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The transmission of socially responsible behaviour through international trade

Carol Newman,¹ John Rand,² Finn Tarp,^{2, 3} and Neda Trifkovic³

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Abstract: We investigate the relationship between the corporate social responsibility practices of local domestic firms and their engagement with foreign markets using four waves of panel data on a sample of more than 4,500 manufacturing firms from Viet Nam. We develop a measure of corporate social responsibility that combines compliance with labour standards, management commitment to corporate social responsibility, and community activities. We find a strong relationship between engagement in international markets and the corporate social responsibility activities of firms, with the exception of trade with China. Results suggest that firms in export-intensive sectors engage in more corporate social responsibility activities, while those in sectors with higher levels of imports engage in less.

Keywords: corporate social responsibility, trade, spillovers, Viet Nam

JEL classification: D22, O12, M14

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1 Introduction

Interacting with foreign markets through exporting output or importing inputs can potentially enhance the productive capacity of domestic firms. Engaging in export markets has been associated with learning and efficiency gains (Van Biesebroeck 2005; De Loecker 2007; Blalock and Gertler 2008; Cruz et al. 2016; Newman et al. 2016a), research and development (Aw et al. 2007, 2011), and innovation (Lileeva and Trefler 2010). Importing inputs has also been linked with productivity gains (Amiti and Konings 2007; Fernandes 2007; Kasahara and Rodrigue 2008; Newman et al. 2016b). The main mechanism proposed so far for explaining the link between productivity and engagement with global markets is that technology and learning are transmitted or transferred through the supply chain. In this paper, we propose that engaging with international customers, be they firms or final goods consumers, and with international suppliers, may encourage transfers of other types of behaviour to domestic producers. In particular, using panel data on a large sample of Vietnamese manufacturing firms, we explore whether engagement in international markets, both directly and indirectly, leads local domestic firms to engage in more socially responsible practices.

In its broadest sense, Corporate Social Responsibility (CSR) refers to the creation of public ‘goods’ or the curtailment of public ‘bads’ by firms (Besley and Ghatak 2007). It is often thought of in practice as what firms do to further the social good beyond the immediate interests of the firm (McWilliams and Siegel 2001). For example, paying for health or education services in the local community furthers the social good and may not be in the immediate interest of the firm. Some types of CSR activity may benefit society and the firm. For example, adherence to environmental standards is good for society and may be good for business. The UN Global Compact and ISO 26000 define CSR more generally, to include compliance with laws and regulations including, for example, labour conditions and anti-corrupt behaviour (ISO 2012; UN 2013).

Firms can be motivated to engage in CSR practices to improve profits and for altruistic reasons (Kitzmueller and Shimshack 2012). CSR can be an optimal strategic choice for a profit-maximizing firm, whereby CSR provides private benefits to the firm. Porter and van der Linde (1995) highlight that economic performance can improve with the adoption of environment-friendly measures. Further studies have shown that CSR can increase firm profits by decreasing costs (Husted and de Jesus Salazar 2006), differentiating products, and charging a price premium (Baron 2001; McWilliams and Siegel 2001), or by introducing technological and managerial innovations (Kanter 1999). It is also possible that firm owners, managers, or shareholders proactively initiate CSR activities based on their personal preferences and interests. In this case, firm management sacrifices profits in order to fulfil a broader social interest (Reinhardt et al. 2008). In other words, there is an altruistic motivation to engage in CSR activities (Husted and de Jesus Salazar 2006).

Of particular relevance to our paper are externally driven motivations for CSR emerging through interactions between firms and stakeholders, which include consumers, regulators, or activists.¹ Demand-side pressures for CSR could come from consumers who derive higher utility by purchasing from firms with advanced social considerations (Kitzmueller and Shimshack 2012). Regulators may sanction firms whose production has negative environmental or social externalities, so firms will tend to adopt CSR to avoid paying fines. Furthermore, firms can

¹ Investors may also motivate specific types of CSR activities, depending on their preferences (Kolstad 2016).

undertake specific CSR actions to protect themselves from the potential negative publicity associated with social activism (Baron 2001).

Globalization, increased international integration, and trade have expanded the range of stakeholders to whom firms are responsible. When a firm enters into export markets, the composition of their stakeholders changes from domestic customers and government to foreign customers and destination country governments.² Similarly, if a firm begins importing inputs, their range of stakeholders expands to foreign suppliers and source-country governments. Firms that are part of an integrated supply chain may in fact have no choice but to adhere to higher standards of production. As such, increased engagement in global markets is likely to affect the CSR practices of firms through this mechanism if firms care about the preferences of their stakeholders in terms of CSR, and if the preferences of foreign stakeholders are different to those of domestic customers, suppliers, and government.³

In this paper, we explore empirically the direct impact of trade on the CSR practices of domestic firms. We also consider the extent to which CSR practices come about as an externality from trade. For example, local domestic firms may observe and copy the CSR practices of export firms in export-intensive sectors in the hope of entering export markets in the future. Moreover, they may respond to increased competition from imports by mimicking the standards applied to those goods in order to compete, or may be forced to reduce investments in CSR as a reaction to increased competition.⁴

We define CSR as a mix of legally compliant CSR and philanthropy-related CSR and separate these components to satisfy the different definitions of CSR commonly used. We measure CSR practices through (i) the extent to which the firm complies with labour standards, (ii) the management commitment to acting beyond the regulatory scope as reflected in the CSR strategy, and (iii) the engagement in community-based activities not directly linked to firm operations. These indicators are used to generate a CSR index that shows the overall amount of CSR activities that a firm engages in.

