THE ROLE OF THE INFORMAL FINANCIAL SECTOR IN PROMOTING SMALL
AND MEDIUM SIZED ENTERPRISES IN ETHIOPIA

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ABSTRACT

A 9-year long study (2002 to 2010) was conducted on a random sample of 407 small and medium sized enterprises operating in five major cities of Ethiopia in order to identify key predictors of viability and long-term survival. Survival analysis was performed using the Cox Proportional Hazards Model. The study showed that the top 3 predictors of long-term survival and viability were poor access to finance (HR=5.24, C.I. = 3.59-9.77), poor managerial skills (HR=4.68; C.I. = 3.22 – 8.99) and poor technical skills (HR=3.58, C.I. =2.63-7.66).

Keywords: Small and medium sized enterprises, characteristics of entrepreneurs, social entrepreneurship, entrepreneurship and economic development.

INTRODUCTION

This paper is based on a 9-year long study (2002 to 2010) of a random sample of 407 small and medium sized enterprises conducting business in five diverse geographical regions of Ethiopia (Addis Ababa, Awassa, Bahir Dar, Nazareth and Mekele) in which factors responsible for failure in small and medium sized enterprises were investigated using survival analysis. This particular study is a continuation of the 6-year long study conducted by Bekele and Worku (2008) in which 500 small and medium sized enterprises were followed up in the period 1996 to 2001. At the end of 2001, 93 of the 500 businesses (18.6%) had failed. In this study, the remaining 407 businesses were followed up between 01 January 2002 and 31 December 2010. The methods and materials used in this study (2002 to 2010) are similar to those used in the first round of study (1996 to 2001). At the end of the second round of study, 86 of the 407 businesses (21.13%) were out of business, mostly due to lack of access to finance required for routine operation, poor managerial skills, as well as poor technical skills. Businesses that survived the 9-year study period were characterized by extensive utilization of finance raised from the informal financial sector.

In Ethiopia, small and medium-sized enterprises routinely raise finance from the informal financial sector. Most notably, the informal financial sector is dominated by iqqub schemes (indigenous financial associations in which financial contributions are routinely gathered from fellow members at regular intervals, and are disbursed as a lump sum, interest free, to one
member of the scheme at a time). Financial contributions are made weekly or monthly. Lump sums are awarded to only one member of the scheme at a time while all other members are required to wait their turn. At each round, winners are determined by use of random methods such as ballot papers. In iqqub schemes, although each member of the scheme is guaranteed to collect an interest-free lump sum, the waiting time is often too long and inconvenient. Iqqub schemes are operated among friends and close business associates based on mutual trust and a shared feeling of solidarity. The aim of the study is to identify factors that significantly affect the long-term survival and viability of small businesses and enterprises, and to demonstrate the strategic importance of iqqub schemes for ensuring sustained growth and development in small and medium sized enterprises in Ethiopia. The study shows the prominent role played by iqqub schemes in Ethiopia in terms of providing interest-free financial loans to entrepreneurs who cannot borrow money from formal money lending institutions such as the Commercial Bank of Ethiopia. Data was gathered on a large number of socio-economic and demographic variables from each of the 407 enterprises over the study period. The variables used in this study are related to viability, profitability as well as sustainable growth and development. The Cox Proportional Hazards Model was used in order to identify key predictors of survival and failure in small and medium sized enterprises. The study estimates the proportion of businesses that survived the 9-year long study period by utilizing finance from the informal financial sector. The first round of this study was conducted by Bekele and Worku (2008), and had found that poor access to finance was the third most influential factor in affecting long-term survival and viability in small and medium-sized enterprises in Ethiopia.

