Firm Level Determinants of International Certification in sub-Saharan Africa

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Extended Abstract

This paper investigates a wide range of plausible determinants of international certification (IC) such as ISO 9001 and ISO 14001 in some sub-Saharan African countries (SSA). IC in SSA is largely seen as being driven by pressure from international markets and trade relations with Western countries. That is, businesses trading with richer countries would have a need and/or ability to adopt IC. As a result, as Kaplinksky (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 Kaplinksky (2010) the percentage of certifying firms in SSA increased from 13% in 2006 to 17.4% in 2011, while SSA's export share to China doubled during the same period. The contribution of this study is to examine the relative significance of pressure from international markets vis-à-vis other factors in the adoption of IC in SSA. The other factors we consider are pressure from international banks and foreign investors, pressure from local officials and local community. We also control for plant specific capabilities which create opportunities for certification. We base our arguments on a combination of the *Stakeholder Theory*, *New Institutional Theory* and *Resource-Based View of the Firm*. Plant-level data obtained from Enterprise Surveys of the World Bank 2009 is used to test our hypothesis.

Our result suggests that international markets are not the only determinants for certification in SSA. Besides export orientation, our evidence suggests that businesses may certify as a response to pressure coming from international banks. International banks may exert a coercive as well as mimetic pressure on African businesses, even when coercive pressure from international markets is missing. International banks, most of which are committed to socially and environmentally sustainable practices, may facilitate the diffusion of standards in the host country. International banks may also perform sustainability-related risk analysis urging customers to demonstrate corporate social responsibility. Our result suggests that pressure from local sources such as officials and community is relatively weak to push businesses towards certification.

The contribution of this paper is to provide a comprehensive study on the plant-level determinants of certification in SSA. We adopt a much needed but yet missing micro-level and multilevel approach in addressing our research objectives. Furthermore, unlike previous studies we theoretical ground and empirically test the role of pressure from international banks as a possible factor in driving plants towards standardization.

Keywords: neo institutional theory; resource-based view; stakeholder theory; ISO 9001; ISO 14001; international trade; international banks

JEL classification: O31, O55, F23

1. Introduction

Corporate social responsibility (CSR) is globally becoming an increasing part of businesses and their competitive position. Businesses are voluntarily integrating social and environmental concerns in their operations, decision-makings and interactions with stakeholders. The rising importance of CSR has given rise to the proliferation of international standards (UNIDO, 2002).[1] Two of the most widely diffused international standards are the ISO 9001 quality management system and the ISO 14001 environmental management system (Viadiu et al., 2006). These standards require the documentation of procedures and outcomes which facilitates achievement of targets such as pesticide residue limits, minimum number of defects, etc. (Kaplinsky, 2010).

Even though the exact cost of adopting a standard depends on several factors such as the type of industry, number of employees, type of standard and previously adopted standards, it is generally considered to be a resource intensive process (Darnall, 2003). For instance, adopting an international standard and maintaining it for the first three years could cost anywhere between $7,000 to $16,000 for a manufacturing plant (DNV-GL Website, 2014). This is because the plant would have to train employees, pass an audit, apply for the certificate and continuously maintain it. In spite of the cost, several businesses in developing countries have chosen to adopt standards at a voluntary basis even if regulatory policies have remained weak and ineffective to enforce sustainable practices (Blackman, 2008, 2010). Dobers and Halme (2009) and Goedhuys and Sleuwaegen (2013) argue that social and environmental practices are especially important in developing countries due to their weak institutions and the expectation for businesses to fill the gap.

The importance of international standards for developing countries is largely seen as being driven by global value chains and trade with developed countries. Businesses in developing countries exporting to high-income markets have to ensure that their products are 'safe, efficient and good for the environment' (ISO Website, 2014). This is because consumers in high-income markets demand high-quality products; their governments afford to monitor compliance and they have advanced civil society organizations fighting for higher standards (Kaplinsky, 2010; Kaplinsky and Farooki, 2010). Products imported to the European Union, for instance, must meet several requirements on product safety, packaging, labelling and technical standardization. In addition, suppliers in developing countries have to comply with the stringent codes of conduct in developed countries in order to keep their market. Studies show that sustainable practices verified through international standards create opportunities for entry and expansion of trade with developed regions which are pioneers of standardization (Guler et al., 2002; Henson et al., 2011). This is because international standards harmonize production processes and help better align the concerns of consumers in high-income markets (UNIDO, 2002). For example, Henson et al. (2011) show that exporters in sub-Saharan Africa can significantly increase their export revenue if they achieve an international certification. Another specific example is Dezign Inc., a textile manufacturer in Zimbabwe which expanded its export after demonstrating socially and environmentally sound practices (UNIDO, 2002).

[1] International standards are documents that provide 'requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose' (ISO Website, 2014).

Given the cost of implementing sustainable practices and the weak regulatory pressure in most developing countries, why do businesses voluntarily adopt them? The purpose of this paper is to introduce a theoretical as well as empirical approach to understand the role of institutions, stakeholders and plant resources as drivers of sustainable practices. We build on past findings by examining the relative importance of international markets vis-à-vis other factors in the adoption of standards in developing countries. One possible factor we focus on is the role of international banks. We argue that the importance of standards in developing countries can be shaped by international banks even when businesses do not involve in international trade.

There are two channels through which international banks play a role in the decision of businesses to adopt standards. First, most international banks are themselves committed to socially and environmentally sustainable practices and several certify to standards such as ISO 14001. For example, HSBC Banking Company, one of the largest international banks, is committed to reducing environmental impact and voluntarily disclosing environmental performance throughout its branches around the global (HSBC Banking Company Website, 2015). Another example is Credit Suisse which has achieved ISO 14001 throughout its worldwide branches (Jeucken, 2001). The sustainable practices of international banks which have branches in developing countries may diffuse easily to local employees and local clients. Thus, businesses in developing countries may wish to model themselves after successful international companies (*mimetic pressure*). In this way, the presence of international banks in developing countries may stimulate local businesses to adopt international standards.

Second, since the late 1990s international banks have been adjusting their lending policies to take into account risks related to the environment. According to Jeucken (2001), between 56-63% of international banks explicitly conduct environmental risk analysis when setting up a credit agreement with businesses in developing countries. Some international banks even exclude sectors or activities which are viewed as unsustainable or posing greater environmental risk. Even though international banks may not directly require businesses to adopt international standards, firms with ISO 9001 or 14001 may be viewed as less risky. Information on the availability of a certification can be used to guide loan disbursements and businesses that are dependent on loans may seek to be viewed favorably by international banks. Since *coercive pressure* comes from the influence of organizations that businesses are dependent on, international banks may create such pressure for businesses to seek certification and appear legitimate. Hence businesses which seek or already receive loans from international banks may do better to adopt sustainable practices and certify their businesses.

We study the importance of international banks in the adoption of standards by using a sample of businesses in sub-Saharan African countries (SSAC). Currently most CSR related studies focus on either developed countries in North America, Western European and East Asia or countries such as China and India (Egri and Ralston, 2008). The case of SSAC provides an interesting study because although Africa lags behind in standardization relative to Asia and Latin America, recent years have seen a sharp rise in the number of certifying firms. From 2006 to 2012 the number of newly ISO 9001 and ISO 14001 certified firms in Africa has increased by 32% and 95% respectively (author's calculation based on data from ISO Website (2014)). Countries like Angola, Botswana, Burkina Faso, Ethiopia and Mali have more than doubled the percentage of firms certifying to an ISO certificate from 2006 to 2010 (author's calculation based

on World Bank Data (2014)). A recent study by Landin et al. (2014) suggests that adoption of ISO 9001 is expected to grow in Africa until 2020.