To determine the extent to which trade directly affects CSR (through either changes in the requirements of foreign stakeholders or mimetic behaviour), we examine whether firms that begin to trade in international markets change the nature and extent of their CSR activities. We also examine the extent to which the effects are different for exports to and imports from different countries. One expects heterogeneity in the effect of trade on CSR on the basis of destination country of exports or source country of imports if there is, for example, variability in stakeholder preferences across countries. Indirect effects are identified where domestic firms in the same sector observe and imitate socially responsible practices of exporters or importers in the hope of engaging in global markets in the future. We capture indirect effects by analysing the

² Herzfeld et al. (2011) find that firms from developing countries, which trade with advanced European countries are more likely to certify private standards indicating that mimetic behaviour may play a role in corporate practices. This type of mimetic behaviour arguably reflects destination country stakeholder preferences and so, we do not consider it as a distinct mechanism.

³ These mechanisms are supported by Gereffi et al. (2005). They propose that in supply chains where buyers are concentrated (for example, retailers or brand-name companies) and suppliers remain fragmented (the so-called buyer-driven chains), requirements about products and production processes are passed backwards from buyers to suppliers. Similarly, in industries where the manufacturers are the most powerful actors in the supply chain (the so-called producer-driven chains, such as automotive industry, energy, and electronics), downstream firms are the recipients of specific product and conduct requirements.

⁴ There is evidence to suggest that firms are more likely to adopt environmental practices because a number of local competitors have done so in a given sector (Zhu et al. 2012; Fikru 2014).

extent to which the intensity of imports and exports into a sector affect the CSR activities of firms.

Our paper adds to the literature referred to above on the impact of trade on domestic firm productivity and behaviour by examining whether the transmission of CSR practices might be an additional source of gain from global engagement. Our study also contributes to the literature on the adoption of CSR practices. A number of studies focus on social, legal, or institutional pressures and expectations that motivate firms to adopt socially responsible practices (Baron 2001; Delmas and Toffel 2004; Matten and Moon 2008; Gond et al. 2011) and several consider corporate strategic interests in implementing CSR initiatives (Carroll 1979; McWilliams and Siegel 2001; Orlitzky et al. 2011). This literature, to our knowledge, has not to date considered explicitly the transfer of CSR practices from foreign markets to domestic firms. Moreover, Newman et al. (2016c) find that CSR adoption leads to increases in firm efficiency. This suggests that if better CSR practices transmit through the supply chain through engagement with global markets, then increasing exposure to trade could, in addition to leading to better CSR practices, also increase productivity.

Our data come from four rounds of the Technology and Competitiveness Survey (TCS) administered to a sample of more than 4,500 firms in Viet Nam annually between 2010 and 2013. Part of this survey module was specially designed to gather information on the CSR activities of firms and the extent of their engagement with global markets. The data are a representative sample of manufacturing firms contained in the larger Vietnam Enterprise Surveys (VES), which gathers data annually on more than 50,000 manufacturing firms (GSOV 2016b). We match these data sets to provide a rich selection of control variables for our analysis. We also use data from COMTRADE on (4-digit) sector export and import levels to measure trade intensity within sectors (WITS 2016).

Viet Nam is an illuminating case for exploring CSR transmission mechanisms. CSR was introduced to Viet Nam through codes of conduct requested by customers in foreign markets or multi-national companies (Nguyen 2007). The Global Compact Network Viet Nam was launched in 2007 in a joint effort between the United Nations, the Viet Nam Chamber of Commerce and Industry, the Spanish Agency for International Cooperation, and Unilever Viet Nam motivating the Vietnamese companies to implement a set of core values in the areas of human rights, labour standards, the environment, and anti-corruption (UN 2014). Furthermore, the United Nations Industrial Development Organization (UNIDO) is engaged in enhancing the sustainable integration of Vietnamese small and medium enterprises into global supply chains through increased awareness, understanding, and adoption of CSR (UNIDO 2011).⁵ Moreover, over the last decade, wide-ranging reforms to enterprise, commercial and investment laws have taken place. They have opened up the Vietnamese economy and increased access to foreign markets for domestic firms. These reforms culminated in accession to the World Trade Organization (WTO) in 2007, contributing to the changing landscape for industrial development and increased trading opportunities.

We use a difference Generalized Method of Moments (GMM) approach to estimate the impact of engagement in trade on the CSR activities of private domestic Vietnamese firms. We find that exporting output and importing inputs leads to an increase in the CSR activities of firms, especially in terms of adherence to labour standards. Export firms are also more likely to increase management efforts and contributions to local communities in areas that are beyond the

⁵ In addition, the Fair Labor Association focuses especially on the apparel and footwear sector in a project that aims to improve work conditions and social compliance programmes in 50 garment factories (FLA 2012).

regulatory and business interests of the firm. We explain this result by the fact that when a firm enters a new export market, the stakeholders to whom it is accountable change and the CSR practices of the firm will reflect the preferences of destination country customers and governments. In most cases, these preferences lead to an increase in CSR practices with one exception, China. Conditional on exporting, firms that export to China engage in significantly less CSR activities than firms exporting to other destinations do.

We also find indirect CSR spillovers from trade more generally. Higher levels of exports from a particular sector are associated with more CSR activities, particularly in relation to management and community CSR. This suggests that firms in export-intensive sectors engage in more CSR activities potentially in the hope of entering into export markets in the future. In contrast, higher levels of imports into a sector are associated with lower levels of CSR, particularly management CSR activities. Overall, our results support the claim that the extent of firm engagement in CSR is influenced by the preferences of stakeholders and that these preferences can filter through the supply chain through international trade. Moreover, we find that increased CSR engagement is an additional spillover from export intensification that, to our knowledge, has not been previously considered.

The rest of this paper is structured as follows: Section 2 describes the data, defines the measures of CSR practices used, and describes the measures of trade through which we propose the CSR transmission takes place. Section 3 outlines the empirical approach. Section 4 presents the results and Section 5 concludes.

2 Data

The data used come from several sources. The data on CSR are from four rounds of the Vietnam Technology and Competitiveness Survey (TCS) through which we gathered detailed information on the CSR practices of a sample of more than 4,500 private domestic Vietnamese manufacturing enterprises annually between 2010 and 2013 (CIEM 2012, 2013, 2014, 2015). While we focus the core part of our analysis on the balanced panel of 3,566 firms, we also present results for the unbalanced panel.

