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DEVELOPMENT ECONOMICS | RESEARCH ARTICLE

Job quality in the micro and small enterprise sector in Ethiopia: Evidence from firm-level data

Berihu Assefa Gebrehiwot^{1*}

Abstract: Micro and small enterprises are ubiquitous in developing countries and play a central role in employment. While there is solid empirical evidence that micro and small enterprises are important drivers of job creation, there is limited evidence on the quality aspects of employment in this sector, particularly in developing countries. Much of the previous research has focused primarily on quantitative job creation. Some studies have investigated job quality using labor force survey data at the employee-level. However, these studies hardly examined the role of entrepreneurial and firm characteristics on job quality. Firms and entrepreneurs in the micro and small business sector are natural targets of policy initiatives to improve job quality. Cognizant of this, this research aims to examine the determinants of job quality in the micro and small business sector in Ethiopia. Using a large firm-level primary dataset collected in the 10 largest cities in Ethiopia, the paper examines the relationship between entrepreneurial characteristics and indicators of job quality. Our regression results show the existence of a positive and significant correlation between job quality, as measured by average wages and job security and safety indicators, and entrepreneurial education and experience, as well as firm size and the presence of a professionally recruited manager. Our findings offer some important implications for policymakers to improve job quality by identifying the entrepreneurial and firm characteristics that drive or constrain quality job creation in the formal micro and small business economy in urban contexts.

Subjects: Social Sciences; Economics, Finance, Business and Industry; Business, Management and Accounting; Entrepreneurship and Small Business Management; Industry and Industrial Studies; Manufacturing Industries; Economics

Keywords: job quality; entrepreneur; Ethiopia; manufacturing; MSE

JEL codes: J01; J33; J81

1. Introduction

Although there is growing interest in the role of micro and small enterprises in creating quality jobs, research on the micro and small business sector and employment has so far focused mainly on quantitative job creation. While quantitative aspects of job creation focus on the number of jobs regardless of their ability to improve workers' living standards, quality jobs, on the other hand, improve the health and well-being of workers (Amossé & Kalugina, 2010; Block et al., 2018; ILO, 2020). Poverty is still unacceptably high—1.3 billion people in 107 developing countries, representing 22% of the world's population, live in multidimensional poverty, and around 84% of them live in sub-Saharan Africa and South Asia (Development Initiatives, 2021; Oxford Poverty and Human Development Initiative, 2018; World Bank, 2016). As employment is one of the main routes to

earning income, lack of access to decent work remains one of the main reasons for high poverty rates (ILO, 2020).¹ This means that a larger number of people are unable to lift themselves out of poverty even though they work. Vulnerable and informal jobs, jobs associated with low pay, limited job security, and poor working conditions, still represent the bulk of available employment for many job-seekers in developing countries (Ayyagari et al., 2011; Bonnet et al., 2019).

Supporting the micro and small enterprise (MSE) sector is the most widespread and implemented strategy for job creation and poverty reduction in many developing countries (Abisuga-Oyekunle et al., 2020; Deijl et al., 2013). This shows that the MSE sector accounts for a large proportion of employment in most countries, regardless of income level or location. However, the proportion is particularly high in developing countries such as Ethiopia. According to the same study, the median employment share of the MSE sector is 67 percent. Given its importance for job creation, governments and non-governmental organizations provide multifaceted support programs for the sector as part of their MSE policies. However, creating new jobs alone is not enough (ILO, 2020). Whether or not the new job lifts workers out of poverty is an important issue that has major implications for poverty reduction strategies. Poverty is only reduced to the extent that income is sufficient to cover basic necessities. A plethora of evidence shows that the majority of current jobs in developing countries, most of which are in micro and small businesses, do not lift people out of poverty (Dhakal et al., 2018; IMF-ILO, 2010; Reeg, 2015). It is increasingly recognized that the effectiveness of poverty reduction strategies also lies in their additional focus on job quality beyond the immediate and conventional quantitative aspects.

Several studies have examined the effects of micro and small enterprises on creating more jobs (Abisuga-Oyekunle et al., 2020; Ayyagari et al., 2011). However, to the best of our knowledge, there is limited research into whether the new jobs these enterprises are creating are quality jobs, and what drives quality job creation is less explored. Existing empirical studies use worker data or labor force surveys to study what workers value most in a job (Andrade & Westover, 2018; Cazes et al., 2015). In most of these empirical studies, the standard approach is to examine whether a job constitutes some of the qualities that workers value in a job such as better wages, job security, and physical working conditions from a worker's perspective. Such approaches scarcely look at the role of entrepreneurial and enterprise characteristics on job quality.

Our research question and approach differs from previous studies in that our study makes enterprises and entrepreneurs the subject matter and uses firm-level data. We think that the issue of job quality in low-income contexts and the approach to studying it at the firm level is important and timely, as firms and entrepreneurs are the natural targets of policy initiatives aimed at improving job quality. Policymakers in developing countries would be interested in understanding the drivers of job quality at the firm level as micro and small enterprises are central to addressing job quality issues. Although there is less consensus on what constitutes a quality job, there is a global recognition and mobilization for the creation of decent (or quality) jobs, such as the United Nations' Sustainable Development Goals of which goal weight is about decent work. And many developing countries in Africa target the micro and small enterprise sector to improve the quantity and quality of jobs (Abisuga-Oyekunle et al., 2020; Nichter & Goldmark, 2009). The literature has mostly defined job quality in terms of key characteristics of a job, including compensation (e.g., wages), working conditions (e.g., safety), and long-term prospects (e.g., job security and career advancement opportunities; Congdon et al., 2020).

Small enterprises and their owners are important job creators in developing countries (Goedhuys & Sleuwaegen, 2010; Hovhannisyan et al., 2022; McPherson, 1996). However, it should also be noted that the small business community is diverse in nature and characteristics (Abebe et al., 2018). Which entrepreneurial characteristics drive the creation of quality jobs is, therefore, an important empirical question. To that end, this paper aims to document the extent to which MSEs create quality jobs in Ethiopia; and examine the drivers of variation in quality job creation in MSEs. Ethiopia with a population of 115 million, 70% of whom are youth, has heavily promoted the micro

and small business sector to create jobs for its large young population (Admassie et al., 2015). Therefore, in the context of a developing country, Ethiopia presents a tremendous opportunity to study the quality of jobs being created in the micro and small enterprise sector.

