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Textiles Intelligence
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Editorial: Responsible sourcing, traceability and workers' rights in the textile and apparel industry will be hot topics in 2018

INTRODUCTION

Efforts among fibre, textile and apparel companies to improve their corporate social responsibility (CSR) credentials showed no signs of abating in 2017, despite intense pressures to reduce costs.

Moreover, a number of initiatives observed in 2017 seem set to become hot topics in 2018.

One such initiative was a drive by textile and apparel manufacturers and brands to improve the traceability of the materials contained in their products.

Traceability—and, in particular, the ability to identify the raw materials in a product and the origin of those raw materials—is becoming an increasingly important component of the fashion industry's drive to increase the environmental sustainability of its operations.

In particular, traceability is enabling the industry to identify if the raw materials in its products are from sustainable sources, and the development of new identification technologies is providing a means for the industry to do so.

Traceability is set to become a hot topic in 2018 as manufacturers and brands are increasingly being held to account for the content of their products and the factories and locations where that content is sourced from.

It is no longer sufficient for manufacturers and brands to ensure that CSR principles are maintained only by the themselves. They must also ensure that such principles are maintained by all of the participants along their supply chains.

To meet the growing demand for traceable fibres, the Austrian company Lenzing has launched a fibre called EcoVero which, as well as being a more sustainable version of its viscose fibre, is fully traceable in the sense that its origins are easily verifiable (see page 75).

In another initiative, Welspun India, a producer of home textiles based in India, announced in late 2017 that it had invested US$6 mn in a patented fibre tracking "fingerprint" identification technology called Wel-Trak to help it to identify cotton fibres and hence improve transparency throughout the cotton textile supply chain.

The technology was developed in partnership with Oritain Global—a New Zealand-based company which specialises in supply chain traceability.

Oritain Global technology has already been introduced in the food industry.

As well as the partnership with Welspun India, Oritain Global has created new partnerships with a USA-based grower of supima cotton[1] called JG Boswell and an Australia-based upland cotton producer called Auscott.

Welspun India is looking to capitalise on what it sees as a high level of interest in the transparency and traceability of cotton supply lines, and its move comes at a time when the authenticity of Indian organic cotton is being called into question.

The Wel-Trak development project uses radio frequency identification (RFID) technology and in-house software to enable cotton to be tracked and its origin verified at every stage of the textile supply chain.

In a similar vein, Applied DNA Sciences (ADNAS) has developed systems for tagging and tracing cotton at the DNA level from the farm to the retail shelf in order to address concerns about the authenticity and purity of cotton.

Oritain Global claims that its "fingerprint" identification technology enables the origin of a sample of cotton to be scientifically verified by measuring the natural properties of the fibre and matching those properties with the claimed soils of origin to indicate the different geological and environmental conditions of the source.

These differences are then isolated and used to establish a "chemical fingerprint" of the sample's provenance. Samples claiming to be from that origin can then be tested against Oritain Global's database.

According to the chief executive officer (CEO) of Welspun India, Dipali Goenka, the company is deploying this solution in several cotton growing areas across the world, and is helping cotton farmers to grow better quality cotton and encouraging them to try organic cotton. In an interview with *The Economic Times*, Mr Goenka said: "Currently, we are guiding over 3,000 cotton farmers in the Wardha district near Nagpur and the Nakhatrana district near Bhuj and we are aiming to take it to at least 10,000 cotton farmers soon".

[1] Supima cotton is a premium extra-long staple fibre cotton grown in the USA.

Another company focusing on traceability is the Italian spinner Marchi & Fildi. The latter has a yarn collection called Ecotec which consists of yarns made in Italy using a traceable and certified process that converts pre-consumer, pre-dyed cotton waste—shredded from factory waste—into yarn (see page 72).

In the meantime, it is being argued in some quarters that the need for traceability and accountability could accelerate moves towards "reshoring[2]"—a process which, in the US market, is said to be gathering pace, albeit a slow pace, as buyers look for peace of mind in a geopolitical climate which has become less global and more nationalistic or, at best, more regional.

Manifestations of the change in the geopolitical climate include:

- the withdrawal of the USA from the Trans-Pacific Partnership (TPP) free trade agreement[3];
- efforts to renegotiate—or even terminate—the North American Free Trade Agreement (Nafta), which has governed trade between Canada, Mexico and the USA since early 1994; and
- the withdrawal of the USA from the Paris Agreement, which aims to curb global warming.

The move towards reshoring could also be accelerated by the rise in importance of Amazon in the fashion world. This stems from the fact that a major focus of Amazon is on getting the product to the consumer in the shortest possible time, and one way of reducing delivery times is to manufacture locally.

One significant US fabric supplier, Texollini, believes that Amazon will be "the game changer for the next ten years".

Another issue which came to the fore in 2017—and one which could increase the desire to know where and how textiles are being made—is the growing problem of pollution of the seas and other waterways by microfibres.

According to a recent study in the *Marine Pollution Bulletin*, researchers have tested water from the Hudson River and concluded that New York alone could be contributing 300 mn microfibres a day to the Atlantic Ocean.

[2] For further information, see "Editorial: Reshoring—a renaissance for the textile and apparel industries in advanced economies or a passing fad?", *Textile Outlook International*, No 180, June 2016.

[3] The Trans-Pacific Partnership (TPP) free trade agreement was signed in February 2016 by 12 countries, namely Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the USA and Vietnam. In January 2017, however, President Trump decided to withdraw the USA from the trade agreement. The other 11 signatories still want to implement the agreement and are therefore working to revise the deal in order to allow them to proceed without US involvement. The revised deal is being called the TPP-11—Trans-Pacific Partnership-11, or Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Most of the fibres originate from laundry run-off dumped into waterways. Moreover, laundry waste water becomes even more polluted when clothing starts to age. Thus, in an era when consumers are being encouraged to make their clothes last longer for environmental reasons, the problem of fibre pollution in the oceans could get worse.

Researchers testing water samples from the oceans were expecting to see higher concentrations of microfibres in samples obtained near industrial sites or waste water treatment facilities. However, according to Rachael Miller, the co-author of a study and director of the Rozalia Project[4], "there was no pattern across the whole Hudson River—from Lake Tear of the Clouds, an alpine remote beauty [spot], down to the heaving, thriving Manhattan. It was a real surprise."

The potential consequences of not knowing where or how materials are made came into sharp focus in 2017 with the publication of a shocking report by the International Trade Union Confederation (ITUC) on the treatment of workers in ten different countries (see below). The report, called the ITUC Global Rights Index 2017, is especially alarming for the textile and clothing industry as most of these countries are significant suppliers of fibres, textiles or clothing or a combination of these to the international market.

In 2018 supply chain participants will find themselves under increasing pressure not only to reassure their customers that the materials they supply are produced in accordance with CSR principles but also to provide proof that this is the case. It can be expected therefore that supply chain participants will come under increasing scrutiny from other participants in the chain—as well as from their customers.

By way of conclusion, *Sourcing Journal* noted that, in the world of sourcing, 2016 was a year of uncertainty while 2017 was "a year of realisation, decision, and action—a pivot toward embracing what's happening at retail and moving toward becoming the vessel to deliver on new demands".

It was noted that, in the year ahead, "companies will be looking to redefine their supply chains while retailers will be looking to redefine themselves. And whichever side of the fence you're on, everything will be about digitisation."

WORLD'S TEN WORST COUNTRIES FOR WORKERS' RIGHTS

As noted above, 2017 saw the publication of the International Trade Union Confederation (ITUC) Global Rights Index 2017.

[4] The Rozalia Project is working to curb the amount of microfibres in laundry waste water.

The report listed the ten worst countries in the world for workers' rights and, alarmingly, most of the these countries are significant suppliers of fibres, textiles or clothing or a combination of these to the international market.

According to the ITUC Global Rights Index 2017, the ten worst countries in the world for workers' rights in 2017 were:

- Qatar;
- the UAE;
- Egypt;
- the Philippines;
- Colombia;
- Kazakhstan;
- South Korea;
- Turkey;
- Bangladesh; and
- Guatemala.

Of these ten, eight countries—namely Egypt, the Philippines, Colombia, Kazakhstan, South Korea, Guatemala, Turkey and Bangladesh—are major suppliers of fibres, textiles or clothing, or a combination of two or more of these categories.

Companies which are starting to source from Myanmar may be glad to know that Myanmar does not appear in the above list. These companies should be aware, however, that the ranking of Myanmar worsened in 2017 compared with the previous year.

Abuses of workers' rights extend from the less serious to what could be seen as the most serious of all. According to the ITUC, workers in some countries—including, among others, Bangladesh, Brazil, Colombia, Guatemala, Honduras, Mexico and Peru and, surprisingly, Italy—actually lost their lives because of their trade union activity.

Countries in the index are ranked on a scale of 1-5 (5 being the worst) based on how much respect they are judged to have for workers' rights—based in turn on a number of criteria, which include:

- civil rights;
- the right to bargain collectively;
- the right to strike;
- the right to freely associate; and
- access to due process rights.

All of the countries which rank among the world's worst ten were given scores of 5, indicating no guarantee of workers' rights.

But there were also a number of other countries which were given a score of 5, and many of these countries are used as textile and/or clothing sourcing locations on a significant scale—including Cambodia, China, Honduras, India, Indonesia, Mexico, Myanmar, Pakistan and Vietnam.

At the other end of the scale, just 12 countries earned the most favourable score, 1, which means that workers' rights are not regularly violated in the country.

As many as 11 of these 12 countries are in Europe, and it might be expected that the 12th country with a favourable score is the USA. However, this expectation would be incorrect as the 12th country with a score of 1 is Uruguay.

In fact, the USA fell far behind that with a poor score, 4, indicating that the country is host to the systematic violation of workers' rights.

According to the ITUC report: "Rights to freedom of expression and freedom of assembly were violated in 50 countries in 2017. This is concerning as they are important enabling rights for workers ... The ability of workers to organise allows them to use their collective power to achieve improved labour rights, health and safety at the workplace, the right not to be discriminated against and freedom from forced labour and child labour."

EXAMPLES OF PROBLEMS IN THE WORLD'S TEN WORST COUNTRIES FOR WORKERS' RIGHTS, BY COUNTRY

According to the ITUC report, workers participating in trade unions in **Egypt** are suffering "severe" discrimination and repression. In 2017 workers striking over cuts to bonuses were attacked and arrested while other workers at a shipping company who had been refusing to work and were protesting peacefully in order to seek a salary increase were detained. Some workers were sentenced to two years in prison.

Another country accused of violations of human rights and trade union rights is **Bangladesh**. In December 2017 there was a well publicised strike among garment workers in Ashulia, near Dhaka, which led to the suspension or dismissal of more than 1,600 workers for refusing to work while seeking a wage increase.

Another indicator of the level of discrimination against trade unions in Bangladesh is provided by figures showing that only 10% of ready-made garment factories in the country have registered trade unions. Having said that, there is a requirement that at least 30% of the workers in a factory must agree to the formation of a union in order for the union to be registered. Consequently, there may be a large number of trade unions which are not registered, resulting in significant under-reporting of the true extent of unionisation.

Colombia has made significant progress towards improving workers' rights. However, according to the ITUC report, the country still has some way to go: "It should not be forgotten that Colombia remains one of the worst violators of trade union rights with a horrendous record for impunity regarding the murders of trade unionists".

It is noted in the ITUC report that a beverage company called Postobon is running an "aggressive" anti-union policy in the country, and that by August 2016 more than 3,000 unionised workers had been dismissed from their posts.

In **Guatemala** a union leader was murdered in June 2016 and the repression of trade unions has continued since then. According to the ITUC report: "Not only has the government failed to provide prompt and adequate protection to trade unionists who have received death threats but the public prosecutor has failed to effectively pursue the many historic cases of murders of trade unionists".

In **Turkey** trade unions and their members are said to have become "public enemies" since the attempted coup in July 2016. The ITUC report notes that: "Over 100,000 public sector workers have lost their jobs in systematic purges by the Erdogan government while others have been transferred or suspended. Also, trade union leaders have been attacked, arrested and jailed and protests have been repressed by police or banned altogether."

RESPONSIBLY SOURCED COTTON, USAGE OF RECYCLED MATERIALS AND FACTORY COMPLIANCE: RECENT PROGRESS MADE BY TIMBERLAND

In its corporate social responsibility (CSR) report for the third quarter of 2017, the USA-based outdoor lifestyle brand Timberland reported that it had increased the amount of responsibly sourced cotton which is used in its product supply chain to make apparel items by 10% compared with the third quarter of 2016. As a result, responsibly sourced cotton accounted for 79% of the total amount of cotton used.

Within this 79% share, 42% was Better Cotton, licensed by the Better Cotton Initiative (BCI)[5], while 30% was organic cotton and 7% was cotton of US origin.

[5] The Better Cotton Initiative (BCI) defines Better Cotton as cotton which is grown according to the Better Cotton Standard System. The term Better Cotton refers to the way that the cotton is grown, not to the quality or the specifications of the fibre itself. Also, Better Cotton is not a certification programme as such but a licensing programme based on continuous improvement. For further information, see: "Editorial: Sustainability in the textile and apparel supply chain starts with raw materials", *Textile Outlook International*, No 182, published November 2016; and "Talking strategy: Corin Wood-Jones of the Better Cotton Initiative discusses the benefits of Better Cotton", *Global Apparel Markets*, No 34, published January 2017.

86% of the total amount of cotton used in Timberland products is employed in what the company refers to as its "internal global apparel manufacturing" while 7% is sourced by its licensees and 7% by its Central America apparel operations.

Looking ahead, Timberland has set itself the goal of increasing the proportion of responsibly sourced cotton in its clothing products to 100% by 2020, and will draw its requirements for responsibly sourced cotton from the three aforementioned categories, namely: organic cotton, cotton of US origin and Better Cotton.

According to the company's CSR report for the third quarter of 2017, "Chemicals [which are] used to grow cotton can be detrimental to the health of farmers, and seep into run-off water—[thereby] poisoning lakes, rivers, and waterways. As such, Timberland has had a longstanding goal of increasing our use of organic cotton year over year. Organic cotton remains our preference; however, when organic cotton is not feasible, we commit to eliminating our use of conventionally grown cotton."

In addition to increasing its use of responsibly sourced cotton, Timberland also noted in its report that in 2016 it used "recycled, organic and renewable (ROR) materials" in 83.8% of all the footwear shipped and incorporated more than 820,000 lb (372 tons) of recycled polyethylene terephthalate (PET) in its footwear—which equated to about 37.7 mn plastic water bottles. Additionally, the company said that its footwear packaging was made entirely from recycled materials, and at least 80% of this was derived from post-consumer waste.

Timberland also claims to have made progress with its factory compliance goals[6]. 40% of the factories it uses received an "accepted" rating by Timberland—indicating that the facilities had no serious health, labour or safety issues throughout their operations.

59% of the companies were rated "developmental". However, these factories are working on improving their working conditions and will receive follow-up audits within six to nine months.

At the end of the third quarter of 2017, Timberland's products were manufactured in 365 factories worldwide—comprising 139 factories producing apparel, 97 factories producing licensed goods and accessories, 72 factories producing footwear, 28 tanneries, 17 fabric mills and 12 independent distributor factories.

[6] Timberland audits its factories on the basis of VF Corporation's Terms of Engagement and Global Compliance Principles. These replaced its own code of conduct in 2011.

RESPONSIBLE SOURCING: HOW SAFE IS BANGLADESH'S READY-MADE GARMENT INDUSTRY?

The tragic collapse of the Rana Plaza building in 2013[7] led to a train of events which caused a major upheaval in the ready-made garment industry in Bangladesh and an ambitious programme of measures to improve worker safety in the industry.

As well as the collapse of the building, fire is a common hazard in Bangladeshi factories—as in many factories in various parts of the world.

Two outcomes of the collapse of Rana Plaza were the formation of the Alliance for Bangladesh Worker Safety—a US-led measure which includes Macy's, Target and Walmart among its signatories—and the formation of the Accord on Fire and Building Safety in Bangladesh, an EU-led measure which includes Adidas, Inditex and H&M among its signatories. The Alliance has declared that it will not renew its tenure and therefore its activities will be phased out. The work of the Alliance will instead be carried out by an agency called Shonman which has been created by the Bangladesh Garment Manufacturers and Exporters Association (BGMEA). The Accord, by contrast, has stated that it will continue its work in Bangladesh beyond its original deadline of May 2018.

Notwithstanding the huge efforts made by the Alliance and the Accord in improving worker safety in the Bangladeshi ready-made garment industry, a report published in September 2017 cast doubt on how safe the industry really is.

The problem lies mainly with the fact that large numbers of subcontractor factories appear to remain unaccounted for. Furthermore, despite considerable efforts to remediate some of the country's other factories, many are still lacking when it comes to adequate fire and safety standards because of limited funding and oversight.

The report published in September 2017 was in the form of a research brief released by the NYU Stern Center for Business and Human Rights, which has done extensive research into the ready-made garment industry in Bangladesh.

[7] Rana Plaza—an eight-storey commercial building near Dhaka, Bangladesh, which housed a mall and five garment factories employing more than 3,000 workers—collapsed on April 24, 2013, killing more than 1,100 people and leaving several hundred others injured. Most of the people who died were apparel workers. Garments made at the factories were supplied to a number of apparel retailers and brands in Europe and North America, including Benetton, Bonmarché, El Corte Inglés, Joe Fresh, Kik, Mango, Matalan, Primark, Texman and The Children's Place.

In particular, the brief cast doubts on an estimate in a study published in June 2016 by the International Finance Corporation (IFC) and the International Labour Organization (ILO). The estimate related to the amount of money needed to bridge a funding gap between the cost of addressing safety issues in Bangladesh and the capital available to fund them, arguing that the estimate fell far short of reality.

According to the brief, the IFC/ILO study was limited to about 4,000 factories which had been identified by three major initiatives—the Bangladesh Accord on Fire and Building Safety, the Alliance for Bangladesh Worker Safety, and Bangladesh's own National Tripartite Plan of Action on Fire Safety and Structural Integrity in the Garment Sector (NTPA)—and therefore it did not include the true scope of the facilities which were producing garments for export in Bangladesh.

This is because research by the NYU Stern Center for Business and Human Rights estimates that there are about 7,100 factories and facilities in Bangladesh producing for export while a subsequent study by BRAC University and the BGMEA concluded that there were more than 8,000 factories producing for export—double the 4,000 factories identified by the IFC/ILO study.

The research brief also said that the IFC/ILO study "did not address major deficiencies in Bangladesh's critical infrastructure".

Remedying what is needed in the ready-made garment sector in Bangladesh, according to the NYU Stern Center, will be a "considerably larger and more expensive endeavour".

As many as 3,200 factories are missing from the IFC/ILO study figures, which were said to include factories enrolled under the Bangladesh Accord on Fire and Building Safety and the Alliance for Bangladesh Worker Safety, as well as Bangladesh's own National Tripartite Plan of Action on Fire Safety and Structural Integrity in the Garment Sector (NTPA), and would have been based on the BGMEA's overall estimate of 4,296 garment factories in the country.

The estimate of 7,100 factories was included in a report published in 2015, "Beyond the Tip of the Iceberg: Bangladesh's Forgotten Apparel Workers", also by NYU's Stern Center. At the time, the report was criticised by stakeholders in Bangladesh who claimed that it double counted certain factories and included others which were no longer in operation—including Rana Plaza.

However, in an interview with *Sourcing Journal*, the research director and author of the brief published in June 2016, Dorothée Baumann-Pauly, defended the allegation that the number of factories had been underestimated, arguing: "There's mounting evidence now that this universe of factories in Bangladesh is currently larger than any stakeholder is willing to acknowledge. If you now assume a universe of factories that's larger than 8,000, that just shows that a lot of workers are still unprotected and fall outside of the scope of these programmes.

"Subcontracting has been an ongoing problem in low wage sourcing countries as factories pressed for deadlines will dole out work to smaller factories—many of which are unaccounted for and often unsafe—in order to help them to meet demand. And in most cases the brands remain largely unaware of the extent of this practice and the identity of the factories involved."

According to Ms Baumann-Pauly: "Although news about subcontracting has gone quieter since Bangladesh has been under increased scrutiny post-Rana Plaza, the problem hasn't abated. Those subcontractors work in a very dark world, and they've just developed their work even further underground than before. With all these factories considered, the ones which are not counted in many of the estimates of the size of the garment sector, the total cost of remediation of the industry could exceed US$1 bn."

As noted on page 12, the BGMEA will form its own agency, called Shonman, to undertake factory inspection and remediation efforts in a manner which will be similar to the work carried out by the Alliance and the Accord.

The new agency will start up in January 2018 and will be run by an ombudsman selected by the prime minister and have a steering committee comprising members of the BGMEA, the Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), the ILO, brands, trade unions and labour ministries.

However, many have expressed doubt as to how effective the new agency will be. According to Ms Baumann-Pauly: "The universe that they take on is even smaller than what falls under the Accord and Alliance. They would only make sure the facilities that are remediated under the Accord and Alliance stay safe."

SOURCING IN 2018: PREDICTIONS AND CHALLENGES

To gain some insight into the prospects for sourcing in 2018, *Sourcing Journal* spoke to three leaders in sourcing:

- the chief executive officer (CEO) of The Connor Group, William E Connor II;
- the group president and executive director of Li & Fung, Marc Compagnon; and
- the chief executive officer (CEO) of Luen Thai Holdings Limited, Raymond Tan.

Surprisingly, not one of these leaders made any reference to corporate social responsibility (CSR) in general or to environmental sustainability in particular.

WHAT DEFINED SOURCING IN 2017?

William E Connor II, The Connor Group: "There was no single major takeaway but rather a continuation of the changes we've been witnessing over the past few years. Business is generally flat, particularly for bricks and mortar retailers. Tighter inventory control coupled with demands for lower cost and increased speed to market have placed greater pressure on vendors and sourcing partners. There is continuing demand for lower minimum order quantities (MOQs).

"There is heightened demand for added-value services from sourcing partners, most particularly in the area of product development and design and the empowering of sourcing partners to undertake product approval decisions. In some cases, retailers and brands are asking their sourcing partners to function as their *de facto* import department.

"Given market challenges, retailers are focused on delivering best possible value for the end customer. While the value proposition is variable by retailer and category, the one constant is a focus on delivering the very best quality/price product value to the customer as seamlessly, and as rapidly, as possible. Having visibility from concept to delivery is more crucial than ever."

Marc Compagnon, Li & Fung: "Speed, speed, speed. The continuous growth of e-commerce has consumers playing a more critical role in what brands and retailers produce and thus [it] affects how they source products. Brands and retailers continue to place more orders but in smaller quantities and they need to do it faster. When we speak to our customers, speed is the core message in the conversations and they are looking for ways and partners who have a diverse global vendor base [and] strong industry knowledge and are flexible in sourcing near shore as well as offshore, to help them move faster and provide new products to consumers with shorter lead times. To us, speed is the new currency at retail. At Li & Fung, we are focused on being more agile and producing results more quickly by simplifying processes, using technology and embracing new ways of working with our customers and other industry partners.

"Apart from speed, during 2017 the geopolitical landscape continued to be a key consideration for the sourcing industry overall. Events like Brexit, uncertainty in the USA and the rise of populism around the world are issues that have impacted not only sourcing decisions but also global trade policies and agreements.

"A key lesson from this is that retailers and brands need a diverse sourcing strategy, leveraging multiple production markets to best manage the ongoing shift and moderate the uncertainty."

Raymond Tan, Luen Thai Holdings Limited: "There aren't any surprises about online taking up bigger market share globally and the industry restructuring in the US and EU. For those who didn't know about this in 2016 and took action facing 2017's business environment, they are most likely out of business or on the way out by now. I guess the biggest lesson learned in 2017 is the importance of the Chinese market and the new business model Nike announced recently. It is now very clear that those brands with the right China strategy and execution continue to do well, which is being reflected in their share price. The Chinese market growth allows global brands to offset some of the challenges they face at home. With Nike drastically reducing its customer base and building a direct to consumer model through e-commerce, it will transform the industry, which we all must face in the years to come. How would the future supply chain be with Asia (especially China) being more important than ever and how would our supply chain look when brands start to sell directly to its customers, bypassing the traditional distribution channels? These are two very important questions we need to ask ourselves."

WHAT WILL BE THE KEY CHALLENGE FACING SOURCING IN 2018?

William E Connor II, The Connor Group: "More of the same. Many of our retail clients are redefining their product and brand position to meet changing customer demand. This requires a nimble supply chain that can quickly identify and secure vendor capacity across multiple production origins. We will see more product customisation and product differentiation, all part of a greater emphasis on private label."

Marc Compagnon, Li & Fung: "In some ways, keeping up with the pace of change alone is the key challenge. During 2018, companies will need to cope with a continuation of disruptive macro trends such as demographic shifts, more orders in smaller quantities and shorter lead times, rapid advancements in technologies, the pressures of e-commerce and fast fashion, a mixture of sourcing near shore and offshore, and the need for manufacturers to upgrade their capabilities—including the digitalisation of their processes. Companies can not stand still. They will need to continue to evolve quickly, move faster and be innovative to meet the changing marketplace. Otherwise, progress will be challenged."

Raymond Tan, Luen Thai Holdings Limited: "Change is a must. The question is how and how fast. A lot of investment is being made in automation hoping to generate faster speed, more flexibility and better quality at lower cost. It takes time to plan, invest and execute these investments but there is so much new technology which could totally wipe out your investment in a very short period of time."

WHAT WILL SOURCING IN 2018 LOOK LIKE?

William E Connor II, The Connor Group: "We can expect a continued focus on aggressive first cost reduction, speed to market and best in class quality product. While labour rates and raw material costs may increase in 2018, they are relatively stable at the moment. Fluctuating exchange rates may also play a role, albeit not a big one in our view.

"We are implementing vendor consolidation programmes for many of our clients to leverage their spend with strategic partners to control capacity, reduce cost and accelerate deliveries.

"Private label is delivering greater margin than most national brands. We will see continued growth in private label for both traditional bricks and mortar and e-commerce sectors. While there are no untapped or 'new' production origins, many countries are improving their speed, quality, and design capabilities—in particular, Bangladesh, India, Indonesia and Vietnam. Africa is emerging as a strategic origin for large volume apparel programmes, given favourable duty rates."

Marc Compagnon, Li & Fung: "Disruption is accelerating, and retail will likely look completely different by the end of 2019. There may be further consolidation in the market, more movement from online to offline, and a true omnichannel model will emerge. It is very difficult to predict what the future holds but without a doubt it will be marked by constant change and evolution as well as a need for increased speed to market to meet the quickly moving demands of global consumers, who will, in reality, be driving more of the design and production processes than ever before."

Raymond Tan, Luen Thai Holdings Limited: "I believe digitalisation will be critical for sourcing in 2018, linking up the 'small data' from one end of the supply chain—fabric mills, trim suppliers and original equipment manufacturers (OEMs)—to the 'big data' at the end of the supply chain, creating a smart supply chain. The ability to link up the entire supply chain with full transparency is going to become the key competitive edge of any brands moving forward."

Robin Anson
Editorial Director, *Textile Outlook International*
December 28, 2017

World textile and apparel trade and production trends: South-East Asia

SUMMARY

Textile and clothing exports from Cambodia rose by 12.5% in 2016 although the industry's share of Cambodia's total exports fell for the second consecutive year. There were also declines in the number of factories and employment in the Cambodian textile and clothing industry. Much of the rise in textile and clothing exports stemmed from higher demand in the EU market, where sales of Cambodian textiles and clothing rose by 15.1%. Exports to the US market, by contrast, fell by 6.0%.

Textile and clothing exports from Indonesia fell by 3.7% in 2016—reflecting declines in exports to the EU and the USA—although during January-August 2017 they were up by 4.5%. Domestic demand for clothing at the retail level in Indonesia, meanwhile, declined by a sharp 11.5% in 2016 although it remained fairly stable during January-June 2017.

In Malaysia, textile and clothing exports fell by 4.8% in 2016, reflecting declines in exports to most of the country's major export markets. During January-June 2017, however, exports were up by a sharp 12.3%. Textile, clothing and footwear production, meanwhile, rose for the third consecutive year in 2016 and was also up during January-June 2017.

In the Philippines, clothing exports plunged by 25.4% in 2016 to their lowest level in several years, although they rebounded somewhat during January-September 2017. Sales in the US market declined in 2016 and during January-September 2017. Sales in the EU market, by contrast, increased in 2016 and were up during January-June 2017, and are expected to remain buoyant following the granting of GSP+ status to the Philippines under the EU's Generalised Scheme of Preferences (GSP) in December 2014.

In Thailand, textile and clothing exports fell by 4.7% in 2016, and during January-September 2017 they were up by just 0.1%. Furthermore, textile and clothing production declined in 2016 and was down during January-September 2017. The fall in exports in 2016 reflected declines in Thailand's three largest markets—namely the USA, the EU and Japan—although there were increases in exports to China and to the majority of Asean markets.

In Vietnam, textile and clothing export growth slowed to just 2.3% in 2016 but during January-August 2017 it picked up to 9.9%. Despite the slowdown in export growth in 2016, however, production continued to rise at a robust pace. Clothing production rose by 7.8% during the year while textile production increased by a faster 17.3%—in part to enable clothing manufacturers to take advantage of the preferential duty benefits of the EU-Vietnam Free Trade Agreement (FTA) and any benefits which may arise if the so-called TPP-11 is successfully negotiated and ratified.

CAMBODIA

Cambodia's textile and clothing industry is an essential part of the country's economy

The textile and clothing industry in Cambodia remains an essential part of the country's economy although its importance has declined significantly in recent years.

In 2016 it accounted for 65.8% of the country's total exports

In 2014 the industry accounted for as much as 78.6% of Cambodia's total exports but in 2015 this share was down to 69.3% and in 2016 it fell further to 65.8%.

Cambodian textile and clothing exports rose by 12.5% in 2016

Despite the fall in share, however, Cambodian textile and clothing exports rose by 12.5% in 2016, from US$6,045.5 mn to US$6,799.7 mn, following increases of 12.3% in 2015, 9.8% in 2014 and 20.9% in 2013.

Clothing exports were up by 12.0% and textile exports by 33.8%

Clothing exports increased by 12.0% in 2016, from US$5,916.5 mn to US$6,627.2 mn, while textile exports shot up by 33.8%, from US$129.0 mn to US$172.5 mn.

Woven clothing exports rose by 41.7% and knitted clothing exports by 10.1%

Within the total for clothing exports, woven clothing exports rose by 41.7% in 2016, from US$366.3 mn to US$519.1 mn. Knitted clothing exports, meanwhile, increased by 10.1%, from US$5,550.2 mn to US$6,108.1 mn.

Cambodia's best performing textile product categories in 2016 included knitted fabric, fabrics impregnated, coated, covered or laminated with plastics, and made-up textiles

Cambodia's best performing textile product categories in terms of export growth in 2016 included knitted fabric (up by 52.5% to US$31.3 mn), fabrics impregnated, coated, covered or laminated with plastics (up by 47.6% to US$7.3 mn), made-up textiles (up by 40.1% to US$120.6 mn), cotton fibres, yarns and woven fabrics (up by 23.6% to US$1.4 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (up by 18.1% to US$2.2 mn) and textile products classified under HS Chapter 56[1] (up by 16.9% to US$1.1 mn).

The worst performing textile product categories included products classified under HS Chapter 55

By contrast, the worst performing textile product categories in terms of export sales in 2016 included man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 41.3% to US$7.5 mn).

EXPORT MARKETS

Cambodia's largest textile and clothing export market in 2016 was the EU with a 44.8% share of Cambodian textile and clothing exports to all destinations followed by the USA with a 25.5% share

The largest market for Cambodian textile and clothing exports in 2016 was the EU with a 44.8% share of Cambodia's textile and clothing exports to all destinations, up from 42.2% in 2015.

Cambodia's dependency on the US market, by contrast, has diminished noticeably in recent years. In 2016 the USA accounted for 25.5% of Cambodia's textile and clothing exports to all destinations, down from 30.5% in 2015.

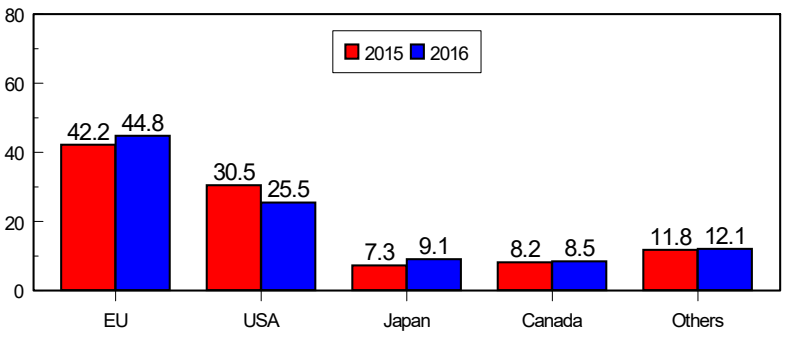
The third largest market was Japan with a 9.1% share, followed by Canada with an 8.5% share

Cambodia's third largest textile and clothing export market in 2016 was Japan with a 9.1% share of Cambodian textile and clothing exports to all destinations (up from 7.3% in 2015), followed by Canada in fourth place with an 8.5% share (up from 8.2% in 2015).

[1] Textile products classified under HS Chapter 56 include: wadding, felt and nonwovens; special yarns; and twine, cordage, ropes and cables and articles thereof.

Figure 1

Cambodia: textile and clothing exports by destination, 2015 and 2016



Source: Textiles Intelligence research

Exports from Cambodia to the EU

Sales of Cambodian textiles and clothing in the EU import market rose by 15.1% in 2016

Sales of Cambodian textiles and clothing in the EU import market rose by 15.1% in 2016, from Euro2,972.3 mn to Euro3,421.7 mn (US$3,786.4 mn), according to EU import data.

Sales of clothing grew by 15.2% and textiles by 6.4%

Within these totals, sales of clothing grew by 15.2%, from Euro2,955.4 mn to Euro3,403.8 mn, while sales of textiles increased by 6.4%, from Euro16.9 mn to Euro18.0 mn.

Sales of knitted clothing increased by 14.5% but their share of Cambodia's total textile and clothing sales in the EU import market fell from 69.6% to 69.2%

In clothing, sales of knitted clothing increased by 14.5%, from Euro2,068.8 mn to Euro2,369.3 mn.

Despite this strong performance, the share of knitted clothing in Cambodia's total textile and clothing sales in the EU import market declined slightly from 69.6% to 69.2%.

Sales of woven clothing, meanwhile, grew by 16.7% and their share increased from 29.8% to 30.2%

Sales of woven clothing, meanwhile, increased by 16.7%, from Euro886.6 mn to Euro1,034.5 mn.

As a result, the share of woven clothing in Cambodia's total textile and clothing sales in the EU import market rose from 29.8% to 30.2%.

In textiles, sales of made-up textiles rose by 6.9% but their share remained unchanged at 0.5%

In textiles, sales of made-up textiles rose by 6.9%, from Euro15.2 mn to Euro16.3 mn between 20015 and 2016.

However, the share of made-up textiles in Cambodia's total textile and clothing sales in the EU import market remained unchanged at 0.5%.

Sales of products classified under HS Chapter 58 were up by 4.6% although they remained small

Sales of special woven fabrics and other textile articles classified under HS Chapter 58, meanwhile, were up by 4.6%. Nevertheless, they remained small, having risen from a mere Euro1.46 mn to only Euro1.53 mn between 2015 and 2016.

During January-June 2017, sales of Cambodian textiles and clothing in the EU import market were up by 4.5%

During January-June 2017, sales of Cambodian textiles and clothing in the EU import market were modestly higher, having grown by 4.5% compared with the corresponding period of the previous year, to Euro1,611.9 mn.

Sales of clothing were up by 4.4% and textiles by 25.4%

Within this total, sales of clothing increased by 4.4% to Euro1,601.0 mn while textile sales grew by 25.4% to Euro10.9 mn.

Sales of knitted clothing rose by 3.1% and sales of woven clothing by 6.8%

Within the total for clothing, sales of knitted clothing rose by 3.1% to Euro1,018.9 mn while sales of woven clothing were 6.8% higher at Euro582.1 mn.

Cambodia's share of the EU clothing import market increased from 1.1% in 2010 to 4.2% in 2016

Cambodia's strong showing in the EU in recent years has enabled the country to increase its share of the EU clothing import market. In 2016 its share reached a significant 4.2%, up from 3.7% in 2015, 3.1% in 2014, 2.6% in 2013, 2.2% in 2012, 1.6% in 2011 and 1.1% in 2010.

Its share of the knitted clothing import market rose to 5.8% and its share of the woven clothing import market rose to 2.5%

Furthermore, Cambodia supplied 5.8% of all knitted clothing imports into the EU in 2016, up from 5.1% in 2015, 4.4% in 2014, 3.7% in 2013, 3.3% in 2012 and 2.6% in 2011.

Cambodia also supplied 2.5% of all woven clothing imports into the EU in 2016, up from 2.2% in 2015, 1.7% in 2014, 1.6% in 2013, 1.1% in 2012 and 0.5% in 2011.

The outlook for Cambodia in the EU market remains positive following a relaxation of the rules of origin under the EU's GSP

The outlook for Cambodian textiles and clothing in the EU market remains positive following a relaxation of the rules of origin with which Cambodian clothing must comply in order to qualify for tariff-free treatment under the EU's Generalised Scheme of Preferences (GSP)[2].

Clothing can be cut and sewn in Cambodia using fabric produced anywhere and still benefit from duty-free treatment

With effect from January 1, 2011, it has been possible for clothing cut and sewn in Cambodia—or in any other least developed country—to be made from fabric produced anywhere in the world and still benefit from duty-free treatment under the GSP.

This allows Cambodian producers to make a broader range of clothing for the EU

This rule allows Cambodian producers to manufacture a broader range of clothing for the EU market by using, for example, fabrics made in China.

By contrast, Cambodian clothing exports to the US market do not qualify for preferential duty treatment and this is unlikely to change in the foreseeable future

In the US market, by contrast, imports of Cambodian clothing do not qualify for preferential duty treatment—regardless of the origin of the inputs used to make the clothing. Furthermore, as things stand, the USA is unlikely to provide preferential duty treatment to imports of clothing from Cambodia in the foreseeable future.

[2] The EU's Generalised Scheme of Preferences (GSP) is designed to foster the development of developing countries by granting them easier access to the EU market.

Exports from Cambodia to the USA

Cambodian textile and clothing exports to the USA fell by 6.0% in 2016

Cambodian textile and clothing exports to the USA fell by 6.0% in 2016, from US$1,844.6 mn to US$1,733.2 mn, following a minimal 0.4% rise in 2015 and a 6.3% fall in 2014, according to Cambodian export data.

According to US import data, however, sales in the US market declined by a more severe 13.9%

According to US import data, however, sales of Cambodian textiles and clothing in the US import market declined by a more severe 13.9% in 2016, from US$2,543.2 mn to US$2,189.3 mn, following a 1.1% rise in 2015.

Textile sales fell by 25.9% and clothing sales by 13.6%

Within the US$2,189.3 mn total for 2016, sales of textiles were down by 25.9% to US$45.9 mn and sales of clothing were 13.6% lower at US$2,143.4 mn.

Cambodia was the USA's eighth largest clothing supplier in value terms

Cambodia was the USA's eighth largest clothing supplier in value terms in 2016 with a 2.7% share of US imports from all sources. However, this share was down from 2.9% in 2015, 3.0% in 2014, 3.2% in 2013 and 3.3% in both 2012 and 2011.

In volume terms, it was the seventh largest clothing supplier

In volume terms, Cambodia was the USA's seventh largest clothing supplier with a 3.4% share of US imports from all sources but this share was down from 3.9% in 2015, 4.0% in 2014, 4.3% in 2013 and 4.4% in 2012.

During January-September 2017, Cambodian textile and clothing sales in the US import market were down by 0.2%

During January-September 2017, sales of Cambodian textiles and clothing in the US import market were slightly lower than in the corresponding period of the previous year, having decreased by 0.2% to US$1,679.5 mn.

Clothing sales were down by 1.6% but textile sales were up by 61.4%

Within this total, sales of clothing were down by 1.6% to US$1,617.7 mn. Sales of textiles, by contrast, were up by a sharp 61.4% to US$61.7 mn. Nevertheless, sales of textiles accounted for only 3.7% of the total whereas clothing accounted for as much as 96.3%.

Cambodia produces mainly women's and girls' cotton knitted shirts and blouses and women's and girls' cotton trousers but the shares of these two product categories in Cambodia's total textile and clothing sales in the US import market fell in 2016—

Cambodia focuses for the most part on the production of women's and girls' cotton knitted shirts and blouses and women's and girls' cotton trousers. However, other products are gaining in importance.

Women's and girls' cotton knitted shirts and blouses accounted for an 11.0% share of Cambodia's sales of textiles and clothing in the US import market in 2016, although this share was down from 12.2% in 2015 and 14.2% in 2014.

Similarly, the share of women's and girls' cotton trousers in Cambodia's total textile and clothing sales in the US import market fell to 10.1% in 2016, from 10.6% in 2015 and 11.5% in 2014.

—while the shares of a number of other product categories rose

By contrast, the share of babies' garments rose from 9.1% in 2015 to 9.8% in 2016, the share of women's and girls' man-made fibre knitted shirts and blouses rose from 7.7% to 8.2%, the share of men's and boys' cotton trousers rose from 7.0% to 7.3%, and the share of men's and boys' cotton knitted shirts rose from 5.8% to 6.5%.

Sales of man-made fibre clothing fell by 10.7%

Sales of Cambodian man-made fibre clothing in the US import market fell by 10.7% to US$932.4 mn in 2016.

The decline was due to weak demand for products in a number of categories, including man-made fibre nightwear and man-made fibre trousers

The decline was due to weak demand for products in a number of categories, including man-made fibre skirts (down by 34.1% to US$19.2 mn), man-made fibre nightwear (down by 17.6% to US$123.1 mn), man-made fibre dresses (down by 17.4% to US$45.0 mn), women's and girls' man-made fibre trousers (down by 16.8% to US$108.2 mn), men's and boys' man-made fibre trousers (down by 16.1% to US$63.1 mn) and miscellaneous man-made fibre clothing (down by 15.6% to US$105.1 mn).

Sales of cotton clothing declined by 15.6%

Sales of Cambodian cotton clothing in the US import market declined by 15.6% to US$1,200.6 mn.

The decline was due to significantly lower sales of products in a range of categories, including cotton dresses, cotton nightwear, cotton woven shirts, and women's and girls' cotton trousers

The decline was due to significantly lower sales of products in a range of categories, including women's and girls' cotton coats and jackets (down by 53.8% to US$17.3 mn), cotton dresses (down by 34.7% to US$33.7 mn), men's and boys' cotton woven shirts (down by 27.2% to US$7.9 mn), women's and girls' cotton woven shirts and blouses (down by 23.6% to US$16.1 mn), cotton underwear (down by 22.0% to US$27.0 mn), cotton nightwear (down by 20.0% to US$78.1 mn) and women's and girls' cotton trousers (down by 17.6% to US$221.6 mn).

Sales of wool clothing fell by 2.3%

Sales of Cambodian wool clothing, meanwhile, fell by 2.3% to US$4.2 mn. The fall was due primarily to a decline in sales of knitted shirts and blouses (down by 37.2% to US$1.1 mn).

Sales of clothing made from silk blends and non-cotton vegetable fibres plunged by 39.2%

Sales of Cambodian clothing made from silk blends and non-cotton vegetable fibres plunged by 39.2% to US$6.2 mn. The plunge was due primarily to a sharp decrease in sales of trousers made from these materials (down by 85.6% from US$4.0 mn to just US$0.6 mn).

FACTORIES AND EMPLOYMENT

The number of active garment factories manufacturing for export in Cambodia fell between the fourth quarter of 2015 and the fourth quarter of 2016 and so did employment in the Cambodian garment and footwear industry—

There was a reduction in the number of active garment factories manufacturing for export in Cambodia to 556 during the fourth quarter of 2016, from 626 factories during the fourth quarter of 2015 and 558 factories during the fourth quarter of 2014. In 2016, 49 garment factories opened in the country but 119 factories closed.

Employment in the Cambodian garment and footwear industry fell to 498,000 workers during the fourth quarter of 2016, from 538,000 workers during the fourth quarter of 2015, although it remained above the 488,000 workers employed during the fourth quarter of 2014.

—while the average monthly wage for garment workers was up

Meanwhile, the average monthly wage for garment workers during the fourth quarter of 2016 was US$201, up from US$181 during the fourth quarter of 2015.

INDONESIA

EXPORTS

Indonesia's textile and clothing exports fell by 3.7% in 2016 following a 3.6% decline in 2015

Foreign demand for Indonesian textile and clothing products weakened in 2016 as a result of subdued demand in the USA and the EU, although demand improved somewhat during January-August 2017.

In 2016 Indonesian textile and clothing exports declined by 3.7%, from US$12,283.0 mn to US$11,832.2 mn, following a 3.6% fall in 2015.

Clothing exports declined by 1.5% and textile exports by 6.8%

Clothing exports declined by 1.5%, from US$7,283.4 mn to US$7,171.0 mn, while textile exports fell by 6.8%, from US$4,999.6 mn to US$4,661.2 mn.

Woven clothing exports fell by 2.5% and knitted clothing exports by 0.4%

Within the total for clothing, woven clothing exports decreased by 2.5%, from US$3,978.2 mn to US$3,879.8 mn, and knitted clothing exports were down by 0.4%, from US$3,305.1 mn to US$3,291.3 mn.

The best performing textile product categories in 2016 included fabrics impregnated, coated, covered or laminated with plastics

The best performing textile product categories in terms of export growth in 2016 included fabrics impregnated, coated, covered or laminated with plastics (up by 22.3% to US$134.7 mn), wool fibres, yarns and woven fabrics (up by 20.9% to US$2.0 mn) and carpets and other textile floor coverings (up by 6.0% to US$74.2 mn).

The worst performing categories included products classified under HS Chapter 55 and products classified under HS Chapter 54

The worst performing textile product categories, by contrast, included non-cotton vegetable fibres, yarns and woven fabrics (down by 34.8% to US$8.5 mn), knitted fabric (down by 21.3% to US$98.5 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (down by 17.5% to US$79.2 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 8.5% to US$2,025.9 mn) and man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 7.7% to US$1,004.6 mn).

During January-August 2017, Indonesian textile and clothing exports were up by 4.5%

During January-August 2017 Indonesian textile and clothing exports were up by 4.5% compared with the corresponding period a year earlier, from US$7,994.3 mn to US$8,356.4 mn.

Nevertheless, the share of textiles and clothing in Indonesia's total manufacturing exports fell to 10.5% during January-August 2017

Nevertheless, the share of textiles and clothing in Indonesia's total manufacturing exports in US dollar terms fell to 10.5% during January-August 2017 compared with an 11.1% share in the whole of 2016, an 11.6% share in the whole of 2015, a 10.8% share in the whole of 2014 and an 11.3% share in the whole of 2013.

EXPORT MARKETS

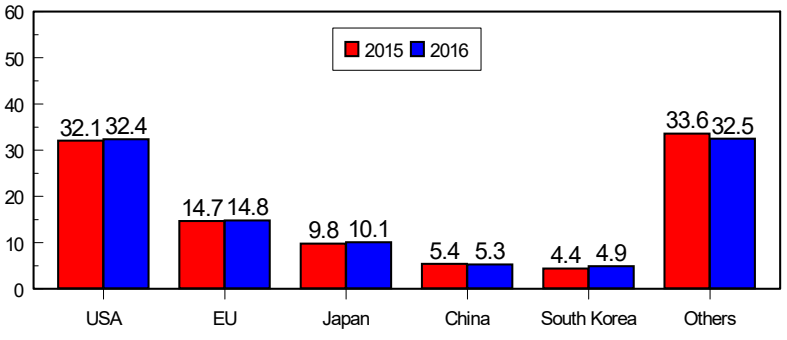
Indonesia's largest textile and clothing export market in 2016 was the USA with a 32.4% share of its exports to all destinations, followed by the EU with a 14.8% share

Indonesia's largest textile and clothing export market in 2016 was the USA with a 32.4% share of its textile and clothing exports to all destinations, up from a 32.1% share in 2015.

Indonesia's second largest textile and clothing export market was the EU with a 14.8% share—up slightly from a 14.7% share in 2015.

Figure 2

Indonesia: textile and clothing exports by destination, 2015 and 2016



Source: Textiles Intelligence research

Japan ranked third with a 10.1% share, followed by China and South Korea

Indonesia's third largest textile and clothing export market in 2016 was Japan with a 10.1% share (up from 9.8% in 2015), followed by China in fourth place with a 5.3% share (down from 5.4% in 2015) and South Korea in fifth place with a 4.9% share (up from 4.4% in 2015).

Exports from Indonesia to the USA

Sales of Indonesian textiles and clothing in the US import market fell by 5.3% in 2016

Sales of Indonesian textiles and clothing in the US import market fell by 5.3% in 2016, from US$5,180.1 mn to US$4,903.5 mn, following a 2.3% gain in 2015, a 3.2% fall in 2014 and a 0.6% increase in 2013, according to US import data.

Clothing sales declined by 4.7% and textile sales by 18.7%

Within these totals, clothing sales declined by 4.7% in 2016, from US$4,936.6 mn to US$4,705.6 mn, following a 2.1% gain in 2015. Textile sales, meanwhile, fell by a sharp 18.7%, from US$243.5 mn to US$197.9 mn, after a 5.1% increase in 2015.

During January-September 2017, textile and clothing sales were down by 4.0%

During January-September 2017, sales of Indonesian textiles and clothing in the US import market were down by 4.0% compared with the corresponding period of the previous year, to US$3,637.9 mn.

Clothing sales were down by 3.9% and textile sales by 5.7%

Within this total, sales of clothing were down by 3.9% to US$3,489.4 mn. Sales of textiles, meanwhile, were down by 5.7% to US$148.4 mn.

Indonesia was the USA's fifth largest supplier of textiles and clothing in 2016

Indonesia was the USA's fifth largest supplier of textiles and clothing in 2016—after China, Vietnam, India and Bangladesh—having accounted for a 4.7% share of US textile and clothing imports from all sources in value terms. This share was up from 4.6% in 2015, but it was unchanged from 2014 and down from 5.0% in 2013 and 5.1% in 2012.

It was also the fifth largest supplier of cotton clothing

Indonesia was also the USA's fifth largest supplier of cotton clothing in 2016, having accounted for a 5.5% share of US cotton clothing imports from all sources. However, this share was down from 5.7% in 2015, 6.0% in 2014, 6.4% in 2013 and 6.6% in 2012.

In man-made fibre clothing, it was the USA's third largest supplier

In man-made fibre clothing, Indonesia was the USA's third largest supplier, having accounted for a 6.4% share of US man-made fibre clothing imports from all sources during the year. This share was up from 6.2% in 2015 and 6.1% in 2014 but it was down from 6.5% in 2013 and 6.8% in 2012.

Cotton clothing accounted for 42.6% of Indonesia's total textile and clothing sales in the US import market in 2016 but this share was down from 45.7% in 2015—

Cotton clothing and man-made fibre clothing remained Indonesia's two most important textile and clothing product categories in the US import market in 2016. Together, these two categories alone accounted for a 92.2% share of Indonesia's total textile and clothing sales in the US import market in 2016.

Cotton clothing accounted for a 42.6% share of Indonesia's total textile and clothing sales in the US import market in 2016. However, this was down from 45.7% in 2015, 49.7% in 2014, 52.3% in 2013 and 53.1% in 2012 as sales of cotton clothing decreased by 11.7% to US$2,090.6 mn in 2016 following a 5.9% fall in the previous year.

—and during January-September 2017 it fell to 42.0%

Furthermore, during January-September 2017 Indonesia's sales of cotton clothing in the US import market declined by 5.5% compared with the corresponding period of the previous year, to US$1,526.5 mn, and the share of cotton clothing in Indonesia's total sales of textiles and clothing in the US import market during this period fell to 42.0%.

The share of man-made fibre clothing, by contrast, rose from 46.1% in 2015 to 49.6% in 2016, and to 50.5% during January-September 2017

The share of man-made fibre clothing, by contrast, rose from 46.1% in 2015 to 49.6% in 2016 as Indonesia's sales of man-made fibre clothing in the US import market increased by 2.0% to US$2,434.2 mn.

During January-September 2017 Indonesia's sales of man-made fibre clothing in the US import market fell by 1.6% to US$1,835.9 mn but the share of man-made fibre clothing in Indonesia's total sales of textiles and clothing in the US import market rose to 50.5%.

Indonesia's best performing textile and clothing product categories in the US import market in terms of sales growth in 2016 included man-made fibre dresses and women's and girls' man-made fibre trousers

Indonesia's best performing textile and clothing product categories in the US import market in terms of sales growth in 2016 included special purpose fabric (up by 175.6% to US$8.5 mn), knitted fabric (up by 114.0% to US$6.3 mn), man-made fibre robes and dressing gowns (up by 94.9% to US$8.9 mn), knitted shirts and blouses made from silk blends and non-cotton vegetable fibres (up by 88.1% to US$12.9 mn), babies' playsuits (up by 53.0% to US$26.1 mn), cotton nightwear (up by 51.6% to US$24.9 mn), man-made fibre dresses (up by 15.3% to

US$269.2 mn) and women's and girls' man-made fibre trousers (up by 10.4% to US$232.5 mn).

The worst performing product categories included cotton knitted shirts and blouses, and women's and girls' cotton trousers

By contrast, there were declines in sales of products in a number of other categories, including men's and boys' wool non-suit type coats (down by 68.0% to US$2.2 mn), man-made fibre luggage, handbags and flat goods (down by 50.2% to US$21.7 mn), man-made fibre gloves and mittens (down by 38.4% to US$9.3 mn), miscellaneous man-made fibre manufactured products (down by 37.2% to US$13.4 mn), yarn containing more than 85% synthetic staple fibre (down by 35.9% to US$25.3 mn), man-made fibre skirts (down by 31.9% to US$55.1 mn), women's and girls' cotton knitted shirts and blouses (down by 16.9% to US$427.3 mn), men's and boys' cotton knitted shirts (down by 14.9% to US$258.5 mn) and women's and girls' cotton trousers (down by 10.9% to US$446.0 mn).

The best performing product categories during January-September 2017 included man-made fibre dresses

During January-September 2017 there was strong growth in sales of men's and boys' man-made fibre down-filled coats and jackets (up by 196.3% to US$8.4 mn), men's and boys' wool non-suit type coats (up by 143.1% to US$3.6), man-made fibre luggage, handbags and flat goods (up by 51.6% to US$32.1 mn), man-made fibre gloves and mittens (up by 48.6% to US$10.2 mn), miscellaneous cotton manufactured products (up by 47.7% to US$13.5 mn), cotton robes and dressing gowns (up by 42.6% to US$9.0 mn), man-made fibre robes and dressing gowns (up by 37.8% to US$7.6 mn) and man-made fibre dresses (up by 16.5% to US$248.7 mn).

The worst performing product categories included men's and boys' man-made fibre trousers, men's and boys' man-made fibre non-suit type coats and jackets, women's and girls' man-made fibre coats and jackets, and men's and boys' man-made fibre knitted shirts

By contrast, sales were down in a number of other product categories, including yarn containing more than 85% of cellulosic staple fibre (down by 52.4% to US$8.2 mn), man-made fibre nightwear (down by 35.5% to US$8.6 mn), men's and boys' wool suits (down by 35.0% to US$14.7 mn), cotton underwear (down by 30.5% to US$17.4 mn), men's and boys' man-made fibre trousers (down by 20.4% to US$107.0 mn), men's and boys' man-made fibre non-suit type coats and jackets (down by 13.7% to US$84.7 mn), women's and girls' man-made fibre coats and jackets (down by 13.4% to US$78.7 mn) and men's and boys' man-made fibre knitted shirts (down by 11.0% to US$122.5 mn).

Exports from Indonesia to the EU

Sales of Indonesian textiles and clothing in the EU import market fell by 0.3% in 2016

Sales of Indonesian textiles and clothing in the EU import market inched down by 0.3% in 2016, from Euro1,722.3 mn to Euro1,717.5 mn (US$1,900.6 mn), following a 3.5% gain in 2015, according to EU import data.

Textile sales fell by 8.0% but sales of clothing increased by 2.3%

Within these totals, sales of textiles declined by 8.0%, from Euro437.8 mn to Euro402.9 mn, but clothing sales increased by 2.3%, from Euro1,284.5 mn to Euro1,314.6 mn.

Indonesia accounted for 1.6% of EU textile and clothing imports from all sources in 2016, unchanged from a year earlier

Indonesia accounted for a 1.6% share of EU textile and clothing imports from all sources in 2016.

This was unchanged from 2015 but it was down from shares of 1.7% in 2014 and 1.8% in both 2013 and 2012.

Its share of EU textile imports was highest in the case of man-made staple fibres, yarns and woven fabrics—

Among the various categories of textile imports, Indonesia's share of EU imports from all sources in 2016 was highest, at 7.3% (down from 7.8% in 2015), in the case of man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55.

—second highest in cotton fibres, yarns and woven fabrics and third highest in man-made filament yarns and woven fabrics

Its second highest share, at 1.6% (down from 1.7% in 2015), was in cotton fibres, yarns and woven fabrics.

Its third highest share, at 1.3% (down from 1.5% in 2015), was in man-made filament yarns and woven fabrics classified under HS Chapter 54.

In woven clothing, it accounted for 1.7% of EU imports and in knitted clothing it accounted for 1.5% of EU imports

In woven clothing, Indonesia accounted for a 1.7% share of total EU imports in this category from all sources (down from 1.8% in 2015).

In the case of knitted clothing, it accounted for a 1.5% share of total EU imports in this category from all sources (up from 1.4% in 2015).

Woven clothing was, in fact, the most important category in the EU import market in value terms for the Indonesian textile and clothing industry as a whole—

Woven clothing was, in fact, the most important category in the EU import market in value terms in 2016 was that of woven clothing for the Indonesian textile and clothing industry as a whole.

Indeed, woven clothing accounted for a 41.1% share of Indonesia's total textile and clothing sales in the EU import market in 2016, although this share was down from 42.4% in 2015.

—followed by knitted clothing—

The second most important category was that of knitted clothing with a 35.5% share. Furthermore, this share was up from 32.2% in 2015.

—man-made staple fibres, yarns and woven fabrics—

The third most important category was that of man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 with a 12.6% share (down from 13.7%).

—man-made filament yarns and woven fabrics, and cotton fibres, yarns and woven fabrics

The fourth most important category was that of man-made filament yarns and woven fabrics classified under HS Chapter 54 with a 3.0% share (down from 3.3%), followed by cotton fibres, yarns and woven fabrics with a 3.0% share (down from 3.2%).

The best performing textile product categories in the EU import market in 2016 included products classified under HS Chapter 58

Indonesia's best performing textile product categories in the EU import market in terms of sales growth in 2016 included special woven fabrics and other textile articles classified under HS Chapter 58 (up by 20.1% to Euro4.2 mn) and carpets and other textile floor coverings (up by 7.7% to Euro7.3 mn).

