

Taking Stock

Adding Sustainability Variables to Asian Sectoral Analysis

February 2006

Auto
Banking
Metals & Mining
Oil, Gas & Petrochemicals
Power
Pulp, Paper & Timber
Supply Chain
Technology

Supply Chain

Researcher: Sophie le Clue

Editor: Melissa Brown

Association for Sustainable & Responsible Investment in Asia



CONTENTS

INTRODUCTION.....	3
COUNTRY AND SECTOR DYNAMICS.....	4
What the sector looks like today.....	4
Cross-cutting issues.....	9
Long-term sector outlook.....	13
LABOUR AND ENVIRONMENTAL CHALLENGES SHAPE SUPPLY CHAIN RISKS.....	14
Labour market changes undermine low cost labour strategies.....	15
Environmental problems: new standards, new risks.....	18
CODES AND STANDARDS — MORE COMPETITION IN AN UNLEVEL PLAYING FIELD...20	
THE INFLUENCE OF ESG REGULATORY HURDLES ON EXPORT MARKET ACCESS...25	
THE LONGER TERM: A SHIFT TO STRATEGIC ENGAGEMENT.....28	
From carrot-and-stick strategies to engagement and investment.....	28
Structural shifts as suppliers aim for higher margins.....	30
INVESTOR QUESTIONS FOR COMPANIES.....	32
RESOURCES.....	33

Sustainability

Sustainability is a systemic concept, relating to the continuity of economic, social, institutional and environmental aspects of development. In the terms of the 1987 Brundtland Report of the UN's World Commission on Environment and Development, sustainability is: "Meeting the needs of the present generation without compromising the ability of future generations to meet their needs." The key concept for investors is the need to address a range of environmental, social, and governance (ESG) factors which will inevitably shape long-term returns as markets respond to changing resource requirements and public priorities.

INTRODUCTION

An increasingly actively debated topic in sustainable investment today is how investors should respond to the impact of globalization on supply chains. What questions should investors ask when companies move away from long-standing manufacturing and sourcing models with relatively transparent standards to new strategies which increasingly rely on distant suppliers who may have lower labour, environmental and governance standards? As companies have expanded their footprint beyond national boundaries, they have become harder to analyze because traditional sustainability metrics, typically defined in developed markets, are often an awkward fit for developing markets with different legal and regulatory structures. This mismatch has led some investors to simply pull back from companies with large exposure to Asian supply chains. Others have responded by relying on a range of standards, codes of conduct and voluntary corporate disclosure to assess whether companies are investing in supply chains which can meet the needs of global consumers and investors. Finally, some investors look to Asian supply chains, predominantly to take advantage of lower costs, regardless of low standards.

As companies have expanded their footprint beyond national boundaries they have become harder to analyse

The analytical challenge will inevitably become even more complex as globalization of supply chains gains momentum. Most companies describe their supply chains in strategic terms, but typically the discussion highlights only first order cost savings. As competitive pressures rise, however, we are seeing both the consolidation of suppliers as retail buyers reduce the number of suppliers and a new push to define truly strategic relationships with core suppliers. Furthermore, as supply chains restructure and Original Equipment Manufacturers (OEMs) rely more heavily on suppliers for a range of services including design, engineering as well as manufacturing, the development of industry sectors is likely to hinge on supply chain performance in different localities. This re-ordering of the global supply chain means that investors must take a much closer look at how companies are managing their supply chains and how well managed these suppliers are themselves.

From an investor's perspective, key insights into global supply chains can be gained by looking at the emerging universe of listed supply chain companies in Asia. If Asia is to become the world's manufacturing hub, we need to begin addressing the question of how these companies compare to their global counterparts on sustainability variables and how they compare to each other.

The materiality of the supply chain is evident. Research indicates that companies with good supply chain performance have stronger financial performance, and importantly that companies are acknowledging supply chain management's growing potential as a 'front-office' tool¹. A clean and transparent supply chain has the potential to become a strategic asset for top tier suppliers. Conversely, poor supply chain performance can result in investment risks and reduce shareholder value².

A clean, transparent supply chain can be a strategic asset for top tier suppliers

Such sustainability issues go to the heart of the competitive challenge for supply chain companies. How do such companies add value in a business which features scorching price competition and in some sectors where customer-supplier business practices undermine the formation of long-term business relationships?

Orientation towards sustainability issues can be a differentiator

Consequently, there are both marketplace issues to address, such as standards and quality, as well as infrastructure issues, such as enforcement of labour and environmental laws and market access for developing country players. Performance on, or at least conscious orientation towards, sustainability issues can be a differentiator due to changing labour market conditions, rising domestic consumer market standards, tougher environmental enforcement and emergence of a global consumer marketplace —all of which place pressure on companies relying on a one-dimensional approach to cost management.

In this report, we assess these issues in the context of Asia's most broadly held large and mid-capitalization listed supply chain companies. We believe that the most important sustainability themes for investors in Asian supply chain companies will be:

- **ESG performance** Performance on environmental, social and governance (ESG) issues remain a crucial reference point for suppliers and investors to manage broad-based supply chain risks
- **Sustainability codes and standards** Sustainability codes and standards will continue to shape industry's competitive dynamic for leading brands and key suppliers
- **Export market access** To stay ahead of the pack, supply chain companies must be responsive to international pressures as a result of increasing exposure to international standards
- **Strategic engagement** The development of long term strategic partnerships between buyers and suppliers in the supply chain provide longer term opportunities

COUNTRY AND SECTOR DYNAMICS

What the sector looks like today

Supply chain companies do not constitute a coherent sector by the norms of traditional industry classification. Instead they constitute a sector defined by some of the most strategic and commercial trends affecting global markets. According to Ganeshan and Harrison, supply chains may be defined as: "a network of facilities and distribution options that performs the functions of procurement of materials; transformation of these materials into intermediate and finished products; and distribution of these finished products to customers."³

Figure 1 Supply Chain Participants

Supply chain participants include:

Original Equipment Manufacturers (OEMs) Companies that assemble products from components that are sourced from suppliers. Products may be designed by the OEM.

Original Design Manufacturers (ODMs) A contract manufacturer that uses its own designs.

Own Brand Manufacturers (OBMs) OBMs are typically OEMs that have upgraded from production expertise to the design and subsequently sale of own brands and effectively competes with its original customers e.g. Hyundai, Samsung, Episode, Giordano.

Branded Retailers (also known as branded marketers) Typically responsible for design and marketing, using contracted factories for manufacturing e.g. Nike. Products generally retail through chains and/or brand outlets.

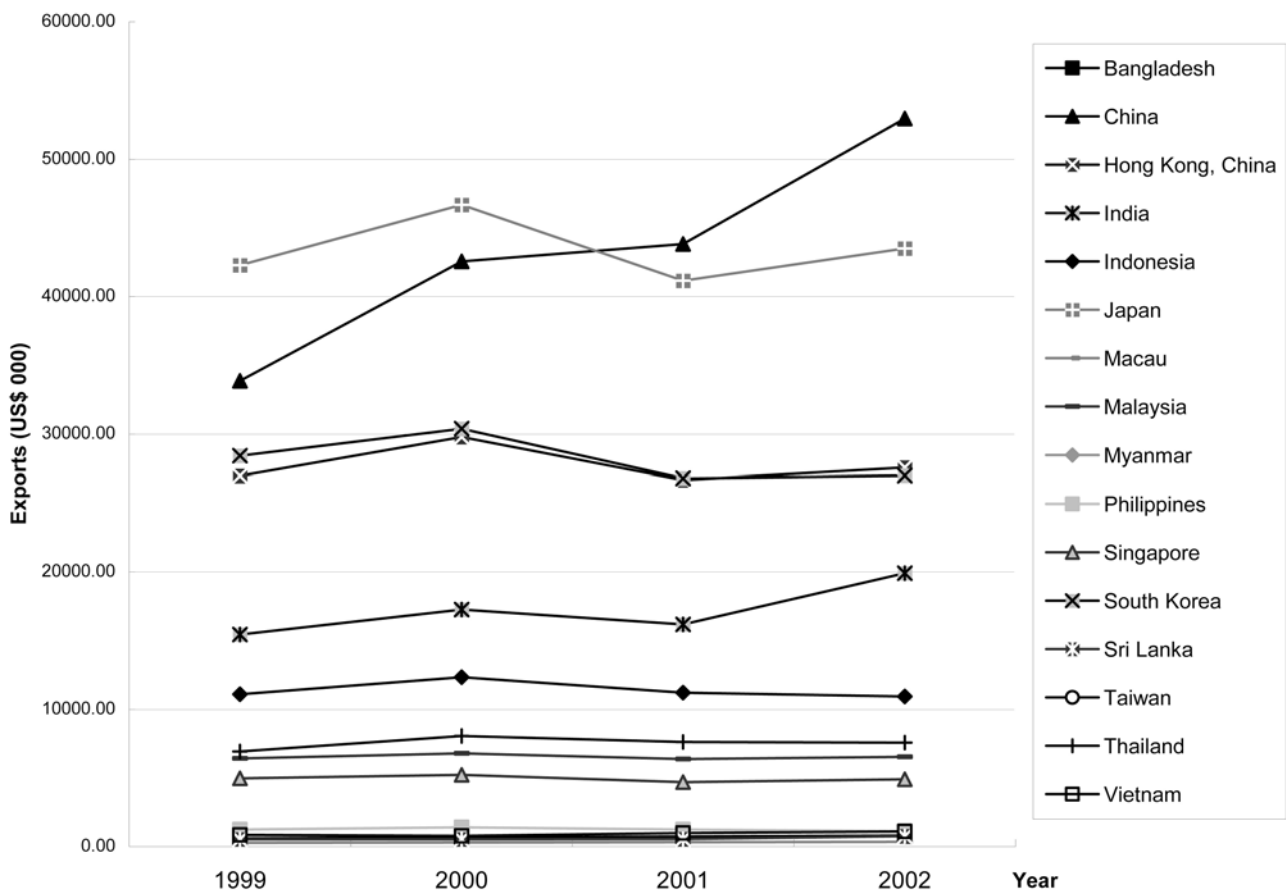
Speciality Retailers Typically responsible for design and marketing of specific brands e.g. Gap Inc. is responsible for the Old Navy, Banana Republic and Gap brands. Such retailers generally use contracted factories for manufacturing.

