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Corporate Social Responsibility in Global Supply Chains of Multinational Companies*

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Abstract:
This paper looks at the importance of CSR considerations in the decision taken by a foreign affiliate of a multinational company about the choice of local suppliers. We investigate this empirically using unique firm level data for more than 2,000 foreign owned firms in 19 Sub-Saharan African countries. In terms of the role of global value chains we find that firms that import intermediates from their parent company abroad are more likely to implement CSR. Similarly, CSR plays a larger role for affiliates that export their output to developed countries. This suggests that the immediacy of the production chain provides a strong link to CSR: Intermediate inputs are imported from HQ and are then processed, together with locally sourced inputs, into a final good, which is then exported for consumption in developed countries. Furthermore, our results show that the determinants of environmental and social CSR activities are likely to be different.

Keywords: corporate social responsibilities, global supply chains, multinational companies.

JEL classification: F23, M14, O14

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1 Introduction

In April 2013, the Rana Plaza building near Dhaka, Bangladesh collapsed due to structural failure and caused the deaths of more than one thousand garment factory workers. The factories housed there manufactured apparel for many international retailers, including Benetton, Carrefour and Walmart. In January 2012, about 150 workers at the Chinese electronic company Foxconn, an important supplier for Apple, threatened to commit suicide in protest about poor working conditions.

The publicity surrounding these cases raised attention to questions of corporate social responsibility (CSR) across global supply chains that extend beyond such high profile cases to general concerns about the physical and economic conditions of workers in the low-income links of supply chains. In recent years, increasingly complex supply chains have emerged in order to exploit advantages of different production locations. At the same time, however, concerns have been raised that such outsourcing of production activities, especially to low-income countries, has also undermined socially responsible behaviour, e.g., through worker exploitation and environmental degradation. There is a small but growing literature that discusses the links between global supply chains and corporate social responsibility, which we review briefly in Section 2.

In this paper we contribute to this literature analysing firm level data for African countries. We look at one particular aspect in a global supply chain, namely the choice by an affiliate of a multinational company of suppliers in the host country. We investigate how this choice is related to CSR considerations. This is done analysing firm level data on the sourcing decisions of affiliates of foreign multinationals in 19 Sub-Saharan African countries. While the African continent still attracts a relatively small share of world-wide FDI (and, hence, multinational companies) recent developments mean that FDI is becoming more relevant for the economies. According to the UNCTAD *World Investment Report 2012*, the

global share of FDI stock in Africa was 2 percent in 2009 with a net flow of FDI to the continent amounting to approximately 46 billion US$ per year over the period 2009 to 2011. The increase in the size of the flows is also due to a significant expansion of South-South FDI, in particular intra-African FDI flows along with those from emerging economies such as China, India and other Asian countries. In 2011, for the first time greenfield FDI inflows originating from other developing economies were higher than those originating from developed economies (UNCTAD 2012).

Affiliates of foreign multinationals in the host country are likely to be embedded in global supply chains, that is, importing some of their inputs and exporting processed goods as inputs to other parts in the chain or as final output to consumers. The African Development Bank's *African Economic Outlook 2014* provides a rich discussion of the prevalence and implications of global supply chains in the continent. It shows that Africa, similar to its position in terms of FDI, has currently a small but growing involvement in such chains. Its share in world-wide trade in value added, as a measure of the involvement in global supply chains, was 1.4 percent in 1995 and grew to 2.2 percent in 2011. While this is still not particularly high (it is 50.9 percent in Europe and 11.8 percent in North America in 2011), the trend is certainly upwards.

The ADB publication also shows that the erosion of social and environmental standards to attract investment is considered one of the greatest threats associated with global supply chains. In a survey of country experts, about one quarter cited this particular issue as the most significant. This is, of course, closely linked to CSR operations, as these relate to social and environmental issues. Firms involved in global production chains are under pressure from consumers, media, NGOs and other stake holders to conform to ethical standards in their production. To alleviate such pressures, they may invest in CSR activities. This may extend to their suppliers as well. Not conforming to such ethical standards may

have adverse consequences for a firm's reputation and ultimately success on the market place.[1]

In this paper we therefore scrutinise whether CSR considerations are important for foreign multinationals in their choice of local suppliers in the host country. We measure CSR using a survey question whether environmental or social concerns are the main reason for choosing a local supplier. Based on the CSR literature we model the implementation of CSR considerations as a function of firm characteristics such as size, advertising, R&D, etc. in line with recent studies applying a theory of the firm perspective to CSR (see, e.g., McWilliams and Siegel, 2001). Our contribution is to investigate in detail the role of the involvement in global supply chains for the choice of local suppliers. We postulate and investigate empirically that firms headquartered in a developed country may be more likely to implement CSR. Also, export activity, in particular to developed countries, should make a firm more likely to engage in CSR (Boehe and Cruz, 2010). Moreover, we argue that an affiliate of a foreign multinational is also more likely to engage in CSR if it is itself directly linked in a global supply chain with the parent, i.e., if it imports intermediate inputs from the parent.