By contrast, the worst performing textile product categories included man-made staple fibres, yarns and woven fabrics

By contrast, the worst performing textile product categories included textile products classified under HS Chapter 56 (see page 19) (down by 17.2% to Euro16.7 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 9.6% to Euro51.7 mn), fabrics impregnated, coated, covered or laminated with plastics (down by 8.2% to Euro8.3 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 8.1% to Euro216.3 mn), cotton fibres, yarns and woven fabrics (down by 7.0% to Euro51.0 mn) and made-up textiles (down by 6.6% to Euro38.0 mn).

Sales of knitted clothing rose by 9.9% but sales of woven clothing fell by 3.4%

In clothing, sales of knitted clothing increased by 9.9% to Euro609.3 mn but sales of woven clothing fell by 3.4% to Euro705.3 mn.

During January-June 2017, textile and clothing sales were down by 7.2%

During January-June 2017, sales of Indonesian textiles and clothing in the EU import market, at Euro815.7 mn, were down by 7.2% compared with the corresponding period of the previous year.

Sales of textiles were up by 3.3% but sales of clothing were down by 10.7%

Within this total, sales of textiles were up by 3.3% to Euro222.4 mn but sales of clothing were down by 10.7% to Euro593.3 mn.

Knitted clothing sales were down by 2.4% and woven clothing sales by 16.7%

Within the total for clothing, sales of knitted clothing were down by 2.4% to Euro273.0 mn and sales of woven clothing were down by 16.7% to Euro320.3 mn.

In textiles, the 3.3% rise was due primarily to increases in sales of products classified under HS Chapter 54, knitted fabric, and products classified under HS Chapter 55

In textiles, the 3.3% overall rise in sales was due primarily to increases in sales of man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 15.5% of Euro33.6 mn), knitted fabric (up by 6.5% to Euro4.8 mn) and man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 5.2% to Euro121.8 mn).

CLOTHING RETAIL SALES

Sales of clothing at the retail level in Indonesia fell by 11.5% in 2016 and during January-June 2017 they edged down by 0.04%

Domestic demand for clothing in Indonesia fell at a steeper rate than foreign demand in 2016 and it was also down during January-June 2017. In 2016 sales of clothing at the retail level fell by 11.5%, and during January-June 2017 they edged down by 0.04% compared with the corresponding period of the previous year.

Retail sales were down in April and May 2017 but up in June 2017 compared with the corresponding months in 2016

Retail clothing sales have been sluggish in recent months although they rebounded in June 2017. In April 2017 they were down by 3.2% compared with April 2016 and in May 2017 they were down by 0.6% compared with May 2016. But in June 2017 they were up by 15.7% compared with June 2016.

CAPACITY UTILISATION

Capacity utilisation in the textile, leather and footwear industry during the third quarter of 2017 was up compared with a year earlier and was higher than in the manufacturing sector as a whole

Capacity utilisation in the Indonesian textile, leather and footwear industry has generally been above the average for Indonesia's manufacturing sector as a whole in recent years.

During the third quarter of 2017, capacity utilisation in the textile, leather and footwear industry reached 78.7%, compared with 74.5% for the manufacturing sector as a whole. Moreover, the figure of 78.7% was above the 75.5% utilisation rate reached during the third quarter of 2016.

MALAYSIA

EXPORTS

Malaysian textile and clothing exports fell by 4.8% in 2016

Malaysian exports of textiles and clothing fell by 4.8% in 2016, from US$3,054.3 mn to US$2,907.7 mn, following a 9.4% fall in 2015.

Textile exports declined by 4.8% and clothing exports also declined by 4.8%

Within these totals, exports of textiles declined by 4.8%, from US$1,692.3 mn to US$1,610.5, and exports of clothing also declined by 4.8%, from US$1,362.0 mn to US$1,297.2 mn.

Malaysia's worst performing textile and clothing product categories in terms of export sales included wool fibres, yarns and woven fabrics, products classified under HS Chapter 58, non-cotton vegetable fibres, yarns and woven fabrics, and products classified under HS Chapter 54

Malaysia's worst performing textile and clothing product categories in terms of export sales in 2016 included wool fibres, yarns and woven fabrics (down by 46.0% to US$36.8 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (down by 42.5% to US$33.7 mn), non-cotton vegetable fibres, yarns and woven fabrics (down by 20.7% to US$3.5 mn) and man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 17.6% to US$443.8 mn).

More moderate declines were recorded in exports of woven clothing (down by 8.2% to US$330.3 mn), knitted clothing (down by 3.5% to US$966.9 mn) and textile products classified under HS Chapter 56 (see page 19) (down by 2.5% to US$193.9 mn).

The best performing product categories included silk fibres, yarns and woven fabrics, knitted fabric, cotton fibres, yarns and woven fabrics, products classified under HS Chapter 55, and made-up textiles

By contrast, the best performing product categories included silk fibres, yarns and woven fabrics (up by 125.6% to US$13.4 mn), knitted fabric (up by 17.6% to US$128.7 mn), cotton fibres, yarns and woven fabrics (up by 13.8% to US$235.7 mn), carpets and other textile floor coverings (up by 7.8% to US$17.1 mn), fabrics impregnated, coated, covered or laminated with plastics (up by 5.7% to US$62.6 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 5.6% to US$240.0 mn) and made-up textiles (up by 1.4% to US$201.5 mn).

During January-August 2017, textile, clothing and footwear exports were up by 12.3%

During January-August 2017, Malaysian textile, clothing and footwear exports were up by 12.3% compared with the corresponding period of the previous year, to M$10,370.7 mn (US$2,501.9 mn).

EXPORT MARKETS

Markets for Malaysia's textile and clothing exports are fairly well diversified

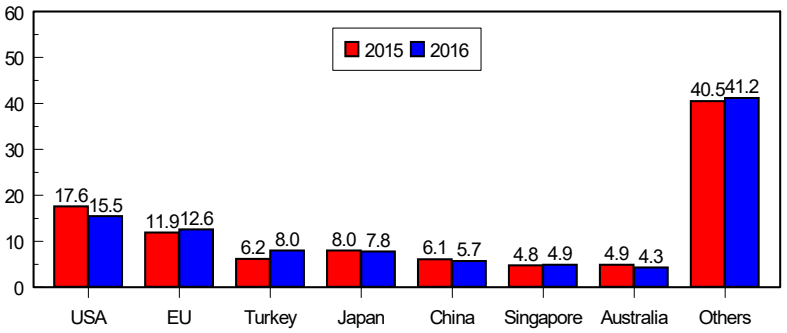
Markets for Malaysia's textile and clothing exports are fairly well diversified. Indeed, no single foreign market accounted for more than a fifth of the country's total textile and clothing exports in 2016.

Malaysia's largest textile and clothing export market in 2016 was the USA with a 15.5% share of its exports to all destinations—

Malaysia's largest textile and clothing export market in 2016 was the USA with a 15.5% share of its textile and clothing exports to all destinations. However, this share was down from 17.6% in 2015. In fact, it was at its lowest level for at least nine years.

Figure 3

Malaysia: textile and clothing exports by destination, 2015 and 2016



Source: Textiles Intelligence research

—followed by the EU, Turkey, Japan, China, Singapore and Australia

Malaysia's second largest textile and clothing export market in 2016 was the EU with a 12.6% share (up from 11.9% in 2015), followed by Turkey with an 8.0% share (up from 6.2% in 2015), Japan with a 7.8% share (down from 8.0% in 2015), China with a 5.7% share (down from 6.1% in 2015), Singapore with a 4.9% share (up from 4.8% in 2015) and Australia with a 4.3% share (down from 4.9% in 2015).

Exports from Malaysia to the USA

Malaysian textile and clothing exports to the USA fell by 16.2% in 2016

Exports of Malaysian textiles and clothing to the USA fell by 16.2% in 2016, from US$538.3 mn to US$451.2 mn, following a 6.1% decline in 2015.

According to US import data, sales of Malaysian textiles and clothing in the US market fell by 18.9% in 2016 and were down by 4.9% during January-September 2017

According to US import data, sales of Malaysian textiles and clothing in the US import market fell by 18.9% in 2016, from US$556.6 mn to US$451.4 mn, following a 2.2% rise in 2015.

And during January-September 2017, sales of Malaysian textiles and clothing in the US import market were down by 4.9% compared with the corresponding period of the previous year, to US$326.1 mn.

Textile sales plunged by 33.4% in 2016 but were up by 17.1% during January-September 2017 while clothing sales fell by 17.9% in 2016 and were down by 6.1% during January-September 2017

In the case of textiles alone, sales plunged by 33.4% to US$22.7 mn in 2016 but during January-September 2017 they were up by 17.1% compared with the corresponding period of the previous year, to US$20.2 mn.

In clothing, however, sales fell by 17.9% to US$428.7 mn in 2016 and during January-September 2017 they were down by 6.1% to US$305.9 mn.

The most important category of textiles and clothing from Malaysia in the US import market in 2016 was that of men's and boys' cotton woven shirts, followed by men's and boys' cotton knitted shirts, women's and girls' cotton knitted shirts and blouses, and men's and boys' cotton trousers

The most important category of textiles and clothing from Malaysia in the US import market in 2016 was that of men's and boys' cotton woven shirts with a 20.0% share of total Malaysian textile and clothing sales in the US import market during the year. However, this share was down from 20.4% in 2015, 22.4% in 2014 and 23.3% in 2013.

The second most important category was that of men's and boys' cotton knitted shirts with a 15.2% share (up from 12.1% in 2015), followed by women's and girls' cotton knitted shirts and blouses with a 13.4% share (up from 11.1%), men's and boys' cotton trousers with a 12.9% share (up from 11.4%) and men's and boys' man-made fibre trousers with a 4.3% share (down from 4.5%).

Malaysia's best performing textile and clothing product categories in the US import market in 2016 included cotton underwear

The best performing categories of textiles and clothing from Malaysia in the US import market in 2016 in terms of sales growth included cotton sheeting fabric (up by 197.0% to US$1.3 mn), women's and girls' man-made fibre coats and jackets (up by 71.6% to US$3.3 mn) and cotton underwear (up by 18.0% to US$3.4 mn).

The worst performing product categories included men's and boys' cotton woven shirts

By contrast, the worst performing product categories included man-made fibre dresses (down by 58.1% to US$1.4 mn), miscellaneous man-made fibre furnishings (down by 51.2% to US$5.7 mn), men's and boys' cotton non-suit type coats (down by 51.1% to US$5.3 mn), women's and girls' man-made fibre knitted shirts and blouses (down by 49.9% to US$13.3 mn), men's and boys' man-made fibre knitted shirts (down by 43.6% to US$19.1 mn), cotton nightwear (down by 39.2% to US$6.2 mn), women's and girls' cotton trousers (down by 37.6% to US$10.7 mn), man-made fibre underwear (down by 33.0% to US$8.4 mn) and men's and boys' cotton woven shirts (down by 20.6% to US$90.2 mn).

The best performing product categories during January-September 2017 included man-made fibre underwear, and women's and girls' cotton coats and jackets

During January-September 2017, there was strong growth in sales of products in a number of categories, including nonwoven fabric (up by 622.5% to US$2.6 mn), men's and boys' man-made fibre non-suit type coats (up by 62.5% to US$3.4 mn), man-made fibre underwear (up by 60.0% to US$11.0 mn), women's and girls' cotton coats and jackets (up by 39.7% to US$5.0 mn) and miscellaneous man-made fibre furnishings (up by 35.1% to US$5.5 mn).

The worst performing product categories included women's and girls' man-made fibre knitted shirts and blouses, and babies' garments

By contrast, there were falls in sales of women's and girls' man-made fibre knitted shirts and blouses (down by 54.1% to US$4.7 mn), cotton robes and dressing gowns (down by 49.4% to US$1.0 mn), babies' garments (down by 43.6% to US$3.5 mn), women's and girls' man-made fibre coats and jackets (down by 38.3% to US$1.5 mn), cotton nightwear (down by 37.2% to US$3.4 mn) and men's and boys' cotton non-suit type coats (down by 34.0% to US$2.8 mn).

Exports from Malaysia to the EU

Malaysian textile and clothing exports to the EU grew by 1.2% in 2016, reflecting a 3.2% rise in clothing exports

Exports of Malaysian textiles and clothing to the EU grew by 1.2% in 2016, from US$362.4 mn to US$366.9 mn.

Within these totals, clothing exports rose by 3.2%, from US$275.4 mn to US$284.1 mn, but textile exports fell by 4.9%, from US$87.1 mn to US$82.8 mn.

According to EU import data, however, sales of Malaysian textiles and clothing in the EU import market declined by 6.8% in 2016 as clothing sales fell by 5.0% and textile sales declined by 10.3%

According to EU import data, however, sales of Malaysian textiles and clothing in the EU import market declined by 6.8% in 2016, from Euro235.3 mn to Euro219.4 mn (US$242.8 mn), following a 16.9% increase in 2015.

Within these totals, clothing sales fell by 5.0% to Euro149.3 mn following a 21.8% increase in 2015, while sales of textiles declined by 10.3% to Euro70.1 mn following an 8.1% rise in 2015.

During January-June 2017, textile and clothing sales were up by 6.6%

During January-June 2017, sales of Malaysian textiles and clothing in the EU import market were up by 6.6% compared with the corresponding period of the previous year, to Euro117.4 mn.

Sales of textiles were up by 5.3% and clothing by 7.2%

Within this total, sales of textiles were up by 5.3% to Euro39.7 mn and sales of clothing were up by 7.2% to Euro77.7 mn.

The best performing textile product categories in 2016 included wool fibres, yarns and woven fabrics, and fabrics impregnated, coated, covered or laminated with plastics

A breakdown by category shows that Malaysia's best performing textile product category in the EU import market in terms of sales growth in 2016 was that of wool fibres, yarns and woven fabrics (up by 135.6% to Euro9.6 mn).

More moderate growth was recorded in sales of fabrics impregnated, coated, covered or laminated with plastics (up by 28.7% to Euro7.2 mn) and textile products classified under HS Chapter 56 (see page 19) (up by 2.3% to Euro3.5 mn).

The worst performing textile product categories included man-made staple fibres, yarns and woven fabrics, and man-made filament yarns and woven fabrics

By contrast, there were sharp declines in sales of man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 49.5% to Euro7.2 mn), cotton fibres, yarns and woven fabrics (down by 19.1% to Euro1.2 mn) and man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 18.0% to Euro28.6 mn).

In clothing, sales of knitted clothing fell by 2.9% and woven clothing by 10.1%

In clothing, sales of Malaysian knitted clothing in the EU import market fell by 2.9% to Euro107.9 mn and sales of woven clothing declined by 10.1% to Euro41.3 mn.

During January-June 2017, the best performing textile and clothing product categories included wool fibres, yarns and woven fabrics, and knitted clothing

During January-June 2017, the best performing textile and clothing product categories in the EU import market in terms of sales growth included wool fibres, yarns and woven fabrics (up by 29.2% to Euro6.7 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 20.7% to Euro5.2 mn), knitted clothing (up by 16.6% to Euro58.7 mn) and textile products classified under HS Chapter 56 (see page 19) (up by 12.2% to Euro2.0 mn).

The worst performing product categories included woven clothing, and man-made filament yarns and woven fabrics

By contrast, the worst performing product categories included fabrics impregnated, coated, covered or laminated with plastics (down by 15.8% to Euro3.0 mn), woven clothing (down by 14.0% to Euro19.0 mn) and man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 5.1% to Euro15.0 mn).

Exports from Malaysia to Turkey

Exports of Malaysian textiles and clothing to Turkey rose by 23.4% in 2016 as clothing sales increased by 402.6% and textile sales by 12.0%

Exports of Malaysian textiles and clothing to Turkey rose by 23.4% in 2016, from US$188.8 mn to US$233.0 mn.

Within this total, clothing sales surged by 402.6% to US$28.0 mn while sales of textiles increased by 12.0% to US$205.0 mn.

Malaysia's best performing textile and clothing product categories in the Turkish market included knitted fabric, woven clothing and knitted clothing

Malaysia's best performing textile and clothing product categories in the Turkish market in terms of sales growth included knitted fabric (up by 2,292.0% to US$6.1 mn), woven clothing (up by 1,623.7% to US$9.2 mn), cotton fibres, yarns and woven fabrics (up by 371.7% to US$1.1 mn) and knitted clothing (up by 273.4% to US$18.8 mn).

But sales of man-made staple fibres, yarns and woven fabrics fell

By contrast, sales of man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 fell by 2.2% to US$61.5 mn.

Exports from Malaysia to other markets

Exports of Malaysian textiles and clothing to most other major markets were lower in 2016

Exports of Malaysian textiles and clothing to most other major markets were lower in 2016.

For example, there were declines in exports to Australia (down by 16.1% to US$125.9 mn), China (down by 10.7% to US$165.0 mn), Japan (down by 7.4% to US$226.5 mn) and Singapore (down by 2.4% to US$143.4 mn).

PRODUCTION

Malaysia's textile, clothing and footwear production increased by 6.7% in 2016—

Malaysia's textile, clothing and footwear production increased by 6.7% in 2016 following gains of 7.5% in 2015 and 10.8% in 2014. Furthermore, during the first quarter of 2017 production was up by 7.1% compared with the corresponding period a year earlier, and during the second quarter of 2017 it was up by 7.5%.

—whereas total manufacturing output was up by a slower 4.3%

As a result, textile, clothing and footwear production increased faster than that of manufacturing industry as a whole in 2016 for the third consecutive year. In 2016 total manufacturing output in Malaysia was up by 4.3% after increasing by 4.8% in 2015 and 6.1% in 2014.

PHILIPPINES

EXPORTS

Textile and clothing exports from the Philippines decreased by 25.4% in 2016 to their lowest level in several years

Foreign demand for textiles and clothing from the Philippines has been on a sharp downward trend in recent years.

In 2016 exports fell by a sharp 25.4%, from US$1,661.2 mn to US$1,238.8 mn, following a 21.5% decline in the previous year. In fact, the fall in 2016 represented the fourth decline in five years and, as a result, exports in 2016 were at their lowest level for several years.

Textile exports declined by 5.4% while clothing exports fell by a sharp 28.9%

Within the totals, exports of textiles declined by 5.4% in 2016, from US$245.6 mn to US$232.3 mn, following a 21.1% fall in 2015. Exports of clothing, meanwhile, fell by a sharp 28.9% in 2016, from US$1,415.6 mn to US$1,006.5 mn, following a 21.5% fall in 2015.

During January-September 2017, however, clothing exports were up by 9.3% and exports of textile yarns and fabrics were up by 29.5%

During January-September 2017, however, exports of textiles and clothing from the Philippines rebounded somewhat.

Compared with the corresponding period of the previous year, clothing exports were up by 9.3% to US$935.8 mn while exports of textile yarns and fabrics were up by 29.5% to US$181.1 mn.

The importance of the textile and clothing industry as a foreign exchange earner for the Philippines economy declined in 2016 as the shares of textiles and clothing in total exports and manufacturing exports fell

The importance of the textile and clothing industry as an earner of foreign exchange for the Philippines economy declined markedly in 2016, having also declined in 2015.

The share of yarns, fabrics and clothing in total exports from the Philippines fell from 3.4% in 2014 to 2.8% in 2015 and 2.2% in 2016. But during January-September 2017 it stood at 2.3%, which was unchanged from the corresponding period of the previous year.

The share of yarns, fabrics and clothing in total manufacturing exports from the Philippines, meanwhile, fell from 4.1% in 2014 to 3.2% in 2015 and 2.5% in 2016. During January-September 2017, however, it was up modestly to 2.8% from 2.7% in the corresponding period of the previous year.

Total manufacturing exports fell by 3.8% in 2016 but were up by 8.6% during January-September 2017

Total manufacturing exports from the Philippines fell by 3.8% to US$48,888.8 mn in 2016. But during January-September 2017 they were up by 8.6% compared with the corresponding period of the previous year, at US$40,244.3 mn.

Total exports fell by 4.4% in 2016 but were up by 12.2% during January-September 2017

Total exports from the Philippines, meanwhile, declined by 4.4% to US$56,232.4 mn in 2016 but during January-September 2017 they were up by 12.2%, at US$47,712.1 mn.

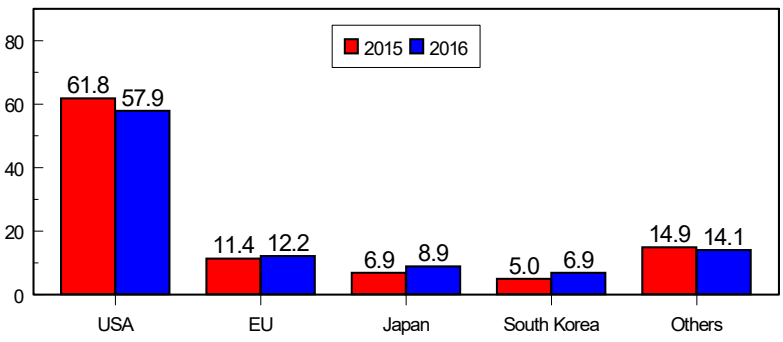
EXPORT MARKETS

The largest market for textile and clothing exports from the Philippines in 2016 was the USA with a 57.9% share of exports from the Philippines to all destinations—

The largest market for textile and clothing exports from the Philippines in 2016 was, by far, the USA with a 57.9% share of textile and clothing exports from the Philippines to all destinations. However, this was down noticeably from the 61.8% share in 2015.

Figure 4

Philippines: textile and clothing exports by destination, 2015 and 2016



Source: Textiles Intelligence research

—followed by the EU with a 12.2% share—

The second largest market for textile and clothing exports from the Philippines in 2016 was the EU with a more modest 12.2% share, although this was up from 11.4% in 2015.

—Japan with an 8.9% share and South Korea with a 6.9% share

The third largest market in 2016 was Japan with an 8.9% share (up from 6.9% in 2015), followed by South Korea in fourth place with a 6.9% share (up from 5.0% in 2015).

Exports from the Philippines to the USA

Sales of textiles and clothing from the Philippines in the US import market declined by 14.9% in 2016

Sales of textiles and clothing from the Philippines in the US import market declined by 14.9% in 2016, from US$1,187.0 mn to US$1,010.6 mn, according to US import data. The decline followed falls of 0.7% in 2015, 2.2% in 2014 and 0.5% in 2013.

Sales of textiles plunged by 40.1% and sales of clothing fell by 13.1%

Within these totals, sales of textiles plunged by 40.1% in 2016, from US$77.6 mn to US$46.5 mn, following a 14.9% decline in 2015. Sales of clothing, meanwhile, fell by 13.1% in 2016, from US$1,109.3 mn to US$964.1 mn, following a 0.5% rise in 2015.

During January-September 2017, sales of textiles and clothing were down by 14.6%

During January-September 2017, sales of textiles and clothing were down by 14.6% compared with the corresponding period of the previous year, to US$673.7 mn.

Textile sales were up by 2.6% but clothing sales were down by 15.6%

Within this total, sales of textiles were up by 2.6% to US$42.7 mn but sales of clothing were down by a sharp 15.6% to US$631.0 mn.

The most important category of textiles and clothing from the Philippines in the US import market in value terms in 2016 was that of women's and girls' man-made fibre knitted shirts and blouses although sales of these items were down by 1.1%

The most important category of textiles and clothing from the Philippines in the US import market in value terms in 2016—up from second in 2015—was that of women's and girls' man-made fibre knitted shirts and blouses with an 11.6% share (up from a 9.9% share in 2015).

The rise in share occurred despite the fact that sales of these items were down by 1.1% compared with the previous year, at US$116.8 mn.

The second most important category was that of man-made fibre dresses but sales of these items were down by 17.5%

The second most important category of textiles and clothing from the Philippines in the US import market in 2016 was that of man-made fibre dresses with a 10.9% share.

However, this share was down from 11.2% in the previous year as sales of these items from the Philippines in the US import market declined by 17.5% to US$110.0 mn in 2016. As a result, the category of man-made fibre dresses was no longer the most important among imports of textiles and clothing from the Philippines in the US import market. However, the Philippines did remain the USA's fifth largest supplier of man-made fibre dresses in 2016.

The best performing categories of textile and clothing products from the Philippines in the US import market in 2016 included man-made fibre brassieres and other body-supporting garments, and men's and boys' man-made fibre knitted shirts

The best performing categories of textile and clothing products from the Philippines in the US import market in terms of sales growth in 2016 included cotton robes and dressing gowns (up by 163.5% to US$3.3 mn), man-made fibre gloves and mittens (up by 61.6% to US$13.9 mn), wool dresses (up by 60.1% to US$2.5 mn), man-made fibre brassieres and other body-supporting garments (up by 49.7% to US$15.4 mn), wool skirts (up by 44.0% to US$3.4 mn), man-made fibre underwear (up by 38.5% to US$5.2 mn), cotton nightwear (up by 33.8% to US$8.6 mn) and men's and boys' man-made fibre knitted shirts (up by 26.5% to US$32.9 mn).

The worst performing product categories included man-made fibre handbags, luggage and flat goods, women's and girls' man-made fibre coats and jackets, man-made fibre skirts, women's and girls' cotton coats and jackets, and babies' garments

By contrast, the worst performing product categories included knitted shirts and blouses made from silk blends and non-cotton vegetable fibres (down by 55.8% to US$2.8 mn), man-made fibre handbags, luggage and flat goods (down by 46.5% to US$23.3 mn), men's and boys' cotton non-suit type coats (down by 41.9% to US$6.3 mn), women's and girls' wool trousers (down by 35.3% to US$5.9 mn), miscellaneous cotton manufactured products (down by 35.2% to US$10.7 mn), women's and girls' man-made fibre coats and jackets (down by 34.2% to US$21.0 mn), man-made fibre skirts (down by 34.0% to US$17.9 mn), women's and girls' cotton coats and jackets (down by 32.2% to US$20.0 mn) and babies' garments (down by 32.2% to US$18.4 mn).

During January-September 2017, the best performing product categories included man-made fibre handbags, luggage and flat goods, and women's and girls' man-made fibre trousers

During January-September 2017, the best performing product categories included trousers made from silk blends and non-cotton vegetable fibres (up by 46.4% to US$6.1 mn), wool skirts (up by 43.1% to US$3.5 mn), miscellaneous man-made fibre clothing (up by 30.6% to US$19.1 mn), man-made fibre handbags, luggage and flat goods (up by 25.8% to US$29.3 mn), women's and girls' cotton woven shirts and blouses (up by 19.4% to US$7.8 mn) and women's and girls' man-made fibre trousers (up by 15.9% to US$46.7 mn).

The worst performing product categories included men's and boys' man-made fibre knitted shirts, women's and girls' cotton trousers, women's and girls' cotton knitted shirts and blouses, and men's and boys' cotton woven shirts

By contrast, the worst performing product categories included miscellaneous cotton manufactured products (down by 60.8% to US$3.2 mn), men's and boys' man-made fibre knitted shirts (down by 52.5% to US$13.4 mn), man-made fibre gloves and mittens (down by 49.7% to US$5.1 mn), man-made fibre skirts (down by 39.9% to US$9.0 mn), women's and girls' cotton trousers (down by 34.7% to US$27.8 mn), women's and girls' cotton knitted shirts and blouses (down by 34.1% to US$30.2 mn), men's and boys' cotton woven shirts (down by 34.0% to US$18.1 mn) and women's and girls' man-made fibre coats and jackets (down by 31.1% to US$10.8 mn).

Exports from the Philippines to the EU

Sales of textiles and clothing from the Philippines in the EU import market increased by 6.4% in 2016

Sales of textiles and clothing from the Philippines in the EU import market increased by 6.4% in 2016, from Euro227.0 mn to Euro241.6 mn (US$267.4 mn), following a 16.3% rise in 2015, according to EU import data.

Textile sales rose by 11.3% and clothing sales by 5.4%, reflecting increases in sales of products in most major categories

Within these totals, sales of textiles advanced by 11.3% to Euro43.1 mn following growth of 26.9% in 2015 while sales of clothing rose by 5.4% to Euro198.6 mn following a 14.3% gain in 2015.

Furthermore, there were increases in sales of textile and clothing products from the Philippines in the EU import market in most major categories in 2016.

In textiles, there were significant increases in sales of non-cotton vegetable fibres, yarns and woven fabrics, and made-up textiles

In textiles, there were significant increases in sales of non-cotton vegetable fibres, yarns and woven fabrics (up by 35.2% to Euro17.4 mn), made-up textiles (up by 12.6% to Euro15.1 mn) and special woven fabrics and other textile articles classified under HS Chapter 58 (up by 10.0% to Euro3.2 mn).

But there were declines in sales of products classified under HS Chapter 55 and HS Chapter 56

By contrast, there were declines in sales of man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 38.4% to Euro1.8 mn) and textile products classified under HS Chapter 56 (see page 19) (down by 9.4% to Euro5.0 mn).

Sales of knitted clothing increased by 6.8% and woven clothing by 3.8%

In clothing, sales of knitted clothing increased by 6.8% to Euro110.3 mn while sales woven clothing were 3.8% higher at Euro88.3 mn.

During January-June 2017, sales of textiles and clothing were up by 5.0%

During January-June 2017, sales of textiles and clothing were up by 5.0% compared with the corresponding period of the previous year, from Euro126.4 mn to Euro132.8 mn.

Sales of textiles were up by 20.3% and clothing by 2.1%

Within these totals, sales of textiles were up by 20.3% to Euro24.6 mn while clothing sales were up by 2.1% to Euro108.2 mn.

In textiles, there was strong growth in sales of non-cotton vegetable fibres, yarns and woven fabrics

In textiles, there was strong growth in sales of non-cotton vegetable fibres, yarns and woven fabrics (up by 50.7% to Euro11.8 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (up by 46.9% to Euro2.0 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 37.5% to Euro1.2 mn) and textile products classified under HS Chapter 56 (up by 27.4% to Euro3.4 mn).

In clothing, woven clothing sales were up by 9.2% but knitted clothing sales were down by 3.0%

In clothing, sales of woven clothing were up by 9.2% to Euro48.2 mn.

However, sales of knitted clothing were down by 3.0% to Euro60.0 mn.

Looking ahead, EU demand for textiles and clothing from the Philippines is expected to remain upbeat in 2018 as it continues to benefit from the EU's GSP+ arrangement

Looking ahead, EU demand for textiles and clothing from the Philippines is expected to remain upbeat in 2018 as it continues to benefit from the EU's Generalised Scheme of Preferences (GSP—see page 21) GSP+ arrangement[3], which was granted to the country with effect from December 25, 2014.

As a result, all originating textiles and clothing products[4] imported into the EU from the Philippines now benefit from duty-free treatment.

PRODUCTION

Production of clothing and footwear in the Philippines declined by 7.3% in 2016 following a 7.0% fall in the previous year

Domestic production of clothing and footwear in the Philippines has been on a downward trend in recent years.

In 2016 it declined in value by 7.3% following falls of 7.0% in 2015, 16.7% in 2014 and 12.1% in 2013.

Textile production declined by 9.5% after a 10.3% increase in 2015

Textile production, meanwhile, declined in value by 9.5% in 2016. The decline followed increases of 10.3% in 2015 and 18.2% in 2014 although the latter came after a 28.9% fall in 2013.

[3] Under the GSP+ arrangement, selected countries which implement core human rights, labour rights and other sustainable development conventions are provided with zero duties in the case of about two-thirds of all EU tariff lines.

[4] In this context, originating products are products which have been "wholly produced" in the Philippines, or products incorporating imported (non-originating) materials which have undergone "sufficient transformation" (working or processing) in the Philippines. Non-originating materials can normally be regarded as raw materials, ingredients, components or parts which have been imported into the Philippines for further processing or for inclusion in a finished product. However, the term non-originating materials also applies to any materials used to manufacture a product which do not meet the "wholly produced" or "sufficiently transformed" criteria.

IMPORTS

Imports of cotton fibre and synthetic fibre fell sharply in 2016 but imports of yarns, fabrics and made-up textiles increased

Imports of cotton fibre plunged by 32.1% in 2016, from US$22.8 mn to US$15.5 mn, while imports of synthetic fibres declined by a sharp 15.3%, from US$89.2 mn to US$75.5 mn.

By contrast, imports of yarns, fabrics and made-up textiles, shot up by 44.3%, from US$814.6 mn to US$1,175.9 mn.

During January-September 2017, imports of cotton fibre were up but imports of synthetic fibre, and yarns, fabrics and made-up textiles were down

During January-September 2017, trends in imports of raw materials were mixed compared with the corresponding period of the previous year.

Imports of cotton fibre were up by 111.2% to US$23.8 mn. However, imports of synthetic fibre were down by 9.4% to US$50.4 mn and imports of yarns, fabrics and made-up textiles were 5.3% lower, at US$823.9 mn.

THAILAND

EXPORTS

Thailand's textile and clothing exports fell by 4.7% in 2016

Thailand's textile and clothing exports fell by 4.7% in 2016, from US$6,846.9 mn to US$6,525.5 mn, following a 9.6% decline in 2015.

Textile exports declined by 2.7% and clothing exports by 7.9%

Within these totals, textile exports declined by 2.7%, from US$4,203.7 mn to US$4,089.7 mn, after falling by 10.1% in 2015, while clothing exports declined by 7.9%, from US$2,643.3 mn to US$2,435.8 mn, after an 8.6% fall in 2015.

Thailand's worst performing textile export product categories included non-cotton vegetable fibres, yarns and woven fabrics, silk fibres, yarns and woven fabrics, and cotton fibres, yarns and woven fabrics

Thailand's worst performing textile export product categories in 2016 included non-cotton vegetable fibres, yarns and woven fabrics (down by 23.0% to US$17.1 mn), silk fibres, yarns and woven fabrics (down by 20.5% to US$8.0 mn) and cotton fibres, yarns and woven fabrics (down by 11.2% to US$479.7 mn).

More moderate declines, meanwhile, were recorded in exports of items in a number of other textile product categories, including wool fibres, yarns and woven fabrics (down by 5.4% to US$50.1 mn), fabrics impregnated, coated, covered or laminated with plastics (down by 5.4% to US$142.3 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 4.0% to US$1,125.9 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 2.2% to US$744.3 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (down by 2.7% to US$208.8 mn), made-up textiles (down by 1.9% to US$353.9 mn) and knitted fabric (down by 1.3% to US$318.9 mn).

Exports increased in the case of only two textile product categories

Exports increased in the case of only two textile product categories in 2016, namely textile products classified under HS Chapter 56 (see page 19) (up by 10.1% to US$478.9 mn) and carpets and other textile floor coverings (up by 0.7% to US$161.6 mn).

In clothing, exports of woven clothing decreased by 11.2% and knitted clothing by 6.2%

In clothing, exports of woven clothing decreased by 11.2% to US$778.8 mn while exports of knitted clothing declined by 6.2% to US$1,657.0 mn.

During January-September 2017, textile and clothing exports inched up by 0.1%

During January-September 2017, textile and clothing exports inched up 0.1% compared with the corresponding period of the previous year, from Bt173,575 mn to Bt173,762 mn (US$4,924 mn).

EXPORT MARKETS

Markets for Thailand's textile and clothing exports are fairly well diversified

Markets for Thailand's textile and clothing exports are fairly well diversified. Indeed, no single foreign market accounted for more than a fifth of the country's textile and clothing exports to all destinations in 2016.

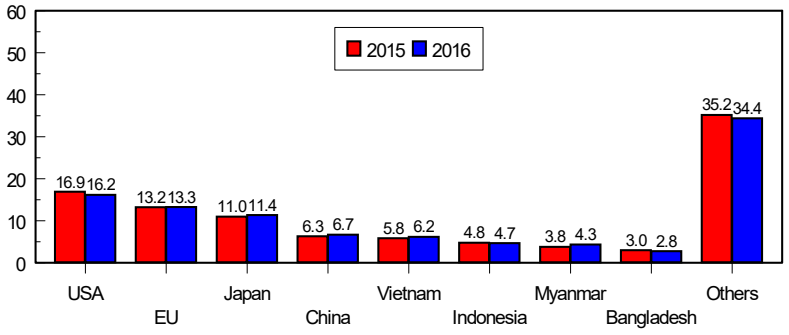
Thailand's largest textile and clothing export market in 2016 was the USA with a 16.2% share of its textile and clothing exports to all destinations—

Thailand's largest textile and clothing export market in 2016 was the USA with a 16.2% share of its textile and clothing exports to all destinations, although this share was down from 16.9% in 2015.

Figure 5

Thailand: textile and clothing exports by destination, 2015 and 2016

(%)



Source: Textiles Intelligence research

—followed by the EU, Japan, China, Vietnam, Indonesia, Myanmar and Bangladesh

Thailand's second largest textile and clothing export market in 2016 was the EU with a 13.3% share (up from 13.2% in 2015), followed by Japan with an 11.4% share (up from 11.0%), China with a 6.7% share (up from 6.3%), Vietnam with a 6.2% share (up from 5.8%), Indonesia with a 4.7% share (down from 4.8%), Myanmar with a 4.3% share (up from 3.8%) and Bangladesh with a 2.8% share (down from 3.0%).

Exports from Thailand to the USA

Thailand's textile and clothing exports to the USA declined by 8.8% in 2016, reflecting a 3.7% fall in textile exports and a 9.9% decline in clothing exports

Thailand's textile and clothing exports to the USA declined by 8.8% in 2016, from US$1,159.4 mn to US$1,057.7 mn.

Within the total for 2016, exports of textiles fell by 3.7% to US$203.2 mn while exports of clothing were 9.9% lower at US$854.5 mn.

Thailand's worst performing textile and clothing export product categories in the US market in 2016 included woven clothing, and textile products classified under HS Chapter 55

Thailand's worst performing textile and clothing export product categories in the US market in 2016 included silk fibres, yarns and woven fabrics (down by 43.4% to US$2.0 mn), fabrics impregnated, coated, covered or laminated with plastics (down by 22.2% to US$1.8 mn), cotton fibres, yarns and woven fabrics (down by 20.0% to US$16.0 mn), woven clothing (down by 16.3% to US$217.9 mn) and man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 14.8% to US$33.6 mn).

By contrast, Thailand's best performing product categories included carpets and other textile floor coverings, and textile products classified under HS Chapter 54

By contrast, Thailand's best performing textile and clothing product categories included carpets and other textile floor coverings (up by 29.2% to US$21.5 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 23.0% to US$37.1 mn), textile products classified under HS Chapter 56 (see page 19) (up by 10.6% to US$13.2 mn) and non-cotton vegetable fibres, yarns and woven fabrics (up by 8.6% to US$2.9 mn).

During January-September 2017, sales of Thai textiles and clothing in the US import market were down 10.6%

During January-September 2017, sales of Thai textiles and clothing in the US import market were down by 10.6% compared with the corresponding period of the previous year, to US$739.7 mn, according to US import data.

Thailand's worst performing textile and clothing product categories in the US import market during January-September 2017 included men's and boys' cotton knitted shirts

Thailand's worst performing textile and clothing product categories in the US import market during January-September 2017 included women's and girls' cotton trousers (down by 60.7% to US$3.7 mn), men's and boys' cotton knitted shirts (down by 24.6% to US$20.0 mn), synthetic filament fabric other than that made from polyester (down by 24.4% to US$11.9 mn), nonwoven fabric (down by 24.1% to US$12.7 mn) and women's and girls' man-made fibre trousers (down by 22.8% to US$14.4 mn).

By contrast, Thailand's best performing product categories included man-made fibre robes and dressing gowns

By contrast, Thailand's best performing textile and clothing product categories during January-September 2017 included man-made fibre robes and dressing gowns (up by 4,057.5% to US$3.4 mn), cotton twill fabric (up by 67.4% to US$1.4 mn), men's and boys' wool suit-type coats (up by 53.1% to US$4.4 mn), women's and girls' man-made fibre sweaters (up by 49.3% to US$1.8 mn), special weave fabric (up by 48.9% to US$1.1 mn), men's and boys' cotton trousers (up by 27.9% to US$4.2 mn) and cotton print cloth fabric (up by 23.0% to US$3.1 mn).

Exports from Thailand to the EU

Thailand's textile and clothing exports to the EU declined by 4.2% in 2016, reflecting a 0.8% fall in textile exports and a 6.4% decline in clothing exports

Thailand's textile and clothing exports to the EU declined by 4.2% in 2016, from US$904.1 mn to US$866.1 mn.

Within the total for 2016, exports of textiles fell by 0.8% to US$349.4 mn and exports of clothing were 6.4% lower at US$516.7 mn.

According to EU import data, Thailand's sales of textiles and clothing in the EU import market fell by 5.3% as textile sales edged down by 0.3% and clothing sales declined by 8.5%

According to EU import data, Thailand's sales of textiles and clothing in the EU import market fell by 5.3% in 2016, from Euro825.1 mn to Euro781.3 mn.

Within these totals, sales of textiles edged down by 0.3% to Euro316.9 mn while sales of clothing declined by 8.5% to Euro464.4 mn.

Thailand's worst performing textile and clothing product categories in the EU import market in 2016 included woven clothing and knitted clothing

Thailand's worst performing textile and clothing product categories in the EU import market in 2016 included silk fibres, yarns and woven fabrics (down by 18.4% to Euro1.7 mn), woven clothing (down by 14.9% to Euro159.2 mn), wool fibres, yarns and woven fabrics (down by 7.8% to Euro28.2 mn), cotton fibres, yarns and woven fabrics (down by 4.7% to Euro35.4 mn) and knitted clothing (down by 4.7% to Euro305.2 mn).

The best performing product categories, by contrast, included textile products classified under HS Chapter 56, and knitted fabric

The best performing product categories, by contrast, included non-cotton vegetable fibres, yarns and woven fabrics (up by 44.5% to Euro1.4 mn), textile products classified under HS Chapter 56 (see page 19) (up by 27.6% to Euro16.9 mn), knitted fabric (up by 17.7% to Euro10.0 mn), and carpets and other textile floor coverings (up by 7.1% to Euro9.1 mn).

During January-June 2017, Thailand's sales of textiles and clothing in the EU import market were up by 0.9%, reflecting a 9.7% rise in sales of textiles

During January-June 2017, Thailand's sales of textiles and clothing in the EU import market were up by 0.9% compared with the corresponding period of the previous year, to Euro406.2 mn.

Within this total, sales of textiles were up by 9.7% to Euro181.7 mn but sales of clothing were down by 5.2% to Euro224.5 mn.

Thailand's best performing textile product categories in the EU import market during January-June 2017 included knitted fabric

Thailand's best performing textile product categories in the EU market in terms of export growth during January-June 2017 included knitted fabric (up by 91.0% to Euro8.4 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 18.5% to Euro36.2 mn) and man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 15.2% to Euro50.0 mn).

The worst performing textile product categories included wool fibres, yarns and woven fabrics

The worst performing textile product categories, by contrast, included carpets and other textile floor coverings (down by 25.0% to Euro3.9 mn) and wool fibres, yarns and woven fabrics (down by 12.7% to Euro14.8 mn).

In clothing, sales of knitted clothing were down by 3.5% and sales of woven clothing by 8.4%

In clothing, sales of knitted clothing were down by 3.5% to Euro150.0 mn while sales of woven clothing were down by 8.4% to Euro74.6 mn.

Exports from Thailand to Japan

Thai textile and clothing exports to Japan declined by 1.3% in 2016, reflecting declines in exports of products in a number of categories, including textile products classified under HS Chapter 55 and textile products classified under HS Chapter 54

Thailand's textile and clothing exports to Japan declined by 1.3% in 2016, from US$751.2 mn to US$741.5 mn.

The country's worst performing textile and clothing product categories in the Japanese market in 2016 included wool fibres, yarns and woven fabrics (down by 10.4% to US$12.0), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 10.0% to US$46.3 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (down by 8.4% to US$66.6 mn) and silk fibres, yarns and woven fabrics (down by 7.4% to US$2.4 mn).

By contrast, there were increases in exports of floor coverings, made-up textiles, and textile products classified under HS Chapter 56

The best performing product categories, by contrast, included carpets and other textile floor coverings (up by 21.7% to US$34.9 mn), made-up textiles (up by 11.5% to US$50.6 mn) and textile products classified under HS Chapter 56 (see page 19) (up by 6.8% to US$87.3 mn).

Exports from Thailand to China

Thai textile and clothing exports to China inched up by 0.6% in 2016 as a 34.3% increase in clothing exports was largely offset by a 4.9% decrease in textile exports

Thailand's textile and clothing exports to China inched up by 0.6% in 2016, from US$434.2 mn to US$436.9 mn.

Within the total for 2016, textile exports were down by 4.9% to US$354.3 mn but exports of clothing were up by 34.3% to US$82.5 mn.

The decrease in textile exports was due primarily to lower demand for cotton fibres, yarns and woven fabrics

The decrease in textile exports was due mainly to lower demand for cotton fibres, yarns and woven fabrics (down by 33.1% to US$46.7 mn), non-cotton vegetable fibres, yarns and woven fabrics (down by 30.1% to US$12.3 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (down by 30.1% to US$6.3 mn) and made-up textiles (down by 29.7% to US$9.0 mn).

Exports from Thailand to Asean markets

Thai textile and clothing exports to Asean markets grew by 1.1% in 2016, reflecting increases in exports to the Philippines, Cambodia, Myanmar, Laos, Malaysia and Vietnam

Thailand's textile and clothing exports to Asean markets grew by 1.1% in 2016, from US$1,486.8 mn to US$1,503.2 mn.

Among these markets, the fastest growth in 2016 was in exports to the Philippines (up by 9.4% to US$117.5 mn), followed by those to Cambodia (up by 8.3% to US$146.3 mn), Myanmar (up by 8.1% to US$278.3 mn) and Laos (up by 4.1% to US$59.0 mn) while more modest growth was registered in the case of exports to Malaysia (up by 1.8% to US$104.0 mn) and Vietnam (up by 0.5% to US$401.9 mn).

By contrast, there were declines in exports to Singapore, Indonesia and Brunei

By contrast, there were declines in exports to Singapore (down by 11.6% to US$85.3 mn), Indonesia (down by 6.3% to US$308.6 mn) and Brunei (down by 3.9% to US$2.3 mn).

Exports from Thailand to Bangladesh

Thai textile and clothing exports to Bangladesh declined by 12.5% in 2016, reflecting a 12.3% fall in textile exports and a 47.2% plunge in clothing exports

Thailand's textile and clothing exports to Bangladesh declined by 12.5% in 2016, from US$205.3 mn to US$179.6 mn.

Within the total for 2016, textile exports were down by 12.3% to US$179.0 mn while exports of clothing plunged by 47.2% to US$0.6 mn.

PRODUCTION

Thai textile production was down by 5.9% in 2016 and by 5.1% during January-September 2017 while clothing production was down by 8.0% in 2016 and by 3.0% during January-September 2017

Production of textiles and clothing in Thailand was significantly lower in 2016. Textile production was down by 5.9% following a 6.5% drop in 2015 while clothing production was down by 8.0% following a 1.7% slip in 2015.

Furthermore, during January-September 2017 textile production was down by 5.1% compared with the corresponding period of the previous year while clothing production was down by 3.0%.

The fastest decline in 2016 was in women's and girls' woven underwear production

In terms of product category, production was significantly lower in 2016 in the case of women's and girls' woven underwear (down by 25.8%), other woven fabrics (down by 16.5%) and cotton woven fabric (down by 8.9%).

VIETNAM

EXPORTS

Vietnamese textile and clothing exports increased by only 2.3% in 2016, albeit to a record high of US$28.2 bn, and failed to meet the target set by the industry

Vietnamese textile and clothing exports expanded at only a moderate pace in 2016 due to muted sales in the USA.

Exports to all destinations rose by just 2.3% during the year, albeit to a record high of US$28.2 bn, from US$27.6 bn in 2015.

The rise represented a sharp slowdown compared with increases of 8.1% in 2015 and 17.2% in 2014 and, as a result, exports did not meet the US$29 bn target set for the year by the Vietnamese textile and clothing industry.

During January-August 2017, however, textile and clothing exports were up by 9.9%

During January-August 2017, however, growth in Vietnamese textile and clothing exports picked up. Compared with the corresponding period of the previous year, exports were up by 9.9% to US$19.8 bn and they may exceed the industry's target of US$30 bn for the year as a whole if growth continues at a similar pace during the rest of 2017.

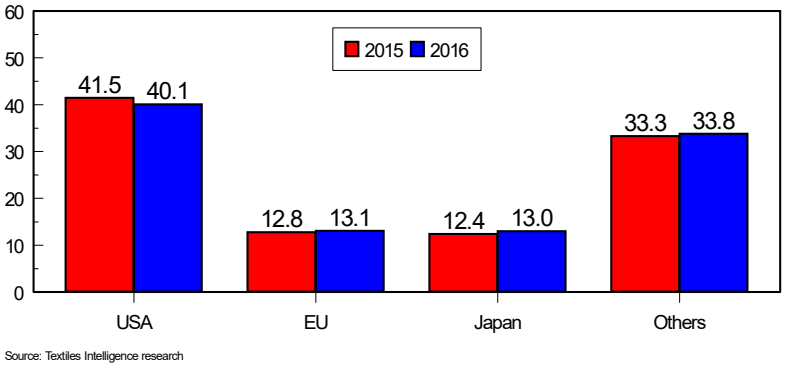
EXPORT MARKETS

Vietnam relies on US, European and Japanese markets for a large share of its export sales

As in the case of other Asian suppliers, Vietnamese textile and clothing producers continue to rely on the US, European and Japanese markets for a large share of their export sales.

Figure 6

Vietnam: textile and clothing exports by destination, 2015 and 2016



Source: Textiles Intelligence research

The largest market for Vietnam's textile and clothing exports in 2016 was the USA with an estimated share of 40.1%, followed by the EU and Japan

In 2016, as in previous years, their largest market was the USA with an estimated 40.1% share of Vietnam's textile and clothing exports to all destinations. However, this was down from an estimated 41.5% in 2015.

Next in importance was the EU with an estimated share of 13.1% (up from an estimated 12.8% in 2015), followed closely by Japan with an estimated share of 13.0% (up from an estimated 12.4% in 2015).

Exports from Vietnam to the USA

Vietnamese textile and clothing sales in the US import market increased in value in 21 of the 23 years to 2016

Sales of Vietnamese textiles and clothing in the US import market increased in value in 21 of the 23 years to 2016, according to US import data.

Indeed, the only declines were in the recessionary years of 2001 and 2009.

Having said that, sales in 2016 alone rose by only 0.2%

Having said that, sales of Vietnamese textiles and clothing in the US import market in 2016 alone rose by only 0.2%, from US$11,291.9 mn to US$11,317.7 mn. The rise represented a sharp slowdown compared with increases of 13.4% in 2015, 13.5% in 2014, 14.6% in 2013, 6.4% in 2012, 14.4% in 2011 and 18.0% in 2010.

Clothing sales grew by only 2.2% and textile sales plunged by 29.0%

Within the total for 2016, sales of clothing grew by only 2.2% to US$10,802.1 mn and sales of textiles plunged by 29.0% to US$515.7 mn.

During January-September 2017, textile and clothing sales were up by a more upbeat 6.5%

During January-September 2017, however, sales of Vietnamese textile and clothing products in the US import market were up by a more upbeat 6.5% compared with the corresponding period of the previous year, to US$9,165.8 mn.

Textile sales were up by 6.3% and clothing sales by 6.5%

Within this total, sales of textiles were up by 6.3% to US$461.0 mn and sales of clothing were up by 6.5% to US$8,704.8 mn.

In 2016 Vietnam was the USA's second largest textile and clothing supplier in value terms with a 10.8% share of US imports from all sources

In 2016 Vietnam continued to be the USA's second largest supplier of textiles and clothing in value terms, behind China, with a 10.8% share of US textile and clothing imports from all sources—up from 10.1% in 2015, 9.3% in 2014, 8.4% in 2013, 7.6% in 2012 and 7.1% in 2011. In fact, Vietnam's share was up in 2016 for the eleventh consecutive year, from only 3.2% in 2005.

It was also the second largest clothing supplier

Vietnam was also the USA's second largest supplier of clothing in value terms with a 13.4% share in 2016, up from 12.4% in 2015, 11.3% in 2014, 10.2% in 2013, 9.2% in 2012 and 8.6% in 2011.

In textiles, however, it was the ninth largest supplier

In textiles, however, Vietnam was the USA's ninth largest supplier in value terms with a 2.2% share, down from 2.7% in both 2015 and 2014, 2.6% in 2013 and 2.3% in both 2012 and 2011.

Vietnam was a major supplier in several categories

Vietnam was a major supplier to the USA in several individual textile and clothing product categories.

In clothing, it was the second largest supplier of cotton clothing—

In clothing, it was the second largest supplier of cotton clothing in value terms, behind China, with a 12.0% share (up from 11.2% in 2015, 10.7% in 2014, 9.6% in 2013, 8.6% in 2012 and 8.2% in 2011).

—man-made fibre clothing—

It was also the second largest supplier, behind China, in man-made fibre clothing with a 15.6% share (up from 14.5% in 2015, 13.2% in 2014, 11.9% in 2013, 11.0% in 2012 and 10.1% in 2011).

—and clothing made from silk blends and non-cotton vegetable fibres—

In addition, it was the second largest supplier of clothing made from silk blends and non-cotton vegetable fibres with an 11.2% share (up from 9.3% in 2015, 6.7% in 2014, 5.3% in 2013, 4.4% in 2012 and 3.0% in 2011).

—and in wool clothing it was the third largest supplier

In wool clothing, it was the third largest supplier with a 5.3% share (up from 4.9% in 2015, 3.7% during 2012-14 and 3.8% in 2011).

In textiles, it was the sixth largest supplier of made-up textiles—

As far as textile items are concerned, Vietnam was the sixth largest supplier of made-up textiles with a 1.9% share (down from 2.6% in 2015, 2.4% in both 2014 and 2013 and 2.1% in 2012, and unchanged from 2011).

—and the tenth largest supplier of fabrics

In the case of fabrics, it was the tenth largest supplier with a 3.1% share (down from 3.4% in 2015, 3.7% in 2014 and 3.5% in 2013, and unchanged from 2012).

The share of cotton clothing in Vietnam's total textile and clothing sales in the US import market fell from 41.1% in 2015 to 40.3% in 2016 while the share of man-made fibre clothing rose from 49.9% to 52.4%

With respect to fibre type, cotton and man-made fibre clothing accounted for 92.7% of Vietnam's total textile and clothing sales in the US import market in 2016, up from 90.9% in 2015 and 90.8% in 2014.

Cotton clothing alone accounted for 40.3% of Vietnam's total textile and clothing sales in the US import market in 2016—although this share was down from 41.1% in 2015, 44.6% in 2014, 46.8% in 2013 and 47.1% in 2012. The share held by man-made fibre clothing, by contrast, rose to 52.4% in 2016, from 49.9% in 2015, 46.2% in 2014, 43.6% in 2013 and 43.1% in 2012.

Women's clothing accounts for the bulk of Vietnam's textile and clothing sales in the US import market

The bulk of Vietnam's textile and clothing sales in the US import market in 2016 consisted of women's clothing—especially knitted shirts and blouses, trousers, man-made fibre coats and man-made fibre dresses.

The most important category of clothing from Vietnam in the US import market in 2016 was that of women's and girls' cotton knitted shirts and blouses but its share was down compared with the previous year due to a 9.4% decline in sales

The most important category of clothing from Vietnam in the US import market in 2016 was that of women's and girls' cotton knitted shirts and blouses. Indeed, these items accounted for an 8.7% share of Vietnam's total textile and clothing sales in the US import market during the year.

However, this share was down from 9.7% in 2015 as sales of these products declined by 9.4% to US$988.5 mn in 2016.

Moreover, during January-September 2017 sales of these products were down by 3.4% compared with the corresponding period of the previous year, to US$724.2 mn. As a result, their share fell to 7.9% and they constituted only the third most important category.

The second most important category in 2016 was that of women's and girls' man-made fibre knitted shirts and blouses and its share was up thanks to a 12.0% increase in sales

The second most important category of Vietnamese clothing products in the US import market in 2016—up from third in the previous year—was that of women's and girls' man-made fibre knitted shirts and blouses. Sales of these products increased by 12.0% to US$974.5 mn in 2016 and their share grew from 7.7% to 8.6%.

Furthermore, during January-September 2017, sales of these products were up by 9.9% compared with the corresponding period of the previous year, to US$786.3 mn, and, although their share remained unchanged at 8.6%, the category became the most important during the nine-month period.

The third most important category in 2016 was that of women's and girls' cotton trousers and its share was slightly higher due to a 1.7% increase in sales

The third most important category of Vietnamese clothing products in the US import market in 2016—down from second in the previous year—was that of women's and girls' cotton trousers. Sales of these products increased by 1.7% during the year, to US$896.0 mn, and their share edged up from 7.8% to 7.9%.

During January-September 2017, sales of these products were up by 10.9% to US$765.0 mn, and their share rose to 8.3%. As a result, they constituted the second most important category.

The fourth most important category in 2016 was that of women's and girls' man-made fibre trousers and its share was up thanks to an 8.9% increase in sales

The fourth most important category of Vietnamese clothing products in the US import market in 2016 was that of women's and girls' man-made fibre trousers. Sales of these products increased by 8.9% to US$758.0 mn in 2016 and their share grew from 6.2% to 6.7%.

Furthermore, during January-September 2017, sales of these products were up by 14.8% compared with the corresponding period of the previous year, to US$654.7 mn, and their share rose to 7.1%.

The best performing Vietnamese textile and clothing product categories in the US import market in 2016 included brassieres and other body-supporting garments

The best performing Vietnamese textile and clothing product categories in the US import market in 2016 in terms of sales growth included cotton hosiery (up by 674.4% to US$3.7 mn), man-made fibre brassieres and other body-supporting garments (up by 184.2% to US$147.3 mn), cotton brassieres and other body-supporting garments (up by 79.4% to US$3.1 mn), dresses made from silk blends and non-cotton vegetable fibres (up by 53.4% to US$7.4 mn), wool knitted shirts and blouses (up by 49.2% to US$11.7 mn), men's and boys' man-made fibre suits (up by 30.6% to US$12.2 mn), knitted shirts and blouses made from silk blends and non-cotton vegetable fibres (up by 29.7% to US$39.2 mn), man-made fibre hosiery (up by 28.8% to US$10.8 mn) and trousers made from silk blends and non-cotton vegetable fibres (up by 28.3% to US$34.2 mn).

By contrast, the worst performing product categories included man-made fibre luggage, handbags and flat goods

By contrast, there were declines in sales of products in a number of other categories, including women's and girls' man-made fibre sweaters (down by 66.8% to US$3.3 mn), man-made fibre luggage, handbags and flat goods (down by 45.3% to US$197.4 mn), women's and girls' man-made fibre suits (down by 41.8% to US$8.8 mn), men's and boys' wool suits (down by 30.4% to US$20.0 mn), speciality yarns (down by 29.7% to US$6.6 mn), women's and girls' man-made fibre down-filled coats and jackets (down by 29.4% to US$50.5 mn) and man-made fibre gloves and mittens (down by 24.0% to US$44.1 mn).