As a result of trade liberalisation following the creation of the European Union (EU), the North American Free Trade Agreement (NAFTA) and the World Trade Organisation (WTO), we are seeing significant growth in global supply chains and a dramatic increase in outsourcing. The business rationale for the globalization of supply chains is simple: advances in communications and transportation, as well as the diversification of consumer markets, has made it possible for companies to take advantage of low labour and operating costs in developing countries. In addition, the segmentation of business — increasingly separating product design from manufacturing, marketing and distribution — has made it possible to push capital costs down for suppliers, raising returns for brand companies. Outsourcing to and procurement from Asian supply chain companies is increasingly common in a variety of industry sectors including auto parts, information, communication and technology (ICT), light industry, food, retail and consumer goods including textile and apparel (T&A). This paper draws on data and examples from the ICT, textile/apparel/footwear and auto parts sectors, as a base for discussing the sustainability risks associated with Asian supply chains.

Global trade statistics clearly illustrate the increasing levels of outsourcing to Asia and the value of exports from Asian countries. As expected, China has emerged as a key link in the supply chains of the region. It is estimated that 59% of North American manufacturers currently source components or material from China⁴, and this is forecast to increase significantly in the near future (Figures 2 and 3). European manufacturers also source significantly from China and this is similarly expected to increase.

China has emerged as a key link in Asian supply chains

Figure 2 Basic Manufactured Goods



Source: Global Market Information Database SITC Classification 6 — Manufactured Goods (including leather/runner manufactures, textile, yarn, fabric, manufacture, metals, paper, paperboard) (fob-freight on board)

Figure 3 Sourcing: Top Destinations — North American and Western European Manufacturers

Sourcing: top destinations for North American manufacturers			
Region/ Country	Future presence	Current presence	Future growth
US/Canada	85%	84%	26%
China	68%	59%	58%
Mexico	53%	49%	24%
Western Europe	49%	44%	12%
Other SE Asia	42%	36%	22%
Eastern Europe	39%	31%	18%
Japan	37%	30%	13%

Sourcing: top destinations for Western European manufacturers			
Region/ Country	Future presence	Current presence	Future growth
Western Europe	78%	75%	19%
Central Europe	59%	55%	18%
Eastern Europe	56%	51%	36%
China	50%	40%	41%
US/Canada	43%	37%	15%
Other SE Asia	35%	28%	20%
Japan	28%	23%	8%

Note: The figures show the percentage of US manufacturers sourcing from each country

Source: Mastering Complexity in Global Manufacturing — A Deloitte Research Global Manufacturing Survey, 2003

Figure 4 presents a snapshot of sectors in Asia, where supply chains are active. The listed universe of supply chain companies in the automotive and T&A sectors is relatively small and is dominated by Chinese, Hong Kong, Korean Taiwanese and Thai companies. The ICT sector on the other hand is much larger by market capitalization and is dominated by Korea, Taiwan and China.

The listed universe of supply chain companies is relatively small

The vast majority of supply chain companies in Asia are, however, not currently listed and many are part of joint ventures with key customers and technology suppliers. As an example, of the approximately 800 suppliers that Nike uses in Asia, only a few would appear to be listed. Over the next five years, however, a number of the more successful supply chain companies are expected to become listed companies as their capital requirements increase. Examples of Asian listed supply chain companies are provided in Figure 4.

Figure 4 Larger Regional Listed Supply Chain Companies

Industry Segment	Market	Company	Example of Customers	Market Cap* (US\$mm)
Autos parts	India	Thai Carbon Black	Bridgestone, Michelin, Goodyear, Sumitomo, Dunlop	163
	Indonesia	Astra Otoparts TBK PT	Ford, Daewoo, Kia, Hyundai, Mercedes Benz, General Motors BMW, Bimantara, Chrysler, Chevrolet, Daihatsu	220
	Korea	Hankook Tire	ND	2,138
Textile, footwear, apparel	Hong Kong	Yue Yuen Industrial Holdings	Adidas, Calvin Klein, Kenneth Cole, NikePolo Ralph Lauren, Reebok	4,523
		Weiqiao Textile	Fountain Set Group, Texwinca	1,675
		Texwinca Holdings	ND	958
	Taiwan	Luen Thai Holdings	Express/Limited Brand, Liz Claiborne, Polo Ralph Lauren	266
		Eagle Nice International (Holdings)	Nike	157
		Far Eastern Textile	ND	2,754
		Nien Hsing Textile	US Garment market (retailers and brands)	408
Electronics	Hong Kong	BYD	Motorolla, Nokia	832
		Nam Tai	Sony Eriksson/Entertainment, Texas Instruments, Seiko, Canon, Texas Instruments, Toshiba	155
		Gold Peak	Sanyo	91
	Singapore	Flextronics	Dell, HP	5,988
	Taiwan	Taiwan Semiconductors Manufacturing Corporation	ND	47,034
		United Microelectronics Corporation	ND	11,173
		Foxconn Technology	Dell, HP, Nokia, Sony **	2,797
Wholesale/distribution	Hong Kong	Li & Fung	Coles Supermarkets, Disney, American Eagle, Carters	5,661
		Linmark		183

Market Cap Source: Bloomberg, December 2005

* As at 30 December 2005, or last official day of trading

** www.overclockersclub.com

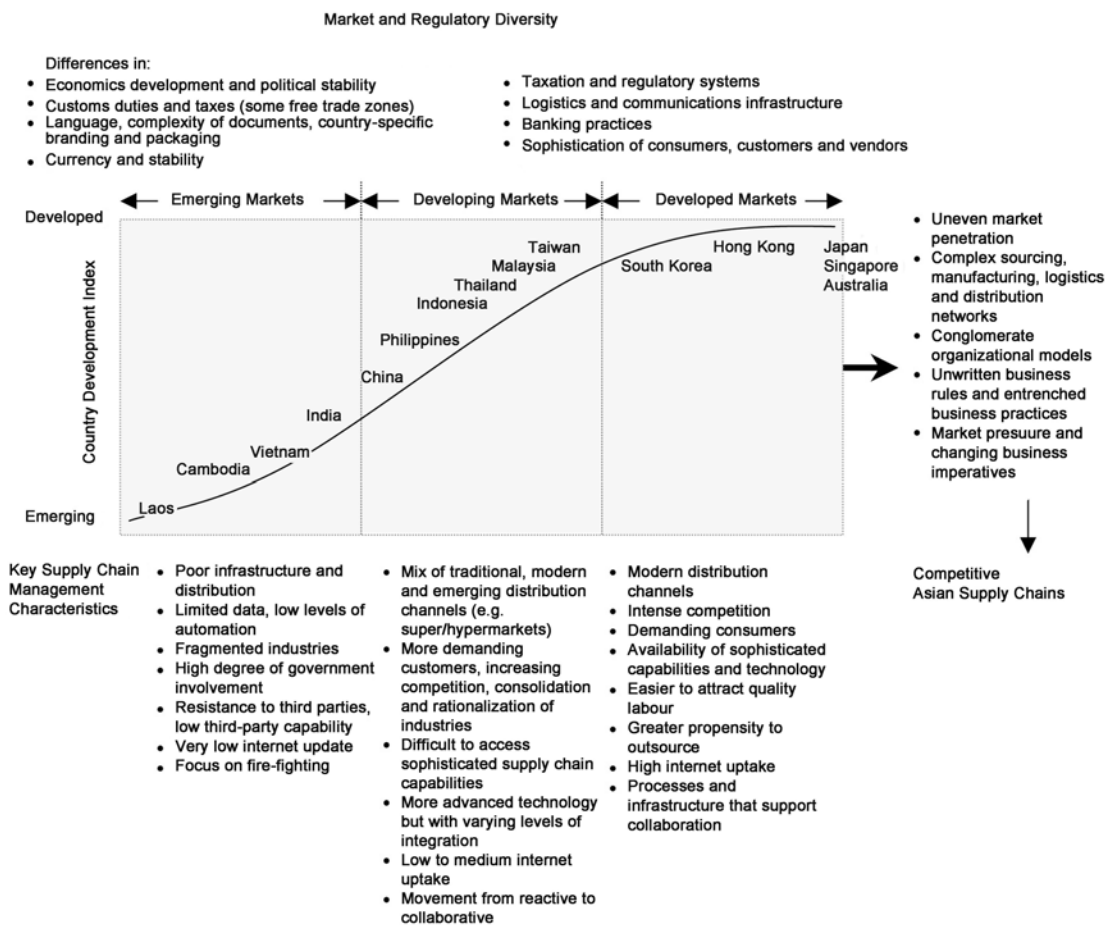
ND - not determined

Although Asia has become a focal point for outsourcing by many global brands, in terms of sustainability performance supply chains in the region are considered by industry experts to lag those typical of developed economies. The reasons for this lacklustre performance include:

- complexity of local laws, regulation and business practices
- poor enforcement
- lower environmental, labour, health and safety standards
- governance issues including lack of accountability, transparency, disclosure and corruption
- insufficient network and transport infrastructure
- technology and awareness gaps

On a country level, the more advanced Asian economies such as Singapore and Hong Kong with their highly developed infrastructure, legal frameworks and advanced technology, lead the pack in terms of supply chain competitiveness. Taiwan, Malaysia and Thailand follow, with China, although a growing haven for supply chains, notably lagging behind.

Figure 5 Factors Influencing Supply Chain Competitiveness in Asia



Source: Supply Chains in Asia: Challenges and Opportunities, Accenture 2003

Cross-cutting issues

Where supply chains are structured around low cost business models as they are predominantly in Asia, a number of challenges arise. Indeed, recent research by Accenture indicates the following challenges currently facing Asian supply chain companies⁵:

- lower levels of visibility over inventory and demand
- poor levels of forecast accuracy and demand management
- higher inventory carrying costs, lower inventory turnover and lower levels of accuracy control
- less understanding of customer and consumer needs and required service levels
- excess infrastructure (too many nodes in the network)
- lower levels of process and system standardization
- data transparency
- lower use of reliable performance measures

Some of these aspects can be indicative of poorly managed operations, which can put pressure on other performance areas, such as environmental workplace conditions. As an example, poor forecast accuracy can lead to short lead times and pressure on workplace overtime. Indications of problems include increased worker turnover, reduced productivity and reduction in product quality.

