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Supply Chains in the Clothing Industry – A House of Cards?!

A report on the opportunities and risks in the supply chains of textile and apparel companies

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Supply Chains in the Clothing Industry – A House of Cards?!

This report discusses the opportunities and risks facing textile and apparel companies in their procurement activities. In addition to the economic importance and organisational complexity of supply chains, the report also highlights trends and problem areas in the procurement process. Finally, it looks at the question of whether – and to what extent – sustainable procurement policies and potentially controversial aspects of the supply chain can have a positive or negative impact on enterprise value. Although environmental aspects are becoming increasingly important, the focus still tends to be on the social dimension at present.

Introduction

It was on 24 April 2013 that the eight-storey Rana Plaza building collapsed in the vicinity of the Bangladeshi capital, Dhaka. This disaster resulted in 1,138 deaths and more than 2,000 injured. Three out of the eight storeys had been constructed illegally. Despite reports of structural cracks appearing, the management of the five textile companies housed in the building at the time took no action at all, whereas other businesses in the same premises had already downed tools. This tragic accident led to protests and riots by textile workers, who have virtually no trade union support in Bangladesh.

A few months before that, another fire in the Tazreen textile factory in a suburb of Dhaka claimed more than 100 lives and injured over 200 people. In September 2012 more than 250 people perished in fires in Pakistan. During the past eight years, it is estimated that more than 1,500 people have died and 3,000 people injured in fires or collapsed buildings in textile factories.

Such tragedies in the recent years (including Foxconn in the electronics industry and "Horsemeat scandal" in the food sector) are a tragic reminder of the current challenges associated with modern supply chains.

In view of increasing globalisation and permanent cost and price pressure, the boundaries of a company's own business activity are becoming increasingly blurred. Whereas in the past a company was only responsible for activities "within its own four walls", this is no longer the case, in light of the growing trend for outsourcing production to low-wage developing countries. Sportswear companies such as Nike and Adidas, for example, have gradually shifted their focus from the manufacture of sports goods to simply designing and marketing them, having outsourced production almost entirely to contract manufacturers. However, this type of business strategy not only brings the benefits of lower production costs, but also a series of risks, in the form of obligations. Consumers and the general public ultimately view these retail companies as being responsible for the products, irrespective of who actually made them, and where.

A few years ago a good cost/benefit ratio was perfectly adequate for the successful procurement of textiles and clothing, but now a whole range of other factors have to be taken into consideration both on the sales and procurement market front: speed of innovation, volatility of demand, more effective product differentiation (e.g. by region) and - last but not least – the higher social and environmental standards in production expected by customers.

Given this backdrop, the business models of many companies are similar to a house of cards that threatens to wobble or even collapse entirely when there are major tremors.

In light of these developments, this report takes a closer look at the following aspects:

- Significance and complexity of supply chains
- Main problems in the supply chain of clothing companies
- Positioning and strategies of sportswear & apparel companies
- Impacts of controversial aspects of the supply chain on the enterprise value

Significance and complexity of supply chains

The supply chain is essentially a network of interconnected supply companies. As part of a general trend towards specialisation, which is in turn the result of the increasing complexity of products as well as permanent cost and price pressure, many companies have decided to outsource production processes. In many cases manufacturing is outsourced to countries with lower production costs, in other words developing countries for the most part. Figure 1 shows how complex supply chains can be. The simplified example of a company producing sports goods highlights the many different layers of the supply chain. In order to manufacture a T-shirt, for example, the cotton crop first needs to be planted and picked, and then the raw cotton sorted, washed woven and dyed. Only then does it move on to the labour-intensive stage of garment manufacture, before finally being delivered to the wholesaler or retailer.

Figure 1: Schematic illustration of the value chain of a textile company

	Example of Activities
Company	Logistics, Marketing
Tier 1 Supplier	Apparel Manufacturing
Tier 2 Supplier	Textile Embroidery and Cutting
Tier 3 Supplier	Cotton Weaving and Dyeing
Tier 4 Supplier	Cotton Farming

Source: Puma

It is not uncommon for some producers of shoes and apparel to have more than 1,000 suppliers scattered across several dozen countries. In many cases, however, around a third account for the bulk of sales. A smoothly functioning and sustainable supply chain is therefore crucial for the commercial success of clothing companies.
In such a scenario, the question is how far these companies' controls can or should extend, in order to minimise the inherent risks and take advantage of potential opportunities. Two key aspects need to be borne in mind here:

1. Is it actually possible for companies to push through their demands?
2. Who bears the cost for the controls/audits and the resulting improvement measures (such as better safety in the workplace)?

