

Social sustainability in trade and development policy

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1. Introduction

Sustainability is a guiding principle and objective for policy development in the European Commission (EC) (EC 2001a). The EU Sustainable Development Strategy (SDS) requires an impact assessment of all major policy proposals vis-à-vis sustainability objectives (EC 2009). Sustainability is based on four fundamental pillars: environmental, economic, social and institutional sustainability. Socio-economic aspects are fundamental both as drivers of potential impacts as well as possible elements of the system that are subject to impacts along product supply chains. These aspects are of particular relevance to the sustainability dimensions of trade and development policies.

The founding Treaty of the European Union specifically includes the objective of ‘fostering sustainable economic, social and environmental development of developing countries, with the primary goal of eradicating poverty’ (Article 21(3)). Following the Lisbon Treaty (Article 21(3) TEU and Articles 205 and 208(1) TFEU), the EU’s external policies must respect the ‘principles of democracy, the rule of law, the universality and indivisibility of human rights and fundamental freedoms, respect for human dignity, the principles of equality and solidarity, and respect for the principles of the United Nations Charter and international law’ (EC 2008).

With respect to trade policy, since the early 1990’s all EU trade agreements have been required to incorporate a clause defining ‘human rights’ as a basic element. This clause encompasses the core labour standards as defined in the International Labour Organisation (ILO) Conventions. More specifically, the Council conclusions of October 1999 outline the EU’s position on trade and labour in social development (EC, 2001b). Here, the Council agreed that the EU should strongly support the protection and respect for core labour standards; provide support for the work of the ILO as well as its co-operation with the World Trade Organisation (WTO); and oppose any sanctions-based approaches (EC 2001b). The Commission’s subsequent *Communication on ‘Corporate Social Responsibility: A Business Contribution to Sustainable Development’* encourages the adoption of ‘codes of conduct, management standards, instruments

for measuring performance, labels on products, and standards for Socially Responsible Investment (SRI), in order to direct investors towards enterprises in light of their corporate social responsibility results' (EC 2002).

In this context, life cycle thinking and life cycle-based methodologies are considered, due to their systemic nature, to contribute the core feature of robust sustainability science (Sala et al 2013 a and b). Life Cycle Assessment, Life Cycle Costing and Social Life Cycle Assessment (sLCA) may, hence, play a central role in helping to define better policy options towards sustainable development.

In order to assess the efficacy of sLCA applications in policy contexts, there is the need to evaluate its added value based on case studies at different scales (i.e. at micro (product) as well as meso (regional) and macro (country/ global) scales). To date, application at meso and macro scales are very limited (see. e.g. Rugani et al 2012 on Luxembourg and EU 27; Ekvall, 2011), whereas examples of application of sLCA at product level are more common and already cover a number of key products and services (some of them even with complex international supply chains) such as biofuels (e.g. Macombe et al 2013), bananas (Feschet et al 2013), laptop computers (e.g. Ekener-Petersen and Finnveden, 2013), and tourism (Arcese et al 2012).

The present study focuses on application of sLCA at the macro scale, with the aim of assessing its potential relevance and use in trade and development policy contexts.

A case study has been carried out for EU 27 Member States, considering the origin, magnitude and distribution of social risk associated with traded commodities. The analysis employs two approaches in order to assess the added value of life cycle thinking and tools in this context. The first is a non-life cycle based "country of origin" approach, and the second is a life cycle based cradle-to-country of consumption approach.

2. Methodology

The primary objective of this study is to evaluate the social risks attributable to imports of traded commodities into EU-27 Member States in 2010 from both intra and extra-territorial trading partners. This is achieved by combining Eurostat ComEx import data at the HS06 level (Eurostat, 2013), mapped to GTAP sector codes, with the country/sector-specific social risk indicator data currently available in the Social Hotspots Database (SHDB) (Benoit et al 2010).