Information on CSR is gathered along three main dimensions: labour conditions, management commitment, and community involvement. We use as well the TCS survey instrument to gather data on the extent of engagement of firms with foreign markets. The sample is a representative sub-set of manufacturing firms covered by the Vietnam Enterprise Survey (VES) administered annually by the General Statistics Office (GSO). The VES gathers balance sheet and other information on the activities of firms. The TCS Survey is administered at the same time and under the same circumstances as the VES. The survey instruments are mailed out to firms, which submit the complete questionnaires by return post to the Provincial Statistics Office. Under the Law on Statistics, all firms are legally required to comply. Any firms that do not respond are contacted by provincial authorities by mail, by phone, or through face-to-face visits. All data gathered are checked by the GSO for internal consistency and crosschecked with the administrative provincial data before being made available.

We match the TCS data for the sampled firms with information on the activities of firms and their financial accounts gathered using the main VES instrument. This produces a rich database. The values of sector level (4-digit) imports and exports are taken from the UN COMTRADE database available through World Integrated Trade Solutions.

2.1 CSR measures

Following the UN Global Compact (2013) and ISO 26000 guidance for CSR (ISO 2012), we focus on several dimensions of socially responsible firm activities that can be internal to the firm or external in the form of contributions to the local community. In constructing the CSR indicators, we include compliance CSR, management-related CSR, and community-related CSR practices gathered in our specially designed survey instrument.⁶

Table 1 provides a description of each CSR indicator. Compliance CSR indicates the extent to which a firm complies with existing regulation. We focus on labour regulation measured using four indicators that show whether: i) all permanent employees have a written labour contract; ii) the firm has a local trade union; iii) the firm pays social insurance; and iv) the firm pays health insurance to employees. CSR management provisions measure the extent of management effort in going beyond regulatory compliance when assuring socially and environmentally sound practices. This is a crucial component of CSR as it rests on meeting ethical responsibilities expected by society (McWilliams and Siegel 2001). We measure CSR management requirements by observing whether a firm has: i) a committee that oversees CSR practices; ii) a written CSR policy; iii) received CSR-type certificates; and iv) whether the firm is a member of any groups that promote CSR standards. CSR community provisions measure the way in which firms contribute to the local community in areas that are beyond the business interests of the firm. We measure the CSR community component in terms of firm activities related to: i) environment protection; ii) education; iii) infrastructure development; iv) healthcare services; v) youth programmes; vi) poverty alleviation; vii) local heritage protection; and viii) sporting events.

Table 1: Description of core variables

Variable Name	Description
<i>CSR measures</i>	
CSR compliant	Extent to which firm complies voluntarily with labour standards (4 indicators)
CSR management	Extent to which firm has a well-developed CSR strategy at the management level that goes beyond compliance with existing regulations (4 indicators)
CSR community	Extent to which firm engages in beyond compliance community-based activities not directly related to firm operations (8 indicators)
CSR index	Index based on all 16 indicators
<i>Firm specific trade measures</i>	
Exports output	Dummy indicator for whether firm exports output
Imports inputs	Dummy indicator for whether firm imports inputs
<i>Sector specific trade measures</i>	
Imports into sector	Log of value of imports into the 4-digit sector
Exports into sector	Log of value of exports from the 4-digit sector

Source: Authors' compilation based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015).

For each category, we score firms by giving them a point for each of the CSR activities they practice. Combining the scores across all three measures produces our CSR index that shows the overall amount of CSR activities by the firm (on a scale of 0–16). As such, our overall measure of CSR includes both the internal and external dimensions.

⁶ There are other ways of measuring CSR. For example, the Reputation Institute and the Boston College Center for Corporate Citizenship have developed a corporate social responsibility index (CSRI) that averages the general public's perceptions of firms along three dimensions: citizenship, governance, and workplace (BCCCC 2011). We prefer to use a measure based on observable behaviour to one based on perceptions.

2.2 Measuring trade linkages

Arguably, the transfer of CSR practices can occur directly through interactions with foreign markets, indirectly through spillovers from import competition, or mimicking the behaviour of firms within the same sector. We measure direct connectedness with foreign markets with two dummy variables for whether a firm imports inputs or exports outputs. The sector variables used to capture spillovers are measures of within-sector foreign trade intensity. The import and export intensities of firms are measured, respectively, as the deflated value of the log level of imports into Viet Nam and exports from Viet Nam for each 4-digit sector. A brief description of the indicators of trade considered is provided in Table 1.

2.3 Descriptive statistics

Table 2 presents a summary of the CSR practices of firms in the full TCS sample along with a summary of the trade linkage indicators. We present the means for all surveyed firms (i.e. all ownership types), for the subset of domestic private firms and for the subset of domestic private firms for which we have a balanced panel. The most prominent form of CSR activity is compliance with labour regulations. This has the highest score with just below three out of the four possible requirements fulfilled by firms on average. Private domestic firms have slightly lower scores than the full sample of firms on the CSR compliance indicator.

Management commitment to CSR is measured in four dimensions and on average; firms apply only slightly more than one out of four possible activities from this category. Again, private domestic firms have lower than average scores for CSR management. Firms' contributions to the community in which they operate are measured in eight dimensions. This is where we see the lowest level of engagement in CSR activities, dropping to below one on a possible range of zero to eight. Compared to the sample average, domestic private firms show a slightly higher level of community-related CSR activities.