Even though Africa is still at an 'early stage of maturity of CSR' (Visser, 2005) there is an increasing number of recent studies surveying the emergence and expansion of CSR as well as adoption of international standards in the region. Most of these studies seek to understand the major reasons behind CSR of businesses in specific countries. For example, Visser (2005) studies the nature of CSR in Africa and argues that philanthropic responsibilities of businesses are given relatively more emphasis in Africa than developed countries. This implies that businesses are expected to do what is desired by stakeholders such as setting aside resources for social and community projects and being a good corporate citizen. Ite (2004) points out that good governance is critical for encouraging CSR in Nigeria. Wahba (2009) studies the role of industry norms and the need to legitimize operations in motivating corporate environmental strategies among Egyptians firms. Mitchell and Hill (2009) study the development and use of CSR in South Africa as a response to market forces and regulation. Ofori and Hinso (2007) show that responsible practices in Ghana are better practiced by internationally-connected firms. Similarly Carlsen et al. (2012) find that the Ghanaian timber industry considers customer demand and prospect of gaining market share as the two major reasons for certification. Henson et al. (2011) find that operating in export-oriented countries and availability of financial and technical assistance are key determinants for certification among fresh food producers in SSAC.

The rising interest in standards among businesses in Africa is due to a combination of several factors. The region improved its trade openness by increasing the share of export of goods and services as a percentage of GDP from an average 27% during 1989-1998 to 33% during 1999-2008. During the same period the share of exports from GDP grew from 11% to 16% in South Asia and from 16% to 21% in Latin America and the Caribbean (Dadush and Shaw, 2011; World Bank Data, 2014). Furthermore, African goods have gained new sources of demand from fast growing economies. For instance, China's share in African export increased by 10% compared with 4% for Latin America during 1998-2008 (Dadush and Shaw, 2011). In addition, the service sector improved during the past decade which is mainly attributed to the private sector's engagement in real estate, hotels, restaurants and private banks. Finally, the role of international banks in SSAC has increased in the past decade. For instance, in 1995 about 32% of banks in SSAC were international banks; by 2009 this on average increased to 54%. Compare this with the Latin American and Caribbean average of 28% in 1995 and 42% in 2009 (Claessens et al., 2008). Given, the current rise in trade and international banks in Africa, it is important to study the relative importance of exports, international banks versus other factors in the adoption of standards.

The contribution of this paper is to provide a comprehensive study on the plant-level determinants of certification in a sample of SSAC. We adopt a micro-level and multilevel approach in addressing our research objectives. According to Aguinis and Glavas (2012) there is greater need for the CSR literature to adopt an individual as well as multi-level analysis. Furthermore, unlike previous studies we theoretical ground and empirically test the role of pressure from international banks as a possible factor in driving plants towards standardization.

Section 2 presents a discussion of the theoretical background and presents testable hypotheses. Section 3 presents data used to test these hypotheses, identifies variables and presents the empirical model. Section 4 presents findings, discussion of results and robustness checks. Finally section 5 concludes with some questions for future work.

2. Theoretical Framework and Hypothesis

Why do businesses in *Africa* voluntarily engage in socially and environmentally responsible strategies by certifying to international standards? We address this question by building our arguments on a combination of the *stakeholder theory*, *new institutional theory*, and *resource-based view of the firm*. Aguinis and Glavas (2012) suggested that predictors of CSR can better be understood by designing hypothesis based on more than one theoretical approach.

The *stakeholder theory* provides a good theoretical framework to explain the pressure that different stakeholders exert on an organization's decision to adopt international standards. According to the *stakeholder theory* organizations not only have responsibilities to their shareholders but also to different stakeholder groups (stakeholders are entities that can affect or are affected by an organization's objective) (Donaldson and Preston, 1995; Mason et al., 2007). This implies that organizations should engage in activities that promote long-term benefits for the community and minimize any negative effects. According to Branco and Rodrigues (2007) organizations engage in CSR because such practices benefit stakeholders. Delmas and Toffel (2004) argue that an organization's stakeholders such as suppliers, consumers and regulatory agencies are likely to affect the adoption of environmental standards. In addition, empirical evidences suggest that donors (Henson et al., 2011), investors (Prakash and Potoski, 2007) and creditors (Fikru, 2014a) can also exert pressure on businesses to adopt international standards pertaining to sustainable practices. Henriques and Sadorsky (1999) identify four types of stakeholders that can affect an organization's environmental strategy: regulatory stakeholders (governments and trade associations), organizational stakeholders (owners, customers, suppliers and employees), community stakeholders (community groups, lobbies, environmental groups) and the media.

While most of the earlier CSR-in-business literature has primarily focused on the role of stakeholders in CSR (Aguinis and Glavas, 2012), recent studies have explicitly accounted for the wider role of institutions and the need for organizations to obtain legitimacy by conforming to institutional frameworks. According to DiMaggio and Powell (1983) institutions provide frameworks which organizations conform to by creating formal structures. Organizations conform to institutionally provided frameworks in order to obtain legitimacy and social support from influential others (Pérez-Batres et al., 2012). Deviation from expected norms implies loss of legitimacy and social sanctions. Doh et al. (2010) highlight the importance of positive reputation and the need for legitimacy in an organization's decision to adopt CSR. Guler et al. (2002) argue that the adoption of international standards is affected by institutional factors rather than just being driven by efficiency or technical considerations.

The institutional perspective considers an organization's adoption of a practice to be influenced by coercive, normative and mimetic factors rather than just profit-maximization goals. These three types of institutional pressures cause organizations to conform to a given standard due to influence from a higher power, in order to be perceived as legitimate by

influential others and the attempt to duplicate the success of others, respectively (Zhu et al., 2012: DiMaggio and Powell, 1983). The *new institutional theory* provides an additional theoretical framework to explain the pressure that institutions exert on an organization's decision to adopt international standards (Jennings and Zandbergen, 1995). Organizations that share the same type of institutions are affected in a similar way by pressure that emerges from the institutions (Jennings and Zandbergen 1995).

There is a great deal of intersection between the *stakeholder theory* and the *new institutional theory* in explaining CSR and an organization's decision to adopt social and environmental standards (Campbell, 2007). Delmas and Toffel (2004) refer to stakeholders as 'institutional fields' or 'institutional actors' and models institutional pressure as being a function of stakeholders' actions. Delmas and Toffel (2004) further argue that different stakeholders exert different institutional pressure on organizations to adopt environmental management practices.

The stakeholder approach is usually framed to include stakeholders from within the country. This inclination may soften the effects of transnational developments and ignore the role of multinational organizations (Brammer et al., 2012). For example, organizations may have different perception on the relative importance of a given stakeholder in different countries. This is because institutions and institutional pressure greatly differ from country to country. New institutional theory provides a complementary lens for understanding how and why CSR assumes different degrees in different countries (Brammer et al., 2012).

