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Research Article

Analyzing the Effectiveness of Subsidized Credit Facilities on Business Operating Capital and Production Growth in Selected Towns

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ABSTRACT

The study analysed the role played by subsidized credit facilities on the business operating capital and production growth of small and medium enterprise agribusiness in selected towns. The study sought to assess the effectiveness and extent to which subsidized credit facilities impact the growth of operating capital and the exact capacity that agriculture input supply among the agribusiness circles. Using a quantitative approach, data were collected from a sample of 107 agri business respondents drawn from Choma, Kalomo and Lusaka through structured questionnaires, supported by semi structured interviews and the analysis of the responses was done using Microsoft excel with the mega stat statistical add in which the researcher used for the purpose of computing descriptive statistics, hypothesized mean test and simple regression analysis. From the tests done, the contribution of subsidized credit to operating capital was proved to be strong and statistically significant. t=57.07, p<0.001)The negative sign reflects a mean rating of 1.13 againts a neutral value of 3, where lower case scores indicate a stronger positive contribtuion, with 86.9% of the respondents reporting that there was growth above 50% and all respondents (n=107) further reporting an increase in the volume of inputs supplied, 85% (n=91) by more than 50%. Further, even though subsidized credit was associated with an expansion in supply volumes, the production side was more qualified because. Only 13.1% (n=14) of dealers reported that they always met seasonal demand from farmers, and the perceived contribution of credit to supply volumes did not significantly predict the reliability of meeting demand, F(1, 105)= 1.18, p = 0.280. The study concluded that subsidized credit facilities strengthen the working capital of agro dealers more consistently than they improve the reliability of input supply to farmers. The study recommends that credit disbursement be paired with storage, logistics and support to make this service reliable

Keywords: *Capital, Credit Facilities, Production, Subsidies, Zambia*

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1. INTRODUCTION

This chapter introduces the study by outlining its background, the problem it addresses, the research objectives and questions, the conceptual framework, and the significance of the study.

1.1. Background of the Study

Generally, subsidized credit facilities and government-backed financial programs form a large part of critical policy instruments used to encourage small and medium enterprise growth and to cope with the effects of climate change (Silwimba & Fadun, 2022). These schemes also foster both development and financial inclusion (Armendáriz, 2010). Ministry of Small and Medium Enterprise Development (2023). Governments in both the developed world and the developing world have created or constructed credit subsidy programmes or facilities to help lower the cost of capital for those businesses that do not have access to standard financing institutions like Banks (Agarwal & Eslton, 2001). The study indicates further that subsidized loan facilities reduce the cost of borrowing, improve liquidity, and significantly contribute to the enhancement of the capacity of the small and medium enterprises that access them, as these are helped to invest in the production of assets.

In Sub Saharan African, the governments have applied directed or targeted subsidy schemes, programs and policies that work to bridge the supporting and financing gap that small and medium firms face (Nakano, 2020). The World Bank (2023) has estimated that there is an unmet financing demand of roughly USD 100 billion specifically for agri small and medium enterprise businesses; this is with about three out of four small agriculture businesses which are unable to access formal financing from local Banks. In similar terms, Kumar *et al.* (2022) reported that the agri SME financing demand in Sub-Saharan Africa stands at an approximation of around 90 billion annually. 85% of this amount is not met.

In Zambia, the Citizens Economic Empowerment Commission (CEEC) loan facility, the Farmer Input Support Programme (FISP) e-voucher system, and the Zambia Credit Guarantee Scheme (ZCGS) are the main instruments through which the government supports SMEs that cannot meet bank lending requirements (Ministry of Small and Medium Enterprise Development, 2023). SMEs contribute about 70% of Zambia's GDP and 88% of its employment (Ministry of Small and Medium Enterprise Development, 2023). In agriculture, agro-dealer SMEs supply fertiliser, seed, pesticides and veterinary products to small-scale farmers, but many face undercapitalisation, weak working capital management and limited supply capacity (Musah *et al.*, 2018; Banda, 2022; FinScope 2020). Kalomo and Choma in Southern Province lie at the centre of the country's maize belt, where over 220,000 metric tonnes of maize were recorded across Kalomo and neighbouring districts, and 45,800 farmers drew on FISP (International Finance Corporation, 2022). The province also holds the country's largest cattle population, at over 1,747,550 head (Zambia Statistics Agency, 2025), yet financial inclusion in the province is below the national average of about 69.4% (Bank of Zambia, 2020).

