



Debt Financing and Proprietor Experience in Relation to Retail SME Performance

Nephat Kithaka Njeru¹

¹ Postgraduate Student Tharaka University

DOI: 10.66699/kwvdcf94



ABSTRACT

This paper examines whether financing scores from commercial banks, microfinance institutions (MFIs), savings and credit co-operative societies (SACCOs), and government credit programmes were associated with retail small and medium-sized enterprise (SME) performance in Tharaka South, Kenya. It also assessed the additional association of proprietor experience after accounting for the four financing scores. A quantitative cross-sectional survey targeted 269 proprietors from 922 registered businesses in Marimanti and Nkondi wards; 266 usable questionnaires were analysed. The reported joint financing model accounted for 42.2% of the observed variance in the performance score, $F(4, 261) = 47.688, p < .001$. All four financing coefficients were positive in that model. Adding proprietor experience increased reported R^2 from .422 to .424, but its coefficient was not statistically significant ($B = 0.035, t = 0.843, \text{recomputed } p = .400$). No financing–experience interaction was identified, so the models do not test moderation. The study compares four named financing channels within one local sample and distinguishes their adjusted associations from the additional main effect of experience. Correlation case counts and score construction require clarification before the statistical findings can be fully verified. The evidence supports bounded associational claims; it does not establish an effect of borrowing on business survival.

Keywords: debt financing, retail SME performance, proprietor experience, microfinance, SACCOs, government credit programmes

HOW TO CITE

Njeru, N. K. (2026). Debt Financing and Proprietor Experience in Relation to Retail SME Performance. *Journal of Business and Finance in East and Horn of Africa*, 2(1), 11-20.
<http://doi.org/10.66699/kwvdcf94>

Open access under the Creative Commons Attribution 4.0 International license: creativecommons.org/licenses/by/4.0/

Background

Financing small firms is a persistent concern in entrepreneurship research because access to external capital shapes the opportunities available to businesses with limited internal resources. The field encompasses different providers, financing arrangements and institutional settings, making it necessary to distinguish the availability of finance from the capacity to use it productively (Cumming et al., 2019). Evidence from developing countries also links better business practices with stronger firm outcomes, including higher survival rates and sales growth. Therefore, examine finance and managerial capability together, without treating credit as a sufficient condition for success (McKenzie & Woodruff, 2017).

Government-supported lending adds another dimension to entrepreneurial finance. Crawford et al. (2024) review direct government finance through loans, guarantees and credit lines and identify the need to clarify the purpose of support and improve awareness of available instruments. Cowling and Dvoutely (2023) examine a UK start-up loan scheme and find that borrower circumstances are relevant to loan performance and the wider benefits of supported self-employment. Their findings concern a specific public lending scheme and do not establish the performance of Kenyan government credit programmes. They nevertheless motivate examining public credit alongside other financing channels rather than treating all external finance as interchangeable.

Across Africa, financial constraints remain relevant to enterprise development. Fowowe (2017), using data from 10,888 firms in 30 African countries, found that credit constraints were associated with slower firm growth. Nevertheless, the benefits of finance are not uniform across outcomes or settings. Adegboye and Iweriebor (2018) found that access to bank credit supported innovation among Nigerian SMEs, while increased access to finance could coincide with lower productivity. At the institutional level, Anarfo et al. (2020) showed that financial regulation and stability interact in shaping financial inclusion in sub-Saharan Africa. These findings support attention to both borrower-level capabilities and the conditions under which finance is supplied.

Kenya offers an instructive setting because substantial financial inclusion coexists with concerns about the suitability and productive use of financial services. The 2024 FinAccess survey reported that 84.8% of adults had formal financial access (Kenya National Bureau of Statistics [KNBS], 2024). This household statistic does not establish that retail SMEs obtain affordable business credit. Moreover, experimental evidence from Kenyan SMEs indicates that the timing of loans relative to business training can affect business practices and performance; immediate credit access did not necessarily strengthen the benefits of training (Ashraf & Lyons, 2026). National inclusion should consequently not be equated with an assured improvement in enterprise performance.