A brief overview of the supply chain dynamics and trends within the three industry sectors discussed in this report is provided below:

Outsourcing within the automotive sector is on the rise and analysts point to Ford and GM's announcement to increase combined purchasing in Asia from US\$1.2bn in 2004 to US\$8bn by 2010⁶ as a clear indicator of accelerating Asian outsourcing and procurement. The automotive sector in Asia has experienced an influx of foreign OEMs and suppliers into the marketplace as well as an increasing number of mergers and acquisitions, which has resulted in some consolidation. The sector is a good example of transformation from a vertically structured supply chain, with OEMs responsible for design and assembly, and first and second tier suppliers responsible for manufacturing parts, to a more complex structure with suppliers as global firms responsible for design, engineering and co-ordination of manufacturing and assembly⁷. Traditional OEMs are becoming 'Vehicle Brand Owners'. Also see the related Auto Report for a more detailed discussion of this issue.

In the ICT sector, more than 90% of the world's computers, digital cameras and mobile phones are produced in the low-wage manufacturing centers of Asia⁸. Outsourcing to the region began in the 1960s with semi-conductor firms taking advantage of low labour costs in Singapore, Hong Kong, Thailand and Malaysia especially for testing and assembly. This was followed by the computer industry and the further evolution of contract manufacturers into more technologically advanced manufacturing. In the past decade, outsourcing through electronic manufacturing service (EMS) providers has taken off as manufacturers strived to add value to their contract manufacturing services.

A decade ago, EMS was a \$10 billion industry. Today it has increased by a factor of ten and market analysts predict this will rise further to \$250 - \$275 billion by 2007⁹. Leading brands such as Hewlett Packard (HP) are now outsourcing both manufacturing and design to global suppliers such as Flextronics and Hon Hai, which provide a full range of these services from key Asian hubs. In addition, the services provided by specialist design capabilities have increasingly been contracted to original design manufacturers (ODMs). ODMs will invest in research and development and retain the intellectual property rights. Outsourcing in the sector is an important foreign exchange earner for several countries in the region including Malaysia, Thailand, South Korea, Taiwan and Indonesia.

The T&A sector provides many of the critical reference points for discussion of sustainability issues in the supply chain

While other sectors are now more prominent in outsourcing in terms of the value of trade flows, the T&A sector provides many of the critical reference points for discussion of sustainability issues in the supply chain. The sector has a long history of outsourcing to low cost labour markets in Asia and other developing regions. This reflects the high labour component in total costs of this traditionally low margin industry, most notably for the apparel industry. The landscape of the industry is however set to change. The final phasing out of textile and apparel quotas in accordance with the WTO Agreement on Textiles and Clothing (ATC), has resulted in widespread debate over the potential structural changes likely to occur as a consequence. In the run up, a view widely held by the popular press as well as by many industry experts and analysts, was that the demise of quotas would accelerate textile and apparel exports from low cost countries such as those in Asia. China in particular was widely anticipated to be the overall winner in the medium to long term, although others pointed to the potential industry strengths of India as well as Sri Lanka and also Bangladesh, providing a significant competitive challenge.

"China is expected to become the supplier of choice for most US importers (the large apparel companies and retailers) because of its ability to mask almost any type of textile and apparel product at any quality level at a competitive price..."

Source: The United States Trade Commissions, January 2004, cited in "The Future of the Apparel and Textile Industries: Prospects and Choices for Public Private Sector Actors"

Retailers and wholesalers were also considered to be potential beneficiaries because manufacturers' consolidation is likely to result in improved efficiencies, which in the supply chain should translate to shorter lead times and higher quality merchandise.

In practice, indications are that the outcome may not be quite as straightforward as predicted, due to a range of factors. According to the Harvard Centre for Textile and Apparel Research¹⁰, factors which are coming into play include public policy choices such as tariffs and the prevalence of the lean retail model, leading retailers to prefer suppliers in relatively close proximity to their outlets rather than focussing on the traditional decision factors such as the low labour costs for example of Chinese manufacturers. Although exports of some apparel items to the US reportedly increased by over 1000% in the months immediately following quota removal, the imposition of 'safeguard quotas'¹¹ imposed on certain Chinese apparel imports, is also muddying the

waters. Indeed, market adjustment may proceed, but with some disruptions and delays likely as importing countries will have the right to impose safeguard quotas through 2008, in line with the agreement for China's accession to WTO. In addition, the effect of bilateral agreements such as those between the US and producers in other countries should not be underestimated. Such agreements may have the potential to slow China's growth in this area, as the US seeks quota deals with other countries.

Indian textile manufacturers on the other hand are also proving to be a stronger prospect than predicted in some areas of the industry. As an example, India is reportedly beating off Chinese competition in the supply of towels to the US, due primarily to a few dynamic companies¹². Nevertheless, concern still remains over India's competitiveness in the T&A industry due to constraints such as longer lead times, relatively lower labour productivity and reliability of delivery. Consequently conjecture remains as to whether India will be able to fight off China as the preferred supplier post 2008, when the safeguard quotas imposed on China are lifted.

Figure 6 WTO Multi Fibre Agreement (MFA) and the Agreement on Textiles and Clothing (ATC)

The Multifibre Agreement (MFA) was created in 1974, restricting trade in wool, man-made fibre and cotton. In 1994, the Agreement expired and was replaced by the WTO Agreement on Textiles and Clothing (ATC), a transitional agreement requiring the removal of all quotas by 1st January 2005.

MFA is largely considered to be responsible for globalising and fragmenting textile and apparel production as buyers sought textile and apparel supplies from regions which had not fulfilled allocated quotas.

Possibly in response to the changing environment, suppliers, such as Hong Kong-listed Texwinca Holdings Ltd., are also expanding their product portfolios and branching into areas of product design and own brand manufacturing. Texwinca's brands include Baleno, IPZone and Bambini. The development of own brand labels by retailers is also facilitating this process.

Figure 7 Outsourcing Trends —Examples of Global Brands 2004

Sector	Company	Country	Value of Outsourcing US\$ (billion)		Number of Suppliers	
			Global	Asia	Global	% Asia
Electronics	Hewlett Packard	US	52	37	7000 (700 key)	71
	Samsung	Korea	8.9	60% of sales		
Textile & apparel	Nike	US			830 factories	59
	H&M	Sweden			700	60

Note: Example of outsourcing by first tier suppliers: — Flextronics procured US\$14.0 billion of components in FY 05

Source: Company reports

The analysis of Asian supply chains takes into account two cross-cutting issues which have significant influence on the investment themes discussed: fragmentation and consolidation; and limited and uninformative disclosure.

Fragmentation and consolidation The structure of Asian supply chains varies across industry sectors reflecting different competitive conditions, regulatory regimes and shifting conditions in both supplier and customer markets.

Consolidation at both ends of the supply chain is an emerging issue in a number of industry sectors

Consolidation at both ends of the supply chain is an emerging issue in a number of industry sectors, and according to some commentators is expected to be a dominant theme that will dictate future supply chain structures in the region. If this proves to be the case, supplier consolidation should in the longer term result in less fragmented, more transparent supply chains and ultimately provide the opportunity for those in the supply chain to take advantage of economies of scale. For sustainability performance this bodes well. However, reflecting the complexity of supply chains within the region, there is a somewhat conflicting dynamic in the form of companies hedging their bets against supply chain risks and therefore seeking to second source from potentially lower cost countries and suppliers. This is particularly relevant given the increasing reliance on China as a supplier base. In addition, there are alternate views on the extent of consolidation likely to be achieved. For example in the apparel industry, some industry experts suggest that we will see an influx of new manufacturers into the market, seeking to take advantage of a quota free environment and the relatively low cost to entry.

Another interesting dynamic to watch is the transition of OEMs to OBMs and ODMs. As suppliers reportedly take on increasing responsibilities throughout the supply chain, the traditional top-down relationships between buyer and supplier will inevitably change.

As a result of these issues, commentators have struggled to apply useful metrics to evaluate trends which are fundamental to the business strategies influencing Asian listed suppliers. Despite consolidation in some industry sectors, there is still significant fragmentation in other industry supply chains. As globalisation progresses, we believe more and more supply chain companies will add value and increase services to maintain and/or attain higher margins. This inevitably means more risk.

Limited and uninformative disclosure From an analytical perspective, disclosure is a significant challenge facing mainstream investors interested in listed supply chain companies. While investors have adequate opportunity to monitor the intentions of global brands towards their supply chains through corporate reports and websites, effective disclosure on sustainability issues by the supply chain companies themselves is often limited. Indeed, leading brands are raising the bar for reporting. As an example, Nike has recently released the names of all of their contract factories.

On the supplier side, disclosure is notably limited. Information pertaining to overall environmental, health & safety/labour policy, strategy and implementation, social responsibility and particularly labour relations are not widely disclosed and also generally not cited as business risks in listing documents. Reference to issues such as strategic alliances and strategies for

meeting customers' sustainability requirements is equally limited. Even sector leaders such as Li & Fung, which are listed on the Dow Jones Sustainability Index, take a conservative approach to disclosure.

There are inevitably exceptions as demonstrated by Luen Thai Holdings Limited, which candidly discloses the business risks that labour issues pose to its operations. Luen Thai is a significant employer in the apparel industry with over 17,000 employees of which close to 16,000 are in production. Its customers include well known branded apparel makers and retailers such as Express/Limited Brands, Liz Claiborne, Polo Ralph Lauren. The relevant industry risks disclosed include:

- sensitivity of the groups' customers to social responsibility standards
- potential increases in the minimum wage
- changes in occupational health and safety rules or regulations or human rights laws

The unusual disclosure on these issues in the offering documents is likely driven by the fact that in 2002 the company settled a class action, filed against it and 32 other organizations, on behalf of apparel workers. The settlement required the company and its subcontractors to make changes in labour practices at facilities in Saipan including the payment of overtime as well as compliance with minimum wage requirements.

In the absence of direct disclosures, investors have the option of attempting to gauge a company's exposure to key sustainability issues, such as labour conditions, by monitoring simple metrics such as changes in workers employed and the labour component of cost of goods sold. The disclosure of operational characteristics and management practices can also highlight issues which have implications for labour conditions and specifically overtime practices, e.g. the link between product quality control procedures and often un-paid re-working.

Investors have the option to gauge a company's exposure to key sustainability issues by monitoring simple metrics

Long-term sector outlook

Ongoing pressure on product prices looks set to continue as new retail models keep the focus on high volume, low margin goods, product cycles shorten as technology evolves, and retailers and wholesalers demand shorter lead times, while continuing to demand the same or improved quality. Consequently, pressures on demand planning are likely to persist with potential knock on effects down the supply chain. In addition, increasingly stringent environmental standards in both developed and developing markets are affecting product design. This creates an extremely challenging environment for supply chain managers. Often the result is continued pressure on supplier margins.