Operating capital and production are closely linked in the agro-dealer business, because the working capital available to a dealer largely determines how much it can stock and how reliably it can supply farmers (Musah *et al.*, 2018; Dela Cruz *et al.*, 2025). International evidence shows that government-backed credit raises firms' liquidity (Cerda *et al.*, 2023) and that access to credit raises agricultural output (Assouto & Houngbeme, 2023; Diamoutene & Jatoe, 2021; Khan & Kim, 2025). The same evidence also shows that credit does not automatically translate into higher output: loans from Colombia's development bank, Bancoldex, improved investment for about 70% of beneficiary firms but production for only 24% (OECD, 2025), and firms that received public guarantees saw their financial health weaken before it improved (Gai *et al.*, 2023). Kalomo and Choma were therefore selected because they combine sustained public credit intervention with agro-dealers whose growth has not been clearly documented, while Lusaka, which lies outside Southern Province, was added for comparison.

1.2. Statement of the Problem

Ideally, government-managed subsidized credit facilities should increase the operating capital of agribusiness SMEs and the volume and reliability of the inputs they supply each season. The Zambian government has invested heavily in FISP, CEEC and the ZCGS to give SMEs access to affordable finance (Ministry of Small and Medium Enterprise Development, 2023). In this study, 95 of the 107 sampled agro-dealers (88.8%) had accessed at least one facility, mainly the FISP e-voucher system (n = 57, 53.3%), the CEEC loan (n = 21, 19.6%) and the ZCGS (n = 17, 15.9%). However, despite these interventions, a large proportion of agribusiness SMEs in Kalomo and Choma continue to record insufficient working capital and an inconsistent supply of agricultural inputs (Banda, 2022).

The extent to which subsidized credit facilities influence these two dimensions has not been examined empirically (Banda, 2022).Existing evaluations usually judge programmes by aggregate turnover rather than by working capital and supply reliability, and they treat the two as separate outcomes (Dela Cruz *et al.*, 2025). Yet the capital available to a dealer is the precondition for how much it can supply and how dependable. This study addresses that gap by examining operating capital growth and production growth together among agribusiness SMEs in Kalomo, Choma and Lusaka.

1.3. Research Objective

To analyze the effectiveness of subsidized credit facilities on the business operating capital and production growth of agribusiness SMEs in selected towns in Zambia.

1.3.1. Specific Research Objectives

To examine the effectiveness of subsidized credit facilities on the operating capital growth of agribusiness SMEs in selected towns in Zambia.

To assess the effectiveness of subsidized credit facilities on the production growth of agribusiness SMEs in selected towns in Zambia.

1.4. Research Questions

What is the effectiveness of subsidized credit facilities on the business operating capital and production growth of agribusiness SMEs in selected towns in Zambia?

1.4.1. Specific Research Questions

What is the effectiveness of subsidized credit facilities on the operating capital growth of agribusiness SMEs in selected towns in Zambia?

What is the effectiveness of subsidized credit facilities on the production growth of agribusiness SMEs in selected towns in Zambia?

1.5. Conceptual Framework

The conceptual framework shows the relationship between subsidized credit facilities, the independent variable, and business performance, the dependent variable, measured as operating capital growth and production growth. The study assumes that subsidized credit has a positive influence on both, but that its effect on the reliability of supply also depends on the dealer's capacity to use the credit well, such as storage, transport, and timing.

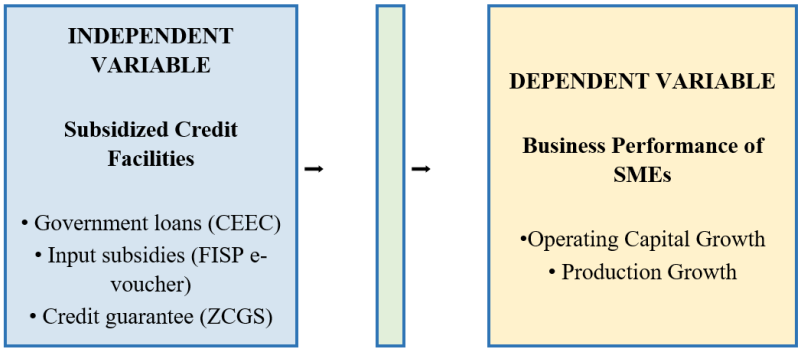


Figure 1. Conceptual Framework.