The local business environment provides a further reason to examine financing in Tharaka South. The Kenya Institute for Public Policy Research and Analysis (KIPPRA, 2022) identifies constraints affecting micro and small enterprises in Tharaka Nithi County, including restricted access to affordable, long-term finance, gaps in technical capacity and limited risk preparedness. Its county policy brief also notes weaknesses in the use of financial innovations and awareness of credit guarantees. These constraints provide the context for a local inquiry into financing and SME performance.

The present study distinguishes four financing channels: commercial banks, MFIs, SACCOs and government credit programmes. These are entered as separate predictors in a joint regression, rather than combined into a single debt-financing index. Their coefficients describe conditional associations with the questionnaire-based performance score after accounting for the other included predictors. They do not compare experimental treatments or establish that the channels are mutually exclusive. Financing preferences, actual loan receipt and respondents' assessments of access are also distinct constructs, consistent with the individual, organisational and institutional dimensions of financing decisions identified by Nguyen and Canh (2021).

Proprietor experience offers a plausible capability-related explanation for differences in enterprise performance. Anwar et al. (2020) distinguish experience from financial literacy and associate both with

opportunity recognition and performance. Abdallah et al. (2025) examine financial literacy alongside financial access, while Battisti et al. (2019) link learning to resilient small-firm performance. These studies motivate an examination of experience, but they do not establish that experience necessarily moderates every financing–performance relationship. A main effect of experience and an interaction between experience and financing represent different empirical propositions.

This paper evaluates a specific claim: among the surveyed businesses, the four financing scores are associated with the performance score when considered together, and proprietor experience may contribute an additional association after those scores are accounted for. The empirical outcome is questionnaire-based SME performance. Business survival motivates the research problem, but no closure outcome or survival duration is modelled. The claim is therefore confined to the measured constructs, the sampled businesses and the cross-sectional design.

The contribution is the provider-specific comparison within this local study setting. Fowowe (2017) examines financial constraints across African firms, Mutsonziwa and Fanta (2021) compare formal and informal credit in Southern African economies, and Anwar et al. (2020) examine experience, literacy and opportunity recognition. This study instead places four named financing channels in the same performance model and evaluates the incremental main effect of experience. That comparison extends the discussion to the surveyed Tharaka South businesses; it does not establish that the model is the first of its kind or that the associations apply to all Kenyan SMEs.

Hypotheses

Agency, human capital and resource-based perspectives guide the interpretation. Information gaps and borrower–lender incentives can shape credit arrangements; accumulated experience may inform business decisions; and financial resources, when combined with productive capabilities, may support enterprise activity. These perspectives suggest associations to examine, rather than mechanisms established by this survey. The empirical literature also contains positive, weak and context-dependent findings, so favourable financing outcomes are hypotheses, not assumptions. The following hypotheses organise the reported exploratory comparisons:

H1 The four financing scores are jointly associated with retail SME performance. Its statistical null is that all four financing coefficients equal zero.

H2 Proprietor experience is positively associated with performance after accounting for the four financing scores.

H3 Proprietor experience moderates at least one financing–performance association. This proposition requires one or more financing $\times$ experience interaction terms.

H1 is motivated by the financing-constraint and resource arguments, and the heterogeneous evidence reviewed above supports the expected direction. H2 follows the capability-related reasoning concerning experience. H3 is a separate proposition motivated by heterogeneity in credit returns, including Meager's (2019) experimental synthesis; it cannot be assessed by adding experience as a covariate alone.

Methodology

Research design and setting

The study used a quantitative cross-sectional survey within a positivist, deductive approach. Structured questionnaire responses were collected at a single point in time to examine associations between financing and retail SME performance. The design supports the estimation of observed relationships but cannot determine temporal ordering or isolate a causal effect of borrowing. The study was conducted in Marimanti and Nkondi wards in Tharaka South Sub-County, Tharaka Nithi County, in eastern Kenya.

