Institutional Financial Support and SMEs Growth. A Case Study on Selected SMEs in Ghana

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Authors' contributions

This work was carried out in collaboration between all authors. Author FSK initiated the study and literature reviews. Author LY supervised the research work, whiles the other two authors OMA and AMB assisted in the analysis and data collections. All authors read and approved the final manuscript.

ABSTRACT

Governments in both developed and developing countries rely heavily on their SMEs for economic development and social justice, it is therefore not strange to see these governments and other organizations marshalling support in the form of finance to the course of these SMEs, since financial constraints have been cited as one of the major challenges of SMEs that undermines economic prosperity. Notably some SMEs in the developing countries might not be able to access finance from local banks at all, or face strongly unfavorable lending conditions, even more so following the recent financial crisis. Banks in developing countries are in turn hampered by the lack of lender information and regulatory support to engage in SME lending.
This study as part of a thesis research (institutional support and SMEs Growth), seek to assess the effectiveness of government support programs in the area of SMEs finance on the growth of SMEs. The financial support were grouped into provision of Subsidies, Loans, and credit guarantees as against the level of each contribution to the SMEs growth was determined using a Covariance Based Method (CBM) specifically a Structural Equation Model (SEM). It was discernible from the study that, the variance in SME Growth is significantly attributable to Subsidies, Loans, and credit

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guarantees. Such that, Subsidies has greatest effect in explaining SME Growth than does Loans and guarantee. Also, the Loan explains greater effect on SME Growth compared to guarantee as arranged by the order of effect size.

Keywords: Finance; subsidies; SMEs loans; credit guarantees; SMEs growth.

1. INTRODUCTION

The increase traffic flow of external business support initiated by several governments and other organizations to the SMEs development [1], demonstrates the interest these bodies have in their SMEs as partner in accelerating regional economic development and growth [2]. In assigning reasons for the paradigm shift of the support from the larger firms to the SMEs, the persistent failure of the larger firms in acting as import substitute firms, during the transition of most African countries from the colonial era to independence [3,4], whiles the significant contribution of SMEs to national development in the form of employment generation and GDP growth were cited as the major reasons among other factors [5]. Yet, SMEs face several challenges which requires further solutions from outside the reach of these entrepreneurs, and therefore calls for the modification in the support institutions such as the government and other multi-donner organization have been providing [2].

Quoting from the Chief Executive of OECD's take on SME access to finance,,, "Small and Medium Enterprises (SMEs) and their entrepreneurs are crucial for tracing new paths to more sustainable and inclusive growth, thanks to their role in developing and diffusing innovation and providing employment…..., however, they can only fulfill this role if they obtain the finance necessary to start and grow their business….., access to finance represents one of the most significant challenges for these firms, which the financial and economic crisis has exacerbated in many countries….addressing this recurrent structural problem is imperative in order to improve the well-being of societies" [6].

In Africa, financial constraints together with corruption have been cited as the major obstacles to SMEs growth [7]. The African Development Bank (AfDB) also confirmed this in their research on access to finance by SMEs in Africa by reporting that, only 20% of African SMEs had access to credit and that only 9% of the investments SMEs make are funded by a bank. In contrast with what pertains in other developing countries in Southern America and Caribbean was direct opposite, where 44% of the SMEs there have access to bank credit [8]. It has also been identified by the Association of Ghana Industries (AGI), an umbrella of industries in Ghana which includes SMEs, that inadequate access to credit is the leading factor restricting the growth of businesses in Ghana [9–12], whiles other researchers attributed the limited access to credit which they consider as a major hindrance to SMEs growth to the fact that most of the economies are poorly developed in the banking sectors [9,10,12]. As a result, SMEs in bridging the gap, usually finance their businesses from other sources such as reinvesting of profit, personal savings, family and friends and trade credits. Ironically, these sources are not reliable and inadequate, since they are shrouded with uncertainties and limited in supply [13].

China's SMEs put a high premium on access to external funding as a major source for financing their businesses, so any impediments on the flow of external finance has a negative effect on SMEs growth and productivity [14], as financial constraints has been cited by other researchers as the topmost challenges to the growth, development and internalization of SMEs in both developed and developing countries alike [15–19]. Against this backdrop, a positive correlation between SMEs access to finance and growth have been established among selected SMEs in the USA that, access to finance has a positive impact on productivity and increase in productivity was high in states with relatively stronger access to bank finance [20] also Small firms are disproportionately handicapped by a lack of finance, but they receive a stronger boost in growth than large firms if financing is provided [21].

It is therefore logical to state that, the availability of finance for SMEs will trigger growth in the sector, hence the need for institutions to support in the financial sector of the SMEs.

2. EMPIRICAL LITERATURE REVIEW

2.1 Evidence on Institutional Support and SMEs Growth

Several findings by researchers on the impact of external institutional support on SMEs growth shows a positive correlation between them [22], [23]. As there is ample evidence on the positive impact of external institutional support on SMEs growth in the UK, since the recommendations by Bolton Commission. In a comprehensive survey by [23], on the impact of the external support on over 5000 SMEs in the UK, the results indicated that, 19% of the SMEs had increased the workforce (number of employees gone up), 64% were employing the same number, while 17% have reduced the workforce, but in the end there was a net employee increase over the survey period from 2012 to 2013. Also 72% of the SMEs had an increase in their annual profit over the period under review [23], out of the 532 SMEs surveyed, 45% had sought for external business support. This findings was in line with the earlier study by [22], where there was a positive correlation between the external institutional support and SMEs growth in the UK. Studies conducted by numerous researcher [6,24,25]; on the impact of institutional support on SMEs growth in the US and most parts of Europe, also indicated a positive correlation between the support and SMEs growth.

A renewed Ghana government policies on SMEs growth were intensified upon the introduction of the second Growth and Policy Reduction Strategy (GPRS II 2006 to 2009), and Growth Agenda (GA III 2010-2013), which saw the state increasing it support to SMEs in diverse forms. All with the aim of reducing poverty and moving Ghana to the middle-income country, with SMEs growth as the catalyst. The positive impact of the policy on the economy of Ghana led the World Bank and [26] ranking Ghana 10th in the best Global reformer for the period 2006 to 2009.

In determining the impact of external institutional support on the operations of SMEs in the area of access to external finance, growth, decision marking, managerial training and capacity building, in all there was a positive impact on the growth and development of the SMEs [27–30]. Similarly, research by [27,30,31], shows the vital role play by external accountants in the SMEs sector, which confirms the rationale for an increase in demand for external accountants by SMEs in the area of external support.