Vietnam and the USA are two of 12 countries which signed the TPP free trade agreement in February 2016 but in January 2017 the USA decided to withdraw from it

Vietnam and the USA are two of 12 countries which signed the ambitious Trans-Pacific Partnership (TPP) free trade agreement[5] in February 2016.

In January 2017, however, President Trump decided to withdraw the USA from the trade agreement.

Vietnam had been hoping to substantially increase its sales to the USA as a result of the TPP

The TPP included significant tariff benefits for imports of Vietnamese products into the US market, and Vietnam's textile and clothing industry was hoping to substantially increase its sales to the USA once the agreement was implemented.

[5] The other countries which signed the Trans-Pacific Partnership (TPP) free trade agreement are Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru and Singapore.

Nevertheless, it should continue to increase its share of the US textile and clothing import market

Nevertheless, it is expected that Vietnam will continue to increase its share of the US textile and clothing import market—even without the tariff benefits which would have been afforded by the TPP to originating products[6].

Also, signatories to the TPP are working to revise the deal to allow them to proceed without US involvement

Also, signatories to the TPP still want to implement the agreement and are therefore working to revise the deal in order to allow them to proceed without US involvement[7].

Exports from Vietnam to the EU

Vietnam's textile and clothing sales in the EU import market rose by 6.7% in 2016

Sales of Vietnamese textiles and clothing in the EU import market rose by 6.7% to Euro3,341.0 mn (US$3,697.0 mn) in 2016, according to EU import data.

Textile sales rose by 4.5% and clothing sales by 7.0%

Within this total, textile sales rose by 4.5% to Euro341.2 mn and clothing sales grew by 7.0% to Euro2,999.8 mn.

Sales of knitted clothing rose by 15.9% and sales of woven clothing by 3.5%

Within the total for clothing, sales of knitted clothing increased by 15.9% to Euro917.2 mn while sales of woven clothing advanced by 3.5% to Euro2,082.6 mn.

Vietnam's best performing textile product categories in the EU import market in 2016 included made-up textiles

In textiles, Vietnam's best performing product categories in the EU import market in 2016 in terms of sales growth included cotton fibres, yarns and woven fabrics (up by 8.2% to Euro11.5 mn), man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 8.1% to Euro14.6 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (up by 7.8% to Euro5.0 mn) and made-up textiles (up by 7.5% to Euro211.9 mn).

By contrast, the worst performing product categories included silk fibres, yarns and woven fabrics

By contrast, the worst performing product categories included silk fibres, yarns and woven fabrics (down by 25.5% to Euro6.1 mn), textile products classified under HS Chapter 56 (see page 19) (down by 15.6% to Euro10.7 mn) and knitted fabric (down by 3.2% to Euro12.0 mn).

During January-June 2017, Vietnam's textile and clothing sales rose by 6.0%

During January-June 2017, sales of Vietnamese textiles and clothing in the EU import market increased by 6.0% compared with the corresponding period of the previous year, to Euro1,623.6 mn.

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[6] In this context, "originating products" are those which have been "wholly produced" in a country which is a signatory of the TPP, or products incorporating "non-originating imported materials" which have undergone "sufficient transformation" (working or processing) in a country which is a signatory of the TPP. "Non-originating materials" can normally be regarded as raw materials, ingredients, components or parts which have been imported into a TPP signatory country for further processing or for inclusion in a finished product. However, the term "non-originating materials" also applies to any materials used to manufacture a product which do not meet the "wholly produced" or "sufficiently transformed" criteria.

[7] The revised deal is being called the TPP-11—Trans-Pacific Partnership-11, or Comprehensive and Progressive Agreement for Trans-Pacific Partnership—and it involves all of the countries excluding the USA which negotiated the original Trans-Pacific Partnership free trade agreement (TPP—see page 49).

Sales of textiles were up by 10.0% and clothing by 5.4%

Within this total, textile sales were up by 10.0% to Euro185.8 mn while clothing sales were up by 5.4% to Euro1,437.8 mn.

Sales of knitted clothing were up by 11.1% and sales of woven clothing by 3.0%

Within the total for clothing, sales of knitted clothing were up by 11.1% to Euro459.1 mn and sales of woven clothing were up by 3.0% to Euro978.8 mn.

In textiles, Vietnam's best performing product categories in the EU import market included man-made filament yarns and woven fabrics, and made-up textiles

In textiles, Vietnam's best performing product categories in the EU import market during January-June 2017 in terms of sales growth included man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 29.4% to Euro10.3 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (up by 22.4% to Euro17.1 mn), special woven fabrics and other textile articles classified under HS Chapter 58 (up by 10.1% to Euro2.8 mn), textile products classified under HS Chapter 56 (see page 19) (up by 11.6% to Euro6.2 mn), made-up textiles (up by 9.4% to Euro113.8 mn) and fabrics impregnated, coated, covered or laminated with plastics (up by 8.5% to Euro21.2 mn).

Exports from Vietnam to Japan

Sales of Vietnamese textiles and clothing in the Japanese import market declined by 2.6% in 2016

Sales of Vietnamese textiles and clothing in the Japanese import market declined by 2.6% in 2016, from ¥409,131 mn to ¥398,636 mn (US$3,665 mn), according to Japanese import data. The decline followed increases of 23.1% in 2015 and 22.4% in 2014.

This decline was attributable partly to an appreciation of the Japanese yen against the US dollar

The decline was attributable partly to an appreciation of the Japanese yen against the US dollar. Indeed, in US dollar terms Vietnamese textile and clothing sales in the Japanese import market increased by 8.4%.

Textile sales fell by 4.9% and clothing sales by 2.1%

Within the total for 2016, sales of textiles fell by 4.9% to ¥63,873 mn while sales of clothing decreased by 2.1% to ¥334,763 mn.

The most important category of textiles and clothing from Vietnam in the Japanese import market in 2016 was that of woven clothing, followed by knitted clothing, made-up textiles and textile products classified under HS Chapter 56

The most important category textiles and clothing from Vietnam in the Japanese import market in 2016 was that of woven clothing with a 44.4% share of Vietnam's total textile and clothing sales in the Japanese import market during the year. However, this share was down from 45.0% in 2015 and 46.0% in 2014.

The second most important category was that of knitted clothing with a share of 39.6% (up from 38.6% in 2015 and 37.0% in 2014), followed by made-up textiles with a 9.5% share (down from 9.8% in 2015 and 10.3% in 2014) and textile products classified under HS Chapter 56 (see page 19) with a 2.3% share (up from 2.2% in 2015 but down from 2.4% in 2014).

Sales of knitted clothing fell by 0.2% and sales of woven clothing by 3.8%

In the case of clothing, sales of knitted clothing inched down by 0.2% to ¥157,688 mn and sales of woven clothing fell by 3.8% to ¥177,075 mn.

Vietnam's best performing textile product categories included cotton fibres, yarns and woven fabrics

Vietnam's best performing textile product categories in the Japanese import market in 2016 in terms of sales growth included cotton fibres, yarns and woven fabrics (up by 47.7% to ¥2,054 mn) and man-made filament yarns and woven fabrics classified under HS Chapter 54 (up by 6.4% to ¥2,635 mn).

By contrast, the worst performing product categories included made-up textiles

By contrast, the worst performing product categories included silk fibres, yarns and woven fabrics (down by 29.6% to ¥2,854 mn), carpets and other textile floor coverings (down by 10.6% to ¥2,896 mn), fabrics impregnated, coated, covered or laminated with plastics (down by 10.1% to ¥4,111 mn), man-made staple fibres, yarns and woven fabrics classified under HS Chapter 55 (down by 7.1% to ¥1,424 mn) and made-up textiles (down by 5.5% to ¥38,039 mn).

PRODUCTION

Vietnam's textile and clothing production continued to increase at a robust pace in 2016

Vietnam's textile and clothing production continued to increase at a robust pace in 2016, despite the slowdown in Vietnam's textile and clothing exports during the year.

Textile production rose by 17.3% in 2016 and by 10.0% during January-November 2017 while clothing production rose by 7.8% in 2016 and by 6.1% during January-November 2017

Textile production increased by 17.3% in 2016, and during January-November 2017 it was up by 10.0% compared with the corresponding period of the previous year.

Clothing production, meanwhile, increased by 7.8% in 2016, and during January-November 2017 it was up by 6.1% compared with the corresponding period of the previous year.

Textile production is growing at a robust pace, in part to enable Vietnamese clothing manufacturers to take advantage of the EU-Vietnam FTA and of any benefits which could arise if a so-called TPP-11 were to come into force

Textile production is growing at a robust pace—in part to enable Vietnamese clothing manufacturers to take advantage of the preferential duty benefits of the EU-Vietnam Free Trade Agreement (FTA) and of any benefits which could arise if a so-called TPP-11 (see page 50) were to come into force.

Under the EU-Vietnam FTA, clothing will generally have to be made with fabrics from Vietnam, the EU and/or South Korea in order for it to benefit from preferential duty treatment. According to information from the European Commission, the free trade agreement could enter into force by the end of 2018. In the case of the TPP-11, clothing will generally have to be made with yarns and fabrics from Vietnam and/or other TPP-11 countries in order for such clothing to benefit from preferential duty treatment.

Survey of the European yarn fairs for autumn/winter 2018/19

by Philippa Watkins[1]

SUMMARY

The atmosphere at the European yarn fairs for the autumn/winter 2018/19 season was positive. Knitwear continues to be a high fashion item, and has been providing European spinners with a buoyant market for their increasingly complex and sophisticated yarns. For the Italian yarn industry as a whole, however, trading figures were not so favourable. During the first quarter of 2017, Italian yarn production was down by 4.8% compared with the corresponding period of the previous year and exports were down by 3.6%. Furthermore, these falls came after declines in each of the previous four years.

Attendance at the June 2017 edition of Pitti Immagine Filati, a fair held in Florence, Italy, which specialises in high end knitwear yarns, was down slightly compared with a year earlier. But at the February 2017 edition of Filo—a trade fair held in Milan, Italy, which shows yarns and fibres for woven and jersey fabrics and knitwear—attendance was up by a sharp 14%.

There was a strong focus on sustainability, and the fairs provided spinners with the opportunity of informing their customers of their latest ideas and plans for more sustainable production. Key concepts of sustainability include excellence, recycling, reducing waste, responsible production and simplifying processes.

The main ingredients in most spinners' collections at the fairs for the autumn/winter 2018/19 season were wool and luxury fibres—notably cashmere, mohair and especially alpaca. But these fibres were also being used in combinations with other fibres, particularly lyocell, polyamide, polyester and viscose. Yarns were finely spun, and many were light but big yarns created in multi-plied twists. There were also more fancy yarns on view—such as bouclé yarns, chenilles, tape yarns and twists of different colours—which had been produced using clever techniques and constructions in order to create some interesting surface effects.

YARN FAIRS

TRADING CONDITIONS

The atmosphere at the European yarn fairs for autumn/winter 2018/19 was positive, reflecting the continuing popularity of knitwear

The atmosphere at the European yarn fairs for the autumn/winter 2018/19 season was positive.

This positive atmosphere stemmed largely from the continuing popularity of knitwear as a high fashion item, particularly at the better end of the market.

[1] Philippa Watkins is a freelance textile designer and writer on textile subjects and a former textile editor of WGSN—a web-based fashion and textiles information service. She was also a senior tutor at the Royal College of Art, London, UK, where she specialised in woven fabrics. For a glossary of terms used in this report, visit http://www.textilesintelligence.com/glo/

But trading figures for the Italian yarn industry as a whole were less favourable

For the Italian yarn industry as a whole, however, trading figures prepared by Sistema Moda Italia (SMI) were not so favourable.

Italian sales of yarn were down in 2016 for the fourth consecutive year, due primarily to a 4.9% decline in exports

In fact, Italian sales of yarn were down in 2016 for the fourth consecutive year—by 2.7%, following a negligible 0.03% fall in 2015 and declines of 2.0% in 2014 and 4.3% in 2013.

The decline in sales in 2016 was attributed to a fall in exports of 4.9%. However, this was partly offset by strong domestic sales.

As a result, the yarn industry's trade balance was in deficit

As a result, the trade balance of the Italian yarn industry—which showed a surplus in the years 2012 to 2015—showed a deficit in 2016 of Euro54 mn.

In the first quarter of 2017, Italian yarn production continued to fall—

Figures for the first quarter of 2017 show that Italian yarn production continued to fall. Compared with the corresponding period of the previous year, it was down by 4.8%. Thereafter, there was a 2.9% rise in production in April which helped to offset the poor figures for the first three months of the year. Nevertheless, production during the four-month period from the beginning of January to the end of April was down by 1.5% compared with the corresponding period of the previous year.

—and exports also continued to fall

Exports continued to fall during the first quarter of 2017, having declined by 3.6% compared with the first quarter of 2016.

Exports of cotton yarn to Croatia were up by 29.2% and exports of carded wool and fine hair yarns to Croatia surged by 50.8%

However, there was a noticeable rise in demand from Croatia. Indeed, exports of cotton yarn to Croatia during the first quarter of 2017 were up by 29.2% compared with the corresponding period of the previous year while exports of carded wool and fine hair yarns to Croatia surged by 50.8%.

But there were declines in cotton yarn exports to the Czech Republic, France, Germany and Spain, and a 40.6% plunge in exports of carded wool and fine hair yarns to Hong Kong

By contrast, there were declines in exports of cotton yarn to the Czech Republic, France, Germany and Spain, and there was a sharp 40.6% plunge in exports of carded wool and fine hair yarns to Hong Kong.

Table 1: Italian yarn industry[a]: sales, value of production and exports, 2013-16 (Euro mn)[b]

	2013	2014	2015	2016
Sales	2,979	2,918	2,917	2,837
% change[c]	-4.3	-2.0	0.0	-2.7
Value of production	1,885	1,834	1,820	1,759
% change[c]	-5.2	-2.7	-0.8	-3.3
Exports	898	871	871	828
% change[c]	-3.4	-3.0	0.0	-4.9

[a] Wool, cotton and linen yarns. [b] At current values. [c] Over previous year.
Source: Istituto nazionale di statistica (Istat—Italian National Institute of Statistics) and internal survey data processed by Sistema Moda Italia (SMI).

FILO

Filo shows yarns and fibres mainly for woven and jersey fabrics

Filo is a trade fair held in Milan, Italy, which shows yarns and fibres mainly for woven and jersey fabrics—although some of the yarns on show are designed for use in knitwear.

At the edition for autumn/winter 2018/19, staged in February 2017, there was an increase in the number of exhibitors and, in particular, an increase in the number from Prato, Italy

The event for autumn/winter 2018/19—the 47th edition—was staged during February 22-23, 2017.

There was an increase in the number of exhibitors at this edition, and, in particular, there was a significant increase in the number of exhibitors from Prato, Italy.

This increase is thought to have been prompted by interest in the large number of visiting buyers who had been attending recent editions of Filo.

There was also an increase in the number of visitors attending the fair

Filo does not release information about visitor numbers and therefore it does not provide a breakdown of visitor numbers by source country. However, it is known that the total number of visitors at the 47th edition of the fair was up by 14% compared with the number who attended the 45th edition, which was held in March 2016. Furthermore, the organisers of the fair were particularly pleased with the numbers of foreign buyers who attended the 47th edition of the fair.

This fair has grown recently and has a reputation for being "efficient" in terms of placing orders

Filo has grown in recent years, and its attraction to visitors and attendance by visitors have been increasing as the fair has been living up to its reputation as a show which is "efficient" in terms of placing orders.

Offers by many exhibitors "bridge" several seasons—

Another attraction of this fair for buyers is that many companies exhibiting at the fair "bridge" several seasons in their offers, in response to the demands of the trade.

—and spinners are able to offer smaller quantities of yarns dyed in special colours for those who seek individuality and exclusivity

A further attraction is that the spinners exhibiting are able to offer smaller quantities of yarns dyed in special colours for specific customers.

Admittedly, the cost of buying in smaller quantities is usually higher than the cost of buying in larger quantities. However, this service suits customers who are seeking individuality and exclusivity.

Filo was originally started for Italian spinners of wool fibres but it is now open to exhibitors from other countries and covers all types of fibres

Filo was originally started in the mid-1990s by the Unione Industriale Biellese for Italian spinners of wool fibres.

Since then, it has grown in scale, and spinners from other European countries now exhibit their yarns at the fair. Also, the coverage of the fair has been extended to include all types of fibres.

The fair specialises in offering ideas for using new raw materials with different functions

The fair specialises in offering manufacturers ideas for using new raw materials with different functions, reflecting the fact that—as a result of recent technical advances—many different fibres are now being used in blends and mixes.

The edition of Filo for spring/summer 2018 was held in September 2017

The edition of Filo for the spring/summer 2019 season, the 48th edition, was held during September 27-28, 2017, at the Palazzo delle Stelline in Milan. A report on this fair will be published in a forthcoming issue of *Textile Outlook International*.

PITTI IMMAGINE FILATI

Pitti Immagine Filati shows yarns for the top end of the knitwear market, and is an essential event for knitwear designers and buyers and a good starting point for the new season's trends

Pitti Immagine Filati, held in Florence, Italy, includes yarns which are aimed at the top end of the knitwear market.

The fair is an essential event for knitwear designers and buyers, and it provides exhibitors with an opportunity to display the newest and most inspirational ideas and trends in yarns and knitwear.

It is also a good starting point for the new season's fashion colour trends and design trends.

The event for the autumn/winter 2018/19 season was staged during June 28-30, 2017, and concluded in a positive mood

The event for the autumn/winter 2018/19 season—the 81st edition of the fair, which was staged during June 28-30, 2017—concluded in an atmosphere which was notably lively and dynamic. This positive atmosphere represented a continuation of the mood at the previous four editions of the fair.

The new yarn collections were much appreciated by buyers and designers

There was much appreciation by buyers and designers of the new yarn collections presented by Italian yarn manufacturers and foreign yarn manufacturers.

However, the number of people who attended the fair was down slightly

However, the number of people who attended the fair was down marginally to 5,350 compared with the record high of 5,400 who visited the event in June-July 2016.

54% of the visitors at the fair were from countries other than Italy

As in the case of the event held in June-July 2016, most of the visitors at the June 2017 edition of the fair—2,900 in total—were from countries other than Italy. Indeed, foreign buyers represented 54% of the total, thereby outnumbering Italian buyers.

Among the 54%, the fastest growth was in the number of visitors from Russia followed by South Korea and China but there were declines in the numbers of visitors from Spain, Sweden, Germany, France, the UK, the Netherlands, and the USA

Among the visitors from countries other than Italy, the fastest growth was in the number from Russia (up by 49%), followed by those from South Korea (up by 24%), China (up by 16%), Hong Kong (up by 15%), Turkey (up by 13%), Japan (up by 9%), Switzerland (up by 5%) and Belgium (up by 4%).

However, there were sharp declines in the numbers of visitors from Spain (down by 19%), Sweden (down by 16%), Germany (down by 15%), France (down by 13%), the UK (down by 7%), the Netherlands and the USA (both down by 2%).

74% of visitors from outside Italy came from the top 15 countries

About 74% of the visitors who came from countries other than Italy were from the 15 most important countries in terms of visitor numbers (Table 2).

Table 2: Pitti Immagine Filati: number of visitors from the top 15 source countries other than Italy, Jun-Jul 2016 and Jun 2017

	Jun-Jul 2016	Jun 2017	% change
UK	336	313	-7
Germany	365	310	-15
France	278	243	-13
USA	246	240	-2
Japan	173	188	9
Spain	148	120	-19
Turkey	103	116	13
China	87	101	16
Russia	65	97	49
Switzerland	91	96	5
Hong Kong	78	90	15
Netherlands	89	87	-2
Sweden	62	52	-16
Belgium	46	48	4
South Korea	37	46	24

Source: Pitti Immagine Filati.

The biggest source other than Italy was the UK

The biggest source of visitors from countries other than Italy was the UK, followed by Germany, France, the USA, Japan, Spain, Turkey, China, Russia, Switzerland, Hong Kong, the Netherlands, Sweden, Belgium and South Korea.

Pitti Immagine Filati targets high end markets, which remain important

Pitti Immagine Filati targets high end knitwear markets, and these remain important despite slow economic growth in a number of export markets.

There were 130 brands exhibiting at the fair—

There were 130 brands exhibiting at the fair held in June 2017, which was equal to the number who exhibited in June-July 2016.

—of which 24 had come from outside Italy

Of the 130 exhibitors in June 2017, 24 had come from outside Italy, including those from the UK, Japan, Turkey, Romania, Peru, Germany, New Zealand and South Africa.

There were 28 exhibitors in the Fashion At Work area and 15 exhibitors in the KnitClub area

There were 28 exhibitors in the Fashion At Work area, where design studios showed their work.

In addition, there were 15 exhibitors—from Italy and Japan—in the KnitClub area. The KnitClub area provides space for Italian and non-Italian knitting mills to exhibit their products.

Adding to the lively atmosphere was a catwalk show by students at the Accademia Costume & Moda, and the Feel the Yarn competition—

Adding to the lively atmosphere at the fair was:

- the staging of a sophisticated and creative catwalk show by Master's Degree students in Creative Knitwear Design at the Accademia Costume & Moda (Academy of Costume and Fashion) in Rome, Italy (see Figure 1 and Figure 2); and
- the Feel the Yarn competition for knitwear students.

—which was held for the eighth time

The Feel the Yarn competition—created through collaboration with Consorzio Promozione Filati (CPF) and Pitti Immagine—was held in June 2017 for the eighth time. On the last day of the fair, there was a ceremony at which awards were presented.

Figure 1
Accademia Costume & Moda catwalk show: outfit by Amanda Plummer

Source: Philippa Watkins

Figure 2
Accademia Costume & Moda catwalk show: outfit by Gabriela Braga

Source: Philippa Watkins

22 students from 13 international design schools took part in the Feel the Yarn competition

The Feel the Yarn competition is seen as a valuable one. In 2017 there was participation from as many as 13 international fashion schools, from which a total of 22 student finalists were selected. Each student worked with yarns from one of 22 Italian spinners which were considered to be among the most creative spinners showing at Pitti Immagine Filati.

Student designers were shown the complexities of making yarns, and were asked to design and make two outfits around a theme using yarn from a partner spinner

Student designers were shown the complexities of making yarns, and were asked to design and make two outfits around a theme using yarn from a partner spinner.

The competition therefore acted as a training programme for design students as it gave them an invaluable opportunity to learn about the yarn industry and the knitwear industry.

The outfits were presented at the fair and visitors voted for the winning designs

Knitwear outfits designed and made by the 22 students were displayed at the fair and visitors were invited to vote for the winning designs.

The winning outfit was made by a student from the Royal College of Art, Yuan-Lung Kao, who had worked with yarns from the spinner Igea

The winning outfit, judged for its ingenuity as well as its beautiful aesthetic, was made by a student called Yuan-Lung Kao from the Royal College of Art, UK (see Figure 3).

Mr Kao had worked with yarns from the spinner Igea, and his men's wear outfits showed high levels of creativity and technical skill. Mr Kao's prize was awarded by the Italian company Biella Yarn, which is part of the Südwolle Group.

Figure 3
Feel the Yarn competition: winning outfit by Yuan-Lung Kao

Source: Philippa Watkins

Another prize was awarded to a student from Kingston University, Rebecca Holmes, who had worked with yarns from Pecci Filati

Another prize was awarded by Banana Republic—a USA-based fashion retailer—to a student from Kingston University, UK, called Rebecca Holmes.

Ms Holmes worked with yarns from Pecci Filati to create garments which were rich in detail and market oriented.

The next edition of Pitti Immagine Filati will be held in January 2018

The next edition of Pitti Immagine Filati will be held during January 24-26, 2018.

PREMIÈRE VISION YARNS

Première Vision Yarns is one of six fairs which form Première Vision Paris

Première Vision Yarns is one of six fairs which collectively form Première Vision Paris and are hosted concurrently[2].

The edition of Première Vision Yarns for autumn/winter 2018/19 was held in Paris, France, during September 19-21, 2017.

[2] The six shows which are held concurrently as part of Première Vision Paris are: Première Vision Leather, a show for leather and fur; Première Vision Yarns, a show for yarns and fibres; Première Vision Designs, a show for textile design and creation; Première Vision Fabrics, a show for clothing fabrics; Première Vision Accessories, a show for accessories and components for fashion and design; and Première Vision Manufacturing, a show which specialises in fashion manufacturing.

There were 60 exhibitors at Première Vision Yarns in September 2017, of whom 12 were new

There were 60 exhibitors at Première Vision Yarns in September 2017 compared with 53 in September 2016.

The 60 exhibitors were from 19 countries, and 12 of the exhibitors were new.

There were increases in the numbers of exhibitors and visitors at Première Vision Paris

Furthermore, there were increases in the numbers of exhibitors and visitors at Première Vision Paris this season, giving testimony to the attractiveness and strength of the combined fairs within Première Vision Paris.

The number of exhibitors was up by 2.9% to 1,954—

Overall, there were 1,954 exhibitors across the six Première Vision Paris shoes for the autumn/winter 2018/19 season, which represented an increase of 2.9% compared with the 1,898 exhibitors who were present in September 2016.

—while the number of visitors was up by 7.5% to 60,565

The total number of visitors who attended Première Vision Paris in September 2017 was 60,565, which represented an increase of 7.5% compared with the 56,475 visitors who attended in September 2016.

Geographically, the visitors came from 129 countries

Geographically, the 60,565 visitors came from 129 countries in September 2017. The organisers claim that this indicates the importance of Première Vision Paris as a sourcing event for anyone in the fashion business.

The leading source of visitors to the fair in September 2017 was France, followed by Italy, the UK and Spain

The rankings of the leading ten sources of visitors had changed somewhat compared with the September 2016 edition.

As in the case of the September 2016 edition, the leading source of visitors at the fair in September 2017 was France, followed by Italy, the UK and Spain.

The number of visitors from France represented 27% of the total

In fact, 16,054 visitors came from within France, which represented 27% of the total (Table 3). Furthermore, this number was up by 5% compared with the number of visitors from France in September 2016.

Visitors from Italy represented 11% of the total, visitors from the UK 8% of the total, and visitors from Spain 6% of the total

Italy was the source of 6,742 visitors in September 2017 (representing 11% of the total) while the UK was the source of 4,975 visitors (representing 8% of the total) and Spain was the source of 3,473 visitors (representing 6% of the total). Furthermore, the numbers of visitors from all three countries increased—by 3%, 5% and 5% respectively.

China ranked fifth in importance as a source of visitors with a 5% share

China ranked fifth in importance, having been the source of 2,933 visitors (representing 5% of the total). Furthermore, the number of visitors from China was up by 13% compared with the number of visitors who attended in September 2016.

Turkey was sixth in importance, having overtaken Germany and the USA

Turkey was sixth in importance and was the source of 2,845 visitors (representing 5% of the total). Indeed, the number of visitors from Turkey surged by 53% compared with the number of visitors who attended in September 2016. As a result of this increase, Turkey overtook Germany and the USA as a source of visitors.

Germany ranked seventh in importance

Germany ranked seventh in importance, having been the source of 2,315 visitors, or 4% of the total. However, this was down by 1% compared with the number of visitors who attended in September 2016.

The USA ranked eighth in importance

The USA ranked eighth in importance, having been the source of 2,166 visitors (representing 4% of the total), and the number of visitors from the USA was up by 4% compared with the number of visitors who attended in September 2016.

Japan ranked ninth in importance

Japan ranked ninth in importance, having been the source of 1,791 visitors (representing 3% of the total). This figure was 7% higher than the number of visitors who attended in September 2016 and, as a result, Japan overtook Belgium as a source of visitors in September 2017.

Belgium ranked tenth in importance

Belgium ranked tenth in importance, having been the source of 1,627 visitors (representing 3% of the total). However, this number was down by 6% compared with the number of visitors who attended in September 2016.

Table 3: Première Vision Paris: number of visitors by source country, Sep 2017

	No of visitors	% share
France	16,054	27
Italy	6,742	11
UK	4,975	8
Spain	3,473	6
China	2,933	5
Turkey	2,845	5
Germany	2,315	4
USA	2,166	4
Japan	1,791	3
Belgium	1,627	3
Others	15,644	26
Total	**60,565**	**100**

NB: percentage share calculations may not sum due to rounding.
Source: Première Vision Paris.

In 2018 Première Vision will launch an online Première Vision marketplace for upstream trade shows specialising in the creative fashion sector

The September 2017 edition of the fair provided Première Vision with an opportunity to announce certain strategic developments.

These include, in particular, the launch in 2018 of a new, exclusive online Première Vision marketplace for upstream trade shows specialising in the creative fashion sector.

Table 4: European yarn fairs for autumn/winter 2018/19 and spring/summer 2019

	Autumn/winter 2018/19	Spring/summer 2019
Filo, Milan, Italy	February 22-23, 2017	September 27-28, 2017
Pitti Immagine Filati, Florence, Italy	June 28-30, 2017	January 24-26, 2018
Première Vision Yarns, Paris, France	September 19-21, 2017	February 13-15, 2018

Source: author's own research.

TRENDS IN KNITWEAR YARNS AT PITTI IMMAGINE FILATI

Knitwear trends at Pitti Immagine Filati in June 2017 were lively and inspiring

Knitwear trends at the yarn trade fair Pitti Immagine Filati—held in June 2017—were lively and inspiring, and knitwear continues to be an important high fashion item for the autumn/winter 2018/19 season.

The colours and designs provided a good indication of fashion trends

The colours and designs shown at the fair provided a good indication of fashion trends in knitwear—and of fashion trends in general—for the season.

Italian spinners had employed luxury materials and advanced techniques

Italian spinners showing at Pitti Immagine Filati had employed a wide range of luxury materials and advanced techniques to produce the finest and most sophisticated of yarns, often in complex blends.

Yarns for winter tend to be more luxurious than yarns for summer

Winter is naturally the most important season for knitwear, and yarns for winter tend to be more luxurious than yarns for summer.

THEME FOR AUTUMN/WINTER 2018/19 AT THE *SPAZIO RICERCA*: THE HUMAN EDITION

At the *Spazio Ricerca* the theme was entitled The Human Edition and its focus was on Man's "natural needs"

The overall theme for the autumn/winter 2018/19 season at the *Spazio Ricerca*[3]—which is constantly evolving—was The Human Edition (see Figures 4-7).

Commenting on the theme, Angelo Figus, a fashion designer and one of the artistic directors[4] of the *Spazio Ricerca*, explained: "In a general climate characterised by a lack of clear direction, even in a contradictory, sometimes illogical or paradoxical way, the next winter season will put Man—that is us—with all of our most natural needs at the centre of attention. It is a concept that will be implemented through important and autonomous decisions. This is the spirit of this edition's *Spazio Ricerca*."

The theme was further divided into the five sub-themes

The overall theme of The Human Edition was further divided into the following sub-themes:

- Maestro;
- Humanity;
- Wild nature;
- Movement; and
- Consciously nourishing oneself.

[3] The *Spazio Ricerca* is Pitti Immagine Filati's creative laboratory and experimental observatory on the trends for the coming seasons.

[4] As well as Angelo Figus, the *Spazio Ricerca* also comes under the artistic direction of the knitwear expert Nicola Miller.

Figure 4
Display at *Spazio Ricerca*:
"The Human Edition"

Source: Philippa Watkins

Figure 5
Display at *Spazio Ricerca*:
"The Human Edition"

Source: Philippa Watkins

Figure 6
Display at *Spazio Ricerca*:
"The Human Edition"

Source: Philippa Watkins

Figure 7
Display at *Spazio Ricerca*:
"The Human Edition"

Source: Philippa Watkins

Colours associated with the Maestro theme were dark, saturated, rich and dense

The **Maestro** theme focused on "new classics" in the forms of colours and garments which had no references to any types of styles or periods.

Garments associated with the theme were rigorously finished, while colours associated with the theme were dark, saturated, rich and dense.

The Humanity theme focused on genetic heritage and cultural heritage

The **Humanity** theme focused on genetic heritage and cultural heritage.

Shapes associated with the theme were soft, comfortable and organic. The theme also incorporated the use of warm fibres, and a series of colours which mixed and blended together.

The Wild nature theme focused on "organic value" and extraordinary colours, and had been inspired by wild flowers and plants

The **Wild nature** theme focused on "organic value" and extraordinary colours. The theme had been inspired by wild flowers and plants and incorporated the use of plant fibres.

Colours associated with the theme included tones of chlorophyll[5] green and the colours of petals.

The Movement theme focused on communication and a sense of movement, and fabrics associated with the theme were lightweight and brightly coloured

The **Movement** theme focused on communication between individuals, even those with different languages and cultures. Furthermore, the theme incorporated a sense of movement.

Fabrics associated with the theme included lightweight knits and brightly coloured layered knits.

The theme of Consciously nourishing oneself focused on well-being and sustainability

The theme of **Consciously nourishing oneself** focused on well-being and sustainability. Colours associated with the theme included dehydrated shades, whites and greens which had been inspired by pulses, seeds and fruit.

SUSTAINABILITY

There was a strong focus on sustainability at Pitti Immagine Filati and spinners reported that customers were asking increasingly for responsibly made yarns

As well as the many new ideas from spinners, there was also a strong focus on sustainability at Pitti Immagine Filati in September 2017.

In fact, sustainability was the most talked about subject as spinners reported that customers were asking increasingly for a greater number of sustainable and responsibly made yarns.

Spinners are tackling the complex route to more sustainable production in different ways

Spinners are having to make important decisions in order to make their production more sustainable.

However, the route to sustainability is complex and mills are tackling the issue in different ways.

Spinners are focusing on traceability and savings on energy

Spinners, each in their own way, tell a "story" about the steps they are taking towards sustainability, whether it is through traceability or savings on energy.

[5] Chlorophyll (also chlorophyl) is a green pigment found in the chloroplasts of algae and plants.

Lanecardate is tracing its wool fibres "from farm to consumer" while Tollegno 1900 is tracing its wool fibres "from sheep to shop"

The Italian fine wool spinner **Lanecardate**, for instance, tells its story by tracing the fibre "from farm to consumer".

Similarly, **Tollegno 1900**—another Italian fine wool spinner, which carefully sources its raw material in different parts of the world, whether from Australia, New Zealand, South America or South Africa—tells its story "from sheep to shop".

Key concepts of sustainability include pursuing excellence, reducing waste, simplifying processes and maintaining responsible production

Key concepts of sustainability include:

- pursuing excellence;
- reducing waste;
- simplifying processes; and
- maintaining responsible production.

Lanificio dell'Olivo drew attention at Pitti Immagine Filati to recycling

The Italian spinner **Lanificio dell'Olivo**, for instance, drew attention to recycling in its stand presentation at Pitti Immagine Filati.

On display were beautiful patchworks made of strips of waste left over from knitwear production

On display were beautiful patchworks made of strips of waste left over from knitwear production which had been sewn together.

The strips symbolise not only craftsmanship but also the fact that every element is important.

The company has long been committed to its sustainability programme, Going Green

The company has long been committed to its sustainability programme, Going Green. The programme is recognised by Detox Catwalk, the official ranking which assesses fashion brands.

Knitwear for autumn/winter 2018/19 looks set to be light and soft with an emphasis on plush or light felted effects

Overall, knitwear for autumn/winter 2018/19 looks set to be warm—but very light and soft—with a new emphasis on plush or light felted effects made from fine raw materials, including many mixes and blends.

Yarns will be predominantly in natural fibres, and in wool, cashmere, mohair and alpaca in particular

Yarns will continue to be predominantly in natural fibres and, within this category, the prime ingredients in spinners' collections will be wool and the precious fibres cashmere, mohair and especially alpaca.

These fibres will also be used in combinations with other fibres

However, these fibres will also be used in many combinations with other fibres—including lyocell, polyamide, polyester and viscose.

Fancy yarns will be more in evidence, and will include bouclé yarns, tape yarns, wrapped yarns and chenille yarns

Fancy yarns made using clever techniques and constructions to create different surface effects will be more in evidence.

These will include bouclé yarns, big and small, as well as tape yarns, wrapped yarns and chenille yarns. Chenille yarns will be used to create soft plush velvety surfaces or employed as decoration in knits and in wovens.

There will still be some really big yarns but they will be feather light and airy

There will still be some really big yarns made by plying finer yarns together. However, these will be feather light and airy, as if blown with air.

Many spinners are offering yarns which have already been felted or yarns which are suitable for felting after being knitted

Felting will continue to be a feature for the autumn/winter 2018/19 season, and many spinners are offering yarns which have already been felted or yarns which are suitable for felting after being knitted.

Different volumes are being explored through various levels of felting or brushing.

Many ingenious combinations of blends and twists were on show at the fair, including jaspé twists and mélange or mouliné effects

Many ingenious combinations of blends and twists were on show at the fair, including mixes of colour.

Examples seen at Pitti Immagine Filati in September 2017 included jaspé twists—in which two colours are twisted together—and a host of mélange or mouliné effect yarns twisted with solid dyed yarns.

Another key source of design inspiration for the autumn/ winter 2018/19 season is that of natural wildness or animal styles, and at the fair these were expressed in the form of furry yarns and fringes

Another key source of design inspiration for the autumn/winter 2018/19 season is that of natural wildness or animal styles imitating bark, rough organic finishes, wood effects and animal pelts or soft Astrakhan furs in mohair and alpaca.

Some of these styles were being expressed at the fair in the form of wild looking furry yarns and fringes.

Ethnic design influences such as Bolivian, Peruvian and East European styles manifested themselves at the fair as colourful patterned knits and accessories

A further source of inspiration for the autumn/winter 2018/19 season is that of ethnic design influences, ranging from colourful Bolivian and Peruvian styles from South America to the folk styles of Eastern Europe.

At the fair, these influences manifested themselves as colourful patterned knits and accessories.

LUXURY WOOL AND NOBLE FIBRES

Luxury wool and noble fibres, especially cashmere, mohair, alpaca and yak, are prime ingredients

Luxury wool and noble fibres are still the prime ingredients for the autumn/winter 2018/19 season. The most popular noble fibres for the season continue to include cashmere, mohair and, especially, alpaca but they also now include yak.

These fibres are being combined with other fibres

In addition, these fibres are being offered in countless combinations with other fibres, including lyocell, polyamide, polyester and viscose.

Biella Yarn is offering a capsule collection with a focus on sustainability which includes organic yarns in fine merino wool and yak fibre from Nepal

New this season from the Italian spinner **Biella Yarn**—part of the Südwolle Group, based in Nuremberg, Germany—is a capsule collection[6] with a focus on sustainability.

The collection includes organic yarns in fine merino wool, and also includes yak fibre from Nepal.

[6] A capsule collection is made up of a small number of pieces which are usually designed to be easily combined and interchanged. Capsule collections are often limited editions and are designed to convey a particular design theme.

Filpucci is placing a new emphasis with its RE-WOOL-ution range on yarns made from wool, blends of wool with polyamide, and soft fibres such as baby alpaca mixed with wool

Filpucci—celebrating 50 years in business—is placing a new emphasis on wool yarns with its RE-WOOL-ution range.

The yarns are unconventional in appearance and they are made from wool and blends of wool with polyamide, and from soft fibres such as alpaca mixed with wool.

The yarns have high performance and easy care properties. Some also have stretch properties and are soft and versatile.

Todd & Duncan has produced its new Heritage colour card comprising beautiful heathered mélange mix cashmere yarns, as well as solid shades

The Scottish cashmere specialist **Todd & Duncan**—which was celebrating its 150th anniversary at Pitti Immagine Filati—has produced its new Heritage colour card (see Figure 8 and Figure 9).

This comprises beautiful heathered mélange mix cashmere yarns, as well as solid shades.

Knitted samples were shown in a traditional Aran knit look

Knitted samples were shown in a traditional Aran knit look knitted in pure cashmere as well as superfine lambswool.

Some yarns also included a twist of Lurex

Some yarns also included a twist of Lurex, and blends of cashmere with cotton, linen or silk.

Figure 8
Todd & Duncan: Heritage knits in cashmere multicolour plied yarn

Source: Philippa Watkins

Figure 9
Todd & Duncan: cashmere knits

Source: Philippa Watkins

Zegna Baruffa Lane Borgosesia is expanding its fine wool ranges by offering more fancy yarns, especially alpaca and mohair yarns with airy volume and, as part of its Chiavazza brand, it is offering merino wool bouclé yarns which feel like velour

The Italian company **Zegna Baruffa Lane Borgosesia** is expanding its fine wool ranges by offering more fancy yarns—especially yarns with soft, light slubby and tweedy effects (see Figure 10 and Figure 11).

These include alpaca and mohair yarns with airy volume. Some of these yarns are felted and compact but remain very light, washable and non-shrink.

Also, as part of its Chiavazza brand, Zegna Baruffa Lane Borgosesia is offering merino wool bouclé yarns which feel like velour. These yarns are also being offered in felted versions.

Iafil is offering pure alpaca, alpaca blends and blends of cashmere and cotton

The Italian cotton specialist **Iafil** is offering pure alpaca and alpaca blends for autumn/winter 2018/19, as well as luxury blends of cashmere and cotton.

Iafil is distributing Perino yarn which is made from possum hair and is being presented in blends with merino wool, cashmere and mulberry silk

For the first time, Iafil is also distributing Perino yarn, which is made from possum hair by the New Zealand spinner Woolyarns.

The hair is presented by Iafil in luxury blends with merino wool, cashmere and mulberry silk.

Possum hair is hollow, naturally soft and shower repellent, and has low pilling properties

Possum hair, found only in New Zealand[7], has some interesting properties. It does not absorb moisture, making it naturally shower repellent. It has low pilling properties and is naturally soft. It is also hollow. This means that it can trap more air than wool or luxury fibres can and therefore it has better insulation properties. In tests, possum hair was found to be 55% warmer than merino wool and 35% warmer than cashmere fabrics of the same weight and knitted structure.

HF is offering washed and felted wool yarns and fine merino wool bouclés as well as anti-shrink merino wool yarns and luxury fibre yarns

The Italian fancy yarn spinner **HF**—another brand owned by Südwolle Group (see page 66)—is offering washed and felted wool yarns and fine merino wool bouclés for the autumn/winter 2018/19 season. It is also offering anti-shrink merino wool yarns and luxury fibre yarns. Among the most striking items in the collection are a variety of chenille yarns in different fibres, including:

- viscose;
- merino wool/polyamide; and
- silk/polyamide.

Inca Tops has broadened its range of yarns to include blends of alpaca with wool and silk, an alpaca bouclé and a fine bouclé yarn in silk/alpaca

The Peruvian alpaca specialist **Inca Tops**, which sells alpaca tops to European spinners, has broadened its own range of yarns.

The range includes blends of alpaca with wool and silk and more fancy yarns—such as an alpaca bouclé with a velour effect and a fine bouclé yarn in silk/alpaca.

[7] The possum is not native to New Zealand and is regarded as a pest which is overrunning the country. It now occupies 95% of New Zealand, has an estimated population as high as 60 mn, and is having an adverse impact on the environment. Using fine possum hair, therefore, is an efficient and sustainable element of the culling process.

Figure 10
Zegna Baruffa Lane Borgosesia: wool/luxury fibres knitted in cable stitch

Source: Philippa Watkins

Figure 11
Zegna Baruffa Lane Borgosesia: wool knitted patterns

Source: Philippa Watkins

Inca Tops has introduced organic cotton with baby alpaca for hand knitting yarns, and cotton with yak fibre

Inca Tops has introduced organic cotton mixed with baby alpaca for hand knitting yarns.

It is also mixing cotton with yak fibre in natural colours.

Lanecardate is offering multi-twisted mouliné and mélange effects, washed and felted fine wool, and fine wool and soft cotton blends

The Italian fine wool spinner **Lanecardate** has also broadened its offer with multi-twisted mouliné and mélange effects, and offers a washed and felted fine wool.

Proposed new yarns for the season include cotton/wool yarns which combine fine wool and soft cotton to create versatile and sophisticated natural blends.

E.Miroglio is offering merino wool blends in mouliné and mélange versions as well as blends of wool with viscose, cotton and acrylic

The Italian spinner **E.Miroglio**—which has production facilities in Bulgaria—has a wide range of yarns which include merino wool blends, in mouliné and mélange versions.

It is also offering blends of wool with viscose, cotton and acrylic—which, importantly, are supported from stock (see Figure 12 and Figure 13).

Bulky yarns in the collection are very light while fancy yarns include bouclés, boiled and felted wools, chenilles, tape yarns and stretch yarns

Bulky yarns in the collection are very light. They are made with fine cotton net which is injected with wool, and also with a touch of Lurex.

Fancy yarns include bouclés, boiled and felted wools, chenilles, tape yarns and stretch yarns.

Figure 12
E.Miroglio: jacquard knitted garments

Source: Philippa Watkins

Figure 13
E.Miroglio: jacquard knitted coat

Source: Philippa Watkins

Mohair South Africa presented cushions, knitwear and scarves made from mohair at Pitti Immagine Filati and promoted mohair's eco friendly credentials

The organisation **Mohair South Africa** took a stand again at Pitti Immagine Filati to promote mohair products.

The organisation focused on mohair's eco friendly credentials, and presented some beautiful products—including cushions, knitwear and scarves—made from mohair with its new mohair mark and logo Mohair (see Figure 14 and Figure 15).

Figure 14
Mohair South Africa: display of garments and knits in mohair yarn

Source: Philippa Watkins

Figure 15
Mohair South Africa: patterned knit in mohair yarn

Source: Philippa Watkins

PERFORMANCE WOOL

Wool is being offered as a high performance material for sports and athleisure apparel

Significant in terms of innovation is "the new face of wool"—a description which reflects the fact that some wool fibre is being offered as a high performance material with "total" easy care qualities for sports and the athleisure apparel[8] category.

Tollegno 1900 is treating wool and cashmere yarns to make them washable

The Italian fine wool spinner **Tollegno 1900** is focusing on wool and cashmere yarns with high performance by applying its own treatment which makes garments made from the yarns fully washable.

Carbon or siliconised nylon is being blended with superfine merino wool or cashmere, and superfine merino wool is being mixed with Tencel

Yarns are also being given high performance attributes by blending technical fibres—such as carbon or siliconised nylon—with superfine merino wool or cashmere.

Superfine merino wool is also being mixed with Tencel—for soft comfort.

Biella Yarn is offering performance yarns incorporating wool and noble fibres which are either being treated or blended with new fibres

Biella Yarn, part of the Südwolle Group (see page 66), offers performance yarns which are suitable for fashion and activewear in wool and noble fibres.

The wool and noble fibres are being either given innovative treatments or offered in blends with new fibres.

The company is also offering a high performance yarn made from 60% merino wool and 40% nylon 6.6

The company is also offering a high performance yarn for active wear which is made from a blend of 60% merino wool and 40% nylon 6.6. The yarn is light, durable and quick drying, and has excellent heat regulation properties.

SUSTAINABLE FIBRES AND PRACTICES

Consumers expect retailers and brands to know their supply chains, and so companies are looking for ways of achieving more sustainability and transparency in their supply chains

Environmental awareness is growing steadily and there is an expectation among consumers that responsible retailers and brands know their supply chains.

To meet these expectations, companies are anxiously looking for ways of achieving more sustainability and transparency in their supply chains.

Recycling is a vital strategy for sustainable production and, as a concept, recycling contributes to, and enters into, the circular economy

Recycling is becoming important as a vital strategy for sustainable production.

As a concept, recycling contributes to, and enters into, the circular economy[9].

[8] Athleisure apparel is designed so that it is suitable for wearing during athletic activities and for everyday wear.

[9] The circular economy is an alternative to the traditional linear economy of "take, make, use and dispose". In the circular economy, resources are kept in use for as long as possible, the maximum value is extracted from them while they are in use, and products and materials are regenerated and recovered at the ends of their useful lives.

The circular economy involves taking waste from one industry and recycling it as the raw material for another industry or for itself

This was explained at Première Vision Paris by the leader of the Circular Fibres Initiative at the Ellen MacArthur Foundation, Sven Herrmann, as follows: "The circular economy is an economic concept within the context of sustainable development, inspired by industrial ecology, where the waste from one industry is recycled as the raw material for another industry or for itself.

The circular economy works in a loop system based on a "take-make-dispose" model

"This economy works in a loop system, based on a 'take-make-dispose' model. It is a restorative economy where the flow of materials are of two clearly distinct types: biological nutrients that can safely re-enter the biosphere, and technical inputs, designed for being recycled while maintaining a high standard of quality without entering the biosphere."

Marchi & Fildi is buying into the circular economy and has a collection called Ecotec which consists of yarns made from recycled cotton

One of several examples of companies which are buying into the circular economy is the spinner **Marchi & Fildi**, based Biella, Italy.

The company has a collection called **Ecotec** consisting of yarns made from waste cotton which is taken from factories and recycled.

The yarns are made in Italy in a traceable and certified process which converts pre-consumer waste into yarn

The yarns are made in Italy in a traceable and certified process which converts pre-consumer, pre-dyed cotton waste—shredded from factory waste—into yarn. The waste is mixed with new cotton fibre which has a longer staple length.

Ecotec cotton yarns have been used by the Italian companies Euromaglia, Lana Reale, Manifattura C.B.M. and Tessuti & Tessuti, as well as the Finnish design company Marimekko

Ecotec cotton yarns have now been made into a range of fabrics for the autumn/winter 2018/19 season by the Italian companies **Euromaglia**, **Lana Reale**, **Manifattura C.B.M.** and **Tessuti & Tessuti**.

Ecotec cotton yarns have also been used by the renowned Finnish design company **Marimekko**, which is looking constantly for sustainable materials.

Marimekko's product portfolio includes high quality clothing, bags and accessories as well as home decor items ranging from textiles to tableware.

Marchi & Fildi is broadening its Ecotec range and has developed a yarn made from Ecotec and recycled polyester called Phoenix

Marchi & Fildi is now broadening its range of Ecotec yarns with the addition of a new yarn called **Phoenix**.

The yarn is made from 50% Ecotec/50% recycled polyester, and is Global Recycled Standard (GRS)[10] certified.

The yarn is offered in various colours for which additional dyes are not needed

This yarn is available in a wide range of colours for which additional dyes are not needed as the yarn is made from pre-dyed polyester in solid dyed and mélange dyed yarn versions.

[10] The Global Recycled Standard (GRS) is owned by Textile Exchange—a USA-based non-profit organisation. The standard verifies that a final product contains a minimum of 20% recycled material, has been made with minimal impact on the environment, has been made with respect for the rights and health of workers, and is safe for the final consumer.

Waste plastic is being used to produce polyester yarns

Another form of recycling is to use waste plastic to produce polyester yarns.

Antex is making a yarn called Seaqual which is made from upcycled plastic waste dredged up by fishing boats

For example, the Spanish company **Antex**, which produces filament polyester, is making yarn from recycled polyester polymer but with a difference. The new yarn, branded **Seaqual**, is being made under licence from the company Seaqual 4U using upcycled[11] marine plastic waste dredged up by fishing boats[12].

The waste is dredged from the Mediterranean seabed, sorted into different categories, and distributed to interested parties.

Sequal is available in the form of continuous filament and staple fibre

Antex has a deep commitment to removing the waste which is polluting the oceans, and is making Seaqual available in the form of continuous filament and staple fibre.

It can be blended with cotton, Tencel, viscose, wool and linen and still retain Oeko-Tex certification

Seaqual can, in accordance with Seaqual certification criteria, be blended with Better Cotton Initiative (BCI)[13] cotton, organic cotton, Tencel, viscose, wool and linen, and still retain Oeko-Tex certification, which is important for consumers.

Fabrics made from the yarns can be used in the manufacture of a variety of garments

The yarns can be dyed and then woven or knitted into fabrics which are suitable for use in the manufacture of beachwear, denim garments, socks, sportswear and other ready to wear garments.

Re.Verso yarn is made in Italy from pre-consumer waste clippings of cashmere, wools and baby camel and is being used in Re.Verso cashmere fabrics which form part of the A. Stelloni collection by Mapel

Another yarn being made from waste is **Re.Verso**. In this case, the yarn is being produced in Italy from pre-consumer waste clippings of cashmere, wool and baby camel supplied by high quality Italian brands, international brands and producers in the fashion industry.

The yarn is being used in Re.Verso cashmere fabrics which form part of the A. Stelloni collection by **Mapel**—a vertically integrated fabric production company based in Italy.

The yarn is made using a transparent supply chain system which "re-engineers" fibres

The yarn is made using a transparent supply chain system which "re-engineers" the cashmere, wool and baby camel fibres to make yarns which are suitable for use in the manufacture of high fashion fabrics.

[11] Upcycling is a form of recycling which involves transforming by-products, waste materials or unwanted products into new materials or products which are of better quality or are better for the environment. Upcycling is the opposite of downcycling, which is the process of converting waste materials or useless products into new materials or products of lesser quality and reduced functionality.

[12] See also **Seaqual 4U has developed a new fibre called Seaqual and has developed new yarns made from the fibre**, "Product developments and innovations", *Global Apparel Markets*, No 37, November 2017, page 50.

[13] The aim of the Better Cotton Initiative (BCI) is to improve the sustainability of the cotton supply chain. See also "Talking strategy: Corin Wood-Jones of the Better Cotton Initiative discusses the benefits of Better Cotton", *Global Apparel Markets*, No 34, January 2017.

Re.Verso won the Design Challenge prize at the Copenhagen Fashion Summit in May 2017 and it has now been selected for the Filippa K Front Runners collection

Re.Verso was first developed in partnership with Gucci and it won the Design Challenge prize at the Copenhagen Fashion Summit held in Copenhagen, Denmark, on May 11, 2017, for its look and its transparent processes.

They yarn has now been selected for the Filippa K Front Runners collection.

E.Miroglio has developed a yarn which is made from an eco-friendly, chlorine-free and mulesing-free wool and recycled polyester

E.Miroglio is also focusing on sustainability, and has a new yarn called **Rewoolife**.

The yarn is made from an eco-friendly, chlorine-free and mulesing[14]-free wool blended with recycled polyester.

Botto Giuseppe is broadening its sustainability model by using mulesing-free wool in its superfine wool and wool/cashmere collections, by reducing energy usage and by using energy created by means of renewable resources

Botto Giuseppe, another Italian spinner, which has been manufacturing yarns for over 140 years, is broadening its sustainability model in several ways.

One way in which it is doing so is to use mulesing-free wool from New Zealand, branded **Aroha**, in its superfine wool and wool/cashmere collections.

Another way is to reduce energy usage and to use energy which has been created by means of renewable resources.

Botto Giuseppe's factory in Tarcento operates solely on sustainable energy generated at a hydroelectric dam and by solar panels fitted on the factory roof

Botto Giuseppe yarns are manufactured in two factories in Italy. One factory is in Valle Mosso in Biella while the other is in Tarcento in Friuli.

The latter already operates solely on sustainable energy in the form of power generated at a hydroelectric dam and solar energy obtained from large expanses of photovoltaic panels fitted on the roof of the factory.

DEVELOPMENTS IN FIBRES

Lenzing has launched a new fibre branded Refibra which is made from cotton scraps and cellulose fibre taken from factory waste generated in the production of Tencel fibre

In response to concerns over sustainability and the environment, the Austrian cellulosic fibre maker **Lenzing**—which was exhibiting at Première Vision Yarns in Paris in September 2017 and at Texworld, also in Paris, in September 2017—launched a new fibre early in 2017 branded **Refibra**, which stands for reduce, reuse and recycle.

Refibra is made from cotton scraps and cellulose fibre taken from factory waste generated in the production of Tencel fibre—which is also produced by Lenzing.

[14] Mulesing is the process of removing folds of skin from the tail area of a sheep.

Lenzing has also launched a more sustainable version of its viscose fibre called EcoVero which is fully traceable

Lenzing followed the launch of Refibra with the launch of **EcoVero**, which is a more sustainable version of its viscose fibre. The fibre is fully traceable—in the sense that its origins are easily verifiable—and its impact on the environment is claimed to be the lowest in the industry.

Traceability and the development of identification technology are helping the fashion industry to identify if its raw materials are from sustainable sources

Traceability—and, in particular, the ability to identify the raw materials in a product and the origin of those raw materials—is becoming an increasingly important component of the fashion industry's drive to increase the environmental sustainability of its operations. In particular, traceability is enabling the industry to identify if the raw materials in its products are from sustainable sources, and the development of new identification technology is providing a means for the industry to do so.

EcoVero fibres are certified with the EU Ecolabel

EcoVero fibres are certified with the EU Ecolabel[15], which is awarded only to products whose net impact on the environment is significantly lower than that of comparable products on the market.

Asahi Kasei has made some developments regarding its Roica polyurethane stretch fibre

The Japanese fibre maker **Asahi Kasei** has made some developments regarding its **Roica** polyurethane stretch fibre.

Roica has a unique advantage over other stretch fibres as it can be dyed perfectly to the colour of the host yarn and therefore there is no "grin through" and there are no "greyed off" effects in the knitted fabric.

Maglificio Ripa has developed fabrics made from a new version of the fibre called Roica Clean Fit

The Italian jersey manufacturer **Maglificio Ripa** has developed fabrics made from a new version of the fibre, called **Roica Clean Fit**. The latter was developed by Asahi Kasei for use in the manufacture of sportswear and underwear.

Roica Eco-Smart is made from 50% elastane derived from in-house waste and 50% virgin fibre

Asahi Kasei has also introduced a stretch yarn, called **Roica Eco-Smart**, which is made from 50% elastane derived from in-house waste and 50% virgin fibre and is therefore more sustainable. The yarn is being used in the manufacture of stretch organza and taffeta.

Roica Eco-Smart stretch yarns are being used in a range of "sustainable" fabrics developed by Maglificio Ripa

Roica Eco-Smart stretch yarns are being used by Maglificio Ripa in a range of polyamide fabrics. As Roica Eco-Smart stretch yarns are made partly from recycled materials obtained from waste, Maglificio Ripa claims that these fabrics are more sustainable than fabrics made from conventional stretchable polyamide fabrics.

Marini Industrie has incorporated Roica Eco-Smart into linen woven fabrics

The Italian weaving company **Marini Industrie** has introduced Roica Eco-Smart stretch yarns into a range of linen woven fabrics which have been designed for use in the manufacture of formalwear.

[15] The EU Ecolabel is administered by the European Union Ecolabelling Board (EUEB). This board includes national offices from EU member states, environmental groups, consumer and industry associations, commerce unions and businesses. Products and services which carry the EU Ecolabel must meet strict environmental criteria. In awarding the EU Ecolabel, the entire life cycle of a product is considered. In the case of Lenzing's fibre products, this includes raw material extraction, fibre production, distribution and disposal processes.

Cupro is becoming increasingly popular for apparel and its use is being extended to knitted jerseys for athleisure apparel

Asahi Kasei also produces cuprammonium rayon (cupro) cellulosic fibre[16], which is becoming increasingly popular for apparel used by many fashion brands. However, the use of cupro is also being extended to knitted jerseys for use in the manufacture of casual apparel or so-called athleisure apparel (see page 71).