Population and sampling

The stated population comprised 922 registered small-scale businesses as at June 2025. The planned sample was 269 proprietors, allocated between Marimanti and Nkondi wards in an intended 60:40 ratio. The analysis used 266 usable questionnaires. Ward-specific frame counts and individual selection procedures are not sufficiently specified to establish proportional random sampling. The category breakdown also includes service enterprises, requiring clarification of the retail eligibility definition.

The stated finite-population sample-size expression is:

$$s = \frac{\chi^2 N p (1 - p)}{d^2 (N - 1) + \chi^2 p (1 - p)}$$

Here, s is the required sample size, N is the population size, p is the anticipated population proportion, d is the margin of error, and χ^2 is the one-degree-of-freedom chi-square value for the stated confidence level. With $N = 922$, $p = .50$, $d = .05$ and $\chi^2 = 3.841$, the expression gives 271.35 and a rounded requirement of 272. The reported target of 269 and analysed count of 266 are retained as actual study quantities; they are not replaced by the corrected planning result. Precision-based sample planning does not itself establish sufficient power for an interaction test (Lakens, 2022).

Instrument

The structured questionnaire covered proprietor and enterprise characteristics, borrowing preferences and Likert-type responses concerning the four financing channels and SME performance. Proprietor experience was included as an additional predictor. The item wording, scale ranges, aggregation rules and coding of experience require fuller specification. The financing coefficients are therefore interpreted in questionnaire-score units, rather than as changes per shilling borrowed; experience is not interpreted per year without its coding. Tutz (2021) emphasises that the scale level of Likert-type responses matters for their modelling.

The questionnaire was piloted with 27 small-scale business owners in Kiagu Ward, Meru County. Pilot responses were assessed for relevance and consistency to identify problems in the instrument. A Cronbach's alpha coefficient above .70 was reported. This result provides limited evidence of internal consistency; the lack of construct-specific coefficients and the underlying item structure prevents a fuller assessment of measurement reliability or validity.

Model

Responses were coded, entered Microsoft Excel and checked for missing or inconsistent entries. Descriptive statistics and Pearson correlations preceded multiple linear regression. The baseline specification included the four financing scores. The second specification added proprietor experience as a main effect. The reported residual degrees of freedom are consistent with 266 observations in both specifications, but the valid case count for each correlation is unspecified. The hypotheses are presented as analytical propositions for exploratory cross-sectional comparisons.

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \varepsilon$$

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5E + \varepsilon$$

Y denotes the performance score; X_1 , X_2 , X_3 and X_4 denote commercial bank, MFI, SACCO and government credit programme scores; and E denotes proprietor experience. The first equation describes the baseline model and the second the experience-adjusted model. The error term ε represents the unexplained component of an observation, not the variance of the outcome. Coefficients are unstandardised B values. No financing $\times$ experience term is identified in either reported specification. Diagnostic results for normality, multicollinearity and heteroscedasticity are unreported. Normality concerns regression errors, not a requirement that every predictor be normally distributed (Schmidt & Finan, 2018). Approximate 95% confidence intervals use the reported B , standard error and residual degrees of freedom. The

experience p -value is recomputed from t and 260 residual degrees of freedom. These are reconstructions of reported inference, not respondent-level reanalyses.

Results

Descriptive results

Table 1 presents the supplied counts. Marimanti accounted for 161 respondents and Nkondi for 105; 147 respondents were female and 119 male. According to the supplied table, most enterprises had a single owner, and 167 had no regular employees. Incomplete age categories and conflicting financing-source totals are identified in the note.

Table 1

Respondent, Enterprise and Borrowing Characteristics

Characteristic	Category	<i>n</i>	%
Ward	Marimanti	161	60.5
	Nkondi	105	39.5
Gender	Female	147	55.3
	Male	119	44.7
Age	21–30 years	20	7.5
	31–40 years	100	37.6
	41–50 years	99	37.2
	51 years and above	20	7.5
Business type	General merchandise shops	53	19.9
	Food-related businesses	44	16.5
	Grocery businesses	30	11.3
	Transport services	26	9.8
	Electronics, electrical and appliance businesses	23	8.6
	Home and furniture, including kitchenware	9	3.4
Business ownership	One owner	245	92.1
	Two owners	17	6.4
	Three owners	2	0.8
	More than three owners	2	0.8
Business management	Owner alone	152	57.1
	Owner jointly with family member or spouse	114	42.9
Regular employees	No regular employees	167	62.8
	One regular employee	59	22.2
	Two regular employees	28	10.5
	More than two regular employees	12	4.5
Duration of operation	Less than one year but more than three months	14	5.3
	1–2 years	39	14.7
	2–3 years	30	11.3