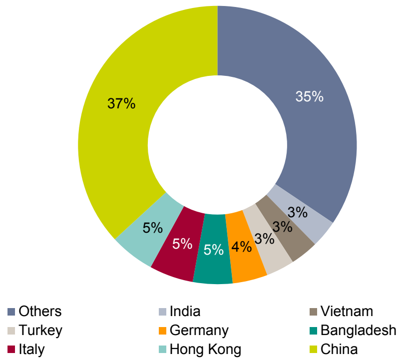
Joint industry efforts by purchasers (such as Better Work, Business Social Compliance Initiative or the Fair Labor Association) in order to carry out collective audits are important examples of positive initiatives in this area.

Main problems in the supply chain of clothing companies

The crux of the supplier problem is that the cost factor is always a key selection criterion. As soon as costs rise in the supplier's country, shareholder pressure forces the clothing company to optimise its supply chain. This leads to continuous competition in the country where supply is based, as highlighted in the study "A Race to the Bottom in Labour Standards?" (Davies/Vadlamannati, November 2011). As a rule, governments in the countries where the goods are produced are not interested in improving conditions for employees, as it would bump up costs for employers as well and might encourage outsourcing companies to take their business elsewhere. Here it should be noted, for example, that the textile industry in Bangladesh makes a substantial contribution of 10-15% to national GDP and employs around 4 million people, mainly women. The companies themselves are keen to make sure there are no accidents, as it could seriously harm their reputation, image or brand. Even so, the persistent competitive pressure in the garment industry ensures that production chains are continuously adapted, which not only drives down costs, but also exacerbates the problems. This is because production is generally shifted to countries with even cheaper labour costs and an even less developed economy.
Recently, however, there has been a counter trend. Relocating production closer to the point of sale allows companies to speed up the supply chain and respond to market trends more quickly. While the lead time for suppliers in Asia is roughly three months, orders for goods being made in southern Europe can be delivered within two weeks. This can be a key success factor for companies that need to be able to respond very quickly to rapidly changing fashion trends. While production costs are significantly higher for "local outsourcing", they can be offset to some extent by lower transport costs.

China still supplies a substantial proportion of the world's textiles. Other important production locations are to be found in developing countries such as Bangladesh, Vietnam and Turkey (Figure 2).

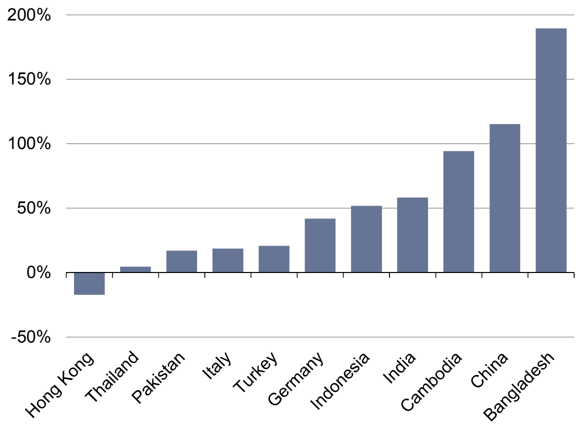
Figure 2: Textile Exports 2012



Source: WTO

The highest growth rates in recent years have been achieved in China, but also in Bangladesh and Cambodia (Figure 3).

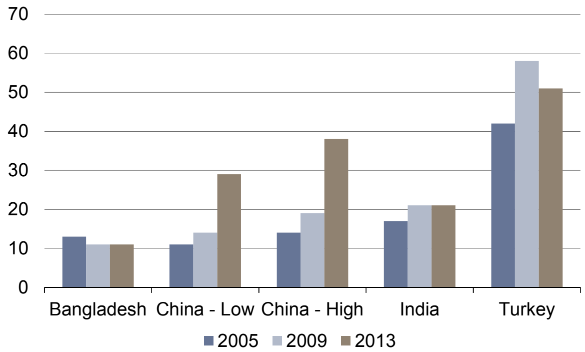
Figure 3: Growth of Textile Exports 2005-12



