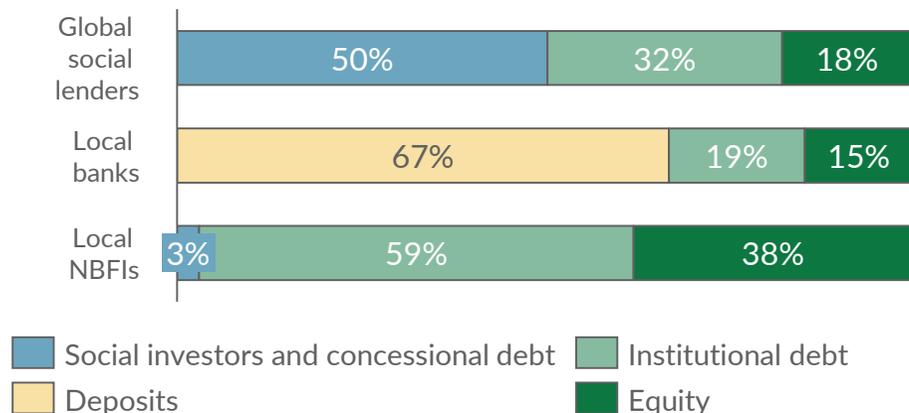
Credit loss

Cost of funds

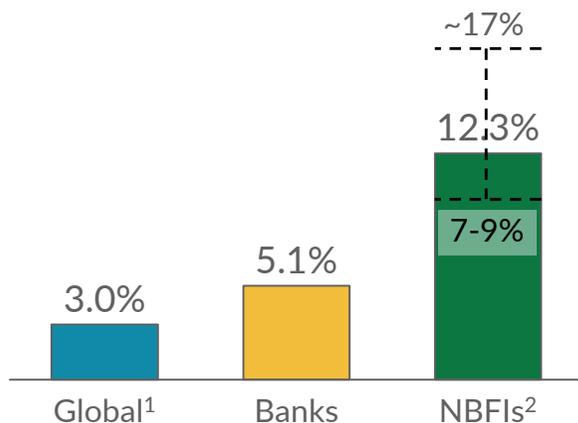
Appendix

# NBFIs on average had the highest cost of funds, as they lack access to deposits and several face significant hedging costs on their debt

## Funding mix by lender type



## Estimated cost of funds by lender type



- NBFIs' high cost of funds is due in part to 59% of their funding mix coming from institutional debt, which requires hedging to minimize FX risk. One lender estimated hedging costs of up to 9% of its total cost of funds
- Cost of funds ranged widely for NBFIs, from 7-9% to ~17%; some portion of the higher rates are due to hedging costs
- Local banks' low cost of funds (especially compared to their loan yields) results from over 67% of their funding deriving from low interest savings accounts and limited fixed-term deposit customers
- Social lenders had the lowest nominal cost of funds, **but** most of their lending is in hard currency, so their gross spread is much lower than local banks. ~50% of their lending capital comes in the form of low-cost impact funding. About one-third comes from institutional debt

(1) Assumption based on marginal cost of debt. Social lender's Cost of Funds is 5.2% when calculated on the same basis as banks

(2) If an NBFI did not provide any financial statements or share any cost of funds details during qualitative interview, its cost of funds were assumed to be 3% plus the difference between NBFI country 1-year bond and USA 1-year bond,

Source: Lender 2017 Annual Reports, Lender interviews and survey responses; Dalberg analysis

# Several local NBFIs indicated that funding was a barrier to increasing their agri-lending portfolios

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of 5

local NBFIs surveyed mentioned cost of funds and funding availability as a barrier to increasing their agri-lending activities

## Interview insights

Local banks and NBFIs surveyed provided insights on funding as it related to their agri-lending portfolio:

- NBFIs mentioned both availability of requisite funding and the high cost of funding as a hurdle to investing more capital in agri-lending, including high hedging costs for funds raised in foreign currency
- Most local banks engaged did not have an internal transfer pricing mechanism to have differentiated cost of lending
- One large bank surveyed, however, did have a differentiated pool of funds and cost of capital for its agri-lending portfolio

Availability of low cost capital for agri-lending could increase appetite for agri-lending for local lenders, especially NBFIs