Characteristic	Category	<i>n</i>	%
Purpose of borrowing	3–4 years	65	24.4
	4–5 years	39	14.7
	5 years	79	29.7
	Boosting operational efficiency	245	92.1
	Acquiring new business skills	58	21.8
Financing source	Investing in a new product line	43	16.2
	Microfinance institutions (MFIs)	117	44.0
	Savings and Credit Co-operative Societies (SACCOs)	91	34.2
	Government credit support programmes	28	10.5
	Commercial banks, including M-Shwari	31	11.7
Borrowing frequency	Once per year	98	36.8
	Once every six months	126	47.4
	Once every three months	32	12.0
	Weekly	10	3.8

Note. *N* = 266. Counts follow the supplied table; percentages are recalculated as $n/266 \times 100$. The employee categories in that table sum to 266; an additional overlapping category mentioned only in the narrative is not added. The reported age groups total 239, leaving 27 cases unaccounted for. Business categories are a selected breakdown. Duration labels may overlap, including “4–5 years” and “5 years”; the latter has not been reinterpreted as “more than five years”. Borrowing-purpose counts total 346, and financing-source counts total 267; their multiple-response or exclusive status requires clarification. Government programmes account for 28 cases (10.5%), and commercial banks account for 31 cases (11.7%).

Pairwise financing correlations

The reported correlations with performance are positive for all four financing scores (Table 2), with the largest numerical coefficient for SACCO financing. The correlation case counts are not provided, so these estimates cannot be assumed to use the same complete cases as the joint regression. Significance assertions for the correlations are not reproduced as independently verified results.

Table 2

Reported Correlations with SME Performance

Financing score	<i>r</i>
Commercial bank	.6771
MFI	.6440
SACCO	.7239
Government credit programmes	.2132

Note. Valid case counts are unspecified. Coefficients retain the supplied precision. Comparisons with the multiple regression require confirmation of the analytic samples and variable definitions.

Joint regression results

The baseline model reports $R = .650$ and $R^2 = .422$, accounting for 42.2% of the observed variance in the performance score. Its omnibus test is $F(4, 261) = 47.688$, $p < .001$. The experience-adjusted model reports $R^2 = .424$ and $F(5, 260) = 38.250$, $p < .001$ (Table 3).

Table 3

Reported Fit of the Joint Regression Models

Model	Predictors	R^2	F	df	p
Financing model	4	.422	47.688	4, 261	< .001
Experience-adjusted model	5	.424	38.250	5, 260	< .001

Note. Both sets of degrees of freedom are consistent with $N = 266$ under an ordinary least squares model with an intercept. The increase in reported R^2 is approximately .002, or 0.2 percentage points. The omnibus test concerns the predictor set; it does not separately establish every individual coefficient's sign or significance.

In the baseline model, the reported coefficients are positive for commercial bank financing ($B = 0.454$), MFI financing ($B = 0.431$), SACCO financing ($B = 0.575$) and government credit programmes ($B = 0.482$). Their reported significance values are expressed as $p < .001$, rather than $p = .000$. These are conditional score associations, not causal effects or monetary returns. SACCO financing has the largest unstandardised coefficient, but the measures' comparability is not sufficiently established to rank their economic importance.