Our analytical approach uses a newly collected large firm-level dataset to uncover the correlations between job quality measures and entrepreneurial characteristics. As a preview of our results, the regression analysis shows that there is a positive association between job quality, as measured by average wages and job security and safety indicators, and entrepreneurs' human capital, as measured by education and experience, as well as firm size and having a professionally recruited manager. An understanding of firm-level drivers of job quality is useful to address job quality issues, as firms and entrepreneurs are the natural targets of policy initiatives in this exercise. In this respect, we believe that our research work contributes to policy and the literature in at least two ways. First, the subject of job quality in low-income contexts and the approach of studying it at the firm level are important as firms and entrepreneurs are at the center of small business policy initiatives. Second, in terms of contribution to the existing literature, more country-specific studies would help enrich the existing literature and strengthen their external validity. This is because the existing literature in this area is far from having a reasonably common concept and measurement of job quality and comparable data for all countries and therefore existing studies tend to be country or region-specific. This severely limits the comparability and external validity of their findings. So more country-specific studies like ours would help strengthen the external validity and policy relevance of existing studies on quality job creation. Furthermore, unlike most literature, we use large firm-level data with a census of small firms and a large sample of microenterprises in the ten major cities of Ethiopia, which can fairly be considered the paper's strength.

There are, however, some limitations that should be noted in discussing our results. First, our data consists of only formal manufacturing enterprises that are registered with relevant authorities at different layers of the government and hence we cannot draw any inferences about the informal enterprise economy. Second, our sample is exclusively drawn from enterprises in the 10 largest urban areas and hence our results are only applicable to the urban contexts. Further data is required to draw inferences on rural enterprises and enterprises operating in other smaller cities not covered by our study.

The rest of the paper proceeds as follows. Section two presents a review of the conceptual and empirical literature in relation to job quality and poverty. Section three discusses the methodology, including the empirical strategy adopted for estimation and the data requirements. Section four presents and discusses the results of both the descriptive and regression analysis. Finally, section five concludes by providing some policy implications.

2. Review of related literature

There are two aspects to small business job creation: quantity and quality. Theoretical and policy debates about the potential tension between job quality and quantity in the context of small business development have received increasing attention in the literature (Guillén & Dahl, 2009). The quantitative dimension of job creation argues that the issue of unemployment in developing countries is essentially a quantitative problem, and the solution to that has to focus on creating as many jobs as possible. On the other hand, the quality job argument sees employment as a major route to getting out of poverty. While the quantitative dimension of job creation is easy to measure and monitor, the quality aspect of job creation, which is the main focus of this paper, is not straightforward due to the lack of an agreed and comprehensive definition of job quality. Despite the lack of a consistent definition of job quality, most of the literature defines job quality in terms of wage and non-wage aspects (such as job security, safety, and other better working conditions; OECD, 2018).

Numerous studies (both theoretical and empirical) have confirmed a positive correlation between high-quality jobs and improvements in worker well-being, working conditions, workers'

development and skills, and firm productivity (Congdon et al., 2021; Guillén & Dahl, 2009; Shapiro & Stiglitz, 1984). One of the main mechanisms by which this is realized is captured in the efficiency wage theory, which suggests that higher wages (an important indicator of job quality) lead to higher productivity by increasing worker morale and the self-selection of better workers (Shapiro & Stiglitz, 1984). Customarily, wage levels have been the most common measure of job quality in economics (Erhel & Guergoat-Larivière, 2010). However, since wages do not comprehensively capture all dimensions of work, recent literature proposes several additional dimensions to define job quality (Hauff & Kirchner, 2014; R. M. De Bustillo et al., 2011a; Stier & Stier., 2015). The existing literature on measures and drivers of job quality can broadly be classified into three major categories. The first category of literature relies mainly on subjective approaches. Using the framework of the “economics of happiness,” this approach defines job quality in terms of employee perceptions through the development of surveys of worker job satisfaction and well-being (Brown et al., 2007; Bryce, 2018; Kortmann et al., 2021). Based on this approach, quality jobs are those that result in high personal satisfaction with job impact, level of pay, sense of achievement, and relationship with management and supervisors (Tansel & Gazioğlu, 2014). The second category of literature uses objective approaches. This approach identifies several objective measures of job quality, including pay, autonomy, job intensity, job security, physical working conditions, occupational health, learning and promotion prospects (Amossé & Kalugina, 2010; Congdon et al., 2021; Crespo et al., 2017; Erhel & Guergoat-Larivière, 2010; Holman, 2013; Westover, 2012). The third category is a combination of both subjective and objective approaches (Goods et al., 2019; Scott & Katz, 2021).

Most previous studies largely use worker-level data or labor force surveys to understand what worker characteristics (such as gender, education, age, nationality, and employment status) explain variations in job quality (e.g., see, Hovhannisyan et al., 2022). Furthermore, most previous studies have been conducted in the context of developed countries (e.g., Bondonio et al., 2022; Wagner, 1997). To the best of our knowledge, there is little evidence on what entrepreneurial characteristics determine job quality in developing country contexts. Even in developing countries, the small enterprise sector is very diverse in terms of the quantity and quality of jobs it creates (see the literature on gazelles, e.g., Abebe et al., 2018; Henrekson & Johansson, 2010). This warrants a systematic investigation to explain which entrepreneurial attributes and characteristics drive job quality. To that end, our goal in this study is to understand job quality in the Ethiopian small business sector and what entrepreneurial characteristics drive it. We think that this question is not only important from an academic point of view but also policy-relevant. Most government policies in developing countries seem to focus on the number of jobs (Block et al., 2018). In the context of Ethiopia, from which our data originate, this can be deduced from its micro and small enterprises support program, which extends policy support to all micro and small firms, regardless of their growth orientation and the quality of the jobs they create (Abebe et al., 2018; Gebreeyesus et al., 2018).