2.2 Financial Support in the form of Subsidies and SMEs Growth

In recent times, several governments and organizations provide financial support to SMEs in the form of subsidies on several projects initiated by these SMEs, as evidence shows a positive relationship between subsidized SMEs budget on R&D and productivity, as the government of Korea have been subsidizing capital expenditure on R&D and new technology of the SMEs in a bid to promote SMEs activities and reduce market failures, this is because traditionally, SMEs in the country have not been able to meet budgets on R&D and Technology, which resulted in low productivity [32]. The unwillingness for SMEs to spend on R&D and Technology is not peculiar to only SMEs in Korea, but more prominent among SMEs in sub Saharan African countries, for assigning reasons for low spending by SMEs on investment in R&D and Technology, [24], were of the view that, limited access to external finance and low profitability in the SMEs business act as an impediments.

Proponent of the need for government subsidies on SMEs argue that, SMEs enhance competition and entrepreneurship, aside, are more labor intensive than large firms so any boost in the growth will create a multiple effect on employment generation, welfare improvement and poverty reduction for the citizenry. Again, SMEs are more productive than large firms, yet financial market and other institutional failures impede their formation and growth [24]. Also most developing countries are characterized with poor legal and financial system which impedes SMEs from obtaining financial assistance, and thus, SMEs are most in need of government subsidies in other to meet their financial obligations [33]. Coupled with fact that, a positive correlation between the provisions of government subsidizes and the growth of SMEs has been established in Chile, as the initiatives translated in upsurge in sales, employment and the supplies [34].

We hypothesized that, the provision of subsidies to the SMEs have positive impact on SMEs growth.

2.3 Financial Support in the form of Loans and SMEs Growth

Most SMEs continue to impact positively to the growth and development of the economies of

several countries, but it is believe that, the quantum of the contribution can be doubled with SMEs have access to external finance and at a cheaper rate. Since SMEs are bedeviled with challenges, including inadequate financing arising from poor credit rationing and more penalizing credit conditions particularly when compared to commercial debt for large firms and microfinance [21,35]. The Global Entrepreneurship Monitor (GEM) Entrepreneurship Framework Condition also highlights entrepreneurial finance, defined as the availability of financial resources for SMEs in the form of debt and equity, as one of the key factors for stimulating and supporting entrepreneurial activity. SMEs financial challenges are partly attributed to the fact that banks in developing countries are in turn hampered by the lack of lender information and regulatory to engage in SME lending, as research by [21] indicated that, absence of a well-functioning SME lending market, impeded in their growth, with negative consequences for innovation, economic growth and macro-economic resilience in developing countries.

There is therefore the need for the support institutions to step in to assist SMEs in the acquisition of loans for as with any public intervention in private markets, the benefits outweigh the costs, potential adverse incentives and unintended consequences. The EU in reducing the financial challenges of her SMEs, adopted a variety of financial measures aimed at supporting SME finance including notably grants, direct lending, guarantee and counter-guarantee schemes, equity financing and support to securitization of SME loans [36] In a related development, the loan window of the MAP guarantee facility for SMEs provides guarantees on loans to borrowers by covering a share of the default risk of the loan which was managed by the European Investment Fund (EIF), granted around 16,000 loans to more than 14,000 SMEs between 2003 and 2010. This action resulted a significant increase in employment in the order of 14% to 18%, compared to their counterparts who did not received such facility [36–38].

The UK government have established Funding for Lending Scheme (FLS) which allows banks and building societies to borrow at cheaper rates from the Bank of England for periods of up to four years, in other to lend to the SMEs at relatively cheaper and flexible terms. The scheme which was established on the 1st August 2012, with the aim to boost consumer and business confidence and support demand for finance as well as reducing the cost of credit. The FLS creates strong incentives for banks to increase lending to UK households and businesses; and should act as a driver for competition among lenders, which should benefit both consumers and businesses.

Research indicated that, overdrafts and bank loans are the most popular sources of external finance for SMEs in developing countries, because with these forms of finance neither involves relinquishing any share of ownership or control of the business. When it comes to SMEs accessing loans and overdraft from the financial institutions, there is a discrimination which favors their larger counterpart, making SMEs persistently citing lack of external finance as their topmost obstacle [5]. These impediments ranges from high interest rate, difficulties in meeting the lenders requirements such as collateral and securities [39]. This calls for the state intervention to enhance SMEs chances of accessing the external finance. As studies indicates that, government support institutions and other support organizations are better placed than the financial institutions to offer "soft" loans to the SMEs in developing countries, which in the long-run have positive effect on SMEs growth, since banks are not adequately providing SMEs with capital in developing countries, leaving a large financing gap for SMEs in developing countries, as the top five banks serving SMEs in non- OECD countries reach only ~20% of formal micro enterprises and SMEs [21]. *We hypothesized that, the provision of Financial Support in the form of Loans have positive impact on SMEs Growth*

2.4 Financial Support in the Form of Credit Guarantees and SMEs Growth

The provision of credit guarantees by the State and other organizations for the SMEs serves as a catalyst in enabling SMEs getting access to loans and other financial facilities from the banks at a lower cost, which in the long-run propel SMEs growth. Empirical research findings on the impact of the EU SME Guarantee Facility in the CESEE region had, on average, a significant positive effect on firms' employment as beneficiary firms were able to increase their workforce by 17.3%, compared to the control groups, within the first 5 years following the issuance of the guaranteed loan, which further increased to 19.6% compared to non-beneficiary companies [36]. The credit guarantee was

established by the EU as a means to address the prevailing market failure, by supporting SMEs finance through grants, direct lending, guarantee and counter-guarantee schemes, equity financing and support to securitization of SME loans. Technical and financial assistance guaranteed by the USIAD to the Macedonian SMEs led to a rise in employment growth by 16-20 percentage points in the first year after assistance and by 26-30 points by the third year. Similar growth was recorded by [40] on the USIAD to SMEs in Romanian.

In the same vein, [41] show that collateral guarantees systematically reduce the interest rate of secured loans, while personal guarantees show no systematic effect on interest rates, but favor firms' access to credit.

Castillo Bonilla and Girón [42], use Stock-Watson dynamic OLS to show that the National Guarantees Fund increases the availability of credit to Colombian SMEs.

In recent times, there has been an upsurge in Credit Guarantee Schemes in the OECD and non-OECD economies, as a policy tool in alleviating financial distress among the various SMEs, as was in the case of Italy where the introduction and adoption of regional credit guarantee policies have brought about a decrease in interest rate and increase in SMEs performance [43]. On the issue of collateral guarantees, [41], reported that, such guarantees have reduced rate on secured loans more than personal guarantees on SMEs access to credit from banks. This was in line with the findings of [42], on the premise that, National Guarantees Fund increases the availability of credit to Colombian SMEs. In Korea, credit guarantee policy implemented have increased the growth of SMEs in the form of productivity, sales, employment, investment, R&D, wage level of the supported firms and their survival rates Oh, [44].