Source: WTO

The dynamic growth in Bangladesh is hardly surprising, given that local production costs have barely increased since 2005. In Turkey, production costs are as much as 4-5 times higher than Bangladesh (Figure 4). In the conventional offshoring regions in South China have risen sharply, which are not that much different now from a number of Eastern European procurement markets such as Romania. In addition to Cambodia, Vietnam and Bangladesh, North Korea, Ethiopia and Mexico are at the top of the list of countries for offshoring textile manufacturing in future. Foreign investors are increasingly setting up their own textile production capacities, for example Chinese and Turkish producers who are setting up vertically integrated production facilities in Ethiopia in a bid to benefit from the availability of cheap local cotton and low labour costs. But investments are not only required in production facilities, but also in the country's infrastructure. This latter aspect is preventing countries such as India and other low-cost countries from winning additional market shares from China especially in the area of textile and garment production. Nevertheless, China is still by far the biggest exporter of textiles. For the time being, China will retain its lead as the world's most important procurement country thanks to the know-how it has acquired over the years (e.g. in shoes) and the necessary infrastructure, although the shift towards other markets is likely to continue.

Figure 4: Production Cost Index

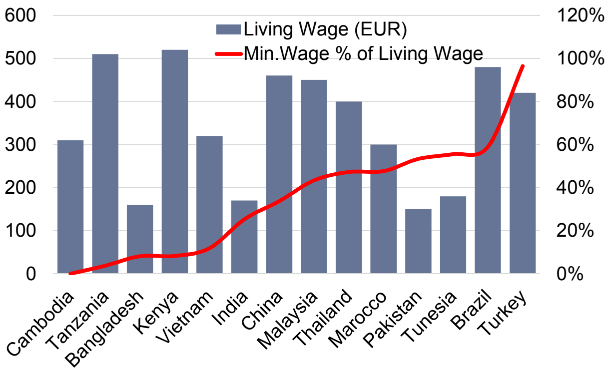


Source: Kurt Salmon

Minimum wage still too low to cover basic needs

In the two markets posting the highest export growth in recent years, Bangladesh and Cambodia, the legal minimum wage is only a fraction of what people need to survive, i.e. the living wage (Figure 5). If the standard working week is not long enough to earn sufficient money to cover a family's basic living needs, this not only creates extra stress but also other problems associated with poverty. These include malnutrition, poor access to healthcare, lack of social security, bad living conditions, restricted access to education and limited participation in the country's cultural and political life.

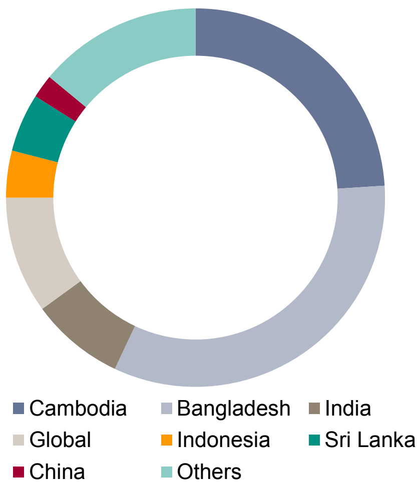
Figure 5: Living Costs and Minimum Wage



Source: wageindicator.org

These precarious living and working conditions repeatedly fuel social unrest (such as demonstrations, strikes, accidents, etc.), an increasingly common phenomenon recently (Figure 6).

Figure 6: Social Unrest in the Supply Chain (Observation Period 2010-2013; over 130 data points)



Source: SocGen Research

The other key criteria apart from the management of the supply chain in the social dimension, include the procurement of raw materials (especially cotton and leather), product safety (including the use of hazardous substances), and the carbon footprint of products (in the garment industry, about a quarter of CO_2 is produced during raw material production, and half during the garment manufacturing process).