In particular, our hypotheses focus on three key entrepreneurial and firm characteristics that are most relevant in Ethiopia’s small business landscape: firm size, entrepreneurial human capital, and how firms are managed (i.e., family or professionally managed). The aim of this paper is to encapsulate what we know about the variation of different dimensions of job quality depending on firm size, entrepreneur’s human capital, and firm’s management situation in Ethiopia. We attempt to systematically examine firm and entrepreneur characteristics and how they relate to job quality creation, as formalized in our hypotheses below.

Hypothesis 1: Enterprises that create quality jobs tend to be operated by highly educated and experienced entrepreneurs.

Hypothesis 2: Enterprises that create quality jobs tend to operate on a larger scale, and are managed professionally (by recruited managers rather than by family members).

The role of entrepreneurial human capital has been the focus of research since the pioneering work of Becker (1962). It has been shown that the human capital embodied in the entrepreneur is an important determinant of entrepreneurial activities, firm growth and the creation of quality jobs (Acs et al., 2009; McPherson, 1996). The mechanism by which this happens is that better-educated entrepreneurs tend to create higher-quality jobs in order to attract a better-skilled and experienced workforce and produce higher-quality products. The relationship between entrepreneurial human capital (as measured by the entrepreneur's level of education and experience) and job quality is an even more important empirical question in the context of the small business sector and needs to be explored.

We also examine whether firms that create quality jobs tend to operate on a larger scale and are managed professionally by recruited managers. This is an important empirical question, but one that has received less research, particularly in the context of the small business sector. Poor-quality jobs, where workers are considered to be low-paid and most at risk, are particularly concentrated in micro and small firms (Bryson et al., 2017; Oi & Idson, 1999). Consequently, governments encourage micro and small enterprises not only to increase their productivity but also to encourage upward size transitions, on the assumption that both employment quantity and quality improve with size (Auwalin, 2021). On the other hand, given that family ownership is a prevalent form of business organization in developing countries, including Ethiopia, whether firms managed professionally by recruited managers create better quality jobs than family-managed firms is an important empirical question (Iacovone et al., 2019).

To our knowledge, there are no studies on the quality of jobs in the micro and small enterprise sector in Ethiopia. Previous studies on Ethiopia's micro and small enterprise sector have focused on the sector's growth determinants, enterprise heterogeneity, and their role in quantitative job creation (Abebe et al., 2018; Andaregie et al., 2022; Bigsten & Gebreeyesus, 2007; Tarfasa et al., 2016). The Ethiopian MSE sector is relatively large, populated by young and diverse firms with different business motivations and backgrounds (see, Gebreeyesus et al., 2018) for a summary of the main characteristics of the micro and small business sector in Ethiopia).

3. Methodology

3.1. Data

Our data comes from a large representative sample survey of micro-enterprises and a census of small enterprises in the 10 largest cities of Ethiopia—Addis Ababa, Mekelle, Bahir Dar, Dire Dawa, Adama, Dessie, Gonder, Hawassa, Jimma, and Jigjiga. The 10 cities are used as our strata from which we randomly sample micro-enterprises and conduct a small enterprise census. Since Addis Ababa is a large city with a high concentration of MSEs, the 10 sub-cities in Addis Ababa are considered as 10 separate strata. A sampling weight drawn from the population distribution of each sub-city is used to assign the sample size for each of the 10 sub-cities in the city. We then use a simple random sampling procedure to draw the sample of micro-enterprises from each sub-city stratum. The population frame for enterprises in Addis Ababa is created by combining three separate administrative lists compiled by the Bureau of Labor and Social Affairs, the Addis Ababa Trade and Industry Bureau, and the Addis Ababa Urban Job Creation and Food Security Agency (formerly the Addis Ababa Micro and Small Enterprise Development Agency). As shown in Table 1, our final sampling frame for Addis Ababa constitutes a total of 16,004 micro and small manufacturing enterprises. Of these, 3298 were small enterprises, while the remaining 12,706 were microenterprises. While we conducted a census for the small enterprises, we sampled 1195 micro-enterprises from the 10 sub-cities of Addis Ababa using a stratified random sampling technique.

The population frame used for the nine regional cities was also largely based on an approach similar to that of Addis Ababa. The only exception was that there was no administrative data at

Table 1. Sampling distribution of MSEs in Addis Ababa

Sub cities	Population		Surveyed	
	Small	Micro	Small (census)	Micro (sample)
Addis Ketema	373	1090	373	141
Akaki Kaliti	406	1177	406	86
Arada	229	739	229	58
Bole	361	1791	361	162
Gulele	298	1144	298	100
Kirkos	191	840	191	76
Kolfie	229	2426	229	247
Lideta	125	520	125	59
Nifas Silk	738	1626	738	121
Yeka	348	1353	348	145
All	3298	12,706	3298	1195

Notes: A firm with 1–5 employees is micro and a firm with 6–50 employees is small.

Source: ESBDE Baseline Survey, 2017

the regional Bureaus of Labor and Social Affairs and therefore the sampling frame was constructed using the Regional Micro and Small Enterprise Development Agencies (ReMSEDA) and the Trade and Industry Bureau of each region. We used cities to stratify the sample and the sample size in each city was determined using the population distribution of those enterprises as the sampling weight. As indicated in Table 2, we conducted a census of small firms (1566 in total) and a survey of 2115 randomly selected micro-enterprise in the nine regional cities of Hawassa, Bahir Dar, Mekelle, Jimma, Dessie, Gonder, Jigjiga, Dire Dawa and Adama.

We then conducted face-to-face interviews from December 2016 to June 2017 by implementing a survey tool with a rich set of questions about the entrepreneur's demographic characteristics, business profile, credit history, savings culture, number of employees, capital stock, cognitive ability, risk, and time preference. The survey instrument was developed in an electronic version (CSPRO) to collect the data using a Computer-Assisted Personal Interview (CAPI) system. CAPI technology has helped us produce better-quality data by minimizing coding and manual errors and reducing data collection time. In total, we collected data from 8174 enterprises.