A further contribution of our paper is that we attempt to distinguish the drivers of environmental and social supply concerns separately. This is generally not done in the literature. Roberts (2003) alludes to this lack of evidence on distinguishing environmental and social CSR aspects and argues that "I suspect the conclusions from environmental supply initiatives would also hold true in this [i.e., socially focused supply initiatives] case." As we

[1] Whether or not the multinational is guided by CSR considerations may also have implications for the local supplier. Local sourcing by multinationals is expected to bring potential benefits to host country suppliers, transferring superior knowledge and working practices which may ultimately lead to higher productivity and competitiveness of these firms (e.g. Godart and Görg, 2013). This may imply that the multinational may actively support the local supplier to implement environmentally sustainable production or adequate industrial relations standards. On the other hand, if the multinational does not consider CSR then they might focus on cost reductions in the local supplier, which may worsen labour or environmental standards. Lund-Thomsen and Lindgreen (2014) refer to this as the cooperative vs the compliance paradigm of CSR. Unfortunately, with our data we cannot investigate the situation in local suppliers but focus on the foreign affiliate that chooses a local supplier.

show, this is not necessarily the case, certainly not in our data for multinationals operating in Sub-Saharan Africa.

We expand on the conceptual motivation of our empirical analysis in Section 2. Section 3 then introduces the data and Section 4 presents the empirical analysis and discusses the results. Some conclusions and policy implications are provided in Section 5.

2 CSR in global value chains

The ethical (or unethical) behavior of multinational companies operating in global supply chains has sparked much interest in the public debate and in academic circles, fuelled by the recent high-profile tragedies alluded to in the Introduction. Lund-Thomsen and Lindgreen (2014) provide an excellent background paper to the development of CSR in global value chains, tracing the roots of CSR and outlining the conceptual underpinnings which have been investigated in the business literature. They argue that there are two conceptual approaches towards understanding CSR practices. The first is the so called "compliance paradigm" which, in a nutshell assumes that stakeholders (media, consumers, NGOs etc.) can apply pressure to companies if they fail to establish ethically responsible production techniques. Hence, in order to diffuse such pressures, companies tend to establish CSR related practices in order to appease stakeholders and further the reputation of the company in the public's eye. A more recent conceptual approach is the "cooperation paradigm" which assumes that multinational companies are intrinsically motivated to actively cooperate with local suppliers and aid and support them to establish environmentally friendly and socially acceptable production techniques in their firms. In our research we are unfortunately not able to discriminate between these two conceptual paradigms. Rather, we note that our data are compatible with both approaches.

The purpose of our paper is to investigate empirically using a large firm level data set whether ethical considerations play a role in the local sourcing decisions of local affiliates of

multinational companies. To the best of our knowledge, this question has not been addressed in the literature thus far. Much of the empirical work on CSR in global supply chains looks at case study evidence. For example, Andersen and Skjoett-Larsen (2009) study the Swedish furniture manufacturer IKEA, while Roberts (2003) looks at companies in three industries, namely forest products, branded clothes, and branded confectionary. These studies highlight the importance of reputation and public pressure to improve corporate social responsibility in firms. The IKEA case study furthermore showed the advantages of implementing CSR within the entire organisation.

While such case studies are highly informative in that they provide a vast amount of very detailed information, drawing generalisations is difficult as the cases tend to be highly specific. Within the large literature on corporate social responsibility in businesses, only relatively few studies look at the relationship between firm or product characteristics and CSR using large scale micro level datasets rather than case studies. McWilliams and Siegel (2001) is an important paper since they formulate carefully a number of hypotheses about the importance of firm characteristics which have been studied in subsequent research. They do, however, not test these hypotheses in accompanying empirical work. Most importantly from our point of view, they argue that firm size is an important determinant of the decision to implement CSR, as is a firm's expenditure on R&D and advertising.

Firms must devote resources to implementing CSR activities. McWilliams and Siegel (2001) argue forcefully that many of these additional costs due to CSR are fixed, leading to scale economies. For example, implementation of CSR may necessitate employing additional staff and new HR management practices, which are headquarter activities with costs that are not dependent on output. Also, new capital investments may be necessary (think of new machines that are able to achieve higher environmental standards) which are again largely fixed. Furthermore, CSR might involve having to purchase intermediate inputs from more expensive local suppliers, and while these costs are not strictly speaking fixed, large firms

may be able to obtain quantity discounts, again implying economies of scale at the level of the firm. The first hypothesis we aim to investigate in our analysis is therefore:

H1 – large firms (exploiting economies of scale) may be more likely to implement CSR considerations in their choice of local suppliers.

McWilliams and Siegel (2001) are also among the first to highlight that product differentiation is important when thinking about implementing CSR. If a firm uses CSR to differentiate its product this may necessitate investing in R&D. For example, implementing CSR-driven environmentally friendly production techniques, or organically produced crops, needs some R&D related activities in order to upgrade production processes or conduct product innovation. This link between R&D and CSR is also confirmed empirically by Siegel and Vitaliano (2007), Fernandez-Kranz and Santalo (2010) and Padgett and Galan (2010). Hence, our next hypothesis is

H2 – R&D and technology upgrading activities in a firm are positively correlated with CSR.