In addition to the influence of institutions and stakeholders on the adoption of standards, plant characteristics create additional opportunities for adoption. *Resource-based-view of the firm* contends that valuable, costly to replicate resources and capabilities provide competitive advantage to firms (Hart, 1995). Darnall (2003) used both institutional and resource-based-view of the firm to understand the adoption of ISO 14001 among firms in the US. Delmas and Toffel (2004) argue that firms facing the same institutional pressure may pursue different practices due to differences in plant characteristics. For instance, firms located in bigger cities may be more likely to adopt standards due to their proximity to auditors and certification representatives (Hudson and Orviska, 2013). In addition, bigger and richer plants may find it easier to fulfil the requirements of a standard than small-scale firms (Fikru, 2014 a, b).

This study uses the stakeholder theory to identify specific stakeholders of an organization and the neo institutional theory to identify the type of institutional pressure each stakeholder can exert on an organization. Resource-based view of the firm is used to identify resources and unique capabilities that create further opportunities for the organization's CSR. We consider institutional conditions as mediating the relationship between stakeholders and the organization. Figure 1 presents the conceptual framework of the study. The figure presents the different stakeholders that can shape an organization's decision to adopt international standards. We consider institutional pressure as coming from foreign and local stakeholders. Foreign stakeholders can be foreign owners/investors, importers (foreign buyers) of the product or service and international creditors, if any. Local stakeholders are mainly regulators or local officials, local customers and the community. In the following three sub-sections we address the role of foreign and local stakeholders in exerting institutional pressure and the effect of plant characteristics in the adoption of standards in SSAC.

STAKEHOLDERS	TYPE OF INSTITUTIONAL PRESSURE	CSR
Foreign stakeholders • Customers (*Hypothesis 1*) • Owners (*Hypothesis 2*) • International banks (*Hypothesis 3*)	• Coercive pressure • Normative pressure • Mimetic and coercive pressure	International standards (e.g. ISO 14001, ISO 9001)
Local stakeholders • Local officials (*Hypothesis 4*) • Local customers and community	• Coercive pressure moderated by institutional quality • Weak coercive pressure	
Plant resources (*Hypothesis 5*) • Plant size, information infrastructure		

Figure 1: Adoption of international standards in SSAC

2.1. Institutional pressure from foreign stakeholders

CSR is often associated with big companies operating in developed countries (Egri and Ralston, 2008). However, globalization and trade have increased the demand for such practices in developing countries as well. Exporting firms in developing countries are required to meet international quality and environmental standards or else they may be excluded from international markets. For instance, the Ghanaian timber industry has adopted quality certification due to demand from European and North American customers and fear of losing export market shares (Carlsen et al., 2012). Another example is the export-oriented Kenyan cut-flower industry which implemented environmentally safe practices in order to meet European standards (Dolan and Opondo, 2005). Other examples include industries along the Atlantic coast of Cameroon which adopted environmental management systems in order to successfully compete in international markets (Alemagi et al., 2006). Similarly, studies in other developing regions show that the adoption of ISO 14001 is influenced by export orientation (Christmann and Taylor, 2001; Zhu et al., 2012; Corbett and Kirsch, 2001). Because of the take-back obligation of exported products which are not up to international standards, we consider foreign customers to exert a coercive pressure on the decision to adopt a standard. On the other hand, plants which only supply the local market do not necessarily face the pressure to fulfil requirements of international markets.

Hypothesis 1 (coercive pressure from foreign customers): Keeping other factors constant, plants with higher export intensity are more likely to adopt international standards than plants with lower export intensity.

In addition foreign investments and joint ventures enable the transfer of greener expertise from developed to developing countries (United Nations Innovation Briefs, 2007; Baughn et al., 2007). This is because investors from developed countries have access to greener technologies due to the stricter environmental and safety regulation and enforcement at their home countries. Goedhuys and Sleuwaegen (2013) find that foreign-owned plants in developing countries are more likely to adopt international standards compared to indigenous plants because by

transferring proven practices from their home country they face lower cost of implementing standards. Ofori and Hinson (2007) find that foreign-owned plants and plants which have some foreign share are more likely to adopt socially responsible practices in Ghana. Furthermore, in the case of multinationals, headquarters located in a developed country may prescribe the adoption of ISO 9001 and/or ISO 14001 by all subsidiaries including those in developing countries (Neumayer and Perkins, 2005; Coe and Timothy, 2003; Amaeshi et al., 2006). Prakash and Potoski (2007) find that multinationals from developed countries transfer their CSR capabilities to developing countries instead of trying to match the weak environmental policies of developing countries. Furthermore, foreign firms may voluntarily adopt sustainable practices to moderate their outsider status (Pérez-Batres et al., 2012). Since foreign shareholders or owners view standardization as a common norm in their base country, they exert a normative pressure by replicating sustainable "taken for granted" practices in their investments elsewhere. On the other hand, locally owned plants may not necessarily know that they need to adopt an international standard.

Hypothesis 2 (normative pressure from foreign owners): Keeping other factors constant, plants partly or fully owned by foreign investors are more likely to adopt international standards than locally owned plants.

International banks are also potential foreign stakeholders that could exert pressure on African businesses to adopt international standards. Foreign banks represented 54% of total banks in SSAC in 2009 (Claessens et al., 2008). For instance, UK's Barclay Bank operates in Egypt, Zimbabwe, Botswana and Kenya, among other African countries. The Barclays Africa Group Limited formed in 2013 (The Group is over 60% owned by UK's Barclay bank Plc.) serves several SSAC including but not limited to business banking.[2] Another example is the French BNP Paribus which operates in North, West and South Africa to meet the demands of local as well as international corporations.[3] The US Citigroup has presence in several SSAC including Kenya, Nigeria and Zambia.[4]

International banks may exert two types of institutional pressure on businesses operating in Africa: mimetic and coercive pressure. First, the presence of international banks may provide mimetic pressure when local businesses try to mimic sustainable practices of international banks. Most international banks are themselves certified to international standards such as ISO 9001 and ISO 14001. Furthermore, most international banks have explicit policy on sustainability and CSR issues (e.g. Santander Group Banking Company, HSBC Banking Company, Credit Suisse Group, etc.).[5] CSR of international banks can easily diffuse to the local community, employees and even to clients. According to Credit Suisse Group, a global financial institution with ISO 14001, the 'bank's environmentally friendly operations are absorbed by employees and carried beyond the confines of the bank' (Bisang, 2000). Thus, locally owned businesses may wish to model themselves after successful internationals banks by mimicking the bank's sustainable practices. In this way, the presence of international banks may facilitate the diffusion of

[2] Source: http://www.barclaysafrica.com/barclaysafrica/About-Us/Who-we-are
[3] Source: http://mea.bnpparibas.com/en/bnp-paribas/bnp-paribas-middle-east-africa/
[4] Source: http://www.citigroup.com/citi/about/countrypresence/south-africa.html
[5] Source: http://www.santander.com/csgs/Satellite/CFWCSancomQP01/en_GB/Corporate/Sustainability/Santander-and-sustainability/Internal-policies-and-international-initiatives.html

standards, where local plants which rely on international banks may feel the pressure more than those which do not borrow from international banks.