Table 2. Sampling distribution of MSEs in the nine major regional cities

Cities	Population		Surveyed	
	Small	Micro	Small (census)	Micro (sample)
Adama	121	531	121	140
Bahir Dar	252	948	252	314
Dessie	89	384	89	147
Dire Dawa	126	447	126	118
Gondar	126	737	126	211
Hawassa	316	806	316	143
Jigjiga	60	120	60	44
Jimma	146	480	146	148
Mekele	330	2449	330	850
All	1,566	6902	1,566	2,115

Notes: A firm with 1–5 employees is micro and a firm with 6–50 employees is small.

Source: ESBDE Baseline Survey, 2017

3.2. Empirical strategy

Existing literature defines job quality as a function of two sets of determinants: socioeconomic characteristics of workers and characteristics of entrepreneurs and firms (Crespo et al., 2017; Green, 2006; Hauff & Kirchner, 2014). In this paper, we are more interested in examining what entrepreneurial and enterprise characteristics and attributes contribute to the creation of quality jobs. More specifically, we set out to examine how and in what way firms that create productive jobs differ in their characteristics and attributes from those that create fewer quality jobs. We measure job quality by a set of variables: (i) average wage, (ii) the type of employment contract that firms enter into with their employees, and (iii) physical working conditions. We measure the average wage by the average remuneration enterprises pay for their production workers. The employment contract is defined by a contract dummy variable, which is 1 if the firms offer written contracts to their workers and 0 otherwise. It can alternatively be defined by either the percentage of employees who are offered written contracts or the percentage of permanent employees in a given enterprise. Likewise, we define and measure physical working conditions through a set of health and occupational safety variables: (a) a dummy variable called PPCE, which equals 1 if the enterprise provides its workers with all the necessary personal protective clothing and equipment and 0 otherwise; (b) a dummy variable called occupational safety training, which equals to 1 if the enterprise effectively trains its workers in occupational safety and 0 otherwise; (c) number of work-related accidents in the enterprise.

Based on Hypothesis 1, MSEs that create quality jobs tend to be operated by educated and experienced entrepreneurs. To capture the effects of education, we use three indicators: (a) years of schooling, measured by the total number of years of schooling of the entrepreneur; (b) vocational training, a dummy variable equal to 1 if the entrepreneur attended vocational school, 0 otherwise; and (c) international language proficiency, which is measured as a dummy variable equal to 1 if the entrepreneur speaks good English and 0 otherwise. Speaking English is believed to be part of the human capital aspect for an owner-manager looking to grow and interact with global clients. On the other hand, leadership experience is captured by the entrepreneur's years of operation or the number of years of business ownership.

Likewise, based on Hypothesis 2, we claim that enterprises that operate on a larger scale tend to create better-quality jobs. Enterprise size enters the regression as a dummy variable, and we have three size categories: micro (1 to 5 employees), small (6 to 30 employees), and medium (30 to 50 employees).

Thus, in order to test our hypotheses, we regress the dependent variables (i) to (iii) on the entrepreneur and firm characteristics, such as education, managerial experience, and other exogenous variables. If we denote the dependent variables as Y_i with subscript i indicating enterprises, and X_i as explanatory variables, the regression equation can be written as:

$$Y_i = X_i\alpha_i + \varepsilon_i \quad (1)$$

Where α_i is a vector of parameters to be estimated and ε_i is an error term.

While the equations for wages and the number of work-related accidents are estimated using the ordinary least squares (OLS) method, the equations that explain the proportion of workers with a written contract and/or the proportion of permanent workers in an enterprise are estimated using the Two Limit Tobit estimator model because the data on these variables are censored at 0 and 1 (Long, 1997). On the other hand, the categorical dependent variables (i.e., contract dummy, occupational safety training, and PPCE dummies) are estimated using the logistic regression method. Below we discuss the two potential categories of determinants of job quality: entrepreneur and firm characteristics.

(i) Entrepreneur related characteristics

Age: age is associated with experience, especially non-managerial (Mumford & Smith, 2004); and experience forms part of the human capital of the entrepreneur (Acs et al., 2009; Becker, 1962). The link to job quality is that MSE enterprises that create productive jobs tend to be operated by experienced owners.

Gender: evidence shows that men and women have different risk attitudes and these attitudes tend to be reflected in their decisions and actions (Stier & Yaish, 2014). Given these differences in risk aversion between men and women, several studies found evidence of differences in working conditions, with men more likely to focus on creating competitive environments and paying higher wages and women more likely to create better working conditions and pay lower wages (Levanon et al., 2009; Stier & Yaish, 2014). The gender issue can also be related to the dilution of women entrepreneurs' time and work, as they often have to juggle business and household chores. In addition, societal attitudes and norms place an additional burden on enterprises run by women entrepreneurs.

Education: since the seminal work of Becker (1962), the role of education has been extensively researched. Entrepreneurial activities tend to accumulate as the level of knowledge increases (Acs et al., 2009). In terms of job quality, we, therefore, assume that better-educated entrepreneurs tend to create higher-quality jobs. MSEs operated by well-educated entrepreneurs tend to produce more expensive products. And expensive products tend to have better qualities. Highly educated and experienced workers are more likely to produce better-quality products. And enterprises that offer better quality jobs are more likely to attract better-skilled and experienced people.

Employment experience in the formal sector: whether the owner was initially self-employed or worked as a wage-earner in the formal sector has an impact on the owner's views and behavior toward workers and working conditions. The owner's experience as a wage-earner can help the owner to better connect with workers and this can, for example, contribute to improving worker productivity in the form of better relationships and worker participation, which are seen as dimensions of job quality.

Self-employment experience: whether an entrepreneur has a long history of experience in self-employment is a strong indicator of business ownership and managerial experience. The benefits of self-employment would come from direct exposure, hands-on managerial practice, and learning-by-doing effects, which cumulatively build entrepreneurs' managerial capacity.