1.6. Significance of the Study

The study gives evidence which is empirical at the level of the agro-dealer, where subsidized credit meets the farmer. Its findings can help with guiding the Ministry of Small and Medium Enterprise Development, the Citizen Economic Empowerment Commission, the Ministry of Agriculture and lenders under the ZCGS on when to disburse credit, how to pair it with storage and logistics support and which outcomes, beyond turnover, to monitor when assessing credit policy and SME support programmes in Zambia. Researchers and academics will also gain a wider evidence base on SME financing and performance in Zambia.

2. LITERATURE REVIEW

2.1. Credit Subsidies and SME Production Growth

A recent study by OECD (2025) reported that loans from Colombia's National Development Bank, Bancoldex, were followed by a positive impact on investment for around 70% of the beneficiary firms, but a positive impact on production for a much smaller share of 24% and fewer on employment, which was 11%. This pattern suggests that credit-driven investment does not automatically translate to higher output.

OECD (2025) used an endogenous switching regression model and found that Cameroonian maize farmers with credit access achieved 4.29 t/ha of output against 3.70 t/ha for similar farmers who have no access to credit facilities. There was an 11.6% productivity gain that was attributed to credit. Similar research reports considerably larger effects elsewhere; Assouto and Houngbeme (2023) found that maize producers who have access to credit facilities in Benin attained yields

of around 40% higher than those that had no access. Awotide *et al.* (2015) found that a 28% yield gain was recorded from credit cassava farmers in Nigeria. Nakano and Magezi (2020), who used a randomized design, also confirmed a similar result or pattern in Tanzanian farmers who received microcredit facilities. Diamoutene and Jatoe (2021) reported a positive credit productivity relationship from maize producers in Mali.

Careful review of these studies done across different countries shows a high level of consistence when it comes to effects that subsidized credit facilities have, especially on the small to medium business. The literature launches an assumption hypothesis that subsidized credit can increase production and out of small and medium business but that same outcome is not automatic or uniform. It depends on how the credit is designed, how it is monitored, how it is paired with non-financial support, among other factors. The literature also reveals that subsidized credits are unstable or weak for small and medium businesses.

2.2. Credit Subsidies and SME Business Operating Capital

Operating capital is the cash and short-term resources that a business needs and uses for its day-to-day operations. Examples of these operations are stock purchases, payment to suppliers, and payment of salaries. These are the activities or operations that many small and medium enterprises rely on subsidized credit facilities to fund. It is the most direct way through which subsidized credit is created to help the SME's (Dela Cruz *et al.*, 2025). This is because there is no long or tedious process required to acquire the subsidized credit, as it is more of a benefit.

Evidence across low- and middle-income countries shows that there is a lack of access to both investment and working capital financing. This has been the single most cited constraint on SME development, and a current Campbell collaboration evidence gap, which covered 413 studies, does confirm that lending tools that are aimed at facing these constraints have dominance in the literature. This is even though enough evidence specifically isolating working capital outcomes is thinner than the volume that studies suggest (Dela Cruz *et al.*, 2025).

The extent to which subsidized credit facilities affect enterprise-level operating capital is highly dependent on how exactly the instrument is designed rather than whether it is in existence. Beck *et al.* (2010) who surveyed over 76 credit guarantee schemes across 46 countries and found that there was a wide difference in funding arrangement, the set out risk sharing ratios, management structures in different credit guarantee schemes. This study also concluded that the design considerations played a significant role in shaping the outcomes of these credit schemes. For example, the schemes that transfer too little risk usually fail to generate additional lending, while the ones that transfer a little more risk will usually call for more relaxed screening by the institutions that are participating.

Berger and Udell (1998) explained through the Financial growth theory why targeted intervention is thought to be important in the first place; The early, smaller, and more informationally opaque firms, in many cases are unable to access arm's-length debt on ordinary terms, and so they instead rely on relationship based which is often backed by government initiatives, or on short-term credits with high rates. This more often than once leads to accumulated credit, which puts more pressure on small businesses.

There is reasonably strong evidence that supports that subsidized or guaranteed credits close this very specific gap. In the clearest evidence available, Cerda *et al.* (2023) ran randomized controlled trials that offer government credit to small businesses in Chile and Colombia, and it was found that the total liquidity that was accessible through the formal banking sector or system grew by about 15.7% among the treated firms. This result is unlikely to reflect anything apart from the credit itself given how random the assignment was. Similar studies have found that a partial credit guarantee raised a company's total borrowing without necessarily matching the rise in defaults. This led to firms going on to build new transactional relationships with new Banks in the months that followed.