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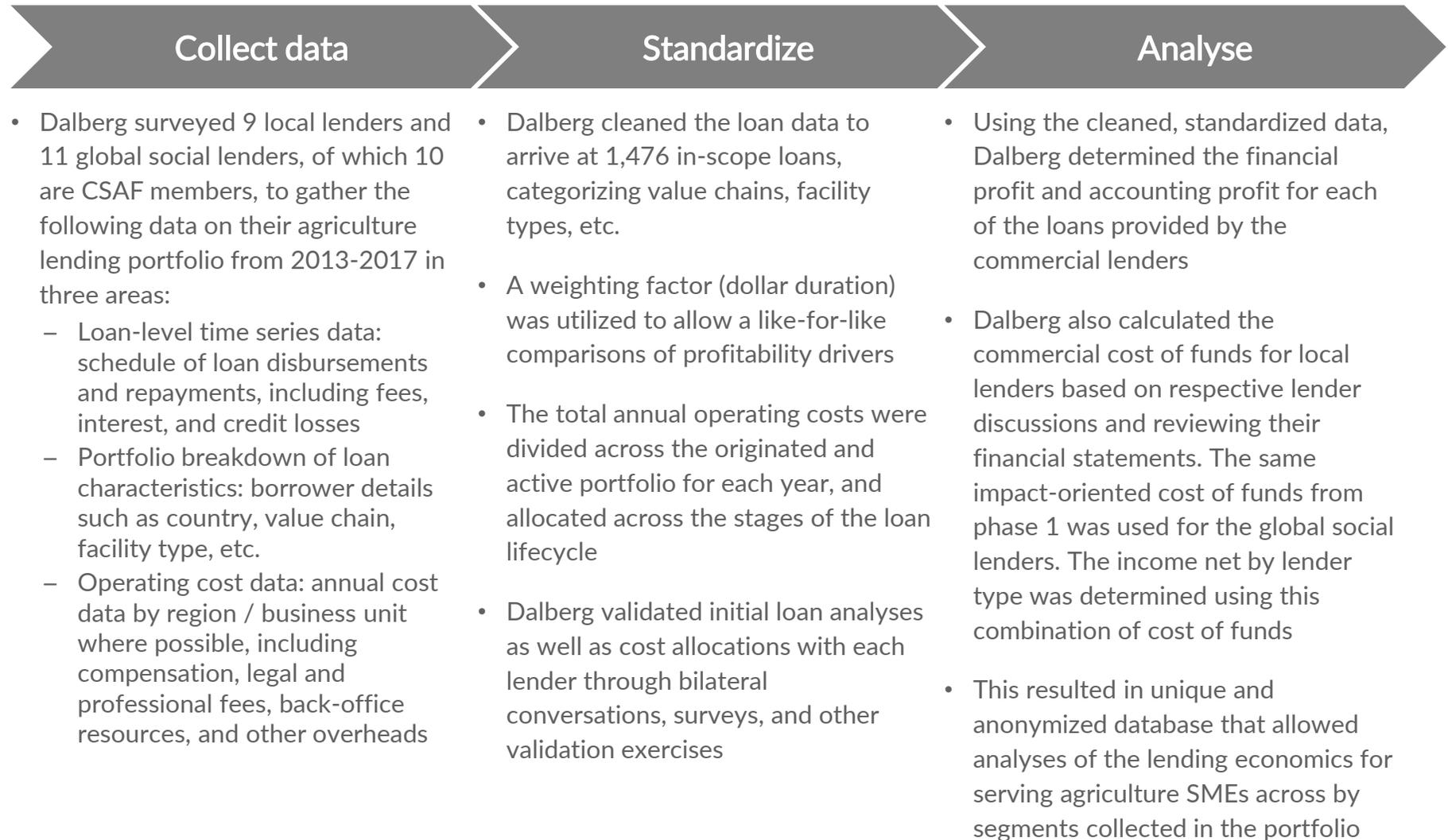
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## Appendix