Table 2: Descriptive statistics—firm specific measures

Variable name	All firms				Private domestic firms				Private domestic firms (balanced)			
	2010	2011	2012	2013	2010	2011	2012	2013	2010	2011	2012	2013
<i>CSR Measures</i>												
CSR Compliant	2.92	2.94	2.95	3.09	2.63	2.66	2.65	2.82	2.70	2.72	2.68	2.85
CSR Management	1.21	1.21	1.36	1.34	1.13	1.12	1.26	1.26	1.16	1.15	1.27	1.26
CSR Community	0.77	0.84	0.77	0.75	0.84	0.91	0.85	0.83	0.85	0.94	0.87	0.88
CSR Index	4.90	4.99	5.08	5.18	4.60	4.70	4.76	4.91	4.72	4.81	4.82	4.98
<i>Linkage Variables</i>												
Exports output	0.33	0.36	0.37	0.37	0.22	0.23	0.22	0.22	0.22	0.23	0.23	0.23
Imports inputs	0.34	0.33	0.29	0.30	0.19	0.18	0.14	0.15	0.20	0.19	0.14	0.14
n	6,301	6,463	5,999	6,073	4,705	4,798	4,374	4,465	3,566	3,566	3,566	3,566

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015).

The average CSR index scores for all surveyed firms is around five (out of 16) and is slightly lower for private domestic firms. With only every third firm engaged in one possible CSR

practice, the overall adherence to CSR practices among firms in Viet Nam is low. The level of CSR overall is, however, increasing due to compliant and management CSR rather than community CSR.

Examining the trade linkage variables that measure the engagement of Vietnamese firms with foreign markets, our data show that around one-third of firms are engaged in foreign trade either through the purchase of inputs or through the sale of outputs. While private domestic firms are less engaged with foreign markets, the extent of engagement is increasing. Summary statistics for the firm-specific control variables are provided in Table A1 of the Appendix.

Summary statistics for the sector-specific measures of linkages with foreign firms and markets are presented in Table 3.⁷ We observe a lot of variation in the trade intensity of sectors. In 2013, the most export intensive sectors were sector 26 (computer, electronic, and optical products), followed by sectors 14 (wearing apparel), and 10 (food processing). The most import intensive sectors were sectors 20 (manufacture of chemicals and chemical products) and 28 (manufacture of machinery and equipment), closely followed by sectors 26 (computer, electronic, and optical products) and 27 (the manufacture of electrical equipment). For most sectors, the level of imports has remained stagnant, while the level of exports has been growing. This reflects the increased extent of global engagement of Vietnamese firms with world markets.

⁷ In the empirical analysis, imports and exports are aggregated at the 4-digit level. They are presented here at the 2-digit level for ease of exposition.

Table 3: Descriptive statistics—sector specific measures

VSIC Sector	Exports from sector (log US\$ billion)				Imports into sector (log US\$ billion)			
	2009	2010	2011	2012	2009	2010	2011	2012
10	15.13	15.22	15.23	15.17	14.35	14.51	14.49	14.38
11	10.60	10.85	11.24	11.45	11.53	11.44	11.27	11.30
13	13.64	13.95	13.93	13.86	14.48	14.58	14.58	14.51
14	15.21	15.29	15.33	15.32	13.29	13.54	13.60	13.63
15	14.66	14.78	14.84	14.86	12.92	13.12	12.99	12.89
16	12.57	12.92	13.06	13.09	12.61	12.80	12.74	12.64
17	11.39	11.62	11.62	11.80	13.24	13.30	13.21	13.17
18	10.65	10.85	10.51	10.43	9.32	9.45	9.27	8.92
20	13.08	13.35	13.58	13.66	15.27	15.38	15.42	15.32
21	11.00	11.05	11.12	11.20	13.48	13.49	13.47	13.51
22	13.33	13.63	13.64	13.69	13.62	13.76	13.76	13.80
23	12.71	12.92	13.00	13.25	12.72	12.73	12.63	12.65
24	13.47	13.56	13.76	13.71	15.15	15.30	15.25	14.94
25	12.80	12.95	13.06	13.11	13.50	13.70	13.79	13.78
26	14.46	14.74	15.21	15.66	14.98	14.91	14.79	14.97
27	13.93	14.26	14.25	14.40	14.42	14.56	14.76	15.07
28	12.70	12.98	13.13	13.99	15.11	15.19	15.22	15.28
29	12.06	12.32	12.41	12.54	14.02	13.84	13.71	13.23
30	12.25	12.69	12.88	13.07	13.17	12.86	12.54	11.86
31	13.93	14.01	13.87	13.92	10.73	10.83	10.63	10.46
32	14.03	14.27	14.07	13.25	13.01	13.08	12.99	12.99
Total	16.81	16.98	17.07	17.17	17.12	17.20	17.20	17.17

Note: Sector names are provided in Table A2 of the Appendix. Sector 12 (Manufacture of tobacco products) and sector 19 (Manufacture of coke and refined petroleum products) are excluded due to very few firms present in these sectors. Descriptive statistics for 2009 are included as lags of these variables are used in the regression analysis.

Source: Authors' calculations based on UN COMTRADE database (WITS 2016).

3 Empirical approach

The impact of trade on CSR practices is investigated through the estimation of equation (1):

$$CSR_{ijt} = \alpha_i + \beta_1 F_{ijt-1} + \beta_2 S_{jt-1} + \beta_3 X_{ijt} + \theta_j + \tau_t + e_{ijt} \quad (1)$$

where i denotes firm, j sector and t time period. α_i , θ_j and τ_t are, respectively, firm, sector, and time fixed effects. e_{ijt} is the statistical noise term. The dependent variable, CSR_{ijt} is the firm-level measure of engagement in CSR practices. We consider four different CSR indicators: the overall CSR index, the compliant CSR index, the management CSR index, and the community CSR index, constructed as described in Table 1.