Clear evidence that the credit led to expansion rather than just a reshuffle of the credit available to the businesses. More evidence on exactly how the credit working capital is sent tells a comparable story, which is highlighted by Muduli (2022). They report that under the emergency credit line guarantee scheme in India, which was introduced to tackle MSMEs' additional working capital needs during the pandemic, about 45% of the credit loans were used to clear debt that was owed to suppliers, and 29% went to efforts to rebuild operations. This is exactly the short-term uses that the short-term credit was created to fill.

There is a repetitive question in this literature which speaks to whether subsidized credit genuinely adds to a firm's capital.

Gai *et al.* (2023) reported that firms that receive public guarantees were able to see their current ratio, which is used as a standard measure of working capital capability, grow even faster than the one from unguaranteed institutions. Even with this, broader indicators of financial health worsened, especially in the first or early years of the guarantee. Then it would start to improve from there. This pattern suggests that new operating capital takes time to translate into a stronger and more reliable liquidity position. Studies that usually measure outcomes too early after funds are disbursed will most likely understate the real effects of subsidized credit programmes on businesses that access them.

Table 1. Summarises the Prior Studies Reviewed in This Section.

Author (year)	Country	Sample	Method	Key findings
OECD (2025)	Colombia	Bancoldex beneficiary firms	Programme evaluation	Positive effect on investment for about 70% of firms, on production for 24% and on employment for 11%
Khan and Kim (2025)	Cameroon	404 maize farmers	Endogenous switching regression	Credit access significantly raised maize yields
Assouto and Houngbeme (2023)	Benin	Maize producers	Endogenous switching regression	Credit raised yield per hectare by about 40%
Awotide *et al.* (2015)	Nigeria	Smallholder cassava farmers	Impact evaluation	Access to credit raised cassava productivity
Nakano and Magezi (2020)	Tanzania	Smallholder farmers	Randomized controlled trial	Microcredit increased technology adoption and productivity
Diamoutene and Jatoe (2021)	Mali	Maize farmers (2014 LSMS data)	Endogenous switching regression	Credit raised maize yields, more so for credit-rationed farmers
Dela Cruz *et al.* (2025)	Low- and middle-income countries	413 studies	Evidence and gap map	Lending interventions dominate the evidence; few studies isolate working capital outcomes
Beck *et al.* (2010)	46 countries	76 credit guarantee schemes	Survey	Funding, risk-sharing and management design shape scheme outcomes
Cerda *et al.* (2023)	Chile and Colombia	13,151 small businesses	Randomized controlled trials	Government-backed loans raised total formal liquidity by 15.7%
Gai *et al.* (2023)	Italy	SMEs with public guarantees	Econometric analysis of firm accounts	Profitability improved; financial health worsened in the short run and eased after about two years

Note: Summary of prior studies

2.3. Theoretical Framework

This study draws on two theories. The financial growth cycle theory (Berger & Udell, 1998) holds that small and informationally opaque firms cannot easily obtain arm's length debt on ordinary terms, so their access to finance depends on relationship lending and public support. Subsidized and guaranteed credit is designed to fill this gap. This leads to the expectation that subsidized credit increases the operating capital of agro dealers (Objective 1).

The resource-based view (Barney, 1991) holds that a firm performs well when it controls resources that are valuable, rare, hard to imitate, and well organised. From this view, subsidized credit is a valuable resource, but it improves performance only when the firm also has the capabilities to use it, such as storage, transport, supplier links, and good timing. This leads to the expectation that credit may expand the volume of inputs supplied without necessarily making supply more reliable (Objective 2).

3. METHODOLOGY

This chapter describes the methodology used to study the effectiveness of subsidized credit facilities on business operating capital and production growth in Choma, Kalomo and Lusaka.

3.1. Research Design

The study made use of a descriptive research design with a qualitative approach. This was an appropriate approach as it enabled the researcher to acquire more detailed material on exactly how effective subsidized credit facilities are on business operating capital and production growth in the selected towns highlighted.

The study population targeted SME agri-businesses operating in Kalomo, Choma, and Lusaka, respectively. The study population combined from all the districts is over 500 dealers.

The researcher made use of two sampling techniques or methods, and these were: purposive and simple random sampling. Purposive sampling was used to select the suppliers and registered agro dealers who had a record of participating in credit subsidy programmes, as this forms part of why the research was being done. Simple random sampling was used to select agribusiness respondents from all registered agribusinesses in the three districts, in order to ensure each of them had an equal chance of participating in the research. Because this random sample was not limited to programme participants, it included 12 agro dealers (11.2%) who had not accessed any subsidized facility. They were retained in the sample as a comparison group, which is why Table 5 included a "none" category.