In line with the research findings by [45] that guarantees have positive effect on the performance of SMEs in Germany, *we propose a hypothesis that, the provision of credit guarantees by the government have positive impact on SMEs growth in developing countries.*

3. METHODOLOGY

This study adopted a positive, quantitative and qualitative research approach [46]. According to [47] a quantitative approach ensured that the logical reasoning is applied to the research so that precision, objectivity and rigor replace hunches, experience and intuition as the means of investigation research problems'. Notwithstanding this benefit, [48] noted that a quantitative approach to the study of small business implied that some questions simply do not get asked or cannot be asked.

Evidence was collected in the form of taped interviews, and field notes using the daily diary approach. As part of PhD thesis, the sample was taken between 2013 and 2014. Also, focus groups representing a "diagonal slice" through the organization were interviewed to give broader and deeper data and to obtain triangulation [49,50].

Wherefore, a psychometric analysis was used in finding the relationship between SMEs growth and TFE, TSM, AFM. The survey of the SMEs was done on a large scale, comprising 500 SMEs (owner/ managers) in three regional capitals of Ghana. The questioners consist of two parts, with the first part concentrated on the biographic information of respondents and the second section consisting of likert scale items demanding the extents of agreement and disagreement to items specified for the study regarding the impact of independent variables on the growth and developments of their businesses.

The use both qualitative and quantitative approaches were to obtain in-depth information from the selected support institutions through interviews in addition to the primary data obtained through the use of the questionnaires.

The analysis of the quantitative data gathered was undertaken by the use of Statistical Package for the Social Sciences (SPSS), Microsoft excel and excel tool package. Obtained data was presented and analyzed using statistical techniques such as descriptive statistic (frequencies and simple percentages), Principal Component Analysis with Factor Analysis as an extraction method followed by a CFA to confirm the measurement items and a Structural Equation Model.

Validity and reliability test were computed to validate and confirm the strength of items on each constructs. Convergent and discriminant validity were considered for indications of validity problems whiles Composite and Cronbach's alpha values were examined for reliability issues.

Utilizing the stats tools package (excel), estimates were computed for convergent validity (with AVE and square root for AVEs). Composite reliability (CR) ratios were simultaneously computed for all factors and were compared with a minimum threshold of 0.70. The section next section describes in detail the outcome of the analysis.

4. ANALYSIS

Given that this study explores the potential relationships between combinations of constructs, five modified scales from existing studies were used for data collection from purposively sampled views of 500 entrepreneurs located in three regions of Ghana. 437 cases constituting 87.4% were retrieved for analysis whiles respondents' bio-characteristics were not factored as prerequisites for selection. It is discernible that, 224 (51.3%) males and 213 (48.7%) females from which 104 (23.7%) constituted SHS & below education, 108 (24.7%) with CERT/DIP/HND, 113 (25.8%) with First Degree education and 112 (25.6%) with above First Degree education took part in the study. On the score of age, 100 (22.8%) of them fell into the age range of 25 years & below, 115 (26.3%) fell into 26 to 35 years, 113 (25.8%) fell into the age range of 36 to 45 years and respondents of ages 46 years and above constituted 109 representing 24.9%.

On basis of Pallet's (2011) assertion about the need for screened data in research studies, the gathered data for this study was put through series of screening and cleaning. Dreadful issues of unengaged responses and missing data were outlined. The analysis adduced SD values ranging from 0.690 to 0.977 which obviously discern no dislikeable pattern of responses to the items for the study. Then again, normality assumptions were vehemently met as three rules from the central theorem (Howell, 2007) was applied in the study. The results obtained for both bio-data and the likert scale items vigorously suggest no evidence of extreme problematic skewness and kurtosis issues, such that, the observed values for skewness ranged from -0.059 to 0.148 while the values for kurtosis ranged from -0.090 to 1.892 go to support.

Successively, the need to share light on concerns of discordant relationship between the data and the proposed model was equally imperative. In respect, matters of relationships, curves or equation as and quadratic, cubic, inverse, power, exponential, logistic, compound and logarithmic equations were concurrently examine in the research data and compared to the linear equation or relationship present in the data to evince whether the data gathered sufficiently beseem the proposed model. It is unambiguously discernible that, the research data strenuously befit the proposed model such that, the observed values for linear equation between all independent variables and the criterion variable is adequately significant. Given the linear relationship between SUBSIDY, LOANS, GUARANTEE and SMEs Growth, it is evidential that (on the Table 1), there exists enough linear relationship among constructs in the data set which goes to evince a true reflection of the proposed relationship in the model formulated for the study. Thenceforward, from presence of linear relationships substantiated, matters of homogeneity and heterogeneity were examined. Variability in the values of the outcome variable was compared to the variability in the values of the predictor variables and eventualities of unequal variability across values of predictors and outcome variable were noted as indication for heteroscedasticity. This was examined in a linear regression graph with outcome variable and the regression standardized residuals of predictor variables. Obviously, it is sighted on the graphical presentations (Figs. 1, 2 and 3 see Appendix 2) that, there exist no extreme increase or decrease (widen or narrow) in the values of outcome variable as the values of predictors' increases or decreases. In exposition, most of the scatter plots do not depart/ widens or decrease/narrow extremely from the regression fit line plotted for each predictor variable and the outcome variable which corroborates that, the research data is less or not heteroscedastic.

4.1 EFA and CFA

Currently many researchers have applied EFA to underline correlations among items or constructs in a data set [51]. In same tune, this study amply engages EFA technique to outline the extent of correlation among the specified items in this study and thenceforth extract items on their corresponding construct while obtaining unambiguous factor pattern. It is evidential from the output generated that, the research data profusely shows sufficient correlation for factor analysis with X^2 of 5641.218387 DF, 190 significant at p>0.01. Then also, the Kaiser Mayor Oklin (KMO) measure of sampling adequacy is classified superb for obtaining a