Cognition, time and risk preferences

The cognitive test score is measured using five selected questions derived from the Raven test, which reflects analytical skills (McKenzie and Woodruff, 2015). Time preference (or patience) is measured using a hypothetical question asking respondents whether they would delay their current happiness if given a choice between 1000 birr tomorrow and 1100 birr a month from tomorrow. Patient entrepreneurs are those who decide to wait a month to receive 1100 birr. Risk-taking is measured using a lottery game in which the respondents had to choose between a safe outcome and a bet with the same expected values. Those who chose to play the lottery games are considered risk takers and those who chose the sure outcome are considered risk averse.

(ii) Firm characteristics

Ownership form: the form of firm ownership is considered a potential determinant of job quality. The different forms of ownership vary in terms of wages and other working conditions. For example, cooperatives tend to perform worse than non-cooperatives. This is because the former tend to suffer from organizational and managerial problems (Gebreyesus et al., 2018).

Firm size: firm size is another important determinant of job quality. There is extensive literature on the positive relationship between firm size and job quality (Brown & Medoff, 1989; Oi & Idson, 1999). Contract management involves administrative costs. The average contract administration costs tend to be lower for larger firms. Consequently, it is relatively easier for larger firms to offer written contracts.

4. Results

4.1. Descriptive results analysis

The total sample considered in the study comprises 8174 enterprises. Table 3 presents the composition of the sample in terms of the basic characteristics of entrepreneurs and enterprises.

As indicated in Table 3, in terms of gender, our sample consists primarily of male entrepreneurs (81 percent). Most entrepreneurs (64 percent) are between 31 and 50 years old; are married (76 percent); have completed vocational training or higher (38 percent, while 32 percent completed secondary education); and have less than 16 years of experience as an entrepreneur or self-employed (89 percent). Likewise, Table 3 also presents enterprise characteristics, where we find that most enterprises are sole proprietorships as a form of ownership or legal status (57 percent); a large number of enterprises belonging to the small enterprise category, employing 6 to 30 workers (55 percent versus 40 percent in the micro-enterprise category). About 55 percent of the enterprises are also located in Addis Ababa. In terms of the subsector, our sample firms appear to be evenly distributed across the different subsectors, with the exception of the Furniture and Food & Beverage subsectors which appear to be overrepresented.

Table 4 shows that human capital, as measured by the entrepreneur's years of formal schooling, completion of vocational training, and ability to speak the English language, is highly related to all indicators of job quality. The number of years of schooling is strongly and positively related to the job quality indicators of wages, the existence of a written employment contract or the proportion of permanent employees, and the provision of all necessary occupational safety measures. Vocationally trained entrepreneurs in particular tend to provide occupational safety measures to their employees such as training on occupational safety measures and provision of all necessary personal protective clothing and equipment (PPCE). There are similar results in the literature consistent with our results; and show that entrepreneurial education and innovation ensure both firm survival and growth, and thus affect both the quantity and quality of job creation in the small business sector (Cefis & Marsili, 2006; Dalgıç & Fazlıoğlu, 2021; McPherson, 1996).

As shown in Table 5, years of managerial experience, measured in terms of the firm's years of operation, also correlates positively with higher wages, contractual security, and occupational health and safety measures. All of the results presented in Tables 4 and 5 support our first hypothesis, which postulates that firms that create quality jobs tend to be operated by highly educated and experienced entrepreneurs.

The results of Table 6 confirm the validity of our second hypothesis, which is whether firm size is correlated with quality job creation. Firm size is clearly and strongly related to the various job quality measures, with larger firms paying higher wages and being more likely to offer written contracts and occupational health & safety measures. The fact that firm size is a strong predictor of quality job creation may be related to the efficiency wage theory (Shapiro & Stiglitz, 1984) and the resource base theory (Barney, 1996), which espouse the benefits of scale for better wages and a lower average contract administration costs.

Similarly, we have also presented the effect of other key characteristics of entrepreneurs and enterprises in Tables 7, 8, and 9. Another finding in relation to enterprise characteristics is enterprise location, measured by whether the enterprise is located in Addis or not (see, Table 7), which is positively related to many of the job quality indicators. Enterprises that are located in

Table 3. Sample composition and explanatory variables

Variables	Number	Percentage
Owner (entrepreneur) characteristics		
Gender		
Male	6,618	81.08
Female	1,544	18.92
Age group		
18–30	2,084	25.5
31–50	5,199	63.6
51–65	722	8.83
>65	169	2.07
Marital status		
Single	1,706	20.91
Married	6,199	75.97
Divorced	113	1.38
Separated	42	0.51
Widowed	100	1.23
Level of education		
No education	142	1.74
Read & write (Basic)	581	7.13
Primary education	1,330	16.31
Secondary education	2,605	31.95
Preparatory education	347	4.26
TVET completed	1,383	16.96
Diploma	758	9.3
Bachelor and above	1,007	12.35
Business ownership experience		
No experience	58	0.71
1–15 years	7,311	89.44
16–30 years	669	8.18
31–45 years	95	1.16
>45 years	41	0.50
Cognition, time and risk preferences*		
Cognitive test score above average (max = 5)	3,334	40.8
Risk taker	1,897	23.22
Patient	492	6.02
Firm characteristics		
Ownership sector		
Public owned	3	0.04
Private limited	921	11.27
Share company	268	3.28
Partnership	1,130	13.82
Sole proprietorship	4,662	57.03
Cooperative	1,182	14.46
others	8	0.1
Firm size		

(Continued)

Variables	Number	Percentage
Micro	3,310	40.49
Small	4,553	55.7
Medium	311	3.8
Firm age category		
2–4 years	4016	49.1
5–9 years	2605	31.9
> 9 years	1548	19.0
Economic sub-sector		
Food and beverages	1,648	20.16
Textiles	328	4.01
Garments	769	9.41
Chemicals	102	1.25
Plastics and rubber	98	1.2
Nonmetallic mineral products	554	6.78
Metal working workshop	1,635	20
Printing	322	3.94
Machinery and equipment	60	0.73
Electronics	27	0.33
Furniture and wood working	1,882	23.02
Leather and Leather products	296	3.62
Blocket and other construction inputs	367	4.49
Metal and Woodwork	44	0.54
Other	42	0.51
Enterprise location		
Adama	261	3.19
Addis Ababa	4,493	54.97
Bahir Dar	566	6.92
Dessie	236	2.89
Dire Dawa	244	2.99
Gondar	337	4.12
Hawassa	459	5.62
Jigjiga	104	1.27
Jimma	294	3.6
Mekelle	1,180	14.44