3.2. Sample Size Determination

A sample of 107 agro dealers was drawn from the target population with n=107; the margin of error for an estimated proportion is about plus or minus 9.5% at the 95% confidence level, using the conservative assumption p= 0.5 (Kothari & Garg, 2019). This precision was considered adequate for the descriptive statistics, the one-sample t-test, and the simple regression used in the study.

3.3. Data Collection Methods

Data collection was done using structured questionnaires that specifically target agri dealers, and semi-structured interview guides were used in the process to clarify questionnaire responses and to help interpret the quantitative results. They were not analysed as a separate qualitative dataset, and the study is therefore classified as quantitative. For relevance, secondary data were obtained from sources such as government reports, academic journals, policy documents, books, and previous research in line with credit subsidies and SME performance.

Data analysis of the responses was done using Microsoft Excel with the MegaStat statistical add in which the researcher used for the purpose of computing descriptive statistics, the hypothesized mean test and simple regression analysis.

3.4. Bias, Limitations and Ethical Considerations

Because the financial data in this study were self-reported, two sources of bias were considered. Common method bias may arise when the predictor and the outcome are measured with the same instrument at the same time, and social desirability bias may lead respondents to overstate the benefits of a government programme. To reduce these risks, respondents were assured of anonymity and confidentiality, participation was voluntary, and financial questions used value ranges rather than exact amounts, which reduces pressure to report precise or favourable figures. These biases cannot be fully ruled out, so the results are interpreted as respondents' perceptions of the effect of credit, not as audited financial changes.

Some of the limitations of this research were financial constraints, as the researcher needed to move about to collect data; some respondents did not complete the interviews as they needed to tend to their business. However, this was managed and minimized by proper planning, rescheduling, and following up with participants. And finally, ethical considerations were made by the researcher to ensure confidentiality, voluntary participation, anonymity of respondents, and the proper citation of references used.

4. RESULTS AND DISCUSSION

4.1. Background Characteristics of Respondents

4.1.1. Location of the Business

A total of 107 agri businesses were surveyed, and these respondents were concentrated in Choma (57%), Lusaka (22.4%), and Kalomo. This distribution reflects the relative density of agri dealer activity across the three areas, with Choma's position at the centre of the maize belt corridor, as it is consistent with a larger share of the sample. The business locations distribution is shown in Table 1 below;

Table 2. Location of the Business.

District	Frequency	Percent
Kalomo	22	20.6
Choma	61	57.0
Lusaka	24	22.4
	107	100.0

4.1.2. Formal Registration

All 107 respondents recorded a 100% registration with the Patents and Companies Registration Agency (PACRA). One of the eligibility requirements of the government credit facilities is that agribusiness should be registered with PACRA. Therefore, because there was no variation in this characteristic, registration status could not be used in any test of association.

Table 3. Registration Status.

Formally registered (PACRA)	Frequency	Percent
Yes	107	100.0
No	0	0.0
	107	100.0

4.1.3. Years in Business Operation

When it comes to years in operation, 17.8% of the sample were in business for a year or less. 15% were in business for a period between 1 and 3 years, 19% were in business for a period between 4 and 6 years, 35.5% had been in business for a period between 7 and 10 years, and 12.1% had operated for more than 10 years.

Table 4. Years in Business Operation.

Years in business	Frequency	Percent
Less than 1 year	19	17.8
1-3 years	16	15.0
4-6 years	21	19.6
7-10 years	38	35.5
More than 10years	13	12.1

4.1.4. Main Products Sold

The study revealed that the main products sold by the businesses were as follows: 57% sold veterinary products and animal feed; 11.2% sold mainly farming inputs; 24.3% sold all the products, that is, farming inputs, farming equipment and tools, veterinary products and animal feeds, and other related products. There is a dominance shown of veterinary products and animal feed, which reflects that the Southern province of Zambia holds the largest cattle population in Zambia and most of the farmers there keep cattle. This distribution is shown in Table 4 below;

Table 5. Main Products Sold.