Table 1. Descriptive statistics of cases

	N	Mean	Std. deviation	Variance	Skewness	Kurtosis
Q1 Loan	437	2.73	.831	.691	.291	-.395
Q2 Loan	437	2.86	.894	.799	.104	-.804
Q3 Loan	437	2.72	.885	.784	.299	-.475
Q4 Loan	437	3.09	.913	.834	-.286	-.681
Q5 Loan	437	2.99	.945	.892	-.083	-.883
Q6 Subsidy	437	2.88	.897	.804	.064	-.627
Q7 Subsidy	437	2.40	.938	.881	.835	.193
Q8 Subsidy	437	2.36	.977	.955	.706	-.090
Q9 Subsidy	437	2.20	.826	.683	.811	.596
Q10 Subsidy	437	2.25	.913	.834	.707	.020
Q11 Guarantee	437	4.03	.709	.503	-.703	.989
Q12 Guarantee	437	3.97	.702	.493	-.696	1.299
Q13 Guarantee	437	3.98	.710	.504	-.598	.955
Q14 Guarantee	437	3.98	.691	.477	-.597	1.135
Q15 Guarantee	437	4.05	.705	.496	-.564	.844
Q35SMEG	437	3.88	.725	.526	-.891	1.892
Q36SMEG	437	3.88	.740	.547	-.626	.980
Q37SMEG	437	3.75	.762	.581	-.727	.989
Q38SMEG	437	3.75	.716	.513	-.671	1.034
Q39SMEG	437	3.47	.909	.827	-.256	-.365
Gender	437	1.51	.500	.250	-.053	-2.008
Age	437	2.74	1.348	1.816	.149	-1.218
Education	437	2.52	1.154	1.332	-.059	-1.437
LOANS	437	14.3979	3.68494	13.579	-.100	-.042
SUBSIDY	437	12.0916	3.69287	13.637	.625	.442
GUARANTEE	437	20.0105	3.17964	10.110	-.694	1.350
SME Growth	437	18.7277	3.15134	9.931	-.737	1.606

Table 2. Model summary and parameter estimates of equations in the data set

Equation	Subsidy			Loans			Guarantee		
	R square	F	Sig.	R square	F	Sig.	R square	F	Sig.
Linear	.085	35.329	.000	.067	27.383	.000	.249	125.829	.000
Logarithmic	.073	29.919	.000	.066	26.667	.000	.230	113.194	.000
Inverse	.052	20.978	.000	.056	22.570	.000	.181	83.728	.000
Quadratic	.089	18.490	.000	.068	13.785	.000	.250	63.204	.000
Cubic	.090	12.386	.000	.068	9.185	.000	.263	44.959	.000
Compound	.080	32.931	.000	.065	26.303	.000	.235	116.996	.000
Power	.074	30.549	.000	.066	26.664	.000	.222	108.162	.000
Exponential	.080	32.931	.000	.065	26.303	.000	.235	116.996	.000
Logistic	.080	32.931	.000	.049	19.628	.000	.235	116.996	.000

The independent variable is Subsidy, Loans, Guarantee

value of 0.900. Concurrently, all other assumptions regarding observed values for communalities, MSAs, and the pattern of rotated component matrix were met (See Table 3) in accordance with psychometric properties.

Resultantly, a measurement model was generated and validated in a covariance based method from the rotated factor matrix. The modification indices adduced suggested a clear opportunity to improve the measurement model. Respectively, the error terms e1, e2, e3, e4 and e5 in the Guarantee construct, e14 and e15 in the Loan construct and e16, e17, e18 and e19 in the SMEGrowth construct were simultaneously covaried to obtain a decent model (see Fig. 4).

Table 3. Initial factor extraction

KMO and bartlett's test								
Kaiser-meyer-olkin measure of sampling adequacy.							0.903	
Bartlett's test of sphericity					**Approx. Chi-Square**		5641.218387	
					Df		190	
					Sig.		0	

Total variance explained

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	**% of variance**	**Cumulative %**	**Total**	**% of variance**	**Cumulative %**	**Total**	**% of variance**	**Cumulative %**
1	7.382	36.912	36.912	7.382	36.912	36.912	4.109	20.547	20.547
2	3.412	17.059	53.970	3.412	17.059	53.970	3.781	18.906	39.453
3	2.138	10.692	64.663	2.138	10.692	64.663	3.449	17.247	56.699
4	1.827	9.134	73.796	1.827	9.134	73.796	3.419	17.097	73.796
5	.647	3.234	77.030						
6	.572	2.861	79.892						
7	.509	2.545	82.437						
8	.450	2.251	84.689						
9	.398	1.991	86.680						
10	.367	1.835	88.515						
11	.331	1.653	90.168						
12	.301	1.506	91.674						
13	.285	1.426	93.100						
14	.283	1.415	94.515						
15	.256	1.282	95.796						
16	.237	1.187	96.983						
17	.190	.948	97.930						
18	.166	.828	98.758						
19	.150	.751	99.510						
20	.098	.490	100.000						

Extraction method: Principal component analysis

Table 4. Rotated component matrix

Indicators	Components				MSA	Communalities
	1	**2**	**3**	**4**		
Q14Guarantee	.890				.870[a]	.849
Q13Guarantee	.876				.901[a]	.872
Q12Guarantee	.861				.924[a]	.851
Q15Guarantee	.849				.940[a]	.769
Q11Guarantee	.836				.917[a]	.754
Q9Subsidy		.894			.887[a]	.831
Q10Subsidy		.876			.899[a]	.798
Q8Subsidy		.874			.902[a]	.795
Q7Subsidy		.818			.925[a]	.729
Q6Subsidy		.750			.955[a]	.627
Q2Loan			.865		.872[a]	.801
Q3Loan			.814		.915[a]	.707
Q4Loan			.791		.922[a]	.675
Q5Loan			.783		.906[a]	.668
Q1Loan			.702		.920[a]	.565
Q17SMEG				.844	.852[a]	.802
Q16SMEG				.814	.853[a]	.740
Q18SMEG				.813	.907[a]	.714
Q19SMEG				.788	.908[a]	.732
Q20SMEG				.658	.953[a]	.482

Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization.

Table 5. Goodness of fit indices

Chi-square	168.177
Degrees of freedom	156
Probability level	0.239

Goodness fit of indices	
Observed values	**Thresholds**
CMIN/DF	1.136	1 to 3
CFI	0.996	>.95
RMR	0.025	<.09
GFI	0.958	>.95
AGFI	0.942	>.80
NFI	0.97	>.90
RMSEA	0.019	<.05
PCLOSE	0.1	>.05

The output from the analysis is tremendously telling on the relationships between observed measures (indicator) and their corresponding latent variables. It is clear from examining the goodness of fit indices that, the measurement model poses strong predictive ability with a X^2 168.177, p-value=0 .239 and at the 156 Df while Cmin, RMR, RMSEA, NFI and PCFI satisfactorily met their critical thresholds as shown in Table 5, much further, same is true with the estimates for the paths of items to their latent variables (β= or >.50, .60 in most cases as shown in Table 6 and Fig. 5) further confirming cogently to the level of fit of the measurement model.