Notes: *Cognitive test score is measured using five selected questions derived from the Raven test, which reflects analytical skills (McKenzie and Woodruff, 2015). Time preference (or patience) is measured using a hypothetical question asking respondents whether they would delay their current happiness if given a choice between 1000 birr tomorrow and 1100 birr a month from tomorrow. Patient entrepreneurs are those who decide to wait a month to receive 1100 birr. Risk-taking is measured using a lottery game in which the respondents had to choose between a safe outcome and a bet with the same expected values. Those who chose to play the lottery games are considered risk takers and those who chose the sure outcome are considered risk averse.

Source: ESBDE Baseline Survey, 2017

Table 4. Job quality (productivity) indicators by entrepreneurs' highest completed level of education

Highest level of education completed	Productive (quality) employment indicators						
	Average monthly earning	Offers written contract (%)	What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average number of work related accidents in the last six months	Provide all necessary PPCE (%)	Occupational Safety training (%)
No education	1039	5.6	64	8	0.05	49.3	13.89
Read and write (basic)	1557	4.8	68	6	0.16	57.8	6
Primary education	1661	8.1	62.1	9	0.13	57.1	11.03
Secondary education	1921	14.3	61.6	12	0.15	61.8	14.51
Preparatory education	1823	11.9	71	9	0.34	82.6	18.46
TVET completed	2158	14.1	63.4	13	0.19	67.3	15.35
Diploma	2333	26.3	68.3	24	0.13	74.0	20.38
Bachelor and above	2244	36.8	74.6	27	0.16	74.8	29.17
All	1954	16.4	67.1	14	0.16	65.1	16.33

Source: ESBDE Baseline Survey, 2017

Table 5. Productive (quality) job indicators by years of operation of enterprises

Age category of enterprises	Productive (quality) employment indicators by years of operation of the enterprises						
	Average monthly earning	Offers written contract (%)	What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average work-related accidents in the last six months	Offers PPCE (%)	Occupational safety training (%)
2-4 years	1781.5	12.4	65.9	10	0.15	62.2	14.7
5-9 years	2056.3	17.7	64.5	20	0.21	66	15.7
>9 years	2237.6	24.6	71.9	20	0.15	71.2	21.9
All	1956.2	16.4	67.2	10	0.17	65.2	7.8

Source: ESBDE Baseline Survey, 2017

Table 6. Job quality (productivity) indicators by enterprise size									
Size category	Average monthly earning	Productive (quality) employment indicators							
		Offers written contract? (Yes)		What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average work related accidents in the last six months	Offers PPCE? (Yes)		Occupational safety training? (Yes)
		Number	%				Number	%	
Micro	1604	174	5.6	67.0	8	0.15	200	12.6	1906
Small	2133	920	21.0	65.2	17	0.17	369	17.5	3065
Medium	2945	188	61.0	76.9	43	0.19	60	38.0	244
All	1956.4	1284	16.4	67.2	14	0.16	629	16.3	5215

Source: ESBDE Baseline Survey, 2017

Table 7. Productive (quality) indicators by enterprise location								
Location of enterprises	Productive (quality) indicators by enterprise location							
	Average monthly earning	Offers written contract (%)	What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average work related accidents in the last six months	Offers PPCE (%)	Occupational safety training (%)	
	Addis Ababa	2150	26.2	68.2	24	0.13	72	20
	Other cities	1720	4.4	59.3	3	0.20	57	13
	All	1956	16.4	67.2	14	0.17	65	16
Source: ESBDE Baseline Survey, 2017								

Table 8. Productive (quality) job indicators by sex of entrepreneurs

Sex	Productive (quality) job indicators by sex of entrepreneur						
	Average monthly earning	Offers written contract (%)	What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average work related accidents in the last six months	Provide PPCE (%)	Occupational safety training? (%)
Male	2045	16.14	66.1	14	0.18	66.5	16.5
Female	1563	17.37	71.3	16	0.09	59	15.5
All	1954	16.37	67.1	15	0.165	65	16.3

Source: ESBDE Baseline Survey, 2017

Addis Ababa tend to offer higher wages, written contracts, and better occupational health & safety measures. The results about the positive role of being located in Addis Ababa may be due to better access to knowledge and innovation spillovers and lower financial and infrastructural constraints (e.g., Auwalin, 2021; Quatraro & Vivarelli, 2015).

Tables 8 and 9 also show other entrepreneurial characteristics, among which age and gender are very important. We see that both age and being male have a strong positive effect on job quality indicators. Our results are in line with Nichter and Goldmark (2009) who discussed the importance of entrepreneurial and firm characteristics for firm growth and thus, more broadly, for the quantity and quality of employment.

4.2. Estimation results analysis

Our estimated regression results are presented in Table 10. While the estimated regression results for the wage and contract dependent variables are presented in columns 1 through 4; the estimation results for occupational health & safety variables are presented in columns 5 to 7. We find that human capital, measured by years of schooling and vocational training, shows a positive and highly significant effect on wages. The ability to speak English, which can be seen as another aspect of human capital, also has a positive and strong effect on wages. In particular, the number of years of formal schooling tends to have a highly significant effect on all job quality indicators (see, Table 10, columns 1 to 5). Similarly, entrepreneurs who have completed vocational training tend to pay higher wages and provide better occupational health & safety measures (see columns 1, 5, and 6). These results confirm the validity of Hypothesis 1. Hypothesis 1 posits that highly educated entrepreneurs strive to produce high-quality products, which requires the employment of a better-educated and disciplined workforce. And to attract a highly skilled workforce, enterprises need to offer better quality jobs in the form of higher wages, better working conditions, and occupational health & safety measures.