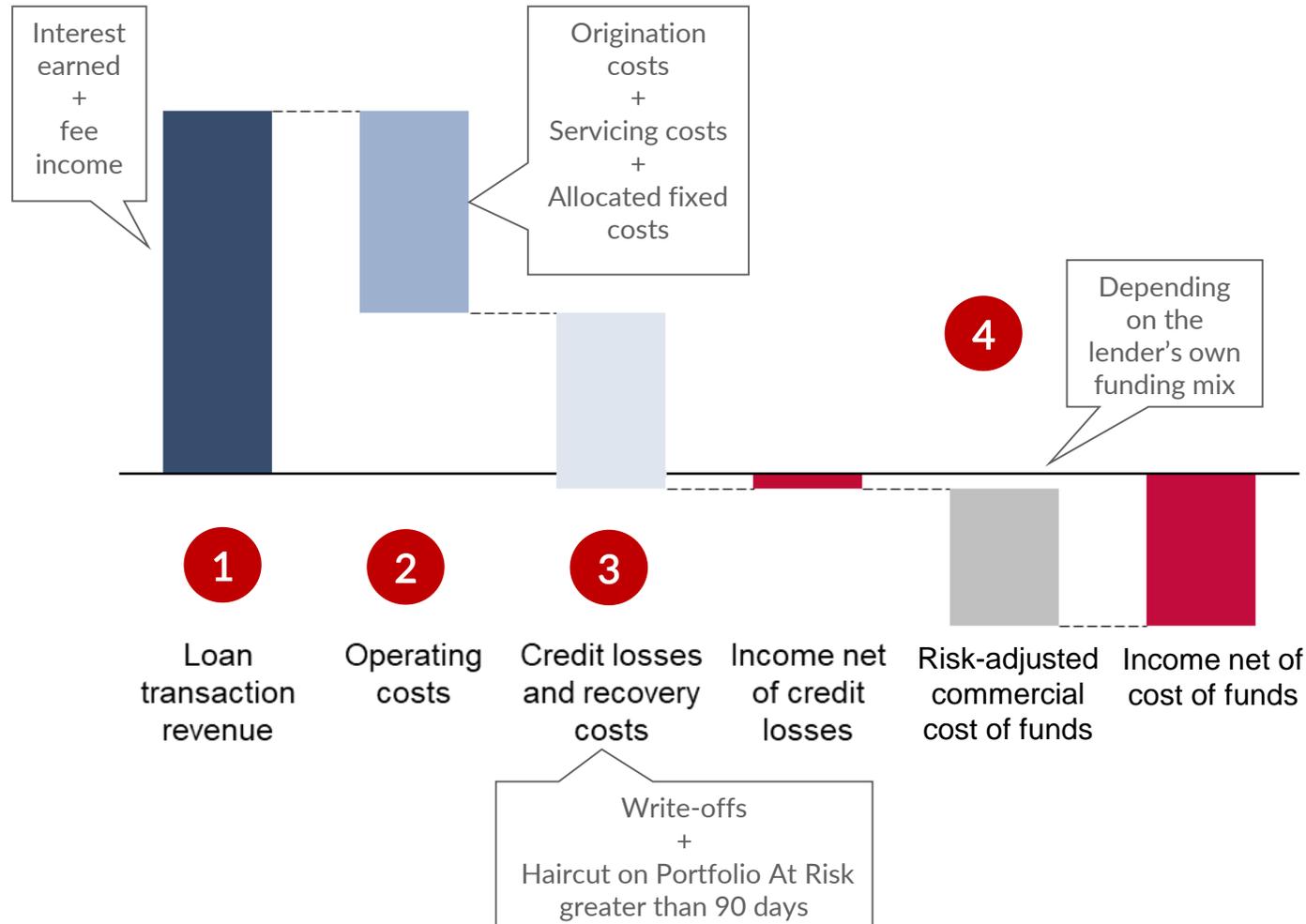
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# We collected, standardized, and analysed data from 9 local lenders, and 11 social lenders to assess agri-lending performance



# As in Phase 1, in Phase 2 we analysed lender loan performance on four dimensions that drive the profitability of a loan portfolio



- (1) Calculated based on averaging each individual metric across all loans in a given dataset; all analysis with this title utilize the same methodology (but with potentially different datasets depending on segmentation)
- (2) Phase 2 analysis considers both impact cost of funds for social lenders and commercial cost of funds for local lenders

# Though largely similar to Phase 1, some methods were adjusted in this phase due to data quality challenges

	Phase 1 approach	Phase 2 data constraints	Phase 2 approach
Transaction revenue	<ul style="list-style-type: none"> <li>Total amount of income as a proportion of the total dollar-duration<sup>1</sup> of the portfolio.</li> <li>Income may be fees, interest, and other banks charges</li> </ul>	<ul style="list-style-type: none"> <li>Non-exhaustive sample of local banks; Local banks may lend via other BUs at bigger ticket sizes to agri-market</li> <li>Limited borrower value chain and crop data provided by all lenders</li> </ul>	<ul style="list-style-type: none"> <li>Same as phase 1, but calculated annualized average revenue for each lenders and represented results across 3 loan sizes<sup>2</sup></li> <li>Supplemented results with lender financial statement analysis</li> </ul>
Operating costs	<ul style="list-style-type: none"> <li><b>Origination cost</b> for loan based on average expense in origination year</li> <li><b>Servicing cost</b> for each active month of loan for duration of tenor</li> <li><b>Recovery costs</b> assigned as lifetime cost of a loan to its year of origination</li> </ul>	<ul style="list-style-type: none"> <li>Limited data provide by local banks to conclusively assess operating profit</li> <li>Lenders are predominantly CSAF members (10 out of 11), which may introduce some bias</li> </ul>	<ul style="list-style-type: none"> <li>Same as phase 1, but determined average annualized operating costs for each lender, and aggregated for each lender type across 3 loan sizes<sup>2</sup></li> <li>Local bank cost range based on financial statements analysis</li> </ul>
Credit losses	<ul style="list-style-type: none"> <li>All write-offs are modelled at the full amount within transaction data</li> <li>0% recovery for active loans 365+ days past due (DPD); 25% for 180–365 DPD; 50% for 90–180 DPD; and 75% for 30–90 DPD</li> </ul>	<ul style="list-style-type: none"> <li>4 of 8 local banks provided quantitative data which limits results accuracy</li> <li>2 of 5 NBFIs have significant larger portfolio's on a number of loans basis which introduces bias</li> </ul>	<ul style="list-style-type: none"> <li>Same as phase 1, but determined average annualized credit losses for each lender, and aggregated for each lender type across 3 loan sizes<sup>3</sup></li> <li>Reduced result accuracy for local banks and NBFIs due to limited data</li> </ul>
Risk-adjusted cost of funds	<ul style="list-style-type: none"> <li>Used Basel III Advanced IRB risk-weighted assets formula to determine risk adjusted cost of funds.</li> </ul>	<ul style="list-style-type: none"> <li>Only 2 of 5 NBFIs participated in study provided a cost of funds</li> </ul>	<ul style="list-style-type: none"> <li>Developed commercial cost of funds model for local lenders based on discussions, financial statements and 1-year bond rates</li> <li>Used phase 1 results for all global social lenders</li> </ul>