Table 4

Coefficients for the Financing and Experience-Adjusted Models

Model	Predictor	B	SE	95% CI	t	p
1	Constant	5.972	0.377	[5.230, 6.714]	15.852	< .001
	Commercial financing	0.454	0.056	[0.344, 0.564]	8.125	< .001
	MFI financing	0.431	0.043	[0.346, 0.516]	9.997	< .001
	SACCO financing	0.575	0.042	[0.492, 0.658]	13.747	< .001
	Government programmes	0.482	0.074	[0.336, 0.628]	6.500	< .001
2	Constant	6.311	0.551	[5.226, 7.396]	11.453	< .001
	Commercial financing	0.467	0.058	[0.353, 0.581]	8.055	< .001
	MFI financing	0.438	0.044	[0.351, 0.525]	9.967	< .001
	SACCO financing	0.586	0.044	[0.499, 0.673]	13.363	< .001
	Government programmes	0.483	0.074	[0.337, 0.629]	6.517	< .001
	Proprietor experience	0.035	0.042	[-0.048, 0.118]	0.843	.400

Note. Model 1 includes the four financing scores; Model 2 adds experience as a main effect. B = unstandardised coefficient; SE = standard error; CI = confidence interval. The approximate intervals are reconstructed from rounded B and SE values using t critical values for 261 and 260 residual degrees of freedom, respectively. For example, the reported $t = 0.843$ and $df = 260$ give two-sided $p = .400$, replacing the incompatible .061. Original output is needed to verify the underlying unrounded estimates. No interaction coefficient is reported.

The reported baseline fitted equation is:

$$\hat{Y} = 5.972 + 0.454X_1 + 0.431X_2 + 0.575X_3 + 0.482X_4$$

The intercept is the fitted outcome when all four predictors equal zero. Its substantive meaning depends on whether that point lies within the observed coding range. If every predictor and the outcome are means on a 1–5 scale, the equation predicts values above five throughout that predictor range; a summed or differently coded outcome would require a different interpretation. The score definitions must therefore be checked before predictions are given a substantive meaning.

Additional main effect of proprietor experience

Adding experience leaves the four financing coefficients positive and changes reported R^2 from .422 to .424. The experience coefficient is $B = 0.035$, $SE = 0.042$, $t(260) = 0.843$, recomputed $p = .400$, with an approximate 95% CI of $[-0.048, 0.118]$. This result does not support the proposed positive additional association of experience at the .05 level. It also does not establish that the population coefficient is zero.

Because the model adds experience without an identified interaction, it cannot determine whether experience moderates any financing–performance association.

Table 5

Relationship Between the Hypotheses and Reported Results

Hypothesis	Proposition	Reported evidence	Decision
H1	Financing scores jointly associated	$F(4, 261) = 47.688; p < .001$	Joint null rejected
H1a	Positive bank association	$B = 0.454; p < .001$	Supported by reported model
H1b	Positive MFI association	$B = 0.431; p < .001$	Supported by reported model
H1c	Positive SACCO association	$B = 0.575; p < .001$	Supported by reported model
H1d	Positive association public-credit	$B = 0.482; p < .001$	Supported by reported model
H2	Positive additional experience association	$B = 0.035; p = .400$; CI crosses zero	Not supported; null not rejected
H3	Experience moderates financing associations	No interaction estimate	Not tested

Note. Decisions are conditional on the reported estimates and model specification. “Supported” describes compatibility with the predicted direction in the reported observational model; it is not proof of causation or universal validity. Non-significance does not amount to accepting a zero-effect null. Moderation is untested, rather than supported or rejected.

Discussion

The positive conditional financing associations converge with evidence that financial constraints can limit enterprise activity. Fowowe (2017) links credit constraints with slower growth across African firms, and Semegn and Bishnoi (2021) report positive associations involving microcredit and enterprise performance in Ethiopia. This agreement in direction is relevant to H1, but differences in outcome measures, financing definitions and study design limit direct comparison of coefficient magnitudes.

The wider evidence also prevents a general conclusion that more borrowing improves every business outcome. Adegboye and Iweriebor (2018) distinguish innovation benefits from possible productivity declines, while Mutsonziwa and Fanta (2021) find that formal-credit performance gains differ across Southern African economies. Bika et al. (2022) situate microfinance within everyday business practices, focusing on the relationship between access and productive use. The present estimates concern questionnaire scores; they do not demonstrate which investment or management mechanism produces the observed associations.