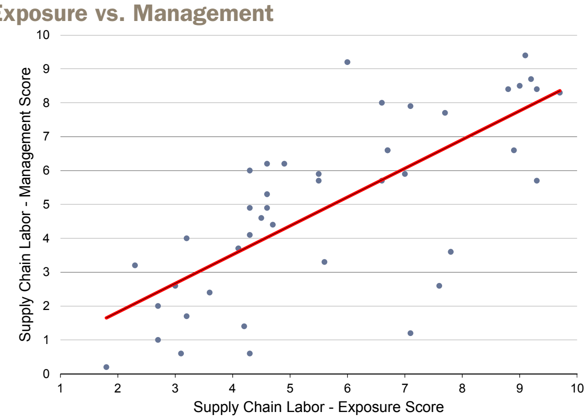
Studies recently published by Greenpeace ("A Little Story about the Monsters in your closet…" and "A Red Card for sportswear brands – Hazardous chemicals found in World Cup merchandise") show that even well-known branded products do not offer any guarantee for environmentally friendly production and green products. For example, Greenpeace found hormone-disrupting and potentially carcinogenic chemicals in numerous products, including T-shirts and football boots. Not only are these worn by consumers, but they also end up in the environment when discarded, having already contributed to water/air pollution in the production phase.

In its Detox campaign launched two years ago, Greenpeace calls for fashion and sportswear companies to embrace environmentally friendly production methods. Numerous companies have already committed to making the necessary changes to their production processes. However, these have only been partly implemented to date. Clear targets, a commitment to achieving them, and total transparency regarding the progress made are therefore essential.

Positioning and strategies of apparel companies

To establish how effectively a company masters the challenges described, we examine on the one hand the company's exposure to procurement markets with poor working conditions, and on the other hand how well it manages these tasks in terms of strategy, targets and performance. As expected, there is a positive correlation between these two factors (Figure 7).

Figure 7: Supply Chain (Social Aspects) – Exposure vs. Management

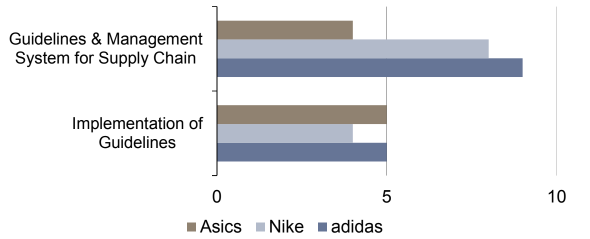


Source: MSCI, J. Safra Sarasin

A straight line drawn between the exposure/management dots on the above chart should help to differentiate the companies based on the factors analysed. Companies below the red line are therefore not as well positioned to

meet the future challenges, while those above the line have a lower risk profile. The companies with a lower than average sustainability score for the criterion of management are mainly retailers and luxury goods companies. Producers of sports goods are positioned just below them. This could be partly attributable to the different transparency in reporting, which in this context is an important confidence factor for investors.
The two leading sportswear companies Nike and Adidas have comprehensive guidelines for the conduct of suppliers as well as appropriate management structures, while Asics still has some catching up to do in these areas (only social aspects are taken into consideration; Figure 8).

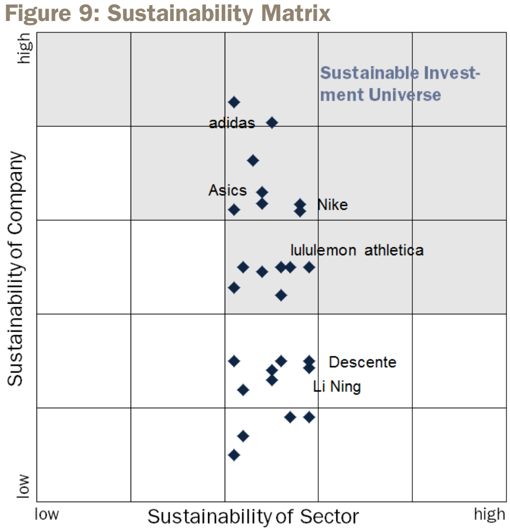
Figure 8: Management of Social Aspects in the Supply Chain



Source: J. Safra Sarasin, Company Data

The overall assessment of all sustainability factors deemed to be relevant shows that all three companies qualify for our sustainable investment universe (Figure 9).