(1) Product of the average number of months that a given dollar of principal is outstanding of the loan and the total amount disbursed

(2) (3) (4) Typical loans size segmentations were \$100k, \$250k, and \$1m

# For this report, we have defined simplified segments and specific metrics to best illustrate the underlying patterns

## Segment definitions

East Africa regions	<ul style="list-style-type: none"> <li>• <b>East Africa:</b> Kenya, Rwanda, Tanzania, Uganda, and Zambia</li> </ul>
Small vs. large loan sizes	<ul style="list-style-type: none"> <li>• <b>Small loans:</b> Loan sizes of less than \$500,000</li> <li>• <b>Large loans:</b> Loan sizes of greater than \$500,000</li> </ul>
Agri-SME products	<ul style="list-style-type: none"> <li>• <b>Working capital:</b> Financing for regular business operations of borrower</li> <li>• <b>Asset Finance:</b> Borrower leases equipment from lender and pays a regular charge to the lender for an agreed period of time</li> </ul>
Loose vs. tight value chains <sup>1</sup>	<ul style="list-style-type: none"> <li>• <b>Tight value chains:</b> Loans in coffee, cocoa, sugarcane, cotton, nuts, sunflowers, honey, and vanilla value chains</li> <li>• <b>Loose value chains:</b> Loans in value chains other than ones defined above</li> </ul>
Long-term vs. short-term	<ul style="list-style-type: none"> <li>• <b>Long-term loans:</b> Loans with tenors greater than 12 months</li> <li>• <b>Short-term loans:</b> Loans with tenors lesser than 12 months</li> </ul>

## Additional analysis metrics

Duration (months)	<ul style="list-style-type: none"> <li>• Average number of months that a given dollar of principal is outstanding</li> <li>• For example, \$1M loan being repaid in \$500k increments after 6 and 12 months has duration of 9 months</li> </ul>
Dollar-duration / Weighting factor (\$)	<ul style="list-style-type: none"> <li>• Product of the duration (defined above) of the loan and the total amount disbursed</li> <li>• For example, any loan with a \$1 dollar-duration is equivalent to a loan of \$1 that is fully outstanding for exactly one year</li> </ul>
Annualized yield p.a. (% per \$ per year)	<ul style="list-style-type: none"> <li>• The total amount of income as a proportion of the total dollar-duration of the portfolio. Income may be fees, interest, profit, or credit losses.</li> <li>• For example, fee income yield p.a. of 1% means that for every dollar that stays outstanding for a year, 1 cents will be received in fee income.</li> </ul>

# To build on the quant analysis, we conducted interviews with 8 lenders on internal and external factors, and support considerations

## Internal factors

### Organization

*Understand organization's outlook on agri-lending*

Topics:

- % portfolio in agri-lending and rationale
- Time in agri-lending and historical trends
- Outlook: plans to increase or decrease agri-lending

### Agri-lending BU

*Understand how they lend and to whom*

Topics:

- Structure
- Products
- Terms of loan
- Borrower segments

## External factors

### Market

*Understand demand, competition, and drivers*

Topics:

- Customer demand and underserved segments
- Drivers of market attractiveness:
- Credit-worthiness of borrowers

### Ecosystem

*Understand environmental factors and key actors*

Topics:

- Existing risk guarantee and TA facilities
- Regulatory factors
- Infrastructure considerations

## Support considerations

### Blended finance tools

*Gather feedback on support options*

Topics:

- Incentive payments, risk guarantees, low-cost capital
- Technical assistance

### Other support needs

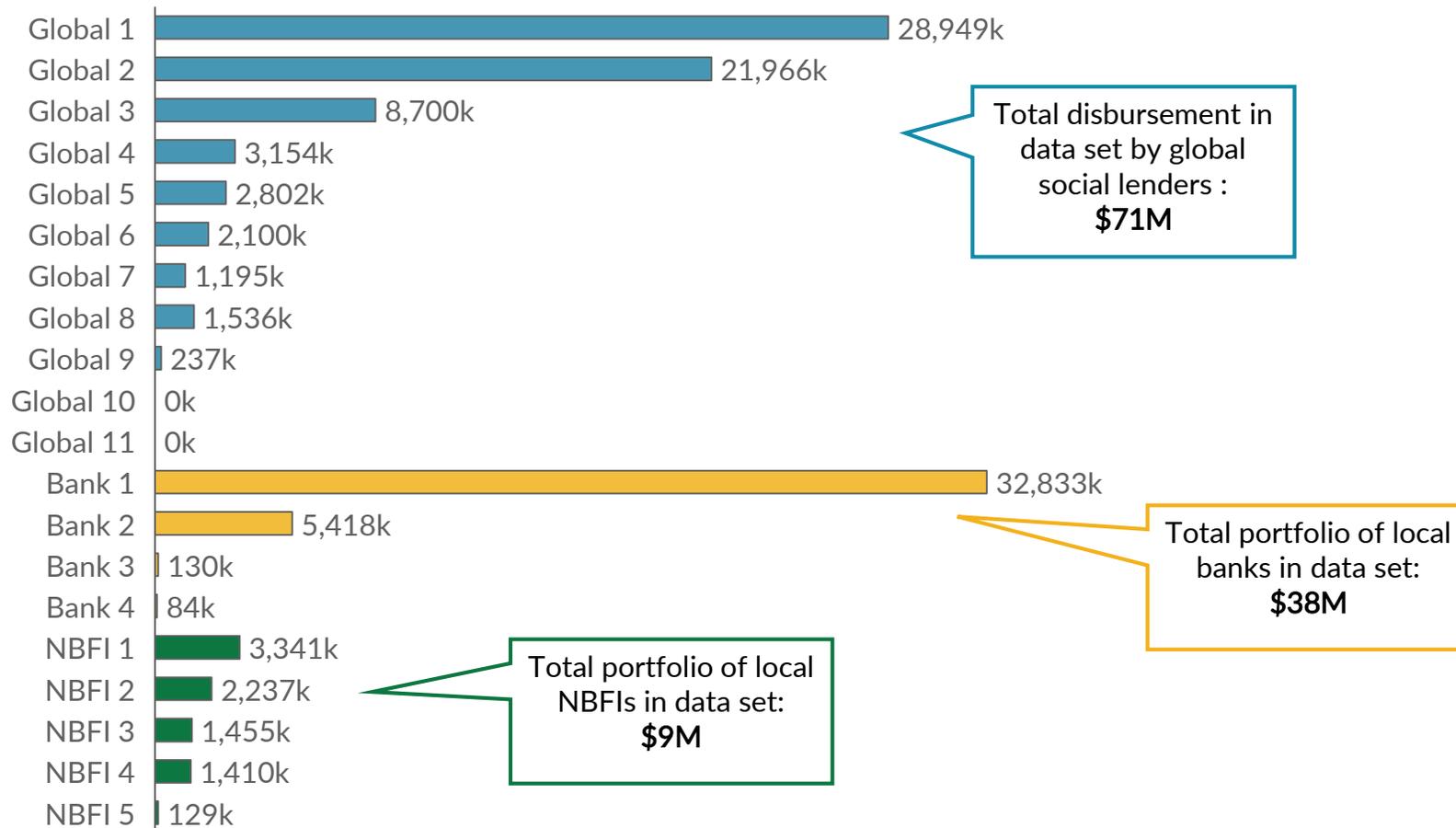
*Learn critical success factors for support options*

Topics:

- Non-financial challenges
- Strategic and organizational considerations

# The 20 lenders providing quantitative data for East Africa disbursed agri-SME loans worth an estimated \$118m in 2016

Total agri-SME loans disbursed in 2016 (USD) in data set in Kenya, Rwanda, Tanzania, Uganda, and Zambia



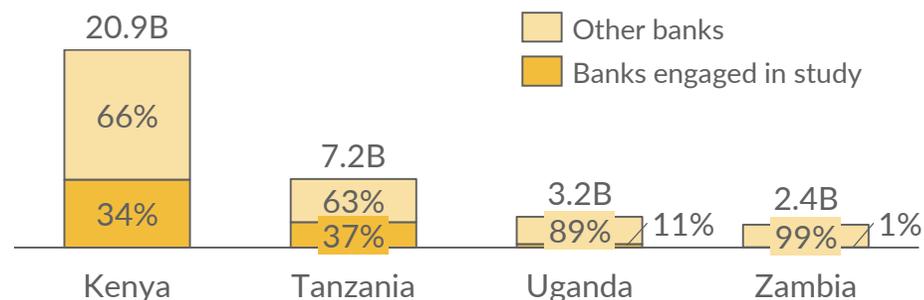
Note: (a) Global Lender 10 did not disburse any loans in the five East African countries East Africa as of December 2017. From 2013-2017, the lender disbursed 4,245k in loans (b) Global Lender 11 did not extend any loans in East Africa at any point from 2013-2017 (c) One global lender did not provide any disbursement data. The average annualized outstanding balance of loans originated in 2016 was used instead. (d) One lender did not provide data for 2016. Origination data for 2015 was used instead