Furthermore, McWilliams and Siegel (2001) allude to the role of reputation. CSR attributes in a product may enhance the reputation of a particular brand and firm in the eyes of the consumers. This is, of course, beneficial to the firm. In order to alert the potential customers to these attributes, a firm must engage in advertising and marketing of these attributes. Hence,

H3 – CSR involvement and advertising expenditure in a firm are positively correlated.

Concerns about product differentiation and reputation also lead us to hypothesise that exporting will play a role for CSR considerations. Firstly, as argued by Boehe and Cruz (2010) CSR is a form of product differentiation which aims to establish the firm's products as

environmentally or socially responsible in the minds of their consumers. Similarly, Roberts (2003) discusses that firms are more likely to implement CSR if there are strong reputational effects – consumers buy a firm's products because it has established a strong reputation for quality or for being environmentally or socially responsible. This effect may be even more important if the firm competes on the world market rather than just on a closed small domestic market. International customers may be particularly concerned about products that are produced to socially responsible standards. Hence, we hypothesise that

H4 - exporters are more likely to implement CSR

As an extension of this hypothesis, it appears a reasonable assumption that consumers in developed countries are more prone to environmental and social concerns and therefore more likely to demand products that are produced to ethical standards. Generally, evidence shows that CSR of Chinese companies is, so far, less developed than CSR of Western companies (Gao, 2009). Furthermore, Tian et al. (2011) show that Chinese consumers pay less attention to CSR than consumers in developed countries. Boehe and Cruz (2010) similarly argue that consumers in developed countries are more conscious about CSR issues. One reason for this is that more affluent consumers are less responsive to prices and therefore may be more willing to pay a higher price for products produced using CSR (see also McWilliams and Siegel, 2001). Hence, as an extension to H4 we investigate empirically

H5 – firms that export to developed countries or that are headquartered in developed countries are more likely to implement CSR.

Roberts (2003) argues that the size and complexity of the supplier network plays an important role for firms' decisions to implement CSR. Based on case study evidence from three different industrial sectors, she concludes that firms may be more likely to implement CSR in the immediate links in the network. The idea is that in long and complex supply

chains, public interest may focus on the supplier of the closest (in terms of production stage) and most important input. As an example she cites the production of clothing and footwear. Here the consumers' concern is mostly related to the fate of workers in the garment manufacturers (as in Rana Plaza) while other stages of the production chain which are further downstream (e.g., the production of raw cotton) are not generally considered or only to a lesser extent. Related to this point, she also argues that CSR considerations are stronger if the supply network is not too diffuse, i.e., does not involve too many players. In this case, it is easier for a producer to implement ethical sourcing given that not too many suppliers are part of the network.

In our firm level survey data we can observe whether an affiliate located in Africa imports intermediate inputs from their parent company abroad, and whether it exports back to the parent headquarters. We use this information as a proxy for stage of the network. If an affiliate imports intermediates from the parent and combines these with local inputs, the link in the supply chain is very immediate. In this case, the local affiliate may be more likely to source ethically in the host country. This may especially be the case if the product is then subsequently exported for final consumption in a developed country (see Hypothesis 5). However, it may be less important if the good is then exported back to the parent company again for further processing, as this adds aet least on more production step and hence enlarges the supply network. Hence, our specific hypothesis is

H6 - if the supplier is integrated in the MNEs global value chain through importing inputs from the parent it may be more likely to implement CSR. This may be less relevant if it exports the good back to the parent for further processing.

As an additional aspect, we also consider the role of autonomy of the local affiliate. We have information in our data on the degree of autonomy of the local affiliate over sourcing decisions. Andersen and Skjoett-Larsen (2009) argue that a successful

implementation of CSR requires that it is embedded within the entire company. Since it is the reputation of the entire company that suffers if consumers are worried about ethical issues, the entire company must implement such a CSR policy. This may suggest that stronger CSR implementation should be associated with less autonomy on the part of the local affiliate. Hence, our hypothesis is that

H7 – less autonomy on the part of the local affiliate in terms of sourcing decisions should be associated with more ethical sourcing behavior.