Equation (1) seeks to explain CSR behaviour as a function of firm- and sector-level exposure to foreign markets. The firm-specific trade linkage variables are grouped in the vector F_{ijt-1} , while sector measures are grouped in the vector S_{jt-1} . Both are included at a lag.⁸ The vector X_{ijt}

⁸ We also have data for the sector- and firm-specific variables for previous rounds using the lagged variables, which does not involve any loss of observations.

comprises time-varying firm- and sector-specific control variables identified previously as systematic determinants of the propensity to engage in CSR. We include the log values of value added, labour, and capital to capture the differences between firms in profitability, size, visibility, and the choice of technology. These factors are likely to impact on the extent of engagement of firms with CSR activities and engagement with foreign markets making them important control variables. For example, Campbell (2007) asserts that less profitable firms are less likely to engage in CSR practices as they have fewer resources to spare for such activities. We use the level of value added as a proxy for firm profitability. Value added is computed using data on profits and wages deflated using an annual GDP deflator. Firm size has been found to affect positively the decision of firms to engage in CSR practices (McWilliams and Siegel 2001). Moreover, larger firms may find it easier to finance CSR-related activities, for example, to make the necessary adjustments in the production process to comply with environmental regulation or investments in community projects.

We include the number of employees as our measure of enterprise size. Some types of production may call for more engagement in CSR practices (McWilliams and Siegel 2001). We control for the technology in use using the value of capital. This is measured as the deflated value of the total assets of the firm at the end of the year. We also include a control variable that captures the level of concentration in a specific sector. The measure used for this purpose is the Herfindahl–Hirschman Index (HHI), defined as the sum of the squared market shares within a sector. Higher values of the index imply weaker competition and thus greater concentration in a specific sector. The market shares are computed using the full dataset available from the VES based on the revenue data reported by each individual firm. Competition can either increase or decrease CSR behaviour. Competitive sectors have higher rates of CSR adoption, but when competition is extremely fierce, firms may act in socially irresponsible ways to save money due to already meagre profit margins (Shleifer 2004; Campbell 2007). Likewise, when competition is low, firms may lack incentives to engage in socially responsible behaviour as a source of competitive advantage (Porter and Kramer 2002; Campbell 2007).⁹

Identifying a causal relationship between trade linkages and CSR activity is challenging for several reasons. There may be unobserved firm specific characteristics influencing the firm's CSR policy that are also correlated with the extent to which they are linked with foreign firms or international markets. For example, a manager of a firm may have international experience, which could lead to more CSR and more foreign trade. Moreover, a firm's position in the supply chain may make it more likely to both engage in foreign trade and undertake more (or less) CSR activities. Firm fixed effects addresses this issue to some extent given that it allows us to control directly for all time-invariant unobserved firm specific factors such as manager characteristics and position in the supply chain. Sector fixed effects control for sector switchers, of which there are many in Viet Nam (around 7 per cent of our sample), while time dummies control for general trends affecting all firms and sectors.¹⁰

⁹ Newman et al. (2016c) find for the case of Vietnamese manufacturing firms that CSR adoption is efficiency enhancing for firms, and even more so in uncompetitive sectors, suggesting that differentiating products through CSR may indeed be difficult in highly competitive sectors while at the same time there may be incentives to engage in CSR in concentrated sectors.

¹⁰ Firms switching sectors is a very common occurrence in the Vietnamese manufacturing sector and is indicative of the dynamic nature of the private sector. Newman et al. (2013) examine this phenomenon in detail. As such, even though the model includes firm fixed effects, which will absorb all time invariant sector specific effects for non-switchers, we also include sector fixed effects to control for differences in sector specific factors for firms that switch from one sector to another.

It is possible that even with this rich combination of fixed effects and time-varying control variables, other sources of bias remain. For example, there may be omitted time-varying unobservable firm- and sector-specific factors that impact on both the decision to trade internationally and CSR activities such as a change in management. Similarly, our model will not control for time-varying sector specific shocks that impact on both sector-level trade and CSR such as a new sector-specific regulation on environmental or labour standards. As such, standard OLS fixed effects estimates will be biased. It is not clear, however, what the direction of the bias will be. A change in management could lead a firm both to trade more and to engage in more CSR in which case OLS estimates will have a positive bias. It may also be that new management reduces the extent of CSR activities in order to direct investment into preparing products for export markets or purchasing imported inputs. Similarly, a sector-specific change in regulations on CSR may force firms to engage in more CSR and divert investment away from production related activities important for participation in export markets. It may also lead firms to switch to imported inputs to avoid having to comply with regulations. A second source of potential bias is simultaneity, which could arise if exporting and importing are more likely to be associated with firms and sectors where firms are already socially responsible. This means that the direction of causality may be difficult to disentangle.

To correct for these potential sources of omitted variable bias we rely on a two-step difference GMM estimator (Arellano and Bond 1991; Arellano and Bover 1995; Blundell and Bond 1998). A first difference transformation is used to eliminate the firm-specific fixed effect (as opposed to the fixed effects estimator) allowing earlier lags of the endogenous variables to be used as instruments. This implies that (assuming no second order autocorrelation) the second lag (and earlier) of each of the firm and sector-specific variables are available as instruments. We also use GMM style instruments for the other firm-specific control variables for which the first lag and earlier are valid instruments. We provide more details on the exact lag structure and the validity of the instrument sets in the results section.

Using this approach, the parameters are identified using the within-firm variation in CSR and engagement with foreign firms over time. Given the short time series of our panel (2010–13) this limits the extent of variation that is used to identify the parameters and may run the risk of weakly identified coefficients. Moreover, the first-difference specification requires that firms are present for at least two consecutive time periods. To avoid the possibility that parameter estimates are influenced by the exit and entry of firms rather than within-firm variations, we use a balanced panel of firms that are present in every year for our main analysis and conduct robustness checks using the unbalanced panel. The extent of the within-firm variation in the main variables of interest in the balanced panel is presented in Table 4.