The microfinance comparison is similarly bounded. Meager (2019) finds modest average effects across randomised experiments and heterogeneous returns among households with previous business experience. Fiala (2018) reports different outcomes for male- and female-owned enterprises in Uganda. Ashraf and Lyons (2026) show that, in Kenya, the timing of loans alongside training matters and that access may coincide with weaker business practices and revenue. These findings diverge from a simple positive-credit interpretation and explain why the survey cannot justify recommending that every proprietor borrow.

Government credit programmes have a positive conditional coefficient in the reported joint model. That finding warrants attention to the design and purpose of support rather than a conclusion about the effectiveness of any named Kenyan scheme. Crawford et al. (2024) emphasise the diversity of public financial instruments, and Cowling and Dvouletý (2023) identify borrower circumstances and wider

benefits in a UK programme. Programme-level causal conclusions would require exposure definitions, appropriate comparisons and a design suited to evaluating those programmes.

For example, H2 is not supported by the reported adjusted model. This differs from the favourable experience–performance association Anwar et al. (2020) examined, although their opportunity-recognition framework and setting are distinct. Experience, financial literacy and learning are also distinct constructs, as Abdallah et al. (2025) and Battisti et al. (2019) illustrate. The small additional coefficient cannot be used to dismiss the importance of entrepreneurial capability, especially while experience coding and uncertainty remain incompletely documented. H3 remains untested.

Limitations and scope of inference

The cross-sectional design cannot isolate causal effects, and self-reported financing and performance may share reporting influences. Correlation case counts are missing. If the reported correlations use the same variables and cases as the joint regression, R^2 cannot be lower than the largest squared single-predictor correlation; the reported SACCO correlation implies $r^2 \approx .524$, exceeding joint $R^2 = .422$. Different samples or coding could explain this discrepancy, but they must be documented. Scale construction, selection procedures and diagnostic results also require clarification. Incomplete descriptive categories and the inclusion of service enterprises constrain the definition of the study population. These reporting gaps must be reconciled before the estimates can support definitive inferential claims.

Conclusion

The reported joint model supports H1 and the positive directions specified in H1a–H1d for the surveyed businesses. It accounts for 42.2% of observed performance-score variance and leaves a substantial proportion unexplained. Adding proprietor experience produces a small increase in reported fit and does not support H2 at the .05 level. H3 is untested because no financing–experience interaction is identified. The study's contribution is a local comparison of four named financing channels with an additional experience adjustment. Its results do not establish effects on enterprise closure, rank lenders by economic impact or justify general claims about all SMEs.

Further analysis should document score definitions and common analytic cases, report diagnostics and estimate interactions if moderation remains a research question. Practical support should address loan suitability, repayment capacity and record-keeping. Longitudinal performance and closure outcomes are needed to examine survival.

References

- Abdallah, W., Harraf, A., Ghura, H., & Abrar, M. (2025). Financial literacy and small and medium enterprises performance: The moderating role of financial access. *Journal of Financial Reporting and Accounting*, 23(4), 1345–1364. <https://doi.org/10.1108/JFRA-06-2024-0337>
- Adegboye, A. C., & Iweriebor, S. (2018). Does access to finance enhance SME innovation and productivity in Nigeria? Evidence from the World Bank Enterprise Survey. *African Development Review*, 30(4), 449–461. <https://doi.org/10.1111/1467-8268.12351>
- Anarfo, E. B., Abor, J. Y., & Osei, K. A. (2020). Financial regulation and financial inclusion in Sub-Saharan Africa: Does financial stability play a moderating role? *Research in International Business and Finance*, 51, Article 101070. <https://doi.org/10.1016/j.ribaf.2019.101070>
- Anwar, M., Shuangjie, L., & Ullah, R. (2020). Business experience or financial literacy? Which one is better for opportunity recognition and superior performance? *Business Strategy & Development*, 3(3), 377–387. <https://doi.org/10.1002/bsd2.103>
- Ashraf, A., & Lyons, E. (2026). Complementing business training with access to finance: Evidence from SMEs in Kenya. *Journal of Development Economics*, 179, Article 103645. <https://doi.org/10.1016/j.jdeveco.2025.103645>
- Battisti, M., Beynon, M., Pickernell, D., & Deakins, D. (2019). Surviving or thriving: The role of learning for the resilient performance of small firms. *Journal of Business Research*, 100, 38–50. <https://doi.org/10.1016/j.jbusres.2019.03.006>