The need for validity and reliability have been well intimated in extant studies such that, the relevance for validating (convergent and discriminant) measurement items and examining the strength of consistency within items have a compelling effect on research findings. This study is not a reverberation of these assertions however its accord credence to this assumptions. Respectfully, items and constructs are scrutinized in the research data to evince problematic issues of validity concerns. In the process, convergent validity was examined with computed AVEs and the square roots of AVEs were compared to inter-factor correlations. Concurrently, MSVs and ASVs were calculated and compared to justify the level of disparity among factors in the research model. Likewise, a composite reliability (CR) values were computed and compared to a threshold of 0.70 to indicate issues of problematic internal consistency of the survey items. As referenced in the table below the observed values for both MSV and ASV are extremely less than the AVE values to explain the distinctiveness of the factors in the research model. In confirmation, the AVE values obtained were greater than 0.50 (all above 0.60) while the entire square roots of the AVEs (on the diagonal in the matrix, Table 7) are far higher than the correlations among the factors. Similarly, the values obtained for CR were sufficiently above

the minimum threshold of 0.70, (observed values ranges from 0.873 to 0.958) with p-value <0.001 for the path loadings for all items and their latent constructs. The table below exhibit in detail.

Much further to appease multivariate assumptions in psychometric analysis is the Bias testing with Common Latent Factor (CLF) as recommended by [52] which account for the bias effects of the single method employed in this study and shows the effects from common ratters, consistency motif, mood state and common scale anchors on the research data. The results published in Table 6 displays a marginal effect from the CLF on the standardized regression weights after introducing the Common Latent Factor (CLF). It is authenticated that, the deltas for most of the measurement items and the CLF are higher than 0.20 and 0.40 (see Table 6 and Fig. 5). To be on the conservative is the retainment of, the CLF as composites are imputed from factor scores to adjust CMB.
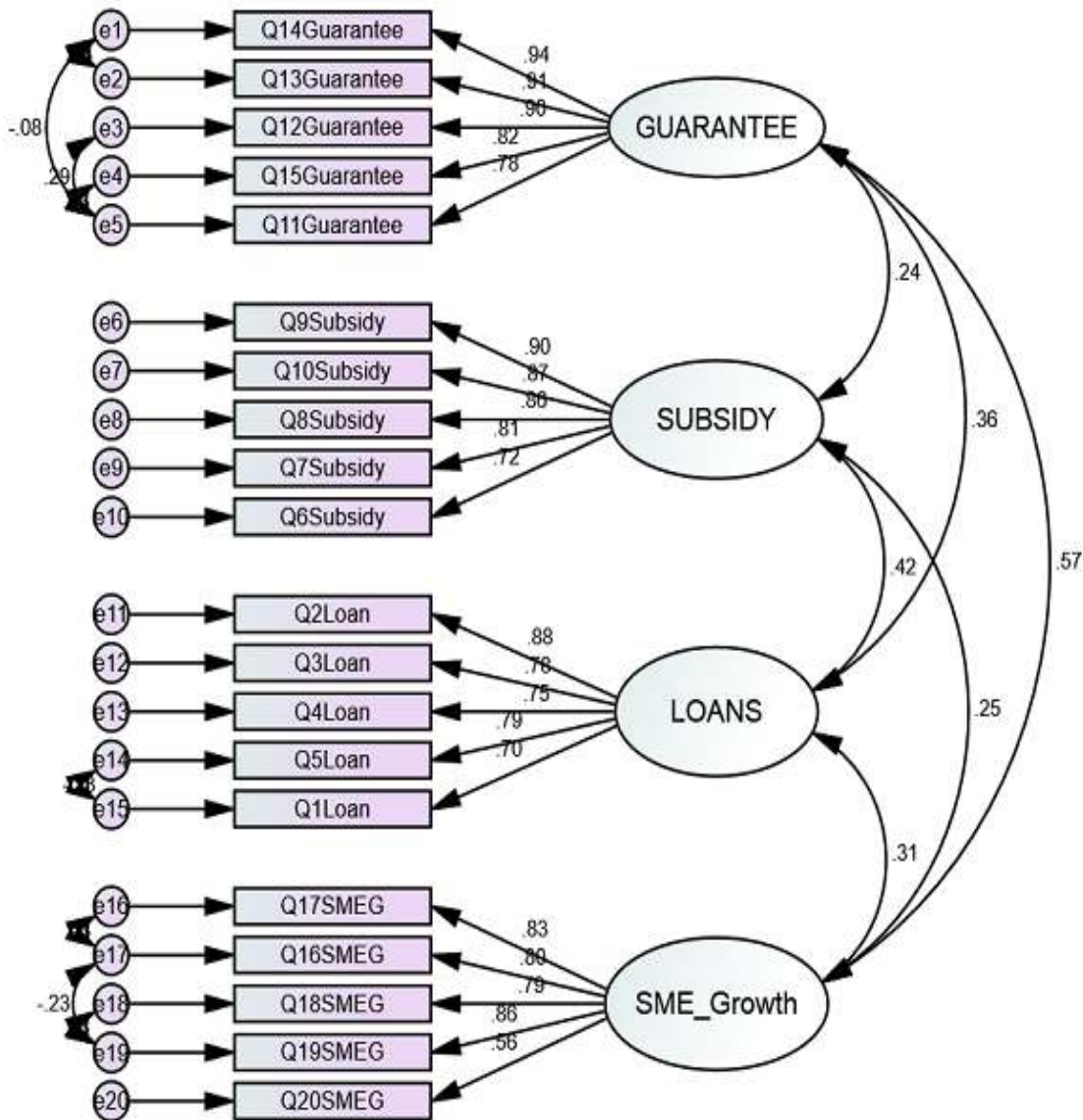

Fig. 4. Measurement model

Table 6. Standardized regression estimates of measurement model

Measurement paths			Estimate before CLF	S.E.	C.R.	P	Estimate after CLF
Q14Guarantee	←	GUARANTEE	0.936	0.1233	6.633	***	0.807
Q13Guarantee	←	GUARANTEE	0.911	0.028	35.482	***	0.639
Q12Guarantee	←	GUARANTEE	0.898	0.036	27.106	***	0.564
Q15Guarantee	←	GUARANTEE	0.818	0.04	22.404	***	0.636
Q11Guarantee	←	GUARANTEE	0.782	0.045	19.129	***	0.636
Q9Subsidy	←	SUBSIDY	0.899	0.046	22.766		0.879
Q10Subsidy	←	SUBSIDY	0.865	0.044	23.943	***	0.846
Q8Subsidy	←	SUBSIDY	0.861	0.048	23.694	***	0.845
Q7Subsidy	←	SUBSIDY	0.808	0.049	20.96	***	0.76
Q6Subsidy	←	SUBSIDY	0.723	0.052	17.294	***	0.714
Q2Loan	←	LOANS	0.88				0.798
Q3Loan	←	LOANS	0.78	0.047	18.502	***	0.705
Q4Loan	←	LOANS	0.751	0.05	17.457	***	0.66
Q5Loan	←	LOANS	0.791	0.052	18.435	***	0.718
Q1Loan	←	LOANS	0.702	0.048	15.357	***	0.709
Q17SMEG	←	SME_Growth	0.829	0.057	17.902	***	0.713
Q16SMEG	←	SME_Growth	0.803	0.043	21.996	***	0.711
Q18SMEG	←	SME_Growth	0.786	0.068	14.294	***	0.691
Q19SMEG	←	SME_Growth	0.857	0.064	15.537	***	0.734
Q20SMEG	←	SME_Growth	0.558	0.075	10.963	***	0.555