LABOUR AND ENVIRONMENTAL CHALLENGES SHAPE SUPPLY CHAIN RISKS

Supply chains are a crucial factor in maintaining a competitive edge in today's increasingly global and liberal marketplace. Buyers, whether OEMs, retailers or branded manufacturers/marketers, continue to levy cost, quality and time pressures on their suppliers who are required to deliver the right product, in the right quantity to the right place, on time. This pressure inevitably translates to cost cutting at the supplier level, often with material implications for sustainability performance and risk exposure for the entire supply chain.

It is therefore not surprising that global outsourcing as a cost minimization strategy has created supply chains in Asia characterised by poor labour conditions and sub-standard environmental performance. Recent research by Impactt on supply chain companies in Asia¹³ clearly indicates that badly managed workplaces with sub-standard labour conditions are also inefficient, unproductive workplaces, and concluded that a direct correlation can be drawn between long overtime hours and falling productivity. This is a view that directly contradicts the common presumption that low labour costs effectively offset lower productivity. The most fundamental social and environmental issues are thus driving investor efforts to assess the growing impact of global supply chains.

Figure 8 Sustainability Issues in Asia's Supply Chains

Labour conditions in Asia's supply chains can often be characterised by:

- low wages often below the legal minimum
- no/limited benefits
- excessive overtime and sub-optimal productivity
- a predominance of young female workers
- various forms of worker discrimination
- child labour
- forced labour
- inadequate and/or ineffective union representation
- high employee turnover
- large percentage of migrant workers
- use of penalty systems
- exposure to hazardous processes and materials with inadequate safeguards in some high risk industries

Although the significance of these issues is influenced by a suite of structural and country specific factors, such as demographics, politics and regulatory structure, in general terms they are considered pervasive and are to a greater or lesser extent common to Asian supply chains.

It is perhaps more difficult to generalise regarding environmental issues since the breadth and complexity of issues is dependent on specific industry as well as country characteristics. However, typical environmental issues that pose a risk to supply chain companies in the short to medium-term include:

- use of hazardous materials and improper use, storage and disposal of toxic materials and land contamination
- inadequately treated effluent discharges and pollution of water courses
- waste generation and resource use, e.g. energy & water
- waste air emissions, e.g. particulates, sulphur oxides

Labour market changes undermine low cost labour strategies

Labour issues are at the core of sustainability risks in Asia's supply chains, where abundant low cost labour is often the driver behind outsourcing to developing countries. In China, the seeming abundance of cheap labour may have lulled the unwary into a false sense of security, as reports of migrant labour shortages in Southern China continue to dominate the national press. China accommodates an abundant supply of labour, notably the estimated surplus of 150-200 million rural workers who remain untapped in the countryside. Labour shortages however are emerging in certain industry sectors such as the ICT sector and in certain localities such as the south eastern manufacturing hub including such cities as Guangdong, Shenzhen and Dongguan. In terms of job occupation, young assembly line female workers are also reportedly in short supply. Surveys by the Guangdong Statistics Bureau support these views¹⁴ indicating that :

Labour issues are at the core of sustainability risks in Asia's supply chains

- there will be an estimated shortfall of 1 million migrant workers in 2005
- companies are already experiencing difficulties in recruiting new workers, with Hong Kong invested companies experiencing the most difficulty
- obvious shortages are apparent in different regions in the electronics, toy and textile industries

The Bureau goes on to cite the following as the major reasons for the shortages:

- rapid economic growth increasing the demand for migrant workers
- low wages
- failure to protect labour rights
- young migrant workers seeking higher living standards
- investment in the agricultural sector increasing farmers' incomes

Labour shortages are expected to be a long-term issue due to the rising number of labour intensive enterprises, the slow pace of economic restructuring and persistent low wages¹⁵. These shortages are expected to bring about structural changes in the labour market, with the emergence of higher wages and the speeding up of labour reforms. Analysts further argue that we will see labour costs rising faster than investors expect (Figure 9). Wage discrepancies will slowly but surely be addressed as employers start to pay required contributions¹⁶. Within the investment community, the consensus is that wage gaps will narrow across Asia and that returns to labour-intensive industries will fall as a result.

Labour costs may rise faster than investors expect

Figure 9 Factors Influencing Supply Chain Competitiveness in Asia

Hourly labour cost comparisons, US\$										
	1999	2000	2001	2002	2003	2004E	2005E	2006E	2007E	2008E
India	0.48	0.53	0.58	0.65	0.69	0.75	0.82	0.89	0.98	1.07
China	0.53	0.59	0.69	0.80	0.92	1.08	1.24	1.40	1.58	1.79
Thailand	1.20	1.10	1.00	1.10	1.20	1.30	1.30	1.40	1.40	1.50
Mexico	1.30	1.60	1.70	1.80	1.70	1.70	1.70	1.80	1.90	1.90
Hong Kong	5.50	5.60	6.00	5.80	5.40	5.40	5.40	5.40	5.50	5.70
Taiwan	5.50	5.80	5.70	5.60	5.80	6.00	6.30	6.70	7.10	7.50
Korea	7.30	8.20	7.80	9.20	10.40	11.50	12.40	13.30	15.20	16.90
US	19.10	19.80	20.60	21.30	21.80	22.20	22.80	23.50	24.30	25.00

Source: Chinese Textile/Apparel Manufacturing, The Big Bang in 2005, Goldman Sachs, 2004

The risk for companies building on supply chains in apparently low cost labour markets like China is that underlying labour market conditions can change rapidly and undermine unsophisticated cost minimization business models. Indeed, recent wage and working condition improvements in China are beginning to mark steady, if uneven, improvement as Beijing seeks to ensure that economic gains are more accessible to migrant workers.

Occupational health and safety (OHS) in Asia's supply chains also presents a significant challenge, with unsafe working conditions and practices being commonplace. Industry commentators, however, point out that OHS is an area where governments are becoming increasingly responsive and that in some areas, foundations are being laid to address the problems.

Figure 10 Increasing OHS Regulations are Redressing the Balance

During the period 2000-2001, China's State Council Central Office released 184 rules, regulations and related documents on OHS. Departments and ministries of the State Council published another 135. Relevant departments in provinces, municipalities and autonomous regions issued a further 107. The sheer weight of administrative excess is exacerbated by the fact that rules, regulations and documents of this type have various levels of authority and must not contradict the law. Although the Chinese legal system is not based on precedent, officials may need to refer to all sets of rules when attempting to determine the various level of responsibility for breaches of OHS regulations; that is, whether the law, government, specific department, company, or some other body is accountable. In addition there are over 1,000 OHS standards.

Source: Stephen Frost, CSR Asia, September 2005

Figure 10 (continued)

In Hebei, the government will pay rewards to people who report unsafe factories to the authorities.

The Huizhou government signed agreements with the two Gold Peak factories where workers were exposed to cadmium, which stated that the factories must not terminate the employment of any infected worker and that medical expenses should be paid, even if the worker leaves the factory voluntarily.

Regarding standards, a Chinese national standard for OHS management systems (GB/T 28001-2001 system) has been introduced and more recently, the Chinese national standard for the textile and apparel sector CSC900T was launched and is soon to be followed by up to 20 industry related job procedures covering areas such as chemical safety and fire safety.

Source: CSR Asia Weekly - Volume 1. Week 24, 2005

The materiality of these issues to the investment community is evident since non compliance with regulations and enforcement activities can give rise to reputational damage as well as having financial implications where cost structures change as a result. As an example, the Chinese Ministry of Health (MoH) has reportedly vetoed new investments in Guangdong on the basis of insufficient investment in OHS.

On the health side, HIV/AIDS in Asia continues to be a problem as infections continue to rise. Experience in Africa has shown that HIV/AIDS in the workplace is a significant business risk in terms of increased costs and damaged profit margins, most notably for companies that are labour intensive, have not recognised the problem and do not implement any intervention programmes¹⁷. In addition, research indicates that where government policy and action is weak, companies may effectively end up compensating for such government inaction¹⁸. Indications are that in Asia, both China and India in particular, are experiencing epidemics, albeit in hot spots. Supply chain companies operating in these regions need to consider the possible consequences of HIV/AIDS on their operations and develop appropriate intervention programmes and strategies.

HIV/AIDS in the workplace is a significant business risk in terms of increased costs and damaged profit margins

Undeniably, viral diseases such as HIV/AIDS and HBV (Hepatitis B) are also a source of workforce discriminatory practices. China has one of the highest HBV infection rates in the world and until recently, discrimination against employing those with HBV was sanctioned by government regulations. However, in January 2005, the government introduced a new medical check up standard which stipulates that HBV carriers are eligible for work within the civil service, provided that liver function is normal¹⁹. These standards are effectively guidance for companies operating in China. Unlike HIV/AIDS testing which is prohibited under ILO codes of practice on employment, HBV testing is not prohibited and is therefore likely to continue, resulting in continued discrimination. HBV is an issue of concern as supply chain companies that continue to discriminate against those who have contracted the disease are vulnerable to reputational risk and the attentions of increasingly focused NGO activist groups. Notably, Flextronics was recently criticized publicly for discrimination against HBV carriers²⁰.

Supply chain companies that continue to discriminate against HBV carriers are exposing themselves to reputational risk

Environmental problems: new standards, new risks

Equally important, are the range of environmental issues which, if not addressed, may threaten operational efficiency and increase the likelihood of exposure to litigation or regulatory sanctions. Whilst such issues are industry specific, there are a number of more generic areas where supply chain companies should be able to demonstrate effective risk management. Investors should note that leadership in performance on labour issues does not necessarily go hand in hand with leading performance on environmental issues, as evidenced by recent research by ISIS²¹. Given the rapid pace of regulatory change on both labour and environmental issues in Asia, poor disclosure or limited management focus can signal inadequate risk management across-the-board.

Supply chain companies in Asia face a range of environmental issues which pose varying degrees of risk. Some of these issues may be national or local in nature and industry specific such as the handling of toxic materials in the ICT sector, whereas some attain significance on a more regional or global scale such as air emissions including greenhouse gases and particulates, water scarcity and energy use.