Fabrics made with cupro are very fluid and are said to be gentle to the skin

Fabrics made with cupro are very fluid and are said to be gentle to the skin. Innovations in cupro include cupro micro filament and cupro full dull, which are both matt filament yarns.

Cupro is made from waste cotton linters which are converted into fibre using a process which is traceable and transparent

Cupro is a regenerated cellulose fibre made from waste cotton linters. These are short downy fibres which enfold cotton seeds and are biodegradable.

The waste is converted into fibre using a process which is traceable and transparent. As such, the reprocessed fibre represents a perfect circular economy fibre model.

In September 2017 cupro received GRS certification and an LCA study of cupro has been signed by ICEA

In September 2017 it was announced that cupro had received Global Recycled Standard (GRS) certification (see page 72). This dovetails with a life cycle assessment (LCA) study of cupro signed by Istituto Certificazione Etica e Ambientale (ICEA—Ethical and Environmental Certification Institute)—an organisation which inspects and certifies firms that are respectful to the environment, workers' dignity and collective rights.

[16] Cuprammonium rayon (cupro) is a fibre sold by Asahi Kasei under the brand name Bemberg.

Trends in world textile and clothing trade

SUMMARY

World textile and clothing trade declined by 2.4% to US$726 bn in 2016 following a 6.4% fall in the previous year. As a result, the value of world textile and clothing trade was at its lowest level since 2012 although it remained above the levels seen in earlier years. The decline in 2016 reflected a 2.4% fall in textile trade and a 2.4% fall in clothing trade. Geographically, the decline in textile and clothing trade was seen in most major trade flows, the main exception being intra-European trade. In textiles, the steepest fall was in exports from Asia to Africa (down by 13.8%), followed by exports from Asia to the Middle East (down by 8.2%). By contrast, there was a rise in intra-European trade (up by 1.6%). In clothing, the steepest decline was seen in exports from Asia to the Middle East (down by 8.9%), followed by intra-Asian trade (down by 7.8%) and exports from Asia to Europe (down by 4.7%). However, there were increases in exports from Asia to the Commonwealth of Independent States (CIS) (up by 8.6%) and intra-European trade (up by 4.4%).

The USA continued to have a deficit in its textile and clothing trade although this was down by 4.7% to US$101.40 bn during the year—due primarily to a decline in clothing imports. The EU also continued to have a deficit in its textile and clothing trade, and this edged up by 0.3% to US$77.26 bn—although it remained below the level reached in 2014. Japan's deficit, meanwhile, fell for the third consecutive year, to US$29.06 bn, after rising in the previous 11 years. Offsetting these deficits, China was the country with the world's largest textile and clothing trade surplus, followed by India, Bangladesh, Turkey and Vietnam.

The world's largest textile exporter was China with a 37% share of world textile exports, followed by the EU, India, the USA, Turkey, South Korea, Taiwan, Hong Kong, Pakistan and Vietnam. The world's largest textile importer was the EU with a 25% share of world textile imports, followed by the USA with a 10% share—but China ranked as high as third with a share of 6%. Next in importance was Vietnam, followed by Bangladesh, Japan, Hong Kong, Mexico, Turkey and Indonesia.

The world's largest clothing exporter was China with a 36% share of world clothing exports, followed by the EU, Bangladesh, Vietnam, India, Hong Kong, Turkey, Indonesia, Cambodia and the USA. The world's largest clothing importer was the EU with a 40% share of world clothing imports while the USA took 20% and Japan 6%. Next in importance was Hong Kong, followed by Canada, South Korea, China, Australia, Switzerland and Russia. But each of these seven importers had only a small share of world clothing imports.

GROWTH IN TEXTILE AND CLOTHING TRADE

World textile and clothing trade fell by 2.4% to US$726 bn in 2016

TEXTILES AND CLOTHING

World textile and clothing trade fell in value by 2.4% to US$726 bn in 2016, according to the World Trade Organization (WTO) in Geneva, Switzerland.

The fall followed a 6.4% decline in 2015 and, as a result, the value of trade was at its lowest level since 2012

The fall followed a 6.4% decline in 2015 and a relatively slow 5.3% increase in 2014. As a result, the value of world textile and clothing trade in 2016 was at its lowest level since 2012 although it remained above the levels seen in earlier years.

Textile trade declined by 2.4% and so did clothing trade

The fall in world textile and clothing trade in 2016 reflected a 2.4% decline in textile trade, to US$284 bn, and a 2.4% decline in clothing trade, to US$442 bn (Table 1).

As a result, the share of textiles in total textile and clothing trade remained stable, at 39.1%, as did the share of clothing, at 60.9%

As a result, the share of textile trade in total textile and clothing trade remained more or less stable, at 39.1%, as did the share of clothing trade, at 60.9%.

Table 1: World trade in textiles and clothing, 2016

	Textiles	Clothing
Value (US$ bn)	284	442
Annual average % change		
1980-85	-1	4
1985-90	15	18
1990-95	8	8
1995-2000	0	5
2000-05	6	7
2006/05	8	11
2007/06	9	12
2008/07	5	5
2009/08	-15	-13
2010/09	19	12
2011/10	17	18
2012/11	-4	-1
2013/12	7	9
2014/13	4	6
2015/14	-7	-6
2016/15	-2	-2

Source: World Trade Organization (WTO).

The fall in textile and clothing trade can be attributed to the appreciation of the US dollar as well as weak growth in global merchandise trade

The fall in textile and clothing trade in 2016 can be attributed in part to the appreciation of the US dollar against most other currencies during the year.

It can also be attributed to weak growth in global merchandise trade. In fact, global merchandise trade rose by only 1.3% in volume terms in 2016, which represented its slowest growth rate for a number of years.

In 2017 and 2018 growth in global merchandise trade is expected to accelerate

However, looking ahead, growth in global merchandise trade in volume terms is expected to accelerate to 3.6% in 2017, and in 2018 it is forecast to remain fairly buoyant, at 3.2%.

Furthermore, the growth figures for 2017 and 2018, which were published in September 2017, represent sharp upward revisions compared with growth forecasts published in April 2017, for a number of reasons

Furthermore, these figures for 2017 and 2018—which were published in September 2017—represent sharp upward revisions compared with growth forecasts published in April 2017.

The revisions reflect a number of factors, including:

- an acceleration in world GDP growth to 2.8% in 2017 from 2.3% in 2016;

- a rebound in intra-Asian trade due in part to stronger demand for imports in China which has had a knock-on effect on regional supply chains; and
- a pick-up in imports in North America—aided by a partial recovery in oil prices—following stagnation in 2016.

In addition, regional trade growth figures for 2017 and 2018 are expected to be more even than they have been for several years and this should help to "self-reinforce" the current expansion in trade.

However, there are several factors which could affect growth in merchandise trade in the coming months

However, there are several factors which could affect growth in merchandise trade in the coming months, including:

- a rise in global geopolitical tensions;
- a rising economic toll from natural disasters; and
- a rise in the proportion of trade affected by trade restrictive measures.

TEXTILE TRADE FLOWS

In textiles, there were declines in six of the world's seven major trade flows in 2016

Regionally, there were declines in six of the world's seven major textile trade flows in 2016 (Table 2).

Table 2: Major regional flows in world exports of textiles and clothing, 2005-16

	Value (US$ bn)	Annual average % change				
	2016	2005-12	2012-13	2013-14	2014-15	2015-16
Textiles						
Intra-Asia	86.5	7.9	11.1	3.6	-1.1	-2.6
Intra-Europe	57.2	-0.3	4.8	4.6	-13.0	1.6
Asia to Europe	27.2	6.6	11.5	4.6	-8.1	-1.6
Asia to North America	26.2	5.9	6.8	3.9	0.4	-1.4
Asia to Africa	12.1	13.9	6.3	7.4	-4.0	-13.8
Asia to Middle East	10.4	7.3	7.4	3.7	-4.7	-8.2
Intra-North America	10.2	-0.9	4.3	3.0	-0.7	-3.6
Clothing						
Intra-Europe	110.7	2.9	7.5	8.1	-11.4	4.4
Asia to North America	80.7	5.0	8.1	7.2	2.5	-1.2
Asia to Europe	79.5	10.2	10.7	8.9	-4.0	-4.7
Intra-Asia	59.0	9.5	12.7	0.5	-7.3	-7.8
Asia to Middle East	16.6	16.3	16.5	13.3	14.3	-8.9
Asia to CIS[a]	12.1	8.6	29.3	1.3	-34.5	8.6
South and Central America to North America	10.9	-2.7	2.9	2.9	2.5	-2.7

[a] Commonwealth of Independent States, comprising Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
Source: World Trade Organization (WTO).

Intra-Asian textile trade fell by 2.6% to its lowest level since 2012 but it remained above the levels seen in earlier years and continued to constitute the world's largest textile trade flow

Intra-Asian textile trade fell by 2.6% to US$86.5 bn in 2016 following a 1.1% decline in 2015 and, as a result, it was at its lowest level since 2012.

However, the decline came after five successive years of growth and therefore intra-Asian trade remained well above the levels seen in earlier years. Also, it continued to constitute by far the world's largest textile trade flow.

Intra-European textile trade, by contrast, rose by 1.6% but was still at its second lowest level since 2009

Intra-European textile trade rose by 1.6% to US$57.2 bn in 2016. The rise represented the only increase among the seven largest textile trade flows. However, it came after a sharp 13.0% decline in the previous year. As a result, despite the rise in 2016, this trade flow was at its second lowest level since 2009 and its third lowest level since 2003.

Having said that, this low level was largely a reflection of the weakness of the euro against the US dollar

Having said that, the low levels witnessed in 2015 and 2016 were largely a reflection of the weakness of the euro against the US dollar[1].

Also, intra-European textile trade continued to constitute the world's second largest textile trade flow.

Textile exports from Asia to Europe fell by 1.6% to their lowest level since 2012 but they continued to constitute the world's third largest textile trade flow

Textile exports from Asia to Europe fell by 1.6% to US$27.2 bn in 2016 following an 8.1% decline in the previous year. As a result, they were at their lowest level since 2012.

However, they continued to constitute the world's third largest textile trade flow.

Textile exports from Asia to North America fell by 1.4% but were still at their third highest level on record

Textile exports from Asia to North America fell by 1.4% to US$26.2 bn in 2016. However, the fall followed six consecutive years of growth and, as a result, textile exports from Asia to North America in 2016 were still at their third highest level on record. Furthermore, they continued to constitute the world's fourth largest textile trade flow.

Textile exports from Asia to Africa plunged by 13.8% to their lowest level since 2010 although they continued to constitute the world's fifth largest textile trade flow

Textile exports from Asia to Africa plunged by 13.8% to US$12.1 bn in 2016. The fall represented the steepest decline among the seven largest textile trade flows. Furthermore, it followed a 4.0% decline in the previous year. As a result, textile exports from Asia to Africa in 2016 were at their lowest level since 2010.

Nevertheless, they continued to constitute the world's fifth largest textile trade flow.

Textile exports from Asia to the Middle East fell by 8.2% to their lowest level since 2010 but they continued to constitute the world's sixth largest textile trade flow

Textile exports from Asia to the Middle East fell by 8.2% to US$10.4 bn in 2016. The fall represented the second steepest decline among the seven largest textile trade flows. Furthermore, it followed a 4.7% decline in the previous year. As a result, textile exports from Asia to the Middle East were at their lowest level since 2010. Nevertheless, they continued to constitute the world's sixth largest textile trade flow.

Intra-North American textile trade fell by 3.6% to its lowest level since 2012 but it continued to constitute the world's seventh largest textile trade flow

Intra-North American textile trade fell by 3.6% to US$10.2 bn in 2016 following a 0.7% decline in the previous year and, as a result, it was at its lowest level since 2012.

Nevertheless, it continued to constitute the world's seventh largest textile trade flow.

[1] Between 2014 and 2015 the average value of the euro depreciated against the US dollar by 16.4%, from Euro0.75:US$1.00 to Euro0.90:US$1.00, and it remained at a similar level in 2016.

CLOTHING TRADE FLOWS

There were declines in five of the world's seven major clothing trade flows in 2016 while increases were recorded in just two of the seven trade flows. Furthermore, the two increases represented only partial recoveries following sharp declines in the previous year.

Increases were recorded in just two of the world's seven major clothing trade flows in 2016

Intra-European clothing trade rose by 4.4% to US$110.7 bn in 2016. However, the rise followed a sharp 11.4% decline in 2015 and, as a result, the trade flow in 2016 remained below the levels seen in 2013 and 2014 as well as the level seen in 2011. Nevertheless, it continued to constitute the world's largest clothing trade flow.

Intra-European clothing trade rose by 4.4% and continued to constitute the world's largest clothing trade flow although it remained below the levels seen in 2011, 2013 and 2014

Also, the decline in 2015 was largely a reflection of the depreciation of the euro against the US dollar during the year (see page 80).

Clothing exports from Asia to North America fell by 1.2% to US$80.7 bn in 2016.

Clothing exports from Asia to North America fell by 1.2% but were still at their second highest level on record, and this trade flow became the world's second largest after being the third largest a year earlier

However, the fall followed six consecutive years of growth and, as a result, this trade flow was at its second highest level on record.

Furthermore, it rose in the rankings to become the world's second largest clothing trade flow after being the third largest a year earlier.

Clothing exports from Asia to Europe fell by 4.7% to US$79.5 bn in 2016 following a 4.0% decline in the previous year. As a result, this trade flow was at its lowest level since 2012.

Clothing exports from Asia to Europe fell by 4.7% to their lowest level since 2012 and constituted the world's third largest clothing trade flow after ranking second a year earlier

Also, it slipped in the rankings to become the world's third largest clothing trade flow after constituting the second largest a year earlier.

Intra-Asian clothing trade fell by 7.8% to US$59.0 bn in 2016 following a 7.3% decline in the previous year. As a result, it was at its lowest level since 2011.

Intra-Asian clothing trade declined by 7.8% to its lowest level since 2011 but it continued to constitute the world's fourth largest clothing trade flow

However, it continued to constitute the world's fourth largest clothing trade flow.

Clothing exports from Asia to the Middle East fell by 8.9% to US$16.6 bn in 2016. However, the fall followed six consecutive years of double digit growth and, as a result, this trade flow was still at its second highest level on record.

Clothing exports from Asia to the Middle East fell by 8.9% but they were still at their second highest level on record and continued to constitute the world's fifth largest clothing trade flow

Also, it continued to constitute the world's fifth largest clothing trade flow.

Clothing exports from Asia to the CIS rose by 8.6% but this followed a plunge of 34.5% in the previous year and, as a result, this trade flow was at its second lowest level since 2010

Clothing exports from Asia to the Commonwealth of Independent States (CIS)[2] rose by 8.6% to US$12.1 bn in 2016.

However, the rise represented only a partial recovery, having followed a 34.5% plunge in the previous year which, itself, stemmed largely from the economic crisis in Russia[3]. As a result, despite the rise in exports in 2016 alone, this trade flow was at its second lowest level since 2010 and it remained the world's sixth largest clothing trade flow after slipping one place in the rankings a year earlier.

Clothing exports from South and Central America to North America fell by 2.7% to their lowest level since 2013 but continued to constitute the world's seventh largest clothing trade flow

Clothing exports from South and Central America to North America fell by 2.7% to US$10.9 bn in 2016.

As a result, this trade flow was at its lowest level since 2013. Furthermore, it was below the level reached in 2011 as well as the levels seen during 2002-07. Nevertheless, it continued to constitute the world's seventh largest clothing trade flow.

INTRA-ASIAN TEXTILE AND CLOTHING TRADE

Intra-Asian textile and clothing trade has been rising, reflecting growing international movements of materials

Growth in intra-Asian textile and clothing trade has been an important trend since the late 1980s.

Such growth reflects increasing internationalisation and specialisation in the industry as materials are moved from country to country at various stages of processing.

Admittedly, it declined in 2015 and 2016 but it is expected to rebound in 2017 due in part to stronger demand for imports in China

Admittedly, intra-Asian textile and clothing trade declined in 2016 for the second consecutive year as a slowdown in production in China negatively affected supply chains in the region. However, it is expected to rebound in 2017, due in part to stronger demand for imports in China.

Intra-Asian textile trade is much more important than intra-Asian clothing trade, in contrast to the situation in world trade as a whole

Significantly, intra-Asian trade in textiles is much more important than intra-Asian trade in clothing (Table 3). This pattern contrasts with the situation in world trade as a whole, where clothing trade is more important than textile trade. In 2016 intra-Asian textile trade was worth US$86.5 bn—or 30.4% of the value of world textile trade—whereas intra-Asian clothing trade was worth US$59.0 bn, representing only 13.3% of world clothing trade. Furthermore, intra-Asian textile trade was the largest textile trade flow in 2016 whereas intra-Asian clothing trade was only the fourth largest clothing trade flow.

[2] The Commonwealth of Independent States (CIS) comprises Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

[3] For more information, see "Trends in world textile and clothing trade", *Textile Outlook International*, No 183, December 2016, page 79.

Table 3: Asian trade flows in textiles and clothing, 2005-16

	Value (US$ bn)	Annual average % change				
	2016	2005-12	2012-13	2013-14	2014-15	2015-16
Intra-Asia						
Textiles	86.5	7.9	11.1	3.6	-1.1	-2.6
Clothing	59.0	9.5	12.7	0.5	-7.3	-7.8
Asia to Europe						
Textiles	27.2	6.6	11.5	4.6	-8.1	-1.6
Clothing	79.5	10.2	10.7	8.9	-4.0	-4.7
Asia to North America						
Textiles	26.2	5.9	6.8	3.9	0.4	-1.4
Clothing	80.7	5.0	8.1	7.2	2.5	-1.2

Source: World Trade Organization (WTO).

This reflects the fact that large amounts of textiles are moved around Asia for further processing—

The fact that intra-Asian textile trade is more important than intra-Asian clothing trade reflects the following.

- Large quantities of textile materials are moved around Asia for further textile processing and for assembly into garments in Asian developing countries. Intra-Asian textile trade is therefore substantial.

—whereas most clothing is shipped to consuming markets in Western developed countries and Japan

- Intra-Asian clothing trade is less important than intra-Asian textile trade because most garments manufactured in Asia are transported to consuming markets in Western developed countries and Japan rather than to other Asian developing countries.

Over the longer term, intra-Asian clothing trade has been growing faster than intra-Asian textile trade as consumer markets for ready-made garments have been expanding in Asian developing countries

However, the gap has been decreasing in recent years. Intra-Asian clothing trade has grown faster than intra-Asian textile trade, at least since 1990, as consumer markets for ready-made garments have been expanding in Asian developing countries. Between 1995 and 2000 intra-Asian clothing trade rose by 4.0% a year whereas intra-Asian textile trade remained stagnant. This trend of faster growth continued between 2000 and 2013 as intra-Asian clothing trade rose by an average of 7.5% a year whereas intra-Asian textile trade expanded by a slower 6.3% a year.

Having said that, this trend was reversed in 2014

Having said that, this trend was reversed in 2014. Between 2013 and 2016 intra-Asian textile trade fell by an average of 0.1% per annum but intra-Asian clothing trade declined by an average of 4.9% per annum.

Between 2000 and 2016 the two fastest growing Asian trade flows were—

Of the six major Asian textile and clothing trade flows (see Table 3), the two which grew the fastest between 2000 and 2016 were:

- clothing exports from Asia to Europe; and
- textile exports from Asia to North America.

—clothing exports from Asia to Europe—

Clothing exports from Asia to Europe grew by 8.5% a year over the 16-year period—which was significantly faster than the average growth rate of 5.2% a year for world clothing trade as a whole.

—and textile exports from Asia to North America

Similarly, textile exports from Asia to North America grew by 6.8% a year, which was much faster than the average growth rate of 3.9% a year for world textile trade as a whole.

TEXTILE AND CLOTHING TRADE DEFICITS AND SURPLUSES

DEFICITS

Developed countries have long had a deficit with developing countries in their textile trade and clothing trade

For over 30 years, developed countries have had a deficit[4] in their textile trade with developing countries.

Developed countries have also long had a deficit in their clothing trade with developing countries.

The USA has the largest deficit

The developed country with the largest textile and clothing trade deficit is the **USA**.

Admittedly, it fell by 4.7% in 2016, due largely to a 5.9% decline in clothing imports, but it was still at its second highest level on record

In 2016 the USA's textile and clothing trade deficit with all of its trading partners was down by 4.7% to US$101.40 bn. The fall was due largely to a 5.9% decline in clothing imports. However, it came after three consecutive years of growth and, as a result, the deficit was still at its second highest level on record (Table 4).

Clothing accounted for 84.3% of the deficit

Clothing accounted for 84.3% of the deficit in 2016, although this share was down slightly from 85.3% in 2015. In fact, it was down for the fifth consecutive year, from 87.9% in 2011.

Table 4: US textile and clothing trade, 2000-16
(US$ mn)

										Annual average % change	
	2000	2005	2010	2011	2012	2013	2014	2015	2016	2010-16	2015-16
Textiles											
Exports	10,952	12,398	12,169	13,852	13,479	13,934	14,362	13,932	12,904	1.0	-7.4
Imports	15,985	22,538	23,376	25,359	25,948	27,022	28,268	29,544	28,779	3.5	-2.6
Balance	**-5,033**	**-10,140**	**-11,207**	**-11,508**	**-12,469**	**-13,089**	**-13,906**	**-15,612**	**-15,876**	**6.0**	**1.7**
Clothing											
Exports	8,629	5,006	4,692	5,241	5,606	5,861	6,101	6,124	5,648	3.1	-7.8
Imports	67,115	80,071	81,939	88,584	87,971	90,967	93,192	96,915	91,174	1.8	-5.9
Balance	**-58,486**	**-75,065**	**-77,247**	**-83,343**	**-82,364**	**-85,106**	**-87,091**	**-90,792**	**-85,526**	**1.7**	**-5.8**
Textiles and clothing											
Exports	19,581	17,404	16,861	19,092	19,086	19,795	20,463	20,055	18,552	1.6	-7.5
Imports	83,100	102,609	105,315	113,943	113,919	117,990	121,460	126,459	119,953	2.2	-5.1
Balance	**-63,519**	**-85,205**	**-88,454**	**-94,851**	**-94,833**	**-98,195**	**-100,998**	**-106,404**	**-101,401**	**2.3**	**-4.7**

Source: World Trade Organization (WTO).

The EU also has a large deficit and in 2016 this deficit edged up by 0.3%

The **EU** also has a substantial deficit in its textile and clothing trade with the rest of the world (Table 5), and in 2016 this deficit edged up by 0.3% to US$77.26 bn.

[4] A country's trade is in deficit when its imports exceed its exports.

Table 5: Textile and clothing trade balances, selected countries, 1980-2016
(US$ bn)

	1980	1990	2000	2005	2010	2011	2012	2013	2014	2015	2016	Annual average % change 2010-16
Trade surpluses												
China[a]	3.02	11.55	38.18	98.08	186.49	225.27	230.92	257.25	272.01	258.09	239.80	4.3
India	1.91	4.47	10.95	15.08	21.04	26.26	25.56	28.86	31.71	31.00	29.87	6.0
Bangladesh[b]	0.32	0.52	3.94	4.92	11.49	13.83	14.67	18.24	19.28	19.01	20.59	10.2
Turkey	0.39	4.19	7.82	13.68	12.35	13.89	16.23	17.61	18.84	16.83	17.03	5.5
Vietnam[b]	n/a	n/a	0.29	1.64	5.96	7.69	8.64	10.41	12.64	13.91	16.91	19.0
Pakistan	3.81	3.55	6.54	10.19	10.76	12.30	11.77	12.58	12.44	11.53	10.96	0.3
Italy	5.33	12.62	13.07	13.86	8.19	9.42	11.49	12.87	12.92	9.88	10.09	3.5
Taiwan	3.91	8.81	12.47	9.06	8.23	9.06	8.37	8.27	8.08	7.32	6.56	-3.7
Indonesia	-0.08	2.09	6.95	7.48	6.38	6.77	6.01	5.97	6.04	5.78	5.17	-3.5
Hong Kong	3.08	6.52	7.93	8.89	7.45	7.49	6.42	5.78	4.76	4.10	2.96	-14.2
Cambodia	n/a	n/a	0.52	1.20	1.16	1.79	1.43	1.96	1.57	2.23	2.62	14.6
Malaysia[a]	0.00	0.63	2.26	2.58	3.95	4.45	4.12	3.97	4.12	2.86	2.52	-7.2
Sri Lanka	-0.02	0.24	n/a	1.35	1.83	2.02	1.87	2.61	2.70	2.53	2.20	3.2
Tunisia[b]	0.07	0.26	0.74	1.27	1.15	1.21	0.99	1.04	0.96	0.71	0.66	-8.9
Morocco[a]	0.09	0.56	0.93	0.97	1.02	0.87	0.78	0.70	0.65	0.44	0.44	-12.9
Trade deficits												
South Korea	4.74	11.86	13.07	6.52	3.30	2.44	2.73	1.39	0.32	-0.92	-1.66	n/a
Mexico[a]	-0.17	-0.27	1.78	0.88	-1.15	-1.83	-2.28	-2.43	-2.83	-3.27	-3.21	18.6
Brazil	0.71	0.70	-0.04	0.23	-3.88	-5.07	-5.69	-5.88	-6.28	-5.03	-3.38	-2.3
Saudi Arabia[b]	-1.99	-2.10	-1.68	-2.32	-3.20	-3.99	-4.40	-4.48	-4.83	-5.19	-4.23	4.8
Switzerland	-0.75	-2.04	-2.59	-3.24	-4.59	-5.45	-5.20	-5.47	-5.75	-5.12	-5.29	2.4
Russia	n/a	n/a	0.01	-1.43	-10.36	-12.77	-12.93	-12.56	-11.66	-7.59	-7.19	-5.9
Australia	-1.28	-1.90	-2.95	-4.35	-6.56	-7.86	-8.15	-8.42	-8.81	-8.87	-8.63	4.7
Canada	-1.50	-3.70	-3.54	-5.95	-9.38	-10.71	-10.66	-11.34	-11.46	-11.09	-10.78	2.3
France	-1.03	-5.25	-6.09	-10.15	-13.77	-15.82	-13.87	-14.52	-15.98	-14.32	-14.15	0.5
Germany	-6.02	-10.36	-12.02	-11.05	-13.86	-18.47	-15.05	-16.14	-17.35	-17.03	-17.07	3.5
UK	-1.31	-6.56	-11.10	-17.74	-18.02	-19.41	-18.51	-18.53	-19.11	-18.05	-17.27	-0.7
Japan	2.35	-6.46	-17.11	-20.98	-26.45	-33.51	-34.61	-35.05	-32.86	-30.10	-29.06	1.6
EU[c]	-5.24	-15.64	-27.60	-47.46	-73.22	-82.46	-69.98	-71.00	-80.56	-77.00	-77.26	0.9
USA	-4.47	-26.10	-63.52	-85.20	-88.45	-94.85	-94.83	-98.19	-101.00	-106.40	-101.40	2.3

[a] Includes significant exports from and imports into processing zones. [b] Includes WTO secretariat estimates. [c] Includes intra-trade; intra-EU imports have been estimated; Figures for years prior to 2000 relate to the EU15.
Source: World Trade Organization (WTO).

However, the deficit has fluctuated somewhat in recent years, having declined sharply in 2012 before rebounding in 2013 and 2014, falling again in 2015 and edging up in 2016

However, the deficit has fluctuated somewhat in recent years. In 2012 it declined by a sharp 15.1%—owing to the eurozone crisis and subsequent austerity measures by EU member states in a bid to bring government debt under control. In 2013 it rebounded, having increased by 1.5%, and in 2014 it rose by a sharp 13.5%. In 2015 it fell once again, by 4.4%, due to a sharp 10.1% drop in textile and clothing imports (see Table 10 on page 111)—although the drop was largely a reflection of the depreciation of the euro against the US dollar (see page 80)—before edging up again in 2016.

As a result, the deficit in 2016 was below the levels reached in 2011 and 2014

As a result of these trends, the deficit in 2016 was at its third highest level on record. However, it remained below the peak reached in 2011 as well as the level reached in 2014.

France, Germany and the UK together accounted for 62.8% of the EU's textile and clothing trade deficit in 2016

Three European countries alone—France, Germany and the UK—had a combined textile and clothing trade deficit of US$48.49 bn in 2016.

This figure accounted for 62.8% of the EU's textile and clothing trade deficit during the year.

The chief single source of the EU's textile and clothing trade deficit was the UK's deficit, the world's third largest

The chief single source of the EU's textile and clothing trade deficit in 2016 was the **UK**, as has been the case for several years.

In fact, the UK's textile and clothing trade deficit was the world's third largest among individual countries in 2016.

However, the UK's deficit was down for the sixth time in nine years to its lowest level since 2004

Compared with the previous year, however, the UK's deficit was down by 4.3% to US$17.27 bn. Furthermore, the decline represented the sixth in nine years and, as a result, the UK's deficit was at its lowest level since 2004.

Germany's textile and clothing trade deficit edged up by 0.3% but, as in the case of the EU as a whole, it remained below the peak reached in 2011 as well as the level reached in 2014

Germany's textile and clothing trade deficit has followed much the same trend as the deficit of the EU as a whole in recent years. In 2016 it edged up by 0.3% to US$17.07 bn after a fall of 1.9% in 2015 and increases of 7.5% in 2014 and 7.2% in 2013, and a sharp 18.5% decline in 2012.

As a result, the deficit in 2016 was below the peak reached in 2011 as well as the level reached in 2014. Nonetheless, it was still at its third highest level on record.

All of the deficit was in clothing

Germany's textile and clothing trade deficit is due entirely to a significant deficit in its clothing trade. In 2016 Germany generated a surplus[5] of US$0.89 bn in its textile trade, but this was outweighed by a massive US$17.96 bn deficit in its clothing trade (see Table 10 on page 111).

France's textile and clothing trade deficit fell by 1.2% to its lowest level since 2012 and was also below the level reached in 2011, although it remained above the levels seen in earlier years

France's textile and clothing trade deficit—the third largest within the EU—fell by 1.2% to US$14.15 bn in 2016 following a 10.4% decline in the previous year.

As a result, the deficit was at its lowest level since 2012 and was also below the level reached in 2011, although it remained above the levels seen in earlier years.

Japan had the world's third largest textile and clothing trade deficit, after the USA and the EU

Japan had the world's third largest textile and clothing trade deficit in 2016—behind the USA and the EU as a whole.

In terms of individual countries, Japan had the second largest deficit—behind the USA.

[5] A country's trade is in surplus when its exports exceed its imports.

That said, the deficit was down by 3.4% to its lowest level since 2010

However, the deficit was down by 3.4% to US$29.06 bn following declines of 8.4% in 2015 and 6.3% in 2014. As a result, it was at its lowest level since 2010.

Japan's textile and clothing trade deficit was due largely to a deficit in its clothing trade

Japan's textile and clothing trade deficit was due largely to a deficit in its clothing trade.

Indeed, the latter, at US$27.30 bn, accounted for 93.9% of the country's total textile and clothing trade deficit in 2016.

However, the clothing trade deficit was down for the fourth consecutive year to its lowest level since 2010

Having said that, the clothing trade deficit was down for the fourth consecutive year—by 2.8%, following declines of 8.4% in 2015, 7.5% in 2014 and 0.8% in 2013. As a result, as in the case of the textile and clothing trade deficit, it was at its lowest level since 2010.

The textile trade deficit, meanwhile, was down for the second consecutive year but it remained above the levels seen prior to 2013

The textile trade deficit, meanwhile, was down for the second consecutive year—by a sharp 12.5%, following an 8.9% decline in the previous year. However, the latter followed sharp increases in each of the previous four years and, as a result, the deficit in 2016 remained above the levels seen prior to 2013.

Japan's textile trade deficit is relatively new. Prior to 2009, the country had maintained a surplus in its textile trade.

Canada's textile and clothing trade deficit was down by 2.8% but it was still at its fourth highest level on record and was the world's fourth largest

Canada's textile and clothing trade deficit was down by 2.8% to US$10.78 bn in 2016 following a 3.3% decline in the previous year. As a result, the deficit was at its lowest level since 2012 although it was still at its fourth highest level on record.

In fact, Canada's deficit rose for much of the 2000s, and between 2000 and 2016 it more than trebled, from US$3.54 bn to US$10.78 bn. As a result, it was the world's fourth largest deficit in 2016—behind those of the USA, the EU and Japan.

Australia's textile and clothing trade deficit was down by 2.6% but was still at its third highest level on record

Australia's textile and clothing trade deficit was down by 2.6% to US$8.63 bn in 2016. However, the fall followed six consecutive years of growth and, as a result, the deficit was still at its third highest level on record. Also, the deficit remained the world's fifth largest.

Russia's textile and clothing trade deficit was down for the fourth consecutive year to its lowest level since 2009

Russia's textile and clothing trade deficit was down for the fourth consecutive year in 2016—by 5.2% to US$7.19 bn, following a plunge of 34.9% in 2015 and declines of 7.2% in 2014 and 2.9% in 2013.

As a result, the deficit was at its lowest level since 2009, although it remained above the levels seen in prior years.

The fall in the deficit in 2016 was due to a 155.1% surge in textile exports from the country to a record high

The fall in the deficit in 2016 was due to a 155.1% surge in textile exports from the country to a record high of US$1.12 bn. As a result, Russia's textile trade deficit fell to its lowest level since 2006. Russia's clothing trade deficit, by contrast, increased—reflecting a rise in imports—although it remained below the levels seen during 2010-14.

Switzerland's textile and clothing trade deficit was up by 3.3% to its fourth highest level on record

Switzerland's textile and clothing trade deficit was up by 3.3% to US$5.29 bn in 2016. However, the rise came after an 11.0% decline in the previous year and, as a result, the deficit remained below the levels seen in 2013 and 2014 as well as that seen in 2011, although it was still at its fourth highest level on record. Also, it became the world's seventh largest, up from eighth in the previous year.

The rise was due to a 6.1% increase in clothing imports

The rise in the trade deficit was due to a 6.1% increase in clothing imports to US$5.95 bn—which represented their third highest level on record.

Saudi Arabia's textile and clothing trade deficit was down by 18.4% to its lowest level since 2011 due to a sharp decline in textile and clothing imports stemming from slow economic growth in the country

Saudi Arabia's textile and clothing trade deficit was down by 18.4% to US$4.23 bn in 2016, which represented its lowest level since 2011. Furthermore, it became the world's eighth largest, down from seventh in the previous year.

The plunge reflected a sharp decline in textile and clothing imports. This stemmed from slow economic growth in the country, which was due in part to low oil prices and government austerity measures.

Brazil's textile and clothing trade deficit was down by 32.7% to its lowest level since 2009, and reflected the country's worst ever recession

Brazil's textile and clothing trade deficit was down by 32.7% to US$3.38 bn in 2016 following a 19.9% fall in the previous year. As a result, it was at its lowest level since 2009.

The falls in 2015 and 2016 were due to sharp declines in textile and clothing imports, reflecting the country's worst ever recession.

Mexico's textile and clothing trade deficit was down by 1.8% although the fall was due to a decline in imports rather than any growth in exports, suggesting a contraction in demand for textile inputs by the clothing industry

Mexico's textile and clothing trade deficit was down by 1.8% to US$3.21 bn in 2016. However, the fall followed six consecutive years of growth and, as a result, the deficit in 2016 was still at its second highest level on record.

The fall in the deficit, however, was due to a decline in imports rather than any growth in exports, which suggests that there has been a contraction in demand for textile inputs by the clothing industry. In fact, Mexican clothing exports fell by 4.6% to their lowest level since 2009 and their second lowest level since 1996.

South Korea's textile and clothing trade deficit was up by 80.1%

South Korea's textile and clothing trade deficit was up by 80.1% to US$1.66 bn in 2016 after it posted a deficit in 2015 for the first time.

The country's textile and clothing trade deficit was due entirely to a deficit in its clothing trade

South Korea's textile and clothing trade deficit stems entirely from a deficit in its clothing trade. In 2016 this rose for the seventh consecutive year to US$6.59 bn. In its textile trade, South Korea continued to generate a surplus although this was down in 2016 for the fourth consecutive year, to US$4.93 bn.

SURPLUSES

For several years Italy had the world's largest textile and clothing trade surplus, but China took over in 1991

For several years, the world's largest trade surplus in textiles and clothing was held not by a low cost country but by Italy.

Since 1991, however, the largest textile and clothing trade surplus has been held by **China**.

In 2016 China's textile and clothing trade surplus was over eight times as big as India's

Furthermore, China has consolidated its lead over the years. In 2016 its textile and clothing trade surplus, at US$239.80 bn, was over eight times as much as the world's second largest textile and clothing trade surplus—that of India, which was valued at US$29.87 bn in the same year.

However, the surplus declined by 7.1% to its lowest level since 2012

Having said that, China's surplus declined by 7.1%, or US$18.29 bn, in 2016 following a 5.1% fall in the previous year, reflecting a switch in sourcing from China to other countries in Asia. As a result, the surplus in 2016 was at its lowest level since 2012.

The decline reflected primarily a fall in clothing exports although textile exports also fell

The decline in China's surplus reflected primarily a fall of 9.4%, or US$16.38 bn, in the country's clothing exports.

Textile exports also fell, but by a lesser 4.0%, or US$4.33 bn. Also, the fall in textile exports was partially offset by a decline of 12.1%, or US$2.29 bn, in textile imports to their lowest level since 2009. Clothing imports, meanwhile, fell by 1.9%. But in absolute terms, this equated to a fall of just US$120 mn and, as a result, imports were still at their second highest level on record.

India's textile and clothing trade surplus fell by 3.6% following a 2.3% decline in the previous year but it was still at its third highest level on record

India's textile and clothing trade surplus fell by 3.6% to US$29.87 bn in 2016 following a 2.3% decline in the previous year. However, the latter came after increases of 9.9% in 2014 and 12.9% in 2013. As a result, the surplus in 2016 was at its third highest level on record and India had the world's second largest surplus for the 12th consecutive year.

The fall in 2016 reflected primarily a decline in textile exports

The fall in the surplus in 2016 reflected, primarily, a decline in textile exports. These were down by 6.2%, or US$1.08 bn, to US$16.21 bn. Clothing exports were also down, but by a lesser 1.6%, or US$280 mn, to US$17.97 bn.

Bangladesh's textile and clothing trade surplus rose by 8.3% to a record high

Bangladesh's textile and clothing trade surplus rose by 8.3% to a record high of US$20.59 bn in 2016. Furthermore, it remained the world's third largest textile and clothing trade surplus.

Between 2010 and 2016 the surplus rose by an average of 10.2% per annum

Between 2010 and 2016 the surplus rose by an average of 10.2% per annum—making Bangladesh one of only three major exporting countries to achieve double digit annual average growth over this period. The other countries were Cambodia and Vietnam.

The surplus in 2016 was due entirely to a trade surplus in clothing

Bangladesh's textile and clothing trade surplus in 2016 was due entirely to a US$27.66 bn surplus in clothing—reflecting high export levels and minimal imports. Furthermore, this surplus was up by 7.8%, or US$2.01 bn during the year.

In textiles, Bangladesh had a deficit—

In textiles, Bangladesh had a deficit as its textile exports were worth US$1.76 bn while its textile imports were valued at US$8.82 bn.

—and this is set to widen as more yarns and fabrics are consumed by its expanding clothing industry

Moreover, the textile trade deficit is set to widen as more yarns and fabrics are consumed by the country's expanding clothing industry. In 2016 alone the deficit increased by 6.3% to US$7.06 bn, which represented the eighth increase in ten years.

Turkey's textile and clothing trade surplus rose by 1.2% but it remained below the levels seen in 2013 and 2014

Turkey's textile and clothing trade surplus rose by 1.2% to US$17.03 bn in 2016. However, the rise came after a 10.7% decline in 2015 and, as a result, the surplus was below the levels seen in 2013 and 2014.

The rise reflected declines in textile and clothing imports as exports also fell

The rise reflected declines in textile and clothing imports rather than any growth in exports. In fact, Turkey's textile and clothing exports declined for the second consecutive year to their lowest level since 2012, although the decline was minimal, at just 0.4%. Turkey's textile and clothing imports, meanwhile, were down by 3.4%.

Trade is likely to have been affected by a decline in GDP in the third quarter of 2016 and was affected by the depreciation of the Turkish lira against the US dollar

It is likely that trade was affected by a decline in GDP in the third quarter of 2016 following the attempted coup in the country on July 15, 2016, although there was a sharp rebound in GDP in the fourth quarter of the year.

Trade will also have been affected by the depreciation of the Turkish lira against the US dollar[6].

Vietnam's textile and clothing trade surplus rose by 21.6% in 2016 and between 2000 and 2016 it rose by an average of 28.9% per annum, which represented by far the fastest growth rate among countries with large surpluses

Vietnam is a relative newcomer to international trade in textiles and clothing. As recently as 1998 it had a textile and clothing trade deficit but by 2016 it held the world's fifth largest textile and clothing trade surplus.

In 2016 alone Vietnam's textile and clothing trade surplus rose by 21.6% to US$16.91 bn, which represented the 16th rise in succession. And between 2000 and 2016 its textile and clothing trade surplus rose by an average of 28.9% per annum, which represented by far the fastest growth rate among countries with large surpluses.

All of the textile and clothing trade surplus in 2016 was in clothing

All of Vietnam's textile and clothing trade surplus in 2016 was in clothing and, at US$23.63 bn, this surplus was up by 11.9% compared with the previous year.

[6] The Turkish lira depreciated against the US dollar by no less than 50.4% between 2010 and 2016 and by 9.9% in 2016 alone. Furthermore, during the first nine months of 2017 it depreciated by 18.4% compared with the corresponding period of the previous year to its weakest level on record (see Table 9 on page 110).

In textiles Vietnam had a trade deficit as the expansion of the clothing industry has outpaced the capacity of the textile industry to supply it

In textiles, Vietnam had a trade deficit. However, this was down by 6.7% compared with the previous year, at US$6.72 bn. Having said that, textile imports continued to grow, by 1.3%, and reached a record high of US$12.99 bn.

The deficit in textiles reflects the fact that the expansion of Vietnam's clothing industry has outpaced the capacity of the textile industry to supply it with yarns and fabrics.

Pakistan's textile and clothing trade surplus fell by 4.9% in 2016 to its lowest level since 2010

Pakistan's textile and clothing trade surplus fell for the third consecutive year in 2016—by 4.9% to US$10.96 bn, following declines of 7.3% in 2015 and 1.1% in 2014. As a result, it was at its lowest level since 2010.

The fall was due entirely to a 9.8% decline in the country's textile trade surplus

The fall in the country's textile and clothing trade surplus, as in the previous year, was due entirely to a decline in its textile trade surplus. This was down by 9.8% to US$5.96 bn, reflecting a 6.7% drop in textile exports and a 5.9% rise in textile imports.

Its clothing trade surplus, by contrast, rose by 1.6%

Pakistan's clothing trade surplus, by contrast, rose by 1.6% to US$5.00 bn. The rise reflected a 1.6% increase in clothing exports to a record high of US$5.10 bn. Clothing imports, meanwhile, remained negligible.

Italy's textile and clothing trade surplus rose by 2.1% but was at its fifth lowest level for several years

Italy's textile and clothing trade surplus rose by 2.1% to US$10.09 bn in 2016. However, the rise followed a plunge of 23.6% in the previous year and, as a result, Italy's surplus was at its second lowest level since 2011 and its fifth lowest level for several years.

The rise in the surplus was due to a 2.2% increase in clothing exports although these remained below the levels seen during 2011-14 and 2007-08

The rise in the textile and clothing trade surplus in 2016 was due primarily to an increase in clothing exports.

These were up by 2.2% to US$21.72 bn although they remained below the levels seen during 2011-14 as well as the levels seen in 2007 and 2008.

Textile exports, meanwhile, edged down by 0.3% to their lowest level since 1994

Textile exports, meanwhile, edged down by 0.3% following a 15.7% decline in the previous year and, as a result, they were at their lowest level since 1994.

Taiwan's textile and clothing trade surplus declined for the fifth consecutive year, by 10.4%, to its lowest level since 1985

Taiwan's textile and clothing trade surplus declined in 2016 for the fifth consecutive year—by 10.4% to US$6.56 bn.

Furthermore, the decline in 2016 represented an acceleration compared with the falls seen in the previous four years. As a result of these trends, the surplus in 2016 was at its lowest level since 1985.

The decline was due primarily to a 7.3% fall in textile exports

The decline in Taiwan's textile and clothing trade surplus in 2016 was due primarily to a 7.3% fall in its textile exports, to US$8.97 bn. This represented their lowest level since 2009 and their second lowest level since 1993.

Indonesia's textile and clothing trade surplus fell by 10.7% to its lowest level since 1998

Indonesia's textile and clothing trade surplus fell by 10.7% to US$5.17 bn in 2016. The fall represented the fourth decline in five years and, as a result, the surplus in 2016 was at its lowest level since 1998.

All of the textile and clothing trade surplus in 2016 was in clothing but this surplus was down by 2.1% to its lowest level since 2010

All of Indonesia's textile and clothing trade surplus in 2016 was in clothing.

However, the clothing surplus was down by 2.1% compared with the previous year to US$6.95 bn—its lowest level since 2010—as clothing exports fell by 1.6% while clothing imports rose by 5.7%.

In textiles, Indonesia had a trade deficit, and this was up by 35.6% to a record high

In textiles, Indonesia had a trade deficit, and this was up by 35.6% to a record high of US$1.79 bn during the year as textile exports fell by 6.6% while textile imports rose by 3.2%.

Hong Kong's textile and clothing trade surplus was down by 27.7% to its lowest level since 1983

Hong Kong's textile and clothing trade surplus was down by 27.7% to US$2.96 bn in 2016. The fall represented the fifth consecutive double digit decline and, as a result, the surplus was at its lowest level since 1983.

Moreover, the fall is likely to be a sign of things to come

Moreover, it is likely that the fall in 2016 and those during 2012-15 are signs of things to come.

US and EU imports from China are no longer subject to safeguard restrictions and so the role of Hong Kong as a transshipment hub has diminished and re-exports have declined

Most, if not all, of the increase in the surplus in earlier years had been aided largely by rising re-exports of goods imported from elsewhere, particularly from China.

However, since 2008 US and EU imports from China have no longer been subject to safeguard restrictions[7] so the role of Hong Kong as a transshipment hub has diminished and re-exports have declined as a result.

At the same time, domestic exports have declined as production in the territory has become increasingly uncompetitive

At the same time, domestic exports[8] of textiles and clothing from Hong Kong have declined.

This reflects the fact that production in the territory has become increasingly uncompetitive (see Table 6 and Table 7).

[7] At the insistence of the USA, a special textile safeguard clause was incorporated in China's World Trade Organization (WTO) accession agreement. The clause, which expired at the end of 2008, enabled any WTO member to limit growth in imports of a textile or clothing product category from China where such imports were causing, or threatening to cause, market disruption. In 2005 the EU and China negotiated a comprehensive trade agreement under the safeguard clause, covering a broad range of product categories. The agreement came into force in mid-2005 and terminated at the end of 2007. The USA negotiated a similar agreement with China which came into force at the beginning of 2006 and expired at the end of 2008. Under the special textile safeguard clause, no importing country was permitted to maintain safeguard restrictions against China beyond 2008.

[8] Domestic exports in this context are exports of goods produced in Hong Kong.

In 2016 domestic exports of textiles fell by 9.5% and domestic exports of clothing plummeted by 38.4%

Indeed, in 2016 alone Hong Kong's domestic exports of textiles fell by 9.5% while its domestic exports of clothing plummeted by 38.4%. In both cases, the declines followed severe falls in the years prior to 2016.

Hong Kong has become more important as a marketing and distribution centre although it faces competition even in this role

Hong Kong has become more important as a marketing and distribution centre for goods made in South-East Asian and East Asian countries—particularly China. But there are signs that even this role may be weakening as, increasingly, foreign buyers have been dealing directly with suppliers in mainland China. Also, marketing and distribution centres are becoming more established in other regions of the world.

Cambodia's textile and clothing trade surplus rose by 17.6% to a record high in 2016

Cambodia's textile and clothing trade surplus rose by 17.6% to US$2.62 bn in 2016 following a 42.2% jump in the previous year. Furthermore, between 2010 and 2016 the surplus rose by an average of 14.6% per annum, which represented the second fastest growth rate among countries with large surpluses. As a result, the surplus reached a record high.

All of the surplus in 2016 was in clothing

All of Cambodia's textile and clothing trade surplus in 2016 was in clothing and this surplus was up by 12.3% compared with the previous year, to US$6.54 bn.

In textiles, Cambodia had a trade deficit as the expansion of the clothing industry has outpaced the capacity of the textile industry to supply it

In textiles, by contrast, Cambodia had a trade deficit of US$3.92 bn and this was up by 9.0% compared with the previous year as textile imports continued to grow—by 9.8% to a record high of US$4.08 bn.

The deficit in textiles reflects the fact that the expansion of Cambodia's clothing industry has outpaced the capacity of the textile industry to supply it with yarns and fabrics[9].

Malaysia's textile and clothing trade surplus fell by 11.7% in 2016 to its lowest level since 2004

Malaysia's textile and clothing trade surplus fell by 11.7% to US$2.52 bn in 2016 after plummeting by 30.6% in the previous year. In fact, the fall in 2016 represented the fourth in five years and, as a result, the surplus was at its lowest level since 2004.

The fall was due mainly to decline in the country's clothing trade surplus

The fall in the surplus in 2016 was due primarily to a decline in the country's clothing trade surplus. This was down by 10.2%, reflecting a 4.9% fall in clothing exports and a 2.8% increase in clothing imports. As a result of the 4.9% fall, clothing exports were at their lowest level since 2012 while, as a result of the 2.8% increase, clothing imports reached a record high.

Sri Lanka's textile and clothing trade surplus fell by 12.8%

Sri Lanka's textile and clothing trade surplus fell by 12.8% to US$2.20 bn in 2016 following a 6.5% decline in the previous year. As a result, it was at its lowest level since 2012 although it remained above the levels seen in earlier years.

[9] For further information, see "Prospects for the textile and clothing industry in Cambodia", starting on page 117 of this issue.

The fall was due entirely to an increase in textile imports as clothing exports rose, which suggests that clothing production grew

Furthermore, the fall in the surplus was due entirely to an increase in textile imports, which suggests that clothing production is growing. In fact, textile imports were up by 19.2% to a record high of US$2.61 bn. Clothing exports, meanwhile, edged up by 1.2% to US$4.83 bn, which represented their second highest level on record.

As a result, Sri Lanka's clothing trade surplus rose but its textile trade deficit widened

As a result of these trends, Sri Lanka's clothing trade surplus was up by 1.8% compared with the previous year, at US$4.51 bn. In textiles, by contrast, the country continued to have a deficit, and this was up by 21.2% to a record high of US$2.31 bn.

Tunisia's textile and clothing trade surplus fell for the sixth time in eight years, by 7.6%, to its lowest level since 1998

Tunisia's textile and clothing trade surplus fell by 7.6% to US$660 mn in 2016.

The fall represented the sixth in eight years and, as a result, the surplus was at its lowest level since 1998.

Morocco's textile and clothing trade surplus remained stable

Morocco's textile and clothing trade surplus remained stable at US$440 mn in 2016 after falling for six consecutive years to its lowest level since 1989.

Textile imports and clothing exports increased at similar rates

Furthermore, the arrest in the decline was fairly positive as it reflected increases in textile imports and in clothing exports, which suggests that clothing production increased.

LEADING TEXTILE AND CLOTHING EXPORTERS AND IMPORTERS

Most textile and clothing trade is in the hands of only a few countries

Most of the world's trade in textiles and clothing is highly concentrated, in the sense that it is conducted between a relatively small number of countries.

Textile exports and clothing exports are highly concentrated

Textile exports and clothing exports are highly concentrated although textile exports are slightly more concentrated than clothing exports.

In textiles, 85.5% of the world's exports in 2016 came from the leading ten textile suppliers—comprising the EU and nine non-EU countries (Table 6). In clothing, 86.3% of the world's exports came from the leading ten clothing suppliers (Table 7).

In the case of imports, clothing markets are much more concentrated than textile markets

In the case of imports, clothing markets are much more concentrated than textile markets. In 2016 the top ten clothing markets took as much as 74.1% of world clothing imports whereas the top ten textile markets took only 55.8% of world textile imports during the year.

LEADING TEXTILE EXPORTERS

Many high cost countries are still competitive in textiles, despite the shift of clothing production to low cost countries

An analysis of the leading ten textile exporting countries (Table 6) suggests that developed countries are still competitive in the supply of yarns and fabrics, even though the bulk of clothing production has been shifted to low cost regions.

The EU, the USA and three newly industrialised countries ranked among the leading ten exporters in 2016

The EU and the USA both continued to rank among the leading ten exporters in 2016.

The top ten in 2016 also included three newly industrialised countries with relatively high costs, namely Hong Kong, South Korea and Taiwan.

China remained the world's largest textile exporter in 2016 although its textile exports fell by 4.0% and its share of world textile exports fell from 37.4% to 36.8%

China remained the world's largest textile exporter in 2016, having overtaken the EU in 2010. However, its textile exports declined by 4.0% to US$104.66 bn during the year and its share of world textile exports fell from 37.4% to 36.8%. Furthermore, the fall in exports came after a 2.4% decline in the previous year and, as a result, exports in 2016 were at their lowest level since 2012.

Nevertheless, between 2010 and 2016 textile exports from China grew at the second fastest rate among the world's ten largest textile exporters in 2016

Nevertheless, between 2010 and 2016 Chinese textile exports grew by an average of 5.3% per annum.

This represented the second fastest growth rate among exports from the countries which constituted the world's ten largest textile exporters in 2016.

EU textile exports edged up by 0.8% in 2016 but this followed a 13.5% decline in 2015 and, as a result, exports were at their second lowest level since 2009

Textile exports from the **EU**, the world's second largest textile exporter, edged up by 0.8% to US$65.47 bn in 2016. However, the rise followed a 13.5% decline in 2015 and, as a result, exports in 2016 were at their second lowest level since 2009. Having said that, the fall in 2015 was largely a reflection of the depreciation of the euro against the US dollar (see page 80).

The EU's share of world textile exports rose to 23.0% but it remained below the level seen in 2014 and well below the level seen in 2000

The EU's share of world textile exports rose from 22.3% to 23.0% in 2016. However, it remained below the EU's 24.0% share of world textile exports in 2014.

Furthermore, it was well below the EU's 36.7% share of world textile exports in 2000.

Also, a large share of EU textile exports in 2016 was intra-EU trade, and when intra-EU trade is excluded the EU's share of world textile exports was only 7.1%

Also, a large proportion of EU textile exports in 2016 consisted of intra-EU trade—or trade between the EU's member states.

When intra-EU trade is excluded from the total, the EU accounted for only 7.1% of world textile exports—less than one third of its share when intra-EU trade is included.

Indian textile exports fell by 6.5% following a 5.7% decline in 2015 but they were still at their fourth highest level on record

Textile exports from **India**—the world's third largest textile exporter—fell by 6.2% to US$16.21 bn in 2016 following a 5.7% decline in 2015. However, the latter came after five consecutive years of growth. As a result, exports in 2016 were at their fourth highest level on record and remained well above the levels seen prior to 2013.

Table 6: The world's leading exporters and importers of textiles, 2000-16

	Value (US$ bn)	% of world trade				Annual average % change			
	2016	2000	2005	2010	2016	2010-16	2013-14	2014-15	2015-16
Exporters									
China[a]	104.66	10.4	20.2	30.5	36.8	5.3	4.8	-2.4	-4.0
EU	65.47	36.7	34.8	27.0	23.0	-0.6	3.9	-13.5	0.8
of which extra-EU exports	20.13	9.9	9.9	8.1	7.1	-0.3	2.7	-14.2	0.5
India	16.21	3.6	4.1	5.1	5.7	4.0	5.3	-5.7	-6.2
USA	12.90	7.1	6.1	4.8	4.5	1.0	3.1	-3.0	-7.4
Turkey	10.91	2.4	3.5	3.6	3.8	3.3	3.0	-12.5	-0.4
South Korea	10.04	8.2	5.1	4.3	3.5	-1.5	-1.1	-10.6	-5.7
Taiwan	8.97	7.7	4.8	3.9	3.2	-1.3	0.5	-5.7	-7.3
Hong Kong	7.90	n/a	n/a	n/a	n/a	-5.8	-8.7	-6.9	-13.2
of which:									
domestic exports	0.07	0.8	0.3	0.1	0.0	-19.2	-31.5	-29.7	-9.5
re-exports	7.83	n/a	n/a	n/a	n/a	-5.6	-8.3	-6.7	-13.3
Pakistan[b]	7.68	2.9	3.5	3.1	2.7	-0.4	-2.8	-9.3	-6.7
Vietnam[b]	6.28	0.2	0.4	1.2	2.2	12.7	15.6	5.6	11.5
Leading ten exporters[c]	**243.19**	**80.0**	**82.8**	**83.6**	**85.5**	**n/a**	**n/a**	**n/a**	**n/a**
Importers									
EU	74.64	35.2	33.6	27.9	24.7	0.0	6.1	-11.7	1.1
of which extra-EU imports	29.30	9.9	10.0	10.1	9.7	1.4	8.9	-9.1	1.4
USA	28.78	9.8	10.5	8.8	9.5	3.5	4.6	4.5	-2.6
China[a]	16.68	7.8	7.2	6.6	5.5	-1.0	-6.1	-6.3	-12.1
Vietnam[b]	12.99	0.8	1.6	2.6	4.3	10.7	13.5	6.3	1.3
Bangladesh[b]	8.82	0.8	1.1	1.7	2.9	12.0	10.9	20.9	6.6
Japan	8.18	3.0	2.7	2.7	2.7	2.2	1.6	-8.0	0.0
Hong Kong	7.41	n/a	n/a	n/a	n/a	-6.7	-10.1	-9.0	-13.2
of which retained imports[b]	n/a	0.9	0.3	0.1	n/a	n/a	n/a	n/a	n/a
Mexico[ad]	6.24	3.6	2.8	1.9	2.1	3.3	3.7	1.9	-4.4
Turkey	6.11	1.3	2.1	2.5	2.0	-1.1	4.8	-12.4	-2.0
Indonesia	5.89	0.8	0.4	1.6	2.0	5.7	0.5	-1.8	3.2
Leading ten importers[e]	**168.33**	**64.0**	**62.3**	**56.3**	**55.8**	**n/a**	**n/a**	**n/a**	**n/a**

NB: numbers and percentage share calculations may not sum precisely due to rounding.
[a] Includes significant shipments through processing zones. [b] Includes WTO Secretariat estimates. [c] Includes intra-EU and extra-EU exports; includes domestic exports from Hong Kong but not re-exports. [d] fob values. [e] Includes intra-EU and extra-EU imports; includes Hong Kong retained imports but not imports for re-export.
Source: World Trade Organization (WTO).