In order to investigate these hypotheses empirically, we use firm level data on affiliates of foreign multinationals in Sub-Saharan African countries. We propose to estimate the following empirical model

$$Pr(CSR=1)_i = \alpha INTRA\text{-}TRADE_i + \beta\, EXPORTS_i + \gamma\, FIRM\text{-}CHARACTERISTICS_i + d_j + \varepsilon_i$$

where the dependent variable (*CSR*) is a dummy variable equal to one if a firm implements CSR sourcing strategies, which we define in more detail in the next section. *INTRA-TRADE* is a vector that includes two dummy variables that capture whether a firm engages in intra-firm imports, i.e., imports intermediate inputs from the parent company, and whether a firm engages in intra-firm exports. The vector *EXPORTS* includes two dummies, one which is equal to one if the firm exports any of its output and a second dummy equal to one if the firm exports to developed countries. The vector *FIRM-CHARACTERISTICS* includes measures of firm size (defined as total assets), R&D intensity (expenditure on R&D and other investment in technology relative to sales), advertising intensity (expenditure on advertising relative to sales), a dummy variable equal to one if the affiliate is headquartered in a developed country, and a dummy variable equal to one if the affiliate reports that it has

"dominant" or "absolute" decision making power over supplier selection.[2] Finally, d_j includes a full set of industry and country dummies which control for unobserved industry and country characteristics as, e.g., competition in an industry may play a role for a firm's decision to implement CSR (Fernandez-Kranz and Santalo, 2010).

3 Data description

We use unique firm-level data collected through the UNIDO Africa Investor Survey 2010 across 19 Sub-Saharan Africa countries.[3] We use the Foreign Investor Survey data, which contain a rich set of information on a large sample of foreign owned firms. The collection of the dataset followed a rigorous survey methodology in terms of stratified sampling (on three dimensions: sector, size and ownership) in order to construct a sample of firms that is representative of public and private for profit firms with 10 or more employees within the countries.[4] These firms were then interviewed by highly-trained enumerators using face-to-face interviews with top-level managers of foreign-owned firms. More details on the Africa Investor Survey 2010, the sampling procedure and quality assurance measures are provided in UNIDO (2011).

In the survey, we have amongst many other things information on the multinationals' self-reported reasons for choosing local suppliers. The particular survey question this is based on is

What is the most important factor that influences the decisions for local procurement?

[2] Other three categories are „all decisions come from headquarters", local affiliate has „minor" or "equal" power in decision making.
[3] Burkina Faso, Burundi, Cameroon, Cape Verde, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia.
[4] An oversampling of relatively large firms (> 100 employees) has been adopted.

The available options for answers are (i) local content is mandated or strongly encouraged, (ii) to improve local market acceptability, (iii) easier logistics, (iv) access to local raw materials, (v) closer supplier relationship, (vi) environmental responsibility, (vii) corporate commitment to local supplier development in the region, (viii) fiscal reasons, (ix) reduced tariff costs, (x) others.

We define a dummy variable *CSR* equal to one if a firm ticks option (vi) environmental responsibility or (vii) corporate commitment to local supplier development in the region as these are arguably aspects of firms' considerations about corporate social responsibility. The first option captures environmentally responsible sourcing while the second option encompasses social concerns about suppliers, including working conditions, wages and sustainable development of the supplier.

Since a firm can only tick one box representing the most important reason for the sourcing decision we acknowledge that this is a very strict definition of implementation of CSR considerations in local sourcing by foreign multinationals. It captures firms that arguably place a very high emphasis on CSR in their corporate culture. It is of course possible that firms that do not report environmental or social concerns as the most important reason may still be concerned about CSR. Hence, our analysis only picks up strong CSR implementers.

Overall, we have 2,113 foreign-owned firms in our survey. Table 1 shows how many of those implement CSR according to our definition. These are not many. We can see that just over 5 percent cite environmental concerns or local supplier development as the main reason for their choice of suppliers, which is CSR based on our definition. This shows that among foreign affiliates located in African countries, ethical sourcing is not the most important aspect in the choice of local suppliers. While this does not rule out the possibility that CSR does play a role – though not the most important – it does reflect the fact that price

and quality considerations (i.e., access to raw materials, logistics, local market acceptability) are the main concerns when choosing local suppliers.

Table 1: Main reason for choice of supplier

Main reason for choice of supplier	Percentage
Local content	10.75
Improved acceptability	10.34
Logistics	16.54
Raw materials	24.23
Closer supplier relationship	8.85
Environment	1.82
Local supplier development	3.80
Fiscal or tax efficiency	1.74
Reduced tariff	8.11
Other	13.81

In Table 2, we distinguish different types of firms to investigate whether the propensity to implement CSR differs according to some firm characteristic. In particular, we distinguish (i) affiliates headquartered in developed (North) and developing (South) countries, (ii) affiliates with intra-firm and without intra-firm trade, (iii) exporters and non-exporters, (iv) exporters to developed countries and firms that only export to developing countries, (v) firms in the extractive industries and those in manufacturing and services.

Table 2: CSR choice and firm characteristics

	CSR = 1 (in percent)	CSR = 0 (in percent)	Total number
Headquartered in North	4	96	841
Headquartered in South	3	97	1272
Intra-firm trade	5	95	423
No IFT	2	98	1690
Exporter	5	95	659
Non-exporter	2	98	1454
North-Exporter	7	93	251
Not	3	97	1862
Extractives	8	92	103
Non-extractives	3	97	2010

We see that the nationality of the affiliate does not appear to matter, while export orientation and involvement in global supply chains through intra-firm trade does. Firms engaged in these, or firms that export, especially to developed countries, are more prone to implementing CSR. This provides some first support for our hypotheses concerning the role of exporting and global supply chains developed above. It is not the location of the headquarters per se, but the sales market that matters for a firm's involvement in CSR.