Figure 11 New Environmental Issues — Agricultural Land Conversion

The continuing controversy over China's conversion of agricultural land for industrial development is material to investors. The controversy is a result of numerous issues including: concerns over food security as productive agricultural land is lost; illegal land acquisition by developers; corruption; poorly defined property rights; disenfranchised local communities; ensuing social conflict and threatened social stability. In 2004, the Government suspended all non essential conversion of agricultural land for six months. Reportedly over 4000 development zones were cancelled and plans for the use of 24,900km² of land planned for development zones were axed.

The response of most supply chain companies to these environmental issues in terms of risk management whether process or product-related, invariably depends on external pressure, whether it be of a regulatory nature, from shareholders and advocacy groups, or the market itself. The customer/supplier relationship also has a fundamental influence on the development of innovative environmental solutions as well as compliance with codes and standards, as discussed previously.

Environmental risk management in the supply chain continues to revolve around management systems, such as ISO 14001²². A second approach, which is particularly appealing during periods where input costs such as energy are rising, is eco-efficiency, which focuses on production strategies designed to reduce the ecological impact of production processes. According to the World

Business Council for Sustainable Development (WBCSD), critical aspects of eco-efficiency which may also be addressed in a management system are:

- reduction in the material intensity of goods or services
- reduction in the energy intensity of goods or services
- reduced dispersion of toxic materials
- improved recyclability
- maximum use of renewable resources
- greater durability of products
- increased service intensity of goods and services

Many listed supply chain companies in Asia are certified to ISO 14001. Often this will be in response to the specifications or encouragement from leading branded customers such as Philips, Ford Motor Company, Dell and Toyota, to name a few.

Figure 12 Leading Brands Requiring ISO 14001 Certification—Two Examples

The Ford Motor Company requires ISO 14001 certification from all of its suppliers with manufacturing facilities. The requirement affects about 5,000 of Ford's production and non-production suppliers.

Dell has requested that all first tier suppliers attain ISO 14001 and OHSAS certification by the end of 2004. 96% achieved this and Dell are working with the remaining 4%. Regarding OHSAS, 79% met the target.

Some leading brands do not require ISO 14001 certification of their suppliers but instead stipulate that suppliers must adhere to specific environmental requirements which may be beyond regulatory requirements, such as restricting certain chemical substances or encouraging the use of water efficient production. Compliance with any standard inevitably has cost implications and ISO 14001 is no exception. Certification and the requisite third parties audits are in themselves relatively inexpensive. However substantial capital investment, for example in the form of hardware, may be necessary in order to comply with the standard, depending on existing pollution control practices and ultimately environmental performance.

When analysing a certified company, sustainability investors should be cognisant of the fact that ISO14001 is not an absolute performance standard and does not guarantee a high level of performance. Certification simply indicates the implementation of a management system and management controls which meet the standard's specification. Since ISO 14001 is applicable to all organizations, large or small, complex or simple, two identical companies may be certified but have attained quite different levels of performance. Investors should also be aware that:

Sustainability investors should be cognisant of the fact that ISO14001 is not an absolute performance standard

- different certification bodies have different interpretations of the standard and some are noticeably less strict than others
- the certification scope may not include all parts of the company and should therefore be diligently checked. Investors should determine whether any of the organisation's activities which may pose an environmental risk have been omitted from the scope and therefore the system
- certification bodies receive accreditation from the International Accreditation Forum which provides some assurance of the impartiality, independence, experience, competence and reputation of the certification body. However, not all certification bodies are accredited
- in some countries where corruption is problematic, an ISO 14001 certified company may not have adequately met the standard's requirements and therefore harbour significant risk in some areas, despite having successfully passed the certification and ongoing surveillance audits

Nevertheless, if a company does have an environmental problem or is high impact in nature, the existence of an ISO 14001 certified EMS should speed up the risk analysis since all relevant information should be accessible. Comprehensive disclosure, however, is not a requirement of the standard.

CODES AND STANDARDS — MORE COMPETITION IN AN UNLEVEL PLAYING FIELD

"The drive to meet rising global standards of one kind or another is affecting just about every multinational FORTUNE 500 company"

WBCSD

Codes and standards, however imperfect, are a factor in shaping supplier practices

Analysis of supply chain companies brings the investor face to face with the issue of voluntary national and international environmental and labour standards, as well as corporate codes of conduct. Providing social and environmental guidelines, these standards and codes are a proxy for enforcement where often comprehensive national laws and regulations are rarely or inconsistently enforced. In response to immense NGO pressure over poor sustainability performance, and in some cases after suffering significant reputational damage, a number of leading brands have adopted and imposed standards and codes on their suppliers, typically through a top down approach. The issue for investors is that these codes and standards, however imperfect, are a factor in shaping supplier practices, driving corporate disclosure and are becoming a reference point for industry competition.

A recent survey by the Interfaith Centre on Corporate Responsibility (IRRC)²³, found that 12% of S&P 500 companies had formal supplier requirements regarding labour issues and that companies from certain industry sectors e.g. automotive, consumer goods, restaurant, retail and electronics were more likely to have supplier codes. The heightened awareness of and response to labour issues in these sectors was considered to be a result of labour activist pressures.

Figure 13 Examples of Codes of Non Company Specific Environmental/Social Codes of Conduct and Standards

The Worldwide Responsible Apparel Production Scheme (WRAP)	Apparel certification programme	ISO 14001 Environmental management system-requirements with guidance for use	International certification standard
Ethical Trading Initiative (ETI)	An alliance of corporates, government and NGOs promoting the implementation of voluntary codes and standards on labour issues	OHSAS 18001 Occupational Health & Safety	International occupational health and safety management system specification
Fair Labour Association (FLA)	The FLA conducts independent monitoring and verification to ensure that the FLA's Workplace Standards are upheld where FLA company products are produced	SA8000	Social Accountability Standard for socially responsible employment practices
FTSE4good	New labour standards as part of the FTSE4good Indices	CSC9000T China Social Compliance 9000 for the Textile and Apparel Industry	National management system standard
Electronic Industry Code of Conduct	Voluntary code covering labour, health and safety, environmental and management issues	Global Compact	United Nations initiative in the form of principles that companies can sign up to
Business Social Compliance Initiative (BSCI)	Provides standardized management tools which address working conditions. It also provides a common European monitoring system for social compliance		

Figure 14 Examples of Companies that are Members of FLA and ETI

FLA (examples)		ETI (examples)	
adidas Salomon	Nordstrom	Dewhirst Group	Mothercare
Eddie Bauer	Patagonia	Flamingo Holdings	New Look Retailers
Gear for Sports	Phillips-Van Heusen	Fyffes Group	Next
Gildan Activewear	Puma	Gap Inc	Pentland Group
Liz Claiborne	Reebok	Levi Strauss & Co	Peter Black
New Era	Top of the World	Madison Hosiery	Tesco
Nike	Zephyr Graf-X	Marks and Spencer	The Body Shop International
		Monsoon	WH Smith

Suppliers must comply with numerous standards imposed by customers

The introduction of codes and standards has created a competitive dynamic affecting both ends of the supply chain. At the customer level, it has resulted in the birth of multiple codes and standards, as an increasing number of brands join their market peers. HP, for example, has introduced its code of conduct to 98% of its purchasing expenditures. On the supply side, this has created immense pressure for suppliers to comply with numerous standards imposed by different customers, creating what many regard as an un-level playing field plagued by free riders. This is particularly a problem in commodity markets where mid-tier companies have no stake in market standards. The top-tier companies therefore tend to insist on strategies which will obligate as many players as possible to participate.

The situation in Cambodia provides an interesting example where buyers are sourcing because of higher labour standards, which in this case has resulted from an agreement between the Cambodian and U.S. governments and the International Labour Organisation (ILO). The resulting improved compliance with international labour standards has seemingly provided Cambodia with a competitive advantage, as demonstrated by the continued presence of such leading brands as Gap Inc., following the removal of quotas from other low cost countries such as China. Gap has in fact committed to capacity building in Cambodia's garment manufacturers with a view to addressing such issues as quality, productivity and turnover rates.

Figure 15 Cambodia, Trade and Social Standards in the Textile and Apparel Industry

Since 1999, the US Government and the Cambodian Government entered into an agreement linking trade with social standards. In essence, the US agreed to increase garment quotas placed on Cambodia, providing that Cambodia could demonstrate compliance with national and international labour standards. Monitoring to ensure that the standards were being met was undertaken by the ILO. ILO also aimed to improve standards in Cambodian factories. Although criticised by labour groups due to problems with ILO reports and the placing of the burden for improved performance on the supplier and not on the multinationals that source from them, the monitoring has been extended and is now known as the Better Factories Cambodia Project, with the ILO and the Cambodian Government working in partnership.

Source: The ILO in Cambodia, Asian Labour Update. Cambodia: UN labour body expands monitoring of Cambodia's garment factories, Asian Labour News, February 2005

Compliance with standards has traditionally been monitored through audits conducted by the customers as well as third parties. This approach, however, has arguably created numerous problems including resource intensive multiple audits often against different codes and standards, and the creation of barriers between buyers and suppliers. Failure to comply can lead to loss of orders and cancelling of contracts which, depending on the proportion of the customer's business, can be a significant risk to take. As an example, in 2004, Gap Inc. revoked approval for 70 factories for compliance violations. Inevitably, a buyer that has a high percentage of production capacity is able to influence a supplier more effectively. Indeed listed suppliers frequently cite reliance on a small number of customers for the majority of their turnover as a risk factor.

Whilst a successful audit may indicate to the unwary that all sustainability risks are in order, in reality this may be far from the truth. Double book-keeping by suppliers to pass audits is now widely accepted as common practice, particularly in China's supply chains. Furthermore the vested interests of third-party auditors and reported corruption can, as much anecdotal evidence would suggest, similarly taint audit results. Consequently, on paper the sustainability risks may appear to be managed, but in practice, the risks remain.

Recognising the limitations of the strict compliance approach, leading brands are beginning to move away from reliance on monitoring and auditing by seeking to develop long term strategic partnerships with their suppliers, with the aim of facilitating compliance with standards through engagement and capacity building. Supplier companies that have the capacity to respond effectively to these customer requirements will have the potential to develop a competitive advantage. The Impactt study,²⁴ which focused on means to reduce overtime in the Chinese supply chains of brands including Debenhams, Hennes & Mauritz, Kingfisher, New Look, Pentland/Ellesse and Sainsburys, clearly demonstrated that moving away from the compliance/audit approach and instead working to improve internal quality and productivity management systems, can materially improve labour conditions and affect the bottom line.