**BACKGROUND OF STUDY**

Although small and medium sized businesses and enterprises contribute significantly to the national economy of Ethiopia by virtue of alleviating poverty and creating jobs, the sector has never been given due recognition and support from the national government in terms of access to
finance as well as the provision of technical and managerial skills to citizens who operate small and medium enterprises. Historically, only large enterprises and state owned institutions have enjoyed unrivalled support in terms of policy, legislation, tax break, and the supply of resources from successive governments (Bekele & Worku, 2008; Ageba & Amha, 2004; Gebeyehu & Assefa 2004; Enslin, 2006). The study by Quin, Khoury, Peng & Qian (2010) has shown that lack of access to finance is the most influential factor hindering the growth and development of small and medium sized enterprises in developing nations such as Ethiopia. Historically, small and medium enterprises in Ethiopia have done relatively better during Emperor Hailesilassie’s regime that was overthrown in 1974 by Colonel Mengistu Hailemariam. The sector has performed poorly during Mengistu Hailemariam’s socialist regime (1974 to 1990). The performance of the sector is poor even today in comparison with similar sectors in other Sub-Saharan African countries such as Kenya, Uganda and Tanzania. Researchers such as Chetty & Stangl (2009), Coelho & Matias (2010) and Edwards, Sengupta and Tsai (2010) have shown that small and medium sized enterprises in developing nations such as Ethiopia are generally characterized by an acute shortage of finance, over-regulation, lack of technical skills, poor managerial and accounting skills, lack of training opportunities, shortage of raw materials, poor infrastructure and over-tax.

The macro-economic environment in most Sub-Saharan African countries including Ethiopia is not conducive for the growth and development of small businesses (Caroll & Wagar, 2010; Chen, Papazafeiropoulou & Dwivedi, 2010; Ageba & Amha, 2004; Belay, 2002).

LITERATURE REVIEW

Ethiopia is one of the poorest and least developed nations of the world (Ethiopian Ministry of Trade and Industry, 2010). In order to achieve sustained economic growth and development, the country needs to empower small and medium sized enterprises (Ethiopian Central Statistics
Authority, 2010). Lessons learned from the world’s most advanced economies such as Japan, Taiwan, the United States, Germany, China and South Korea show that there can be no sustained growth and development in a nation unless otherwise adequate support is provided to small and medium sized enterprises (Dasanayaka & Sardana, 2010; Doom, Milis, Poelmans & Bloemen, 2010; Hadaya & Pellerin, 2010; Harris & Rae, 2010; Jagoda, Maheshwari & Lonseth, 2010). Extensive research has shown that it is virtually impossible for national governments in poorly developed nations such as Ethiopia to alleviate massive unemployment and abject poverty without utilizing small and medium enterprises as a vehicle for realizing sustained economic growth and development (Jack, Moult, Anderson & Dodd, 2010; Ingstrup (2010), Estebanez, Grande & Colomina, 2010; Hicks, Culley, McMahon and Powell, 2010; Jones, 2010; Kozovska, 2010). Small and medium sized enterprises in Ethiopia suffer from poor infrastructural development, lack of foreign direct investment, shortage of foreign currency, and over-regulation. Based on progress achieved by countries in the Far East and South East Asia, the national government has to introduce innovative schemes of lending easy money to small and medium sized enterprises along with an enabling economic environment (Lee, Lee, Olson & Chung, 2010; Lopez-Nicholas & Soto-Acosta, 2010; Malhotra & Temponi, 2010; Maine, Shapiro & Vining, 2010).