US textile exports fell by 7.4% to their lowest level since 2010

Textile exports from the **USA**—the world's fourth largest textile exporter—fell by 7.4% to US$12.90 bn in 2016 following a 3.0% decline in 2015. As a result, they were at their lowest level since 2010 although they remained above the levels seen in earlier years.

A large proportion of US textile exports goes to nearby countries for making up and re-export to the USA as garments but exports to Mexico could decline given the uncertainty surrounding Nafta

A large proportion of the textiles exported from the USA goes to Mexico and other nearby countries for making up and subsequent re-export to the USA as garments. Such countries include those in the Caribbean Basin and those which are signatories to the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR)[10]. However, exports to Mexico are likely to decline in the coming years, given the uncertainty surrounding the future of the North American Free Trade Agreement (Nafta).

[10] The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) comprises six beneficiary countries, namely Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras and Nicaragua. The USA is also a member.

Turkish textile exports edged down by 0.4% following a sharp 12.5% decline in 2015 and, as a result, they were at their lowest level since 2011

Textile exports from **Turkey** edged down by 0.4% to US$10.91 bn in 2016 following a sharp 12.5% decline in 2015. As a result, exports were at their lowest level since 2011. The decline in exports in 2015 had been due primarily to a fall in the dollar value of Turkey's exports to the EU—by far Turkey's largest export market—as a result of the depreciation of the euro against the US dollar (see page 80).

However, between 2010 and 2016 they grew by an average of 3.3% per annum and Turkey's share of world textile exports rose from 3.6% to 3.8%

Despite the declines in 2015 and 2016, Turkish textile exports grew by an average of 3.3% per annum between 2010 and 2016. This represented the fourth fastest growth rate among exports from the countries which constituted the world's ten largest textile exporters in 2016.

As a result, Turkey's share of world textile exports rose from 3.6% in 2010 to 3.8% in 2016 and the country remained the world's fifth largest textile exporter in 2016, having ranked sixth in 2012 and eighth in 2011.

South Korean textile exports fell by 5.7% in 2016 to their lowest level since 2009 and their second lowest level since 1993, and the country's share of world textile exports fell to a record low

Textile exports from **South Korea** fell by 5.7% to US$10.04 bn in 2016 following declines of 10.6% in 2015 and 1.1% in 2014. Furthermore, between 2010 and 2016 exports fell by an average of 1.5% per annum, which represented the second steepest rate of decline among exports from the countries which constituted the world's ten largest textile exporters in 2016. As a result, exports in 2016 were at their lowest level since 2009 and their second lowest level since 1993.

Moreover, South Korea's share of world textile exports fell to 3.5% in 2016, which represented its lowest share on record.

Taiwanese textile exports fell by 7.3% in 2016 to their lowest level since 2009 and their second lowest level since 1993 and the country's share of world textile exports fell to just 3.2%

Textile exports from **Taiwan** fell by 7.3% to US$8.97 bn in 2016. The fall represented the fourth in five years and, as a result, Taiwanese exports in 2016 were at their lowest level since 2009 and their second lowest level since 1993.

Furthermore, Taiwan's share of world textile exports fell to just 3.2% in 2016, which was less than half the 7.7% share that the country enjoyed in 2000.

Hong Kong's textile exports fell by 13.2% in 2016 to their lowest level since 1989

Textile exports from **Hong Kong**—including domestic exports and re-exports—fell by 13.2% to US$7.90 bn in 2016. This represented the eighth decline in ten years and, as a result, exports in 2016 were at their lowest level since 1989.

The fall was due to declines in re-exports and domestic exports

The fall in exports in 2016 was due to a 13.3% decline in Hong Kong's re-exports, to US$7.83 bn, and a 9.5% decrease in its domestic exports, to just US$70 mn.

Domestic exports and re-exports also fell between 2010 and 2016

Between 2010 and 2016, Hong Kong's domestic exports plunged by an average of 19.2% per annum while its re-exports fell by an average of 5.6% per annum.

As a result, domestic exports accounted for less than 0.1% of world textile exports in 2016

As a result, Hong Kong's domestic exports accounted for less than 0.1% of world textile exports in 2016—just a fraction of the 2.1% share held by Hong Kong's domestic exports in 1990.

The fall in domestic exports reflects the declining cost competitiveness of Hong Kong and the relocation of production to China

The plunge in Hong Kong's domestic exports between 2010 and 2016 reflects the declining cost competitiveness of Hong Kong.

It also reflects the relocation of production from Hong Kong to the Chinese mainland.

The fall in re-exports reflects the fact that there is no longer a need to route exports via Hong Kong to avoid quota restrictions

The fall in Hong Kong's re-exports between 2010 and 2016 reflects the fact that US and EU imports from China are no longer subject to safeguard restrictions (see page 92) and, as a result, there is no longer any need for them to be routed via Hong Kong merely to avoid quota restrictions.

Pakistani textile exports fell by 6.7% in 2016 to their lowest level since 2009

Textile exports from **Pakistan** fell by 6.7% to US$7.68 bn in 2016, following declines of 9.3% in 2015 and 2.8% in 2014. As a result, exports in 2016 were at their lowest level since 2009, although they remained above the levels seen in earlier years.

Furthermore, between 2010 and 2016 exports fell by an average of 0.4% per annum, which was in contrast to growth in exports from Vietnam, China, India, Turkey and the USA

Between 2010 and 2016 Pakistani textile exports fell by an average of 0.4% per annum. The fall was not as severe as the declines in exports from the newly industrialised countries of Hong Kong (down by an average of 5.8% per annum), South Korea (down by an average of 1.5% per annum) and Taiwan (down by an average of 1.3% per annum). However, it was in contrast to growth in textile exports from a number of developing countries, including Vietnam (up by an average of 12.7% per annum), China (up by an average of 5.3% per annum) and India (up by an average of 4.0% per annum), as well as growth in exports from Turkey (up by an average of 3.3% per annum) and the USA (up by an average of 1.0% per annum).

Vietnamese textile exports rose by 11.5% to a record high in 2016, and between 2010 and 2016 Vietnam was the fastest growing textile exporter among the countries which constituted the world's ten largest textile exporters in 2016

Textile exports from **Vietnam**—the world's tenth largest textile exporter—rose by 11.5% to a record high of US$6.28 bn in 2016.

The rise represented the 16th in succession and the 14th double digit increase in the 16-year period.

Moreover, between 2010 and 2016 textile exports from Vietnam rose by an average of 12.7% per annum.

As a result, Vietnam was the fastest growing textile exporter over this six-year period among the countries which constituted the world's ten largest textile exporters in 2016.

LEADING TEXTILE IMPORTERS

Textile import trends are an important indicator of garment making activity

Textile import trends are an important indicator of garment manufacturing activity in a country—given that the sourcing of raw materials for such activity is becoming increasingly international.

The world's largest textile importer in 2016 was the EU with 24.7% of the world total although a large share of this was accounted for by intra-EU trade

By far the world's largest textile importer in 2016 was the **EU** with a 24.7% share of world textile imports (Table 6). Furthermore, this share was up from 24.0% in 2015. However, it was down from 27.9% in 2010, 33.6% in 2005 and 35.2% in 2000.

Also, a large proportion of the 24.7% share in 2016 was accounted for by intra-EU trade—or trade between the EU's 28 member states.

Excluding intra-EU trade, the EU accounted for only 9.7% of world textile imports, placing it only slightly ahead of the USA

Excluding intra-EU trade, the EU accounted for a considerably smaller 9.7% of world textile imports in 2016.

This placed it only slightly ahead of the USA—the world's second largest textile importer—with a 9.5% share.

In total, EU textile imports rose by 1.1% in 2016 but the rise came after an 11.7% decline in 2015 and, as a result, imports were at their second lowest level since 2010

In total, EU textile imports—including intra-EU trade—rose by 1.1% to US$74.64 bn in 2016.

However, the rise came after an 11.7% decline in 2015 and, as a result, imports in 2016 were at their second lowest level since 2010 and at their fourth lowest level since 2005.

Having said that, much of the decline in 2015 was currency related and the EU market remains a prime target for foreign suppliers

Having said that, the decline in 2015 largely reflected the depreciation of the euro against the US dollar (see page 80).

In global terms, the EU market is still large and remains a prime target for foreign suppliers of textiles.

Textile imports into the USA, the world's second largest market for foreign textile suppliers, fell by 2.6% in 2016 but they were still at their second highest level on record

The world's second largest market for foreign textile suppliers in 2016 was the **USA** with a 9.5% share of world textile imports. This share was down slightly from 9.6% in the previous year. However, it was still at its second highest level since 2006.

The fall in share in 2016 reflected a 2.6% decline in US textile imports, to US$28.78 bn. However, the decline followed six consecutive years of growth and, as a result, imports in 2016 were at their second highest level on record.

Between 2010 and 2016 the USA's share of world textile imports rose from 8.8% to 9.5%

Indeed, between 2010 and 2016 US textile imports grew by an average of 3.5% per annum—representing the fourth fastest growth rate among imports into the countries which constituted the world's ten largest textile importers in 2016—and the USA's share of world textile imports rose from 8.8% to 9.5% over the six-year period.

The USA has moved up the ranks of textile importing nations as its self-sufficiency has been eroded

The USA has moved up the ranks of importing nations as its self-sufficiency in textiles and apparel has been eroded. At the beginning of the 1990s, it ranked only fifth among the world's textile importers, despite the huge size of its economy. But in 2016 it ranked second, and was only slightly behind the EU in terms of share when intra-EU trade is excluded.

Chinese textile imports fell by a sharp 12.1% in 2016 to their lowest level since 2009

Textile imports into **China**—the world's third largest market for foreign textile suppliers—fell by a sharp 12.1% to US$16.68 bn in 2016 following declines of 6.3% in 2015 and 6.1% in 2014. As a result, imports were at their lowest level since 2009.

Furthermore, between 2010 and 2016 imports fell by an average of 1.0% per annum and the share of world textile imports which went to China fell from 6.6% to just 5.5%

Furthermore, between 2010 and 2016 Chinese textile imports fell by an average of 1.0% per annum, which represented one of only three declines among imports into the countries which constituted the world's ten largest textile importers in 2016.

As a result, China's share of world textile imports fell over the six-year period from 6.6% to just 5.5%—its lowest level in several years.

Vietnamese textile imports rose by an average of 10.7% per annum between 2010 and 2016 although growth slowed to just 1.3% in 2016 alone

Vietnamese textile imports rose by 1.3% to US$12.99 bn in 2016. The rise was the seventh in succession and, as a result, imports reached a record high. However, the rise represented a sharp slowdown compared with growth in the previous six years.

Indeed, between 2010 and 2016 Vietnamese textile imports grew by an average of 10.7% per annum, which represented the second fastest growth rate among imports into the countries which constituted the world's ten largest textile importers in 2016.

Further growth is likely as the Vietnamese clothing industry expands

Looking ahead, further import growth is likely, given that Vietnam does not have an abundant supply of raw materials for its ever expanding clothing industry.

Bangladeshi textile imports rose by 6.6% to a record high in 2016—

Textile imports into **Bangladesh** rose by 6.6% to US$8.82 bn in 2016 following jumps of 20.9% in 2015 and 10.9% in 2014. As a result, imports reached a record high for the third consecutive year and Bangladesh became the world's fifth largest textile importer, up from sixth in 2015 and seventh in 2014.

—and rose by an average of 12.0% per annum between 2010 and 2016

Furthermore, between 2010 and 2016 Bangladeshi textile imports rose by an average of 12.0% per annum, which represented the fastest growth rate among imports into the countries which constituted the world's ten largest textile importers in 2016.

The Bangladeshi clothing industry has had to import more textiles to meet rising demand for clothing from EU and US buyers

The Bangladeshi clothing industry has expanded rapidly in recent years as EU and US buyers have sought out lower cost suppliers. This has led to a correspondingly rapid increase in demand for textile inputs and, in order to meet this demand, the country has had to import more textiles.

Japanese textile imports remained static in 2016 at their lowest level since 2010 but the country climbed one place to become the world's sixth largest textile importer

Japanese textile imports remained static in 2016, at US$8.18 bn, after declining by 8.0% in the previous year. As a result, they remained at their lowest level since 2010 although they were well above the levels seen in earlier years.

Also, Japan maintained its 2.7% share of world textile imports and the country climbed one place to become the world's sixth largest textile importer, ahead of Hong Kong.

Textile imports into Hong Kong plunged by 13.2% in 2016 to their lowest level since 1987 and the country slipped two places to become the world's seventh largest textile importer

Imports of textiles into **Hong Kong** plunged by 13.2% to US$7.41 bn in 2016. The fall represented the eighth in ten years and, as a result, Hong Kong's textile imports in 2016 were at their lowest level since 1987.

Furthermore, the plunge represented the steepest decline among imports into the world's ten largest textile importers and Hong Kong slipped two places to become the world's seventh largest textile importer.

Mexico's textile imports fell by 4.4% in 2016 but they were still at their third highest level on record

Textile imports into **Mexico** fell by 4.4% to US$6.24 bn in 2016. However, the fall came after six consecutive years of growth and, as a result, imports in 2016 were at their third highest level on record, having remained above the levels seen prior to 2014.

Furthermore, Mexico's share of world textile imports was at its highest level since 2007, although it remained well below the share Mexico held in 2000

Furthermore, between 2010 and 2016 Mexican textile imports grew by an average of 3.3% per annum and Mexico's share of world textile imports rose from 1.9% to 2.1% over the six-year period. In fact, its share was at its highest level since 2007.

Having said that, it was well below the 3.6% share Mexico held in 2000.

Textile imports into Turkey fell by an average of 1.1% per annum between 2010 and 2016 and, as a result, they were at their lowest level since 2009

Textile imports into **Turkey**—the world's ninth largest textile importer—fell by 2.0% to US$6.11 bn in 2016 following a 12.4% decline a year earlier.

Furthermore, between 2010 and 2016 Turkish textile imports fell by an average of 1.1% per annum, which represented the second steepest decline among imports into the countries which constituted the world's ten largest textile importers in 2016. As a result, Turkish textile imports in 2016 were at their lowest level since 2009.

Indonesian textile imports rose by an average of 5.7% per annum between 2010 and 2016—

Textile imports into **Indonesia**—the world's tenth largest textile importer—rose by 3.2% to a record high of US$5.89 bn in 2016.

Furthermore, between 2010 and 2016 Indonesian textile imports rose by an average of 5.7% per annum, which represented the third fastest growth rate among imports into the countries which constituted the world's ten largest textile importers in 2016.

—and Indonesia's share of world textile imports reached a record high of 2.0%

As a result, Indonesia's share of world textile imports reached a record high of 2.0% in 2016—up from 1.9% in 2015, 1.6% in 2010 and just 0.4% in 2005.

LEADING CLOTHING EXPORTERS

Developed countries still rank among the world's leading clothing exporters but the number which rank among the top ten has fallen and in 2016 only the EU and the USA remained

Developed economies still rank among the world's leading clothing exporters, despite their high labour costs.

However, the number of developed economies which rank among the top ten has fallen significantly over the last 20 years and in 2016 only the EU and the USA remained (Table 7).

Table 7: The world's leading exporters and importers of clothing, 2000-16

	Value (US$ bn)	% of world trade				Annual average % change			
	2016	2000	2005	2010	2016	2010-16	2013-14	2014-15	2015-16
Exporters									
China[a]	158.26	18.2	26.6	36.7	35.8	3.4	5.2	-6.5	-9.4
EU	117.16	28.6	30.9	28.4	26.5	2.6	7.4	-11.7	4.0
of which extra-EU exports	27.54	6.4	6.7	6.2	6.2	3.9	4.5	-14.0	0.2
Bangladesh[b]	28.67	2.6	2.5	4.2	6.5	11.6	4.6	8.2	7.8
Vietnam[b]	24.48	0.9	1.7	2.9	5.5	15.4	17.6	8.8	11.5
India	17.97	3.0	3.1	3.2	4.1	8.1	14.2	2.9	-1.6
Hong Kong	15.69	n/a	n/a	n/a	n/a	-6.9	-6.4	-10.2	-14.8
of which									
domestic exports[b]	0.07	5.0	2.6	0.1	0.0	-25.7	-15.6	-37.0	-38.4
re-exports	15.62	n/a	n/a	n/a	n/a	-6.7	-6.3	-10.0	-14.7
Turkey	15.05	3.3	4.2	3.6	3.4	2.8	8.3	-9.3	-0.5
Indonesia[b]	7.47	2.4	1.8	1.9	1.7	1.5	-0.3	-1.0	-1.6
Cambodia[b]	6.65	0.5	0.8	0.9	1.5	13.9	10.5	11.2	12.0
USA	5.65	4.4	1.8	1.3	1.3	3.1	4.1	0.4	-7.8
Leading ten exporters[c]	**381.43**	**68.9**	**76.0**	**83.2**	**86.3**	**n/a**	**n/a**	**n/a**	**n/a**
Importers									
EU	185.26	41.1	47.3	45.2	39.6	1.7	9.0	-9.5	2.5
of which extra-EU imports	95.63	19.6	23.4	24.0	20.4	1.3	9.4	-8.1	0.0
USA	91.17	33.0	28.7	22.1	19.5	1.8	2.4	4.0	-5.9
Japan	27.90	9.7	8.1	7.3	6.0	0.6	-7.4	-8.2	-2.4
Hong Kong	13.22	n/a	n/a	n/a	n/a	-3.8	-1.7	-7.9	-11.3
of which retained imports[b]	n/a	0.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Canada[d]	9.57	1.8	2.1	2.2	2.0	2.4	1.4	-1.9	-3.3
South Korea	8.64	0.6	1.0	1.2	1.8	11.7	12.4	0.5	1.4
China[a]	6.45	0.6	0.6	0.7	1.4	17.0	15.6	6.6	-1.9
Australia[d]	6.41	0.9	1.1	1.3	1.4	4.8	4.3	1.2	-2.9
Switzerland	5.95	1.6	1.6	1.4	1.3	2.0	3.8	-8.4	6.1
Russia[d]	5.77	0.1	0.3	2.0	1.2	-4.4	-5.6	-34.3	3.2
Leading ten importers[e]	**347.12**	**90.3**	**90.8**	**83.5**	**74.1**	**n/a**	**n/a**	**n/a**	**n/a**

NB: numbers and percentage share calculations may not sum precisely due to rounding.
[a] Includes significant shipments through processing zones. [b] Includes WTO Secretariat estimates. [c] Includes intra-EU and extra-EU exports; includes domestic exports from Hong Kong but not re-exports. [d] fob values. [e] Includes intra-EU and extra-EU imports; excludes Hong Kong.
Source: World Trade Organization (WTO).

The EU ranked second, having been displaced from the top spot in 2006 by China

The EU used to be the world's largest clothing exporter. But in 2006 it was displaced from the top spot by China. Nevertheless, in 2016 it still ranked second.

The USA ranked as high as fourth in 2000 but by 2010 it ranked only ninth

The USA ranked as high as fourth in 2000. But over the next ten years, US clothing exports fell faster than those from any of the other countries which constituted the world's ten largest clothing exporters in 2010. As a result, the USA ranked only ninth in 2010.

It held on to this position over the five years to 2015 as US exports picked up but in 2016 it slipped a further place to tenth position

Thereafter, it held on to this position over the five years to 2015. In fact, US clothing exports picked up over this five-year period.

In 2016, however, US exports declined and the country slipped a further position to become only the tenth largest exporter.

Clothing exports from China fell by 9.4% in 2016 to their lowest level since 2011 and China's share of world clothing exports fell to its lowest level since 2009

Clothing exports from **China**—the world's largest clothing exporter—fell by 9.4% to US$158.26 bn in 2016 following a 6.5% decline in the previous year. As a result, exports were at their lowest level since 2011.

Furthermore, the fall in 2016 was the second steepest among exports from the world's ten largest clothing exporters, and China's share of world clothing exports fell from 38.6% to 35.8%—its lowest level since 2009.

Between 2010 and 2016 Chinese clothing exports rose but average growth was slower than the rates achieved by Bangladesh, Cambodia, India and Vietnam

Having said that, over the six-year period between 2010 and 2016 Chinese clothing exports rose by an average of 3.4% per annum.

However, this growth rate was noticeably slower than the double digit annual average growth rates achieved over the same period by Bangladesh, Cambodia and Vietnam, as well as the high single digit annual average growth rate achieved by India.

EU clothing exports rose by 4.0% in 2016 but they remained below the levels seen in 2011, 2013 and 2014

Clothing exports from the **EU**—the world's second largest clothing exporter—rose by 4.0% to US$117.16 bn in 2016. However, the rise came after an 11.7% decline in 2015 and, as a result, exports in 2016 remained below the levels seen in 2013 and 2014, as well as the level seen in 2011. Having said that, the fall in 2015 was largely a reflection of the depreciation of the euro against the US dollar (see page 80).

Extra-EU clothing exports were up by just 0.2%

Within the total for 2016, extra-EU clothing exports—or exports to countries outside the EU—were up by just 0.2% to US$27.54 bn.

Between 2010 and 2016 total EU clothing exports rose by an average of 2.6% per annum

Between 2010 and 2016 total EU clothing exports rose by an average of 2.6% per annum. However, the rise represented the second slowest rate of growth among exports from the countries which constituted the world's ten largest clothing exporters in 2016.

Extra-EU exports were more dynamic than intra-EU exports and they grew faster than exports from China, Turkey and the USA

The problem would appear to lie with intra-EU exports—or EU exports to other EU member states. Extra-EU clothing exports—or EU exports to countries outside the EU—were more dynamic. In fact, they rose by an average of 3.9% per annum over the six-year period, which was faster than the growth rates recorded in exports from China, Turkey and the USA.

The EU's share of world clothing exports rose in 2016 but remained below the levels seen prior to 2011, and extra-EU clothing exports alone represented just 6.2% of world clothing exports

Also, when extra-EU clothing exports and intra-EU clothing exports are added together, the EU's share of world clothing exports rose to 26.5% in 2016, which represented its highest level since 2011. However, it remained below the levels seen prior to 2011.

Extra-EU clothing exports alone were worth barely a quarter of total EU clothing exports in 2016, and represented just 6.2% of world clothing exports during the year.

Bangladeshi clothing exports rose by 7.8% in 2016

Clothing exports from **Bangladesh**—the world's third largest clothing exporter—rose by a brisk 7.8% to US$28.67 bn in 2016. Moreover, between 2010 and 2016 exports rose by an average of 11.6% per annum, which represented the third fastest growth rate among exports from the countries which constituted the ten largest clothing exporters in 2016.

The rise represented the 15th in succession and exports in 2016 were worth six times as much as in 2001

In fact, the rise in 2016 represented the 15th in succession and, as a result, Bangladeshi clothing exports in 2016 were worth six times as much as they had been worth in 2001, when they were valued at US$4.77 bn.

Also, Bangladesh's share of world clothing exports reached a record high of 6.5%

Also, Bangladesh's share of world clothing exports reached a record high of 6.5% in 2016—up from 5.9% in 2015, 4.2% in 2010 and just 2.5% in 2001.

Vietnamese clothing exports shot up by 11.5% in 2016—

Clothing exports from **Vietnam**—the world's fourth largest clothing exporter—shot up by 11.5% to US$24.48 bn in 2016. The rise represented the second fastest growth rate among exports from the world's ten largest clothing exporters.

—and by an average of 15.4% per annum between 2010 and 2016

Furthermore, between 2010 and 2016 Vietnamese clothing exports rose by an average of 15.4% per annum, which represented the fastest growth rate among exports from the countries that constituted the ten largest clothing exporters in 2016.

Also, Vietnam's share of world clothing exports rose in 2016 for the 18th consecutive year, to 5.5%

As a result, Vietnam's share of world clothing exports increased to 5.5% in 2016—from 4.8% in 2015 and 2.9% in 2010. In fact, Vietnam's share in 2016 was up for the 18th consecutive year, from just 0.7% in 1998.

Indian clothing exports fell by 1.6% in 2016 but they were still at their second highest level on record

Indian clothing exports fell by 1.6% to US$17.97 bn in 2016. However, the fall followed increases of 2.9% in 2015, 14.2% in 2014 and 11.6% in 2013. As a result, despite the fall in 2016 alone, exports were still at their second highest level on record.

Furthermore, between 2010 and 2016 exports grew by an average of 8.1% per annum

Furthermore, between 2010 and 2016 exports grew by an average of 8.1% per annum, which represented the fourth fastest growth rate among exports from the countries that constituted the world's ten largest clothing exporters in 2016. As a result, India's share of world clothing exports increased from 3.2% in 2010 to 4.1% in 2016.

Hong Kong's clothing exports fell by a sharp 14.8% in 2016 to their lowest level since 1990

Clothing exports from **Hong Kong** fell by a sharp 14.8% to US$15.69 bn in 2016. The fall represented the steepest decline among exports from the world's ten largest clothing exporters. Furthermore, it came after declines in the previous four years. As a result, exports in 2016 were at their lowest level since 1990.

The fall was due to a 38.4% plunge in domestic exports and a 14.7% decline in re-exports

The fall in Hong Kong clothing exports in 2016 was due to declines in domestic exports and re-exports. Domestic exports plunged by 38.4% to just US$70 mn, having plummeted by an average of 25.7% per annum between 2010 and 2016. Perhaps more worrying for the Hong Kong industry was a decline in re-exports, which suggests that there was a drop in transshipment hub activity (see also page 92). Re-exports were down by 14.7% in 2016, having declined by an average of 6.7% per annum between 2010 and 2016.

Turkish clothing exports edged down by 0.5% in 2016 following a 9.3% decline in 2015 but they remained above the levels seen prior to 2013

Turkish clothing exports edged down by 0.5% to US$15.05 bn in 2016 following a 9.3% decline in the previous year.

However, the 9.3% decline followed five consecutive years of growth. As a result, exports in 2016 were at their fourth highest level on record and remained above the levels seen prior to 2013.

The falls in exports in 2015 and 2016 reflected the weakness of the euro against the US dollar

The falls in exports in 2015 and 2016 were due primarily to declines, at least in US dollar terms, in exports to the EU—by far Turkey's largest export market—reflecting the weakness of the euro against the US dollar (see page 80).

Indonesia's clothing exports fell by 1.6% in 2016 to their lowest level since 2010

Clothing exports from **Indonesia**, the world's eighth largest clothing exporter, fell by 1.6% to US$7.47 bn in 2016. The fall represented the fourth in five years and, as a result, exports in 2016 were at their lowest level since 2010.

Between 2010 and 2016 they rose by an average of only 1.5% per annum

Furthermore, between 2010 and 2016 Indonesian clothing exports rose by an average of only 1.5% per annum—which represented the slowest growth rate among exports from the countries that constituted the world's ten largest clothing exporters in 2016.

Cambodian clothing exports shot up by 12.0% in 2016 and the country climbed one place to become the world's ninth largest exporter

Clothing exports from **Cambodia** shot up by 12.0% to US$6.65 bn in 2016. The rise represented the fastest increase among exports from the world's ten largest clothing exporters and, as a result, Cambodia climbed one place to become the world's ninth largest clothing exporter—ahead of the USA.

Furthermore, between 2010 and 2016 Cambodian clothing exports rose by an average of 13.9% per annum

Furthermore, between 2010 and 2016 Cambodian clothing exports rose by an average of 13.9% per annum, and this represented the second fastest increase among exports from the countries which constituted the world's ten largest clothing exporters in 2016.

In fact, exports rose in 2016 for the 15th time in 16 years and reached a record high for the seventh consecutive year

In fact, the rise in clothing exports from Cambodia in 2016 represented the 15th increase in 16 years—the only exception being a 19.0% decline in 2009. As a result of these increases, Cambodian clothing exports reached a record high in 2016 for the seventh consecutive year. Also, Cambodia's share of world clothing exports rose from just 0.5% in 2000 to a record high of 1.5% in 2016.

US clothing exports fell by 7.8% in 2016 and the country slipped one place to become the world's tenth largest clothing exporter, although exports were above the levels seen during 2003-12

Clothing exports from the **USA** fell by 7.8% to US$5.65 bn in 2016. The fall was the third steepest among exports from the world's ten largest clothing exporters and, as a result, the USA slipped one place to become the world's tenth largest clothing exporter—behind Cambodia.

Having said that, the fall came after six consecutive years of growth and, as a result, US clothing exports in 2016 were above the levels seen during 2003-12.

LEADING CLOTHING IMPORTERS

The EU took 39.6% of world clothing imports in 2016

The **EU** easily dominates world clothing imports (Table 7). In 2016 its 28 member states collectively took US$185.26 bn worth, or 39.6%, of the world total.

Even without intra-EU trade, it took 20.4%, which explains why it is a prime target for foreign suppliers

Furthermore, even after the deduction of intra-EU trade—ie trade between EU member states—the EU still accounted for 20.4%, or US$95.63 bn worth, of world clothing imports in 2016. It is little wonder, therefore, that the EU market is a prime target for foreign suppliers of clothing.

Furthermore, these shares were up compared with the previous year as EU clothing imports rose by 2.5%

Moreover, these shares were up compared with the previous year as EU clothing imports rose by 2.5% in 2016, which compared favourably with a 1.3% decline in world clothing imports.

In fact, the rise in EU clothing imports represented the third fastest increase among imports into the world's ten largest clothing importers.

Having said that, imports remained below the peak reached in 2014 as well as the level seen in 2011

Having said that, the rise in imports in 2016 came after a 9.5% decline in the previous year and, as a result, EU clothing imports in 2016 remained below the peak reached in 2014 as well as the level seen in 2011.

In addition, EU clothing imports rose by an average of just 1.7% per annum between 2010 and 2016

In addition, between 2010 and 2016 EU clothing imports rose by an average of just 1.7% per annum. This was slower than the rates of growth of imports into some of the smaller fast growing import markets—such as Australia, Canada, China, South Korea and Switzerland—as well as imports into the USA.

The USA's share of world clothing imports was down in 2016 as US clothing imports fell by 5.9%, which represented the second steepest decline among the world's ten largest clothing importers

The **USA**, the world's second largest clothing importer, took 19.5%, or US$91.17 bn worth, of the world's clothing imports in 2016. However, this share was down from 20.4% in the previous year as US clothing imports fell by 5.9%.

In fact, the fall in US imports in 2016 was the second steepest among imports into the world's ten largest clothing importing countries.

But imports were still at their third highest level on record

Nevertheless, imports were still at their third highest level on record, and above the levels seen prior to 2014.

Japan's clothing imports declined in 2016 for the fourth consecutive year to their lowest level since 2010, and the country's share of world clothing imports was at its lowest level for several years

In **Japan** clothing imports fell by 2.4% to US$27.90 bn in 2016 following declines of 8.2% in 2015, 7.4% in 2014 and 1.0% in 2013.

As a result, Japanese clothing imports were at their lowest level since 2010. The country's share of world clothing imports, meanwhile, remained stable at 6.0% in 2016. However, this represented its lowest share for several years and was down noticeably from 7.3% in 2010, 8.1% in 2005 and 9.7% in 2000.

Hong Kong's clothing imports fell by 11.3% in 2016 to their lowest level since 1995

Clothing imports into **Hong Kong** fell by 11.3% to US$13.22 bn in 2016, which was somewhat faster than the average fall of 3.8% per annum witnessed between 2010 and 2016. That said, the fall between 2010 and 2016 was one of only two declines among imports into the countries which constituted the world's ten largest clothing importers in 2016. As a result of these trends, Hong Kong clothing imports in 2016 were at their lowest level since 1995. Nevertheless, Hong Kong remained the world's fourth largest clothing importer in 2016.

Hong Kong's role as a transshipment hub has diminished since the elimination of quotas at the end of 2004 and the abolition of safeguard restrictions at the end of 2008

The decline in Hong Kong clothing imports between 2010 and 2016 occurred because most, if not all, of the growth in previous years had been in the form of imports intended for re-export.

But re-exports have declined as the role of Hong Kong as a transshipment hub has diminished, following:

- the global elimination of quotas under the Agreement on Textiles and Clothing (ATC—see **Glossary**) at the end of 2004; and
- the abolition of safeguard quotas against imports from China in the EU at the end of 2007 and in the USA at the end of 2008 (see page 92).

Canadian clothing imports fell by 3.3% in 2016 and rose by a fairly moderate average of 2.4% per annum between 2010 and 2016

Clothing imports into **Canada**—the world's fifth largest clothing importer—fell by 3.3% to US$9.57 bn in 2016 following a 1.9% decline in 2015.

Furthermore, the decline in 2015 came after growth had slowed from 6.2% in 2013 to 1.4% in 2014. As a result, clothing imports into Canada grew by a fairly moderate 2.4% per annum between 2010 and 2016.

Nevertheless, they were still at their fourth highest level on record in 2016

Nevertheless, Canadian clothing imports were at their fourth highest level on record in 2016 and remained above the levels seen prior to 2013.

Canada has become progressively less self-sufficient in clothing

Canada has become progressively less self-sufficient in clothing as its manufacturing industry has declined, and it has therefore had to import increasing amounts of clothing.

South Korean clothing imports rose by 1.4% in 2016 and by an average of 11.7% per annum between 2010 and 2016

South Korean clothing imports rose by 1.4% to US$8.64 bn in 2016, having also increased in each of the previous six years. As a result, they reached a record high in 2016 for the seventh consecutive year.

In fact, between 2010 and 2016 imports rose by an average of 11.7% per annum, which represented the second fastest growth rate among imports into the countries that constituted the world's ten largest clothing importers in 2016.

Imports rose for much of the 2000s, which is likely to have been partly due to the contraction of South Korea's clothing industry

The seven consecutive years of growth to 2016 had come after two years of decline but the latter followed nine years of consecutive growth which saw imports increase more than eight-fold, from just US$504 mn in 1998 to US$4.32 bn in 2007. The growth in imports since 1998 is likely to have been partly due to the contraction of the clothing industry in the country and hence its declining self-sufficiency.

Clothing imports into China fell by 1.9% in 2016 alone but between 2010 and 2016 they rose by an average of 17.0% per annum

Clothing imports into **China**, a country noted more for its exports than for its imports, fell by 1.9% to US$6.45 bn in 2016.

However, the fall followed six consecutive years of strong growth. Indeed, between 2010 and 2016, Chinese clothing imports rose by an average of 17.0% per annum, which represented by far the fastest growth rate among imports into the countries that constituted the world's ten largest clothing importers in 2016.

Also, despite the fall in 2016, China climbed one place to become the world's seventh largest clothing importer

As a result, Chinese clothing imports were at their second highest level on record in 2016. Also, despite the fall in imports in 2016, China climbed one place to become the world's seventh largest clothing importer.

Chinese clothing imports have grown as China's consumer market has developed and the market has opened up to foreign brands

At one time, clothing imports into China were heavily restricted and remained extremely small.

But in recent years the Chinese consumer market has developed at a rapid pace and the Chinese market has become more open to the entry of foreign brands. As a result, imports have grown.

Australian clothing imports fell by 2.9% in 2016 but the fall followed increases in 13 of the previous 14 years and, as a result, imports in 2016 were still at their third highest level on record

Clothing imports into **Australia** fell by 2.9% to US$6.41 bn in 2016 and the country slipped one place to become the world's eighth largest clothing importer, behind China.

However, the fall followed increases in 13 of the previous 14 years and, as a result, imports in 2016 were still at their third highest level on record.

Furthermore, imports more or less quadrupled between 2001 and 2016

Furthermore, despite the decline in 2016 alone, clothing imports into Australia more or less quadrupled over the 15-year period between 2001 and 2016, from US$1.64 bn in 2001 to US$6.41 bn in 2016.

Swiss clothing imports rose by 6.1% in 2016 to their third highest level on record

Clothing imports into **Switzerland**, the world's ninth largest clothing importer, rose by 6.1% in 2016 to US$5.95 bn—their third highest level on record. However, the rise followed an 8.4% decline in the previous year and, as a result, imports remained below the level reached in 2014 as well as the peak reached in 2011.

Russian clothing imports rose by 3.2% in 2016 but this followed a 34.3% plunge in 2015 and, as a result, imports in 2016 were at their second lowest level since 2009

Clothing imports into **Russia**—the world's tenth largest clothing importer—rose by 3.2% to US$5.77 bn in 2016.

However, the rise followed a plunge of 34.3% in 2015—reflecting the Russian economic crisis (see page 82)—and declines of 5.6% in 2014 and 2.5% in 2013. Furthermore, between 2010 and 2016 imports fell by an average of 4.4% per annum, which represented the steepest decline among imports into the countries which constituted the world's ten largest clothing importers in 2016. As a result, despite the rise in 2016 alone, Russian clothing imports were at their second lowest level since 2009.

STATISTICAL APPENDIX

Table 8: Labour costs in the textile industry, by country, 1980-2014
(US$/hour)

										Average annual % change		
	1980	1990	2000	2002	2004	2007	2008	2011	2014	2000-2014	2008-2014	2011-2014
Switzerland	9.65	19.23	22.15	24.12	35.33	33.67	40.75	47.98	51.36	6.2	3.9	2.3
Australia	n/a	10.34	10.85	10.38	16.47	17.63	24.13	38.41	38.67	9.5	8.2	0.2
Austria	6.42	15.70	15.80	19.01	24.55	25.24	31.13	31.70	35.42	5.9	2.2	3.8
Belgium	11.82	17.85	19.55	23.83	30.42	31.65	36.39	32.85	34.77	4.2	-0.8	1.9
France	7.91	12.74	13.85	15.93	21.03	21.61	30.39	31.28	31.61	6.1	0.7	0.4
Germany	10.16	16.46	18.10	21.18	27.69	28.17	25.42	28.33	30.03	3.7	2.8	2.0
Ireland	5.13	9.15	10.31	12.59	16.60	18.01	23.85	24.30	25.33	6.6	1.0	1.4
Japan	4.35	13.96	26.10	22.76	18.95	22.69	30.81	31.36	25.10	-0.3	-3.4	-7.2
UK	5.75	10.20	12.72	13.93	20.17	23.42	17.70	20.31	24.01	4.6	5.2	5.7
Italy	9.12	16.13	14.71	15.60	19.76	20.05	22.31	21.87	22.67	3.1	0.3	1.2
Greece	3.49	5.85	7.24	8.47	11.67	13.09	20.15	n/a	n/a	n/a	n/a	n/a
Spain	4.90	7.69	8.32	10.67	14.06	15.81	18.39	18.68	19.37	6.2	0.9	1.2
USA	6.37	10.02	14.24	15.13	15.78	16.92	17.41	17.57	17.71	1.6	0.3	0.3
Israel	n/a	6.59	7.43	8.17	9.35	9.89	11.31	11.55	12.86	4.0	2.2	3.6
New Zealand	n/a	n/a	n/a	n/a	n/a	n/a	11.21	n/a	n/a	n/a	n/a	n/a
Taiwan	1.26	4.56	7.23	7.15	7.58	7.64	7.89	9.84	10.61	2.8	5.1	2.5
South Korea	0.78	3.22	5.32	5.73	7.10	7.77	6.31	8.22	10.22	4.8	8.4	7.5
Portugal	1.68	2.75	4.31	5.36	6.87	7.15	9.45	10.16	9.64	5.9	0.3	-1.7
Slovenia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.97	9.39	n/a	n/a	1.5
Estonia	n/a	n/a	1.53	1.98	3.00	4.14	4.78	6.71	8.09	12.6	9.2	6.4
Czech Republic	n/a	n/a	1.97	2.36	3.94	4.90	7.65	7.92	7.89	10.4	0.5	-0.1
Latvia	n/a	n/a	n/a	n/a	n/a	4.05	4.76	6.32	7.25	n/a	7.3	4.7
Hong Kong	1.91	3.05	6.10	6.15	6.21	6.21	n/a	n/a	n/a	n/a	n/a	n/a
Uruguay	0.89	1.86	3.63	n/a	n/a	n/a	6.20	n/a	n/a	n/a	n/a	n/a
Poland	n/a	n/a	2.35	2.90	3.80	4.62	4.81	4.79	5.70	6.5	2.9	6.0
Turkey	0.95	1.82	2.69	2.13	2.88	2.96	4.27	4.50	5.48	5.2	4.2	6.8
Lithuania	n/a	n/a	n/a	n/a	n/a	3.70	4.28	5.15	n/a	n/a	n/a	n/a
Slovakia	n/a	n/a	1.61	1.90	3.43	3.53	4.58	n/a	n/a	n/a	n/a	n/a

(continued)

Table 8 (continued): Labour costs in the textile industry, by country, 1980-2014 (US$/hour)

										Average annual % change		
	1980	1990	2000	2002	2004	2007	2008	2011	2014	2000-2014	2008-2014	2011-2014
Argentina	3.33	1.42	5.90	1.70	2.86	3.10	4.48	5.35	3.82	-3.1	-2.6	-10.6
Colombia	n/a	1.71	1.92	1.82	1.97	2.32	2.45	2.97	3.27	3.9	4.9	3.3
Brazil	n/a	1.97	3.20	2.50	2.83	3.27	3.41	3.88	3.22	0.0	-1.0	-6.0
Tunisia	1.13	2.82	1.65	1.77	2.05	2.01	2.12	2.62	3.18	4.8	7.0	6.7
Morocco	0.85	1.28	1.87	1.89	2.56	2.62	2.89	2.89	3.12	3.7	1.3	2.6
Mexico	3.10	2.21	2.20	2.30	2.19	2.45	2.17	2.72	3.06	2.4	5.9	4.0
South Africa	n/a	1.57	1.82	2.17	3.80	2.78	2.58	3.38	2.94	3.5	2.2	-4.5
Peru	n/a	1.23	1.74	1.63	1.93	2.02	2.02	2.69	2.78	3.4	5.5	1.1
China, coastal[a]	n/a	0.37	0.69	0.69	0.76	0.85	1.88	2.10	2.65	10.1	5.9	8.1
China, inland[a]	n/a	0.37	0.69	0.41	0.48	0.55	1.44	2.10	2.65	10.1	10.7	8.1
Bulgaria	n/a	n/a	n/a	1.01	1.50	1.55	1.85	2.03	2.33	n/a	3.9	4.7
Thailand	0.33	0.92	1.18	1.24	1.29	1.75	1.80	2.14	2.26	4.8	3.9	1.8
Malaysia	n/a	n/a	1.13	1.16	1.18	1.34	1.57	1.96	2.12	4.6	5.1	2.7
Mauritius	n/a	n/a	1.47	1.33	1.57	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Albania	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.57	n/a	n/a	n/a	n/a
Egypt	0.39	0.45	1.02	1.01	0.82	1.02	1.12	n/a	n/a	n/a	n/a	n/a
India	0.60	0.72	0.58	0.57	0.67	0.69	0.85	1.06	1.12	4.8	4.7	1.9
Indonesia	n/a	0.25	0.32	0.50	0.55	0.65	0.83	1.08	0.95	8.1	2.3	-4.2
Vietnam	n/a	n/a	n/a	n/a	0.28	0.46	0.57	0.60	0.74	n/a	4.4	7.2
Kenya	n/a	n/a	n/a	0.62	0.67	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pakistan	0.34	0.39	0.37	0.34	0.37	0.42	0.56	0.58	0.62	3.8	1.7	2.2
Bangladesh	n/a	n/a	n/a	0.25	0.28	0.28	0.31	n/a	0.62	n/a	12.2	n/a
Sri Lanka	n/a	0.24	0.46	0.40	0.46	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Madagascar	n/a	n/a	0.37	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

NB: figures include social charges; data for 1980 spring; 1990 summer; 2000 summer/autumn; 2004, 2007, 2008, 2011 and 2014 winter.

[a] Figures for 1990-2000, 2011 and 2014 relate to the whole of China.

Source: Textiles Intelligence, based on Werner International data.

Table 9: Trends in average exchange rates against the US dollar: selected countries and the EU, 2010-17 (units of currency per US$)

										Appreciation of unit currency	
	2010	2011	2012	2013	2014	2015	2016	Jan-Sep 2016	Jan-Sep 2017	2016/10	2017/16[a]
Bangladesh	69.63	74.07	81.81	78.10	77.61	77.95	78.47	78.43	80.06	-11.3	-2.0
China	6.77	6.46	6.31	6.15	6.16	6.28	6.64	6.58	6.81	1.9	-3.3
EU	0.75	0.72	0.78	0.75	0.75	0.90	0.90	0.90	0.90	-16.5	-0.4
India	45.67	46.63	53.36	58.55	61.02	64.12	67.18	67.10	65.24	-32.0	2.9
Indonesia	9,082	8,763	9,364	10,446	11,863	13,396	13,298	13,317	13,336	-31.7	-0.1
Japan	87.76	79.72	79.82	97.57	105.88	121.03	108.77	108.53	111.89	-19.3	-3.0
Malaysia	3.22	3.06	3.09	3.15	3.27	3.91	4.15	4.09	4.35	-22.3	-6.0
Mexico	12.63	12.44	13.15	12.77	13.31	15.87	18.68	18.31	18.90	-32.4	-3.2
Pakistan	85.19	86.38	93.40	101.60	101.04	102.77	104.73	104.72	105.00	-18.7	-0.3
Russia	30.38	29.42	31.05	31.86	38.62	61.28	67.05	68.39	58.30	-54.7	17.3
South Korea	1,156	1,108	1,126	1,095	1,054	1,132	1,161	1,162	1,138	-0.4	2.0
Taiwan	31.51	29.40	29.57	29.68	30.31	31.77	32.25	32.40	30.53	-2.3	6.1
Thailand	31.72	30.49	31.07	30.73	32.48	34.25	35.29	35.25	34.26	-10.1	2.9
Turkey	1.51	1.68	1.80	1.91	2.19	2.72	3.02	2.94	3.60	-50.2	-18.4
Vietnam	19,122	20,639	20,854	21,025	21,193	21,935	22,368	22,324	22,734	-14.5	-1.8

[a] Jan-Sep 2017 compared with Jan-Sep 2016.

Sources: Pacific Exchange Rate Services; Central Bank of Bangladesh.

Table 10: Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
EU28[a]									
1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2000	56.82	57.67	-0.85	56.71	83.46	-26.75	113.53	141.13	-27.60
2005	70.69	72.25	-1.57	86.27	132.16	-45.89	156.95	204.41	-47.46
2010	68.00	74.42	-6.42	100.70	167.50	-66.80	168.70	241.92	-73.22
2011	77.14	85.21	-8.07	117.41	191.80	-74.39	194.54	277.01	-82.46
2012	69.73	75.03	-5.30	109.85	174.53	-64.67	179.58	249.56	-69.98
2013	72.28	78.73	-6.45	118.65	183.20	-64.55	190.92	261.93	-71.00
2014	75.13	83.55	-8.42	127.52	199.66	-72.14	202.65	283.21	-80.56
2015	64.96	73.81	-8.85	112.65	180.79	-68.14	177.60	254.60	-77.00
2016	65.47	74.64	-9.17	117.16	185.26	-68.09	182.63	259.89	-77.26
France									
1990	6.06	7.60	-1.54	4.67	8.38	-3.71	10.73	15.98	-5.25
2000	6.66	6.75	-0.09	5.41	11.41	-6.00	12.08	18.16	-6.09
2005	7.00	7.65	-0.65	8.50	18.00	-9.50	15.50	25.64	-10.15
2010	5.71	7.55	-1.84	10.07	21.99	-11.93	15.77	29.54	-13.77
2011	6.11	8.28	-2.17	11.05	24.70	-13.65	17.16	32.98	-15.82
2012	5.35	7.35	-1.99	10.34	22.21	-11.87	15.69	29.56	-13.87
2013	5.44	7.49	-2.05	11.12	23.59	-12.47	16.56	31.08	-14.52
2014	5.57	7.71	-2.14	11.73	25.57	-13.84	17.30	33.28	-15.98
2015	4.72	6.67	-1.95	10.73	23.10	-12.37	15.45	29.77	-14.32
2016	4.68	6.63	-1.95	10.89	23.09	-12.20	15.57	29.71	-14.15
Germany									
1990	14.03	11.87	2.17	7.88	20.41	-12.53	21.92	32.28	-10.36
2000	10.85	10.01	0.84	7.32	20.18	-12.86	18.17	30.19	-12.02
2005	13.58	11.86	1.71	12.39	25.15	-12.76	25.97	37.02	-11.05
2010	14.15	13.03	1.13	17.30	32.29	-14.99	31.46	45.32	-13.86
2011	16.30	15.42	0.88	19.46	38.81	-19.35	35.76	54.23	-18.47
2012	14.53	13.24	1.29	17.47	33.81	-16.34	32.00	47.05	-15.05
2013	14.98	13.89	1.09	18.58	35.80	-17.23	33.55	49.69	-16.14
2014	15.47	14.50	0.97	19.79	38.11	-18.32	35.26	52.61	-17.35
2015	13.25	12.55	0.70	16.95	34.68	-17.73	30.21	47.24	-17.03
2016	13.38	12.49	0.89	17.28	35.24	-17.96	30.65	47.73	-17.07
Italy									
1990	9.49	6.13	3.36	11.84	2.58	9.26	21.33	8.71	12.62
2000	12.04	6.21	5.83	13.38	6.14	7.25	25.42	12.35	13.07
2005	14.83	7.43	7.41	18.66	12.20	6.46	33.49	19.62	13.86
2010	12.97	8.50	4.47	20.12	16.40	3.72	33.09	24.90	8.19
2011	14.73	9.96	4.77	23.27	18.63	4.65	38.00	28.58	9.42
2012	13.17	8.01	5.15	22.17	15.83	6.33	35.33	23.84	11.49
2013	13.47	8.52	4.95	23.74	15.82	7.92	37.21	24.34	12.87
2014	13.94	9.02	4.92	25.20	17.19	8.00	39.14	26.21	12.92
2015	11.75	7.71	4.03	21.25	15.40	5.85	32.99	23.11	9.88
2016	11.71	7.84	3.87	21.72	15.50	6.22	33.42	23.33	10.09
UK									
1990	4.38	7.02	-2.64	3.04	6.96	-3.92	7.42	13.98	-6.56
2000	4.64	6.89	-2.25	4.14	12.99	-8.86	8.78	19.88	-11.10
2005	4.81	7.23	-2.42	4.91	20.23	-15.32	9.72	27.46	-17.74
2010	3.98	6.67	-2.69	5.49	20.82	-15.33	9.47	27.49	-18.02
2011	4.44	7.40	-2.96	6.56	23.02	-16.45	11.00	30.41	-19.41
2012	4.28	7.18	-2.90	6.85	22.46	-15.61	11.13	29.64	-18.51
2013	4.35	7.38	-3.04	7.52	23.01	-15.49	11.86	30.39	-18.53
2014	4.42	7.41	-3.00	8.45	24.56	-16.11	12.87	31.97	-19.11
2015	3.93	6.87	-2.94	8.19	23.30	-15.11	12.12	30.17	-18.05
2016	3.65	6.46	-2.81	8.07	22.53	-14.46	11.72	28.99	-17.27

(continued)

Table 10 (continued): Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Switzerland									
1990	2.56	1.85	0.71	0.69	3.44	-2.75	3.24	5.29	-2.04
2000	1.28	1.30	-0.02	0.61	3.18	-2.57	1.89	4.48	-2.59
2005	1.31	1.63	-0.32	1.53	4.45	-2.93	2.84	6.08	-3.24
2010	1.26	1.93	-0.67	1.37	5.29	-3.92	2.63	7.22	-4.59
2011	1.38	2.24	-0.85	1.54	6.14	-4.60	2.93	8.37	-5.45
2012	1.17	2.05	-0.88	1.41	5.72	-4.31	2.58	7.77	-5.20
2013	1.16	2.12	-0.95	1.39	5.90	-4.52	2.55	8.02	-5.47
2014	1.25	2.25	-1.01	1.39	6.13	-4.75	2.63	8.38	-5.75
2015	1.06	1.92	-0.85	1.34	5.61	-4.27	2.41	7.53	-5.12
2016	1.04	1.91	-0.87	1.54	5.95	-4.42	2.58	7.87	-5.29
Turkey									
1990	1.44	0.57	0.87	3.33	0.02	3.31	4.77	0.58	4.19
2000	3.67	2.12	1.55	6.53	0.26	6.27	10.21	2.39	7.82
2005	7.08	4.44	2.63	11.83	0.79	11.05	18.91	5.23	13.68
2010	8.96	6.54	2.42	12.76	2.84	9.93	21.72	9.37	12.35
2011	10.77	7.56	3.22	13.95	3.27	10.68	24.72	10.83	13.89
2012	11.05	6.44	4.61	14.29	2.68	11.61	25.34	9.12	16.23
2013	12.15	6.79	5.36	15.39	3.14	12.25	27.54	9.93	17.61
2014	12.52	7.12	5.40	16.67	3.23	13.44	29.18	10.35	18.84
2015	10.95	6.23	4.72	15.12	3.02	12.11	26.07	9.25	16.83
2016	10.91	6.11	4.80	15.05	2.82	12.22	25.96	8.93	17.03
Tunisia[b]									
1990	0.11	0.79	-0.68	1.13	0.19	0.94	1.24	0.98	0.26
2000	0.15	1.21	-1.05	2.23	0.44	1.79	2.38	1.64	0.74
2005	0.33	1.61	-1.29	3.12	0.57	2.56	3.45	2.18	1.27
2010	0.45	1.84	-1.40	3.09	0.54	2.55	3.53	2.38	1.15
2011	0.47	2.03	-1.56	3.32	0.55	2.77	3.79	2.58	1.21
2012	0.42	1.70	-1.28	2.72	0.45	2.27	3.15	2.15	0.99
2013	0.41	1.71	-1.30	2.80	0.47	2.33	3.22	2.18	1.04
2014	0.42	1.74	-1.32	2.77	0.49	2.28	3.19	2.23	0.96
2015	0.37	1.42	-1.05	2.18	0.42	1.76	2.55	1.84	0.71
2016	0.35	1.43	-1.07	2.16	0.43	1.73	2.52	1.86	0.66
Morocco[c]									
1990	0.20	0.36	-0.16	0.72	0.01	0.71	0.93	0.37	0.56
2000	0.12	1.36	-1.24	2.40	0.23	2.17	2.52	1.60	0.93
2005	0.19	1.79	-1.60	2.85	0.28	2.56	3.04	2.07	0.97
2010	0.34	2.03	-1.69	3.01	0.30	2.71	3.34	2.32	1.02
2011	0.41	2.44	-2.03	3.27	0.37	2.90	3.69	2.81	0.87
2012	0.36	2.41	-2.06	3.22	0.38	2.84	3.58	2.80	0.78
2013	0.36	2.48	-2.12	3.15	0.34	2.81	3.52	2.82	0.70
2014	0.39	2.65	-2.26	3.31	0.40	2.91	3.70	3.05	0.65
2015	0.41	2.40	-2.00	2.80	0.35	2.44	3.20	2.76	0.44
2016	0.47	2.63	-2.16	3.03	0.42	2.61	3.50	3.05	0.44
Russia[d]									
1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2000	0.48	0.71	-0.23	0.44	0.20	0.24	0.92	0.91	0.01
2005	0.49	1.23	-0.74	0.25	0.93	-0.68	0.74	2.17	-1.43
2010	0.59	3.55	-2.96	0.13	7.54	-7.41	0.73	11.09	-10.36
2011	0.67	4.44	-3.76	0.23	9.24	-9.01	0.91	13.68	-12.77
2012	0.64	4.66	-4.03	0.34	9.25	-8.90	0.98	13.91	-12.93
2013	0.50	4.36	-3.86	0.32	9.01	-8.70	0.82	13.38	-12.56
2014	0.53	4.10	-3.57	0.42	8.51	-8.09	0.95	12.61	-11.66
2015	0.44	2.75	-2.31	0.31	5.59	-5.27	0.75	8.34	-7.59
2016	1.12	2.74	-1.62	0.20	5.77	-5.57	1.32	8.51	-7.19

(continued)

Table 10 (continued): Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
USA									
1990	5.04	6.73	-1.69	2.56	26.98	-24.41	7.60	33.71	-26.10
2000	10.95	15.99	-5.03	8.63	67.11	-58.49	19.58	83.10	-63.52
2005	12.40	22.54	-10.14	5.01	80.07	-75.06	17.40	102.61	-85.20
2010	12.17	23.38	-11.21	4.69	81.94	-77.25	16.86	105.32	-88.45
2011	13.85	25.36	-11.51	5.24	88.58	-83.34	19.09	113.94	-94.85
2012	13.48	25.95	-12.47	5.61	87.97	-82.36	19.09	113.92	-94.83
2013	13.93	27.02	-13.09	5.86	90.97	-85.11	19.79	117.99	-98.19
2014	14.36	28.27	-13.91	6.10	93.19	-87.09	20.46	121.46	-101.00
2015	13.93	29.54	-15.61	6.12	96.92	-90.79	20.06	126.46	-106.40
2016	12.90	28.78	-15.88	5.65	91.17	-85.53	18.55	119.95	-101.40
Canada[d]									
1990	0.69	2.33	-1.64	0.33	2.39	-2.06	1.01	4.71	-3.70
2000	2.20	4.13	-1.92	2.08	3.69	-1.61	4.28	7.82	-3.54
2005	2.47	4.30	-1.84	1.86	5.98	-4.12	4.33	10.28	-5.95
2010	1.91	4.15	-2.24	1.17	8.31	-7.14	3.08	12.46	-9.38
2011	2.02	4.50	-2.48	1.29	9.53	-8.24	3.31	14.03	-10.71
2012	2.02	4.58	-2.57	1.28	9.37	-8.09	3.30	13.96	-10.66
2013	1.90	4.56	-2.66	1.27	9.95	-8.68	3.17	14.51	-11.34
2014	1.83	4.58	-2.75	1.37	10.09	-8.71	3.20	14.67	-11.46
2015	1.78	4.39	-2.61	1.41	9.90	-8.48	3.19	14.28	-11.09
2016	1.79	4.32	-2.53	1.32	9.57	-8.25	3.10	13.89	-10.78
Mexico[cd]									
1990	0.71	0.99	-0.28	0.59	0.57	0.01	1.30	1.57	-0.27
2000	2.57	5.82	-3.25	8.63	3.60	5.03	11.20	9.42	1.78
2005	2.14	6.04	-3.90	7.31	2.52	4.78	9.44	8.57	0.88
2010	1.93	5.15	-3.22	4.36	2.29	2.07	6.29	7.44	-1.15
2011	2.14	5.86	-3.72	4.64	2.74	1.89	6.78	8.60	-1.83
2012	2.24	6.00	-3.77	4.45	2.96	1.48	6.68	8.97	-2.28
2013	2.45	6.18	-3.73	4.53	3.23	1.30	6.98	9.41	-2.43
2014	2.55	6.41	-3.86	4.62	3.59	1.03	7.17	9.99	-2.83
2015	2.57	6.53	-3.96	4.48	3.79	0.69	7.05	10.31	-3.27
2016	2.48	6.24	-3.76	4.27	3.72	0.55	6.75	9.96	-3.21
Brazil[e]									
1990	0.77	0.25	0.52	0.25	0.06	0.19	1.02	0.31	0.70
2000	0.90	1.04	-0.15	0.28	0.17	0.11	1.18	1.22	-0.04
2005	1.33	1.16	0.17	0.36	0.31	0.06	1.70	1.47	0.23
2010	1.09	3.77	-2.68	0.16	1.36	-1.20	1.25	5.13	-3.88
2011	1.11	4.30	-3.20	0.19	2.07	-1.87	1.30	6.37	-5.07
2012	1.00	4.30	-3.30	0.17	2.56	-2.39	1.16	6.86	-5.69
2013	0.95	4.22	-3.27	0.16	2.78	-2.61	1.11	7.00	-5.88
2014	0.88	4.38	-3.50	0.16	2.94	-2.78	1.04	7.32	-6.28
2015	0.88	3.34	-2.46	0.14	2.71	-2.57	1.02	6.04	-5.03
2016	0.79	2.80	-2.01	0.13	1.51	-1.38	0.93	4.31	-3.38
Australia[d]									
1990	0.15	1.44	-1.29	0.10	0.71	-0.61	0.25	2.16	-1.90
2000	0.35	1.63	-1.29	0.20	1.86	-1.66	0.54	3.49	-2.95
2005	0.33	1.77	-1.44	0.21	3.12	-2.91	0.54	4.89	-4.35
2010	0.24	2.18	-1.94	0.22	4.83	-4.62	0.46	7.01	-6.56
2011	0.27	2.55	-2.28	0.26	5.84	-5.58	0.53	8.39	-7.86
2012	0.26	2.59	-2.33	0.26	6.08	-5.82	0.52	8.67	-8.15
2013	0.23	2.62	-2.39	0.23	6.26	-6.03	0.46	8.87	-8.42
2014	0.21	2.72	-2.50	0.22	6.52	-6.30	0.44	9.24	-8.81
2015	0.21	2.70	-2.49	0.23	6.60	-6.38	0.44	9.31	-8.87
2016	0.20	2.67	-2.46	0.24	6.41	-6.17	0.45	9.08	-8.63