Table 7. Validity and reliability of factors

Variables	CR	AVE	MSV	ASV	Loans	Guarantee	Subsidy	SME_ Growth	Cronbach's alpha
Loans	0.887	0.613	0.173	0.133	0.783				0.867
Guarantee	0.940	0.759	0.331	0.173	0.361	0.871			0.957
Subsidy	0.919	0.695	0.173	0.098	0.416	0.242	0.833		0.794
SME_ growth	0.880	0.599	0.331	0.163	0.310	0.575	0.250	0.774	0.903

4.2 Construct Model Formulation and Hypotheses Test

After satisfying and meeting series of tests for multivariate analysis, and taking into concerns the hypotheses proposed for this study, a construct model was mounted with a covariance based method. Consequently, modification indices were cross checked to determine the level of fitness. Wherefore the model derived a good fit with chi-square of 178.571, DF 155 p-value=0.184 while meeting all criteria. See the Table 8.

Given the acceptable fitness of the construct model, path estimates were generated for the effect of all predictor variables on the outcome variable while age, gender and education were controlled. Convincingly, the analysis amply displays the positive relationship between the predictor variables and the criterion variable as suggested by the estimated regression coefficients.

Table 8. Chi-square and Goodness of Fit Indices

Chi-square	
Chi-square	178.571
Degrees of freedom	155
Probability level	0.184

Goodness of fit indices		
	Observed values	Thresholds
CMIN/DF	1.152	1 to 3
CFI	0.974	>.95
RMR	0.024	<.09
GFI	0.985	>.95
AGFI	0.94	>.80
NFI	0.969	>.90
RMSEA	0.02	<.05
PCLOSE	0.805	>.05
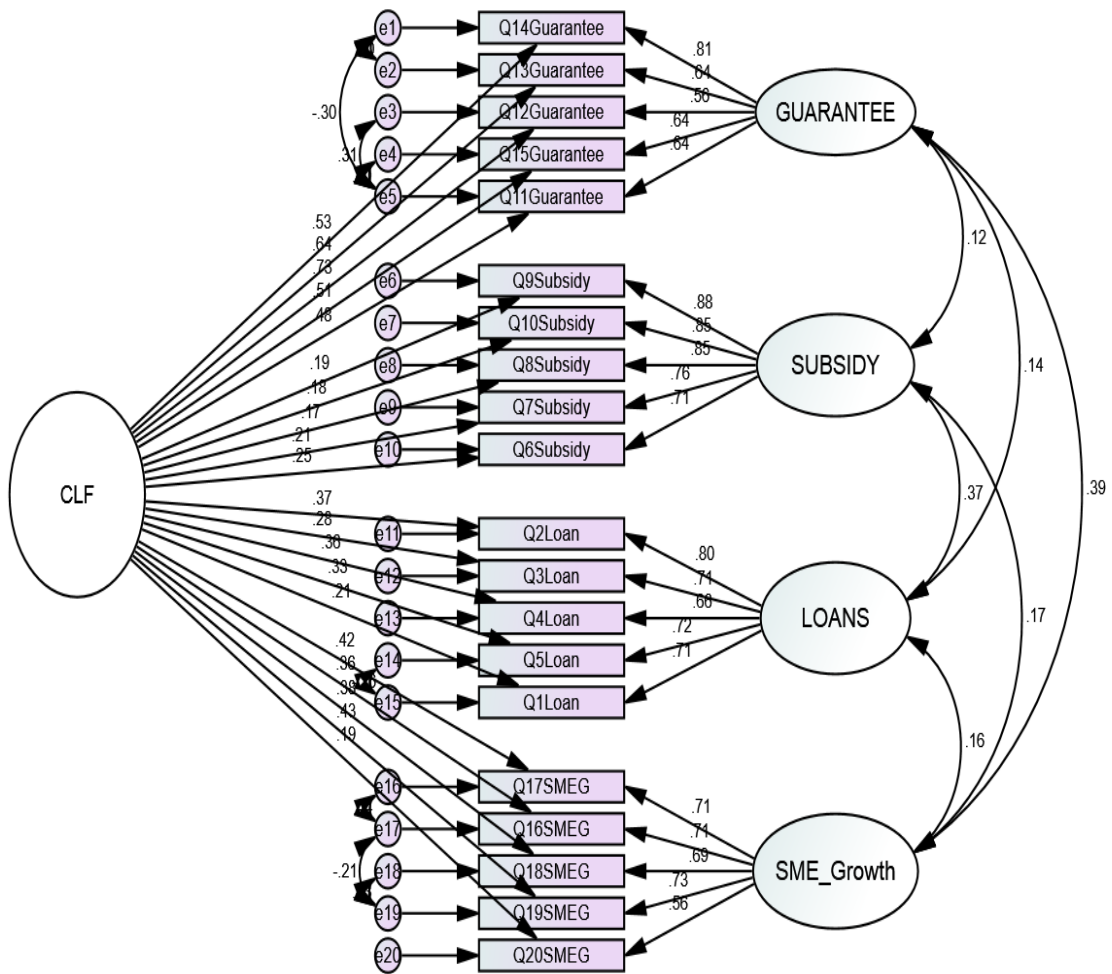
Fig. 5. Common Method Bias Text
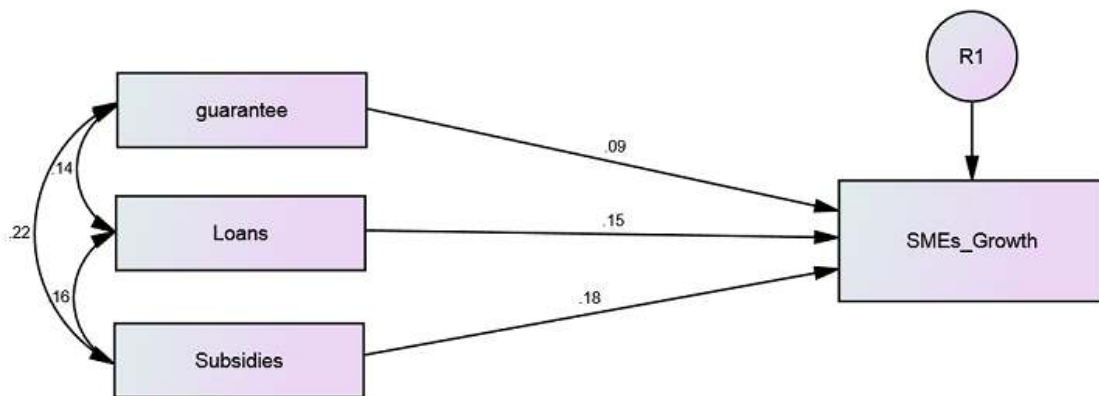
Fig. 6. Construct model