- Bika, Z., Subalova, M., & Locke, C. (2022). Microfinance and small business development in a transitional economy: Insights from borrowers' relations with microfinance organisations in Kazakhstan. *The Journal of Development Studies*, 58(1), 183–203. <https://doi.org/10.1080/00220388.2021.1956472>
- Cowling, M., & Dvouletý, O. (2023). UK government-backed start-up loans: Tackling disadvantage and credit rationing of new entrepreneurs. *International Small Business Journal*, 41(7), 714–733. <https://doi.org/10.1177/02662426221124733>
- Crawford, J., Cui, Z.-Y. A., & Kewley, D. (2024). Government finance, loans, and guarantees for small and medium enterprises (SMEs) (2000–2021): A systematic review. *Journal of Small Business Management*, 62(5), 2607–2637. <https://doi.org/10.1080/00472778.2023.2246061>
- Cumming, D., Deloof, M., Manigart, S., & Wright, M. (2019). New directions in entrepreneurial finance. *Journal of Banking & Finance*, 100, 252–260. <https://doi.org/10.1016/j.jbankfin.2019.02.008>
- Fiala, N. (2018). Returns to microcredit, cash grants and training for male and female microentrepreneurs in Uganda. *World Development*, 105, 189–200. <https://doi.org/10.1016/j.worlddev.2017.12.027>
- Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of Development Finance*, 7(1), 6–17. <https://doi.org/10.1016/j.rdf.2017.01.006>
- Kenya Institute for Public Policy Research and Analysis. (2022). *MSEs' business environment in Tharaka Nithi County* (Policy Brief No. 41/2021–2022). <https://kippra.or.ke/download/mses-business-environment-in-tharaka-nithi-county-pb41-2021-2022/>
- Kenya National Bureau of Statistics. (2024). *2024 FinAccess household survey*. <https://repository.knbs.or.ke/handle/knbs-ke-repo/417>
- Lakens, D. (2022). Sample size justification. *Collabra: Psychology*, 8(1), Article 33267. <https://doi.org/10.1525/collabra.33267>
- McKenzie, D., & Woodruff, C. (2017). Business practices in small firms in developing countries. *Management Science*, 63(9), 2967–2981. <https://doi.org/10.1287/mnsc.2016.2492>
- Meager, R. (2019). Understanding the average impact of microcredit expansions: A Bayesian hierarchical analysis of seven randomized experiments. *American Economic Journal: Applied Economics*, 11(1), 57–91. <https://doi.org/10.1257/app.20170299>
- Mutsonziwa, K., & Fanta, A. B. (2021). Small business performance: Is it access to formal or informal credit that matters? *Journal of African Business*, 22(4), 550–563. <https://doi.org/10.1080/15228916.2020.1826854>
- Nguyen, B., & Canh, N. P. (2021). Formal and informal financing decisions of small businesses. *Small Business Economics*, 57(3), 1545–1567. <https://doi.org/10.1007/s11187-020-00361-9>
- Schmidt, A. F., & Finan, C. (2018). Linear regression and the normality assumption. *Journal of Clinical Epidemiology*, 98, 146–151. <https://doi.org/10.1016/j.jclinepi.2017.12.006>
- Semegn, A. A., & Bishnoi, N. K. (2021). Analysis of effect of microfinance on the performance of MSEs in Amhara National Regional State, Ethiopia. *The Journal of Entrepreneurship*, 30(1), 153–178. <https://doi.org/10.1177/0971355720974822>
- Tutz, G. (2021). Hierarchical models for the analysis of Likert scales in regression and item response analysis. *International Statistical Review*, 89(1), 18–35. <https://doi.org/10.1111/insr.12396>