(continued)

Table 10 (continued): Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Japan									
1990	5.87	4.13	1.74	0.57	8.77	-8.20	6.44	12.90	-6.46
2000	6.99	4.93	2.06	0.53	19.71	-19.17	7.53	24.64	-17.11
2005	6.88	5.81	1.07	0.49	22.54	-22.05	7.37	28.35	-20.98
2010	7.09	7.20	-0.11	0.53	26.87	-26.34	7.62	34.07	-26.45
2011	8.03	9.20	-1.16	0.60	32.95	-32.35	8.63	42.14	-33.51
2012	7.82	9.01	-1.19	0.56	33.98	-33.42	8.38	42.99	-34.61
2013	6.84	8.75	-1.91	0.49	33.63	-33.14	7.33	42.38	-35.05
2014	6.68	8.89	-2.21	0.50	31.15	-30.65	7.18	40.04	-32.86
2015	6.16	8.18	-2.01	0.50	28.58	-28.08	6.66	36.76	-30.10
2016	6.42	8.18	-1.76	0.60	27.90	-27.30	7.02	36.08	-29.06
China[c]									
1990	7.22	5.29	1.93	9.67	0.05	9.62	16.89	5.34	11.55
2000	16.13	12.83	3.30	36.07	1.19	34.88	52.21	14.02	38.18
2005	41.05	15.50	25.55	74.16	1.63	72.53	115.21	17.13	98.08
2010	76.87	17.68	59.19	129.82	2.52	127.30	206.69	20.20	186.49
2011	94.41	18.90	75.51	153.77	4.01	149.76	248.18	22.91	225.27
2012	95.50	19.81	75.69	159.75	4.53	155.23	255.25	24.34	230.92
2013	106.62	21.56	85.06	177.53	5.34	172.19	284.15	26.90	257.25
2014	111.72	20.25	91.47	186.70	6.17	180.53	298.42	26.42	272.01
2015	108.99	18.97	90.02	174.64	6.57	168.07	283.63	25.54	258.09
2016	104.66	16.68	87.99	158.26	6.45	151.81	262.92	23.12	239.80
Hong Kong									
1990	8.21	10.18	-1.97	15.41	6.91	8.49	23.62	17.10	6.52
2000	13.44	13.72	-0.27	24.21	16.01	8.21	37.66	29.72	7.93
2005	13.83	13.79	0.04	27.29	18.44	8.86	41.12	32.23	8.89
2010	11.31	11.27	0.04	24.05	16.64	7.40	35.36	27.91	7.45
2011	11.28	11.05	0.23	24.50	17.25	7.26	35.79	28.30	7.49
2012	10.55	10.36	0.18	22.57	16.34	6.23	33.12	26.70	6.42
2013	10.71	10.41	0.30	21.92	16.45	5.47	32.64	26.86	5.78
2014	9.78	9.36	0.43	20.51	16.17	4.34	30.29	25.53	4.76
2015	9.11	8.52	0.59	18.42	14.90	3.51	27.52	23.42	4.10
2016	7.90	7.41	0.49	15.69	13.22	2.47	23.59	20.63	2.96
South Korea									
1990	6.08	1.95	4.13	7.88	0.15	7.73	13.95	2.10	11.86
2000	12.71	3.36	9.35	5.03	1.31	3.72	17.74	4.67	13.07
2005	10.39	3.54	6.85	2.58	2.91	-0.33	12.97	6.45	6.52
2010	10.97	4.83	6.13	1.61	4.44	-2.83	12.58	9.28	3.30
2011	12.37	5.66	6.71	1.84	6.11	-4.27	14.21	11.77	2.44
2012	11.97	4.88	7.09	1.91	6.27	-4.36	13.88	11.15	2.73
2013	12.04	5.22	6.83	2.10	7.54	-5.44	14.14	12.75	1.39
2014	11.91	5.37	6.54	2.25	8.47	-6.22	14.16	13.84	0.32
2015	10.64	5.17	5.48	2.12	8.52	-6.40	12.76	13.68	-0.92
2016	10.04	5.11	4.93	2.05	8.64	-6.59	12.09	13.75	-1.66
Taiwan									
1990	6.13	1.01	5.12	3.99	0.29	3.70	10.12	1.30	8.81
2000	11.89	1.46	10.43	3.02	0.98	2.04	14.91	2.44	12.47
2005	9.71	1.12	8.59	1.56	1.09	0.47	11.27	2.21	9.06
2010	9.72	1.29	8.43	0.98	1.19	-0.21	10.70	2.47	8.23
2011	11.02	1.42	9.60	0.99	1.53	-0.54	12.01	2.95	9.06
2012	10.29	1.25	9.04	0.97	1.64	-0.67	11.26	2.89	8.37
2013	10.22	1.26	8.96	0.92	1.61	-0.69	11.14	2.86	8.27
2014	10.26	1.33	8.94	0.91	1.76	-0.86	11.17	3.09	8.08
2015	9.68	1.27	8.41	0.85	1.93	-1.08	10.52	3.20	7.32
2016	8.97	1.22	7.76	0.76	1.96	-1.20	9.73	3.17	6.56

(continued)

Table 10 (continued): Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Vietnam[b]									
1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2000	0.30	1.38	-1.08	1.82	0.45	1.37	2.12	1.83	0.29
2005	0.73	3.43	-2.71	4.68	0.33	4.35	5.41	3.77	1.64
2010	3.06	7.04	-3.98	10.39	0.45	9.94	13.45	7.49	5.96
2011	3.77	8.70	-4.93	13.15	0.53	12.62	16.92	9.23	7.69
2012	3.89	9.08	-5.18	14.44	0.62	13.82	18.34	9.69	8.64
2013	4.61	10.63	-6.02	17.15	0.72	16.43	21.76	11.35	10.41
2014	5.33	12.07	-6.74	20.17	0.80	19.38	25.50	12.87	12.64
2015	5.63	12.83	-7.20	21.95	0.84	21.11	27.58	13.67	13.91
2016	6.28	12.99	-6.72	24.48	0.85	23.63	30.76	13.85	16.91
Indonesia									
1990	1.24	0.79	0.46	1.65	0.02	1.63	2.89	0.80	2.09
2000	3.51	1.25	2.25	4.73	0.04	4.69	8.24	1.29	6.95
2005	3.35	0.76	2.60	4.96	0.07	4.89	8.31	0.83	7.48
2010	4.14	4.22	-0.07	6.82	0.37	6.45	10.96	4.58	6.38
2011	4.79	5.65	-0.86	8.05	0.42	7.63	12.84	6.07	6.77
2012	4.54	5.57	-1.03	7.52	0.48	7.04	12.06	6.05	6.01
2013	4.63	5.79	-1.16	7.69	0.57	7.12	12.32	6.36	5.97
2014	4.72	5.81	-1.09	7.67	0.54	7.13	12.39	6.35	6.04
2015	4.39	5.71	-1.32	7.59	0.49	7.10	11.99	6.20	5.78
2016	4.10	5.89	-1.79	7.47	0.52	6.95	11.58	6.41	5.17
Malaysia[c]									
1990	0.34	0.95	-0.61	1.32	0.08	1.24	1.66	1.03	0.63
2000	1.27	1.11	0.16	2.26	0.15	2.11	3.53	1.26	2.26
2005	1.36	0.97	0.38	2.48	0.28	2.20	3.83	1.25	2.58
2010	1.67	1.19	0.48	3.88	0.41	3.47	5.55	1.60	3.95
2011	2.04	1.47	0.57	4.57	0.69	3.88	6.60	2.16	4.45
2012	1.79	1.37	0.42	4.56	0.86	3.70	6.35	2.22	4.12
2013	1.85	1.45	0.40	4.58	1.01	3.57	6.43	2.46	3.97
2014	1.90	1.48	0.42	4.77	1.07	3.70	6.66	2.54	4.12
2015	1.67	1.65	0.02	4.80	1.96	2.84	6.47	3.61	2.86
2016	1.67	1.70	-0.02	4.57	2.02	2.55	6.24	3.72	2.52
Cambodia									
1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2000	0.01	0.43	-0.42	0.97	0.03	0.94	0.98	0.46	0.52
2005	0.03	0.98	-0.95	2.21	0.05	2.16	2.24	1.04	1.20
2010	0.02	1.81	-1.79	3.04	0.10	2.95	3.06	1.90	1.16
2011	0.03	2.15	-2.12	3.99	0.08	3.91	4.02	2.23	1.79
2012	0.04	2.53	-2.49	4.02	0.11	3.91	4.06	2.64	1.43
2013	0.09	2.83	-2.74	4.83	0.13	4.71	4.92	2.96	1.96
2014	0.06	3.67	-3.61	5.34	0.16	5.18	5.40	3.83	1.57
2015	0.12	3.72	-3.60	5.94	0.11	5.83	6.06	3.83	2.23
2016	0.16	4.08	-3.92	6.65	0.11	6.54	6.81	4.19	2.62
India									
1990	2.18	0.24	1.94	2.53	0.00	2.53	4.71	0.24	4.47
2000	5.59	0.59	5.01	5.96	0.02	5.94	11.56	0.61	10.95
2005	8.33	1.93	6.40	8.74	0.06	8.68	17.07	1.99	15.08
2010	12.83	2.79	10.04	11.23	0.24	10.99	24.06	3.03	21.04
2011	15.34	3.39	11.95	14.67	0.36	14.31	30.01	3.76	26.26
2012	15.35	3.32	12.03	13.93	0.40	13.52	29.28	3.72	25.56
2013	17.42	3.58	13.84	15.54	0.52	15.02	32.96	4.10	28.86
2014	18.34	3.76	14.58	17.74	0.61	17.13	36.08	4.37	31.71
2015	17.29	3.87	13.41	18.25	0.67	17.58	35.54	4.55	31.00
2016	16.21	3.59	12.62	17.97	0.72	17.25	34.18	4.31	29.87

(continued)

Table 10 (continued): Trade in textiles and clothing for selected economies, 1990-2016
(US$ bn)

	Textiles			Clothing			Textiles and clothing		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Bangladesh[b]									
1990	0.34	0.45	-0.11	0.64	0.01	0.63	0.99	0.47	0.52
2000	0.39	1.35	-0.96	5.07	0.17	4.89	5.46	1.52	3.94
2005	0.71	2.43	-1.72	6.89	0.25	6.64	7.60	2.67	4.92
2010	1.26	4.47	-3.21	14.85	0.16	14.69	16.12	4.63	11.49
2011	1.90	6.61	-4.71	19.21	0.67	18.54	21.11	7.28	13.83
2012	1.85	5.83	-3.99	19.38	0.73	18.65	21.23	6.56	14.67
2013	1.65	6.17	-4.52	23.50	0.75	22.75	25.15	6.91	18.24
2014	2.36	6.84	-4.48	24.58	0.83	23.76	26.94	7.67	19.28
2015	1.63	8.27	-6.64	26.60	0.95	25.65	28.23	9.22	19.01
2016	1.76	8.82	-7.06	28.67	1.01	27.66	30.42	9.83	20.59
Pakistan									
1990	2.66	0.13	2.54	1.01	0.00	1.01	3.68	0.13	3.55
2000	4.53	0.13	4.40	2.14	0.00	2.14	6.68	0.13	6.54
2005	7.09	0.47	6.62	3.60	0.03	3.58	10.69	0.50	10.19
2010	7.85	0.95	6.90	3.93	0.07	3.86	11.78	1.02	10.76
2011	9.08	1.24	7.84	4.55	0.09	4.46	13.63	1.33	12.30
2012	8.70	1.08	7.63	4.21	0.07	4.14	12.92	1.15	11.77
2013	9.34	1.24	8.10	4.55	0.07	4.48	13.89	1.31	12.58
2014	9.08	1.55	7.53	4.99	0.09	4.90	14.07	1.63	12.44
2015	8.23	1.62	6.61	5.02	0.10	4.92	13.26	1.72	11.53
2016	7.68	1.72	5.96	5.10	0.10	5.00	12.78	1.82	10.96
Sri Lanka									
1990	0.02	0.41	-0.39	0.64	0.01	0.63	0.66	0.42	0.24
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	0.14	1.55	-1.41	2.87	0.11	2.77	3.01	1.66	1.35
2010	0.17	1.72	-1.55	3.49	0.11	3.38	3.66	1.84	1.83
2011	0.20	2.23	-2.03	4.21	0.16	4.05	4.41	2.39	2.02
2012	0.23	2.18	-1.96	4.01	0.18	3.83	4.23	2.36	1.87
2013	0.24	1.96	-1.72	4.52	0.19	4.33	4.75	2.15	2.61
2014	0.27	2.23	-1.97	4.92	0.25	4.67	5.19	2.48	2.70
2015	0.29	2.19	-1.90	4.77	0.34	4.43	5.06	2.53	2.53
2016	0.30	2.61	-2.31	4.83	0.32	4.51	5.13	2.93	2.20
Saudi Arabia[b]									
1990	0.03	1.31	-1.28	0.02	0.83	-0.82	0.05	2.14	-2.10
2000	0.11	0.99	-0.87	0.01	0.81	-0.80	0.12	1.80	-1.68
2005	0.30	1.21	-0.91	0.05	1.46	-1.41	0.35	2.67	-2.32
2010	0.40	1.46	-1.07	0.11	2.24	-2.13	0.51	3.70	-3.20
2011	0.48	1.72	-1.24	0.11	2.87	-2.75	0.60	4.59	-3.99
2012	0.42	1.94	-1.52	0.14	3.02	-2.88	0.56	4.96	-4.40
2013	0.44	1.84	-1.40	0.08	3.16	-3.08	0.52	5.00	-4.48
2014	0.44	1.94	-1.50	0.12	3.45	-3.33	0.56	5.39	-4.83
2015	0.43	1.91	-1.48	0.09	3.80	-3.71	0.52	5.71	-5.19
2016	0.38	1.57	-1.19	0.08	3.13	-3.05	0.47	4.70	-4.23
World									
1990	104.35	107.84	n/a	108.13	112.24	n/a	212.48	220.08	n/a
2000	154.78	163.77	n/a	197.64	203.10	n/a	352.42	366.87	n/a
2005	202.97	214.76	n/a	278.91	279.41	n/a	481.88	494.17	n/a
2010	251.68	266.78	n/a	354.08	370.19	n/a	605.76	636.97	n/a
2011	293.31	310.91	n/a	418.36	437.48	n/a	711.67	748.39	n/a
2012	282.60	299.89	n/a	415.46	440.65	n/a	698.06	740.54	n/a
2013	302.34	321.13	n/a	452.75	482.93	n/a	755.09	804.06	n/a
2014	313.37	331.83	n/a	481.37	512.37	n/a	794.74	844.20	n/a
2015	291.30	307.39	n/a	452.83	474.45	n/a	744.13	781.84	n/a
2016	284.29	301.82	n/a	442.01	468.29	n/a	726.30	770.11	n/a

NB: numbers may not sum precisely due to rounding.
[a] Includes intra-trade; intra-EU imports have been estimated; figures for years prior to 2000 relate to EU15. [b] Includes WTO secretariat estimates. [c] Includes significant exports from and imports into processing zones. [d] Imports are fob. [e] Imports are fob from 2000 onwards.
Source: World Trade Organization (WTO).

Prospects for the textile and clothing industry in Cambodia

by Hassen Saheed[1]

SUMMARY

The textile and clothing industry in Cambodia fulfils a crucial role in the country's economy and has performed strongly in recent years. In 2016 the clothing industry alone had over 500,000 employees, of whom 86% were female, working in 556 registered factories. In addition, it is reckoned that an equal number of people are employed indirectly in support activities.

Clothing represents Cambodia's largest manufacturing sector. It is also the country's largest source of foreign exchange and in recent years clothing exports have typically accounted for two-thirds of the country's total exports. In 2016 Cambodian clothing exports were valued at US$6.56 bn, which was 6.4% higher than in 2015 and 62.1% higher than five years earlier in 2011. As a result, the country ranked as the world's 15th largest clothing exporter in 2016, according to the World Trade Organization (WTO).

In contrast, the scope of Cambodia's textile industry is minimal with the result that almost all raw material inputs for the clothing industry need to be imported. In fact, textile imports amounted to US$4.08 bn in 2016, which was almost double the level seen in 2011. Moreover, 65% of Cambodian textile imports in 2016 came from China alone. Cambodia's dependency on textile imports represents one of the major weaknesses of the country's textile and clothing industry, and is one which is unlikely to be rectified for some considerable time.

The 62.1% increase in Cambodian clothing exports between 2011 and 2016 was facilitated to a great extent by the designation of Cambodia as a least developed country (LDC), which has provided the industry with duty-free and quota-free access to major world markets. Admittedly, there are concerns that LDC status will be removed at some future point, but this seems unlikely before 2025 at the earliest.

The clothing industry's development has been aided significantly by an abundant supply of low cost labour along with substantial investment. With regard to the latter, the government has implemented policies aimed at attracting substantial foreign direct investment (FDI).

More recently, though, the value of additional FDI in the clothing industry has faltered, as has the number of projects under development. In addition, worrying political developments—including the outlawing of the country's main opposition party in November 2017 and the banning of its members from participating in political activities for five years—suggest that reversing this trend will require time and a change of direction on the part of the government.

IMPORTANCE OF THE TEXTILE AND CLOTHING INDUSTRY TO THE ECONOMY OF CAMBODIA

Cambodia's textile and clothing industry fulfils a vital role in the country's economy

Cambodia's textile and clothing industry fulfils a vital role in the country's economy.

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This is especially the case with regard to the clothing industry

This is especially the case with regard to the clothing industry which, together with tourism, has become the main driving force in the country's economic development. In fact, the manufacture of clothing is the country's main industrial activity, and it has benefited from high levels of investment in recent years.

The textile industry has expanded but expansion has been hampered by a lack of investment

The textile industry too has expanded. But expansion in the textile industry has been hampered by the fact that investment in the textile industry has been far lower than investment in the clothing industry. Consequently, the textile industry remains woefully under developed.

The clothing industry is important in all aspects of Cambodia's economic activity, and its rapid rise has been driven in large part by foreign investors

The clothing industry has become an important driving force in all aspects of Cambodia's economic activity, particularly industrial output, employment and exports.

The rapid rise of the clothing industry has been driven in large part by foreign investors who have been attracted by the country's low cost base and generous government incentives.

Cambodia is noted for its competitiveness and low wage structure

In fact—even by the standards of other Asian low cost countries such as Bangladesh, India and Vietnam—Cambodia is noted for its competitiveness and low wage structure.

In 2016 the clothing industry employed over 500,000 workers directly, of whom most were young female migrant workers from rural areas

In 2016 the clothing industry employed over 500,000 workers directly. However, if indirect employment in supporting activities is included, the total number of employees in 2016 was around 1 mn people.

Most of the employees in the clothing industry are female, and many are young migrant workers from rural areas.

The industry helps to alleviate poverty partly by providing employment and partly through the remittance of earnings to workers' families in rural communities

The clothing industry fulfils a crucial role in alleviating poverty throughout the country—partly because the expansion of the industry has created employment opportunities and partly because workers are able to remit earnings to their families who have remained in rural communities.

Such communities are, for the most part, extremely poor and lacking in infrastructure, despite significant development elsewhere in the country.

Most workers have limited skills and there have been few attempts to broaden those skills further but this is set to change through the establishment of training programmes

Most clothing industry workers have had only a rudimentary education and, apart from the skills required to produce garments, there have been few attempts to broaden those skills further.

However, this is set to change to some extent through the establishment of training programmes by the Garment Manufacturers Association in Cambodia (GMAC).

DEVELOPMENT OF THE TEXTILE AND CLOTHING INDUSTRY IN CAMBODIA

Industrial-scale textile and clothing production began in 1969 when a state-owned manufacturing firm was set up although the level of operations was minimal

Textile and clothing production on an industrial scale began with the formation in 1969 of the state-owned textile manufacturing company Sonatex.

However, the level of operations was minimal and expansion during the years which followed was modest at best.

There had been some manufacturing during French rule up to the mid-1950s

There had been some manufacturing activity during French rule up to the mid-1950s consisting of some cotton and silk garment production but such activity had been on a small scale.

The clothing industry's slow evolvement ended in the 1970s with the start of the civil war when Cambodia was under the Khmer Rouge regime followed by a ten-year occupation by Vietnam

The clothing industry's slow evolvement came to an abrupt end in the 1970s with the start of a debilitating period of strife and civil war which lasted for almost two decades.

During this time, Cambodia experienced the horrors of the communist Khmer Rouge regime led by Pol Pot, followed by a ten-year occupation by Vietnam.

The period of civil war ended in the early 1990s, after more than ten years of negotiations with the involvement of the UN

The period of civil war ended in the early 1990s. After more than ten years of negotiations with the involvement of the United Nations (UN), an agreement was reached at the Paris Peace Conference on Cambodia in October 1991 which paved the way for a lasting ceasefire and democratic elections.

The result was a document signed by Cambodia and 18 other countries which agreed to press for international support for the rehabilitation and reconstruction of Cambodia

This resulted in a document entitled "Agreements on a Comprehensive Political Settlement of the Cambodian Conflict" which was signed by Cambodian interests along with 18 other countries.

Signatories to the document agreed to use their influence to press the international community to provide economic and financial support for the rehabilitation and reconstruction of Cambodia.

In 1993 a new constitution was adopted which marked Cambodia's transition to a market based economy

In 1993 a new constitution was adopted which marked Cambodia's transition from a predominantly centrally planned economy to one based on market forces. At the same time, civil strife was replaced by settled and peaceful conditions which have strengthened over time.

The clothing industry was seen as the best first step towards industrialisation and export-led recovery

In this rehabilitation and reconstruction process, the development of the clothing industry was identified as the most appropriate first step towards industrialisation and the establishment of an export-led economic recovery.

In 1994 investors from Hong Kong, Malaysia, Singapore and Taiwan invested in factories for garment production

The origins of Cambodia's present-day clothing industry may be traced back to around 1994 when foreign investors from Hong Kong, Malaysia, Singapore and Taiwan invested in factories for producing garments. Output was aimed principally at export markets.

At the time, there were no quotas restricting Cambodia's exports to the US market, even though there were quotas on clothing exports to the USA from other Asian countries

These developments were assisted by the fact that there were no quota restrictions on Cambodia's exports to the all-important US market at a time when there were comprehensive quotas restricting clothing exports to the USA from other Asian countries—notably Hong Kong, the USA's largest supplier in 1994, and China, the second largest. Other major Asian suppliers in the same year included South Korea, Taiwan, the Philippines, India and Indonesia.

There was also a large pool of low cost labour

Another significant contributing factor behind the clothing industry's expansion at this time was the availability of a large pool of low cost labour.

Foreign investment has continued to be a vital factor in the expansion of Cambodia's clothing industry

The involvement of foreign investment has continued to be a vital factor in the expansion of Cambodia's clothing industry. Prominent foreign investors have included manufacturers based in China and other Asian countries, including Hong Kong, Malaysia, Singapore, South Korea and Taiwan.

Cambodia's government has supported this by providing favourable conditions

Cambodia's government has been highly supportive of foreign investment by providing favourable conditions—including tax incentives and a dependable legal framework.

As a result, over 90% of clothing factories are owned by foreign companies

As a result, over 90% of factories involved in the manufacture of clothing products in Cambodia are believed to be owned by foreign companies.

The government also aims to link the country with the international community

Further encouragement for foreign investors has come from moves by the Cambodian government to link the country increasingly with the international community and to establish trading links.

Exports were boosted after 1996 when the USA granted Cambodia MFN status

An important boost for the clothing industry's prospects occurred after 1996 when Cambodia was granted Most Favoured Nation (MFN)[2] status by the USA.

But in 1999 the USA introduced quotas on clothing imports from Cambodia

However, the steady upward trajectory of Cambodia's export drive in clothing has not been entirely trouble-free.

On January 1, 1999, the USA introduced quotas on clothing imports from Cambodia under a bilateral textile trade agreement between the two countries.

[2] When a supplying country is given Most Favoured Nation (MFN) status by an importing country, the importing country undertakes to treat imports from the supplying country no less favourably than it treats imports from other supplying countries. The MFN principle is a basic principle of the World Trade Organization (WTO) and applies to all WTO members.

In the event, these may have encouraged investment in the clothing industry—

In the event, the quotas had minimal impact on Cambodia's exports and, in retrospect, it is more likely to have encouraged investment in the clothing industry by making Cambodia appear more attractive as a location for foreign investment than many other competing countries.

—because Cambodia was given the most generous quota entitlement after it agreed to benchmark improvements in working conditions and comply with ILO conventions

This was because Cambodia was given the most generous quota entitlement of all of the countries which were subjected to US import restraints, following Cambodia's agreement to benchmark improvements in working conditions in the country's clothing industry and to comply with International Labour Organization (ILO) conventions. The benchmarking of improvements in working conditions was funded mainly by the US Department of Labor and was overseen by a chief technical advisor seconded from the ILO.

Also the MFA and the ATC protected it from the full force of international competition—

Cambodia's clothing industry also avoided the full force of international competition because other international trade arrangements, not least the Multi-Fibre Arrangement (MFA) and the Agreement on Textiles and Clothing (ATC)[3], restricted exports from competing countries.

—as these arrangements provided for quota restrictions to be placed on other suppliers

Under the MFA, and later the ATC, quota restrictions were placed on supplies of textiles and clothing to the major consuming markets from a number of competing countries until the quotas were eliminated on a global basis at the end of 2004.

These quota restrictions enabled Cambodian producers to gain footholds in international markets

While the quota restrictions were in force, they provided Cambodia's clothing producers with some protection from unfettered competition, and enabled them to establish footholds in a number of major international markets.

When the quotas were eliminated at the end of 2004, Cambodia's clothing exporters were protected against competition from China by a special safeguard clause in China's WTO accession agreement

When these quotas were eliminated at the end of 2004, the position of Cambodia's clothing exporters was further protected through the introduction of quotas restricting trade in products made in China.

The quotas restricting trade in products made in China were established by the EU and US authorities under a special safeguard clause contained in the agreement governing China's accession to the World Trade Organization (WTO).

[3] Until the end of 2004, a large proportion of textile and clothing imports into developed countries were regulated by quotas or quantitative restrictions negotiated under the terms of the Multi-Fibre Arrangement (MFA) and its successor, the Agreement on Textiles and Clothing (ATC). Quotas were normally agreed bilaterally during negotiations between a supplying country and an importing country—or importing region, in the case of the EU. Each quota regulated the quantity of exports of a particular product (or group of products) which the specific supplying country was permitted to ship to the importing country in a given year. The ATC came into force on January 31, 1995, and provided for the complete phasing out of quotas on textile and clothing trade between World Trade Organization (WTO) members by December 31, 2004. However, importing countries are still permitted to use quotas to restrict imports from countries which are not members of the WTO.

The EU introduced safeguard quotas in 2005 and removed them in 2007 while the USA introduced them in 2006 and removed them in 2008

These so-called "safeguard quotas" were introduced by the EU in mid-2005 and were removed just over two years later at the end of 2007.

Meanwhile, the USA introduced similar arrangements at the beginning of 2006 and these remained in force for three years until the end of 2008.

The industry's success can be judged by the fact that the number of clothing factories rose from three in 1993—

The success of Cambodia's clothing industry since the early 1990s may be judged by the fact that there was a massive increase in the country's garment manufacturing facilities.

In 1993 there were a mere three operations producing clothing items and exports were non-existent.

—to 20 in 1995—

By 1995 there were clear signs that the industry was on the move as there were 20 factories on record.

—190 in 2000—

Significant expansion followed during the second half of the 1990s and by 2000 the number of factories had risen to 190.

—and 556 in 2016

Since then, the industry has continued to be characterised by substantial growth. By 2016 there were 556 factories in total.

Between 1995 and 2016 the number of employees rose from 18,000 to 504,000—

Meanwhile, the number of employees in the clothing industry rose from 18,000 in 1995 to 122,600 in 2000, and by 2016 it had grown to 504,000. This means that the industry's employment in 2016 was 28 times the level reached in 1995.

—and clothing exports grew from US$27 mn to US$6.65 bn

Exports have grown even faster. In 1995 clothing exports were valued at US$27 mn but by 2000 they had grown to US$985 mn, and thereafter they continued on a sharp upward trajectory to reach US$6.65 bn in 2016. At this level, exports were 246 times the level reached in 1995.

CAMBODIA: GEOGRAPHICAL, POLITICAL AND ECONOMIC PROFILE

GEOGRAPHICAL PROFILE

Cambodia is located in the centre of South-East Asia and has land borders with Laos, Thailand and Vietnam

Cambodia is located in the centre of South-East Asia and has land borders with Laos, Thailand and Vietnam. These borders extend in length to 541 km, 803 km and 1,228 km respectively, which amount to 2,572 km in total. Additionally, there is a coastline extending to 443 km around the Gulf of Thailand. Thailand lies to the north-west of Cambodia, Laos to the north-east, Vietnam to the east and the Gulf of Thailand to the south-east.

Cambodia occupies an area of 181,035 km^2, of which 97.5% is land

Cambodia occupies an area of 181,035 km^2. Of this total, land accounts for 176,515 km^2—representing 97.5%—and water for the remaining 4,520 km^2, representing 2.5%.


Main railway
Main road
International boundary
Main airport
Capital
Major town
Other town
THAILAND
LAOS
CAMBODIA
VIETNAM
Samrong
Phnom Thbeng Meanchey
Poipet
Sisophon
Siem Reap
Battambang
Tonle Sap
Siempang
Virochey
Boung Long
Lumphat
Stung Treng
Mekong R.
Kampong Thom
Kratie
Senmonorom
Pursat
Kampong Chhnang
Kampong Cham
Phumi Suong
Gulf of Thailand
Krong Kaoh Kong
Kaoh Kong
PHNOM PENH
Prey Veng
Kampong Speu
Svay Rieng
Takeo
Kaoh Rung
Sihanoukville
Kompong Som
Kampot
SOUTH CHINA SEA
0 km 50 100 150
0 miles 50 100
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Much of the land comprises low lying flat plains

In terms of topography, Cambodia comprises mainly low lying flat plains, although the terrain in the north and south-west is more mountainous.

The climate is tropical with a rainy monsoon season and a dry season

The climate is tropical, and there is a rainy monsoon season during May-November and a dry season during December-April. Any variation in temperature between the seasons is minimal.

Rainfall during the monsoon season is heavy and can lead to flooding but the country sometimes experiences drought conditions

The rainfall during the monsoon season is heavy and can lead to flooding.

At the other end of the spectrum, Cambodia occasionally experiences drought conditions.

Cambodia has a number of natural resources

Cambodia has a number of natural resources. The principal ones include oil and gas, timber, iron ore, manganese, gemstones and phosphates.

Agriculture is based primarily on the production of rice

Agriculture is based primarily on the production of rice, which is grown on most of the cultivated land area. Rubber is an important commercial crop.

POLITICAL PROFILE

Cambodia is a multi-party democracy led by a constitutional monarchy

Cambodia is a multi-party democracy under the leadership of a constitutional monarchy. The king is the head of state in the country and the prime minister is the head of government.

However, the path to democracy has been long and tortuous

However, the path to democracy has been long and tortuous and, disappointingly, there have been recent signs of anti-democratic moves on the part of the government.

In 1863 Cambodia became a French protectorate and, after a period under Japanese occupation, it secured full independence from France in 1953

Cambodia has had a long association with France. In 1863 the country became a French protectorate and eventually became part of French Indochina.

During the period of French protection, which lasted for 90 years, Cambodia fell to Japanese forces in 1941 and remained under occupation until Japan's surrender in 1945 at the end of the Second World War. In 1953 the country secured full independence from France.

In 1975 it fell under the regime of the Khmer Rouge under Pol Pot—

The 1970s marked the beginning of a terrible period for Cambodia. Civil hostilities began at the start of the decade, and in 1975 the communist Khmer Rouge group entered the capital city, Phnom Penh. This marked the start of the Khmer Rouge regime under Pol Pot, a Cambodian politician and revolutionary whose target was to establish a communist peasant farming society.

—leading to a period of hardship during which 2 mn people died

Pol Pot's leadership was characterised by a mixture of hardship, starvation and genocide during which an estimated 2 mn people—representing around 25% of the country's population—died.

In 1978 the country was invaded by Vietnam, leading to a ten-year occupation and a 13-year civil war which ended with the 1991 Paris Peace Agreements and democratic elections in 1993

At the end of 1978 the country was invaded by Vietnam, leading to a ten-year occupation and a civil war which lasted almost 13 years.

This was brought to a halt by the 1991 Paris Peace Agreements which paved the way for a ceasefire and subsequent democratic elections in 1993. However, elements of the Khmer Rouge continued to fight on and hostilities continued until 1999—although these were on nothing like the previous scale.

Cambodia's first democratically elected government was a coalition in 1993 but further elections followed in 1998 and a new coalition government was formed

Cambodia's first democratically elected government was a coalition which lasted from 1993 until 1997. The coalition came to an end as a result of factional fighting.

But further elections followed in 1998 and a new coalition government was formed.

Since then, there has been a period of political stability

Since then, there has been a period of political stability. Elections held in 2003 were peaceful for the most part, although it took a year to form a coalition government acceptable to all parties.

The present king acceded to the throne in 2004

The present king, His Majesty Norodom Sihamoni, acceded to the throne in October 2004.

Local elections took place in 2007 without violence

More encouragingly, local elections held in April 2007 were not accompanied by pre-election violence.

Cambodian society is still haunted by the Khmer Rouge regime but it helps that over 50% of the population were not alive during the episode

However, Cambodian society is still haunted by the Khmer Rouge regime as the latter affected almost everyone at the time to a greater or lesser extent.

Since then, Cambodia's government has urged a pathway of reconciliation—and it helps that just over 50% of the population are under the age of 25 and were therefore not alive during this episode.

All references to the Khmer Rouge in school books, politics and the nation's affairs generally have been erased

In 2008 the prime minister, Hun Sen, pleaded with the nation to "dig a hole and bury the past" and thereby pursue a policy of forgetting and moving on. All references to the Khmer Rouge in school books, politics and the nation's affairs generally have been erased.

The Constitution of Cambodia stipulates that the country should adopt a policy of liberal democracy and pluralism

The Constitution of Cambodia stipulates that the country should adopt a policy of liberal democracy and pluralism, and that the Cambodian people should be masters of the country. The constitution also sets out that the power of the legislative branch, executive branch and judicial branch shall be separated.

The country has a bicameral legislature

The country has a bicameral legislature, which consists of the National Assembly and the Senate.

The most recent election to the National Assembly was held in 2013, when the CPP won 68 of the 123 seats, although this was down on the 90 seats it won in the previous election

The most recent election to the National Assembly was held in July 2013. As a result of the election, the Cambodian People's Party (CPP) remained the largest party, having gained 68 of the 123 seats compared with the 55 seats won by the Cambodia National Rescue Party (CNRP).

However, the number of seats won by the CPP was down markedly on the 90 seats it won in the previous election, which was held in July 2008.

The next election is scheduled for July 2018

The next election to the National Assembly is scheduled for July 2018.

The CPP also won the most recent election to the Senate, which was held in 2012

The most recent election to the Senate, meanwhile, was held in February 2012 and, as a result, the CPP took 46 of the 61 seats. The next election to the Senate is scheduled for February 2018.

In a disturbing development in November 2017, Cambodia's highest court outlawed the main opposition party

In a disturbing development in November 2017, Cambodia's highest court outlawed the main opposition party—the CNRP—and prohibited all 118 of its members of the legislature from participating in the political process for five years. Two months prior to this development, in September 2017, the CNRP's leader, Kem Sokha, had been jailed on treason charges.

This has led to fears that Cambodia may be joining the trend in Asia towards anti-democratic government

This development has led to fears that Cambodia may be joining the trend in Asia towards anti-democratic government, as evidenced by the communist governments in two countries which have borders with Cambodia, namely Laos and Vietnam, along with the military regime in Thailand.

Table 1: Cambodia: political and economic profile, 2017

Official name	Kingdom of Cambodia
Government type	Multi-party democracy under a constitutional monarchy, established in September 1993
Chief of state	His Majesty Norodom Sihamoni (since October 2004)
Prime minister	Hun Sen (since January 1985)
Area	181,035 km^2
Capital	Phnom Penh
Independence	November 9, 1953 (from France)
National holiday	Independence day, November 9
Population	16.1 mn (November 2017)
Ethnic groups	Khmer 97.6%, others 2.4%
Languages	Khmer (official) 95%, French, English
Religions	Buddhism (official) 96.3%, others 3.7%
Major export products	Clothing, timber, rubber, rice, fish, tobacco
Major export partners[a]	USA 23%, UK 8.7%, Germany 8.2%, Japan 7.4%, Canada 6.7%, China 5.1%, Vietnam 5.6%
Major import products	Petroleum products, textiles, cigarettes, gold, construction materials, motor vehicles, pharmaceuticals
Major import partners[a]	Thailand 28.7%, China 22.2%, Vietnam 16.4%, Hong Kong 6.1%, Singapore 5.7%

[a] 2015 estimates.
Source: *The World Factbook*, Central Intelligence Agency (CIA).

ECONOMIC PROFILE

During 2004-08 Cambodia's GDP grew by 10% per annum, thanks to expansion in clothing, tourism, agriculture and construction

Cambodia's economy has recorded strong growth over the past 15 years, albeit from a low base.

Between 2003 and 2008 the country's gross domestic product (GDP) grew by an average of around 10% per annum—thanks largely to rapid expansion in the clothing industry, along with rising tourism and greater activity in agriculture and construction.

The global economic recession in 2009 resulted in a slowdown in growth to 2.1% but in 2010 GDP increased by 6.0% and thereafter it continued to rise impressively

Not surprisingly, the global economic recession in 2009 left its mark and resulted in a slowdown in growth to 2.1% during the year.

Subsequently, however, strong economic growth resumed. In 2010 GDP increased by 6.0% and this was followed by a 6.1% increase in 2011—despite the worst floods for over a decade. Thereafter, GDP continued to rise impressively—by 7.3% in 2012, 7.4% in 2013, 7.1% in 2014, 6.9% in 2015 and 7.0% in 2016.

Such growth has been supported by strong increases in clothing exports, advances in construction, and tourism

Economic growth in recent years has been supported by strong increases in clothing exports, by advances in construction, and by the country's popularity as a destination for foreign tourists—who now number more than 2 mn a year.

Rising economic activity has led to an increase in GDP per head although in absolute terms the 2016 figure was still very low at US$1,230

Rising economic activity has led to a corresponding increase in income per head. In 2016 GDP per head was 7.4% more than in 2015 and was 48.2% higher than in 2011.

But in absolute terms, the 2016 figure, at US$1,230, was still extremely low compared with that in most other countries.

Unemployment is low at less than 1% but many say that they do not earn a living wage and the extent to which workers are under-employed is not certain

Unemployment is low at less than 1%. But even some of those with jobs complain that they do not earn a living wage. It is estimated that 20% of the population lives below the poverty line.

Also, the extent to which workers are under-employed as opposed to being unemployed is uncertain.

Inflation has hovered around the 3% level in recent years

Inflation has moderated in recent years—from almost 6% in 2011 to 3.0% in 2016. Admittedly, inflation was just 1.2% in 2015. However, the 3.0% figure for 2016 was lower than the 3.9% inflation rate recorded for 2014, and was in line with inflation levels of 3.0% in 2013 and 2.9% in 2012.

Cambodia has typically incurred a trade deficit and this widened slightly in 2016

Cambodia has typically incurred a trade deficit and this widened slightly between 2015 and 2016, from US$2.2 bn to US$2.4 bn. However, it remained below the deficit of US$3.2 bn posted in 2014. Exports and imports have both been expanding as a result of economic growth.

Major export destinations in 2015 included the USA, the UK, Germany and Japan while major import sources included Thailand, China, Vietnam and Hong Kong

Based on 2015 data, the major destinations for Cambodia's exports in that year, in order of importance, were the USA, the UK, Germany, Japan, Canada, China and Vietnam.

The major sources of imports, again in order of importance, were Thailand, China, Vietnam, Hong Kong and Singapore.

Over the longer term, there are significant challenges for the economy for a variety of reasons including the country's dependence on clothing exports and a general lack of credit

Over the longer term, there are significant challenges for the economy for a variety of reasons—including the country's dependence on clothing exports in the context of growing international competition and the general lack of credit.

There are reports, for example, that a shortage of credit is leading to a decline in construction.

The government is attempting to establish agreements with bilateral and multilateral donors to secure credit for major projects which are essential for future economic development

One of the constraints of doing business in Cambodia is that there is limited access to capital. As a consequence, the government is attempting to establish agreements with bilateral and multilateral donors in an attempt to secure credit for major projects which are considered to be essential for future economic development.

A number of Cambodia's Asian neighbours, notably China, are involved in assisting the country to receive the funding required for major projects. So are certain international organisations—including the International Monetary Fund (IMF) and World Bank.

Table 2: Cambodia: economic indicators 2014-16

	2014	2015	2016
GDP (US$ bn)	16.8	17.8	19.4
Exports (US$ bn)	7.4	8.5	10.0
Imports (US$ bn)	10.6	10.7	12.4
Trade balance (US$ bn)	-3.2	-2.2	-2.4
GDP growth (%)	7.1	6.9	7.0
GDP per head (US$)	1,131	1,145	1,230
Inflation (%)	3.9	1.2	3.0
Exchange rate (CR:US$1)	4,075	4,060	4,058

Sources: *The World Factbook*, Central Intelligence Agency (CIA); International Monetary Fund (IMF); Economist Intelligence Unit (EIU); National Bank of Cambodia; Asian Development Bank (ADB).

CAMBODIA: INFRASTRUCTURE

Cambodia requires substantial investment in infrastructure

Substantial investment in infrastructure is required for Cambodia to take full advantage of the economic opportunities afforded by its business friendly government and its attraction as a destination for foreign investment. There is no doubt that poor infrastructure, particularly with regard to transport facilities and energy resources, is acting as an impediment to higher exports and investment.

It ranked as low as 106th out of 137 countries in terms of infrastructure according to the World Economic Forum's Global Competitiveness Index 2017-18

According to the World Economic Forum's Global Competitiveness Index 2017-18, Cambodia was ranked as low as 106th out of 137 countries with regard to the condition of its infrastructure.

This was unchanged from its ranking in the 2016-17 index but represented a decline of five places compared with its ranking in the 2015-16 index.

The establishment of a modern infrastructure will require considerable funds over a lengthy timescale, especially in the transport and energy sectors

Huge damage was inflicted during the Khmer Rouge regime and subsequent disturbances, and the establishment of a modern infrastructure will require considerable funds over a lengthy timescale.

This applies especially to the transport sector as the quality of roads, railways and waterways noticeably lags behind other countries in the region. Also, the energy sector requires substantial funding to exploit the country's proven oil and gas resources and there is a need to invest heavily in additional electric generating capacity.

However, there are signs that the rate of progress is accelerating

However, there are encouraging signs that the rate of progress is accelerating—helped in large measure by financial and technical support from other countries, notably China.

TRANSPORTATION

Roads

The road network is the principal mode of transport in Cambodia and accounts for more than 70% of freight traffic in the country

The road network is the principal mode of transport in Cambodia for the movement of people and goods.

As far as the movement of goods is concerned, the road network accounts for more than 70% of freight traffic in the country.

Most high volume goods are containerised and transported by large trucks on roads to the country's seaports for export

For the most part, the movement of high volume goods involves the use of containerisation at the point of origin. Large trucks are then used to move these containers.

Most of the containers are transported by road to the country's seaports for export.

By contrast, local deliveries of goods are handled primarily by small trucks, vans and even motorcycles

By contrast, local deliveries of goods in smaller quantities are handled primarily by small trucks, vans and even motorcycles. Many of these deliveries are of break-bulk items or non-containerised individual pieces.

Cambodia's road network extends to approximately 54,000 km but only around 10% of the road network is paved

In 2015—the latest year for which data are available—Cambodia's road network extended to approximately 54,000 km. However, only around 10% of the road network is paved—which represents the lowest percentage among all Association of Southeast Asian Nations (Asean) countries[4], according to the Asean secretariat.

[4] The Association of Southeast Asian Nations (Asean) comprises ten countries, namely Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Most of the major roads have been improved with help from international donors such as the ADB, as well as aid from China and Japan

Roads in Cambodia were severely damaged during the civil war and many bridges were destroyed.

Since then, most of the major roads have been improved with assistance from international donors such as the Asian Development Bank (ADB)[5], as well as aid from China and Japan.

The ADB has provided funding for road access in remote agricultural areas in seven provinces

One example of the type of assistance provided by the ADB is a project which provides funding for road access in remote agricultural areas in seven provinces located mostly around the Tonlé Sap basin. This project will provide sufficient resources to pave 550 km of roads.

The Chinese have built about 2,000 km of tar paved roads in Cambodia since the civil war ended

The Chinese government has been especially active and represents by far the largest donor to Cambodia's road building and modernisation programme. It is estimated that 2,000 km of tar paved roads have been built by the Chinese in Cambodia since the ending of the civil war.

Cambodia's government is committed to the construction of a modern and expanding road network

Cambodia's government is committed to the construction of a modern and expanding road network. Current plans envisage the building of 850 km of expressways by 2020 as part of a long-term plan to establish a national expressway network of 2,230 km by 2040.

A 190 km stretch of expressway between Phnom Penh and Sihanoukville is scheduled to be completed in 2020

In this regard, significant progress has already been made. For example, in 2015 the government signed a memorandum of understanding with Chinese interests to construct a 190 km stretch of expressway to link the capital Phnom Penh with Sihanoukville—an important seaport city in the south-west of the country and the capital of Sihanoukville province. Construction is scheduled to be completed in 2020 at a cost of US$1.6 bn.

There are also plans to upgrade cross-border road links

In addition to upgrading the inter-provincial traffic routes between the capital and other main cities in Cambodia, there are also plans to upgrade cross-border road links from Phnom Penh to Bangkok in Thailand and Ho Chi Minh City in Vietnam.

This is regarded as a high priority as these roads are the principal links to the outside world

This is regarded as a high priority because the roads connecting Cambodia with neighbouring countries are the principal links to the outside world and are vital for trade flows.

Railways

The railway system is run down

Cambodia's railway system can best be described as "run down", and it is still struggling to recover from damage inflicted during the Khmer Rouge regime.

The network is small and based on narrow gauge track

The railway network is relatively small in length, at just 642 km, and all of it is based on narrow gauge track with a width of 1 m.

[5] The Asian Development Bank (ADB) is a regional development bank established on August 22, 1966, to facilitate the economic development of countries in Asia. The headquarters of the ADB are in Manila in the Philippines.

There are two lines, namely the Southern Line (SL) and the Northern Line (NL)

The network comprises two lines, namely: the Southern Line (SL), which is 254 km long and goes from Phnom Penh to Sihanoukville City; and the Northern Line (NL), which in 388 km long and goes from Phnom Penh to Poipet on the border with Thailand.

The infrastructure of both lines is in poor condition

The infrastructure of both lines is in poor condition and, typically, trains operate at very slow speeds—less than 15-20 km/h.

The government launched a railway rehabilitation programme in 2009

In response to the poor state of the two lines, the government finally resolved in 2009—after many years of neglect and limited efforts to improve the system—to launch a railway rehabilitation programme.

However, progress so far has been very slow

However, progress so far has been very slow. Freight train services were relaunched in 2012. But it took another four years—until 2016—before limited passenger services were reintroduced. Furthermore, rehabilitation works on the Northern Line have been delayed and, as at the end of 2016, only parts of the line had been completed.

The ADB and AusAID provided US$140 mn for upgrading the network, which involves reinstating some missing track and constructing an inter-modal freight terminal

Under the terms of the railway rehabilitation programme, the ADB and AusAID (the Australian Agency for International Development) are providing US$140 mn for modernising and upgrading the network and its infrastructure.

The programme involves reinstating 48 km of missing track between Poipet and Sisophon and constructing a new inter-modal freight terminal on the outskirts of Phnom Penh.

There are also plans to build a new track

There are also plans to construct a new track between Phnom Penh and Vietnam, representing an investment of US$1 bn.

Airports

Cambodia has 17 airports, of which three are classified as international airports and 14 as domestic airports

Cambodia has 17 airports. Three are classified as international airports and are located in Phnom Penh, Siem Reap and Sihanouk. The other 14 are classified as domestic airports and are located in Battambang, Kampong Chhnang, Kampot, Koh Kong, Kompong Thom, Kratie, Mondulkiri, Oddor Meanche, Pailin, Poipet, Preah Vihear, Ratanakiri, Stung Treng and Svay Rieng.

Air connections with the rest of the world are comprehensive

Air connections with the rest of the world are comprehensive. A total of 42 international airlines fly into Cambodia's airports, including Air France, British Airways, KLM and Lufthansa from Europe, and Delta from the USA.

The largest airport is Phnom Penh

Phnom Penh is Cambodia's largest airport, and is located about 10 km west of Phnom Penh itself, the country's capital city.

Seaports

Cambodia's exports are constrained by a lack of seaport capacity

Maritime transportation is crucial in enabling Cambodia to increase its participation in international trade. But the country's export efforts have been constrained to a considerable extent by a lack of seaport capacity.

Cambodia has only two seaports capable of handling international shipments, the Phnom Penh Autonomous Port and the Sihanoukville Autonomous Port (SAP)

At present, Cambodia has only two seaports capable of handling international shipments. These are:

- the river port of Phnom Penh, which is known as the Phnom Penh Autonomous Port; and
- the deep seaport of Sihanoukville Port, which is known as the Sihanoukville Autonomous Port (SAP).

In 2016 the SAP had a throughput of more than 400,000 TEUs while the Phnom Penh Autonomous Port had a throughput of just over 150,000 TEUs

The Sihanoukville Autonomous Port (SAP) is the largest seaport in Cambodia and is the main trade gateway for seaborne cargo entering and leaving the country. The SAP handles all containerised trade and in 2016 it had a throughput of more than 400,000 20-foot equivalent units (TEUs).

Throughput at the Phnom Penh Autonomous Port in 2016 amounted to just over 150,000 TEUs.

Outbound shipments consist mostly of garments, footwear and agricultural products

Outbound shipments consist mostly of:

- garments;
- footwear; and
- agricultural products, notably rice.

The main markets are Europe and the USA

The main markets for outbound shipments are Europe and the USA.

Inbound shipments comprise mainly raw materials used for the manufacture of clothing, food and beverages, construction materials, and machinery

Inbound shipments comprise, for the most part:

- raw materials used for the manufacture of clothing;
- food and beverages;
- construction materials; and
- machinery.

In order to address the shortage of seaport capacity, a new terminal is being built at the SAP and will open in 2018—

The government has been taking action to address the shortage of seaport capacity in the country and two construction projects are under way.

In one project, the Japan International Cooperation Agency (JICA) has provided a US$74 mn loan for the construction of a new multi-purpose terminal at the SAP which will increase the total annual handling capacity of the port from 400,000 TEUs to 700,000 TEUs. The project is expected to be completed by 2018.

—and work on a new container terminal port at the SAP capable of handling 1 mn TEUs will begin in 2018 and be completed in 2022

In another project, construction of a new container terminal port at the SAP is scheduled to begin in 2018 and is due to be completed by 2022 at a total cost of US$300 mn. When the new terminal is operational, it will be able to handle 1 mn TEUs—equivalent to 10 mn tons of cargo—a year.

Together, the two projects will bring the total capacity of the SAP to 1.7 mn TEUs

Together, the two projects will bring the total capacity of the SAP to 1.7 mn TEUs.

TELECOMMUNICATIONS

Cambodia's telecommunications network is based almost entirely on mobile telephones

Cambodia's telecommunications network is based almost entirely on mobile telephones.

The fixed line telephone system was effectively destroyed by the Khmer Rouge when much of the infrastructure was wrecked and it has been barely developed since then.

In mid-2016 Cambodia had only 1.4 fixed telephone lines per 100 people but as many as 124 mobile telephones per 100 people

In mid-2016 the system comprised a mere 227,261 fixed telephone lines, which equated to just 1.4 fixed line connections per 100 people.

By contrast, usage of mobile telephones has been embraced with considerable enthusiasm in the country. In mid-2016 around 19.9 mn mobile telephones were in use, equating to 124 per 100 people.

Mobile coverage is good in the main centres of population

Mobile telephone coverage is good in the main centres of population and is rapidly improving in rural areas.

There has also been an increase in Internet usage

There has also been a substantial increase in Internet usage in recent years. In mid-2016 there were an estimated 4.08 mn Internet users.

CAMBODIA: HUMAN RESOURCES

Cambodia's population numbered 16.1 mn people in November 2017, and the population is growing by 1.56% a year

Cambodia's population numbered an estimated 16.1 mn at the end of November 2017, which equated to a population density of about 91 people per km^2.

The latest figures indicate that the population is growing at a rate of 1.56% a year.

The overall life expectancy is 64.5 years

The overall life expectancy is 64.5 years. Within this figure, the life expectancy for males averages 62.0 years while the life expectancy for females averages 67.1 years.

Like other Asian countries, Cambodia has a young age profile

As in other Asian countries, the age profile in Cambodia is tilted decisively towards the young. As much as 31.2% of the population is aged 14 years or below, and a further 19.0% is in the 15-24 years segment—which means that over half the population (50.2%) is below the age of 25. Of the remaining 49.8%, as much as 40.2% is in the 25-54 years segment while 5.4% is in the 55-64 years segment and just 4.2% is aged 65 years or above.

The median age is 24.9 years overall

The median age is 24.9 years overall—24.2 years for males and 25.6 years for females.

The country's workforce numbered 6.6 mn in 2016

The country's workforce numbered 6.6 mn in 2016. This represented about 41% of the total population.

The biggest share of the workforce is engaged in agriculture—

About 48.7% of the workforce is engaged in agriculture. Next in importance is the services sector with a 31.5% share of total employment, followed by the industrial sector with a 19.8% share.

—although the clothing industry has provided significant employment opportunities over the years

Significant employment opportunities have been provided by the clothing industry over the years.

Moreover, such opportunities have risen dramatically since the mid-1990s.

By 2016 there were 504,000 jobs in the industry and 86% of workers were females

In 1995 there were a mere 18,000 jobs in the industry but by 2016 this number had grown to 504,000.

As much as 86% of workers in Cambodia's clothing industry are females.

The minimum wage in the clothing and footwear industry in Cambodia is set to rise by 11.1% to US$170 a month on January 1, 2018

The minimum wage in the clothing and footwear industry in Cambodia increased by 9.3% on January 1, 2017, from US$140 a month to US$153 a month, following increases of 9.4% on January 1, 2016, and 28.0% on January 1, 2015. Including other benefits, it is thought that workers in Cambodia now earn around US$200 a month. Moreover, the minimum wage is set to increase by a further 11.1% to US$170 a month on January 1, 2018.

However, recent worker unrest in the industry indicates that many people are struggling to pay for essentials and many workers are leaving the industry

However, recent worker unrest in the industry indicates that many people are struggling to pay for essentials—especially in the context of rising food and energy costs.

In response, an increasing number of employees are leaving the industry amid complaints that wage rates are failing to keep pace with the rising cost of living.

An important objective is to reduce poverty and there has been substantial progress in this respect during the past ten years

From this it may be deduced that an important objective is to reduce poverty. In fact, there has been substantial progress in this respect during the past ten years. The latest data indicate that about 17.7% of the population was living below the poverty line in 2015—noticeably lower than the 47.8% share recorded in 2007.

The clothing industry has fulfilled a crucial role in taking people and families out of poverty but there is growing evidence that more and more people are seeking to earn more money by working in other countries

The clothing industry has fulfilled a crucial role in this respect by taking people and families out of poverty. Significantly, an estimated 90% of those below the poverty line are based in rural areas, and it is these areas which provide a high proportion of the clothing industry's employees.

However, there is growing evidence that more and more people are seeking to earn more money by working in other countries.

The majority of technical, supervisory and managerial positions in the country's clothing factories are held by foreigners, especially Chinese nationals—

The majority of technical, supervisory and managerial positions in the country's clothing factories are held by foreigners, especially nationals from mainland China.

Chinese nationals are also prevalent among supervisors in cutting, sewing and finishing departments—and many occupy senior positions in other functions, especially in Chinese-owned businesses. The same pattern of foreign nationals in top and middle level positions is evident in other foreign-owned businesses where the investors are from countries other than China.

—because much of Cambodia's workforce is unskilled, but skills should improve as more training is offered to employees

The problem stems largely from the essentially unskilled nature of much of Cambodia's labour force.

However, skills levels should improve as a growing range of training opportunities are offered to employees.

Indeed, the GMAC has established the country's first clothing training institute, the CGTI

One important step towards enhancing training opportunities has been taken with the establishment of the Cambodia Garment Training Institute (CGTI)—the country's first clothing training institute—by the Garment Manufacturers Association in Cambodia (GMAC).

It was completed in 2016 and is located in the Phnom Penh Special Economic Zone

The institute was completed at the end of 2016 and it is located in the Phnom Penh Special Economic Zone (PPSEZ), where many of the country's clothing factories are located.