Leading brands are seeking to develop long term strategic partnerships with their suppliers

The study further illustrated the following business benefits:

- a reduction in reworking of at least 25% with significant implications for worker overtime
- reduced worker turnover
- increase in total monthly pay despite the fact that workers were working fewer hours due to improved worker productivity

The reality is that, even with an abundance of well meaning codes and standards, no company can on its own solve the labour and environmental problems and mitigate the associated risks persisting in Asia's supply chains. Consequently, in addition to advocating engagement and investing in long term strategic partnerships to address this situation, leading brands are consolidating codes and standards through collaborative industry-based networks. Collaboration is visible in both the apparel, and more latterly, the electronics sectors.

Figure 16 Overview of Benefits Identified Through the Impactt Study

The Impactt project identified a number of benefits which could be accrued by the relevant parties including the workers themselves, factory managers and purchasing companies. However these benefits should not be taken for granted without recognising that there are still challenges to achieving such positive outcomes.

Workers clearly benefited from reduced hours, increased number of days off per month and increased pay. In addition to which, relationships between managers and workers improved through less tension and increased respect, leading to better team working. The project also brought other unexpected improvements that made a real impact on workers' quality of life, such as better food and recreational facilities.

Factory Managers benefited as reduced working hours moved the respective factories towards legal compliance. This change also improved relationships with international customers. Factory managers also gained savings on factory

overheads such as utilities and special overtime allowances, thereby lowering production costs. Reduced worker turnover also brought financial and management benefits to the factory.

Managers gained through improving their quality management skills. At the start of the project, factories collected some quality data in accordance with customer requirements. In most cases this data was not used to analyse problems or support improvements. Through the project, factory managers learned what data to collect for quality and output/productivity and how to display, analyse and use this data in order to drive productivity improvements that benefited their business.

Purchasing Companies benefit from enhanced relationships with key suppliers, better service from suppliers in terms of controlled delivery and improved product quality, and reduced reputational risk.

The primary challenge for purchasers is the need to work with suppliers over an extended period of time on issues of hours and pay rather than demand immediate compliance. This means understanding the pressures on factories, having realistic expectations of achievable changes and rewarding factories for honesty, even when this reveals 'non-compliances'. Purchasing companies need to work with the factories to incentivise and support incremental change in order to rebuild the trust that has been eroded by overly strict compliance practices.

A significant issue identified by the purchasers involved in the project is the companies' ability to replicate the model across supply chains in a resource and cost-efficient manner. There is also a need to build understanding and skills around these issues both in purchasing companies and in the supply chain. A specific element of this challenge is the need to build local capacity and expertise in order for factories to have access to support that can be tailored to their needs.

Source: Extracted from: [An SRI Perspective on The Impactt Overtime Project](#)

Figure 17 Examples of Collaboration on Codes of Conduct

Examples include:

- Nike, Gap and Patagonia plus several other apparel companies and several nonprofits have agreed to develop uniform standards and a shared inspection system through a project known as 'the joint initiative on corporate accountability and workers' rights'
- Although characteristically there is generally less collaboration within the ICT sector, mainly because the sector demands greater autonomy due to intellectual property aspects of the business, Dell, IBM and HP have developed the Electronics Industry Code of Conduct. Along with Solectron, Sanmina-SCI, Flextronics, Jabil and Celestica, these companies were the first to adopt the code in October 2004, shortly followed by Cisco, Intel and Microsoft. It would appear the intention is to make conformance with the code integral to doing business within the sector
- Through the Global e-Sustainability Initiative (GeSI), leading ICT brands and the electronic industry code of conduct implementation group are looking to publish a supplier self assessment questionnaire
- The National Retail Federation of the US, the Retail Council of Canada and Reebok established the Fair Factories Clearinghouse to provide a database of company audit results

We believe that leading supplier companies will be those that can respond to codes and standards stipulated by customers, demonstrate commitment to continuous improvement and express a willingness to engage with customers. At the same time, these companies should:

- develop capacity in human resource, EHS and quality management
- provide a high level of transparency
- invest in people and systems
- where standard-setting remains a controversial area, engage with a range of public sector and civil society groups

Because much of the debate about ESG issues in the supply chain has been focused on the performance of the T&A sector, this sector is generally considered to be more advanced in addressing supply chain sustainability risks. In contrast, the ICT sector, which generally regards itself to be cleaner and more sophisticated than the T&A industry, is only just beginning to acknowledge the issues despite having a high risk profile from the environmental and labour perspective. Industry experts believe that given the comparative inactivity in the electronics sector on sustainability issues and the limited scope of industry standard-setting, the electronics sector is a likely target for future NGO campaigns.

For investors in industries supported by global supply chains, the adoption of codes of conduct and industry standards should be taken as a signal that sustainability issues have the potential to begin changing the competitive landscape. Codes and standards are in many industries a defensive move intended to give industry participants a safe harbor. As companies begin to adopt differentiated supply chain strategies, however, the cost and performance implications of compliance will become much more material. At the same time, investors will want to evaluate how Asian supplier companies build and protect their credibility. Just as investors have grown cynical about brands with codes but little performance data, Asian investors will learn to link sustainability compliance with other performance metrics.

THE INFLUENCE OF ESG REGULATORY HURDLES ON EXPORT MARKET ACCESS

Asian supply chain companies are being exposed to the demands of the international market place and the requirements of increasingly stringent international regulation. Indeed, access to developed markets is often contingent upon the manufacturers' ability to meet detailed product content and performance specifications. Export market access is therefore increasingly being influenced, or even controlled, by ESG regulatory hurdles. The ICT sector provides a good example of the issues and risks that supply chain companies are now facing as a result.

Rapid obsolescence of ICT products has resulted in a highly visible and significant e-waste

Campaigns over poor working conditions, health effects and environmental performance of the ICT sector are gaining momentum with a particular focus over the past year on high tech waste. The rapid development of technology and resulting obsolescence of ICT products has resulted in a highly visible and significant e-waste problem. E-waste often requires new and expensive collection and recycling programs in user markets. In addition, significant attention has been focussed on the export of e-waste for recycling to Asia, where workers are consequently exposed to harsh working conditions including exposure to toxic materials. In response, the EU has developed directives which specifically address these issues.

Figure 18 EU Directives — Setting the Standard for Market Access

The Restriction of Certain Hazardous Substances (RoHS) Directive (becomes effective from 1st July 2006)

The Directive requires the substitution of various heavy metals such as lead, mercury, cadmium, hexavalent chromium and brominated flame retardants polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) in new electrical and electronic equipment from 1 July 2006. Manufacturers of EEE outside of Europe must also abide by this legislation if the equipment is imported into an EU member state. It is intended that this will provide incentives to design electrical and electronic equipment in an environmentally more efficient way which takes waste management aspects fully into account.

Source: europa.eu.int/comm/environment/waste/weee_index.htm

The Waste Electrical and Electronic Equipment (WEEE) Directive (effective from 13th August 2005)

Responding to the rapid growth in electrical and electronic equipment constituents in waste streams, the WEEE Directive aims to reduce the quantity of electrical waste by making equipment producers responsible for financing the end of life costs. The Directive sets out requirements on criteria for the collection, treatment, recycling and recovery of WEEE. In the UK for example, WEEE Regulations specify that waste producers must register with the National Clearing House (NCH), provide annual data to NCH, finance the costs of collection, treatment and recovery and environmentally sound disposal and report evidence of this to NCH.

Source: www.dti.gov.uk/sustainability/weee/WEEEGuidance_draft.pdf

Directive on the Eco-design of Energy-using Products (EUPs) (adopted by the European Parliament July 2005)

The directive is intended to improve the environmental performance of energy-using products by establishing rules for eco-design and ensuring that disparities among national regulations do not become obstacles to intra-EU trade. It defines conditions and criteria for setting requirements for environmentally relevant product characteristics (such as energy consumption). The EU expects that products which fulfil the requirements will benefit both businesses and consumers by facilitating free movement of goods across the EU and by enhancing product quality and environmental protection.

Source: europa.eu.int/comm/enterprise/eco_design/

Figure 18 (continued)

Registration, Evaluation and Authorisation of Chemicals (REACH)

The EU's REACH proposal increases the responsibility of industry to manage the risks from chemicals and to provide safety information on the substances. Manufacturers and importers will be required to gather information on the properties of their substances, which will help them manage them safely, and to register the information in a central database. A Chemicals Agency will act as the central point in the REACH system: it will run the databases necessary to operate the system, co-ordinate the in-depth evaluation of suspicious chemicals and run a public database in which consumers and professionals can find hazard information.

Source: europa.eu.int/comm/environment/chemicals/reach.htm

Note: REACH has proved to be extremely controversial due to the potential expense and the implications to the chemical industry worldwide and not just in Europe. After 2 years of negotiations, the European Parliament adopted the legislation in November 2005. The chemicals industry appears to have won some concessions, in as much as the list of substances to be tested has been reduced from 30,000 to 15,000.

The implications of introducing such requirements are significant for the Asian supply chain given its importance as a manufacturing base for ICT products. Taking the WEEE and RoHS directives as examples, whilst there is still much debate over the impact on companies in Asia, there seems to be some consensus on the reality of significant financial consequences. Companies in the electronics sector affected by the legislation must modify their manufacturing and design processes to comply. In doing so they must spend time and resources on testing and monitoring and also temporarily managing separate streams of compliant and non-compliant inventory. As an example, Dell has already banned hexavalent chromium, PBBs, PBDEs and cadmium and has aggressive goals to restrict the use of other substances such as lead, mercury and non-regulated halogenated flame retardants in its products in advance of legal requirements. However, an important customer such as Dell demands such standards, then this may provide the impetus to raise the standards for other customers. Compliance with RoHS is anticipated to be a significant challenge both technically and logistically.

Asian countries such as South Korea, Japan and China are responding by developing legislation similar to WEEE. In 2003, the Korean Ministry of the Environment introduced an Extended Producer Responsibility Scheme which imposes mandatory recycling amounts on certain products including electronic and electrical equipment. The scheme is based on a deposit refund framework which has been in place since 1992. These schemes have provided an invaluable opportunity for Korean companies to place themselves in a favourable position in terms of preparing for and complying with the WEEE directive. Korea's regulations addressing the requirements of WEEE are anticipated to come into force in 2008.