Main product line	Frequency	Percent
Mainly farming inputs	12	11.2
Mainly farming equipment and tools	8	7.5
Mainly veterinary products and animal feed	61	57.0
Other	0	0.0
All of the above	26	24.3
	107	100.0

4.1.5. Subsidized Credit Facility Accessed

Respondents were also asked to show which subsidized credit facility they accessed, and the results are shown in Table 5 below; 19.2% said to have accessed the CEEC loan facility, 53.3% said to have accessed the FISP e-voucher System, 15.9% accessed the Zambia Credit Guarantee Scheme, and 11.% said to have not accessed any of the available Subsidized government facilities.

Table 6. Subsidized Credit Facility Accessed.

Subsidised credit facility accessed	Frequency	Percent
CEEC loan	21	19.6
FISP e-voucher system	57	53.3
Zambia Credit Guarantee Scheme (ZCGS)	17	15.9
Other government scheme	0	0.0
None	12	11.2
	107	100.0

4.2. Effectiveness on Operating Capital Growth

The research further examined the exact working capital that the businesses operate with per season, the perceived contribution of subsidized credit to working capital and stock levels, and the proportionate change in working capital that is attributed to subsidized credit facilities.

4.2.1. Working Capital per Season

Table 7. Working Capital per Season.

Working capital per season (ZMW)	Frequency	Percent
Below 50,000	27	25.2
50,000 - 100,000	12	11.2
100,001 - 300,000	20	18.7
300,001 - 500,000	46	43.0
Above 500,000	2	1.9
	107	100.0

The table above shows that; 43% of the businesses researched had a working capital is between ZMW300,001 to ZMW500,000 per season, 25.2% had below ZMW50,000, 18.7% had between ZMW100,001 and ZMW300,000, 11.2% had ZMW50,000 to ZMW100,000 and finally 1.9% had above ZMW500,000.

4.2.2. Perceived Contribution of Subsidized Credit to Working Capital and Stock Levels

The table below shows the perceived contribution of subsidized credit to working capital stock.

Table 8. Contribution of Subsidized Credit to Working Capital Stock.

Credit contribution to working capital	Frequency	Percent
Significantly high	93	86.9
Major	14	13.1
No effect	0	0.0
Decreased	0	0.0
Significantly decreased	0	0.0
	107	100.0

Table 7 above shows the perceived contribution of subsidized credit to working capital stock. An overwhelming 86.9% shows that the respondents rated the contribution significantly high, while the remaining 13.1% rated it as major. None of the respondents arte an effect, decrease or significantly decreased. This shows that the perception of respondents was uniformly positive on this part.

4.2.3. Proportionate Change in Working Capital.

The table below is a representation of the proportional change in working capital attributed to subsidized credit facilities.

Table 9. Proportionate Change in Working Capital.

Proportional change in working capital	Frequency	Percent
Above 50% increase	93	86.9
20 - 50% increase	12	11.2
Below 20% increase	2	1.9
Below 50% decrease	0	0.0
Above 50% decrease	0	0.0
	107	100.0

Table 8 above shows the proportionate change in working capital attributed to subsidized working capital, reflecting that 86% of the respondents were above 50%, 11.2% (n=12) of the respondents were between 20 and 50%, while only 1.9% were below a 20% increase. There was no respondent who reported a decrease.

4.2.4. The Hypothesis Test

Table 10. The Hypothesis Test.

3.000	Hypothesized value
1.131	mean Credit contribution to working capital
0.339	std. dev.
0.033	std. error
107	n
106	df
-57.07	t
2.10E-81	

The above hypothesis test was calculated with the help of MegaStat Add-in in on excel can be interpreted as follows: the p-value is less than the 0.05 level of significance. The null hypothesis is rejected. Responses were coded from 1 (significantly high) to 5 (significantly decreased), so that a negative t-value shows that the mean rating lies below the neutral point of 3 on the positive side of the scale. The main credit rating, which is 1.131, falls below the neutral point of 3, showing that the respondents had statistically significantly or meaningfully perceived an increase in working capital after accessing the subsidized credit. With this in mind, the study has therefore made a conclusion that, subsidized credit facilities do indeed have a significantly perceived effect on the working capital of agri business SME's in the study area used.

4.3. Effectiveness on Production Growth

The research examined the value of agricultural inputs supplied per season, the perceived contribution of subsidized credit to supply volumes, the proportionate change in supply volumes, and the reliability with which businesses meet seasonal demand from farmers.

4.3.1. Value of Agricultural Inputs Supplied per Season

The table below shows the value of agricultural inputs supplied per season.

Table 11. Value of Agricultural Inputs Supplied per Season.