According to the Ethiopian Ministry of Trade and Industry (2010) and the Ethiopian Central Statistics Authority (2010), small and medium sized enterprises in Ethiopia are defined based on their capital and the number of employees they have. Small enterprises have a capital of 2, 250 to 56, 000 American Dollars, and have fewer than 10 employees who use motor-operated equipment. By contrast, medium enterprises have a capital of between 56, 000 and 100, 000 American Dollars, and have between 10 and 20 employees who use motor-operated equipment. While small and medium sized enterprises suffer from dire financial constraint, the state-owned Commercial Bank of Ethiopia sits on an excess liquidity of 165% (Alemayehu, 2006). The study
conducted by Bekele and Worku (2008) has shown that attracting foreign service providers and competitors into the local financial market has the potential for alleviating the acute shortage of finance experienced by small and medium sized businesses and enterprises. A similar recommendation has been made by Dougherty (2009) as a means of alleviating abject poverty in the world’s least developed nations. Research findings reported by Marks and Huzzard (2010), Martinez-Caro & Cegarra-Navarro (2010), Jonsson & Lindbergh (2010), and McAdam, Moffett, Hazlett & Shelvin (2010) show that there is a statistically significant relationship between the ability of nations to attract and entice global competitors in the financial sector and sustainable growth and development in locally based small and medium sized enterprises. Researchers such as Coelho and Matias (2010) and Doom, Milis, Poelmans and Bloemen (2010) have shown that the ability to attract foreign direct investment is directly related to willingness to allow foreign service providers and competitors into the local market.

The majority of small and medium sized enterprises in Ethiopia experience lack of access to finance on favourable terms from formal money lending institutions such as commercial banks. As a result, they routinely raise finance needed for operation from iqqub schemes (financial associations that lend interest-free money contributed by members to one member of the scheme at a time). Iqqub schemes are similar to South African Stokvels or informal clubs that serve as a rotating credit union where members contribute fixed sums of money to a central fund on a weekly or monthly basis so that the lump sum could be provided to one member of the club at a time as an interest-free loan. No collaterals are needed to collect lump sums. Winners of lump sums are decided by random means such as ballot papers. It is too difficult for small businesses to meet the demand for collateral, and pay off the rather high interest rates imposed on borrowers by the commercial banks (Bekele and Worku, 2008). Between 2002 and 2010, interest-free loans
provided by iqqub schemes have been utilized by 69% of businesses in this study. However, iqqub schemes operate on cyclic basis, satisfying the demand of only one member at a time. Other members must wait their turn. The last member receives a lump sum only at the very end of the cycle. The rather lengthy waiting period in iqqub cycles often results in the loss of a golden investment opportunity, loss of valuable time, loss of resources and money, etc. Iqqub schemes vary in size and capacity. Large iqqub schemes are often located in major towns, and generate a lump sum of about 100,000 American Dollars per week. Small iqqub schemes are located in small towns and rural communities, and have smaller lump sums. In this particular study, 61% of businesses that survived the period of study have had to borrow money from iqqub schemes. By contrast, only 18% of non-survivors raised money from iqqub schemes. This evidence shows that it is worthwhile to support and improve the capacity of indigenous iqqub schemes in Ethiopia so that they can lend more money to more small businesses at the same time. Doing so however, requires a favourable macro-economic policy that enables foreign competitors to come into the local financial market and provide badly needed assistance to small businesses and enterprises based on recommendations made by Sun and Liu (2010), Wennberg & Lindqvist (2010) and Zhang (2010).

**METHODS AND MATERIALS**

The study design of the research was longitudinal and descriptive. Data was gathered from a random sample of 407 small businesses and enterprises selected from 5 geographical regions over a period of 9 years (2002 to 2010) from each of the enterprises on socioeconomic variables such as duration of operation, amount of startup capital, level of education of business operators, level of skills of business operators, suitability of business premises, level of support provided by the Ethiopian Ministry of Trade and Industry to business operators, source of finance, amount of loan
borrowed by business operators, profit made, total revenue, operational cost, access to training opportunities on business operations, supervisory assistance, tax amount, method used for tax assessment, access to supplies needed by businesses, demand for goods and services in the local market, perception on level of assistance provided by the government, etc. Data was collected on a monthly basis during the period of study. Supervisory assistance was provided by the Ethiopian Ministry of Trade and Industry in Addis Ababa as well as its five regional offices at the geographical regions of study. Data collection was done with funding from the Christian Relief Development Agency (CRDA) and the Ethiopian Micro Finance Association in Addis Ababa, Ethiopia. The longitudinal data set was gathered by Dr. Eshetu Bekele of the University of the Western Cape at Bellville, South Africa as part of his Ph.D. study in economics (Bekele and Worku, 2008). As such, the data set and related copyright and intellectual property rights belong to the University of the Western Cape at Bellville, South Africa. Administrative assistance and support was provided by the Ethiopian Ministry of Trade and Industry in Addis Ababa, Ethiopia.

