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Firm Level Determinants of International Certification: Evidence from Ethiopia

MAHELET G. FIKRU*

Missouri University of Science & Technology, Rolla, USA

Summary. — This paper investigates a wide range of plausible determinants of international certification (IC) in Ethiopia. While past studies focus on the effect of international laws, the findings of this paper suggest that domestic pressure and firm capability are also equally important. Besides export orientation, we find international connectivity, sources of finance such as credit from local banks or local customers, and manager's human capital as significant determinants of IC. Once such factors are controlled for, firm size, sector, and nationality of owner, appear not to matter. Furthermore, we find that certification may not necessarily enhance business performance in the short run.
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Key words — institutional theory, resource-based view, banks, customer demand, ISO 9001, human capital

1. INTRODUCTION

Internationally recognized certificates are voluntary management practices which set international standards to address social, environmental, and safety issues. Before a company receives an international certification (henceforth IC) it will be evaluated by an international certifying body against predetermined standards and required to pass a third-party audit. There are a wide variety of ICs the most popular of which are issued by the International Organization for Standardization (ISO), which is one of the largest independent developers of standards for products, services, processes, and good practices (ISO Website, 2013). The most successfully diffused ISO certificates in Africa are ISO 9001 (quality management system) and ISO 14001 (environmental management system). For instance, in 2011 and 2012 close to 73% of newly issued ISO certificates in Africa were ISO 9001 while about 16% were ISO 14001 (ISO Website, 2013). The cost of adopting and maintaining IC is substantial and may range from $7,000–$16,000 to $25,000–$100,000 depending on several factors like firm size and type of certificate (DNV-GL Website, 2014; Potoski & Prakash, 2005). Given the high cost, why do businesses in Ethiopia voluntarily adopt IC and what are some of the determinants for adoption? Are there any associated benefits?

IC in developing regions, including Africa, is largely seen as being driven by pressure from international markets and trade relations with Western countries (Alemagi, Oben, & Ertel, 2006; Amaeshi, Kenneth, Adi, Ogbechie, & Amao, 2006; Carlsen, Hansen, & Lund, 2012; Dolan & Opondo, 2005; Ofori & Hinson, 2007). That is, businesses trading with richer countries would have a need and/or the ability to adopt IC. As a result, as Kaplinsky (2010) argues the importance of standards would diminish as exports to China grow at the expense of exports to the EU. In sharp contrast to Kaplinsky (2010)'s argument the percentage of certifying firms in Ethiopia increased from 4.2% in 2006 to 13.6% in 2011, while the country's export share to China grew from 7.61% to 10.10% during the same period (Observatory of Economic Complexity Website, 2014; World Bank Databank, 2013). The contribution of this study is to examine the relative significance of international pressure vis-à-vis domestic factors in the adoption of IC in developing countries, by taking the example of Ethiopia. The results of this paper suggest that external factors are not the only determinants for certification in Ethiopia. Our evidence suggests that businesses may certify as a response to domestic pressure coming from local creditors such as banks and local customers. Furthermore, our findings suggest that a firm's unique capabilities such as managerial talent may significantly affect the decision to adopt IC.

We make use of a recent plant-level survey to study factors that affect the decision of businesses to adopt IC as well as the short-run benefits of adoption. We base our arguments on the new institutional theory and the resource-based view of the firm. To our best knowledge, this is the first paper that does an extensive study on IC in Ethiopia. We chose to study Ethiopia for several reasons. First, the country is one of the fastest growing non-oil economies in sub-Saharan Africa with a reported 10% growth in real GDP in 2011. Ethiopia is the most stable East African country serving as the historical headquarters for the African Union and host to several international organizations. Despite its record growth rate the country remains poor where one-third of the population lives below the poverty line (World Bank Databank, 2013). Second, the topic of this study is especially important considering Ethiopia's current accession to the World Trade Organization (WTO). Ethiopian businesses may certify in anticipation of accession to the WTO. Once (and if) Ethiopia becomes a member of the WTO, local enterprises are faced with significant international competition, and perhaps 'they will be successful only if they can produce quality products' (AACCSA Website, 2013). Lastly, the Ethiopian case is interesting as the country is among those African countries which exhibited a high growth in the number of certifying firms. According to World Bank estimates, the percentage of firms with IC increased from 4.2% in 2006 to 13.6% in 2011. This represents a large increase compared to Congo (from 4.3% to 8.5%), Burkina Faso (from 7.3% to 14.4%), Niger (from 4.8% to 4.6%), and Rwanda (from 10.8% to 11.7%). [1]

Section 2 provides a brief overview of Ethiopia. Section 3 presents some literature review and theoretical background based on which a total of seven hypotheses are presented.

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Section 4 describes the sample that provides a foundation for our analysis. Section 5 presents findings of the study and finally Section 6 concludes by putting forward some policy implications and questions for future research.