Value of inputs supplied per season (ZMW)	Frequency	Percent
Below 100,000	13	12.1

Value of inputs supplied per season (ZMW)	Frequency	Percent
100,000 - 300,000	9	8.4
300,001 - 500,000	10	9.3
500,001 - 1,000,000	73	68.2
Above 1,000,000	2	1.9
	107	100.0

The table above shows that 68% of the respondents supplied inputs valued between ZMW500,001 and ZMW 1,000,000. 12. supplying below ZMW100,000, and 1.9% supplying above ZMW1,000,000, while 8.4% and 9.3 % ranged between ZMW100,000 and ZMW500,000.

4.3.2. Contribution of Subsidized Credit to the Volume of Inputs Supplied

Table 12. Contribution of Subsidized Credit to the Volume of Inputs Supplied.

Credit contribution to supply volume	Frequency	Percent
Significantly high	87	81.3
Major	20	18.7
No effect	0	0.0
Decreased	0	0.0
Significantly decreased	0	0.0
	107	100.0

A large majority of 81.3% of the respondents rated the contribution of subsidized credit to the volume of inputs supplied as significantly high, while only 18.7% rated it as major. There were no respondents who rated it as no effect, decreased, or significantly decreased.

4.3.3. Proportion Change in Supply Volumes

Table 13. Proportional Change in Supply Volumes.

Proportional change in supply volumes	Frequency	Percent
Above 50% increase	91	85.0
20 - 50% increase	16	15.0
Below 20% increase	0	0.0
Below 50% decrease	0	0.0
Above 50% decrease	0	0.0
	107	100.0

Table 13 above shows the proportional change in supply volumes. In proportional terms, 85% of respondents reported that their supply volumes had increased by more than 50%. While 15% of respondents reported a 20 to 50 % increase. There were no respondents who reported an increase that was below 20% or a decrease.

4.3.4. Reliability of Meeting Demand From Farmers

Table 14. Reliability of Meeting Demand From Farmers.

Reliability of meeting seasonal demand	Frequency	Percent
Always	14	13.1
Most of the time	47	43.9

Reliability of meeting seasonal demand	Frequency	Percent
Sometimes	46	43.0
Rarely	0	0.0
Not at all	0	0.0
	107	100.0

Of all the respondents, only 13% reported always meeting seasonal demand from farmers. 43.9% said this is done most of the time, while 43% reported that sometimes. No respondents reported rarely or not at all. This slightly distorts the strongly positive findings highlighted in the above table. Although supply volumes grow significantly, close to half of these dealers still experience times in which they are not able to meet the farmers' demand. This suggests that the credit amounts or the time at which the disbursements are done do not necessarily match the busiest time of the season.

4.3.5. Regression Analysis

Table 15. Regression Analysis.

ANOVA table							
Source	*SS*	*df*	*MS*	*F*	*p-value*		
Regression	0.5604	1	0.5604	1.18	.2799		
Residual	49.8695	105	0.4749				
Total	50.4299	106					
Regression output					**confidence interval**		
variables	*coefficients*	*std. error*	*t (df=105)*	*p-value*	*95% lower*	*95% upper*	*std. coeff.*
Intercept	2.0787	0.2135	9.736	2.40E-16	1.6554	2.5021	0.000
Credit contribution to supply volume	0.1856	0.1709	1.086	.2799	-0.1532	0.5245	0.105

The above table is a simple linear regression calculation that was conducted with the help of Mega Stat to help determine whether the perceived contribution of subsidized credit inputs supply volumes can predict how reliable agri dealers are able to meet seasonal farmer demand.

The dependent variable, reliability of meeting seasonal demand, is ordinal. It was coded 1= always, 2= most of the time, and 3= sometimes (no respondent chose rarely or not at all), and the predictor was coded 1= significantly high and 2=major. Because the predictor has only two observed categories, the regression is equivalent to comparing the mean reliability score of dealers who rated the contribution of credit as significantly high (n = 87, mean = 2.26) with those who rated it as major (n = 20, mean = 2.45). Treating a short, evenly spaced ordinal scale as interval in this way is common in applied research and is generally robust (Norman, 2010). Ordinal logistic regression is, however, the more appropriate model for this outcome, and its use is recommended for further work with the full questionnaire records (Section 4.4.2). The result in Table 15 should therefore be read as indicative.