Figure 9: Sustainability Matrix



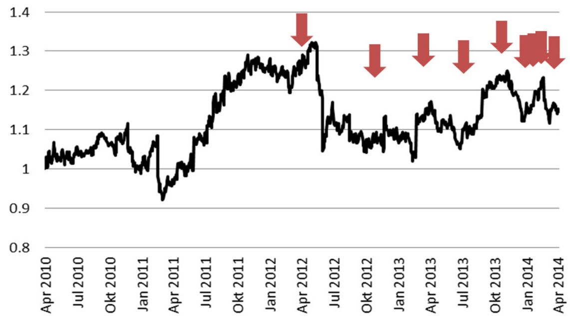
Source: J. Safra Sarasin

Impacts of controversial aspects in the supply chain on the enterprise value

Ultimately the key question for investors is the extent to which non-sustainable sourcing can have an impact on the enterprise value. Failure to adopt sustainable business practices may not have any negative impact on the value of a company over the course of just a few years. In the long run, however, this company is not only likely to be operating at a disadvantage (through damage to its image and brand, for example), but also risks missing out on a number of clear benefits, such as greater flexibility and efficiency in production. Unfortunately such effects are extremely difficult to measure, as numerous events – in more or less random strengths and sequences – can affect the enterprise value and are virtually impossible to eliminate in a reasonable way. However, it is possible to analyse the effect of individual controversial events on a company's share price. Examples of controversial events include:

- Accidents in producers' factories
- Failure to comply with standards (e.g. working hours)
- Obvious sourcing from controversial countries (e.g. cotton from Uzbekistan)

Figure 10: Controversial Events and Relative Share Price Performance (indexed) using the Example of a Textile Company

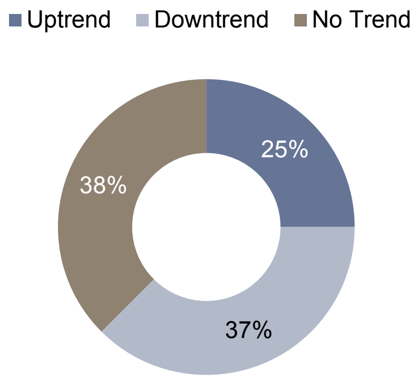


Source: Datastream, MSCI, J. Safra Sarasin

In order to minimise the market/sector effect, the share price of the three companies (Nike, Adidas and Asics) was compared with that of the sector as a whole, and the trends analysed on this basis (Figure 10).

37% of the 24 significant controversial events in total (for all three companies over the past two years) triggered a worse performance (downward trend) in their share price over the following 2-4 weeks compared with the sector index (MSCI Consumer Discretionary). In 38% of controversial events, there was no clear trend, while the share price posted a positive performance versus the sector index in a quarter of cases (Figure 11).
Certain (negative) events can therefore definitely have a (negative) impact on the enterprise value, even if the latter is also influenced by a variety of other factors.

Figure 11: Short-Term Relative Share Price Performance in Response to Controversial Events



Source: MSCI, J. Safra Sarasin

If there is a sudden jump in the number of controversial events reported in a country - a signal for non-sustainable business practices in the supply chain – it can often result in changes and remedial measures. In order to understand the consequences of such measures, it is worth taking a look at the financial statements. A breakdown of the sale price of a T-Shirt (Figure 12) shows that labour costs only make up a very small proportion of overall production costs. Even a doubling of labour costs could be offset by possible efficiency improvements or by raising the selling price.
A reduction in transport costs (e.g. by relocating production closer to end markets) would significantly improve flexibility in the area of labour costs. The cost of materials is also very important. However, these are usually borne by the company placing the contract (intermediary; company owning the brand). The biggest share of a product's final sales price goes to the retailer, who does however provide the sales infrastructure and in some cases sales promotional measures as well.

Figure 12: Breakdown of the Price of a T-Shirt

	CHF	% Price
T-Shirt Retail Price	**29.0**	
- Cost of Goods Sold	12.0	
- Selling, General & Administration Costs	10.0	
= Profit	7.0	24%
T-Shirt Intermediary Price	**12.0**	
- Transportation Costs	2.2	
- Selling, General & Administration Costs	1.2	
- Cost of Goods Sold	5.0	
= Profit	3.6	30%
T-Shirt Production Price	**5.0**	
- Cost of Material	3.4	
- Labor Costs	0.2	
- Selling, General & Administration Costs	0.3	
= Profit	1.1	22%

Source: Clean Clothes Campaign (2014), J. Safra Sarasin Assumptions

Although the wage costs do not seem very high (4% for T-shirts; figure 12: grey bar) – there are numerous indirect effects that can drive (overall) costs significantly higher:

- Strikes in factories (in Spring 2014, for example, 40,000 workers employed by the world's biggest manufacturer of sport shoes, Yue Yuen in China and Vietnam, went on strike – estimated costs: USD 58 million + USD 31 million paid in backdated pension contributions)
- Higher staff turnover rates and subsequently inconsistent quality in production
- Lower productivity due to lack of staff motivation
- Damage to the brand (e.g. due to unacceptable working conditions in production or avoidable accidents, as in Bangladesh).