Second, financial institutions in general could provide a coercive institutional pressure for the adoption of sustainable practices (Boiral and Henri, 2012). International banks in specific are becoming weary of lending to companies with unsustainable practices and posing environmental risk. Due to the rising concern on the CSR of clients, international banks have recently launched the *Equator Principle* (1 July 2010) as a risk management tool that incorporates social and environmental risks of their financing decisions. For instance, Santander Group Banking Company performs environmental and social risk analyses in decisions related to its credit operations. The company collects internal and external documents that verify the customer's commitment to environmental and social issues as part of its evaluation procedure for credit disbursement. For clients in developing countries the bank requires annual reports addressing some specific environmental and social principles. Another example is HSBC which has announced its intention to limit its business-relationship with companies linked to deforestation in developing countries (Zeller, 2010). Even when businesses are not explicitly required to disclose information on their CSR, some banks may view such information as helpful to their risk managers (Bisang, 2000). Thus, both local and foreign businesses which rely on international banks for their operations may adopt international standards in order to fulfill the bank's sustainability concerns.

Hypothesis 3 (coercive and mimetic pressure from international banks): Keeping other factors constant, plants which rely on international banks for loans are more likely to adopt international standards.

2.2. Institutional pressure from local stakeholders

Husted and Allen (2006) argue that local stakeholders may demand CSR activities related to the community's needs. One of the major stakeholders of businesses in Africa is the government or other regulatory agents. Regulatory agents in Africa are generally believed to exert a weak pressure on businesses' decision to adopt CSR. This is due to lack of funds for enforcement, lack of trained personnel, infrastructure and in some cases lack of political will (Blackman 2008, 2010). In spite of this some studies find a fairly positive correlation between regulatory pressure and environmental performance in developing countries. For instance, Cassells and Lewis (2011) show that firms in developing countries may adopt environmentally responsible practices as compliance to local regulators. Similarly, Fikru (2014b) finds that plants which face excessive regulatory requirements in developing countries may adopt an international standard in fear of future inspections and to prove themselves to local officials. Berliner and Prakash (2014) show that adoption of international standards in developing countries largely depends on the effectiveness and quality of domestic regulatory institutions. In a similar spirit, Heritier and Eckert (2008) argue that businesses do better to adopt sustainable practices when governments take concrete and credible measures to introduce or tighten regulation. Since local officials can have an authoritative power over businesses, they exert a coercive type pressure on the adoption of sustainable practices.

We argue that local officials provide a coercive pressure on businesses only if the country has effective institutions to effectively enforce regulations. That is, the role of local officials in

plant-level decisions is affected by the institutional quality of the country. For instance, most African countries have some sort of quality assurance agencies which set national quality standards those of which related to human health, personal property and safety are mandatory (e.g. Ethiopia).[6] If local institutions are in place and strong enough to effectively enforce these, then a stricter requirement generates a credible coercive pressure. In this way, once businesses succeed to fulfil local standards they may find it relatively easier to certify based on international standards. If local institutions are not effective enough to ensure that business operations are consistent with local standards, then increasing regulatory demand by itself would not create a coercive pressure.

Hypothesis 4 (coercive pressure from local regulators): Plants which face higher level of local regulatory pressure are more likely to adopt international standards in countries with better institutional quality.

Local stakeholders other than local officials are local customers and communities. Pressure coming from such stakeholders is generally considered ineffective to influence CSR related decision-makings in low-income countries. This is because consumers in low-income countries do not afford high-quality products; and their communities cannot push businesses to adopt sustainable practices (Kaplinsky, 2010; Kaplinsky and Farooki, 2010). Furthermore, poorer communities cannot afford to pool resources to prevent producers with irresponsible practices from settling in their communities (Pargal and Wheeler, 1996). According to a study by the Economist Intelligence Unit (Kekic, 2007) most of the world's authoritarian regimes are observed in Africa and SSAC ranks as having among the lowest measures of democracy. It is generally hard to expose unsustainable business practices in countries where freedom of speech and free media are imperiled (Kerret and Shvartzvald, 2012; Fiorino, 2011; Fikru, 2014b). Because of these reasons there is very weak, if any, coercive pressure coming from local customers and communities in SSAC.

2.3. Opportunities created or expanded by plant resources

Based on their unique resources, organizations may respond differently to a given institutional pressure. Following resource-based-view of the firm we identify two plant resources that are likely to create or expand opportunities for the adoption of international standards. We consider plant size and access to information infrastructure as relevant plant characteristics.

First, the adoption of an international standard involves a high cost. The plant has to hire consultants, document existing processes, adopt new processes and procedures, ensure that processes comply with standards, pass an external audit and obtain certification. Thus plants with stronger financial capacity and assets may be more likely to adopt and maintain an international standard compared to small-scale and informal firms (Goedhuys and Sleuwaegen, 2013). Plants with stronger financial capability are usually large-scale plants with the capacity to hire large number of workers and expand production to several branches. Studies like Zhu et al. (2012), Hudson and Orviska (2013) and Fikru (2014b) find a positive effect of plant size on the likelihood of adopting international standards.

[6] Source: http://www.ethiostandards.org/ESA/CommonPage.aspx?Id=64

Goedhuys and Sleuwaegen (2013) and Fikru (2014 a, b) argue that in addition to plant-size, access to Information Communication Technology (ICT) and the Internet are important determinants for the adoption of standards among developing countries. Being internationally and locally well-connected with all stakeholders facilitates the creation of good business networks which creates opportunities for learning, sharing and growth. Coe and Timothy (2003) showed that cross-border linkages such as online feedback systems and e-mail facilitate learning and innovation and allows replication of an existing practice. Similarly, Neumayer and Perkins (2005) find that access to e-mail and the Internet increases the likelihood of interaction between developed and developing countries. Guler et al. (2002) show that businesses mimic the practices of others in their network. Furthermore, actors in the same network may adopt similar practices and create a norm for others to follow. Even smaller networks among a group of managers in a local value chain may lead to transfer of knowledge about adoption of standards (Guler et al., 2002). Well-connected firms have a better way of learning and getting information about their counterparts and they use information from their networking to compare and imitate their actions. Thus, we expect businesses with access to information infrastructure such as the Internet to adopt international standards.

Hypothesis 5: Large scale plants and plants with access to the Internet are more likely to adopt international standards than small-scale plants and plants with no access to the Internet, respectively.

3. Data Source and Methodology

3.1. Data source

We use the standardized version of the Enterprise Survey of the World Bank 2009 to test hypotheses presented in the previous section. The Enterprise Survey of the World Bank is collected with the purpose of studying the environment of private sector businesses in different countries. The Survey includes several questions ranging from objective questions on the financial condition of a plant to questions addressing the perception of management towards regulation, obstacles and opportunities for growth (World Bank Enterprise Surveys, http://www.enterprisesurveys.org.).

Only formal establishments with 5 or more employees are included in the survey. A stratified sampling was used where the universe of industries is stratified into several manufacturing, service and other industries. The sample from each country reflects the composition of the economy and total sample size drawn from each country is based on the country's GNI as of 2005. Response rates vary by country.

From the standardized dataset we extracted plants operating in SSAC and then limited analysis to countries where information on the existence of international banks is available. Thus our working sample includes a total of 2,752 plants operating in 10 countries (Benin, Burkina Faso, Cameroon, Congo, Cote d'Ivoire, Madagascar, Malawi, Mauritius, Niger, and Togo).

To address our research question we look at responses to the question, "Does this establishment currently have an internationally-recognized quality certification?" The examples shown to respondents are ISO 9000 series, ISO 14000 series or other non-ISO quality certifications. Examples of non-ISO certificates include sector specific standards like the

HACCP (Hazard Analysis and Critical Control Point) for food and AATCC (American Association of Textiles Chemists and Colorists) for textiles. About 14.1% of the 2,752 plants stated that they currently own an internationally-recognized quality certificate.