The SHDB is a repository of social indicator data relevant to five overarching thematic areas: Labour Rights and Decent Work (reporting indicators of: Child labour; Forced labour; Excessive working time; Wage assessment; Poverty; Migrant labour; Freedom of Association, Right to Strike, and Collective Bargaining Rights); Health and Safety (indicators on Injuries and fatalities; Toxics and hazards); Human Rights (Indicators of Indigenous rights; Gender equity; High conflicts); Governance (indicators of Legal

system and corruption); and Community Infrastructure (indicators of Hospital beds; drinking water; sanitation). Data used to populate the SHDB are drawn from a broad range of reputable, publicly available sources such as the statistical agencies of the World Bank, the World Health Organization, and the International Labour Organization. Privately held audit databases are also used. In total, more than 200 data sources are consulted. Where data sources do not contain comprehensive data across countries for specific issues, multiple data sources are used and the findings triangulated. The data currently available for each indicator cover 113 specific countries and 57 sectors (for a total of 6,441 country/sector-specific combinations) as defined in the Global Trade Analysis Project (GTAP) input-output economic general equilibrium model (GTAP 2013).

The SHDB is intended for assessing social risk and identifying hotspots in product supply chains. This is accomplished by using the Life Cycle Attribute Assessment approach (Norris 2006) to aggregate social risks (attributes) that occur at different points along product supply chains based on a common activity variable. In this case, the activity variable employed is worker hours. The SHDB uses a Worker Hours Model that is derived by dividing total wages paid out by country and sector per dollar of output based on the GTAP input - output model, and country/sector-specific wage estimates to characterize worker hours per country, sector, and dollar of output. By multiplying the level of social risk in country-specific sectors by the worker hours per dollar of output in each sector, the SHDB, hence, allows for quantifying (in an additive manner) and assessing the distribution of potential social risks along product supply chains. Risks are quantified in units of “medium risk hours,” which is the number of worker hours along the supply chain that are characterized by specific or aggregate social risk. Here, risks levels are weighted for each indicator in order to express instances of low risk, medium risk, high risk and very high risk in terms of “medium risk hour-equivalent units” (mrh eq).

In order to map Eurostat HS06 trade data (7395 unique classifications) from ComEx to the GTAP sectors employed by the SHDB, the study used a concordance table from the World Bank (2013). Since Eurostat trade data does not include services, this reduced the number of GTAP sectors considered in the analysis from 54 to 43. Where full, six-digit HS06 data were not available for specific trade flows for confidentiality or other reasons, these were excluded from the analysis. This accounted for 1,116 of the 7 395 unique HS06 codes reported by Eurostat for imports to EU-27 Member States in 2010. Such exclusions generally represented minor fractions of overall trade flows. In some cases, however, exclusions were non-trivial for certain trading partners. Overall, however, only 2.5% of import flows by value were excluded from the analysis on this basis.

Data for a total of 78 extra-territorial trading partners, along with the (at the time of the study) 27 Member States of the EU-27, were considered. Although EU-27 Member States actually traded with a total of 202 extra-territorial trading partners in 2010, this nonetheless effectively encompassed 88.4% of imports by value from extra-territorial trading partners, 95.5% of imports by value from intra-territorial trading partners, and

92.8% of overall imports by value into EU-27 Member States in 2010. GTAP-mapped Eurostat ComEx trade data and SHDB social risk indicator data were then combined in two ways: a country of origin (A) approach and a life cycle based (B) one.

First, in the country of origin approach (A), we undertook to assess the comparative social risks attributable to products imported into the EU-27 from extra-territorial trading partners compared to similar products produced and traded within the EU-27, taking into account the social risk scores for country- and sector-of-origin only (i.e. not using a life cycle approach). Here, we used Excel spreadsheets to multiply the social risk scores of imports for each country/sector combination by the % by value that imports from the country/sector combination contributed to total (intra- or extra-territorial) import values for that sector. This resulted in a value-weighted average indicator score per euro of imports for each sector and for each of the 117 sub-indicators, which were subsequently also multiplied by total trade value by sector to obtain overall risk scores for each sub-indicator.

We applied the same set of sub-indicators and the same weighting scheme used in the life cycle-based social risk assessment method in order to re-express the sub-indicator results per indicator (characterization), social theme (damage assessment) and as a single score. This allowed us to rank sectors in terms of apparent social risk per euro spent on imports from a sector as well as based on the total value of sectorial imports for both intra- and extra-territorial imports. We also computed “externalization ratios,” which are intended to convey the ratio of risk associated with the production of traded products outside of territorial boundaries to that which occurs within the EU-27, per euro spent on traded goods in each sector.