We also find that the industry-sector matters. Firms in extractive industries are more likely to implement CSR than firms in other manufacturing or services industries. This may reflect the role of reputation for the goods produced by such firms in mining or petroleum industries, where consumers may be particularly concerned about social and environmental implications of their consumption.

Of course, these summary statistics only provide crude correlations and do not control for other important variables that may drive the relationship between CSR and global supply chains. In order to take those into account, we now report the results from estimations of the empirical model developed above.

4 Estimation Results

Table 3 presents the results from the estimations of equation (1). To establish a set of benchmark results, we report estimations including firm characteristics and only an export dummy in column (1). In the further analysis, we focus on the role of global supply chains. In order to do so, we add a dummy variable equal to one if the firm exports to developed countries in column (2). Column (3) also adds dummies equal to one if the firm report intra-firm imports or exports, respectively, in order to proxy for the immediacy and diffuseness of the supply network. All regressions also include a full set of industry dummies and a constant

which are not reported here to save space. The model is estimated using simple OLS regression.[5]

Results show that, of the firm characteristics included in the model, advertising intensity and autonomy over sourcing decisions have statistically significant effects. Both of these are positively related to the decision to implement CSR. For advertising, this is in line with our hypothesis. CSR activities need to be accompanied by advertising in order to strengthen the reputation of the product/firm, in line with McWilliams and Siegel (2001). For autonomy, our hypothesis, based on Andersen and Skjoett-Larsen (2009) was that autonomy and CSR should be negatively related, as CSR should be embedded within the whole company in order to be most effective. We, however, find that affiliates that have autonomy over the choice of local supplier, and where sourcing decisions are not taken by headquarters abroad, are more prone to implementing CSR. This may reflect the local knowledge of the foreign affiliate, which has better knowledge about environmental and social conditions at local suppliers than HQ. They may, therefore, be more concerned about the situation in the host country and more likely to implement ethical sourcing.

Note that firm size and the nationality dummy (i.e., whether the firm is headquartered in a developed country) have the expected result (positive association with CSR) but the coefficients are not statistically significant. Expenditure on R&D and other technology is, unexpectedly, negatively related with CSR but is also not significant. The negative coefficients may reflect the negative correlation between technology and advertising in our data set – firms with high advertising to sales ratios have lower R&D to sales ratios and vice versa.

Looking at our exporting and supply chain variables, we find that exporting *per se* is not related to implementing CSR. What matters, however, is whether a firm exports to a

[5] Since the dependent variable is a 0-1 dummy variable this implies that we have a linear probability model. Estimating the model using a probit estimator does not change results. Hence, we report here the OLS estimations where coefficients can be interpreted easily. Results of the probit estimation are available upon request).

developed country. If they do, they are more likely to implement CSR sourcing. This is in line with our hypothesis that CSR is related to improving the reputation of the firm and that consumers in developed countries are more likely to care about social and environmentally responsible behavior.[6] Looking at column (3) we also find that exporting back to the parent company is not important for implementing CSR. What does matter, however, is that the firm imports from the parent. This suggests that the immediacy of the local supplier in the supply network is important for ethical sourcing.

Putting these results together we find that the chain that matters most for CSR sourcing is where intermediates are imported from the parent, are then combined with other local inputs, and exported back to the north. This means that then there will be a short supply chain, where the locally sourced input feeds in immediately into the product that is being produced and then sold abroad.[7]

[Table 3 here]

In the next step of the analysis we investigate whether the relationship between global supply chains and CSR is mitigated by other variables. In the first column in Table 4, we investigate whether this relationship is different for firms that are headquartered in developed countries. This may be the case if, as evidenced in the table above, consumers in the north are more concerned about CSR. We investigate this issue by interacting the dummy variable of the nationality of the firm with the exporting and intra-firm trade variables. We find that, indeed, the positive relationship between intra-firm imports and CSR only holds for firms located in a developed country. This again underlines the argument that consumers in developed countries are more concerned about CSR issues when purchasing their products.

[6] Remember that the export variables are defined as dummies. In our data we also have export value. Defining the variables as export ratios relative to output does not change the results, hence we report the results based on dummy variables here.

[7] We can also control for total import activity or importing from the north, similar to our export variables. However, this does not change any of the results; the coefficients are statistically insignificant. As it is not clear why these variables should matter for CSR and in order to keep the model as parsimonious as possible, we do not include them in the main regressions.

Hence, firms located in developed countries are also more likely to implement these when they are engaged in intermediate supply chain links.

In column (2) we interact the global variables with the variable proxying the advertising intensity of the firm. This allows us to investigate whether the relationship between global supply chain variables and CSR depends on the level of advertising. One may expect that the more advertising intensive the firm is the stronger is this positive relationship. However, this is not borne out by the evidence, the interaction terms are all statistically insignificant.