Table 1: Distribution of plants with an international standard (2009)

Nation (GDP per capita, constant 2005 dollars)	Plants with international standard (%)	Percentage of plants in the sample
Benin ($552.0)	12.7%	5.2%
Burkina Faso ($436.1)	17.3%	13.5%
Cameroon ($924.6)	22.6%	13.0%
Congo, Rep. ($1807.4)	25.9%	4.2%
Côte d'Ivoire ($954.4)	5.2%	18.0%
Madagascar ($282.1)	10.4%	16.1%
Malawi ($249.6)	27.9%	5.3%
Mauritius ($5895.7)	12.4%	14.1%
Niger ($264.2)	8.9%	5.3%
Togo ($387.7)	13.8%	5.3%

GDP per capita retrieved from World Development Indicators (2009)

Based on our working sample, Table 1 presents a distribution of plants with an internationally recognized certification. Table 1 suggests that there is substantial difference in the adoption of international standards among the different countries. Table 2 presents a distribution of plants by their main industry. The top certifying sector is the chemical and pharmaceutical industry followed by the non-metallic and plastic industry and the food sector. On average at least one fourth of plants in these industries export some or all of their sales. Plants in these three industries also have among the highest reliance on international banks for working capital loans. Table 2 also suggests that even though the main line of businesses of a plant is a product with fewer export potentials (e.g. hotels and restaurants, construction) there may still be some need for certification.

Table 2: Distribution of international standard by main industry (2009)

Main industry	Plants with an international standard (%)	Plants which export (%)	Working capital loans from international banks, average (%)
Leather	0.0%	0.0%	13.8%
Electronics	0.0%	11.1%	14.7%
Garments	2.8%	40.1%	4.8%
Wood and furniture	5.3%	5.3%	7.9%
Retail and wholesale trade	10.1%	10.4%	9.6%
Metals and machinery	11.8%	26.1%	10.8%
Textiles	12.7%	52.4%	10.4%
Other manufacturing	13.9%	24.9%	7.6%
Construction and transportation	15.3%	4.7%	9.7%
Other services	16.7%	13.9%	7.4%

Hotels and restaurants	17.6%	3.6%	6.5%
Food	22.9%	24.1%	11.5%
Non-metallic and plastic materials	23.4%	39.7%	14.8%
Chemicals and pharmaceuticals	33.9%	37.3%	12.2%

3.2. Variable identification

We measure adoption of an international standard by using a binary variable coded as 1 for plants which currently have an internationally-recognized quality certification and 0 for plants which do not currently own a certification (*IS*). Thus, it would be appropriate to use a limited dependent variable model such as the Probit.

The coercive pressure from foreign customers (*Hypothesis 1*) is measured by using the percentage of sales a plant exported directly and indirectly through third parties in the previous fiscal year (*EXPORT_INTENSITY*). This variable measures the export-intensity of a plant and ranges from zero (the plant supplies only the local market) to 100% (the plant exports all its sales). The normative pressure from foreign owners/investors (*Hypothesis 2*) is measured by using the percentage of the firm owned by foreign individuals, companies or organizations (*FOREIGN_OWNED*).

The variable *EXPORT_INTENSITY* may suffer from the problem of endogeneity. First, the export intensity of a plant in Africa depends to some extent on its foreign ownership. Once businesses become partly or fully owned by foreign investors, they either begin exporting or expand their export volume. This is because such businesses could easily export to the foreign investor's home country as well as elsewhere. A report by *Foreign Affairs* (Broadman, 2008) contends that African businesses partly or fully owned by Chinese and Indian investors have enjoyed higher export volume because they export at a competitive advantage than locally owned firms. Thus, foreign ownership not only influences the likelihood of certification directly but also through its effect on the export decision of businesses. Second, if the certification decision of a plant significantly helps it enter into the international market or helps the business to expand exports then we run into the problem of reverse causation.

When endogeneity problems are present one has to find an instrumental variable to control for this effect. The chosen instrumental variable should significantly affect the level of exports but not in any way related to the likelihood of adopting an international standard. Among the given survey questions we select a variable that closely fulfils this requirement. Plants are asked to rate the effect of customs and trade regulations on their business operations (*CUSTOM*). Poorly designed and implemented custom and trade regulations directly affect the export decision and export intensity of a plant. A longer export procedure discourages export especially for perishable products. For instance in Burkina Faso, the export procedure involves document preparation, custom inspection and clearance, terminal and transportation handling which takes about 41 days and costs $2,300. In Congo, Rep. the same procedure takes 50 days and costs about $3,795 (Doing Business Project, 2015). Custom and trade regulations directly affects export volumes but are not expected to influence the decision to certify.

To capture any mediating effects of the export intensity of a plant we include an interaction term between export intensity and foreign ownership, i.e. *EXPORT_INTENSITY* ×

FOREIGN_OWNED. The export intensity of a plant may create a mediating effect if the effect of foreign ownership on the likelihood of certification depends on how well-integrated the business already is with the international market. For instance, Chinese companies in Ethiopia are involved in road construction, power generation and telecommunication projects (Geda and Meskel, 2009) which are sectors with low export potential. For such sectors, foreign ownership may only have a weak normative pressure on the likelihood that the business certifies. On the other hand, the effect of foreign ownership on the certifying decision of export-oriented businesses may be a much stronger normative effect. As suggested by Ping (2009) we consider the interaction term as endogenous since it depends on an endogenous variable. Because of this we use another interaction term (*CUSTOM* × *FOREIGN_OWNED*) to instrument for *EXPORT_INTENSITY* × *FOREIGN_OWNED.*

The pressure from international banks (*Hypothesis 3*) is measured by constructing a plant-level variable that presents the percentage of the plant's working capital borrowed from international banks. Data on the existence of international banks is obtained from Claessens and Horen (2012), matched with the Enterprise Survey 2009 and converted to plant-level variable as follows. The Enterprise Survey 2009 asks plants to estimate the percentage of working capital that was financed from banks over the last fiscal year.[7] Claessens and Horen (2012) provide data on the percentage of the number of international banks among all banks in a given country. We use this country-level data and multiply by the plant's percentage of working capital financed from banks in general. This product gives us the percentage of working capital the plant financed from international banks. For instance, if an average plant borrowed 15% of its working capital from banks; and if 60% of banks in the country are international banks, then we assume that the plant must have borrowed about 9% of its working capital from foreign banks. We call this constructed plant-level variable as *FOREIGN_BANK*.

Coercive pressure from local regulators is measured by using the percentage of time on average the plant's top-manager spent dealing with requirements of government regulations per week over the past 12 months (*REGULATION*). The purpose of government regulation can be for taxes, custom, labor regulation, licensing, registration, meetings with officials and completing forms. The institutional quality of a country is measured by using a country-level variable that estimates the regulatory quality of a country. Regulatory quality (*RQ*) is defined as the ability of 'the government to formulate and implement sound policies and regulations that permit and promote private sector development'. The estimate gives the country's score ranging from -2.5 (low quality) to 2.5 (high quality). Data on regulatory quality are extracted from the Worldwide Governance Indicators. Since *REGULATION* affects a plant's likelihood of adopting international standards in countries with good regulatory quality we use an interaction term, *REGULATION* × *RQ*, to test for *Hypothesis 4*.