Second, applying a life cycle –based (B) approach, we performed a life cycle-based evaluation of the social risk profile of EU-27 imports in 2010 using the version of the SHDB currently available in the SimaPro 8.0 software package. Here, we entered all GTAP-mapped trade data for imports by sector from intra- and extra-territorial trading partners into a SimaPro model and used the Social Life Cycle Impact Assessment Method Version 01.1 to assess the magnitude and distribution of social risks attributable to EU-27 trade by sector and in aggregate. Characterization results by social theme, damage assessment results by thematic area, and aggregated, single scores for life cycle social risks were generated. As before, we computed externalization ratios per euro spent on trade in each sector.

In order to directly compare the country-of-origin versus life cycle-based social risk assessments, we transformed both into % contributions to total risk for each measure. We subsequently compared results between the country-of-origin and life cycle-based assessments in order to determine if these two approaches provide different ‘signals’, and to evaluate the relevance of a life cycle approach to understanding and managing social risk. Further methodological details and results are reported in Pelletier et al. (2013).

Results

Applying the two approaches (as described in methodology A and B), the following key observations emerged:

- There is a disproportionately large contribution to overall social risk attributable to the Injuries and Fatalities indicator in both analyses (A and B). This is strongly influenced by the high weighting for risk of fatalities relative to the weightings for the other social risks considered.
- The Injuries and Fatalities risk indicator is proportionately more important relative to the other risk indicators in the country-of-origin analysis (90% compared to 72% in the life cycle-based analysis).
- There is a much larger degree of social risk attributable to extra-territorial imports compared to intra-territorial imports, again for both analyses (almost 100% for the country-of-origin analysis and 83% for the life cycle-based analysis).
- Considering individual social themes, contributions from intra-territorial trading partners are negligible across indicators in the country-of-origin analysis for overall trade, but range from 9% for risk of Child Labour to 20% for risk of Injuries and Fatalities in the life cycle-based analysis.
- Turning to single scores results at the sectorial level for total EU-27 imports in 2010, the results of the country-of-origin versus life cycle-based evaluations of social risks are even more divergent. Both the distribution of risks between sectors and the relative importance of extra- versus intra-territorial imports vary widely.
- Considering single score results per euro spent on trade in each sector also presents highly divergent results between the country-of-origin and life cycle-based evaluations, as the influence of magnitude of trade flow is not a factor here.

3. Discussion and conclusion

Our analysis underscores the importance of a life cycle-based approach to understanding and managing social risk in support of policies for socially sustainable development. Both approaches (A and B) that we evaluated provide the same high-level insights that (1) the majority of social risks associated with imports to EU-27 countries are attributable to extra-territorial rather than intra-territorial imports, and (2) the risks of Injuries and Fatalities make the largest proportionate contribution to an overall, single-score measure of risk. However, these two approaches provide otherwise dissimilar “signals” as to the magnitude and distribution of social risk. The approach (A) would invariably prioritize interventions targeting only those direct trading partners known to have high levels of social risk in the sectors providing exports to EU-27 Member States. In contrast, the approach (B) provides insight as to the distribution of risk along supply chains, which may be low in the sector of a given country exporting products to Europe, but high overall for those products due to the social risks associated with the activities that support production in that sector.

Although we observe that the majority of social risk associated with total trade flows is attributable to extra-territorial imports, this is nonetheless also relevant for intra-territorial trade. If considering only country/sector-of-origin social risk, intra-territorial imports may appear to have low associated social risk. Consideration of the distribution of social risk along upstream supply chains, however, may provide a very different picture if inputs to production within specific sectors in EU-27 Member States come from extra-territorial trading partners with higher social risk profiles. Hence, targeted policy initiatives to mitigate social risk in the interest of leveraging improved social sustainability based on either of these approaches would prioritize different countries and sectors.

The case study also highlighted the need for better considering certain methodological issues: i) as the methodology implies a weighting scheme, this weighting should be carefully considered and possibly subject to sensitivity analysis; ii) even if the source of data are considered trustworthy, reliability of data and comprehensiveness could be questioned, in particular for those countries under critical political conditions ; iii) the scale of the assessment (country) is the best trade-off for ensuring data availability; nonetheless, sub-country (regional) differences may imply huge variability for the results; iv) the use of human labour as an indicator is questioned in the literature and could be also subject to sensitivity analysis adopting other reference indicators (e.g. Iribarren and Vázquez-Rowe, 2013)

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