Table 4: Variation in core variables over the 2010–13 period (balanced panel)

Variable name	2010–2011			2011–2012			2012–2013		
	Average change	Per cent increase	Per cent decrease	Average change	Per cent increase	Per cent decrease	Average change	Per cent increase	Per cent decrease
<i>CSR Measures</i>									
CSR Compliant	0.023	14.95	15.09	-0.041	12.42	13.21	0.168	14.05	3.53
CSR Management	-0.008	22.91	24.03	0.114	21.00	12.42	-0.013	14.44	15.93
CSR Community	0.085	21.28	17.81	-0.068	14.86	18.11	0.004	13.18	13.71
CSR Index	0.095	33.03	31.86	0.005	30.43	28.07	0.158	28.27	22.69
<i>Linkage Variables</i>									
	2009–2010		2010–2011		2011–2012		2012–2013		
	Per cent start	Per cent stop	Per cent start	Per cent stop	Per cent start	Per cent stop	Per cent start	Per cent stop	
Exports output	6.7	5.1	5.7	4.8	3.2	3.1	2.7	2.6	
Imports inputs	6.2	5.5	3.6	4.5	2.7	7.3	2.8	2.9	

Note: Number of firms: 3,566.

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015).

There is a lot of within-firm variation in the CSR indicators between years. Around 20 per cent of firms either increase or decrease their score annually. The variation in the import and export status of firms is much lower. On average around 5 per cent of firms enter or exit from export/import markets each year. We therefore expect the standard errors on these variables to be large implying that any statistical significance observed is a lower bound.

4 Results

Our analysis focuses on the extent of CSR engagement of private firms across the three observed CSR indicators and an aggregate indicator combining all three dimensions. Table 5 presents our analysis of the impact of trade on CSR. The dependent variable is the aggregate CSR index. We estimate equation (1) using OLS, a firm fixed-effects estimator, and the difference GMM estimator. All models include time dummies. Sector fixed effects and the control for industry concentration are included in the last column. In column (1), we present the OLS estimates of the model, which links the indicators for whether a firm exports or imports with CSR. We estimate this using the full sample available. In column (2), we restrict the sample to that which is available for estimation using the more demanding difference GMM specification for comparison purposes. Reassuringly, the coefficients in columns (1) and (2) are quite similar suggesting a positive correlation between the export of output and the level of CSR activity of the firm. The coefficient on the indicator for importing imports is not statistically significant. In column (3), we move to a fixed effects estimator, which controls for all firm-specific time invariant heterogeneity. Unsurprisingly, the magnitude of the coefficient on the export indicator declines slightly. The coefficient on the indicator for firms that import inputs becomes statistically significant suggesting a negative correlation between importing inputs and CSR.

Table 5: Impact of trade on the CSR engagement of private firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Dependent var.: Agg CSR Index</i>	OLS	OLS	FE	DIFF GMM	FE	DIFF GMM	DIFF GMM	DIFF GMM
L.output_export	0.195** (0.083)	0.263*** (0.090)	0.174** (0.076)	2.468*** (0.918)	0.177** (0.076)	2.291** (0.896)	2.298** (0.904)	1.417** (0.686)
L.input_import	0.018 (0.084)	-0.002 (0.094)	-0.188** (0.085)	0.920* (0.496)	-0.188** (0.086)	0.985* (0.516)	0.963* (0.517)	0.795** (0.394)
lag_Inexp					0.013 (0.037)	0.672** (0.267)	0.669** (0.268)	0.348 (0.229)
lag_Inimp					-0.034 (0.038)	-0.678** (0.311)	-0.681** (0.311)	-0.317 (0.267)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector dummies	No	No	No	No	No	No	Yes	Yes
Concentration	No	No	No	No	No	No	Yes	Yes
Balanced panel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Number of firms			2,546	2,546	2,546	2,546	2,546	4,601
Number of obs	10,184	7,638	7,638	7,638	7,638	7,638	7,638	10,703
Hansen test stat				0.77		3.15	3.02	4.90
P-value				0.682		0.677	0.697	0.428

Notes: Robust standard errors clustered at the firm level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Each model also includes controls for output, capital, and labour.

Column (1) presents results for the full sample of firms for comparison purposes. All other columns present results for the sample of firms that are available for the difference GMM estimation procedure. Coefficient estimates for market concentration (Herfindahl-Hirschman Index) in columns (7) and (8) are not statistically different from zero.

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015), the Vietnam Enterprise Surveys (2012–15) (GSOV 2016b), and the UN COMTRADE database (WITS 2016).

As discussed in Section 3, there are a number of identification challenges in inferring a causal relationship from these estimates. We therefore use a difference GMM estimator whereby the model is estimated in first differences and the import and export variable are instrumented by their lags. Given that, these variables enter the model in lags, the second lag and earlier are suitable instruments. To avoid the problem of weak instruments, we restrict the instrument set to the second lag. The results are presented in column (4). Hansen's test for the validity of the instruments is satisfied. We find the magnitude of the effect of exporting on CSR increases by a notably large amount suggesting that OLS estimates are downward biased. The magnitude of the coefficient suggests that firms that export increase their CSR score by 2.47. Given that the average score is around five, this is a meaningful effect. Our results suggest that also, the coefficient on imports is downward biased in OLS and it shifts from being a small negative effect using OLS (fixed effects) to a positive and significant effect when using difference GMM. The magnitude of the coefficient suggests that firms that import inputs increase their CSR score by 0.92. While lower in magnitude than the coefficient on exports, this retains economic significance.

In columns (5) and (6), we extend the model to consider indirect effects. These are the effects on the firm-level CSR score of the intensity of exports from and imports into the same (4-digit) sector. Fixed-effects estimates are presented in column (5) while difference GMM estimates are presented in column (6). We find evidence to suggest that there are indirect CSR spillover effects associated with trade. The coefficient on the log of exports in column (6) suggests that a one per cent increase in the volume of exports into a sector increases the firm's CSR score by 0.67. This is in line with our hypothesis that even non-export firms may change their CSR behaviour in the

face of increased trade more generally. Firms may mimic the CSR activities of other export firms in order to prepare themselves to enter export markets or seek out foreign customers.