The aim of the study is to quantify the contribution of finance raised from the informal financial sector by way of iqqub schemes for the long-term survival and viability of small businesses and enterprises in Ethiopia. Analysis was done using the Cox proportional hazards model (Cleves, Gould & Gutierrez, 2004) in view of the fact that some of the 407 businesses in the study were right censored. Hazard ratios were obtained for key influential predictors of survival. Kaplan-Meier survival probability curves were used for comparing viable and non-viable businesses in terms of survival probabilities. Descriptive and summary statistics were also obtained. The adequacy of the fitted Cox regression model was assessed using the likelihood ratio test and Akaike’s information criterion (AIC) statistic. The fulfilment of the proportional hazards assumption was tested by use of log-minus-log plots. Data analysis was done using the statistical package STATA version 11 (STATA Corporation, 2010).
The duration of survival of businesses was measured for each of the 407 enterprises in the study by using 01 January 2002 as the starting point. Enterprises that were still operational at the end of the study period (31 December 2010) were considered right-censored observations as their exact durations of survival could not be measured due to administrative censoring (inability to measure the survival times of businesses beyond the date at which the study came to an end) at the end of the study period. For enterprises that ceased operation prior to 31 December 2010, survival time was defined as the number of days of operation between 01 January 2002 and the date of closure.

The Cox Proportional Hazards Model takes censored observations into account, and this property of the model makes it quite attractive in comparison with other models used for survival analysis in economic studies (Cleves, Gould & Gutierrez, 2004; Kleinbaum, 1996). In Cox regression, hazard ratios are used as an econometric measure of effect. Key predictors of survival are identified and estimated based on hazard ratios. Kaplan-Meier survival probability curves were used for comparing businesses that survived the 9-year study period (survivors) with businesses that did not survive the study period (non-survivors) with regards to key predictors of survival. Kaplan-Meier survival probability curves were used for comparing survivors with non-survivors graphically. At the 5% level of significance, influential predictors of survival are characterized by hazard ratios that differ from 1 significantly, 95% confidence intervals of hazard ratios that do not contain 1, and P-values that are smaller than 0.05.

RESULTS OF ANALYSIS

Table 1 shows the distribution of factors that affect the long-term survival of enterprises. The table shows frequency proportions of 6 key predictors for survivors and non-survivors. In the 9-year study period, 86 of the 407 businesses in the study (21.13%) have failed while the other 321 businesses (78.87%) have managed to survive. The table shows that 61% of survivors used iqqub schemes for raising finance needed for conducting business whereas only 18% of non-survivors
did the same. Managerial skills were inadequate in 37% of survivors and 79% of non-survivors.

The table also shows that managers of the 86 businesses that failed during the 9-year period of study are characterized by poor technical skills, low level of training in basic entrepreneurial skills, poor formal education, and past experience of bankruptcy.

(Table 1 here)

Kaplan-Meier survival probability plots were used for comparing the survival probabilities of businesses with regards to participation in iqqub schemes. The plot shows that businesses that participated in iqqub schemes have a larger probability of survival in comparison with businesses that did not participate in iqqub schemes.

(Figure 1 here)

Table 2 shows hazard ratios estimated from Cox regression. The table shows that the survival of businesses is most strongly influenced by 6 of the 19 predictor variables used for survival analysis. These 6 influential variables are poor access to finance, poor managerial skills, poor technical skills, poor regular training opportunities, poor formal education, and past bankruptcy, in a decreasing order of strength. The most influential predictor variable affecting the survival of businesses is access to finance.