Table 9. Standardize regression estimate

			Estimate	S.E.	C.R.	P	Label
SMEs_Growth	<---	Guarantee	.091	.042	1.796	.072	
SMEs_Growth	<---	Loans	.147	.037	2.944	.003	
SMEs_Growth	<---	Subsidies	.183	.056	3.609	***	

It is noticeable that, for every unit increase in Guarantee, Loans and Subsidies, SMEGrowth will increase by 0.091, 0.147, 0.183 respectively, as predicted by the estimated regression weights in the table above. Thus, approximately, 9.1% of the variability in SMEGrowth is explained by guarantee, 14.7% variability in SMEGrowth is explained by Loans while 18.3% of the variability in SMEGrowth is attributable to Subsidies. Similarly, it is convincing that, the probability of obtaining high critical ratios of 1.796, 2.944 and 3.609 are less than .10, 0.05, and 0.01 as shown in the Table 9 above. From the analysis, the shared evidence goes to reinforce that, the variability in SMEsGrow is conclusively explainable by the independent variables specified in this model when all other predictor variables remain constant. The Null hypotheses which suggest no effect of the predictor variables on the criterion variable (Ho: 1, Ho: 2, Ho: 3, β=0) is disputed for the Alternative hypotheses (H1: 1, H1: 2, H1: 3, β ≠ 0) such that, these independent variables (guarantee, Loans and Subsidies) are significant predictors of SMEGrowth as exhibited by the regression estimates. Comparably, the beta weights obtained indicate that, Subsidies variable has greatest effect in explaining SMEGrowth than does Loans and guarantee. Also, the Loan variable explains greater effect on SMEGrowth compared to guarantee as arranged by the order of effect size. The forgoing discussion provides the bases for accepting the research hypotheses H1, H2, and H3 for which relevant recommendations are noted for SMEs in Ghana.

5. CONCLUSION AND RECOMMENDA-TIONS

It is evidently clear that, the availability of cheaper finance will lead to the growth of the SMEs, hence the need to support them financially. The issue then is how the government does and support institutions provide the needed finance for these SMEs? Any financial support from the government to the SMEs should concentrate most on subsidizing the operational expenditure of the SMEs in the area of R&D, and other procurement issues, since financial support in the form of subsidies resulted in a higher growth followed by the provision of loans and guarantees. This findings will further help explain the reasons why SMEs in Ghana are still not performing better as compared with their counterparts in the advanced countries [2], and also the cause of high defaulting rate in the else while government of Ghana poverty eradication drive through the implementation of poverty elevation strategy in the late 1980s where "soft loans" where granted to most SMEs, with the aim of boosting their productivities, but ended up to be a fiasco. There is a proviso in the subsidization process, since over subsidization may lead to other economic problems, since the true cost of production may not be determined. This issue runs through most African counties' position on reducing SMEs challenges on financing. We therefore recommend that, handouts of cash to SMEs are not the solution to SMEs problems in developing countries. Though supports in the form of the provision of finance have not yielded the desired results, it is believe that institutional support tailored to SMEs financial needs will yield positive results in SMEs growth and development.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX 1

Questionnaire

This research work is undertaking to have an insight on the impact of institutional support to SMEs financing and growth in developing countries with much emphasis on Ghana.

All information you provide will be treated as confidential and anonymous, and also will be used for academic research only. Thank you.

A Types of Marketing Support

Please tick (√) the most applicable ones to your business for the last three (3) years (2012 – 2015).

1. Strongly disagree   2. Disagree   3. Neither agree nor disagree   4. Agree   5. Strongly agree

A	Provision of Subsidies	1	2	3	4	5
1	Cost of operation is too expensive					
2	I cannot compete fairly with the existing well-established firms					
3	I have limited access to finance					
4	Subsidies from the government on raw materials are very helpful					
5	I not aware of any subsidies					
6	The subsidies are discriminatory					
B	Provision of loans	1	2	3	4	5
7	Interest on loans in the open market is too expensive					
8	I cannot compete with the larger firms for loan access					
9	Limited access to external finance is the major problem of my business					
10	Loans from the government and support institutions are discriminatory					
11	I don't have the requirements to access loans from the financial institutions					
12	Loan processes are too cumbersome					
C	Provision of Guarantees	1	2	3	4	5
13	Supplies are not prepare to supply to me on credit					
14	I find it difficult to meet the requirements of the banks for loans					
15	The larger firms have upper hand when it comes to provision of collateral and securities					
16	I am not aware of any guarantees from the government					
17	The provision of guarantees are discriminatory					
18	The size of my business is too small to attract guarantees					

D	Growth Indicators of SMEs	1	2	3	4	5
19	The business is labor intensive					
20	The labor force has increased significantly over the years					
21	I employ more relevant experienced people					
22	Academic qualification of my employees counts					
23	Full time employees are more than part time and contract employees					
24	The number of hours worked by employees has increased significantly					
25	The output per employee has gone up significantly					
26	More capital goes are used in place of labor					
27	My wage bill has gone up					
28	Employees welfare benefits has gone up					
29	There has been a significant increase in total sales					
30	The customer base of the business has increased					
31	Existing customers has increased their purchases					
32	New customers has been recorded					

33	Profit has increased due to increase in sales revenue
34	More branches have been opened
35	I access overseas market
36	Dividends to shareholders has increased significantly

E. General Questions

Please provide one answer to each of the following general questions on your business.

37. Gender? 1: Male   2: Female
38. Age? 1: 20 – 30   2: 31 – 40   3: 41 – 50   4: 51 – 60   5: 61 and above

39. What is the highest educational level of the owner or general manager of the business?

1: Less than high school diploma   2: High school diploma   3: A bachelor's degree
4: A master's degree or above   5: Others

40. Which of the following best describes your position in this business? Are you...

1: the sole owner of this business   2: a partner in this business   3: the person in charge of finance in this business   4: general manager   5: occupying another position in this business

41. Type of the business Organization?

1: a sole proprietorship   2: a partnership   3: a franchise 4: a joint venture   5: others

42. How long has your business been in existence?

1: up to 2 years   2: From 2 – 5   3: From 5 – 9   4: From 9 – 13   5: from 13 and above

How long have been managing/running business or working in a related business?

1: up to 2 years   2: From 2 – 5   3: From 5 – 9   4: From 9 – 13   5: from 13 and above

43. What was your enterprise average total number of employees as at 2013 and 2015?

In 2013

1: 1 – 5   2: 6 – 9   3: 10 – 29   4: 30 – 250   5: Other

In 2015

1: 1 – 5   2: 6 – 10   3: 11 – 15   4: 16 – 29   5: 30 and above

44. What was your enterprise's average total turnover for 2013 and 2015 in New Ghana Cedis (Gh₵)

1: up to $10,000   2: above $10,000   44. Location of the business?