We find that in sectors where there are large amounts of imports, the CSR frequency is lower. This could suggest that imports induce an immediate competitive pressure on firms forcing them to cut labour or other standards or investments that are purely socially beneficial activities in order to compete and survive. This may not be a sustainable long-term strategy for the firms (Newman et al. 2016c), but a result of an immediate need to cut costs in order to survive in a highly competitive environment (Shleifer 2004). All of our results are robust to the inclusion of 2-digit sector level dummies and the concentration control (column 7) and the use of the unbalanced panel (column 8).

In Table 6, we estimate the difference GMM specification separately for each of the components of the CSR index: Compliant CSR, Management CSR, and Community CSR. Each model is estimated using the full set of firm and sector control variables. The model is estimated using the balanced panel.¹¹ As revealed in columns (1) and (2), the direct effect of trade on CSR is driven by compliant CSR, which refers to labour market regulations. Exporting is associated with an increase of 0.69 points on this scale, which ranges from 1 to 4, while importing is associated with an increase of 0.49. There do not appear to be any indirect effects of exporting and importing on this CSR measure.

Table 6: Impact of trade on CSR engagement of private firms—disaggregated

	(1) Compliant	(2) Compliant	(3) Management	(4) Management	(5) Community	(6) Community
L.output_export	0.836** (0.372)	0.694* (0.363)	0.512 (0.345)	0.597* (0.345)	1.088* (0.607)	1.023* (0.607)
L.input_import	0.542*** (0.181)	0.492*** (0.176)	-0.059 (0.200)	0.002 (0.208)	0.427 (0.342)	0.475 (0.360)
lag_Inexp		0.106 (0.113)		0.235** (0.102)		0.300* (0.172)
lag_Inimp		-0.113 (0.131)		-0.235** (0.118)		-0.308 (0.197)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes
Concentration	Yes	Yes	Yes	Yes	Yes	Yes
Balanced panel	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	2,546	2,546	2,546	2,546	2,546	2,546
Number of obs	7,638	7,638	7,638	7,638	7,638	7,638
Hansen test stat	1.74	12.36	0.90	1.38	0.30	1.21
P-value	0.42	0.03	0.64	0.93	0.86	0.94

Notes: Robust standard errors clustered at the firm level in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Each model also includes controls for output, capital, and labour. Coefficient estimates for market concentration (Herfindahl-Hirschman Index) are not statistically different from zero.

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015), the Vietnam Enterprise Surveys (2012–15) (GSOV 2016b), and the UN COMTRADE database (WITS 2016).

¹¹ Using the unbalanced panel does not affect the overall story although some coefficients on the firm-level export measure are not well determined. Results are available on request.

Turning to management and community CSR, we also find positive effects of direct trade on these indices. As revealed in column (4), the direct effect of exporting on management community CSR is 0.60 points on a scale from 1 to 4 and the effect on community CSR is 1.02 on a 1 to 8 scale. Moreover, we find that the positive indirect effect of exports on CSR works through these measures. Our results suggest that a one per cent increase in the level of exports into a (4-digit) sector leads to an increase of 0.23 on the management CSR index of firms in that sector (measured on a scale of 1 to 4), and of 0.30 on the community CSR index of firms in that sector (measured on a scale of 1 to 8). These findings suggest that there are indeed additional positive spillovers associated with exporting beyond those normally considered in analyses of this kind.

In contrast, there are negative spillovers on management CSR from imports. Consistent with the story presented above, we expect that domestic firms, which are exposed to increased competition from imports, will cut non-essential expenditure in order to be able to compete. It seems from these results that firms see management CSR, which captures the extent to which firms have a strategy for CSR activities that go beyond compliance, as a non-essential investment that can be cut as a competitive response to imports. This is consistent with the rent dissipation effect of competition in a model presented by Bagnoli and Watts (2003) in which costs of providing public goods harm firm profitability more in competitive markets. Summarizing evidence from several empirical studies on CSR, Crifo and Forget (2015) find, in contrast, that the relationship between competition and CSR is mostly positive. They do not exclude, however, the possibility that competition drives down prices and incomes and so reduces the willingness of entrepreneurs to invest in social responsible actions (see also, Shleifer (2004)). This is what appears to be the case for Viet Nam.

The final part of our analysis examines the extent to which the destination of exports matters for the transmission of improved CSR practices. In our survey, we ask firms to identify the three most important markets they export to. As discussed, the mechanism we propose as underlying the effect of trade on CSR is that exporting changes the stakeholders of the firm. If the preferences of stakeholders are heterogeneous across countries, we also expect the CSR effect to vary.

In examining the correlation between the destination of exports and CSR, we condition on exporting and control for whether the firm imports. We estimate a fixed-effects model, which relates the CSR indices to dummy indicators for the country/region the firm exports to. We consider four main export destinations: China, US, EU, and other Asian economies. Table 7 presents summary statistics of the proportion of exporting firms that export their output to these economies each year. The most important destination is other Asian countries (excluding China), followed by Europe (excluding Eastern Europe), the US, and China. The proportion of firms exporting to China, the US, and Europe declined over the sample period.

Table 7: Export destination

Variable name	2010	2011	2012	2013
<i>Per cent of exporting firms</i>				
China	15.2	15.0	13.7	13.7
US	25.2	26.6	25.9	25.5
Europe	32.2	32.3	31.8	31.5
Other Asia	42.9	45.9	44.5	43.8
Number of firms	793	824	831	836

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015).

We estimate each model, including the full set of firm and sector control variables.¹² The results are presented in Table 8. We find very little heterogeneity across export destination markets in the impact of exporting on CSR and our coefficients are not well determined. Two marginally significant results do emerge. First, we find that firms that export to China engage in significantly less CSR than firms exporting to other markets. This holds for the aggregate index and is driven by the management CSR component. This index measures the commitment of management and includes four different indicators showing whether: i) the firm has a committee that oversees CSR practices; ii) the firm has a written CSR policy; iii) the firm has received CSR-type certificates; and iv) the firm is a member of any groups that promote CSR standards. Our results suggest that firms exporting to China score 0.13 points lower on this index than firms exporting to other destinations. With an average score of 1.5 for all exporting firms on this index, this is arguably a meaningful effect. It suggests that stakeholders in China were not as concerned about the CSR practices of firms exporting goods into their market during the period under study.