To test *Hypothesis 5* we use three variables. Plant-size is measured by the total number of permanent full-time workers working in the plant at the end of the previous fiscal year (*WORKERS*); and a dummy variable indicating whether the plant is part of a larger firm or not (*SUBSIDIARY*). Access to information infrastructure is measured by using a dummy variable

[7] Plants are also asked to estimate the percentage of working capital financed from retained earnings, non-bank institutions, as trade credit from buyers or suppliers and from other sources (money lenders or relatives). The sum of these percentages together with the percentage borrowed from banks adds up to 100%.

which indicates whether the plant uses its own website to communicate with clients and suppliers (*WEBSITE*) (Goedhuys and Sleuwaegen, 2013).

In addition to testing the five hypotheses, we control for industry differences by using industry dummy variables. We also control for the age of the plant (*AGE*) and the top manager's years of experience in the specific industry (*MANAGER*). Plant age may matters for certification if newer firms need time to build up capabilities and resources that would create opportunities for certification (Delmas and Toffel, 2004). Managerial experience matters if the adoption of international standards depends on the availability of competent managers with a technical know-how as well as skills required to coordinate requirements of an international standard (Guler et al., 2002).

Table 3: Descriptive statistics (2009)

Variables	Obs.	Mean	Standard deviation	Minimum	Maximum
Plant-level variables					
IS (0=no, 1=yes)	2,752	0.141	0.35	0	1
EXPORT_INTENSITY (%)	2,733	8.77	24.42	0	100
FOREIGN_OWNED (%)	2,732	17.83	36.18	0	100
REGULATION (%)	2,220	12.36	20.54	0	100
FOREIGN_BANK (%)	2,669	9.55	19.16	0	100
AGE (years)	2,700	16.12	16.08	0	190
SUBSIDIARY (0=no, 1=yes)	2,752	0.17	0.37	0	1
WORKERS (number)	2,728	48.18	163.05	0	3600
MANAGER (years)	2,678	15.90	10.19	1	60
WEBSITE (0=no, 1=yes)	2,678	0.25	0.43	0	1
Country-level variables					
GDP per capita ($)	10	1175.38	1726.7	249.6	5895.7
RQ	10	-0.48	0.58	-1.28	0.87
VOICE	10	-0.53	0.67	-1.11	0.81

In addition to plant-level variables that affect the likelihood of adoption of international standards we control for country-level differences by using macro variables. Aguinis and Glavas (2012) recommended the use of both micro and macro-level variables in studies that examine drivers of CSR. We use GDP per capita (constant 2005 dollars) to control for standard of living and a 'voice and accountability' score to control for institutional governance (data obtained from World Development Indictors). Voice and accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media (*VOICE*). The variable ranges

from -2.5 (low) to 2.5 (high). Table 3 presents a descriptive statistics of all variables used in this study. Table 4 presents country-level variables. Units of measurements are presented in brackets.

Table 4: Country characteristics (2009)

Country	GDP per capita ($)	*RQ*	*VOICE*	Percent of foreign owned banks
Benin	$552.0	-0.3288	0.3265	67%
Burkina Faso	$436.1	-0.0889	-0.3154	100%
Cameroon	$924.6	-0.7399	-1.0619	89%
Congo, Rep.	$1807.4	-1.2816	-1.0994	86%
Cote d'Ivoire	$954.4	-0.95	-1.1112	71%
Madagascar	$282.1	-0.4993	-0.8585	100%
Malawi	$249.6	-0.4419	-0.1618	29%
Mauritius	$5895.7	0.86971	0.81371	62%
Niger	$264.2	-0.4824	-0.7844	86%
Togo	$387.7	-0.8581	-1.0364	33%

3.3. Empirical strategy

In order to test hypotheses presented in section 2 we estimate a multi-level model by controlling for country, industry and plant-level variables respectively. We fit an endogenous Probit model with an endogenous interaction term (Ping, 2009) where the second stage regression is presented as follows:

$$\Pr(IS_i = 1 \mid \mathrm{X}) = F(\beta_0 + \beta_1 EXPORT\_INTENSITY_i + \beta_2 FOREIGN\_OWNED_i + \beta_3 EXPORT\_INTENSITY_i \times FOREIGN\_OWNED_i + \beta_4 FOREIGN\_BANK_i + \beta_5 REGULATION_i + \beta_6 REGULATION_i \times RQ_c + \beta X_i + \mu_c + \lambda_j)$$

$IS_i = 1$ if plant *i* has an international standard. X_i is a vector of other plant-specific variables (*AGE, SUBSIDIARY, WORKERS, MANAGER, WEBSITE*). λ_j represents industry dummy variables to control for time-invariant industry differences. μ_c represents country characteristics to control for time-invariant country differences that may affect adoption of international standards. *F(.)* refers to the cumulative distribution function of a standard normal distribution.

Two first stage regressions are fitted where the dependent variables are *EXPORT_INTENSITY* and *EXPORT_INTENSITY*×*FOREIGN_OWNED*. The two instrumental variables, *CUSTOM* and *CUSTOM*×*FOREIGN_OWNED* and all other exogenous variables are included in the first stage regressions. The coefficients on both instrumental variables yield statistically significant coefficients. We conduct weak instrument robust tests to confirm the robustness of the coefficient on our endogenous variable, *EXPORT_INTENSITY*, in the second stage regressions. We test the null hypothesis $H_o : \beta_1 = 0$ against the alternative $H_a : \beta_1 \neq 0$. The test yields the Anderson–Rubin statistics which is chi-squared distributed with degrees of

freedom equal to the number of instruments; and a Wald test statistics as a reference. Both tests yield a statistically significant value (Finlay and Magnusson, 2009).

4. Results and Discussion

Regression estimates are presented in Tables 5a and 5b. Table 5a presents regression results using the entire sample whereas Table 5b presents results using different sub-samples as a robustness check. We test for the exogeneity of *EXPORT_INTENSITY*, whenever relevant, using the Smith-Blundell exogeneity test. The test is Chi-squared distributed with degrees of freedom equal to the number of endogenous variables and the null hypothesis states that the variables *EXPORT_INTENSITY* and *EXPORT_INTENSITY*×*FOREIGN_OWNED* are exogenous. In all cases, we reject the null hypothesis and our result suggests that for the sub-set of SSAC considered in Tables 5a and 5b, there is no sufficient evidence to consider export intensity of plants as exogenous. The Wald test also yields a statistically significant value concurring with the Smith-Blundell test.

We proceed with a multi-level analysis whereby we initially control for country differences followed by industry differences and finally plant-level variables. Model *A* controls for only country-level variables whereas Model *B* adds industry dummy variables. The goodness of fit test for Models *A* and *B* yields a Chi-squared value which is statistically significant suggesting that the fit of these models is not satisfactory. Models *C* to *F* present estimates from a variety of endogenous models where coefficients are estimated using Newey's two-step efficient estimator (Newey, 1987). Model *C* controls for only export intensity and foreign ownership; Model *D* excludes the interaction terms; Model *E* presents the full model and Model *F* excludes country-level variables used to control for institutional governance and living standard.