2. BACKGROUND INFORMATION ON ETHIOPIA

Ethiopia is one of the fastest growing sub-Saharan African countries with a fairly large private sector where domestic credit to private sector stood at 18% of GDP in 2008 (African Development Indicators Data, 2013). Nominal GDP in 2012 was $41.6 billion, with per capita GDP of $454. The largest export items in terms of value are coffee, sesame seed, and beans. Value added of manufacturing and service sectors was 4% and 41% of GDP respectively in 2012 (World Bank Databank, 2013). The country is divided into nine administrative regions and two chartered cities. Addis Ababa is the biggest metropolitan and capital city with an estimated population of close to 3 million in 2012. Recent World Bank estimates put total population of the country at 91 million (World Bank Databank, 2013).

The Quality and Standards Authority of Ethiopia (QSAE), which has been several times restructured and re-named, is a government body first established in 1970 with the purpose of promoting quality and standard services and assisting quality management practices of businesses. Some of its functions are formulating national standards, inspections, laboratory testing, and certification. QSAE offers certification for quality, environmental, food safety, and occupational health, and safety management systems. However, the QSAE's certification and quality inspection processes are not internationally recognized.

In 2011 the QSAE collaborated with a non-government organization, known as *engineering capacity building program or ecbp,* [2] in order to separate the certification and standardization processes and assist laboratories to receive international accreditation that will enable them to issue internationally accepted certificates (ECBP Document, 2010). Consequently in February 2011, the QSAE was restructured; the Ethiopian Standards Agency (ESA) was created as the new national standards body and the Ethiopian National Accreditation Office (ENAO) was created as the nation's new national accreditation body. The analysis of this study is based on information gathered in the fiscal year 2010, thus just before the creation of the ESA and ENAO.

ESA's main function is to provide national voluntary and mandatory standards and offer technical and consultancy services to companies to implement national and international standards (ESA Website, 2013). The purpose of national standards is to promote 'quality of life by contributing to safety, health, and environmental protection' (ESA Establishment Council of Ministries Regulation No. 193/2010; ESA, 2013). Even though some of the national standards are similar in content and structure to the ISO, ESA's certificates are not internationally recognized. The ENAO's main function is to supply accreditation services to laboratories (testing, calibration, and medical laboratories), certification, and inspection bodies. Though ENAO is not an internationally recognized institution, one of its short-term goals is to apply for and get international accreditation (ENAO Newsletter, 2013).

In addition to national standards there are regional initiatives which support and encourage businesses to get IC. For instance, the Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA) has recently launched a support service program to consult and advise selected export-oriented companies to achieve ISO certificates (AACCSA Website, 2013). The main purpose of the support program is in recognition of challenges exporting companies face in the international market in terms of meeting quality, safety, and environmental standards (AACCSA Website, 2013). Furthermore, the support program is aimed at reducing the lack of awareness on the side of companies especially for small and medium scale enterprises. Through AACCSA's support several companies were able to receive ISO certification. For instance, on June 28, 2012 a total of 17 companies received ISO certification after being assisted by the AACCSA.

The ESA, QSAE, and other regional initiatives, though relatively infant, represent Ethiopia's current move toward national and international certification. We expect national certification to facilitate international certification, but we are not able to control for this for lack of variables that identify national certification. Given this background on the recent certification movements and institutional changes in the country, it is timely to study the several institutional factors that affect the adoption of IC.

3. THEORETICAL BACKGROUND AND HYPOTHESIS

In this paper we apply a combination of two well-known theories to address our research questions. These theories are: *new institutional theory* and *resource-based view of the firm*. New institutional theory predicts that businesses obtain legitimacy if they conform to the dominant established practice of their industry; and institutional pressures can affect businesses to adopt certain management practices (DiMaggio & Powell, 1983). The institutional approach has been widely applied to explain environmental and other management practices in developed countries (Delmas, 2002; Delmas & Toffel, 2004; Delmas & Toffel, 2008; Jennings & Zandergen, 1995; King & Toffel 2007). However, application in developing countries is limited mainly due to lack of plant-level data on certification and other controlling variables. Most studies focus on Asia and/or East Europe (Hudson & Orviska, 2013; Wu, Chu, & Liu, 2007; Zhu, Cordeiro, & Sarkis, 2012) while others make use of country-level data where some or most are developing countries (Delmas & Montiel, 2008; Guler, Guillen, & Macpherson, 2002; Neumayer & Perkins, 2005).

Institutional pressures can be coercive (implement a practice in fear of penalties from a higher authority), mimetic (imitate actions of successful competitors in the industry), or normative (implement a practice because it is a norm in the industry) (DiMaggio & Powell, 1983). However, none of these are independent and hence a given factor may simultaneously trigger coercive, normative, and mimetic pressures (Delmas & Montes-Sancho, 2011; Zhu *et al.*, 2012).

Institutional theory emphasizes the effect of pressure coming from outside a given organization on its actions and decisions (DiMaggio & Powell, 1983). As Liu, Liu, Shishime, Yu, Bi, and Fujitsuka (2010) points out such pressure may come from the government, business partners, fund providers, professional associations, or the general public. In this study, we consider two types of institutional pressures: external factors coming from sources *outside the country* and internal or domestic pressure coming from other organizations *within the country*. For both factors we discuss coercive, normative, and mimetic institutional pressures.

In addition to pressure (either internal or external) coming from outside a business organization, a firm's internal capabilities have important influence on its decisions. This takes us to the resource-based view of the firm which contends that a firm's specific capabilities, resources, competencies, and