It has the objective of providing the necessary training to enhance the skills of workers

The objective of the institute is to provide the necessary training in order to:

- strengthen and enhance the skills of workers in the clothing industry; and
- enable workers to move from basic cloth cutting and sewing to more advanced operations.

The GMAC has a number of aims in setting up the institute

The main aims of the GMAC in setting up the institute were to:

- boost productivity;
- secure improvements in quality;
- facilitate a move towards the manufacture of items of higher added value; and
- prepare Cambodian nationals to take over some of the technical, supervisory and managerial positions which are presently held by foreigners.

The industry should also develop its own brands and adopt its own identity

The clothing industry would also benefit by developing its own brands and adopting its own identity, as opposed to being simply a low cost subcontractor for foreign companies.

The CGTI aims to nurture a highly skilled local workforce capable of filling senior positions by around 2021

It is thought that around 8,000 senior positions in Cambodia's clothing industry in 2015 were filled by foreign nationals, and the CGTI's target is to nurture a highly skilled local workforce which is capable of filling these positions by around 2021.

Under current plans, around 240 people will begin long-term training and 1,600 people per annum will receive skills training

Under current plans, it is envisaged that some 240 or so young people with management potential will begin long-term training, and that the skills of a further 1,600 employees per annum will be advanced by means of training programmes and continuous improvement.

The Cambodian government has agreed to certify diplomas issued by the CGTI

The CGTI has been recognised by the Cambodian Ministry of Labour and Vocational Training as a private accredited training institute, and the ministry has agreed to certify diplomas issued by the CGTI.

New working practices in the industry have enabled it to be viewed as an ethical supplier by clothing brands

Cambodia's clothing industry has introduced a range of working practices which are much admired and have enabled it to become accredited by international clothing brands as an ethical supplier and one devoid of any "sweatshop" tag.

Working hours are limited to eight hours a day or 48 hours a week

There is a limit on the number of hours worked by either sex. According to the most recent information available, the limit is eight hours a day, or 48 hours a week.

The management of an enterprise is permitted to set up only two shifts

When the work schedule of an enterprise consists of split shifts, the management of the enterprise is normally permitted to set up only two shifts, one in the morning and the other in the afternoon.

Overtime is paid at a rate which is 50% higher than the rate paid for normal hours, and in certain circumstances it is 100% higher

If workers are required to work overtime for exceptional or urgent jobs, they are paid during those overtime hours at a rate which is normally 50% higher than the rate paid for normal hours.

In certain circumstances, such as working at night, the rate is 100% higher.

Companies are obliged to give employees time off each week—

Companies are obliged to give employees time off each week, and they are not allowed to use an employee for more than six consecutive days.

—which has to last for a minimum of 24 consecutive hours

The period of time off each week is required to last for a minimum of 24 consecutive hours. This usually means that employees have a day off on Sunday.

All workers are entitled to three types of leave, namely paid annual leave, maternity leave and special leave

All workers are entitled to three types of leave, namely:

- paid annual leave, which varies according to the length of time the worker has been in employment with the employer;
- maternity leave of 90 days, during which time a worker is entitled to half pay; and
- special leave, if an event occurs which affects a worker's immediate family.

SIZE AND STRUCTURE OF THE TEXTILE AND CLOTHING INDUSTRY IN CAMBODIA

TEXTILE INDUSTRY

There is hardly any production of textile raw materials in Cambodia and so most of the clothing industry's requirements for inputs are met by imports

There is hardly any production of textile raw materials in Cambodia and only a few domestic suppliers.

As a consequence, the availability of domestic supplies of textile raw materials is extremely limited and almost all of the clothing industry's requirements for yarns, fabrics and other inputs are met by imports.

During 2007-16, a mere 1,120 open-end rotors were shipped to the Cambodian textile industry and so the country ranked as low as 50th among the world's investors in open-end rotors

Figures from the International Textile Manufacturers Federation (ITMF) indicate that a mere 1,120 open-end rotors were shipped to the Cambodian textile industry during the ten-year period 2007-16.

As a result, the country ranked as low as 50th among the world's investors in open-end rotors over the ten-year period and ranked only sixth among Association of Southeast Asian Nations (Asean) countries (see page 129).

Also, no ring spindles at all were shipped to the industry

Furthermore, no ring spindles at all were shipped to the industry over the ten-year period.

In the weaving sector, just 31 shuttleless looms were shipped, which meant that Cambodia ranked only 89th among the world's investors in such machines

In the weaving sector, just 31 shuttleless looms were shipped to the industry during 2007-16.

This meant that the industry ranked only 89th among the world's investors in this type of machinery during the ten-year period and ranked as low as eighth among Asean countries.

In the knitting sector, 257 circular knitting machines were shipped, which meant that Cambodia ranked only 40th among the world's investors in such machines

In the knitting sector, a total of 257 circular knitting machines were shipped to the industry during 2007-16.

As a result, the industry ranked only 40th among the world's investors in this type of machinery during the ten-year period and ranked as low as seventh among Asean countries.

However, the industry was the world's eighth largest investor in electronic flatbed knitting machines—

The industry is, however, a major investor in flat knitting machinery. During 2007-16, a total of 6,801 electronic flatbed knitting machines were shipped to the industry, which made it the world's eighth largest investor in this type of machine and the second largest investor among Asean countries, behind only Vietnam.

—and in 2016 alone, it was the world's seventh largest investor in these machines

In 2016 alone, 1,242 electronic flatbed knitting machines were shipped to the industry, which made it the world's seventh largest investor in these machines. Furthermore, shipments to the industry reached a record high for the third consecutive year[6].

[6] See also "World markets for textile machinery: part 2—fabric manufacture", starting on page 161 of this issue.

CLOTHING INDUSTRY

Cambodia's present day clothing industry can be traced back to the mid-1990s when it was granted MFN status by the USA and preferential access to the EU market through the EU's GSP

The origins of Cambodia's present day clothing industry can be traced back to the mid-1990s when foreign investors started to explore the potential of establishing operations in the country.

The trigger for this interest occurred in 1996 when Cambodia was granted most favoured nation (MFN) status by the USA (see page 120), and granted preferential access to the EU market through the EU's Generalised Scheme of Preferences (GSP)[7].

Since then, clothing industry output has rocketed

Since then, the clothing industry's output has rocketed, in line with an escalating number of clothing manufacturing facilities.

Most clothing factories are subsidiaries of foreign companies and tend to focus on CMT operations

The majority of Cambodia's clothing factories are subsidiaries of foreign companies.

Their operations tend to be limited, therefore, to basic cut, make and trim (CMT) operations.

The parent company is in charge of design and sourcing

In this business model, the parent company assumes responsibility for design, sourcing of materials and downstream activities such as marketing—leaving factories in Cambodia to carry out labour intensive manufacturing operations.

So there is little scope for those factories to offer a full range of services

Consequently, there is little scope for those factories to offer a full range of services—which would embrace design, advertising and marketing as well as production.

The clothing industry has developed some significant links with international brands as buyers have been attracted by the country's reputation for the ethical treatment of its workforce

Even so, this business model has been hugely beneficial for the development of Cambodia's economy and industrial base, and has propagated some significant and much valued links with international brands—such as Disney, Gap, Levi Strauss & Co, Marks and Spencer (M&S), Sears, Walmart and many others.

In establishing and developing these links, buyers have been attracted by the country's admirable reputation for the ethical treatment of its workforce.

Number of factories

Cambodia's clothing industry barely existed at the beginning of the 1990s

Cambodia's clothing industry barely existed at the beginning of the 1990s, as noted earlier in this report. But since then it has developed considerably. Growth has been especially rapid since the mid-1990s.

In 1995 the industry had only 20 factories but by 2000 there were 190

In 1995 the industry comprised only 20 clothing factories. But by 2000, just five years later, this number had grown to 190. The increase stemmed in large part from the granting of trade privileges by the USA and the EU.

[7] The EU's Generalised Scheme of Preferences (GSP) is designed to foster the development of developing countries by granting them easier access to the EU market.

The early 2000s were marked by a phase of consolidation

The early 2000s were marked by a phase of consolidation. This is reflected in the fact that the number of clothing factories increased from 190 in 2000 to just 206 in 2004.

Thereafter, between 2004 and 2006, the number of factories rose sharply but then it declined for three consecutive years

Thereafter, the number of clothing factories fluctuated over the five years which followed.

Between 2004 and 2006 the number rose sharply from 206 to 305. But then it declined for three consecutive years, resulting in a fall from 305 in 2006 to 243 in 2009.

The fall was especially marked in 2009 alone, reflecting the global economic downturn

The fall was especially marked in 2009 alone and stemmed from the global economic downturn which resulted in an 18.9% decline in Cambodia's clothing exports during that year.

The number of factories rose each year between 2009 and 2015 but fell back in 2016

Between 2009 and 2015, the number of clothing factories increased each year to reach a record high of 626 in 2015. But in 2016 alone it fell back to 556.

Table 3: Cambodia: number of factories and employees in the clothing industry, 2005-16

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Factories	270	305	288	285	243	262	300	315	459	558	626	556
Employees ('000)	270	317	347	327	297	319	326	350	447	475	522	504

Sources: Cambodia Ministry of Commerce; Garment Manufacturers Association in Cambodia (GMAC).

Number of employees

Changes in the number of employees in the clothing industry have corresponded reasonably closely to changes in the number of factories

Changes in the number of employees in the clothing industry have corresponded reasonably closely to changes in the number of factories.

Between 2005 and 2016, the number of people employed directly by the industry increased by 86.7%, from 270,000 to 504,000, while the number of factories increased by 105.9%.

As in the case of factory numbers, there were declines in employment in 2009 and 2016

As in the case of factory numbers, there was a decline in employment in 2009 in response to the global economic downturn. Also, there was a fall in 2016 following strong growth between 2009 and 2015.

A large number of workers are employed indirectly, and when these are included total employment is around 1 mn

In addition to the number of people employed directly by the industry, there is a similar number of people employed indirectly in a wide range of support activities.

When these workers are included, the industry provides employment for approximately 1 mn people, representing about 15% of Cambodia's total workforce.

Foreign investment

80-90% of Cambodia's garment manufacturing facilities are under the ownership and control of foreign investors

Foreign ownership is an important characteristic of Cambodia's clothing industry. In fact it is estimated that 80-90% of Cambodia's garment manufacturing facilities are under the ownership and control of foreign investors.

Factory location

About 60% of Cambodia's clothing factories are located within a 30 km radius of Phnom Penh, while many others are in Sihanoukville, a fast growing port city

About 60% of Cambodia's clothing factories are located within a 30 km radius of Phnom Penh while many others are in Sihanoukville, also known as Kompong Som. Sihanoukville is a fast growing port city on the Gulf of Thailand, around 185 km to the south west of Phnom Penh.

The main provinces where clothing is produced are Phnom Penh, Sihanoukville, Kampong Speu, Kampong Cham, Kampong Chhnang, Svay Rieng, Takeo and Kandal.

CAMBODIA: TEXTILE AND CLOTHING EXPORTS

Exports of clothing, combined with a small amount of textiles, accounted for 66.5% of the country's total exports in 2016

The textile and clothing industry in Cambodia plays a crucial role in the country's economy and is a vital source of foreign exchange.

In 2016 exports of clothing—combined with a small amount of textiles—accounted for 66.5% of the country's total exports.

Cambodia has become one of the largest textile and clothing exporters in the world

Cambodian textile and clothing exports have increased substantially in recent years and, as a result, the country has become one of the largest textile and clothing exporters in the world.

In clothing alone, it was the 15th largest exporter in 2016 and when the EU is treated as a single exporter it was the ninth largest exporter

According to the World Trade Organization (WTO), Cambodia was the world's 22nd largest exporter of textiles and clothing in 2016—and in clothing alone it ranked as the 15th largest exporter.

Furthermore, when the EU is treated as a single exporter, Cambodia was the world's 15th largest exporter of textiles and clothing and the ninth largest exporter of clothing alone[8].

Cambodian textile and clothing exports increased by 62.0% between 2011 and 2016, reflecting a 54.4% rise in textile exports and a 62.1% rise in clothing exports

Cambodian textile and clothing exports increased by 62.0% between 2011 and 2016, from US$4.10 bn to US$6.65 bn.

Textile exports alone rose by 54.4% during the five-year period, from US$57 mn to US$88 mn, while clothing exports advanced by 62.1%, from US$4.05 bn to US$6.56 bn.

As a result, clothing accounted for 98.7% of Cambodia's total textile and clothing exports in 2016

As a result, clothing accounted for as much as 98.7% of Cambodia's total textile and clothing exports in 2016 (up slightly from 98.6% in 2011) while textiles accounted for a share of only 1.3% (down slightly from 1.4% in 2011).

Furthermore, clothing exports rose each year between 2011 and 2016

Furthermore, clothing exports rose each year between 2011 and 2016 whereas textile exports rose between 2011 and 2015 but fell sharply in 2016 alone.

[8] See also "Trends in world textile and clothing trade", starting on page 77 of this issue.

The encouraging performance in the country's clothing exports stems in large part from its favourable access to the world's major markets

The encouraging performance in the country's clothing exports stems in large part from its favourable access to the world's major markets, notably the EU.

Table 4: Cambodia: textile and clothing exports, 2011-16
(US$ mn)

	2011	2012	2013	2014	2015	2016
Textiles	57	62	86	113	197	88
Clothing	4,047	4,446	4,967	5,489	6,167	6,559
Textiles and clothing	**4,104**	**4,508**	**5,053**	**5,602**	**6,364**	**6,647**

Sources: Cambodian Ministry of Commerce; National Institute of Statistics.

CLOTHING EXPORTS BY DESTINATION

Cambodia's largest clothing export market in 2016 was the EU followed by the USA

By far the most important market for Cambodia's clothing exports in 2016 was the EU with a 39.7% share of exports to all destinations. Next in importance was the USA with a 26.1% share.

The EU became the largest market in 2014—

The EU became Cambodia's largest clothing export market in 2014 when it overtook the USA.

—as a result of strong growth between 2011 and 2014

This resulted from strong growth between 2011 and 2014 when Cambodian clothing exports to the EU increased by 85.7%, from US$1,170 mn to US$2,173 mn.

Over the five years from 2011 to 2016, Cambodian clothing exports to the EU increased by 122.6%

Over the five years between 2011 and 2016, Cambodian clothing exports to the EU increased by 122.6%, from US$1,170 mn to US$2,604 mn, and the share of Cambodian clothing exports which went to the EU rose from 28.9% to 39.7%.

By contrast, exports to the USA declined by 17.3% over the period

By contrast, exports to the USA declined by 17.3% over the period, from US$2,068 mn to US$1,711 mn, and the share of Cambodian clothing exports which went to the USA fell from 51.1% to 26.1%.

Cambodia became the EU's fifth largest clothing supplier in 2016, up from tenth in 2011

As a result of the rise in exports to the EU, Cambodia climbed five places to become the EU's fifth largest clothing supplier in 2016, up from tenth in 2011.

The rise in exports to the EU has been aided by the fact that Cambodia benefits from the EU's GSP EBA arrangement

The rise in exports has been aided by the fact that Cambodia benefits from the EU's Generalised Scheme of Preferences (GSP—see page 138) Everything But Arms (EBA) arrangement. The arrangement provides least developed countries (LDCs) with duty-free and quota-free access to EU markets for all products except arms and armaments.

Admittedly, this preferential standing is expected to end at some stage when Cambodia graduates from its LDC status but such graduation seems to be some years away

Admittedly, this preferential standing is expected to end at some stage when Cambodia graduates from its LDC status. However, such graduation seems to be some years away.

According to a report by the United Nations Conference on Trade and Development (UNCTAD) published at the end of 2016, Cambodia will retain LDC status at least until 2025 when the total number of LDCs worldwide is expected to dip from the current 48 to 32. By this time, Cambodia is expected to be the only country in Asia to hold LDC classification.

Other important destinations for Cambodia's clothing exports in 2016 included Canada—

Other important destinations for Cambodia's clothing exports in 2016 included Canada and Japan—which were Cambodia's third and fourth largest export markets respectively.

Cambodian clothing exports to Canada increased by 33.7% between 2011 and 2016, from US$383 mn to US$512 mn. As a result, Canada accounted for 7.8% of Cambodian clothing exports to all destinations in 2016, although this share was down from 9.5% in 2011.

—and Japan

Meanwhile, clothing exports to Japan—Cambodia's fourth largest clothing export market—increased by 161.2% between 2011 and 2016, from US$116 mn to US$303 mn. As a result, the share of Cambodian clothing exports which went to Japan rose from 2.9% to 4.6% over the five-year period.

Table 5: Cambodia: clothing exports by destination, 2011-16 (US$ mn)

	2011	2012	2013	2014	2015	2016
EU	1,170	1,454	1,757	2,173	2,583	2,604
USA	2,068	1,996	2,026	1,889	1,888	1,711
Canada	383	408	467	491	476	512
Japan	116	141	207	262	281	303
Others	310	447	510	674	939	1,429
Total	**4,047**	**4,446**	**4,967**	**5,489**	**6,167**	**6,559**

Sources: Cambodian Ministry of Commerce; National Institute of Statistics.

CAMBODIA: TEXTILE AND CLOTHING IMPORTS

The clothing industry relies on imported materials as the textile industry is small

Cambodia's clothing industry relies almost completely on imports of materials for its manufacturing operations as the textile industry in the country remains small.

Textiles represented about a third of Cambodia's total imports in 2016

In fact, textiles account for a large share of the country's total imports. In 2016 textile imports were valued at US$4.08 bn, which represented about a third of Cambodia's total imports.

Between 2000 and 2016 textile imports rose by 845% to US$4,084 mn

Furthermore, in line with the expansion of the clothing industry, there has been a huge increase in textile imports over the years. In 2000 textile imports were valued at just US$432 mn but by 2016 they had increased by 845% to US$4,084 mn (Table 6).

Clothing imports, meanwhile, remained minimal at US$109 mn in 2016

Clothing imports, meanwhile, remained minimal at US$109 mn in 2016. Furthermore, they were down by 2.7% compared with the previous year. In fact, they were at their lowest level since 2011.

Table 6: Cambodia: textile and clothing imports, 2011-16 (US$ mn)

	2011	2012	2013	2014	2015	2016
Textiles	2,150	2,527	2,830	3,669	3,719	4,084
Clothing	85	111	127	159	112	109
Textiles and clothing	**2,235**	**2,638**	**2,957**	**3,828**	**3,831**	**4,193**

Sources: World Trade Organization (WTO); United Nations Commodity Trade Statistics.

TEXTILE IMPORTS BY SUPPLYING COUNTRY

China was the biggest source of Cambodia's textile imports in 2016 with a 64.7% share of its textile imports from all sources

The biggest source of Cambodia's textile imports is, by far, China.

In 2016 Cambodia's textile imports from China were valued at US$2,641 mn, which represented as much as 64.7% of Cambodia's textile imports from all sources.

Furthermore, this share was up from 51.6% in 2011 as textile imports from China shot up by 137.9% over the five-year period

Furthermore, this share was up from 51.6% in 2011 as textile imports from China shot up by 137.9% over the five-year period between 2011 and 2016, from US$1,110 mn to US$2,641 mn. This suggests that the clothing industry in Cambodia has become increasingly dependent on imports of textiles from China.

The second biggest source of Cambodia's textile imports in 2016, at some distance, was Hong Kong with an 8.3% share, followed by Vietnam, South Korea and Thailand

The second biggest source of Cambodia's textile imports in 2016, at some distance, was Hong Kong with supplies to the country valued at US$339 mn (representing a 8.3% share of the total). Vietnam ranked third in importance with supplies valued at US$288 mn (representing a 7.1% share of the total), South Korea ranked fourth with supplies valued at US$101 mn (representing a 2.5% share of the total) and Thailand ranked fifth with supplies valued at US$96 mn (representing a 2.4% share of the total).

Table 7: Cambodia: textile imports by supplying country, 2011-16 (US$ mn)

	2011	2012	2013	2014	2015	2016
China	1,110	1,418	1,651	2,222	2,352	2,641
Hong Kong	313	345	415	527	405	339
Vietnam	97	86	96	114	193	288
South Korea	89	99	87	101	106	101
Thailand	40	46	59	69	73	96
Others	501	534	523	637	590	620
Total	**2,150**	**2,527**	**2,830**	**3,669**	**3,719**	**4,084**

Source: United Nations Commodity Trade Statistics.

CAMBODIA: FOREIGN DIRECT INVESTMENT (FDI) IN THE TEXTILE AND CLOTHING INDUSTRY

FDI fulfils a vital role in the development and operation of Cambodia's clothing industry but the formation of a locally owned and controlled industry is impeded by a lack of available capital and a lack of contacts with global buyers

Foreign direct investment (FDI) fulfils a vital role in the development and operation of Cambodia's clothing industry.

However, the formation of a locally owned and locally controlled clothing industry of any substance is seriously impeded by a lack of availability of domestic capital.

Furthermore, locally owned operations tend to lack extensive contacts with global buyers.

All of the country's investment projects are governed by Cambodia's Law on Investment (LoI)

All of the country's investment projects are governed by Cambodia's Law on Investment (LoI). These include projects initiated by local investors and foreign investors and the LoI treats both groups equally, without discrimination. The investor may be either an individual—referred to as a "natural person"—or a legal entity.

The LoI provides significant investment incentives for foreign investors

The LoI provides significant investment incentives for foreign investors, including:

- tax holidays;
- a favourable corporate income tax rate;
- the possibility of establishing an operation with 100% foreign ownership;
- freedom from restrictions on capital repatriation;
- duty-free imports of capital goods; and
- Special Economic Zones (SEZs) and additional incentives for companies which invest in them.

As a result, the country has attracted a high level of FDI

It is not surprising therefore that the country has attracted a high and rising level of FDI.

The influx of FDI in 2015 alone was valued at US$1.7 bn, which represented about a third of total investment in the country

The influx of FDI in 2015 alone was valued at US$1.7 bn. This represented slightly more than one third of total investment in the country, which amounted to US$4.64 bn during the year. However, it represented only 1.4% of total FDI inflows into all ten Asean countries (see page 129) during the year.

In 2016 there was a marked boost to US$2.28 bn, and in the first half of 2017 alone FDI reached US$1.35 bn

In 2016 there was a marked boost in FDI. In fact, it grew by as much as 34.1% compared with the previous year to reach US$2.28 bn. And in the first half of 2017 alone, FDI continued at a high level, having reached US$1.35 bn.

90% of Cambodia's FDI originates from Asian countries

No less than 90% of Cambodia's FDI originates from Asian countries. The largest investor in 2016 was China with a 36% share of the total, followed by Hong Kong with 17% and Taiwan with 15%. The UK accounted for a 6% share while Japan accounted for a share of 2%.

China has become an increasingly important source of investment funding for Cambodia's economy in recent years

China has become an increasingly important source of investment funding for Cambodia's economy in recent years. This is illustrated by the fact that, according to statistics from China's Ministry of Commerce, cumulative Chinese investment in Cambodia more than trebled between 2010 and 2015—from US$1.1 bn to US$3.7 bn.

In October 2016 a total of 31 agreements and MoUs were agreed with China

In October 2016, during a visit to Cambodia by the Chinese president, Xi Jinping, a total of 31 agreements and memorandums of understanding (MoUs) were agreed. These covered a number of projects in manufacturing in the country and in Cambodia's infrastructure.

Infrastructure and manufacturing alone accounted for 75% of total FDI in Cambodia during the five-year period from 2011 to 2015 inclusive

FDI projects in Cambodia have been concentrated largely in agriculture, infrastructure, manufacturing (notably clothing), telecommunications and tourism.

Of these, infrastructure and manufacturing alone accounted for 75% of total FDI in Cambodia during the five-year period from 2011 to 2015 inclusive (2011-15).

There has been a downturn in FDI in the clothing industry in recent years

There has also been a high level of FDI in the clothing industry. However, there has been a downturn in such investment in recent years.

FDI in Cambodia's clothing industry was valued at US$374 mn in 2013 and US$408 mn in 2014 but since then there has been a progressive decline in the value of investment and in the number of projects

In 2013 FDI in Cambodia's clothing industry was valued at US$374 mn and extended to 75 projects, and in 2014 it was valued at US$408 mn and extended to 72 projects.

But since then there has been a progressive decline in the value of investment and in the number of projects the investment covers. In 2015 FDI was valued at only US$225 mn and covered just 57 projects while in 2016 investment fell to US$175 mn and covered only 41 projects.

Most of the FDI in 2016 came from investors based in China, Hong Kong and Taiwan

Chinese investors accounted for 36% of total FDI in Cambodia in 2016 while Hong Kong investors accounted for 17% and Taiwanese investors accounted for 15%. UK investors accounted for only 6% and Japan for just 2%.

Around 85% of the projects in 2015 and 2016 were in the form of sole ownership

Around 85% of the projects in 2015 and 2016 were in the form of sole ownership and only about 15% in the form of joint ventures.

Table 8: Cambodia: foreign direct investment (FDI) in the clothing industry, 2013-16

	2013	2014	2015	2016
Value (US$ mn)	374	408	225	175
No of projects	75	72	57	41

Sources: National Institute of Statistics; Ministry of Commerce; National Bank of Cambodia; International Labour Organization (ILO).

TEXTILES AND CLOTHING IN CAMBODIA: GOVERNMENT INVESTMENT POLICIES, INVESTMENT INCENTIVES, IMPORT POLICIES, FREE TRADE AGREEMENTS, INDUSTRIAL DEVELOPMENT POLICIES AND EXPORT POLICIES

INVESTMENT POLICIES

Cambodia's investment policy provides for a range of incentives for foreign investors and reflects a need by the country to secure capital sources for its economic development

The Cambodian government has adopted a liberal approach with regard to foreign investment and has formulated an investment policy which provides for a wide range of attractive incentives for foreign investors.

This approach reflects a lack of domestically available capital and therefore a need by the country to secure capital from all possible sources for its economic development.

Approval of foreign investment projects

Foreign investment projects must be approved by the CDC and, once approved, they are classified as Qualified Investment Projects (QIPs)

Foreign investment projects must be approved by the Council for the Development of Cambodia (CDC). The CDC acts as a one-stop-shop and supplies all of the licences and documentation needed.

Once approved, the projects are classified as Qualified Investment Projects (QIPs).

A QIP may be in the form of a joint venture

A QIP may be in the form of a joint venture between:

- two or more Cambodian entities;
- one or more Cambodian entities and one or more foreign entities; or
- two or more foreign entities.

There are no limitations based on nationality or on the proportion of shares held by each shareholder with one exception

There are no limitations based on nationality or on the proportion of shares held by each shareholder except in the case of a joint venture which owns or intends to own land or an interest in land in Cambodia. In such a case, the maximum combined shareholding of all foreign parties must not exceed 49%.

Investment incentives

The CDC grants various incentives

The CDC grants various investment incentives, including:

- the right to establish an operation with 100% foreign ownership;
- corporate tax holidays of up to eight years;
- a favourable 20% corporate income tax (CIT) rate after the tax holiday;
- duty-free imports of capital goods; and
- freedom from restrictions on capital repatriation.

To improve the country's economic competitiveness, Cambodia's government announced plans in April 2016 to introduce a self-assessment tax regime

To improve the country's economic competitiveness, Cambodia's government announced plans in April 2016 to replace the existing tax regime—whereby the tax payable was based on negotiations between taxpayers and the taxation authorities—with a self-assessment tax regime which is expected to be more transparent.

Special Economic Zones (SEZs)

Special Economic Zones (SEZs), introduced in 2005, represent an important element of Cambodia's foreign investment policy and have become much favoured by foreign investors

Special Economic Zones (SEZs) represent an important element of Cambodia's foreign investment policy.

The SEZs were introduced in 2005 and have become much favoured by foreign investors. Many are situated in the Greater Mekong region, and also in coastal cities and cities in close proximity to Cambodia's borders with Thailand and Vietnam.

By tradition, the majority of Cambodia's clothing factories have been located on industrial parks in and around Phnom Penh, thereby benefiting from superior infrastructure compared with other parts of the country. But SEZs have become a magnet for foreign-owned, export-oriented clothing businesses.

Projects within SEZs are eligible for an especially appealing range of incentives

Projects within SEZs are eligible for an especially appealing range of incentives, including tax holidays, zero rated VAT and exemptions from duties on imported raw materials, machinery and equipment.

As at the end of 2017, the CSEZB had authorised around 30 SEZs, of which 11 were operational

There appears to be conflicting evidence concerning the number of SEZs in Cambodia. As at the end of 2017, the Cambodia Special Economic Zone Board (CSEZB) had authorised around 30 SEZs, of which it is understood that 11 were operational.

The CSEZB operates under the aegis of the aforementioned CDC

The CSEZB operates under the aegis of the aforementioned CDC, which is the government agency tasked with offering incentives to encourage investment.

Cambodia's SEZs are regarded as a means of endowing the country with capital and technology

Cambodia's SEZs are typically privately owned and managed, and are regarded by the government as a fundamental means of endowing the country with the capital and technology necessary for establishing a dynamic and modern industrial nation.

IMPORT POLICIES

Most goods can be imported into Cambodia without licences

Most goods can be imported into Cambodia without licences—except for items covered by the List of Restricted Goods. These include, for example, chemical products and animals.

All imported goods are subject to a 10% flat rate levy of VAT and *ad valorem* customs import duties

All imported goods are subject to a 10% flat rate levy of value added tax (VAT). In addition, they are subject to customs import duties—which are imposed on an *ad valorem* basis—and to a special tax for certain goods.

In 2001 Cambodia simplified its import tariff structure by reducing the number of tariff bands from 12 to four

In 2001 Cambodia simplified its import tariff structure by reducing the number of tariff bands from 12 to the following four:

- 0% for exempt goods such as medical supplies and educational equipment;
- 7% for primary products and non-locally available raw materials;
- 15% for capital goods, machinery and equipment, and locally available raw materials; and
- 35% for finished products, petroleum products, vehicles, precious metals and stones.

At the same time, it lowered the maximum tariff rate from 120% to 35%

At the same time, it lowered the maximum tariff rate from 120% to the 35% level.

FREE TRADE AGREEMENTS (FTAs)

As a member of Asean, Cambodia is party to a number of free trade agreements (FTAs), including ACFTA, AKFTA, AANZFTA, AJCEPA and AIFTA

As a member of the Association of Southeast Asian Nations (Asean—see page 129), Cambodia is party to a number of free trade agreements (FTAs). These include:

- the Asean-China Free Trade Area (ACFTA)—which is the world's largest free trade area by population;
- the Asean-Korea Free Trade Area (AKFTA);
- the Asean-Australia-New Zealand Free Trade Area (AANZFTA);

- the Asean-Japan Comprehensive Economic Partnership Agreement (AJCEPA); and
- the Asean-India Free Trade Area (AIFTA).

In addition, Asean has embarked on other FTA negotiations

In addition, Asean has embarked on FTA negotiations with other countries, territories and blocs, including the EU, Pakistan and Hong Kong.

In November 2015 it concluded an upgraded ACFTA with China and, as part of the agreement, Cambodia is scheduled to reduce the tariff on Chinese-originated products in the case of about 86% of its tariff lines to 0% in 2018 compared with an average tariff of 14.4% in 2005

In November 2015 Asean concluded an upgraded ACFTA with China which resulted in further liberalisation of trade, investment and regulatory cooperation. It is estimated that this upgraded agreement will boost trade between China and Asean to US$1,000 bn by 2020, from US$480 bn in 2014.

As a part of the upgraded agreement, Cambodia is scheduled to reduce the tariff on Chinese-originated products in the case of about 86% of its tariff lines[9] to 0% in 2018 compared with an average tariff duty of 14.4% which applied in 2005.

For example, the average tariff on imports of shirts and T-shirts from China will be lowered to 0% in 2018 from 7% in 2005.

INDUSTRIAL DEVELOPMENT POLICY 2015-2025

Cambodia aims to transform and modernise its manufacturing sector from being labour intensive to skills-driven by 2025, by developing production clusters, integrating into regional production networks, linking to regional and global value chains, and strengthening the competitiveness and enhancing the productivity of domestic industries

The objective of the Cambodian government with regard to the country's industrial development is to transform and modernise the manufacturing sector and transform it from being labour intensive to skills-driven by 2025.

It aims to achieve this objective by:

- developing inter-connected production clusters;
- integrating into regional production networks; and
- linking to regional and global value chains.

In addition, there will be an emphasis on strengthening the competitiveness and enhancing the productivity of domestic industries, and moving towards the development of a technology-driven and knowledge-based modern industrial structure.

The realisation of this vision will contribute towards economic development and growth, employment opportunities, the manufacture of value-added products and increased income per head

The realisation of this vision will contribute towards:

- national economic development;
- sustainable and elevated economic growth;
- the creation of employment opportunities;
- the manufacture of increased value-added products; and
- a marked increase in income per head.

[9] The tariff line is a product code used at the national level, beyond the six digits of the Harmonized System (HS). The code varies from one country to another. The HS is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.

Cambodia has set three targets in order to achieve this ambitious vision

Cambodia has set three targets in order to achieve this ambitious vision, namely:

- to increase the industrial sector's share of GDP from 24.1% in 2013 to 30% by 2025 and, within these totals, to increase the manufacturing sector's share from 15.5% to 20%;
- to diversify exports by increasing the percentage of shipments accounted for by goods other than textiles and clothing to 15% by 2025; and
- to encourage the formal registration of 80% of small enterprises and 95% of medium-sized enterprises, and to ensure that 50% of small enterprises and 70% of medium-sized enterprises prepare proper financial accounts and balance sheets.

It is envisaged that these three targets will be reached by continuing to attract high levels of foreign and domestic investment—

It is envisaged that these three targets will be reached with the assistance of four key strategies, namely:

- continuing to attract high levels of foreign investment, as well as private domestic investment, by focusing on large industries, expanding markets and enhancing more technology transfer;

—developing and modernising small and medium-sized enterprises (SMEs)—

- developing and modernising small and medium-sized enterprises (SMEs) by expanding and strengthening the country's manufacturing base, modernising the registration of enterprises, and ensuring technology transfer and industrial linkages;

—cutting "red tape" and removing arduous, unnecessary and unproductive procedures—

- revisiting the regulatory environment so as to strengthen the country's competitiveness—by, for example, cutting "red tape" and removing arduous, unnecessary and unproductive procedures; and

—and coordinating supporting policies

- coordinating supporting policies, such as:
  - — the development of human resources;
  - — technical training;
  - — the improvement of industrial relations;
  - — the development of support infrastructure, such as logistics and information and communication systems, electricity and clean water, and public, social and financial services.

INVESTMENT INCENTIVES

QIPs benefit from a number of attractive and generous investment incentives

As noted on page 146, foreign investments must be approved by the Council for the Development of Cambodia (CDC). Once approved, the investments are classified as Qualified Investment Projects (QIPs), and QIPs benefit from a number of attractive and generous investment incentives, as follows.

Investors in QIPs are entitled to either profit tax exemption or special depreciation measures

In particular, investors in QIPs are entitled to either:

- profit tax exemption; or
- special depreciation measures.

The rules relating to profit tax exemption are complex and depend on a range of factors

The rules relating to **profit tax exemption** are complex and depend on a range of factors, such as the sector in question and the size of the investment. Essentially, however, the exemption offers the prospect of a tax holiday of up to nine years. Thereafter, a QIP is liable to taxation on profits according to prevailing rates.

Foreign companies which invest in QIPS can benefit from a 40% special depreciation allowance

With regard to **special depreciation measures**, foreign companies which invest in QIPS are able to benefit from a 40% special depreciation allowance on the value of new and used tangible properties employed in the production and processing functions of the enterprise concerned.

All investors in QIPs are entitled to import essential inputs duty-free

All investors in QIPs are entitled to **duty-free concessions on imports** of production equipment, construction materials and other inputs which are essential to an investment project.

These duty-free concessions vary according to the type of QIP, be it a domestically oriented QIP—

These duty-free concessions vary according to the type of QIP.

- For domestically oriented QIPs, the duty-free concessions cover production equipment, construction materials and inputs required for the production of goods for export.

—an export oriented QIP—

- For export oriented QIPs—excluding those which have chosen to use the Customs Manufacturing Bonded Warehouse mechanism—the duty-free concessions cover production equipment, construction materials, raw materials and intermediate goods and accessories.

—or a supporting industry QIP

- For supporting industry QIPs, the duty-free concessions cover production equipment, construction materials, raw materials and inputs of intermediate goods and accessories required for the production of goods for export. In instances where the supporting industry QIP does not supply 100% of its manufactured products either to export oriented enterprises or for direct export, the QIP is required to pay the customs duties and taxes on production inputs in proportion to the amount which has not been supplied to export oriented enterprises or for direct export.

A QIP located in an SPZ or EPZ is entitled to the same incentives as other QIPs

A QIP which is located in a designated Special Promotion Zone (SPZ) or Export Processing Zone (EPZ) is entitled to the same incentives and privileges as other QIPs.

The same applies to QIPs located in SEZs although there are additional incentives for QIPs located in SEZs

The same applies to QIPs located in SEZs. However, there are additional incentives for QIPs located in SEZs. For enterprises in the clothing industry, these additional incentives include exemptions from VAT on imported inputs for use in clothing factories, provided the final products are exported.

All QIPs are entitled to 100% exemption from export tax—

All QIPs—whether or not they are located in SEZs—are entitled to **100% exemption from export tax**, except for activities as stipulated in the laws which relate to investment incentives.

—and rights, privileges and entitlements can be transferred or assigned

Also, the rights, privileges and entitlements of a QIP can be **transferred or assigned** to an entity which has acquired or merged with a QIP, subject to the approval of the CDC.

Not all projects are eligible for these incentives but textile and clothing projects are, subject to a minimum investment of US$500,000

There are projects in certain sectors which are not eligible for incentives.

However, textile and clothing projects are eligible, provided the investment involved amounts to a minimum of US$500,000.

Also eligible are QIPs in supporting industries where 100% of the enterprise's output is destined for export

Also eligible are QIPs in supporting industries where 100% of the enterprise's output is destined for export and where the investment amounts to a minimum of US$100,000.

INVESTMENT GUARANTEES

The LoI guarantees that foreign investors shall not be treated in any discriminatory way except in respect of ownership of land, the government shall not undertake a nationalisation policy which would adversely affect the private property rights of investors or fix the prices or fees of the products or services of a QIP—

The Law on Investment (LoI—see page 144) guarantees certain conditions for foreign investors, as follows.

- A foreign investor shall not be treated in any discriminatory way by reason only of the investor being a foreign investor, except in respect of ownership of land.
- The government shall not undertake a nationalisation policy which would adversely affect the private property rights of investors in Cambodia.
- The government shall not fix the prices or fees of the products or services of a QIP.

—and the government shall permit investors to buy foreign currencies through the banking system and remit these currencies abroad for four purposes

- The government shall permit investors to purchase foreign currencies through the banking system and to remit these currencies abroad for the following four purposes:
  - payment for imports and repayment of the principal and interest on international loans;
  - payment of royalties and management fees;
  - remittance of profits; and
  - repatriation of invested capital.

Foreign investors are permitted to participate in any industry sector but there are restrictions on foreign land ownership

Foreign investors are permitted to participate in any industry sector. However, there are restrictions on foreign land ownership. In particular, the ownership of land by investors for the purpose of operating a QIP shall be vested only in persons holding Cambodian citizenship or in Cambodian entities.

Nevertheless, the use of land shall be permitted to foreign investors by means of long-term and short-term leases

Nevertheless, the use of land shall be permitted to foreign investors by means of unlimited long-term leases and limited short-term leases which are renewable.

Foreign investors have the right to own property on the land and pledge this as security.

A QIP is entitled to obtain visas and work permits for the employment of foreign citizens

A QIP is entitled to obtain visas and work permits for the employment of foreign citizens as managers, technicians and skilled workers in Cambodia in cases where people with the required qualifications and expertise are not available in Cambodia.

TEXTILES AND CLOTHING IN CAMBODIA: STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

STRENGTHS

Cambodia has developed into a largely settled country with an economy which is growing rapidly

Since the horrors of the Khmer Rouge regime (see page 124), Cambodia has developed into a largely **settled country** with a **reconciled political and social structure** and an **economy which is growing rapidly**—albeit from a low base.

It occupies a geographically strategic location which facilitates close transport links with other Asian countries—

Cambodia occupies a **geographically strategic location** which facilitates close transport links with other Asian countries. As a result, it represents an attractive location for international textile and clothing companies which are looking for countries in which to establish regional operations—especially companies which have intercountry production chains.

—and enables it to expedite export supplies to the major global markets

Cambodia's favourable geographical location also enables it to expedite export supplies to the major global markets, including Japan, the USA and member countries of the EU.

Also, as a least developed country (LDC), Cambodia benefits from duty-free and quota-free access to the major global markets, including the EU—

As a least developed country (LDC), Cambodia benefits from **duty-free and quota-free access to the major global markets**.

Nearly all products exported from Cambodia to the EU, the country's principal export market for clothing, are allowed to enter the EU duty-free and quota-free—the exceptions being arms and armaments.

—and Canada

Similarly, most products exported from Cambodia to Canada are allowed to enter the country duty-free and quota-free, the exceptions in this case being dairy products, poultry and eggs. Canada has committed to the elimination on tariffs and quotas on 99% of products imported from LDCs.

Cambodia has also penetrated clothing markets in a number of other Asian countries

In addition to Japan and the markets of the Western world, Cambodia has penetrated clothing markets in a number of other Asian countries. These include China, India and South Korea—which provide similar concessions on imports from Cambodia with regard to duties and quotas.

Cambodia has benefited significantly from its membership of Asean and is set to benefit further in 2018 when all exports from Cambodia, excluding exports of highly sensitive items, will be able to enter other Asean countries duty-free

Cambodia has benefited significantly from its **membership of the Association of Southeast Asian Nations** (Asean—see page 129).

Furthermore, all exports from Cambodia, excluding exports of highly sensitive items, will be able to enter other Asean countries duty-free from 2018 onwards as a result of an increase in economic integration within Asean and the evolution of the Asean Free Trade Area (AFTA). This will provide Cambodia with improved access to the Asean market, which comprises around 600 mn people.

Also, the clothing industry will have access to duty-free imports of inputs although it will face increased competition for finished clothing in its domestic market

At the same time, the Cambodian clothing industry will have access to duty-free imports of inputs from other Asean countries.

On the negative side, however, the Cambodian clothing industry is likely to face increased competition in its domestic market from finished clothing originating in other Asean countries.

Cambodia's government has been highly supportive of foreign investment, and international investors have profited from a range of favourable measures

Cambodia's government has been highly supportive of foreign investment. International investors have profited from a range of favourable measures, including tax holidays and other incentives.

Foreign companies which invest in Qualified Investment Projects (QIPs—see page 146), for instance, can benefit from tax exemptions on profits for up to nine years as well as duty-free imports of production equipment and other inputs.

Also, they have the comfort of knowing that Cambodia has a dependable legal framework

In addition, foreign companies investing in Cambodia have the comfort of knowing that they are operating in a country with a dependable legal framework.

Furthermore, they are permitted to possess and control 100% of the ownership of their Cambodia-based operations

Furthermore, foreign companies are permitted to possess and control 100% of the ownership of their Cambodia-based operations. This is highly attractive, and represents a definite plus point in allocating funding for clothing operations.

80-90% of the clothing factories in Cambodia are foreign-owned

The attractiveness of these favourable rules and incentives is evident from the fact that 80-90% of the factories involved in the manufacture of clothing products in Cambodia are owned by foreign companies.

The ILO monitors working conditions in Cambodia's clothing factories, and this provides a major incentive for leading brands to award supply contracts to the country's clothing manufacturers

Working conditions in Cambodia's clothing factories are monitored and reported on independently by the International Labour Organization (ILO) and are judged in relation to national and international standards.

This provides a major incentive for leading brands such as Gap, Levi Strauss & Co, Marks & Spencer (M&S) and Walmart to award supply contracts to the country's clothing manufacturers.

Also, the factories have earned a reputation for their CSR programmes and these programmes have helped the factories to build links with international brands

Cambodia's clothing factories have earned a well deserved reputation for their **corporate social responsibility (CSR)** programmes.

These programmes have helped the factories to build valuable links with international brands.

There is an abundant supply of cheap labour and a large pool of untapped labour from rural areas

Manufacturers benefit from an **abundant supply of cheap labour**. Moreover, there remains, potentially, a large pool of untapped low cost labour—albeit unskilled—in rural areas which could support the industry's future expansion.

Cambodia's labour costs are highly competitive and compare favourably with those in other Asian countries, despite a sizeable increase in the minimum wage in recent years

Cambodia's **labour costs are highly competitive** in international terms, and compare favourably with those in other Asian countries. Admittedly, the minimum wage has increased significantly in recent years, from US$100 a month in 2014 to US$153 a month in 2017, and is set to rise to US$170 a month on January 1, 2018. However, this will still be lower than the wage rates in most countries which represent Cambodia's main competitors in the clothing industry, including China, India, Indonesia, Malaysia, the Philippines, Thailand and Vietnam.

Cambodia has improved its customs procedures and now issues certificates of origin online so that shipments can be approved within 24 hours

Another factor which has boosted Cambodia's competitiveness is an **improvement in its customs procedures and the issuance of certificates of origin online**.

As a result of this improvement, exporters can now have their proposed shipments approved within 24 hours.

WEAKNESSES

A huge weakness is the near "invisibility" of the textile industry—

Perhaps the greatest weakness of the Cambodian textile and clothing industry is the **near "invisibility" of the textile industry**, especially when compared with the rapidly growing clothing industry. **Imports of textiles are having to rise rapidly** in order to supply the fast expanding needs of the clothing industry.

—and the clothing industry's almost complete dependence on textile imports

The clothing industry is almost completely **dependent on textile imports**—especially imports of fabrics which are shipped in mainly from China.

The clothing industry is focused on CMT operations which are essentially low skilled and low margin operations

The clothing industry is **focused on cut, make and trim (CMT)** operations which are essentially **low skilled** and **low margin** operations. High added value operations and the production of high margin fashion items have yet to feature in Cambodia to any significant extent.

Strike action by workers seeking wage increases in recent years has caused disruption to production and dissatisfaction among buyers

To add to the industry's difficulties in generating margins, there has been **growing unrest among the clothing industry's workforce** in recent years. This has manifested itself mainly in the form of **strike action** by workers seeking wage increases, which has caused **disruption to production** and, no doubt, **dissatisfaction among buyers** representing the global brands.

The search for settled labour relations has not been helped by the large number of trade unions in the Cambodian clothing industry

The search for settled labour relations has not been helped by the very **high number of trade unions** in the Cambodian clothing industry. According to the Garment Manufacturers Association in Cambodia (GMAC), there were 3,166 unions in 2015 for the 500,000 or so workers employed in the country's 626 textile and clothing factories and 73 footwear factories.

However, this issue has been partly resolved by the Cambodian Law on Trade Unions, which was promulgated in May 2016 and received a warm appreciation from GMAC

However, this issue has been partly resolved by the **Cambodian Law on Trade Unions**, which was promulgated in May 2016 and received a warm appreciation from the president of GMAC, Van Sou Leng.

In the past, Mr Leng has noted that Cambodia's clothing industry is the most unionised in Asia and that, on occasion, it has been necessary for management to negotiate with 25 different unions in a single dispute.

There has been some loss of competitiveness due to a rise in the minimum wage

A further weakness is some loss of competitiveness due to a **rise in the minimum wage**. Between 2014 and 2017 the minimum wage soared by 53%, and on January 1, 2018, it is set to rise by a further 11% to US$170 a month.

Input costs are high and rising, especially those relating to energy and transportation

Input costs are **high and rising**, especially those relating to energy and transportation.

Electricity supplies tend to be expensive and can be erratic. Cambodia **does not have the generating capacity** required to meet demand and about 25-30% of the country's needs are supplied by Vietnam.

The country's infrastructure is inadequate

The country's **infrastructure** is inadequate, and will require **time and massive investment** before it comes close to meeting the needs of a fast expanding manufacturing sector.

Cambodia's CSR programmes are associated with heavy costs which could put them at a disadvantage in terms of price

Cambodia's clothing factories have pursued **corporate social responsibility (CSR)** programmes which have helped companies to build valuable links with international brands (see page 154).

However, these programmes are associated with **heavy costs** and these could cause unit prices to exceed those of operators in other countries who are less honourable in terms of their commitment to CSR.

Cambodia's textile and clothing industry suffers from a lack of skilled labour, and some businesses are reluctant to invest in training programmes because of the high mobility of the workforce

Cambodia's textile and clothing industry suffers from a **lack of skilled labour**. This weakness spreads across all functional areas—from the creative to the managerial. As a consequence, the industry is highly dependent on foreign nationals to fill these gaps.

There is evidence that some clothing businesses are **reluctant to invest in training programmes** and to **boost skills and productivity levels** due to the **high mobility of the workforce**.

In some instances, foreign investors have been discouraged by unclear and cumbersome bureaucratic procedures, together with corruption and a lack of transparency

In some instances, foreign investors have been discouraged by **unclear and cumbersome bureaucratic procedures**, together with **corruption and a lack of transparency**. The country ranked as low as 156th out of 176 countries in Transparency International's 2016 Corruption Perceptions Index, making it the most corrupt country in South-East Asia.

OPPORTUNITIES

There will be opportunities to produce items with far greater added value

As the clothing industry develops, there will be opportunities to produce items with far **greater added value**. This would involve a **move away from CMT operations** to the **production of high margin products** which demonstrate a **flair for fashion**.

Cambodia has an opportunity to strengthen its relationships with major trading partners as well as emerging markets

Cambodia has an opportunity to **strengthen its relationships** not only with major trading partners—including the EU, the USA, China, South Korea and Japan—but also **with emerging markets** in Asean and elsewhere. Such expansion would enable Cambodia to become **less reliant on its major markets**.

There are high hopes for increased business within Asean

In fact, there are high hopes for **increased business within Asean**, which has a population of around 600 mn people and an annual GDP of US$3,500 bn.

Cambodia's geographical location provides the country with an enormous opportunity to fulfil an increasingly important role in regional supply chains and logistics networks

Cambodia's **geographical location between Thailand and Vietnam**—two of the main production hubs in the Greater Mekong Subregion (GMS)—provides the country with an enormous **opportunity to fulfil an increasingly important role in regional supply chains and logistics networks**. The GMS has a population of 300 mn and includes Cambodia, parts of China, Laos, Myanmar, Thailand and Vietnam.

To do so, however, would require a substantial development programme, given that a high proportion of Cambodia's logistics companies are relatively small in scale

To do so, however, would require a **substantial development programme**, given that a high proportion of **Cambodia's logistics companies** are relatively **small in scale** and there is a notable **lack of professional logistics personnel** with relevant international experience. This, in turn, **limits the ability of local companies to offer higher added-value services** such as "track-and-trace" and inventory management. However, there is the opportunity to move in this direction.

As Cambodia's infrastructure develops, greater commercial and business opportunities will materialise

As Cambodia's infrastructure develops, **greater commercial and business opportunities will materialise**. Huge infrastructure projects are in hand, in the planning and construction phases, and such projects are typically being **funded with foreign investment**, especially from **China**.

Important investments are taking place in the energy sector with the target of providing access to lower cost electricity—

Important **investments** are taking place in the **energy sector** with the target of providing **access to lower cost electricity**.

Eventually this will feed through to **lower energy costs for the textile and clothing industry**, thereby **improving the industry's international competitiveness**.

—and this could provide the spur needed to develop Cambodia's textile industry

Also, this could provide the **spur needed to develop Cambodia's textile industry**. This uses a lot of electricity and would therefore benefit from low cost electricity supplies.

Cambodia's clothing producers also have the opportunity to benefit from the rising costs and concomitant loss of competitiveness in other countries

Cambodia's clothing producers also have the opportunity to benefit from **rising costs in other countries** and **concomitant losses of competitiveness in these countries**.

Rising production costs in China, for example, offer the potential to **attract more investment from that country** as Chinese businesses seek to secure lower cost manufacturing operations. The **downside** is that many of these operations are **likely to be CMT operations**.

In addition to export markets, there are opportunities to supply the local market as incomes per head are rising

In addition to export markets, there are opportunities to **supply the local market**. At present, **incomes per head** are **very low** but they are **rising in line with growing economic prosperity and rising wage levels**. This should provide a **boost** to **local clothing demand**, most of which is likely to be sourced locally.

Also, half of the population is below the age of 25, exactly the age group which is expected to take an interest in clothes and fashion items

The **age profile** of Cambodia's population is tilted decisively towards the **young**. In 2017 no less than **50.2%** of the population was **below the age of 25**—exactly the age group which is expected to take an **interest in clothes and fashion items** as economic development leads to a **rise in higher personal disposable incomes**.

There are opportunities to make greater use of the country's human resources through initiatives such as the establishment of technical training schools and the establishment by GMAC of the Cambodia Garment Training Institute (CGTI)

There are opportunities to **make greater use of the country's human resources** by providing a **fillip to education and training**. The government has set in motion a number of initiatives in this respect, such as the establishment of **technical training schools**.

Other initiatives with regard to training have come from the clothing industry. These include the establishment of a clothing training institute in the Phnom Penh Special Economic Zone where many of the country's clothing factories are located. This has been set up by GMAC and is known as the **Cambodia Garment Training Institute (CGTI)**.

The CGTI was completed at the end of 2016

The CGTI was completed at the end of 2016 and aims to provide the necessary **training to strengthen and enhance the skills of workers** in the clothing industry (see page 135).

Industrial development should be enhanced by the establishment of Special Economic Zones (SEZs)

Industrial development should be enhanced by the establishment of **Special Economic Zones (SEZs)**. These are expected to provide existing and future investors with opportunities for **establishing manufacturing locations with a wide range of special privileges**.

THREATS

Cambodia is uncomfortably dependent on just a few markets for the bulk of its clothing exports

Cambodia is **uncomfortably dependent on just a few markets** for the bulk of its clothing exports. This is particularly evident in the case of the **EU** and the **USA** which, together, accounted for **65.8% of** the country's **total clothing exports in value terms** in 2016.

Cambodian clothing exports to the EU shot up by 122.6% between 2011 and 2016 but exports to the USA fell by 17.3%

Cambodian clothing exports to the EU shot up by 122.6% between 2011 and 2016 and, as a result, the EU accounted for a 39.7% share of Cambodia's clothing exports to all destinations in 2016.

But **exports to the USA**—Cambodia's second largest market with a 26.1% share of Cambodian clothing exports to all destinations—**fell by 17.3% between 2011 and 2016** to their lowest level since 2009.

Furthermore, it is uncertain how trade with the USA will develop over the next few years

Furthermore, it is **uncertain how this pattern of trade will develop** over the next few years. A number of factors—including President Trump's "America First" policy—could place this trade **at risk of erosion**. This policy may herald a much tougher approach to imports and could threaten existing and proposed trade agreements.

There is also a threat of disruption to trade with the EU in the context of Brexit

There is also a threat of **disruption to trade with the EU** in the context of **Brexit**[10], along with the possibility that there will be **another credit crisis** in the West followed by a **global recession** of the type that affected the world economy during 2007-09.

Another threat is the growing trend towards "reshoring"

Another threat is the **growing trend towards "reshoring"**, whereby developed economies are repatriating some of their manufacturing activities, including those in textiles and clothing[11].

Cambodia's classification as a least developed country (LDC) is unlikely to endure indefinitely

Cambodia has **benefited** from its classification as a **least developed country (LDC)** but this status and the privileges it bestows are **unlikely to endure indefinitely**. It seems certain that Cambodia will retain LDC status at least until 2025, when the total number of LDCs worldwide is expected to dip from the current 48 to 32. But LDC status can not be assured thereafter.

Cambodia is uncomfortably dependent on the clothing industry for its economic well-being—

Cambodia is uncomfortably dependent on the clothing industry for its economic well-being. Attempts are being made to **diversify the country's manufacturing base**, and there are encouraging signs in other parts of the economy too such as **tourism**. But **clothing** is **likely to be predominant** for the foreseeable future.

—and it faces fierce competition from an extensive list of low cost producing countries

Among Asian countries, Cambodia is not alone in being dependent on the textile and clothing industry and placing a high priority on its development. There is fierce **competition from an extensive list of low cost producing countries** which have secured **preferential access to the markets of developed countries**.

[10] See also "Talking strategy: impact of Brexit on the UK fashion and textile industry—threats and opportunities", *Global Apparel Markets*, No 37, November 2017.

[11] For further information, see "Editorial: Reshoring—a renaissance for the textile and apparel industries in advanced economies or a passing fad?", *Textile Outlook International*, No 180, June 2016.

China continues to pose a major threat, despite rising manufacturing costs in the country

China continues to pose a major threat, **even though Chinese manufacturing costs are rising**. Many of its business leaders have entrepreneurial flair, and the country has a streamlined economic system and rapidly improving infrastructure. China has an extremely large textile and clothing industry which is capable of producing a wide range of high quality products at competitive prices.

With a long history of labour disputes and frequent strikes, it is improbable that things will settle down overnight despite the Law on Trade Unions which came into force in May 2016

Cambodia has a **long history of labour disputes and frequent strikes** and so it is improbable that things will settle down overnight—despite the Law on Trade Unions which came into force in May 2016.

The new law makes it **difficult for workers and unions to assert their right to strike**.

In addition, trade unions are now required to provide the Ministry of Labour with an **annual financial report**, and there are mandatory **registration requirements** which severely **restrict the ability of unions to carry out their activities**.

Productivity in Cambodia's clothing industry is very low which threatens competitiveness and there is a need to invest in modern manufacturing equipment

Productivity in Cambodia's **clothing industry** is very **low**, and this **threatens the industry's competitiveness**.

According to GMAC, Chinese workers produce an average of 100-120 shirts an hour and Vietnamese workers about 60-70 shirts an hour but a Cambodian worker produces only around 30-40 shirts per hour. This reflects in part the need to **invest in modern manufacturing equipment**.

The industry's almost complete dependence on imports for its raw materials means that it has little control over raw material prices and is over-reliant on China for textile inputs

The clothing industry's almost complete **dependence on imports for its raw materials** poses a number of threats.

For a start, the industry has **little control over the prices of raw material imports**, and past experience shows that these are **subject to wild fluctuations**.

Also, the industry is **over-reliant on China** for **supplies of its textile inputs**, and this reliance is forecast to **remain for the foreseeable future**.

Flooding as a result of tropical storms and monsoon rains is a constant anxiety

Cambodia is **not threatened by a wide variety of natural disasters** but **flooding**—as a result of tropical storms and monsoon rains—**is a constant anxiety**.

Recent developments could unsettle Cambodia's political and social state

Cambodia has enjoyed a **settled political and social state** since the fall of the Khmer Rouge regime, but **recent political developments** indicate that this **may be about to change**.