A final moderator variable is the industry-sector. In particular, we may expect that firms in the extractives sector are different from those in manufacturing and services. The interaction terms support this hypothesis. The positive association between intra-firm imports and CSR is much stronger for extractives than for other sectors, as indicated by the positive interaction term. Also, we find that firms in the extractives sector are less likely to implement CSR when they export back to the parent company, while this variable is not associated with CSR for firms in other sectors. This may indicate that the intermediacy of the supply link is even more important in extractives. If the output produced by the affiliate is not exported to the final consumer, but exported to the parent for further processing, then ethical sourcing is not important.

[Table 4 here]

In the next set of results, we distinguish the two components of CSR, environmental and social aspects. The dependent variable in Table 5 is, thus, whether a firm implements environmental CSR, while Table 6 investigates social CSR. We find that there are substantial differences between the two.

Table 5 includes in column (1) the baseline model, now only considering environmental CSR as dependent variable. Exporting to the north is again associated positively and statistically significantly with environmental sourcing behavior. However,

intra-firm imports do now not matter, while intra-firm exports are negatively associated with environmental CSR. In other words, a firm is less likely to worry about environmental sourcing concerns when it exports back to the parent company. As argued above, this may reflect that in this case the global supply chain is not immediate but that further production steps are taken in the home country of the parent company, and possibly in other locations. Hence, the immediacy is lost and therefore the firm is less concerned about environmental issues in the sourcing of the input locally. Quite surprisingly, we now also find that autonomy and advertising expenditure do not matter for the CSR decision. The only statistically significant predictors of implementing CSR are indeed the global supply chain indicators, in particular the export indicators.

[Table 5 here]

This looks different in the case of social CSR. Here, results are comparable to the overall results we reported above. Firms that are engaged in intra-firm imports are more likely to implement CSR, as are firms that have more autonomy and that spend more on advertising. By contrast, we now find that exporting to a developed country is not associated with higher CSR affinity.

[Table 6 here]

Hence, environmental and social elements of CSR may not necessarily be governed by the same drivers. While exporting to the north, and hence the reputational effects of CSR in developed countries, appears important for environmental CSR, the immediacy of the supply chain appears more important for the implementation of social concerns. If the affiliate has power over the choice of suppliers, and if it combines inputs imported from the parent with locally sourced inputs, then social considerations play a larger role. Also, these decisions to implement social sourcing behavior interact with high advertising expenditure, which are used to signal the social aspects of sourcing to potential and actual customers.

5 Conclusions

This paper looks at the importance of CSR considerations in the decision taken by a foreign affiliate of a multinational company about the choice of local suppliers. We implement an admittedly quite stringent definition of a CSR activity, namely whether environmental or social concerns were the most important determinant of the local supplier choice. We investigate this empirically using unique firm level data for more than 2,000 foreign owned firms in 19 Sub-Saharan African countries.

Based on our definition, only very few firms implement any CSR at all. While this is likely to understate the true importance of CSR, as firms may consider CSR as one, but not as the main, motive for choosing a local supplier, it also forcefully highlights the strong importance of other motives, in particular access to raw materials or lower transport costs, in this choice process.

When looking in detail at the firm level data, we find that firms are more likely to implement CSR if they spend more on advertising. This finding is in line with literature that shows that customers are concerned about ethical issues and that firms aim to advertise their CSR activities correspondingly. We also find that local affiliates are more likely to implement CSR if they are autonomous in their decision process, i.e., if the local suppliers are not chose by the headquarters of the affiliate abroad. This may reflect the fact that local affiliates have better knowledge about the local conditions and may be more concerned about implementing ethical standards locally than a HQ located abroad may be.

In terms of the role of global value chains we find that firms that import intermediates from their parent company abroad are more likely to implement CSR. Similarly, CSR plays a larger role for affiliates that export their output to developed countries. This suggests that the immediacy of the production chain, where intermediate inputs are imported from HQ and are then processed, together with locally sourced inputs, into a final good which is then exported for consumption in developed countries, provides a strong link to CSR. This supports the

case study findings by Roberts (2003) who argues that CSR is more important if the supply chain is short and direct. We show that similar arguments may apply in the case of global supply chains as well.

Furthermore, our results show that the determinants of environmental and social CSR activities are likely to be different. This has not been shown in previous work to-date.

Overall, our findings suggest that there is certainly scope for improvement when it comes to CSR activities in supply chains involving multinationals and local suppliers in Sub-Saharan African countries. Implementing these may be particularly important for multinationals selling output in developed countries, where consumers are likely to be more discerning and to put greater value on ethical sourcing than in developing countries.

References

African Development Bank, 2014, *African Economic Outlook 2014: Global Value Chains and Africa's Industrialisation*, ADB, Tunis.