(Table 2 here)

The hazard ratio of the variable poor access to finance is 5.24. This shows that businesses that do not have access to finance are 5.24 times more likely to fail in comparison with businesses that have adequate access to finance. As high as 61% of the 321 survivors raised finance required for
routine operation from iqqub schemes, whereas only 18% of non-survivors did the same. The hazard ratio of the variable poor managerial skills is 4.68. This shows that businesses that are managed by operators with poor managerial skills are 4.68 times as likely to fail in comparison with businesses managed by operators with adequate managerial skills. The hazard ratio of the variable poor technical skills is 3.58. This shows that businesses that are operated by managers with poor technical skills are 3.58 times more likely to fail in comparison with businesses that are operated by owners with adequate technical skills.

Adjustment was done for three potential confounding variables: geographic region, age of owner and gender of owner. Unadjusted and adjusted hazard ratios did not differ much. This shows that none of the three variables used for adjustment was a confounding or effect modifying variable. The adequacy of the fitted Cox model was assessed using log-minus-log plots, the likelihood ratio test and the AIC (Akaike’s Information Criterion) as diagnostic procedures. All log-minus-log plots were parallel, showing that the assumption of proportional hazards was satisfied. The P-value from the likelihood ratio test was small (0.0001 < 0.01), thereby showing that the 6 variables constituting the fitted Cox model were jointly efficient in explaining variability in long term survival at the 1% level of significance. The estimated value of the AIC statistic was also small (10.32), thereby showing that the discrepancy between the fitted and true models was insignificant (Verbeek, 2000).

**DISCUSSION OF RESULTS**

The study has shown that businesses that utilized finance from iqqub schemes on a regular basis have survived much better than those who did not do the same. The majority of small and medium-sized enterprises in Ethiopia are denied access to credit from formal financial institutions such as commercial banks. Iqqub schemes could be viewed as a form of social capital in which participants generate financial and non-financial benefits such as interest-free loans, savings, the
exchange of productive information and vital knowledge, skills and innovative ideas. As a result, members of iqqub schemes empower themselves in areas that are relevant to their basic needs. Economic output is improved, and challenges are overcome collectively. Money obtained from iqqub schemes is interest free, and comes with no stringent conditions. Businesses that have participated in iqqub schemes have generally survived much better than those that did not do the same. While iqqub schemes have managed to fill the gap left open by formal money lending institutions at least partially, they lack the capacity to provide assistance to all members of the scheme at the same time. This limitation of iqqub schemes could be addressed by the national government. This course of action has already been taken by the Grameen Bank of Bangladesh, and has yielded tangible success in terms of the alleviation of abject poverty among the poor, the unskilled and the uneducated (Daley-Harris, 2011). The key findings of this study are in agreement with results reported by Jiang & Peng (2011), Globerman, Peng & Shapiro (2011), Zoogah, Vora, Richard & Peng (2011), and Peng, Bhagat & Chang (2010).