Countries such as South Korea, Japan and China are developing their own legislative standards

The situation that many companies in Asia are now faced with as a result of WEEE and RoHS is not new, as illustrated by experiences of the automobile sector and the introduction of the EU End of Life Vehicle Directive (ELV) in 2003, nor will it be the last. As globalisation of supply chains has brought such international requirements much closer to home, both the preparedness and demonstrable ability of supply chain companies to anticipate and respond to end-user market standards is crucial.

The expansion of the global supply chain therefore has had tangible impacts on consumer attitudes about corporate social responsibility. Black box manufacturing strategies are no longer respected if it means that consumers and importing governments cannot judge the sustainability impacts of the supply chain and product life cycle costs. This is not just a developed market issue. Globalization means that Asian companies are increasingly asked by Asian consumers about production standards and CSR. Consequently, both the preparedness and demonstrable ability of supply chain companies to respond to end-user market standards is certain to become a bigger issue both for Asian suppliers and home grown brands.

Figure 19 An Example of Addressing RoHS —LTK Cables (subsidiary of Hong Kong-listed Gold Peak)

In addressing the RoHS requirement, since 2003 LTK has required that products containing any of the prescribed six hazardous substances have to be re-designed or withdrawn. Suppliers are required to sign an agreement declaring that the raw materials are free from hazardous substances. Meanwhile, third party laboratory test reports are used to verify their materials' compliance. In house laboratory tests are performed to ensure that products are compliant. LTK is working with Underwriters Laboratories' (UL) Restricted Substances Compliance Solutions (RSCS) programme as its core compliance programme which serves as the starting point for the company meeting future regulations globally. UL's compliant components database further assists in sourcing suppliers who are compliant in the regulations.

Source: LTK Cables, 2005

THE LONGER TERM: A SHIFT TO STRATEGIC ENGAGEMENT

From carrot-and-stick strategies to engagement and investment

Supply chains consist of a complex network of organisations often with different and conflicting objectives

Clearly, the globalised business model is increasing the complexity of supply chains and raising the bar for supply chain management. As traditional vertically integrated business models morph into supplier networks, buyers are faced with an increasing number of diverse suppliers and service providers located thousands of miles from home base. These supply chains consist of a complex network of organisations often with different and conflicting objectives and which are increasingly discussed in terms of three key strategic characteristics: agility, alignment, and adaptability/flexibility²⁵. Whilst there seems little doubt amongst industry analysts and supply chain experts that, aside from cost effectiveness, these characteristics are in fact prerequisites of superior supply chain performance, the globalization of supply chains has

arguably created additional pressures in addressing these requirements and in all likelihood has complicated sourcing and inventory management.

The links of any supply chain are forged through relationships between buyers and suppliers. These relationships may constitute purely contractual alliances or they may constitute strategic partnerships. Whichever model is chosen, relationships and their development are crucial to managing the sustainability risks within the supply chain and are a significant influencing factor on the supply chain's agility and flexibility. Buyer/supplier alignment is an important factor in ensuring that conflicting objectives of suppliers and their customers are managed.

Generally speaking, no one party is responsible for poor supply chain performance in the sustainability context. Indeed, we are beginning to see leading brands acknowledging that the conditions they impose on suppliers, which may be a result of internal policies and poor supply chain and quality management at the company level, are very much part of the problem. As an example, it is not uncommon for companies to get demand forecasts wrong by up to 40-60%, with lead times being far in excess of customer requirements. Inaccurate forecasting by buyers has obvious and significant implications for production and is likely to perpetuate unsatisfactory working conditions as well as potentially resulting in management issues such as increased worker turnover.

Against this backdrop, we are seeing an increasing trend of leading global brands developing strategic partnerships with suppliers with the intention of forging long term relationships. Brands such as adidas-Salomon, Nike, HP, Dell, Gap Inc. are clearly being driven by recognition of sustainability impacts and supplier partnerships to provide the opportunity to integrate sustainability issues into their business models.

There is an increasing trend of leading global brands developing strategic partnerships with suppliers

As customers deal with fewer suppliers, opportunities are created for relationship development, making it possible to solve structural sustainability problems rather than relying on a more traditional carrot and stick approach. Short-term impacts of higher standards can be mixed, however. While over the longer term higher standards should translate into broad-based economic and social benefits, social goals can be compromised when underperforming factories lose business due to poor standards. The "ethical unemployment" dilemma is one which has troubled activist groups and increasingly brands are seeking ways to identify and work with underperforming suppliers rather than simply walk away.

Overall, we believe that supply chain partnerships will be a crucial feature of successful long-term global business models. Companies that have aligned, flexible and responsive supply chains will lead the pack in mitigating sustainability risks. The task for investors in Asian supplier companies is to become better informed about the issues which are shaping supply relationships, especially new non-price variables. This has historically been an opaque issue with Asian suppliers often reluctant to characterize their key customer relationships in transparent or strategic terms. Indeed, the proliferation of multi-tiered supply chains often means that the key brand company driving demand may be two tiers away from the Asian listed supplier. As a result, investors should be alert to pricing, quality and performance terms across the supply chain in order to

Investors must be alert to pricing, quality, and performance terms across the supply chain to understand suppliers' competitive position and sustainability performance

accurately understand a given supplier's competitive position and sustainability performance.

Structural shifts as suppliers aim for higher margins

Japanese auto makers Toyota and Honda provide interesting insights in the supply chain context. Indeed, their supply chain strategy highlights the structural differences between sectors which can influence supply chain dynamics. For the leaders in the Japanese auto sector, maintaining relationships with specialised suppliers has generally taken priority over seeking suppliers defined by low labour costs. Where supply chains involve skilled workers and the development of technological expertise, such as the requisite design and engineering skills in the auto sector, suppliers will have greater leverage over their customers, effectively increasing supplier switching costs. The design and engineering skills of first tier suppliers also places them strategically at the forefront of addressing the longer term and somewhat inevitable demand for more fuel efficient and cleaner vehicles. Those suppliers that are in the longer term able to rise to the challenge and engineer solutions will position themselves to gain market share.

By comparison, the apparel sector is largely dependent on unskilled workers and relies significantly on low wage cost advantages. As a result, switching between contract manufacturers is relatively easy, widely practiced and therefore does not engender the development of partnerships. It is not uncommon for listed companies, such as Luen Thai Holdings Ltd., to cite the fact that the company has no long term contracts with any of its customers as a risk factor. Strategically, Luen Thai provides a good example of a company in the apparel sector that is beginning to increase its leverage with customers though extending its services throughout the supply chain, essentially adding design and logistics skills to preserve margins. With its Design-to-Store strategy, Luen Thai intends to adopt a collaborative end-to-end approach to satisfy the needs of its customers at every stage of the supply chain including design, product development, material management, production and delivery of finished goods to store. "Design-to-store calls for strong partnership and sound infrastructure on IT systems and logistics. As a result of such collaboration, our customers save costs by eliminating waste and redundancies from the supply chain".

Similarly, footwear manufacturer Yue Yuen is expanding its position upstream and downstream of the manufacturing process creating a vertically integrated supply chain, which also has additional benefits in the form of more effective information exchange. Yue Yuen states a key shareholder driver as being a business model emphasising strong partnerships with global brand customers.

Figure 20 Yue Yuen's Model

A leading supplier of branded athletic apparel and footwear, Yue Yuen is teaming up with leading players in the upstream footwear material production to provide fully integrated services in the upstream material supply chain. To accelerate its downstream vertical integration Yue Yuen has entered into a joint venture agreement with a leading logistics provider — offering fully integrated supply chain and logistics solutions that shorten lead times for inbound materials and outbound products.

Source: Yue Yuen Industrial (Holdings) Limited Company Fact Sheet

Another critical dynamic in the apparel sector is the issue of second sourcing as buyers endeavor to hedge against risks associated with reliance on suppliers in one locality, the SARs epidemic being a case in point. If consolidation progresses, buyers will need to think strategically about second sourcing. This situation can be both good and bad for sustainability. On the negative side, buyers choosing to source cheaply from low cost suppliers can perpetuate sustainability problems in the supply chain.

INVESTOR QUESTIONS FOR COMPANIES

For investors, we see considerable value in pushing beyond first-order questions about pricing and volumes to explore whether listed Asian supply chain companies are capable of making the investment needed to become a top tier supplier. The key issues of concern to quality sensitive brands are linked to suppliers' ability to invest in workforce training to reduce health and safety risks and improve yields. Dialogue with Asian companies about these critical areas of production software often yields valuable insights into the competitive issues which shape gross margins over the medium term.

Customer relationships and compliance

- How would you describe your operational relationship with your key customers?
- What policies, systems, and strategies does your company have in place to address environmental, social, health and safety issues?
- Do key customers request sustainability related information?
- Do customers undertake audits and if so, to what standards?
- What is the structure of customer payment? For example are there penalties for late delivery?
- How is compliance monitored?
- Where companies are certified, what are the main risks and hazards identified?

Internal management

- What are the figures and trends regarding employee turnover?
- How is training provided to ensure that employees are sufficiently skilled? Is induction training provided?
- Regarding compensation schemes, how are workers paid-are incentive schemes/penalty systems implemented?

Disclosure

- What is the timeframe on which your firm expects to disclose key sustainability data such as governance, safety and environmental performance?

Strategic management

- What is your firm's ability to monitor and respond to changing international regulations, such as product content and performance specifications?