Andersen, M. and T. Skjoett-Larsen, 2009, "Corporate social responsibility in global supply chains", *Supply Chain Management*, 14, 75–86

Boehe, D.M. and L.B. Cruz, 2010, "Corporate social responsibility, product differentiation strategy and export performance" *Journal of Business Ethics*, 91, 325–346.

Fernandez-Kranz, D. and J. Santalo, 2010, "When necessity becomes a virtue: The effect of product market competition on corporate social responsibility" *Journal of Economics and Management Strategy*, 19, 453–487

Gao, Y., 2009, "Corporate social performance in China: Evidence from large companies" *Journal of Business Ethics*, 89, 23–35

Godart, O. and H. Görg, 2013, "Suppliers of Multinationals and the Forced Linkage Effect: Evidence from Firm Level Data" *Journal of Economic Behavior & Organization*, 94, 393–404

Lund-Thomsen, P. and A. Lindgreen, 2014, "Corporate social responsibility in global value chains: Where are we now, and where are we going?" *Journal of Business Ethics*, 123, 11–22

McWilliams, A. and D. Siegel, 2001, "Corporate social responsibility: A theory of the firm perspective" *Academy of Management Review*, 26, 117–127.

Padgett, R.C. and J.I. Galan, 2010, "The effect of R&D intensity on corporate social responsibility" *Journal of Business Ethics*, 93, 407–418

Siegel, D.S. and D.F. Vitaliano, 2007, An empirical analysis of the strategic use of corporate social responsibility" *Journal of Economics and Management Strategy*, 16, 773–792

Tian, Z., R. Wang and W. Yang, 2011, "Consumer responses to Corporate Social Responsibility (CSR) in China" *Journal of Business Ethics*, 101, 197–212

UNCTAD (2012), *World Investment Report 2012: Toward a New Generation of Investment Policies*, United Nations, New York and Geneva

UNIDO, 2011, *Africa Investor Report 2011*, UNIDO, Vienna.

Table 3: Baseline regression results

	(1)	(2)	(3)
VARIABLES	csr_link	csr_link	csr_link
Intra-firm exports			-0.0140
			(0.0165)
Intra-firm imports			0.0310***
			(0.0113)
Export to North		0.0411**	0.0432***
		(0.0159)	(0.0162)
Export	0.000364	-0.0109	-0.00976
	(0.0101)	(0.0110)	(0.0113)
Northern MNC	0.00708	0.00482	0.00493
	(0.00822)	(0.00825)	(0.00824)
autonomy	0.0149	0.0170	0.0238**
	(0.0107)	(0.0108)	(0.0112)
Advertising intensity	0.117***	0.117***	0.116***
	(0.0428)	(0.0428)	(0.0427)
assets	0.00269	0.00259	0.00221
	(0.00193)	(0.00193)	(0.00193)
Technology intensity	-0.0189	-0.0232	-0.0268
	(0.0303)	(0.0303)	(0.0303)
Constant	0.0150	0.00360	0.000113
	(0.0387)	(0.0389)	(0.0390)
Observations	2,087	2,087	2,087
R-squared	0.086	0.089	0.093

Standard errors in parentheses
Regression includes country and industry dummies, and a constant term
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Regression results including interactions

	(1)	(2)	(3)
VARIABLES	csr_link	csr_link	csr_link
Intra-firm exports	-0.0240	-0.0122	0.0124
	(0.0219)	(0.0168)	(0.0180)
Intra-firm imports	0.0120	0.0326***	0.0216*
	(0.0142)	(0.0114)	(0.0115)
Export to North	0.0438**	0.0436***	0.0410**
	(0.0214)	(0.0166)	(0.0175)
Export	-0.00858	-0.00921	-0.0114
	(0.0113)	(0.0113)	(0.0112)
Northern MNC	-0.00282	0.00522	0.00483
	(0.00919)	(0.00825)	(0.00822)
autonomy	0.0227**	0.0239**	0.0213*
	(0.0112)	(0.0112)	(0.0112)
Advertising intensity	0.115***	0.147***	0.116***
	(0.0427)	(0.0490)	(0.0426)
assets	0.00204	0.00204	0.00234
	(0.00194)	(0.00194)	(0.00193)
Technology intensity	-0.0278	-0.0265	-0.0274
	(0.0303)	(0.0303)	(0.0302)
Intra-firm exports * Northern MNC	0.0210		
	(0.0324)		
Intra-firm imports * Northern MNC	0.0480**		
	(0.0219)		
Export to North * Northern MNC	-0.00628		
	(0.0270)		
Intra-firm exports * Advertising		-0.143	
		(0.222)	
Intra-firm imports * Advertising		-0.100	
		(0.111)	
Export to North * Advertising		-0.140	
		(0.361)	
Intra-firm exports * Extractives			-0.138***
			(0.0423)
Intra-firm imports * extractives			0.113**
			(0.0503)
Export to North * extractives			0.00474
			(0.0391)
Constant	0.00551	0.00168	0.0172
	(0.0391)	(0.0390)	(0.0432)
Observations	2,087	2,087	2,087
R-squared	0.095	0.094	0.100