Likewise, years of management experience, which can be measured using variables such as years of operation of the firm or years of self-employment experience, shows a positive and highly significant correlation with job quality indicators, including contract security, and occupational health & safety measures. Entrepreneurs with several years of management experience (measured by years of self-employment experience and years of operation) are more likely to offer contractual security, provide all the necessary personal protective clothing and equipment (PPCE) and train their employees in occupational health & safety measures (see, Table 10, columns 1, 2, 4, 5 and 6).

Overall, the fact that there is a strong association between the correlates of the job quality indicators and human capital (which is measured by years of schooling, vocational training, and English language skill) and managerial experience of the entrepreneur (which is measured by self-employment experience or years of operation by the firm) strongly supports Hypothesis 1. These results are in agreement with the findings of Nichter and Goldmark (2009) on the importance of entrepreneurial and firm characteristics for firm growth and with the findings of McPherson (1996) and Dalgıç and Fazlıoğlu (2021) on the role of entrepreneurial education and innovation for firm survival and growth and thus more generally for the quantity and quality of employment.

Similarly, in agreement with Hypothesis 2, Table 10 shows that firm size (as measured by lagged employment) tends to show a stronger and positive association with indicators of job quality, including wages and contractual security, and occupational health & safety indicators. We use the lagged employment size because when using the current employment size as a regressor, we should perhaps be careful about endogeneity due to the omitted variable bias. It is also to be noted that size itself is an outcome variable. For example, larger firms might pay higher wages because they are more productive, but at the same time they might grow larger because of higher productivity, a relationship we can neither observe nor explicitly control. We could partly mitigate this problem by using a lagged or initial size instead of the current size. As postulated in hypothesis

Table 9. Productive (quality) job indicators by age of entrepreneurs

Age class	Productive (quality) job indicators by age of entrepreneurs						
	Average monthly earning	Offers written contract (%)	What Percentage of your workers have written contract? (%)	Proportion of permanent workers (%)	Average work related accidents in the last six months	Offers PPCE (%)	Occupational safety training (%)
18-30	1683	8.1	64.7	7	0.16	12.7	60.3
31-50	2042	17.7	64.8	15	0.16	16.8	66.6
51-65	2106	28.1	76	24	0.13	22.3	68.4
>65	2037	28.5	85.3	30	0.16	23.3	66.1
All	1956	16.4	67.2	14	0.16	16.3	65.2

Source: ESBDE Baseline Survey, 2017

Table 10. Estimated regression models for key job quality variables—wage, contract and health and occupational safety

VARIABLES	Wage and contract variables		Health and occupational safety variables			
	ln(wage)	Written contract (binary)	Permanent workers (Proportion)	PPCE (binary)	Safety training (binary)	Number of work related accidents
	OLS (1)	Logistic (2)	Tobit (4)	Logistic (5)	Logistic (6)	Poisson (7)
Entrepreneur characteristics & background						
Male	0.061*** (0.018)	-0.113 (0.102)	-0.020 (0.028)	0.133* (0.070)	0.107 (0.134)	0.379** (0.176)
Age	0.010** (0.004)	0.069*** (0.025)	0.0199*** (0.007)	0.0280* (0.016)	-0.026 (0.027)	0.058 (0.045)
Age square	-0.0002** (0.00005)	-0.0006** (0.0003)	-0.0001* (0.0001)	-0.0003* (0.0002)	0.0004 (0.0003)	-0.001 (0.001)
Married	0.034** (0.016)	0.106 (0.101)	0.030 (0.027)	0.037 (0.065)	-0.189 (0.119)	-0.064 (0.123)
Christian	-0.024 (0.088)	-0.733* (0.424)	0.113 (0.133)	-0.006 (0.365)	-0.632 (0.498)	2.343** (0.993)
Muslim	-0.003 (0.089)	-0.837* (0.441)	0.140 (0.136)	0.167 (0.371)	-0.185 (0.510)	2.384** (1.053)
Education (number of years)	0.006*** (0.001)	0.058*** (0.014)	0.016*** (0.005)	0.014** (0.006)	0.009 (0.013)	-0.002 (0.008)
Had vocational training	0.059*** (0.015)	-0.176** (0.086)	-0.021 (0.024)	0.373*** (0.062)	0.632*** (0.101)	-0.059 (0.113)
Speaks English	0.050*** (0.017)	0.545*** (0.093)	0.109*** (0.028)	-0.069 (0.069)	0.377*** (0.116)	-0.159 (0.118)

(Continued)

Table 10. (Continued)

VARIABLES	Wage and contract variables			Health and occupational safety variables			
	ln(wage) OLS (1)	Written contract (binary) Logistic (2)	Permanent workers (Proportion) Tobit (4)	PPCE (binary) Logistic (5)	Safety training (binary) Logistic (6)	Number of work related accidents Poisson (7)	
Entrepreneur characteristics & background							
	Worked as wage worker						
	0.019 (0.014)	−0.240*** (0.081)	−0.074*** (0.022)	0.294*** (0.054)	−0.450*** (0.098)	−0.129 (0.139)	
	Self-employment experience (years)	0.002 (0.001)	0.014** (0.007)	0.002 (0.002)	0.001 (0.005)	−0.023** (0.011)	
Father has business background	−0.103*** (0.015)	0.028 (0.086)	−0.119*** (0.023)	0.135** (0.060)	−0.030 (0.108)	−0.572*** (0.115)	
	Number of siblings in similar business	−0.001 (0.003)	0.008 (0.019)	−0.007** (0.003)	−0.006 (0.012)	0.004 (0.013)	
	Enterprise characteristics						
Firm age	0.002 (0.002)	0.019** (0.008)	0.002 (0.002)	0.011* (0.007)	−0.013 (0.010)	0.014 (0.011)	
	Is cooperative	−0.084 (0.200)	13.15 (1,133)	−0.012 (0.435)	−0.290 (0.700)	13.60 (817.0)	12.793
	Is self-initiated	−0.065 (0.199)	13.94 (1,133)	0.149 (0.434)	−0.126 (0.697)	13.26 (817.0)	13.082
Located in Addis Ababa	0.074*** (0.015)	1.565*** (0.107)	0.764*** (0.030)	0.586*** (0.060)	−0.032 (0.110)	−0.465** (0.185)	