# Insights were synthesized across the 11 local banks engaged, which accounted for 36% of agri-lending in four East African countries

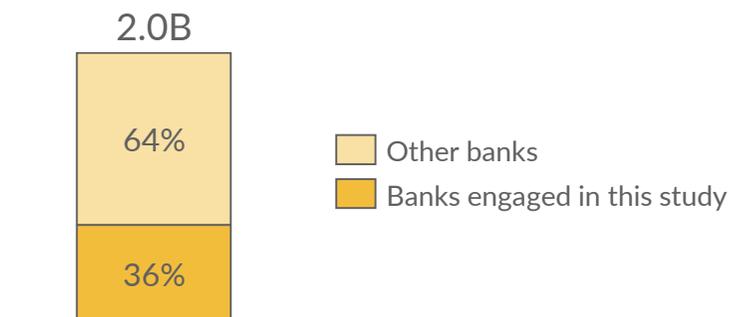
## Engagement of local banks

- We engaged 11 regulated banks in Kenya, Tanzania, Uganda, and Zambia; on:
  - For 2 banks we conducted analysis on loan data and held a qualitative interview
  - For 1 bank we conducted analysis on loan data only
  - For 1 bank we conducted analysis on high-level estimates and held a qualitative interview
  - For 7 banks we held a qualitative interview only
- In addition, during Phase 2, we engaged 5 local NBFIs<sup>4</sup> and 3 global social lenders

## Total bank loans and advances by country (USD)



## Total bank agri-lending in four countries (USD)



Note: (1) Figures for banks' overall and agricultural loans and advances were calculated based on financial statements, where possible; otherwise, figures were calculated based on numbers provided in interviews or based on analysis of data provided by the bank (2) Numbers for banks not engaged calculated through central bank numbers (3) To maintain confidentiality, agri-lending numbers for participating banks have been merged across the four countries (4) We engaged one local NBFi in Phase 1 (SME Impact Fund)

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# Existing support options in East Africa follow a similar pari passu model, with minimal variations

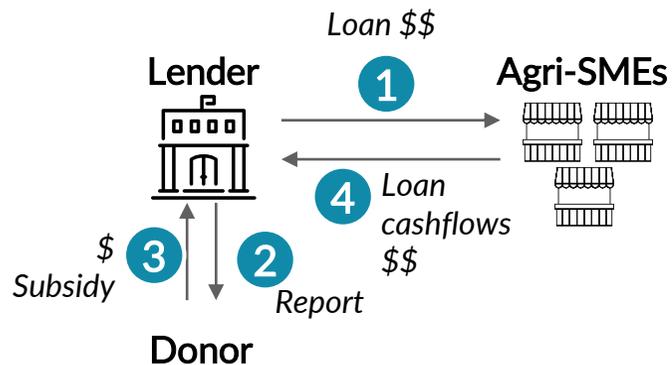
Scheme (non-comprehensive)	Description (to be validated)	Eligible countries in East Africa	Main supporters
aBi Finance	<ul style="list-style-type: none"> <li>50% pari passu coverage to agri-SMEs</li> </ul>	Uganda	DANIDA and Government of Uganda
Bank of Uganda - Agricultural Credit Facility	<ul style="list-style-type: none"> <li>Pari passu coverage to agriculture enterprises</li> <li>Also provides capital zero interest</li> </ul>	Uganda	Government of Uganda
African Guarantee Fund	<ul style="list-style-type: none"> <li>Loan Portfolio Guarantee provides 50% pari passu coverage (75% with co-guarantee) up to \$10m of portfolio</li> <li>Loan Portfolio Guarantee provides 50% pari passu coverage (75% with co-guarantee) up to \$2.5m for individual loan</li> </ul>	All	AfDB
Development Credit Authority	<ul style="list-style-type: none"> <li>Typically 50% pari passu coverage</li> <li>Serve multiple sectors</li> </ul>	All	USAID
PASS Trust	<ul style="list-style-type: none"> <li>50%-70% pari passu coverage to agriculture enterprises</li> <li>Typically charges a 3% fee (on the loan principal)</li> </ul>	Tanzania	DANIDA, SIDA
PROFIT	<ul style="list-style-type: none"> <li>Pari passu coverage to agriculture enterprises; coverage declines as losses increases</li> </ul>	Kenya, other countries TBD	IFAD

# Five risk-sharing and TA support options may better speak to the range of challenges lenders' face

Support option	Description
Concessional debt funding	Lenders receive a line of credit that can be used to fund loans in a certain borrower category; funding costs (for example) 1-2% in USD
First-loss protection	Lenders receive first-loss coverage up to a defined percentage for a portfolio of loans in qualifying borrower and size category
Incentive payments	Lenders receive no-strings-attached revenue for each loan in a qualifying borrower and size category
Recoverable grants	Lenders receive a grant covering (for example) 10% of principal for qualifying loans; the grant only needs to be returned if the loan is paid back
Technical assistance to SMEs	Qualifying SMEs access subsidized technical assistance (e.g., TA on financial reporting, or advisory services on business planning)