The Rana Plaza catastrophe in Bangladesh resulted in consequential costs of around USD 4 billion (Figure 13).

Figure 13: Indirect Costs of a Non-Sustainable Procurement Policy in Bangladesh

	Cost (mio USD)
Accord on Fire and Building Safety in Bangladesh Alliance for Bangladesh Worker Safety	200
Rana Plaza - Compensation for Workers	40
Factory Rebuild & Repair Costs (3% of factories need to be closed; approx. USD 0.5 mio repair cost per factory)	1050
Increase of Minimum Wages (from 3'000 Taka to 5'300 Taka)	2710
Total	4000

Source: PRI, J. Safra Sarasin

Some 150 organisations make an annual contribution to the "Accord on Fire and Building Safety in Bangladesh". There is also the Alliance for Bangladesh Worker Safety, which is partly funded by credit. The Rana Plaza Trust Fund has contributed around USD 35 million. In addition, repair and maintenance costs amount to USD 1 billion. The biggest amount comes from an increase in the minimum wage, however. But the minimum wage, at just under USD 70 per month, is still well short of the living wage, which is more than twice as high. The estimated total costs of approximately USD 4 billion equate to roughly 18% of Bangladesh's annual textile exports.

The search for cheap resources continues

In recent years there has been a significant change in the challenges that the supply chain present to textile and clothing companies. While the main criterion for procurement in the past was to achieve the best possible cost/benefit ratio, companies nowadays have to satisfy many different demands. Apart from the need for a faster pace of innovation and shorter product lead times, customers are placing increasing demands on companies to comply with environmental and social standards in their production processes. Responsibility for this extends well beyond the company's own scope of control and far down the supply chain. Here the depth and complexity of the sourcing structure makes it difficult to monitor the supply chain in an efficient and comprehensive way. Apart from this, there are a number of other interests affecting the procurement environment: governments in the countries where the goods are produced are generally not very interested in allowing labour costs to rise significantly, as this would undermine competitiveness - which would in turn have significant economic consequences. this would undermine competitiveness - which would in turn have significant economic consequences. On the other hand, companies are naturally keen to avoid strikes. Given this backdrop, the trend towards outsourcing production to increasingly low-cost countries/regions seems likely to continue. This inevitably throws up some of the widely reported problems associated with such a development or supply chain. On the other hand, pressure from various sides (investors, NGOs, media etc.) is likely to increase on companies to make their supply chain as sustainable as possible.

Against this backdrop, companies can certainly expect greater cost pressure – both direct and indirect. The most successful companies are likely to be those with sufficient pricing power (thanks to their brands or innovation powers, among other things) and/or those who manage to establish a process that is not only based upon low labour and production costs, but also takes into account other elements. These include involving suppliers in the procurement process and giving them the support they need to comply with work and safety standards (e.g. training or "capacity building", infrastructure investments, etc.). This is the only way of ensuring that standards filter through to the very bottom of the supply chain, i.e. down to tiers 2, 3 and 4. In addition, this allows supplier audit costs to be further reduced without compromising quality.

Social & environmental profit and loss account

The idea of a social & environmental profit and loss account is not new, but its compilation is a relatively complex task. What is the underlying idea? – Traditional financial statements do not paint the full picture. In particular they tend to ignore inherent hidden costs that only emerge over the longer term in response to stricter environmental regulation, sharp price hikes for resources in increasingly short supply, and controversial events as described previously.

By publishing an environmental profit and loss account in 2010, Puma took the first step towards quantifying the ecological impacts of its business activities across the entire supply chain. Factors such as greenhouse gas emissions, water consumption, waste volumes and land usage are converted into monetary values. Here it is not just the absolute figures that are interesting, but the fact that 94% of the total ecological impacts are attributable to suppliers. Apart from greater transparency, such a comprehensive profit and loss account also provides better risk management and encourages companies to reduce the negative impacts and thereby save costs in the process.

Although it will still probably take some time for the idea of a social and environmental profit and loss account to catch on, pressure will gradually increase on companies (and their shareholders) over the coming years to expand their horizon.

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