(Continued)

Table 10. (Continued)

VARIABLES	Wage and contract variables			Health and occupational safety variables		
	ln(wage)	Written contract (binary)	Permanent workers (Proportion)	PPCE (binary)	Safety training (binary)	Number of work related accidents
	OLS (1)	Logistic (2)	Tobit (4)	Logistic (5)	Logistic (6)	Poisson (7)
Entrepreneur characteristics & background						
	Is managed professionally	-0.007 (0.040)	0.962*** (0.174)	0.241*** (0.049)	-0.356** (0.155)	-0.107 (0.255)
	Size (lagged by one year)	0.010*** (0.001)	0.063*** (0.004)	0.012*** (0.002)	0.019*** (0.004)	0.015*** (0.004)
	Is patient	0.043 (0.027)	0.151 (0.151)	0.115*** (0.039)	0.427*** (0.115)	0.271* (0.162)
Is risk-taker		0.059*** (0.015)	0.056 (0.090)	0.096*** (0.023)	-0.003 (0.062)	0.519*** (0.117)
	Cognitive test score	0.035*** (0.005)	0.083*** (0.030)	0.020** (0.008)	0.162*** (0.021)	0.028 (0.053)
Controls (sector & ethnic)	Yes	Yes	Yes	Yes	Yes	Yes
Constant	6.906*** (0.255)	-19.63 (1.133)	-2.120*** (0.493)	-1.430 (0.943)	-16.22 (817.0)	-18.778*** (1.111)
Number of observations	7,148	7,922	7,922	7,922	7,890	8,143
R-squared/ Pseudo R-squared	0.21	0.28	0.24	0.15	0.20	0.08

Notes (1): *** p < 0.01, ** p < 0.05, * p < 0.1 are significance levels at 1, 5 & 10 percent respectively. And numbers in parentheses are robust (heteroscedasticity-consistent) standard errors.

Notes (2): Coefficients for logistic regression are in log-odds units.

Source: ESBDE Baseline Survey, 2017

two, firms that operate on a larger scale tend to offer higher wages, better contract security, and occupational health & safety measures.

Another finding is that the location of the firm is also important. Enterprises based in Addis Ababa tend to create better-quality jobs for their workers. The result on enterprise location, measured by a dummy variable equal to 1 if the enterprise is located in Addis Ababa and 0 otherwise, shows a positive and highly significant effect on wages, contractual stability, and occupational health & safety indicators. This result could be related to hypotheses 1 and 2 in two ways. First, Addis Ababa tends to be a large market with access to financial services and infrastructure but is also highly competitive and this could put pressure on entrepreneurs to invest more in their human capital. Second, Addis Ababa could represent diverse immigrant entrepreneurs, who are likely to be better educated, operate larger businesses and risk-takers who see better opportunities in Addis Ababa.

We also tried to show if there is a difference between enterprises that are managed professionally by recruited managers and enterprises that are managed by family members. We find that professionally managed enterprises are better at providing written contracts to their workers and employing a higher proportion of permanent workers compared to family-managed enterprises. A key explanation for this is that family-managed businesses face uncertainties related to management succession as companies grow larger and stay in business longer (Iacovone et al., 2019).

5. Conclusions

Micro and small firms employ a large proportion of workers in developing countries. The same is true for Ethiopia, as the micro and small business sector absorbs up to 70% of the labor force in urban areas in Ethiopia. Research needs to address both quantitative and qualitative aspects of job creation. While much research has been done on quantitative job creation, there is little research on the determinants of job quality in micro and small enterprises. The issue of job quality in low-income contexts in general and in Ethiopia in particular and the approach to study it at the firm level is important and timely. Our firm-level study approach underscores that firms and entrepreneurs are natural targets of policy initiatives to improve the quality of employment. We believe that a better understanding of the drivers of job quality at the firm level is key to linking knowledge and policy.

Our regression analysis shows a positive and significant correlation between job quality (as measured by average wages, contractual security, and occupational health & safety measures) and entrepreneurs' human capital (as measured by education and experience), firm size, and having a professionally recruited manager. These findings imply that designing micro and small business support programs requires an in-depth understanding of the drivers and barriers to employment quality. The fact that larger firms with more educated and professional managers are more likely to offer formal contracts, safety training, or personal protective clothing and equipment (PPCE) may reflect the fact that other firms lack the knowledge or incentives to do so, making smaller firms and less experienced, less educated entrepreneurs a target group for policy intervention.

It is, therefore, important for government policy to consider job quality as an important outcome of its policy toward micro and small enterprises development. It is evident that a sustainable reduction in unemployment and poverty depends on the creation of quality jobs. The identification of firm-level correlates of job quality, which is the contribution of this study, provides useful input for government policy to improve job quality and sustainably reduce poverty. However, the findings of the study should be interpreted with caution, as our results are only relevant to formal enterprises registered with the relevant authorities in urban areas, and therefore no inferences can be drawn on informal and rural and small-town enterprises. Furthermore, our results should be understood as correlations rather than causal conclusions.

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Authors contribution

I declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere. As a corresponding Author, I confirm that I have read and approved the manuscript.

Disclosure statement

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Consent for publication

The authors confirm that human research participants provided informed consent for publication of the research report in a journal publication.

Availability of data and materials

The datasets generated during and/or analyzed during this study are available from the corresponding author upon reasonable request.

Code availability (software application or custom code)

The do-files for the results generated during this study are available from the corresponding author upon reasonable request.

Ethical approval and consent to participate

All procedures performed in studies involving human participants were in accordance with the ethical standards of our research institute and the national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. We also confirm that we obtained informed consent from all individual participants included in the study.

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Note

1. According to the ILO (2013), decent work involves opportunities for work that is productive and delivers a fair income, security in the workplace and better prospects for personal development and social integration.

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