**CONCLUSION**

The study shows that as many as 61% of businesses that survived the 9-year long study period borrowed finance from the informal financial sector, and that only 18% of non-survivors did the same. The study also shows that the long-term survival and viability of enterprises is significantly influenced by the possession of adequate managerial and technical skills, and regular training opportunities. As is the case in any part of the world, entrepreneurs working in small businesses and enterprises in Ethiopia require access to finance in order to succeed. Although the small and medium enterprises sector contributes significantly to the national economy by creating jobs and alleviating abject poverty among the masses, the sector has so far not been given due recognition that is commensurate with its level of contribution. Based on findings of this particular study, lack of access to finance from formal money lending institutions such as commercial banks and micro finance institutions is one of the leading causes of failure in small businesses and
enterprises in Ethiopia. Commercial banks demand exorbitant collaterals that cannot be easily produced by small businesses and enterprises. Interest rates of micro finance institutions are not affordable to small and medium businesses and enterprises. The gap left wide open by formal money lending institutions has been partially filled in by iqqub schemes. However, iqqub schemes are vastly under resourced, and can only provide finance to one member at a time. At a time when the small and medium enterprises sector and iqqub schemes starve for money, the Commercial Bank of Ethiopia sits on a 165% excess liquidity (Bekele and Worku, 2008). There is an ideal opportunity for a fruitful strategic collaboration between iqqub schemes and formal money lending institutions such as commercial banks and micro finance institutions. This can be achieved by making more money available to iqqub schemes and by integrating iqqub schemes with formal money lending institutions so that commercial banks and micro-finance institutions have access to the millions of clientele belonging to iqqub schemes. This remedial action is informed by the dramatic success achieved by the Grameen Bank of Bangladesh (Dowla, 2005; Dougherty, 2009).

LIST OF REFERENCES


College Station, Texas, USA: STATA Corporation.


<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Survivors (n=321)</th>
<th>Non-survivors (n=86)</th>
</tr>
</thead>
</table>

Table 1: Group proportions with regards to long-term survival
<table>
<thead>
<tr>
<th>Participation in iqqub schemes for raising finance</th>
<th>No: 39%</th>
<th>No: 82%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes: 61%</td>
<td>Yes: 18%</td>
</tr>
<tr>
<td>Level of managerial skills of business manager</td>
<td>Inadequate: 37%</td>
<td>Inadequate: 79%</td>
</tr>
<tr>
<td></td>
<td>Adequate: 63%</td>
<td>Adequate: 24%</td>
</tr>
<tr>
<td>Level of technical skills of business manager</td>
<td>Inadequate: 35%</td>
<td>Inadequate: 76%</td>
</tr>
<tr>
<td></td>
<td>Adequate: 65%</td>
<td>Adequate: 24%</td>
</tr>
<tr>
<td>Regular training on basic entrepreneurial skills</td>
<td>No: 34%</td>
<td>No: 74%</td>
</tr>
<tr>
<td></td>
<td>Yes: 66%</td>
<td>Yes: 26%</td>
</tr>
<tr>
<td>Formal education of business manager</td>
<td>Primary or less: 33%</td>
<td>Primary or less: 71%</td>
</tr>
<tr>
<td></td>
<td>Above primary: 67%</td>
<td>Above primary: 29%</td>
</tr>
<tr>
<td>Experience of prior bankruptcy</td>
<td>Yes: 28%</td>
<td>Yes: 64%</td>
</tr>
<tr>
<td></td>
<td>No: 72%</td>
<td>No: 36%</td>
</tr>
</tbody>
</table>

Table 2: Adjusted hazard ratios from the Cox Proportional Hazards Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>*Adjusted Hazard Ratio</th>
<th>P-value</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor access to</td>
<td>5.24</td>
<td>0.000</td>
<td>(3.59, 9.77)</td>
</tr>
<tr>
<td>finance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Poor managerial skills</td>
<td>4.68</td>
<td>0.000</td>
<td>(3.22, 8.99)</td>
</tr>
<tr>
<td>Poor technical skills</td>
<td>3.58</td>
<td>0.000</td>
<td>(2.63, 7.66)</td>
</tr>
<tr>
<td>Poor regular training</td>
<td>3.47</td>
<td>0.001</td>
<td>(2.45, 7.55)</td>
</tr>
<tr>
<td>Poor formal education</td>
<td>3.46</td>
<td>0.002</td>
<td>(2.44, 7.54)</td>
</tr>
<tr>
<td>Prior bankruptcy</td>
<td>2.88</td>
<td>0.004</td>
<td>(1.08, 6.36)</td>
</tr>
</tbody>
</table>

* Adjustment was done for geographical region, age of owner and gender.

Figure 1: Kaplan-Meier survival probabilities by participation in iqqub schemes