Initially, the country-level variable *VOICE* yields a statistically significant value, however once we control for plant-level variables it is no more statistically significant. This suggests that for the sample of SSAC country differences has relatively weak, if any, role in the certification decision of plants. Among the industry dummy variables, the textile and garment sectors yield consistently negative and statistically significant coefficients; the hotel and restaurant dummy variable also yields a consistently positive and statistically significant coefficient after controlling for plant-level variables.

The regression results in Table 5a suggest that, export intensity and international banks are the two most significant determinants for the adoption of standards in the selected African countries. Thus we find some support for *Hypothesis 1* and *3*. Foreign customers and international banks can put pressure on African businesses to certify. Pressure from local regulators and foreign owners is relatively less important to explain variation across the certification decision of plants. Furthermore, expect the variable used to control for plants which are part of a larger firm, there is no evidence for the effect of other plant characteristics on the decision to certify.

We perform robustness checks in Table 5b by repeating the analysis on different sub-samples. Model *G* preforms the analysis using a sub-sample of non-exporting firms. Close to 83% of plants in our sample have not exported at all. The purpose of Model *G* is to assure that even if the coercive pressure from foreign customers is removed, there will still be a significant

influence from international banks. That is, we test for *Hypothesis 3* when pressure from foreign customers is missing.

Model *H* presents the analysis using a sub-sample of locally owned plants; in this way we do not need to control for the mediating effect of export intensity. About 78% of plants in our sample are locally owned. Model *H* allows us to test *Hypothesis 3* when pressure from foreign owners is missing. Finally, in Model *I* we use a sub-sample of locally owned non-exporters; these are businesses which are 100% locally owned and sell 100% of their products to local buyers. About 68% of the plants in our sample are locally oriented local businesses out of which 36% are in the retail and wholesale businesses. Model *I* allows us to test *Hypothesis 3* when pressure from foreign buyers and foreign owners is missing. We fit an exogenous Probit model for Models *G* and *I* since the export intensity variable is no more relevant.

In all cases, we find that international banks have a significant and positive role in the adoption of international standards in the selected sub-samples. The role of other factors slightly differs depending on the specific sub-sample taken. For non-exporters, *pressure* for certification comes from international banks as creditors and from foreign owners. In addition, non-exporters which have their own website and are part of a larger firm are more likely to adopt international standards. For locally owned plants, pressure for certification comes from international banks as creditors and foreign buyers. Locally owned plants which are part of a larger firm are also more likely to certify than stand-alone firms. For locally owned non-exporters, international banks as creditors are important for the decision to certify. In addition, plants which are part of a larger firm, own a company website and have well-experienced manager are more likely to adopt international standards. Overall, results obtained in Table 5b concurs with Table 5a in that the variable used to measure pressure from international banks is always a statistically significant determinant for the adoption of international standards in the selected SSAC.

The hotel and restaurant dummy variable consistently yields a significant positive coefficient in all regressions (Table 5b) indicating that this sector has a higher chance of certification relative to others. Models *G, H* and *I* yield a statistically significant negative coefficient for the country's GDP per capita. This suggests that keeping other factors constant businesses in countries with lower living standards (e.g. Malawi) are more likely to certify than similar businesses in countries with better living standards (e.g. Congo, Rep.). This is contrary to studies like Kaplinsky (2010) who argued that standards are less important in low-income countries. Further studies are required to examine whether this result holds in general or only for a sub-set of locally oriented plants.

Table 5a: Regression results from Probit model: Full sample (2009)

Variables	**Model A**	**Model B**	**Model C**	**Model D**	**Model E**	**Model F**
EXPORT_INTENSITY			0.1758[a]	0.0731[a]	0.1522[b]	0.1538[b]
			(0.0600)	(0.0273)	(0.0836)	(0.0797)
FOREIGN_OWNED			0.0185	-0.0065	0.0105	0.0109
			(0.0145)	(0.0042)	(0.0107)	(0.0103)
REGULATION				-0.0041	-0.00002	-0.0002
				(0.0027)	(0.0040)	(0.0040)
FOREIGN_BANK				0.0056[a]	0.0075[a]	0.0074[a]
				(0.0027)	(0.0037)	(0.0037)
AGE				0.0062	-0.0002	-0.0004
				(0.0035)	(0.0062)	(0.0061)
SUBSIDIARY				0.4703[a]	0.5204[a]	0.5192[a]
				(0.1399)	(0.1835)	(0.1846)
WORKERS				-0.0001	-0.0005	-0.0005
				(0.0003)	(0.0006)	(0.0006)
MANAGER				0.0039	-0.0069	-0.0075
				(0.0058)	(0.0121)	(0.0116)
WEBSITE				0.3311[a]	0.0949	0.0787
				(0.1588)	(0.3189)	(0.3056)
Interaction terms						
EXPORT_INTENSITY × *FOREIGN_OWNED*			-0.0017		-0.0013	-0.0013
			(0.0011)		(0.0009)	(0.0009)
REGULATION×*RQ*					0.0100	0.0096
					(0.0072)	(0.0072)
Industry dummy variables						
Textile		-0.1598	-4.2497[a]	-1.9971[a]	-3.4793[c]	-3.5031[b]
		(0.2140)	(1.5592)	(0.8681)	(1.9388)	(1.8744)
Garment		-0.9268[a]	-3.34244[a]	-2.8969[a]	-2.8957[a]	-2.8833
		(0.2235)	(0.8800)	(0.8047)	(0.9988)	(0.9795)
Food		0.2266[b]	-0.2419	0.0990	-0.1464	-0.1429
		(0.1110)	(0.3252)	(0.2061)	(0.3487)	(0.3457)
Metal and machinery		-0.2392	-0.6805	-0.3298	-0.3304	-0.3243
		(0.1629)	(0.3816)	(0.3033)	(0.3844)	(0.3862)

Chemical and pharmaceutical		0.5253[a] (0.1820)	-0.2457 (0.6070)	0.2732 (0.3297)	-0.3211 (0.6547)	-0.3084 (0.6506)
Wood and furniture		-0.7882[a] (0.3455)	0.1681 (0.7244)			
Non-metallic mineral and plastic		0.2237 (0.1864)	-0.6259 (0.5022)	0.0872 (0.3374)	-0.2122 (0.4964)	-0.1971 (0.4981)
Retail and wholesale		-0.3150[a] (0.0878)	-0.0550 (0.2070)	-0.0348 (0.1579)	0.0050 (0.2111)	0.0031 (0.2078)
Hotel and restaurant		0.0378 (0.1315)	0.74044[b] (0.4002)	0.6366[a] (0.2606)	0.8734[a] (0.4152)	0.8785[a] (0.4077)
Construction and transport		-0.0657 (0.1334)	0.6479 (0.3725)	0.4843 (0.2890)	0.7393 (0.4645)	0.7521 (0.4455)
Country-level variables						
GDP per capita	-0.0000 (0.0000)	-0.0526 (0.0370)	-3.95e-06 (0.0000)	-0.0562 (0.0723)	-0.0281 (0.1046)	
RQ	-0.2133 (0.1422)	-0.2010 (0.1367)	-0.4196 (0.3146)	-0.3400 (0.2996)	-0.4442 (0.4020)	-0.3184 (0.2079)
VOICE	0.2646[a] (0.1134)	0.2211[b] (0.1205)	0.1885 (0.2725)	0.2374 (0.2376)	0.1408 (0.3163)	
Constant	-0.9832[a] (0.0718)	-0.5787[a] (0.2739)	-3.0592[a] (1.0169)	-1.6034[a] (0.5745)	-2.0348[a] (0.9040)	-2.2307[a] (0.3037)
Observations	2752	2740	2643	1953	1953	1953
Smith-Blundell exogeneity test	N/A	N/A	Chi-sqr (2) 27.9[a]	Chi-sqr (1) 10.2[a]	Chi-sqr (2) 10.6[a]	Chi-sqr (2) 11.5[a]
Wald test of exogeneity	N/A	N/A	Chi-sqr (2) 27.98[a]	Chi-sqr (1) 10.21[a]	Chi-sqr(2) 10.62[a]	Chi-sqr (2) 11.54[a]
Pseudo R^2	0.0027	0.0359	N/A	N/A	N/A	NA
Goodness-of-fit test *H_o: Model is correct*	96.00[a]	210.75[a]	N/A	N/A	N/A	N/A