RESOURCES

Company websites

- BYD www.byd.com.cn
- Dell www.dell.com
- Flextronics www.flextronics.com
- Gap Inc. www.gapinc.com
- Gold Peak www.gpbatteries.com.hk/html/company/index.html
- Hewlett Packard www.hp.com
- Li and Fung www.lifunggroup.com
- Luen Thai Holdings Ltd. www.luenthai.com/index.htm
- Nike www.nike.com
- Phillips www.phillips.com
- Samsung sdi www.samsungsdi.co.kr
- Texwinca www.texwinca.com
- Thai Carbon Black www.thaicarbon.com/index.htm
- Yue Yuen www.yueyuen.com

Examples of sustainability reporting

- 2004 Social Responsibility Report, Gap Inc. www.gapinc.com/public/documents/CSR_Report_04.pdf
- 2005 HP Global Citizenship Report, Hewlett Packard www.hp.com/hpinfo/globalcitizenship/gcreport
- Dell Sustainability Report, Fiscal Year 2005 www.dell.com/downloads/global/corporate/enviro/2005_Sustainability_Report.pdf
- FY04 Corporate Responsibility Report, Nike www.nike.com/nikebiz/nikebiz.jhtml; bsessionid=ZN3HCT2EZ01BMCQCGJDSF4YKAIZEQIZB? page=29&item=fy04
- Phillips Sustainability Report 2004, Phillips www.phillips.com/about/sustainability
- Sustainability Report 2004, Samsung SDI www.samsungsdi.co.kr/contents/en/companyinfo/sustain_01.html
- Toyota Environmental & Social Report 2005 www.toyota.co.jp/en/index.html

Useful web-based resources

- EICC Supplier Code of Conduct www.hp.com/hpinfo/globalcitizenship/environment/pdf/supcode.pdf
- Ethical Trade Initiative (ETI) www.ethicaltrade.org
- Fair Labour Association (FLA) www.fairlabour.org
- Global e-sustainability Initiative (Gesi) www.gesi.org
- Hong Kong Stock Exchanges and Clearing Limited — Investment Service Centre www.hkex.com.hk/listedco/listconews/sehk/search.asp
- International Finance Corporation (IFC) www.ifc.org/sustainability
- International Labour Organisation (ILO) www.ilo.org
- ISO14001 www.iso.org
- OHSAS 18001 www.ohsas-18001-occupational-health-and-safety.com/index.htm
- SA8000 www.cepaa.org
- Worldwide Responsible Apparel Production www.wrapapparel.org

Papers & further reading

- Accenture, 2003. *"Connecting with the Bottom Line — A Global Study of Supply Chain Leadership and its Contribution to the High-Performance Business"*
- Accenture, 2003. *"Supply Chains in Asia"*
- Asian Labour News, February 2005. *"UN Labour Body Expands Monitoring of Cambodia's Garment Factories"*
- Citigroup, May, 2003. *"Macro China How Cheap is Chinese Labour?"*
- Citigroup Global Markets, November 2004. *"Global Apparel and Textiles"*
- Deloitte Consulting, 2003. *"Mastering Complexity in Global Manufacturing — A Deloitte Research Global Manufacturing Survey"*
- F&C Asset Management and UBS, May 2005. *"HIV/AIDS Beyond Africa"*
- Goldman Sachs, June 2004. *"China's Textile/Apparel Manufacturing, The Big Bang in 2005"*
- Harvard Business Review, October 2004. *"The Triple A Supply Chain"*
- Harvard Business Review, October 2004. *"The 21st Century Supply Chain, Building Deep Supplier Relationships"*
- Impactt, 2005. *"Tackling Supply Chain Issues Through Business Practice — The Impactt Overtime Project"*
- ISIS Management plc, January 2004. *"The ICT Sector: The Management Of Social And Environmental Issues In The Supply And Disposal Chains"*
- Merrill Lynch, April 2005. *"Asia's Auto Parts Makers — Assessing Competitive Advantage and Exposure to Outsourcing"*
- Morgan Stanley, Equity Research August 2002. *"Supply Chain Trends"*
- Pwc 2004. *"Electronic Manufacturing — EMS at a Crossroads"*
- SAP White Paper, 2003. *"Quantifying the Impact of Supply Chain Glitches on Shareholder Value, the Significance of Supply Chain Networks"*
- Special Report, Corporate Social Issues Reporter, November 2004. *"Few Firms Vet Suppliers on Labor Rights, ITTC Finds"*

End notes

- 1 Accenture, 2003. *"Connecting with the Bottom Line"* — A Global Study of Supply Chain Leadership and its Contribution to the High-Performance Business
- 2 Professor Vinod, R Singal, 2003. Quantifying the Impact of Supply Chain Glitches on Shareholder Value
- 3 Ram Ganeshan & Terry P. Harrison, Penn State University, 1995. *"An Introduction to Supply Chain Management"*
- 4 Deloitte, 2003. *"Mastering Complexity in Global Manufacturing — A Deloitte Research Global Manufacturing Survey"*
- 5 Accenture, 2003. *"Supply Chains in Asia"*
- 6 Merrill Lynch, April 2005. *"Asia's Auto Parts Makers — Assessing Competitive Advantage and Exposure to Outsourcing"*
- 7 Asian Development Bank, 2002. *"The Automotive supply chain: Global Trends and Asian Perspectives"*
- 8 World Council for Sustainable Development
- 9 PwC, 2004. *"Electronic Manufacturing — EMS at a Crossroads"*
- 10 Frederick H. Abernathy, Anthony Volpe, and David Weil. *"The Future of the Apparel and Textile Industries: Prospects and Choices for Public and Private Actors"*, Harvard Center for Textile and Apparel Research
- 11 Safeguard quotas are temporary protection (generally quantitative restrictions) given to domestic industries in order to allow them the time required to adjust to potentially damaging import surges. Most safeguard measures are regulated by Article XIX of GATT 1994 (as interpreted by the WTO Agreement on Safeguards), but some agreements have their own rules, for example textiles and clothing, and agriculture- source: www.wto.org/english/thewto_e/minist_e/min96_e/textiles.htm
- 12 Welspun India, Abihshek Industries, Alok Industries
- 13 Impactt 2005. *"An SRI Perspective on The Impactt Overtime Project: Tackling Supply Chain Issues Through Business Practice"*
- 14 cited in *"The Pearl River Delta Migrant Shortage"* — CSR Asia Weekly Vol 1 week 9
- 15 ibid
- 16 Citigroup, 2003. *"Macro China How Cheap is Chinese Labour?"*
- 17 F&C Asset Management and UBS, May 2005. *"HIV/AIDS Beyond Africa"*
- 18 ibid
- 19 CSR Asia Weekly, Vol. 1 week 6, *"Hepatitis in China: The End of Discrimination?"*
- 20 ibid
- 21 ISIS Management plc., January 2004. *"The ICT Sector: The Management of Social and Environmental Issues In the Supply and Disposal Chains"*
- 22 ISO 14001:2004 Environmental Managements Systems — Requirements with Guidance for Use
- 23 Corporate Social Issues Reporter, November 2004. *"Few Firms Vet Suppliers on Labor Rights, ITTC Finds. Special Report"*
- 24 Impactt 2005. *"Tackling Supply Chain Issues Through Business Practice — The Impactt Overtime Project"*
- 25 Hau Lee, Harvard Business Review. *"The Triple A Supply Chain"*

About the Author

Sophie le Clue, Associate Director of Association for Sustainable & Responsible Investment in Asia. Sophie has a background in environmental protection. She started her career in the UK in 1989 working for an engineering consultants before moving to Hong Kong, where she has gained 13 years experience in environmental assessment and research in the Asia Pacific region. Her experience includes working on sustainability related issues for both the private sector in a consultant capacity as well as for the non profit sector. For several years she has been involved in sustainable development initiatives in Hong Kong and has been devoting time to furthering the interest and knowledge of sustainability and sustainable development locally through working with corporates, government and business associations, and including specific training to inform finance institutions about environmental and social considerations in project lending.

Sponsored by the International Finance Corporation (IFC) Sustainable Financial Markets Facility

ASrIA wishes to thank the IFC for its sponsorship of the project and the report ***Taking Stock: Adding Sustainability Variables to Asian Sectoral Analysis***. IFC's support has been provided via its Sustainable Financial Markets Facility (SFMF), a multi-donor technical assistance facility established to promote environmentally and socially responsible business practices in the financial sector in emerging markets. The SFMF is currently funded by IFC and the Governments of the Netherlands, Switzerland, Norway, Italy, Luxembourg and the UK. IFC is the private sector arm of the World Bank Group (www.ifc.org).

Editorial team: These reports were prepared by a multi-disciplinary team of Asia-based researchers. Their work benefited from significant peer review from sector specialists and investment professionals. We wish to thank Claire McLetchie for her contribution to the peer review process. From ASrIA, Carissa Chan Siu Wai managed the layout and design while David St. Maur Sheil coordinated the editorial process with support from Sweeta Motwani and Sophie le Clue. Finally, we wish to express our thanks to the IFC for their sponsorship of ***Taking Stock***.

Disclaimer: In light of the diversity of the Asian region, ASrIA does not guarantee that each sector report is a comprehensive survey of all potential sustainability topics. With the resources available, however, the reports make every effort to focus on key areas of relevance and to deliver data that is accurate and opinions that are objective and balanced.

All these reports are also freely available on the ASrIA website at: www.asria.org/publications

©ASrIA, 2006.

This report can be quoted in part or length for non-commercial purposes with due credit to ASrIA.



ABOUT ASrIA

The Association for Sustainable & Responsible Investment in Asia

www.asria.org

ASrIA is a not for profit, membership association dedicated to promoting corporate responsibility and sustainable investment practice in the Asia Pacific region. ASrIA's members include investment institutions managing over US\$4 trillion in assets, however membership is open to any organisation which has an interest in sustainable investment.

ASrIA has taken a leadership role in promoting sustainable investment in Asia since our founding in 2001. ASrIA has run conferences, seminars and workshops, and published wide-ranging research on SRI issues. ASrIA has also created a very wide network of organizations and individuals interested in the broad range of policy issues and investment strategies which are essential to the implementation of SRI in Asia. ASrIA's website, www.asria.org, is the primary resource for SRI in Asia, attracting over 4,000 page views per day and over 5,000 subscribers to our regular e-bulletin.

ABOUT IFC

The International Financial Corporation (IFC)

www.ifc.org

The International Financial Corporation (IFC) is the private sector arm of the World Bank Group. Its mission is to promote sustainable private sector investment in developing and transition countries, helping to reduce poverty and improve people's lives. IFC finances private sector investments in the developing world, mobilizes capital in the international financial markets, helps clients improve social and environmental sustainability, and provides technical assistance and advice to governments and businesses. From its founding 50 years ago, IFC has committed more than US\$49 billion of its own funds and arranged US\$24 billion in syndications for over 3,000 companies in 140 developing countries.

IFC's financial support to ASrIA for the *Taking Stock* report series is provided via the Corporation's Sustainable Financial Markets Facility (SFMF), a donor-funded technical assistance program focusing on socially and environmentally sustainable business practices in IFC's financial intermediaries and in the emerging market financial sector at large. SFMF in turn benefits from the generous financial support of IFC and the Governments of the Netherlands, Norway, Switzerland, Italy, Luxembourg and the UK.