45. In 2015, did your business... (Mark all that apply.)

: Import goods or services from outside your home country?
: Outsource (contract out) any business activities from home country to another country?
: Sell goods to a business in your home country that used them as an intermediate input in the production of another good that was then exported?
: Engage in foreign direct investments?
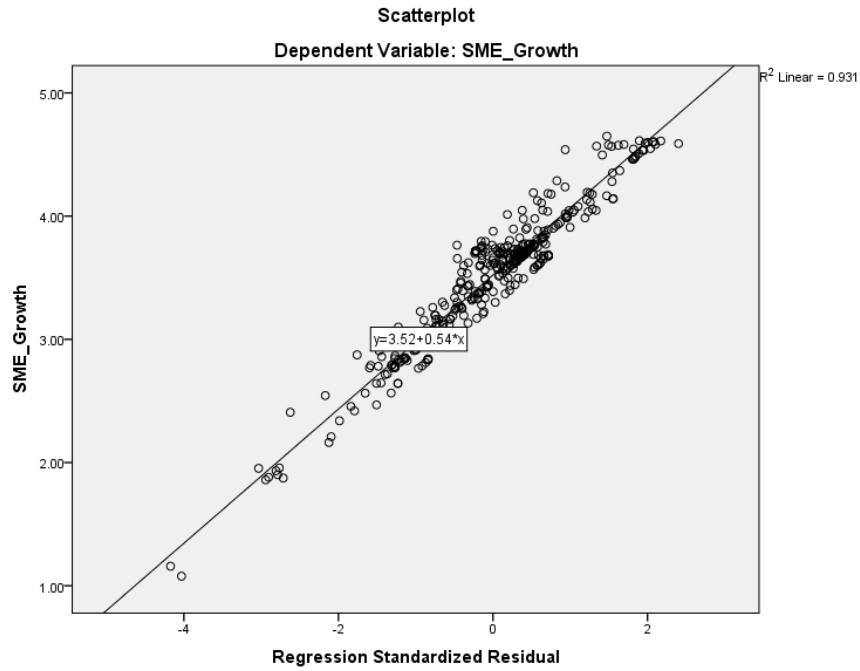: Engage in other international business activities?

APPENDIX 2

Scatterplot

Dependent Variable: SME_Growth

R^2 Linear = 0.931

$y=3.52+0.54*x$

Fig. 1. Scatter plot for homoscadasticity & heteroscadasticity (Guarantees)

Scatterplot

Dependent Variable: SME_Growth

R^2 Linear = 0.876

$y=3.52+0.53*x$

Fig. 2. Scatter plot for homoscadasticity & heteroscadasticity (loans)

Scatterplot

Dependent Variable: SME_Growth
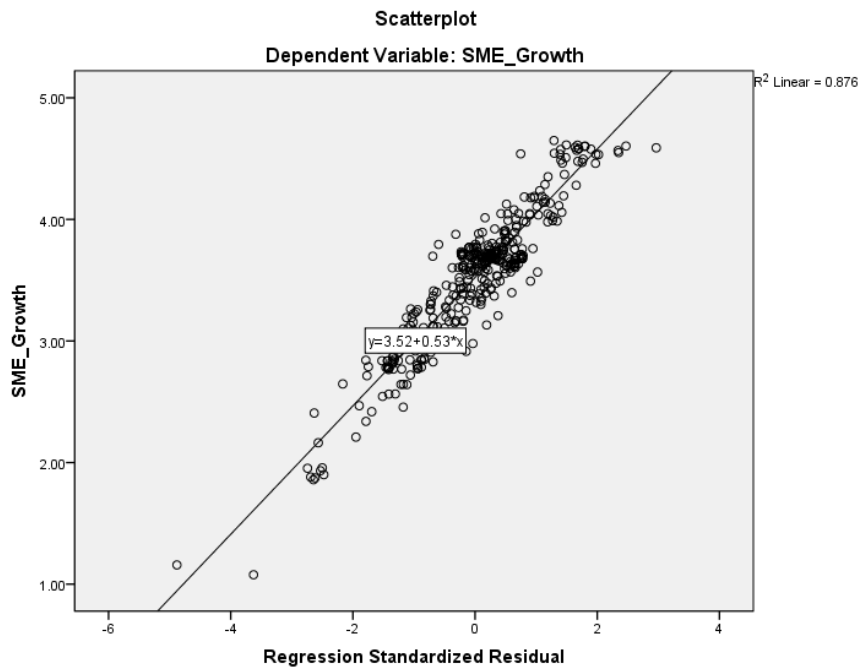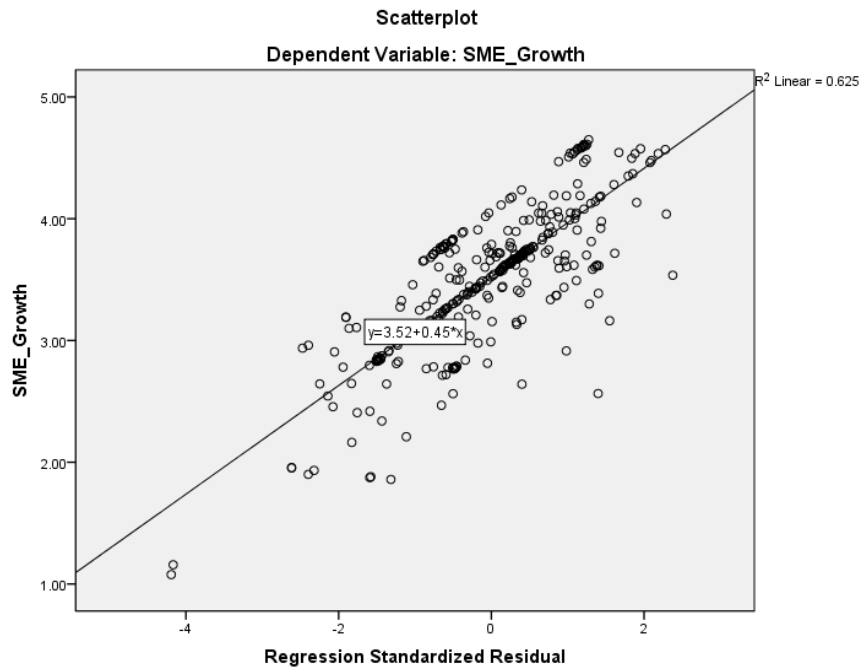
Fig. 3. Scatter plot for homoscadasticity & heteroscadasticity (subsidies)

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