Table 8: Impact of trade on CSR engagement of private firms—destination of exports and source of imports

	(1) Agg. CSR Index	(2) Compliant	(3) Management	(4) Community
L.output_export_china	-0.286** (0.141)	-0.000 (0.052)	-0.132** (0.065)	-0.178 (0.119)
L.output_export_us	0.157 (0.130)	-0.029 (0.047)	0.004 (0.065)	0.190** (0.095)
L.output_export_otheur	0.148 (0.123)	-0.001 (0.042)	0.056 (0.061)	0.100 (0.089)
L.output_export_othasia	-0.031 (0.124)	-0.035 (0.038)	0.013 (0.059)	0.013 (0.088)
Number of firms	878	878	878	878
Number of obs.	2,423	2,423	2,423	2,423

Notes: Robust standard errors clustered at the firm level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Each model conditions on a firm exporting output and includes controls for whether the firm also imports inputs, the level of output, capital, and labour, sector-level concentration, firm fixed effects, sector fixed effects, and time dummies.

Source: Authors' calculations based on data obtained from the Vietnam Technology and Competitiveness Survey (CIEM 2012, 2013, 2014, 2015), the Vietnam Enterprise Surveys (2012–15) (GSOV 2016b), and the UN COMTRADE database (WITS 2016).

Second, we find that firms that export to the US do more community CSR than other exporters do. Again, this is suggestive of the possibility that the export market may matter for the transmission of CSR engagement through this mechanism.

5 Conclusion

This paper used firm-level panel data from Viet Nam to examine the direct and indirect effects of engagement with global markets on the socially responsible behaviour of domestic firms. Arguably, trade will impact on the CSR activities of firms through direct and indirect channels. When a firm enters export markets or begins importing inputs, its stakeholder composition changes. If the adoption of CSR activities is influenced by the preferences of stakeholders, and the preferences of stakeholders in the destination country of exports or the source country of imports are different to those of domestic stakeholders, then trade will impact on CSR through

¹² We perform a similar analysis for importing firms, conditioning on whether the firm imports, and controlling for whether the firm exports. We do not find any evidence that the source country of imported inputs matters for the transmission of CSR through this channel. Results are available on request.

this mechanism. Indirect effects from trade are also possible. Non-export firms in export-intensive sectors may increase their engagement in CSR activities in preparation for entry into export markets in the future. Similarly, non-import firms may reduce CSR activities in order to reduce non-essential expenditures in the face of increased competition.

Using panel data on more than 4,500 Vietnamese manufacturing firms for the period 2010 to 2013 (3,566 in the balanced panel), we explored the effect of trade on CSR. We found a strong positive effect of exporting outputs and importing inputs on the CSR activities of domestic firms. This is driven by compliant CSR in the form of adherence to labour standards and regulations, as well as management and local community activities beyond the immediate business interests of the firm. We find in relation to exporting, however, that the destination country of exports matters. In particular, conditional on exporting, exporters to China engage in significantly less CSR than exporters to other countries do, while exporters to the US appear to engage in more community CSR. This is suggestive of differences in the preferences of stakeholders in these markets. We also find evidence of positive horizontal or within-sector spillovers from trade on CSR activities. Firms in export-intensive sectors are more likely to engage in management and community CSR while those in import-intensive sectors are less likely to engage in management CSR. The latter result suggests that cutting investment in CSR activities may be a competitive response of domestic firms in the face of increased competition from imports.

Overall, our paper offers evidence that CSR is strongly related to trade and thus may involve a so far ‘hidden’ spillover effect associated with global engagement. This externality may provide a further justification for policies that encourage increased engagement of domestic firms with global markets. Firms that import inputs or export output are more likely to engage in CSR, so facilitating engagement with global markets will not only benefit the firms involved in terms of productivity and profits, it will also have knock on effects, which will benefit society more broadly. Positive spillover effects from exporting on the CSR activities of non-export firms suggest that encouraging exporting will assist in shifting the entire manufacturing sector to a new equilibrium of increased CSR engagement, particularly management and community CSR. In contrast, care should be taken in cases where import competition leads to domestic firms reducing CSR investments. In these cases, other incentives for encouraging engagement in community CSR may be required, assuming promoting CSR is considered a desirable policy objective.

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Appendix

Table A1: Control variables: description and means

Variable Name	Description	2010	2011	2012	2013
Value added	Log of value added	6.57	6.45	6.36	6.30
Labour	Log of labour input	3.98	3.89	3.86	3.80
Capital	Log of capital input	8.53	8.49	8.46	8.46
HHI	Herfindahl-Hirschman Index for 4-digit sector	0.05	0.04	0.04	0.04

Note: Means for balanced panel.

Source: Authors' calculations based on data obtained from the Vietnam Enterprise Survey (2012–15) (GSOV 2016b).

Table A2: VSIC sector names

10 Manufacture of food products
11 Manufacture of beverages
13 Manufacture of textiles
14 Manufacture of wearing apparel
15 Manufacture of leather and related products
16 Manufacture of wood and products of wood and cork
17 Manufacture of paper and paper products
18 Printing and reproduction of recorded media
20 Manufacture of chemicals and chemical products
21 Manufacture of pharmaceuticals, medicinal, chemical, and botanical products
22 Manufacture of rubber and plastics products
23 Manufacture of other non-metallic mineral products
24 Manufacture of basic metals
25 Manufacture of fabricated metal products, except machinery and equipment
26 Manufacture of computer, electronic, and optical products
27 Manufacture of electrical equipment
28 Manufacture of machinery and equipment n.e.c.
29 Manufacture of motor vehicles, trailers, and semi-trailers
30 Manufacture of other transport equipment
31 Manufacture of furniture
32 Other manufacturing

Source: Viet Nam Standard Industry Classification codes 2007 (GSOV 2016a).