# Support option 1 – Incentive payments to provide operating support to increase lending to SMEs that are unprofitable to serve in the short term [version shared with lenders]

## Parties involved



## Steps

Lenders receive no-strings-attached revenue for each loan in a qualifying borrower & size category

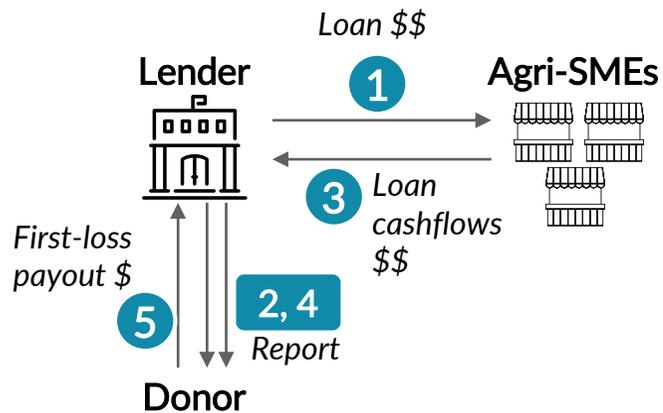
- 1 Lender makes loan in a “qualifying” category, e.g. a small loan to a new borrower
- 2 Lender reports qualifying loan disbursements quarterly to donor
- 3 Donor verifies that the disbursement happened and **immediately pays the lender fixed incentive fee (e.g. \$25,000 per loan)** for that category
- 4 Lender services the loan as normal and keeps all loan-related cash flows. Some loans will lose money and some will be profitable, but the incentive payment is kept by the lender regardless

## Illustrative example (notional)

Loan	Size (US\$)	Incentive Class	Lifetime net profit after losses and costs	Incentive payment (at disbursement)	Net profit after subsidy
1	\$200K	A (Very difficult)	\$5K	+\$30K	+\$35K
2	\$150K	A (Very difficult)	-\$100K	+\$30K	-\$70K
3	\$200K	B (Difficult)	\$10K	+\$15K	+\$25K
4	\$400K	C (Moderate)	\$8K	+\$5K	+\$13K
5	\$400K	C (Moderate)	\$20K	+\$5K	+\$25K
6	\$600K	None	\$12K	0	+\$12K
<b>Total</b>	<b>\$1.95M</b>		<b>-\$45K (-2.3%)</b>	<b>+\$85K</b>	<b>+\$40K (+2.1%)</b>

## Support option 2 – First loss protection to make lending to riskier segments more attractive for lenders [version shared with lenders]

### Parties involved



### Steps

Lenders receive first credit loss coverage up to a defined percentage for a portfolio of loans in a qualifying borrower & size category

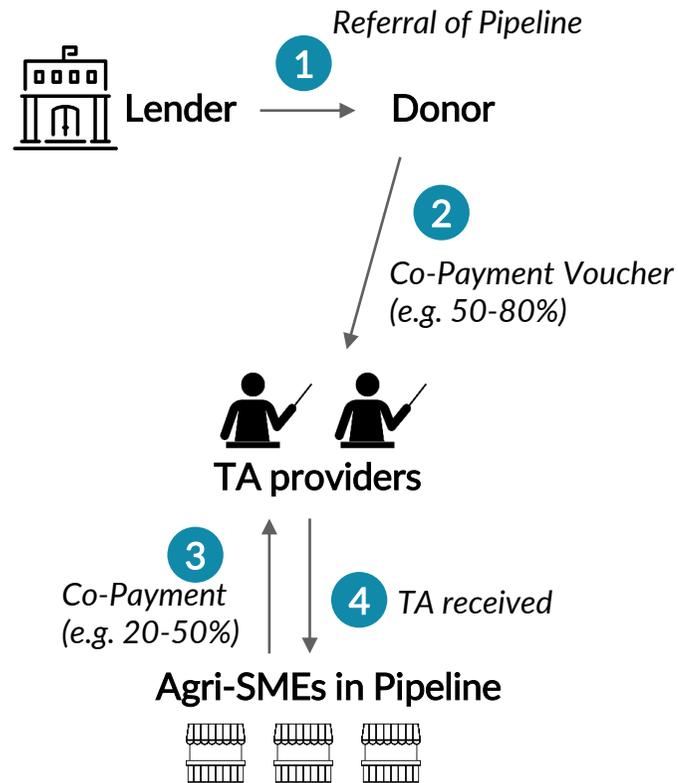
- 1 Lender makes loan in a qualifying category
- 2 Lender reports qualifying loan disbursements quarterly to the donor, which agrees to guarantee the first losses on those loans up to a fixed percentage. No fee is due for the guarantee.
- 3 Lender services the loan as normal and keeps all loan-related cash flows
- 4 Lender reports credit losses incurred to donor
- 5 Donor provides **100% credit loss protection** up to an established percentage of the qualifying loan portfolio (example: 5% first-loss)