The 95% interval confidence was ranging from -0.1532 to 0.5245 and also included 0 confirms that there is no reliable predictive relationship. The null hypothesis is not rejected in this case. This means that the study finds no statistically significant evidence that can prove that the perceived contribution of subsidized credit to supply volumes can predict that an agri dealer has the ability to meet seasonal demand in a reliable manner. This means that there are other factors apart from credit supply volumes, such as the availability of the supplier, logistics and transport limitations, the variability that comes from seasonal demand, and the timing of when working capital is available. These factors can cause agri dealers to meet their seasonal demand in a reliable manner season on season.

4.4. Discussion of Research Findings

4.4.1. Operating Capital

The finding that subsidized credit increased operating capital converges with Cerda *et al.* (2023), whose randomized trials in Chile and Colombia found that government-backed loans raised the total formal liquidity of small firms by 15.7%. It also agrees with Muduli (2022), who found that most credit under India's Emergency Credit Line Guarantee Scheme went to short-term needs such as clearing supplier debts and restarting operations, the same working capital uses reported by agro-dealers in this study. The findings diverge from Gai *et al.* (2023), who found that the financial health of guaranteed firms worsened in the first years after the guarantee. In this study, no respondent reported a decrease in working capital. The difference may reflect the measures used: this study captured perceived change in working capital, while Gai *et al.* (2023) used accounting indicators that also capture the cost of the new debt.

4.4.2. Production Growth

The large reported increase in supply volumes converges with studies that found credit raises agricultural output, including Khan and Kim (2025) in Cameroon Cerda *et al.* (2023) in Benin, where yields were about 40% higher for producers with credit, and Diamoutene and Jatoe (2021) in Mali. The weak link between credit and the reliability of meeting demand is, however, closer to the OECD (2025) evidence from Colombia, where Bancoldex loans had a positive effect on investment for about 70% of beneficiary firms but on production for only 24%. Both results suggest that credit expands what a business can buy but does not, on its own, make supply dependable. The divergence from the farm-level studies is expected: they measured output on the farm, while this study measured whether dealers could meet farmers' demand on time, which also depends on supplier availability, transport, and the timing of disbursements, as the resource-based view predicts (Barney, 1991).

5. CONCLUSION

This study analyzed the effectiveness of subsidized credit facilities on business operating capital and production growth SME's operating in selected towns of Kalomo, Choma, and Lusaka.

The conclusion regarding operating capital was that the hypothesis test was rejected, with 86.9% of the respondents reporting that there was a working capital increase of 50% and none reporting a decrease. Therefore, subsidized credit has significantly shown a strong effect on the capital base of an agri dealer SME in the study area. This is consistent with the Financial Growth theory that concessional credit fills a financing gap that SME's which have no access to credit facilities due to issues like no collateral cannot close.

When it comes to production growth, the picture is clearer and more qualified. The respondents rated the subsidized credit's contribution to input supply volumes as high as 81.3% or major which is 18.7%. 85% was reported to have a supply volume increase above 50%. However, the regression test done to assess if this contribution can predict demand was not significant, $F(1,105 = 1.18$, $p = 0.28095$; CI for the coefficient: -0.153 to 0.525, and there were only 13.1% of agri dealers who reported as always being able to meet seasonal farmer demand.

The credit brings about an opportunity to expand what the dealers are able to supply. If this is read against the resource-based view (Barney, 1991), subsidized credit seems to be a valuable resource that is not sufficient. Notably, an organization's capacity to be able to turn stock into demand is beyond what credit access alone can provide for a dealer.

RECOMMENDATIONS

The following are the recommendations made:

- The gap that exists between strong supply in section 4.3.2 and the inconsistent demand fulfilment in section 4.3.4 fits a timing gap rather than a volume gap. The government credit facilities available should work around the timing of when disbursements are made instead of sticking to a fixed administrative cycle, especially since, with Climate change effects on the environment, weather patterns are not predictable and need proper timing.
- Another recommendation is that since the expanded stock does not always translate into more reliable credit or extension, programs should be built in areas like transport or storage so that credit is paired with logistics and forecasting support.
- 11.2% of the sample had not accessed any subsidized facility; efforts can be made to close this gap and ensure that all dealers benefit from the subsidized credit facility. This action could lead to an increase in employment and growth in the SME space.
- The last and final recommendation has to do with the fact that this study relied on marginal frequency totals instead of individual questionnaire records. This ruled out tests of association between district or credit type and outcomes. A further study can be conducted and concentrate on the individual businesses in order to further explore the relationship between a district and the type of credit facility utilized.

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