Standard errors in parentheses
Regression includes country and industry dummies, and a constant term
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Environmental CSR

	(1)	(2)	(3)	(4)
VARIABLES	csr_enviro	csr_enviro	csr_enviro	csr_enviro
Intra-firm exports	-0.0250***	-0.0236*	-0.0247**	-0.0143
	(0.00958)	(0.0128)	(0.00974)	(0.0105)
Intra-firm imports	0.00564	-0.00160	0.00525	0.00300
	(0.00654)	(0.00829)	(0.00661)	(0.00672)
Export to North	0.0304***	0.0350***	0.0295***	0.0260**
	(0.00942)	(0.0124)	(0.00965)	(0.0102)
Export	-0.00353	-0.00344	-0.00361	-0.00419
	(0.00655)	(0.00657)	(0.00656)	(0.00655)
Northern MNC	-0.000691	-0.00229	-0.000756	-0.000852
	(0.00479)	(0.00535)	(0.00480)	(0.00479)
autonomy	0.00736	0.00696	0.00726	0.00641
	(0.00652)	(0.00652)	(0.00653)	(0.00652)
Advertising intensity	0.0109	0.0113	0.00226	0.0104
	(0.0248)	(0.0248)	(0.0285)	(0.0248)
assets	-0.00130	-0.00132	-0.00128	-0.00126
	(0.00112)	(0.00113)	(0.00113)	(0.00112)
Technology intensity	0.000312	-0.000243	9.61e-05	-0.000120
	(0.0176)	(0.0176)	(0.0176)	(0.0176)
Intra-firm exports * Northern MNC		-0.00244		
		(0.0188)		
Intra-firm imports * Northern MNC		0.0178		
		(0.0127)		
Export to North * Northern MNC		-0.00826		
		(0.0157)		
Intra-firm exports * Advertising			-0.00692	
			(0.129)	
Intra-firm imports * Advertising			0.0328	
			(0.0643)	
Export to North * Advertising			0.108	
			(0.210)	
Intra-firm exports * Extractives				-0.0573**
				(0.0246)
Intra-firm imports * extractives				0.0247
				(0.0293)
Export to North * extractives				0.0231
				(0.0228)
Constant	0.0373*	0.0391*	0.0372	0.0382
	(0.0227)	(0.0227)	(0.0227)	(0.0252)
Observations	2,087	2,087	2,087	2,087
R-squared	0.040	0.041	0.040	0.043

Standard errors in parentheses
Regression includes country and industry dummies, and a constant term
*** p<0.01, ** p<0.05, * p<0.1

Table 6: Social CSR

	(1)	(2)	(3)	(4)
VARIABLES	csr_social	csr_social	csr_social	csr_social
Intra-firm exports	0.0109	-0.000450	0.0125	0.0267*
	(0.0137)	(0.0182)	(0.0139)	(0.0150)
Intra-firm imports	0.0254***	0.0136	0.0274***	0.0186*
	(0.00932)	(0.0118)	(0.00942)	(0.00957)
Export to North	0.0128	0.00881	0.0141	0.0150
	(0.0134)	(0.0177)	(0.0138)	(0.0145)
Export	-0.00623	-0.00513	-0.00560	-0.00726
	(0.00934)	(0.00937)	(0.00934)	(0.00932)
Northern MNC	0.00562	-0.000537	0.00598	0.00569
	(0.00683)	(0.00762)	(0.00683)	(0.00682)
autonomy	0.0165*	0.0158*	0.0166*	0.0149
	(0.00929)	(0.00930)	(0.00930)	(0.00929)
Advertising intensity	0.105***	0.104***	0.145***	0.106***
	(0.0354)	(0.0354)	(0.0406)	(0.0353)
assets	0.00351**	0.00336**	0.00331**	0.00361**
	(0.00160)	(0.00161)	(0.00161)	(0.00160)
Technology intensity	-0.0271	-0.0276	-0.0266	-0.0273
	(0.0251)	(0.0251)	(0.0251)	(0.0250)
Intra-firm exports * Northern MNC		0.0235		
		(0.0269)		
Intra-firm imports * Northern MNC		0.0301*		
		(0.0181)		
Export to North * Northern MNC		0.00198		
		(0.0224)		
Intra-firm exports * Advertising			-0.136	
			(0.184)	
Intra-firm imports * Advertising			-0.133	
			(0.0916)	
Export to North * Advertising			-0.248	
			(0.299)	
Intra-firm exports * Extractives				-0.0807**
				(0.0351)
Intra-firm imports * extractives				0.0885**
				(0.0417)
Export to North * extractives				-0.0183
				(0.0325)
Constant	-0.0372	-0.0336	-0.0355	-0.0210
	(0.0323)	(0.0324)	(0.0323)	(0.0358)
Observations	2,087	2,087	2,087	2,087
R-squared	0.102	0.104	0.104	0.107

Standard errors in parentheses
Regression includes country and industry dummies, and a constant term
*** p<0.01, ** p<0.05, * p<0.1