### Illustrative example (notional)

Qualifying Loan Portfolio	Size (US\$)	Credit loss	Lifetime net profit after losses and costs
Loan 1	\$100K	-	+\$5K
Loan 2	\$150K	-\$75K	-\$70K
Loan 3	\$200k	-	+\$12K
Loan 4	\$250k	-	+\$18k
<b>Total Portfolio</b>	<b>\$1.0 M</b>	<b>-\$75K</b>	<b>-\$35K (-3.5%)</b>
Total available first loss for portfolio		= \$1.0M x 5% = Up to \$50K guarantee	
First-loss cover used to reduce credit losses		\$50K (maximum)	
New Net Profit after guarantee payout		=+\$15K (+1.5%) = (-\$35K) + \$50K guarantee payout	

# Support option 3 – Technical assistance (TA) to SMEs to de-risk and increase demand for lending [version shared with lenders]

## Parties involved



## Steps

### Qualifying SMEs access subsidized technical assistance

- 1 Lender refers high-potential SMEs in its pipeline (in qualifying categories, e.g. first-time borrower) to donor
- 2 For some qualified SMEs, donor issues a voucher to cover e.g. 50-80% of TA costs
- 3 SMEs selects an approved TA provider and contributes part of the cost of TA (e.g. 20-50%)
- 4 Services focused on business planning, financial management, and other key topics provided by TA provider

## Potential topics for TA

- TA to increase lender confidence on topics such as **financial reporting and accounting procedures**, and **governance mechanisms**
- Advisory services on **business planning and operations**, such as **growth/expansion strategies** and **process efficiencies**
- TA covering **agronomic & processing practices** to improve output and quality
- TA covering **risk management**

# Support option 4 – Recoverable grants to allow lenders to increase their exposure to risk [version shared with lenders]

## Without Support (Current State)



### Your institution's Treasury

- Your bank funds the entire loan.
- The normal cost of funds is charged to your business unit
- Any credit losses are borne by your bank & BU

## Loan Economics

	Performing Loan	Defaulted Loan
Loan Size	\$200K	\$200K
Loan Revenue	\$40K	\$10K
Cost of Funds	-\$20K	-\$20K
Credit Losses	-	-\$100K
Other Costs	-\$10k	-\$10K
<b>Net Profit</b>	<b>+\$10K</b>	<b>-\$120K</b>

## With Donor Support

Assuming a recoverable grant covering 10% of principal for qualifying loans



### Your institution's Treasury (90%)

### Donor (10%)

- A grant from PA is put on your balance sheet and can fund up to 10% of each qualifying loan
- This funding has zero cost, so your **cost of funds is reduced by 10%**
- In addition, it only needs to be returned if the loan is paid back, so **it can absorb losses up to 10% as well**

## Loan Economics

	Performing Loan	Defaulted Loan
Loan Size	\$200K	\$200K
Loan Revenue	\$40K	\$10K
Cost of Funds	-\$18K	-\$18K
Credit Losses	-	-\$80K
Other Costs	-\$10k	-\$10K
<b>Net Profit</b>	<b>+\$12K</b>	<b>-\$98K</b>

## Support option 5 – Concessional Debt Funding to lower the cost of funds for qualifying loans [version shared with lenders]

### Without Support (Current State)



#### Your institution's Treasury

- Your bank funds the entire loan.
- The normal cost of funds is charged to your business unit
- Any credit losses are borne by your bank & BU

### Loan Economics

	Performing Loan	Defaulted Loan
Loan Size	\$200K	\$200K
Loan Revenue	\$40K	\$10K
Cost of Funds (e.g. Local Base Rate)	-\$20K	-\$20K
Credit Losses	-	-\$100K
Other Costs	-\$10k	-\$10K
<b>Net Profit</b>	<b>+\$10K</b>	<b>-\$120K</b>

### With Support (Prosper Africa)

Assuming a USD line of credit with a 1-2% interest cost



#### Your institution's Treasury

#### Donor

- PA extends a line of credit that can be used to fund loans in certain borrower categories (e.g. small first-time borrowers). There are no price caps imposed.
- This funding costs e.g. 1 or 2% in USD, so your cost of funds is reduced significantly
- However, it is debt, so the bank is still responsible for all credit losses

### Loan Economics

	Performing Loan	Defaulted Loan
Loan Size	\$200K	\$200K
Loan Revenue	\$40K	\$10K
Cost of Funds	-\$8K	-\$8K
Credit Losses	-	-\$100K
Other Costs	-\$10k	-\$10K
<b>Net Profit</b>	<b>+\$22K</b>	<b>-\$108K</b>