[a] represents significance level at 1% or less; [b] represents significance level at 5%; [c] represents significance level at 10%

Table 5b: Regression results from Probit model: Sub-samples (2009)

Variables	**Model G** *(Non-exporters)*	**Model H** *(Locally owned)*	**Model I** *(Locally owned non-exporters)*
EXPORT_INTENSITY		0.1374[b]	
		(0.0776)	
FOREIGN_OWNED	0.0027[a]		
	(0.0012)		
REGULATION	-0.0038	-0.0017	-0.0041
	(0.0027)	(0.0040)	(0.0032)
FOREIGN_BANK	0.0064[a]	0.0067[b]	0.0059[a]
	(0.0023)	(0.0039)	(0.0027)
AGE	0.0046	-0.0088	0.0014
	(0.0029)	(0.0087)	(0.0036)
SUBSIDIARY	0.5833[a]	0.6673[a]	0.4846[a]
	(0.1098)	(0.2224)	(0.1391)
WORKERS	0.0001	-0.0007	0.0002
	(0.0002)	(0.0008)	(0.0002)
MANAGER	0.0079	0.0001	0.0147[a]
	(0.0048)	(0.0118)	(0.0055)
WEBSITE	0.5952[a]	0.1034	0.4703
	(0.1006)	(0.2918)	(0.1220)
Interaction term			
REGULATION×RQ	-0.0001	0.0051	0.0012
	(0.0034)	(0.0076)	(0.0041)
Industry dummy variables			
		-3.6513	
Textile		(2.4091)	
	-0.0281	-0.3061	-0.0056
Food	(0.1805)	(0.4023)	(0.2109)
	-0.2802	-0.0363	-0.0837
Metal and machinery	(0.2778)	(0.3884)	(0.2850)

Chemical and pharmaceutical	0.3660 (0.3114)	-0.5959 (0.9624)	0.7240[b] (0.3853)
Non-metallic mineral and plastic	0.1582 (0.2926)	-0.3752 (0.6852)	0.3494 (0.3764)
Other manufacturing	-0.2277 (0.1986)	-0.5196 (0.3436)	-0.3631 (0.2420)
Retail and wholesale	-0.1614 (0.1290)	-0.1131 (0.1937)	-0.0605 (0.1501)
Hotel and restaurant	0.4480[a] (0.1756)	0.7172[b] (0.3710)	0.4586[a] (0.2003)
Construction and transport	0.1156 (0.1891)		0.0325 (0.2219)
Country-level variables			
GDP per capita	-0.1526[a] (0.0595)	-0.1702[a] (0.1081)	-0.1549[a] (0.0687)
RQ	-0.1596 (0.2272)	0.6361 (0.4552)	0.0207 (0.2648)
VOICE	0.3014 (0.1888)	-0.2905 (0.3776)	0.1154 (0.2219)
Constant	-0.7254 (0.4537)	-1.5451 (0.2785)	-0.7907 (0.5301)
Observations	1,581	1,458	1,310
Smith Blundell exogeneity test	N/A	Chi-sqr (1) 6.74[a]	N/A
Wald test of exogeneity	N/A	Chi-sqr (1) 6.74[a]	N/A
Pseudo R^2	0.1484	N/A	0.0995
Goodness-of-fit test *H_o: Model is correct*	1586.12	N/A	1250.85

[a] represents significance level at 1% or less; [b] represents significance level at 5%; [c] represents significance level at 10%.

5. Conclusion

Given than international standards are costly and regulatory pressure weak why do businesses in SSAC voluntarily adopt them? The contribution of this paper is examining some plausible determinants of international standards, other than the widely discussed pressure from international markets and trade. We adopt a theoretical as well as empirical analysis to understand the role of institutions, stakeholders and plant resources as drivers of CSR. Instead of relying on a single theory, we build our arguments on a combination of the stakeholder theory, new institutional theory and resource-based-view of the firm. We argue for the role of foreign and local stakeholders in influencing business decisions to certify to international standards. Furthermore, we identify what type of institutional pressure each stakeholder exerts on businesses to adopt sustainable practices. Foreign buyers exert a coercive pressure; foreign owners exert a normative pressure whereas international banks exert a mimetic as well as normative pressure on businesses to certify. Local regulators can exert a coercive pressure depending on the institutional quality of the country. In addition, we present arguments for the role of plant resources such as size and information infrastructure in creating or expanding opportunities for the adoption of international standards.

The empirical evidence obtained from selected African countries indicates that foreign stakeholders, specifically buyers and creditors, have a significant role in influencing businesses to certify. Furthermore, the empirical result suggests that even when coercive pressure from foreign buyers and normative pressure from foreign owners is missing, international banks may still be able to influence CSR-related business decisions. Given the results of this paper, future studies and policy makers may wish to explicitly consider the role of international banks in affecting business decision-makings related to sustainability. A careful identification of which factors are relatively more important for businesses in Africa is crucial.

According to our empirical analysis there is less evidence to support pressure coming from local officials. This suggests that regulators are not yet strong enough to influence business decision-makings in the selected countries. In addition, the empirical result suggests that once we control for pressure from foreign buyers and international banks, other plant-level characteristics seem not to matter, except for being part of a larger firm. Finally, we find that country characteristics like democracy, regulatory quality and standard of living are not so much important to explain differences in the certification rate across countries.

Despite the new insights gained from this study, we wish to acknowledge some limitations related to lack of variable-specificity and recommend suggestions for future studies. First, the empirical result suggests that as export intensity increases, the likelihood of adopting an international standard also increases. One limitation of this finding is that we are not able to determine whether the export goes to developed countries such as the US and EU or to other developing countries like China, India or other African countries. Without identifying the type of international market as low-income or high-income our result suggests that foreign customers can affect the decision to certify. In the future, studies can split the final market as low-income and high-income to examine whether one type of market is more important than the other for the certification decision of businesses. A second limitation that can be addressed in future research is the role of foreign suppliers as possible stakeholders. Whether these and other potential

stakeholders significantly influence the decision of African businesses to certify or not is an interesting research question from policy as well as academic point of view.

Third, the empirical result suggests that plants which borrow a large amount of their working capital from international banks have a higher tendency to adopt international standards. Similar to the export intensity variable we are not able to differentiate between 'north' and 'south' international banks in Africa, but rather find that irrespective of its source an international bank can exert some pressure on local businesses to adopt standards. The study by Pohl (2010) shows that next to Western banks (possibly with colonial ties) Chinese and Indian banks are gaining presence in African countries. In the future one can study the effect of Western banks versus banks from other developing countries.

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