A disturbing development in November 2017 saw Cambodia's highest court outlaw the main opposition party—

As noted on page 126, a disturbing development occurred in November 2017 when **Cambodia's highest court outlawed the main opposition party**—the CNRP—and prohibited all 118 members of the legislature from participating in the political process for five years.

Two months prior to this development, in September 2017, **the CNRP's leader, Kem Sokha, had been jailed on treason charges**.

—which has led to fears that Cambodia may be joining the Asian trend towards anti-democratic government

This has led to fears that Cambodia may be joining the **trend in Asia towards anti-democratic government**, as evidenced by the communist governments in bordering Laos and Vietnam along with the military regime in Thailand. This development requires monitoring to determine whether it is an isolated blip or the beginnings of something more sinister.

World markets for textile machinery: part 2—fabric manufacture

SUMMARY

2016 was a mixed year for the international fabric machinery market. There were increases in shipments of electronic flatbed knitting machinery and shuttleless weaving machinery but there were declines in shipments of single jersey circular knitting machinery and double jersey circular knitting machinery.

In the weaving sector, shipments of shuttleless looms rose by 4% in 2016 following a 14% increase in 2015. But the latter came after declines during 2012-14 and, as a result, shipments in 2016 were below the levels seen during 2010-12. However, they were above the levels seen in earlier years. Furthermore, they were higher than their annual average over the ten years to 2016. The rise in 2016 was due primarily to an increase in shipments to the textile industry in China.

In the circular knitting sector, shipments of single jersey machinery fell by 1% in 2016 following a 3% decline in 2015 and a plunge of 57% in 2014. As a result, shipments in 2016 were at their lowest level since 2003. The fall in 2016 was due entirely to a 21% decline in shipments to the textile industry in China. Shipments of double jersey machinery, meanwhile, fell by 3% following a decline in 2015. However, the latter followed increases during 2012-14. As a result, shipments in 2016 were still at their third highest level on record. As in the case of single jersey machinery, the fall was due entirely to a 21% decline in shipments to the textile industry in China.

In the flat knitting sector, shipments of electronic flatbed knitting machinery shot up by 99% to a record high in 2016 following jumps of 52% in 2015 and 31% in 2014. The 99% increase in 2016 was due primarily to growth in shipments to the textile industry in China, although strong growth was also seen in shipments to the industries in several other countries, including Indonesia, Italy, Pakistan, Russia, Turkey and Vietnam.

GENERAL TRENDS

2016 was a mixed year for the international fabric machinery market

2016 was a mixed year for the international fabric machinery market, according to data supplied by the International Textile Manufacturers Federation (ITMF)[1].

[1] ITMF's survey data cover most of the world's shipments of textile machinery, based on data supplied by some 120 manufacturers of spinning, draw texturing, weaving and knitting machinery. These manufacturers represent almost all of the world's output of textile machinery.

There were increases in shipments of electronic flatbed knitting machinery and shuttleless weaving machinery but declines in shipments of single jersey circular knitting machinery and double jersey circular knitting machinery

There were increases in shipments of electronic flatbed knitting machinery and shuttleless weaving machinery. Furthermore, in both cases, shipments were above their respective annual averages over the ten years to 2016.

However, shipments of single jersey circular knitting machinery fell to their lowest level since 2003 and shipments of double jersey circular knitting machinery also declined, although they were still at their third highest level on record.

In the weaving sector, shipments of shuttleless looms rose by 4% although they were below the levels seen during 2010-12

In the **weaving sector**, shipments of shuttleless looms rose by 4% in 2016 following a 14% increase in 2015. But the latter came after declines of 14% in 2014, 4% in 2013 and 44% in 2012 and, as a result, shipments in 2016 were below the levels seen during 2010-12. However, they were above the levels seen in earlier years.

In the circular knitting sector, shipments of single jersey machinery fell by 1% to their lowest level since 2003 while shipments of double jersey machinery fell by 3% but were still at their third highest level on record

In the **circular knitting sector**, shipments of single jersey machinery fell by 1% in 2016 following a 3% decline in 2015 and a plunge of 57% in 2014. As a result, shipments were at their lowest level since 2003.

Shipments of double jersey machinery, meanwhile, fell by 3% following a 7% decline in 2015. However, the latter followed increases of 32% in 2014, 2% in 2013 and 24% in 2012 and, as a result, shipments in 2016 were still at their third highest level on record.

Shipments of electronic flatbed knitting machinery rose by 99% to a record high

In the **flat knitting sector**, shipments of electronic flatbed knitting machinery shot up by 99% in 2016 following jumps of 52% in 2015 and 31% in 2014. As a result, shipments reached a record high in 2016.

Among individual countries, shipments to the industry in China rose in the case of shuttleless looms and electronic flatbed knitting machinery but fell in the case of single jersey and double jersey circular knitting machinery, in line with global trends

Among **individual countries**, shipments to the textile industry in **China**—by far the largest market for weaving and knitting machinery—rose in 2016 in the case of shuttleless looms and electronic flatbed knitting machinery.

However, they fell in the case of single jersey circular knitting machinery and double jersey circular knitting machinery.

These developments were in line with global trends, reflecting the fact that a large share of global shipments goes to the Chinese textile industry.

Elsewhere, combined shipments of each of the three types of knitting machinery to all other national industries increased during the year—

Interestingly, in the case of single jersey circular knitting machinery and double jersey circular knitting machinery, the falls in shipments to the textile industry in China in absolute terms were larger than the declines in global shipments. In the case of electronic flatbed knitting machinery, however, the rise in shipments to the textile industry in China in absolute terms was less than the increase in global shipments.

These developments reflect the fact that combined shipments of each of these three types of machinery to all other national industries increased during the year.

—while in the case of shuttleless looms there was strong growth in shipments to the industries in several other countries—

In the case of shuttleless looms, the rise in shipments to the textile industry in China in absolute terms was larger than the increase in global shipments, reflecting a decline in combined shipments to all other national industries. However, the decline was due primarily to a drop in shipments to the industry in India alone and there was strong growth in shipments to the industries in several other countries.

—in line with predictions of a shift in textile and clothing production from China to other countries

The trends are in line with predictions that textile and clothing production will shift from China to countries throughout South Asia, South-East Asia and Africa, and to countries in closer proximity to the major clothing import markets.

Significantly, shipments to the textile industries in Germany, Italy and Pakistan rose in the case of all four types of machinery while shipments to the textile industries in Bangladesh, Brazil, Djibouti, Iran, Mexico, Portugal, Russia, Sri Lanka, Thailand, Turkey and the UK were up in the case of three types of machinery

Significantly, shipments to the textile industries in **Germany**, **Italy** and **Pakistan** rose in the case of all four types of machinery—namely shuttleless looms, single jersey circular knitting machinery, double jersey circular knitting machinery and electronic flatbed knitting machinery.

Elsewhere, there were increases in shipments to the textile industry in **Brazil** in the case of shuttleless looms, double jersey circular knitting machinery and electronic flatbed knitting machinery, and increases in shipments to the textile industries in **Mexico**, **Russia** and **Turkey** in the case of shuttleless looms, single jersey circular knitting machinery and electronic flatbed knitting machinery. Also, there were increases in shipments to the textile industries in **Djibouti**, **Sri Lanka** and the **UK** in the case of shuttleless looms, single jersey circular knitting machinery and double jersey circular knitting machinery, and increases in shipments to the textile industries in **Bangladesh**, **Iran**, **Portugal** and **Thailand** in the case of single jersey circular knitting machinery, double jersey circular knitting machinery and electronic flatbed knitting machinery.

However, shipments to the textile industry in the USA declined in the case of all four types of machinery while shipments to the textile industries in Egypt, Myanmar, South Korea and Uzbekistan fell in the case of three types of machinery

By contrast, there were declines in shipments to the textile industry in the **USA** in the case of all four types of machinery—namely shuttleless looms, single jersey circular knitting machinery, double jersey circular knitting machinery and electronic flatbed knitting machinery.

Also, there were falls in shipments to the textile industry in **Egypt** in the case of shuttleless looms, single jersey circular knitting machinery and electronic flatbed knitting machinery, and falls in shipments to the textile industries in **Myanmar**, **South Korea** and **Uzbekistan** in the case of single jersey circular knitting machinery, double jersey circular knitting machinery and electronic flatbed knitting machinery.

In 2017 trends in shipments are likely remain mixed, reflecting uncertainty in the global economy—

In **2017** trends in shipments of fabric production machinery are likely to remain mixed, reflecting uncertainty in the global economy.

—and in the Chinese textile and clothing industry in particular

In terms of **individual countries and regions**, it remains to be seen whether shipments of machinery to the textile industry in **China** will continue at their current level or fall in line with declines in Chinese textile and clothing exports, and whether growth in shipments of machinery to the textile industries in other countries will offset any declines in shipments to the industry in China.

Shipments to the textile industries in other Asian countries will rise as textile and clothing production is shifted from China, and there will also be an increase in shipments to the textile industries in Africa although investment in the region will remain relatively small

Shipments to the textile industries in **Central Asian**, **South Asian** and **South-East Asian** countries will rise as textile and clothing production is shifted from China to other countries in Asia.

Elsewhere, shipments to the textile industries in **Africa** are expected to increase as they will be buoyed by an expansion of the clothing industries in a number of countries in the region.

However, investment in the region is expected to remain relatively small in world terms.

In Europe and the Americas, there may be pockets of growth in investment in some of the smaller textile industries

In **Europe** and the **Americas**, meanwhile, some pockets of growth in investment are expected as brands and retailers based in the EU and the USA look to bring at least some of their production closer to home.

However, it is unlikely that there will be any substantial increases in shipments to the textile industries in these regions overall.

WEAVING

Global shipments of shuttleless looms rose by 3.9% in 2016 to their fourth highest level on record but they remained below the levels seen during 2010-12

In weaving, shipments of **shuttleless looms** to the world's textile industries rose by 3.9% to 84,733 machines in 2016 following a 13.8% increase in 2015. As a result, shipments reached their fourth highest level on record and were above their annual average over the ten years to 2016. However, they remained below the levels seen during 2010-12.

The rise was due primarily to an increase in shipments to the textile industry in China but there was also strong growth in shipments to the textile industries in several other countries

The rise in 2016 was due primarily to an increase in shipments to the textile industry in China (up by 4,621 machines, or 11.4%).

However, there was also strong growth in shipments to the textile industries in several other countries, including those in Myanmar (up by 2,980.0%), Djibouti (up by 2,500.0%), Austria (up by 600.0%), Belarus (up by 358.6%), Uzbekistan (up by 177.5%), Morocco (up by 176.7%), Russia (up by 149.4%), Germany (up by 101.1%), Pakistan (up by 95.4%), Belgium (up by 86.4%), France (up by 79.6%), Brazil (up by 72.8%) and Turkey (up by 59.9%).

By contrast, there were sharp declines in shipments to the textile industries in a number of other countries

By contrast, there were sharp declines in shipments to the textile industries in a number of other countries, including Thailand (down by 63.1%), Egypt (down by 46.4%), Malaysia (down by 39.7%), the Czech Republic (down by 39.1%), Taiwan (down by 31.5%), Indonesia (down by 30.2%), the USA (down by 26.8%), Iran (down by 22.4%), Vietnam (down by 19.7%) and India (down by 12.9%).

Regionally, the textile industries in Asia took 91.1% of global shipments

Regionally, the textile industries in Asia took as much as 91.1% of global shipments. However, this share was down from 92.6% in the previous year as shipments to these industries increased by only 2.2%.

Elsewhere, the textile industry in other Europe took 3.7% of global shipments and the industries in Western Europe took 2.4%

Elsewhere, the textile industry in other Europe (which comprises only Turkey, according to ITMF definitions) took 3.7% of global shipments. Next in importance were the industries in Western Europe (with a 2.4% share), followed by those in Eastern Europe (with a 0.9% share), North America (with a 0.8% share), Africa (with a 0.6% share) and South America (with a 0.5% share).

Among individual countries, the textile industry in China represented the largest market, followed by the industries in India, Bangladesh, Turkey and Pakistan

Among individual countries, the textile industry in China represented the largest market, having taken 53.1% of global shipments in 2016. Furthermore, this share was up from 49.5% a year earlier as shipments to the industry rose by 11.4%.

The second largest market was the textile industry in India with a 16.8% share of global shipments (down from 20.0% in 2015), followed by the industry in Bangladesh with a 9.1% share (down from 9.9% in 2015), the industry in Turkey with a 3.7% share (up from 2.4% in 2015) and the industry in Pakistan with a 3.3% share (up from 1.8% in 2015).

KNITTING

Circular knitting

The market for circular knitting machinery can be divided into two segments

The market for circular knitting machinery can be divided into two segments:

- single jersey circular knitting machinery; and
- double jersey circular knitting machinery.

Global shipments of single jersey circular knitting machinery declined in 2016 for the fourth consecutive year, by 1.4%, to their lowest level since 2003

Global shipments of **single jersey circular knitting machinery** declined by 1.4% to 9,235 machines in 2016 after falls of 3.4% in 2015, 56.7% in 2014 and 1.3% in 2013.

As a result, shipments in 2016 were down to their lowest level since 2003, having fallen from a record high in 2012.

The decline was due primarily to a 20.6% fall in shipments to the textile industry in China, although there were also sharp declines in shipments to the textile industries in several other countries

The decline in shipments in 2016 was due primarily to a 20.6% fall in shipments to the textile industry in China.

However, there were also sharp declines in shipments to the textile industries in several other countries—including Malaysia (down by 80.0%), Ethiopia (down by 52.8%), Honduras (down by 50.0%), Brazil (down by 34.4%), South Korea (down by 34.2%) and Egypt (down by 27.8%).

By contrast, there were increases in shipments to the textile industries in a number of other countries

By contrast, there was strong growth in shipments to the textile industries in a number of other countries, including the UAE (up by 2,600.0%), Djibouti (up by 328.6%), Poland (also up by 328.6%), Ukraine (up by 283.3%), Pakistan (up by 242.4%), Russia (up by 141.7%), Japan (up by 121.4%), Spain (up by 106.7%), Sri Lanka (up

by 96.3%), Germany (up by 85.7%), Iran (up by 77.6%), Taiwan (up by 65.3%), Thailand (up by 51.6%), Vietnam (up by 32.6%) and Bangladesh (up by 32.1%).

Regionally, the textile industries in Asia took 84.5% of global shipments

Regionally, the textile industries in Asia took as much as 84.5% of global shipments. However, this share was down slightly from 84.7% in the previous year as shipments to these industries declined by 1.7%.

Elsewhere, the textile industry in other Europe took 5.2% of global shipments and the industries in Africa took 2.6%

Elsewhere, the textile industry in other Europe (Turkey) took 5.2% of global shipments. Next in importance were the textile industries in Africa (with a 2.6% share), followed by those in South America (with a 2.5% share), Western Europe (with a 2.0% share), North America (with a 1.7% share) and Eastern Europe (with a 1.4% share).

Among individual countries, the textile industry in China was the largest market with a 36.0% share, followed by the industries in India, Bangladesh, Vietnam and Turkey

Among individual countries, the textile industry in China was the largest market, having taken 36.0% of global shipments, although this share was down from 44.7% a year earlier as shipments to the industry declined by 20.6% in 2016.

The second largest market was the textile industry in India with a 16.0% share of global shipments (up from 14.4% in 2015), followed by the industry in Bangladesh with a 12.0% share (up from 8.9% in 2015), the industry in Vietnam with a 5.9% share (up from 4.4% in 2015) and the industry in Turkey with a 5.2% share (up from 4.6% in 2015).

Global shipments of double jersey circular knitting machinery declined by 3.3% in 2016 following a 7.0% fall in 2015 but they were still at their third highest level on record

Global shipments of **double jersey circular knitting machinery** declined by 3.3% to 16,924 machines in 2016 following a 7.0% fall in 2015.

However, the fall in 2015 came after increases in five of the previous six years. As a result, shipments in 2016 were still at their third highest level on record.

The decline in 2016 was due primarily to a 21.1% fall in shipments to the textile industry in China although there were also sharp declines in shipments to the textile industries in several other countries

The decline in shipments in 2016 was due primarily to a 21.1% fall in shipments to the textile industry in China.

However, there were also sharp declines in shipments to the textile industries in several other countries—including Uzbekistan (down by 65.5%), Ethiopia (down by 63.9%), Singapore (down by 55.3%), Malaysia (down by 34.1%), Russia (down by 33.3%), the USA (down by 19.3%), Mexico (down by 17.9%), Peru (down by 16.7%) and South Korea (down by 16.2%).

By contrast, there were increases in shipments to the textile industries in a number of other countries

By contrast, there were increases in shipments to the textile industries in a number of other countries, including Kazakhstan (up by 4,300.0%), the UAE (up by 3,525.0%), Mauritius (up by 416.7%), Djibouti (up by 355.6%), Portugal (up by 323.8%), Belgium (up by 180.0%), Pakistan (up by 132.4%), Sri Lanka (up by 94.9%), Poland (up by 88.9%), Morocco (up by 75.0%), Iran (up by 61.5%), Spain (up by 45.0%), India (up by 44.1%), Bangladesh (up by 42.9%) and Indonesia (up by 35.5%).

Regionally, the textile industries in Asia took 89.0% of global shipments

Regionally, the textile industries in Asia took as much as 89.0% of global shipments. However, this share was down slightly from 89.3% in the previous year as shipments to the industries declined by 3.6%.

Elsewhere, the textile industry in other Europe took 3.1% of global shipments and the industries in Africa took 2.5%

Elsewhere, the textile industry in other Europe (Turkey) took 3.1% of global shipments. Next in importance were the industries in Africa (with a 2.5% share), followed by those in Western Europe (with a 2.3% share), North America (with a 1.3% share), South America (with a 1.2% share) and Eastern Europe (with a 0.5% share).

Among individual countries, the textile industry in China was the largest market with a 46.2% share, followed by the industries in India, Bangladesh, Vietnam and Indonesia

Among individual countries, the textile industry in China was the largest market, having taken 46.2% of global shipments in 2016. However, this share was down from 56.7% a year earlier as shipments to the industry declined by 21.1%.

The second largest market was the textile industry in India with a 16.3% share of global shipments (up from 10.9% in 2015), followed by the industry in Bangladesh with a 6.3% share (up from 4.3% in 2015), the industry in Vietnam with a 4.9% share (down from 5.0% in 2015) and the industry in Indonesia with a 3.5% share (up from 2.5% in 2015).

Flat knitting

Global shipments of electronic flatbed knitting machinery rose by 99.1% to a record high in 2016

Global shipments of **electronic flatbed knitting machinery** shot up by 99.1% to 139,636 machines in 2016 following jumps of 52.1% in 2015 and 31.0% in 2014. As a result, shipments in 2016 reached a record high.

The rise was due primarily to a surge in shipments to the textile industry in China although there was also strong growth in shipments to the textile industries in several other countries

The rise in shipments in 2016 was due primarily to a 186.3% surge in shipments to the textile industry in China.

However, there was also strong growth in shipments to the textile industries in several other countries—including Venezuela (up by 2,525.0%), Mongolia (up by 450.0%), Ukraine (up by 254.1%), Germany (up by 156.0%), Turkey (up by 124.4%), Russia (up by 123.0%), Vietnam (up by 98.4%), Spain (up by 90.1%), Pakistan (up by 71.9%), Mexico (up by 70.3%), Italy (up by 55.0%), Indonesia (up by 54.7%), Argentina (up by 51.5%) and Kenya (up by 46.5%).

By contrast, there were sharp declines in shipments to the textile industries in a number of other countries

By contrast, there were sharp declines in shipments to the textile industries in a number of other countries, including Myanmar (down by 51.0%), Sri Lanka (down by 50.4%), Mauritius (down by 47.1%), India (down by 25.7%), the USA (down by 22.1%), Kazakhstan (down by 21.1%), Malaysia (down by 11.5%) and Hong Kong (down by 11.0%).

Regionally, the textile industries in Asia took 94.1% of global shipments

Regionally, the textile industries in Asia took as much as 94.1% of global shipments. Furthermore, this share was up from 92.7% in the previous year as shipments to these industries shot up by 102.1%.

Elsewhere, the textile industry in other Europe took 2.1% of global shipments, and the industries in Western Europe took 1.5%

Elsewhere, the textile industry in other Europe (Turkey) took 2.1% of global shipments. Next in importance were the industries in Western Europe (with a 1.5% share), followed by the industries in Eastern Europe (with a 0.8% share), South America (with a 0.7% share), Africa (with a 0.5% share) and North America (with a 0.3% share).

Among individual countries, the textile industry in China was the largest market with a 72.7% share, followed by the industries in Bangladesh, Vietnam, Turkey and India

Among individual countries, the textile industry in China was the largest market, having taken 72.7% of global shipments. Furthermore, this share was up from 50.6% a year earlier as shipments to the industry surged by 186.3%.

The second largest market was the textile industry in Bangladesh with a 12.1% share of global shipments—although this was down from 23.6% in 2015 as a result of the surge in shipments to the textile industry in China (see page 167). Next in importance was the industry in Vietnam with a 2.6% share (unchanged from 2015), followed by the industry in Turkey with a 2.1% share (up from 1.9% in 2015) and the industry in India with a 2.0% share (down from 5.5% in 2015).

WEAVING MACHINERY

SHUTTLELESS LOOMS

In shuttleless loom weaving, weft is inserted using air jets, water jets, rigid or flexible rapiers, or projectiles

In shuttleless loom weaving, weft is inserted using such technologies as air jets, water jets, rigid or flexible rapiers, or projectiles.

Shuttleless looms have dominated weaving machinery shipments since the early 1990s.

In 2016 shipments rose by 3.9% to their fourth highest level on record, reflecting increases in shipments of water-jet looms an air-jet looms

In 2016 shipments of shuttleless looms to the world's mills rose by 3.9% to 84,733 machines. The rise followed a 13.8% increase in 2015 but this came after declines in the previous three years. As a result, shipments in 2016 remained below the levels seen during 2010-12. However, they were still at their fourth highest level on record.

The rise in 2016 was due to increases in shipments of water-jet looms and air-jet looms.

Shipments of water-jet looms rose by 6.2% to their fifth highest level on record

Shipments of **water-jet looms** rose by 6.2% to 31,792 machines during the year. The rise came after a 23.6% increase in 2015 but this followed declines of 30.0% in 2014, 13.4% in 2013 and 64.7% in 2012.

As a result, shipments in 2016 remained below the levels seen during 2010-13 but they were still at their fifth highest level on record, having remained above the levels seen prior to 2010.

Furthermore, the share of water-jet looms rose from 36.7% to 37.5%

Furthermore, the share of water-jet looms in total shipments of shuttleless looms rose from 36.7% to 37.5% between 2015 and 2016.

Global shipments of air-jet looms rose by 15.4% to their fifth highest level on record and the share of air-jet looms in total shipments of shuttleless looms increased, although this category of machine remained the least popular

Global shipments of **air-jet looms** rose by 15.4% to 22,908 machines in 2016, which represented their fifth highest level on record. Having said that, the rise in 2016 followed declines of 1.6% in 2015 and 19.3% in 2014 and, as a result, shipments in 2016 remained below the levels seen in 2012 and 2013.

The share of air-jet looms in total shipments of shuttleless looms increased from 24.3% to 27.0% between 2015 and 2016. However, in terms of shipments in 2016, this category of machine remained the least popular.

Global shipments of rapier and projectile looms fell by 5.5% and this category of shuttleless loom became the second most popular after constituting the most popular category in 2015

Global shipments of **rapier and projectile looms** fell by 5.5% to 30,033 machines in 2016.

As a result, the share of rapier and projectile looms in total shipments of shuttleless looms declined from 39.0% to 35.4% between 2015 and 2016 and this category of shuttleless loom became only the second most popular in terms of shipments in 2016 after constituting the most popular category in 2015.

Having said that, shipments were still at their second highest level since 2004

Having said that, the fall in shipments in 2016 came after five consecutive years of growth and, as a result, shipments in 2016 were at their second highest level since 2004.

Furthermore, shipments to the industries in Europe and the Americas increased in 2016 and accounted for the lion's share of shipments to the industries in Africa, North America and Europe

The fall in shipments of rapier and projectile looms in 2016 was due primarily to a decline in shipments to the textile industries in Asia. By contrast, there were increases in shipments to the industries in Europe—which have tended to favour these types of machines—and to the industries in the Americas.

In fact, rapier and projectile looms accounted in 2016 for the lion's share of shipments to the textile industries in Africa, North America, Western Europe, Eastern Europe and other Europe (which comprises only Turkey, according to ITMF definitions).

Table 1: Breakdown of shuttleless weaving machinery shipments by type and region, 2016

	Rapier/projectile		Air jet		Water jet		Total	
Destination	**No**	**% share**	**No**	**% share**	**No**	**% share**	**No**	**% share**
Asia[a]	24,834	82.7	20,830	90.9	31,519	99.1	77,183	91.1
Other Europe[b]	2,433	8.1	601	2.6	61	0.2	3,095	3.7
Western Europe	1,420	4.7	588	2.6	10	0.0	2,018	2.4
Eastern Europe	459	1.5	268	1.2	43	0.1	770	0.9
North America	390	1.3	257	1.1	46	0.1	693	0.8
Africa	284	0.9	82	0.4	113	0.4	479	0.6
South America	178	0.6	282	1.2	0	0.0	460	0.5
Not specified	35	0.1	0	0.0	0	0.0	35	0.0
World	**30,033**	**100.0**	**22,908**	**100.0**	**31,792**	**100.0**	**84,733**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

These types of machine are capable of producing smaller batches more efficiently than other types of shuttleless looms—

The continued preference of rapier and projectile looms in Europe is due partly to the fact that these types of machine are capable of producing smaller batches more efficiently than other types of shuttleless looms. Air-jet machines have relatively high weft insertion rates and set-up times are longer, which makes them better suited to producing longer runs.

—and they are capable of making more complicated fabrics

Also, rapier looms are capable of making fabrics which are more complex, such as home textiles, terry fabrics, technical fabrics and complicated apparel fabrics, whereas air-jet looms tend be to used for making basic fabrics such as apparel cloth and base cloth for printing.

Shuttleless looms: regional markets

Shipments of shuttleless looms to the textile industries in Asia rose by 2.2% in 2016

Shipments of shuttleless looms to the textile industries in **Asia** rose by 2.2%, or 1,635 machines, to 77,183 machines in 2016 (Table 2 and Figure 1).

However, their share of global shipments fell from 92.6% to 91.1%

However, the rise was slower than the increase in global shipments and, as a result, the share of global shipments which went to these industries fell from 92.6% to 91.1%.

Furthermore, shipments in 2016 were lower than their annual average over the ten years to 2016

Furthermore, shipments to the textile industries in Asia in 2016 were lower, albeit only marginally, than the annual average of 77,783 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industry in other Europe shot up by 59.9% to their highest level since 2003 and were well above their annual average over the ten years to 2016

Shipments of shuttleless looms to the textile industry in **other Europe** (Turkey)—the world's second largest regional market—shot up by 59.9% to 3,095 machines in 2016. As a result, the share of global shipments which went to the industry rose from 2.4% to 3.7%.

Furthermore, shipments in 2016 were at their highest level since 2003 and were well above the annual average of 1,826 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industries in Western Europe rose for the fourth consecutive year to their highest level since 2007 and the share of global shipments which went to these industries rose from 1.8% to 2.4%

Shipments of shuttleless looms to the textile industries in **Western Europe**—the world's third largest regional market—rose by 34.4% to 2,018 machines in 2016 following increases of 3.1% in 2015, 16.1% in 2014 and 65.4% in 2013.

As a result, shipments in 2016 were at their highest level since 2007 and were well above the annual average of 1,358 machines which were shipped to these industries over the ten years to 2016.

Furthermore, the share of global shipments which went to the industries rose from 1.8% to 2.4%.

Shipments to the textile industries in Eastern Europe shot up by 49.2%

Shipments of shuttleless looms to the textile industries in **Eastern Europe** shot up by 49.2% to 770 machines in 2016.

As a result, shipments were at their third highest level since 1998 and the industries constituted the fourth largest regional market after ranking sixth in the previous year

As a result, shipments were at their third highest level since 1998 and were well above the annual average of 552 machines which were shipped to the industries over the ten years to 2016.

Furthermore, the share of global shipments which went to these industries rose from 0.6% to 0.9% and the industries constituted the fourth largest regional market after ranking sixth in the previous year.

Shipments to the textile industries in North America rose by 3.1% to their highest level since 2003—

Shipments of shuttleless looms to the textile industries in **North America** rose by 3.1% to 693 machines in 2016, which represented their highest level since 2003. As a result, they were well above the annual average of 424 machines which were shipped to the industries over the ten years to 2016.

—but their share of global shipments remained static at just 0.8%

However, the share of global shipments which went to these industries remained static, at just 0.8%, and the industries continued to constitute the fifth largest regional market.

Shipments to the textile industries in Africa plunged by 54.8% to their lowest level since 2010 and the industries constituted the sixth largest regional market after ranking fourth in the previous year

Shipments of shuttleless looms to the textile industries in **Africa** plunged by 54.8% to 479 machines in 2016 following a 21.0% decline in the previous year. As a result, they were at their lowest level since 2010 and were well below the annual average of 693 machines which were shipped to the industries over the ten years to 2016.

Furthermore, the share of global shipments which went to these industries fell from 1.3% to just 0.6% and the industries constituted the sixth largest regional market after ranking fourth in the previous year.

Shipments to the textile industries in South America rose by 40.2% but they remained below their annual average over the ten years to 2016 and the industries continued to constitute the smallest regional market

Shipments of shuttleless looms to the textile industries in **South America** rose by 40.2% to 460 machines in 2016. However, the rise came after declines of 37.9% in 2015 and 49.3% in 2014 and, as a result, shipments in 2016 were well below the annual average of 709 machines which were shipped to the industries over the ten years to 2016.

Furthermore, although the share of global shipments which went to these industries edged up between 2015 and 2016, from 0.4% to 0.5%, the industries continued to constitute the smallest regional market.

Shuttleless looms: individual country markets

The largest national market for shuttleless looms in 2016 was the textile industry in China, for the 22nd year in a row

The largest national market for shuttleless looms in 2016, for the 22nd year in a row, was the textile industry in **China**.

Prior to 1995, the number one slot had been occupied by the textile industry in South Korea.

In 2016 shipments to the industry increased by 11.4% and their share of global shipments rose from 49.5% to 53.1%

In 2016 shipments to the textile industry in China increased by 11.4%, or 4,621 looms, to 44,997 looms.

As a result, the share of global shipments which went to the industry rose from 49.5% to 53.1%.

However, they remained below their annual average over the ten years to 2016

However, shipments in 2016 remained below the annual average of 55,413 machines which were shipped to the industry over the ten years to 2016.

The increase in shipments in 2016 was due to—

The increase in shipments of shuttleless looms to the Chinese textile industry in 2016 was due to rises in shipments of water-jet looms and air-jet looms.

—a 19.7% jump in shipments of air-jet looms—

The fastest rise was a 19.7% jump in shipments of air-jet looms, to 10,794 machines. However, the jump followed declines of 21.0% in 2015 and 30.1% in 2014 and, as a result, shipments in 2016 were at their second lowest level since 2009.

—and a 15.7% increase in shipments of water-jet looms

Shipments of water-jet looms increased by 15.7% to 25,533 machines following a 41.2% rise in the previous year. However, the latter followed declines of 48.9% in 2014, 11.1% in 2013 and 67.5% in 2012 and, as a result, shipments in 2016 remained below the levels seen during 2010-13. Nevertheless, they were still at their fifth highest level on record.

But shipments of rapier and projectile looms declined by 6.6%

Shipments of rapier and projectile looms, meanwhile, declined by 6.6% to 8,670 machines. However, the decline followed a 54.9% jump in the previous year and, as a result, shipments in 2016 were at their second highest level since 2009.

Shipments of shuttleless looms to the textile industry in India fell by 12.9% and, as a result, the industry's share of global shipments fell

Shipments of shuttleless looms to the textile industry in **India**—the world's second largest market—fell by 12.9% to 14,222 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 20.0% to 16.8%.

However, they were still at their third highest level on record and were well above their annual average over the ten years to 2016

Having said that, the fall followed increases in six of the previous seven years and, as a result, shipments in 2016 were still at their third highest level on record.

Furthermore, shipments were well above the annual average of 9,659 machines which were shipped to the industry over the ten years to 2016.

The decline in shipments in 2016 was due to—

The decline in shipments of shuttleless looms to the Indian textile industry in 2016 was due to falls in shipments of water-jet looms and rapier and projectile looms.

—a 27.6% fall in shipments of water-jet looms and a 26.2% fall in shipments of rapier and projectile looms

The steepest fall was a 27.6% decline in shipments of water-jet looms, to 3,848 machines. However, shipments were still at their third highest level on record, having remained above the levels seen prior to 2014.

Shipments of rapier and projectile looms, meanwhile, fell by 26.2% to 4,907 machines, which represented their lowest level since 2011.

Shipments of air-jet looms, by contrast, increased by 25.3% and this category of machine became the most popular after being the least popular in the previous year

Shipments of air-jet looms, by contrast, increased by 25.3% to a record high of 5,467 machines.

As a result, the share of air-jet looms in total shipments of shuttleless looms increased from 26.7% to 38.4% between 2015 and 2016 and this category of machine became the most popular after being the least popular in the previous year.

Shipments of shuttleless looms to the textile industry in Bangladesh fell by 3.8%

Shipments of shuttleless looms to the textile industry in **Bangladesh**—the world's third largest market—fell by 3.8% to 7,734 machines in 2016 and the share of global shipments which went to the industry declined from 9.9% to 9.1%.

However, they were still at their third highest level on record and were well above their annual average over the ten years to 2016

However, the fall in shipments came after four consecutive years of double digit growth and, as a result, shipments in 2016 were at their third highest level on record.

Furthermore, shipments were well above the annual average of 4,502 machines which were shipped to the industry over the ten years to 2016.

The fall in shipments of shuttleless looms in 2016 was due primarily to a decline in shipments of rapier and projectile looms

The fall in shipments of shuttleless looms to the textile industry in Bangladesh in 2016 was due primarily to a 3.4% decline in shipments of rapier and projectile looms, to 7,038 machines. Shipments of air-jet looms were down by 10.0% but were much lower in number, at 668 machines. In the case of water-jet looms, shipments surged by 211.1% but they remained minimal in absolute terms, at just 28 machines.

Shipments to the textile industry in Turkey shot up by 59.9% to their highest level since 2003 and were well above their annual average over the ten years to 2016

Shipments of shuttleless looms to the textile industry in **Turkey** shot up by 59.9% to 3,095 machines in 2016. As a result, the share of global shipments which went to the industry rose from 2.4% to 3.7% and Turkey climbed two places to become the world's fourth largest market.

Furthermore, shipments in 2016 were at their highest level since 2003 and were well above the annual average of 1,826 machines which were shipped to the industry over the ten years to 2016.

The rise in shipments in 2016 was due to increases in shipments of rapier and projectile looms and air-jet looms—

The rise in shipments of shuttleless looms to the Turkish textile industry in 2016 was due to increases in shipments of rapier and projectile looms and air-jet looms.

Shipments of rapier and projectile looms shot up by 61.7% to 2,433 machines—which represented their third highest level since 2003—while shipments of air-jet looms surged by 232.0% to 601 machines, which represented their highest level since 2003.

—as shipments of water-jet looms plunged

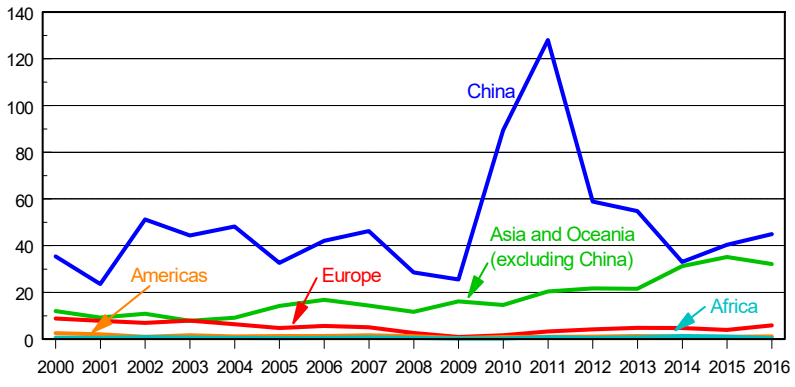
By contrast, shipments of water-jet looms plunged by 75.6% to 61 machines. As a result, they were at their lowest level since 2010.

Table 2: Shipments of shuttleless looms by region and leading countries of destination, 2015 and 2016

Rank			Shipments		% change	% share of world	
2015	2016		2015	2016	2016/15	2015	2016
1	1	Asia[a]	75,548	77,183	2.2	92.6	91.1
2	2	Other Europe[b]	1,936	3,095	59.9	2.4	3.7
3	3	Western Europe	1,501	2,018	34.4	1.8	2.4
6	4	Eastern Europe	516	770	49.2	0.6	0.9
5	5	North America	672	693	3.1	0.8	0.8
4	6	Africa	1,060	479	-54.8	1.3	0.6
7	7	South America	328	460	40.2	0.4	0.5
		Not specified	0	35	n/a	0.0	0.0
		World	**81,561**	**84,733**	**3.9**	**100.0**	**100.0**
1	1	China	40,376	44,997	11.4	49.5	53.1
2	2	India	16,326	14,222	-12.9	20.0	16.8
3	3	Bangladesh	8,039	7,734	-3.8	9.9	9.1
6	4	Turkey	1,936	3,095	59.9	2.4	3.7
7	5	Pakistan	1,441	2,815	95.4	1.8	3.3
4	6	Vietnam	3,161	2,537	-19.7	3.9	3.0
5	7	Indonesia	2,601	1,815	-30.2	3.2	2.1
9	8	Italy	677	845	24.8	0.8	1.0
10	9	Japan	592	576	-2.7	0.7	0.7
12	10	South Korea	454	571	25.8	0.6	0.7
13	11	Mexico	348	401	15.2	0.4	0.5
21	12	Germany	188	378	101.1	0.2	0.4
11	13	Taiwan	517	354	-31.5	0.6	0.4
8	14	Thailand	842	311	-63.1	1.0	0.4
22	15	Brazil	158	273	72.8	0.2	0.3
30	16	Uzbekistan	89	247	177.5	0.1	0.3
14	17	Iran	312	242	-22.4	0.4	0.3
31	18	Russia	85	212	149.4	0.1	0.3
20	19	Portugal	209	206	-1.4	0.3	0.2
15	20	USA	276	202	-26.8	0.3	0.2
66	21	Myanmar	5	154	2,980.0	0.0	0.2
54	22	Austria	20	140	600.0	0.0	0.2
18	22	Malaysia	232	140	-39.7	0.3	0.2
23	24	Spain	157	139	-11.5	0.2	0.2
50	25	Belarus	29	133	358.6	0.0	0.2
19	26	Egypt	220	118	-46.4	0.3	0.1
29	27	Sri Lanka	93	101	8.6	0.1	0.1
32	28	UK	81	99	22.2	0.1	0.1
36	29	France	49	88	79.6	0.1	0.1
34	30	Romania	59	86	45.8	0.1	0.1
48	31	Morocco	30	83	176.7	0.0	0.1
38	32	Belgium	44	82	86.4	0.1	0.1
n/a	33	Afghanistan	0	78	n/a	0.0	0.1
27	33	Czech Republic	128	78	-39.1	0.2	0.1
71	33	Djibouti	3	78	2,500.0	0.0	0.1
		World	**81,561**	**84,733**	**3.9**	**100.0**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Figure 1
Shipments of shuttleless looms, by region, 2000-16
('000 looms)



Source: ITMF

Shipments of shuttleless looms to the textile industry in Pakistan surged by 95.4% to a record high in 2016 and the industry climbed two places to become the world's fifth largest market

Shipments of shuttleless looms to the textile industry in **Pakistan** surged by 95.4% to a record high of 2,815 machines in 2016.

As a result, the share of global shipments which went to the industry rose from 1.8% to 3.3% and the industry climbed two places to become the world's fifth largest market.

Furthermore, shipments in 2016 were more than double the annual average of 1,219 machines which were shipped to the industry over the ten years to 2016.

Within the total for 2016, there were rises in shipments in all three main categories of shuttleless loom

Within the total for 2016, shipments rose in the case of all three main categories of shuttleless loom. Shipments of water-jet looms soared by 498.4% to 365 machines, shipments of air-jet looms shot up by 91.1% to 2,026 machines and shipments of rapier and projectile looms increased by 32.5% to 424 machines.

Shipments of shuttleless looms to the textile industry in Vietnam declined by 19.7% and the industry slipped two places to become the sixth largest market

Shipments of shuttleless looms to the textile industry in **Vietnam** declined by 19.7% to 2,537 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 3.9% to 3.0% and the industry slipped two places to become the sixth largest market.

That said, shipments were still at their second highest level on record and were more or less double their annual average over the ten years to 2016

Having said that, the decline in shipments in 2016 came after jumps of 59.9% in 2015 and 142.9% in 2014 and, as a result, shipments were still at their second highest level on record.

Furthermore, they were more or less double the annual average of 1,289 machines which were shipped to the industry over the ten years to 2016.

The decline in shipments in 2016 was due to falls in shipments of rapier and projectile looms and air-jet looms—

The decline in shipments of shuttleless looms to the Vietnamese textile industry in 2016 was due to falls in shipments of rapier and projectile looms and air-jet looms. Shipments of rapier and projectile looms fell by 38.4% to 1,204 machines while shipments of air-jet looms were down by 18.0% to 762 machines. However, shipments of both types of machinery remained above the levels seen prior to 2014.

—as shipments of water-jet looms shot up

Shipments of water-jet looms, meanwhile, shot up by 106.9% to 571 machines. As a result, they reached their highest level since 1999 and their second highest level on record.

Shipments of shuttleless looms to the textile industry in Indonesia plunged by 30.2% and the industry slipped two places to become the seventh largest market

Shipments of shuttleless looms to the textile industry in **Indonesia** plunged by 30.2% to 1,815 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 3.2% to 2.1% and the industry slipped two places to become the seventh largest market.

Also, shipments were below their annual average over the ten years to 2016

Furthermore, shipments in 2016 were below the annual average of 2,391 looms which were shipped to the industry over the ten years to 2016.

The plunge in shipments was due to falls in shipments of air-jet looms and water-jet looms as shipments of rapier and projectile looms rose

The plunge in shipments of shuttleless looms to the Indonesian textile industry in 2016 was due to falls in shipments of air-jet looms (down by 63.4% to 461 machines) and water-jet looms (down by 21.9% to 346 machines).

Shipments of rapier and projectile looms, by contrast, rose (by 12.1% to 1,008 machines).

Shipments of shuttleless looms to the textile industry in Italy rose by 24.8% and the industry climbed one place to become the eighth largest market

Shipments of shuttleless looms to the textile industry in **Italy** rose by 24.8% to 845 machines in 2016.

As a result, the share of global shipments which went to the industry increased from 0.8% to 1.0% and the industry climbed one place to become the eighth largest market.

In fact, shipments were at their highest level since 2007 although they remained below the levels seen in earlier years

The rise in shipments in 2016 represented the sixth increase in seven years. As a result, shipments were at their highest level since 2007 although they remained below the levels seen in earlier years. Nevertheless, they were above the annual average of 622 machines which were shipped to the industry over the ten years to 2016.

The rise in shipments in 2016 was due to increases in shipments of rapier and projectile looms and air-jet looms

The rise in shipments to the Italian textile industry in 2016 was due to increases in shipments of rapier and projectile looms (up by 28.3% to 735 machines) and air-jet looms (up by 5.8% to 110 machines). No water-jet looms were shipped to the industry in 2016, as in 2015.

Shipments of shuttleless looms to the textile industry in Japan edged down by 2.7% but the industry climbed one place to become the ninth largest market

Shipments of shuttleless looms to the textile industry in **Japan** edged down by 2.7% to 576 machines in 2016. However, the share of global shipments which went to the industry remained stable at 0.7% and the industry climbed one place to become the ninth largest market.

Furthermore, shipments were above the annual average of 459 machines which were shipped to the industry over the ten years to 2016.

The fall in shipments was due entirely to a plunge in shipments of rapier and projectile looms

The fall in shipments of shuttleless looms to the Japanese textile industry in 2016 was due entirely to a plunge in shipments of rapier and projectile looms (down by 46.8% to 101 machines).

By contrast, there were increases in shipments of air-jet looms (up by 20.7% to 309 machines) and water-jet looms (up by 13.7% to 166 machines).

Shipments of shuttleless looms to the textile industry in South Korea rose by 25.8% and the industry climbed two places to become the tenth largest market

Shipments of shuttleless looms to the textile industry in **South Korea** rose by 25.8% to 571 machines in 2016.

As a result, the share of global shipments which went to the industry increased from 0.6% to 0.7% and the industry climbed two places to become the tenth largest market.

However, shipments were well below their annual average over the ten years to 2016

However, the rise in shipments came after four consecutive years of decline and, as a result, shipments in 2016 were at their second lowest level since 2009 and were well below the annual average of 915 machines which were shipped to the industry over the ten years to 2016.

The rise in shipments in 2016 was due to increases in shipments of water-jet looms and air-jet looms—

The rise in shipments of shuttleless looms to the South Korean textile industry in 2016 was due to increases in shipments of water-jet looms and air-jet looms. Shipments of water-jet looms surged by 221.6% to 328 machines while shipments of air-jet looms shot up by 58.2% to 125 machines.

—as shipments of rapier and projectile looms plunged

By contrast, shipments of rapier and projectile looms plunged by 56.8% to 118 machines.

Over the ten years to 2016, the largest national market for shuttleless looms was the textile industry in China with a 66.5% share of global shipments, followed by the industries in India, Bangladesh, Indonesia, Turkey, Vietnam, Pakistan, South Korea, Italy and Taiwan

Over the ten years to 2016 (Table 4), the largest national market for shuttleless looms was the textile industry in China with a 66.5% share of global shipments during this period. The industry in India was a distant second with an 11.6% share.

The third largest national market was the industry in Bangladesh (with a 5.4% share), followed by the industries in Indonesia (with a 2.9% share), Turkey (with a 2.2% share), Vietnam (with a 1.5% share), Pakistan (also with a 1.5% share), South Korea (with a 1.1% share), Italy (with a 0.7% share) and Taiwan (also with a 0.7% share).

Table 3: Installed capacity of shuttleless looms[a] by region and leading countries, 2015 and 2016

Rank			Installed capacity		% change	% share of world	
2015	2016		2015	2016	2016/15	2015	2016
1	1	Asia[b]	1,045,807	1,101,140	5.3	75.0	76.7
2	2	Eastern Europe	108,966	108,950	0.0	7.8	7.6
3	3	North America	71,584	71,584	0.0	5.1	5.0
4	4	South America	62,482	60,318	-3.5	4.5	4.2
5	5	Other Europe[c]	47,000	48,000	2.1	3.4	3.3
6	6	Western Europe	43,125	30,875	-28.4	3.1	2.1
7	7	Africa	15,958	15,555	-2.5	1.1	1.1
		World	**1,394,922**	**1,436,422**	**3.0**	**100.0**	**100.0**
1	1	China	760,000	805,000	5.9	54.5	56.0
2	2	Thailand	78,900	79,600	0.9	5.7	5.5
3	3	Indonesia	62,437	68,914	10.4	4.5	4.3
4	4	Russia	55,900	55,900	0.0	4.0	3.9
5	5	Turkey	47,000	48,000	2.1	3.4	3.3
6	6	Brazil	46,002	43,838	-4.7	3.3	3.1
7	7	Mexico	35,494	35,494	0.0	2.5	2.5
8	8	Bangladesh	30,090	33,835	12.4	2.2	2.1
9	9	Pakistan	28,100	28,100	0.0	2.0	2.0
10	10	USA	27,600	27,600	0.0	2.0	1.9
11	11	Taiwan	19,165	18,936	-1.2	1.4	1.3
12	12	Ukraine	18,000	18,000	0.0	1.3	1.3
13	13	India	16,120	15,713	-2.5	1.2	1.1
15	14	Iran	10,500	10,500	0.0	0.8	0.7
16	15	Portugal	9,050	9,050	0.0	0.6	0.6
17	16	Hong Kong	8,000	8,000	0.0	0.6	0.6
18	17	Italy	6,900	6,900	0.0	0.5	0.5
19	18	Vietnam	6,800	6,800	0.0	0.5	0.5
20	19	Argentina	6,500	6,500	0.0	0.5	0.5
21	20	Bulgaria	6,000	6,000	0.0	0.4	0.4
22	21	Armenia	5,000	5,000	0.0	0.4	0.3
22	21	Romania	5,000	5,000	0.0	0.4	0.3
24	23	Tajikistan	4,600	4,600	0.0	0.3	0.3
25	24	Czech Republic	4,400	4,400	0.0	0.3	0.3
26	25	Colombia	4,000	4,000	0.0	0.3	0.3
26	25	Cuba	4,000	4,000	0.0	0.3	0.3
28	27	Japan	3,963	3,960	-0.1	0.3	0.3
29	28	Belgium	3,720	3,720	0.0	0.3	0.3
30	29	Estonia	3,700	3,700	0.0	0.3	0.3
31	30	Nigeria	3,300	3,300	0.0	0.2	0.2
32	31	Azerbaijan	3,000	3,000	0.0	0.2	0.2
32	31	Canada	3,000	3,000	0.0	0.2	0.2
32	31	UK	3,000	3,000	0.0	0.2	0.2
14	34	Spain	15,000	2,750	-81.7	1.1	0.2
35	35	Syria	2,700	2,700	0.0	0.2	0.2
		World	**1,394,922**	**21,450**	**-98.5**	**100.0**	**1.5**

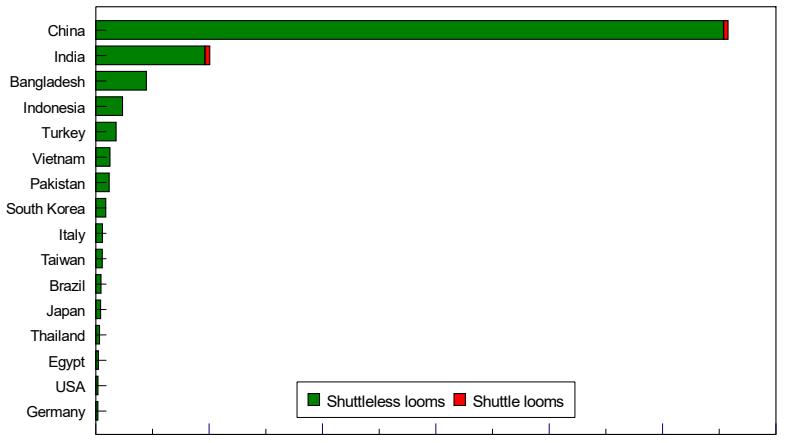
NB: data are as at January 1; percentage share calculations may not sum precisely due to rounding.
[a] Automatic and non-automatic looms, 75 cm or wider, installed in mills. [b] Includes Oceania. [c] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Table 4: Cumulative shipments of shuttleless and shuttle looms by region and leading countries of destination, 2007-16

Shuttleless looms				Shuttle looms			
Rank		**No**	**% share**	**Rank**		**No**	**% share**
1	Asia[a]	777,832	93.3	1	Asia[a]	8,456	99.6
2	Other Europe[b]	18,257	2.2	2	Western Europe	34	0.4
3	Western Europe	13,576	1.6	3	North America	3	0.0
4	South America	7,086	0.9	n/a	Africa	0	0.0
5	Africa	6,932	0.8	n/a	Eastern Europe	0	0.0
6	Eastern Europe	5,515	0.7	n/a	Other Europe[b]	0	0.0
7	North America	4,239	0.5	n/a	South America	0	0.0
	Not specified	37	0.0		Not specified	0	0.0
	World	**833,474**	**100.0**		**World**	**8,493**	**100.0**
1	China	554,125	66.5	1	India	4,319	50.9
2	India	96,585	11.6	2	China	4,061	47.8
3	Bangladesh	45,018	5.4	3	Indonesia	60	0.7
4	Indonesia	23,912	2.9	4	Italy	34	0.4
5	Turkey	18,257	2.2	5	Nepal	6	0.1
6	Vietnam	12,887	1.5	5	Yemen	6	0.1
7	Pakistan	12,191	1.5	6	USA	3	0.0
8	South Korea	9,153	1.1	8	Afghanistan	2	0.0
9	Italy	6,219	0.7	8	Thailand	2	0.0
10	Taiwan	6,048	0.7				
11	Brazil	4,909	0.6				
12	Japan	4,593	0.6				
13	Thailand	3,678	0.4				
14	Egypt	2,626	0.3				
15	USA	2,287	0.3				
16	Germany	2,185	0.3				
17	Mexico	1,484	0.2				
18	Iran	1,401	0.2				
19	Russia	1,232	0.1				
20	Portugal	1,144	0.1				
21	France	1,057	0.1				
22	Malaysia	1,035	0.1				
23	Czech Republic	1,023	0.1				
24	Syria	888	0.1				
25	Spain	873	0.1				
26	Saudi Arabia	863	0.1				
27	Uzbekistan	819	0.1				
28	Romania	774	0.1				
29	Ethiopia	768	0.1				
30	Hong Kong	648	0.1				
31	Belarus	625	0.1				
32	Belgium	601	0.1				
33	Argentina	596	0.1				
34	Turkmenistan	571	0.1				
35	Colombia	562	0.1				
	World	**833,474**	**100.0**		**World**	**8,493**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Figure 2
Cumulative shipments of weaving machinery, selected countries, 2007-16



Source: ITMF

CIRCULAR KNITTING MACHINERY

In this report, circular knitting machinery is divided into single jersey machinery and double jersey machinery

In this report, circular knitting machinery is divided into two categories:

- single jersey machinery; and
- double jersey machinery.

Single jersey machines are used to produce plain single thickness fabrics while double jersey machines have an extra set of needles and can make double, thicker fabrics

Single jersey machines are equipped with a single cylinder of needles and are used to produce plain single thickness fabrics.

Double jersey machines are single jersey machines with a "dial" which houses an extra set of needles positioned horizontally adjacent to the vertical cylinder needles. The extra set of needles facilitates the production of double, thicker fabrics.

Each category is further divided into two size ranges

Each category is further divided into two size ranges, namely:

- machines with diameters of up to 24" (61 cm); and
- machines with diameters of 26" (66 cm) or more.

Larger machines are used for producing made-up garments while smaller ones are used to make seamless garments

In general, circular knitting machines with diameters of 26" or more are used for the production of made-up garments.

Machines with diameters of 24" or less, on the other hand, are "body size machines" which are used for making seamless garments.

Single jersey machines accounted for 35.3% of global shipments in 2016 while double jersey machines accounted for 64.7%

Single jersey machines accounted for 35.3% of global shipments of circular knitting machinery in 2016 (Table 5). This share was up slightly compared with 34.9% in the previous year, despite a 1.4% decline in shipments of this type of machinery in 2016.

Shipments of double jersey machines fell by a steeper 3.3% and their share of global shipments of all circular knitting machinery declined from 65.1% to 64.7%.

Table 5: Breakdown of circular knitting machinery shipments by type and region, 2016

	Single				Double						
	Up to 24"		26" or over		Up to 24"		26" or over		Total		Jacquard
Destination	**No**	**% share**	**No**	**% share**	**No**	**% share**	**No**	**% share**	**No**	**% share**	**electronics[a]**
Asia[b]	1,837	8.0	5,967	26.1	254	1.1	14,811	64.8	22,869	100.0	1,369
Other Europe[c]	27	2.7	454	44.8	28	2.8	504	49.8	1,013	100.0	178
Africa	49	7.4	193	29.2	3	0.5	417	63.0	662	100.0	34
Western Europe	24	4.1	163	27.9	2	0.3	395	67.6	584	100.0	141
South America	11	2.6	219	50.9	12	2.8	188	43.7	430	100.0	22
North America	7	1.9	152	40.4	0	0.0	217	57.7	376	100.0	68
Eastern Europe	10	4.4	122	54.2	5	2.2	88	39.1	225	100.0	9
World	**1,965**	**7.5**	**7,270**	**27.8**	**304**	**1.2**	**16,620**	**63.5**	**26,159**	**100.0**	**1,821**

NB: calculations are based on unrounded data; numbers may not sum precisely due to rounding.
[a] Amount of total which include Jacquard electronics. [b] Includes Oceania. [c] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Larger machines made up 91.3% of global shipments and smaller machines the remaining 8.7%

Within the overall total for 2016, larger machines—those with diameters of 26" or over—made up a commanding 91.3% of global shipments, although this share was down slightly from 91.4% in the previous year.

Meanwhile, smaller machines—those with diameters of 24" or less—accounted for 8.7% of global shipments in 2016, up from 8.6% in the previous year.

Shipments of larger machines fell at a steeper rate than shipments of smaller machines

Shipments declined in the case of larger machines and smaller machines. However, shipments of larger machines fell at a steeper rate (down by 2.7%) than shipments of smaller machines (down by 1.9%).

The fall in shipments of smaller machines was due to a decline in shipments of single jersey machines while the fall in shipments of larger machines was due to declines in shipments of single jersey and double jersey machines

In the case of smaller machines, the fall in shipments was due to a 3.0% decline in shipments of single jersey circular knitting machinery. Shipments of double jersey circular knitting machinery, by contrast, were up by 5.6%.

In the case of larger machines, the fall in shipments was due to declines in shipments of single jersey circular knitting machinery (down by 1.0%) and shipments of double jersey circular knitting machinery (down by 3.4%).

But larger double jersey machines continued to account for the lion's share of total shipments

However, larger double jersey machines continued to account for the lion's share of total shipments of circular knitting machinery, at 63.5%.

SINGLE JERSEY CIRCULAR KNITTING MACHINERY

Global shipments of single jersey circular knitting machinery fell by 1.4% in 2016 to their lowest level since 2003

Global shipments of single jersey circular knitting machinery fell by 1.4% to 9,235 machines in 2016 (Table 6).

The fall followed declines of 3.4% in 2015, 56.7% in 2014 and 1.3% in 2013 and, as a result, shipments in 2016 were at their lowest level since 2003.

Single jersey circular knitting machinery: regional markets

Shipments of single jersey circular knitting machinery to the textile industries in Asia fell by 1.7% in 2016 to their lowest level since 2003 and were well below the annual average number shipped over the ten years to 2016

Shipments of single jersey circular knitting machinery to the textile industries in **Asia** fell by 1.7% to 7,804 machines in 2016, following declines of 3.1% in 2015, 60.1% in 2014 and 0.6% in 2013.

As a result, as in the case of global shipments, shipments to these industries fell to their lowest level since 2003 and were well below the annual average of 13,435 machines which were shipped to the industries over the ten years to 2016.

Their share of global shipments also fell but the industries continued to constitute by far the largest regional market

Furthermore, the share of global shipments which went to these industries fell from 84.7% to 84.5%.

Nevertheless, the industries continued to constitute by far the largest regional market.

Shipments to the textile industry in other Europe rose by 10.6% and the industry continued to constitute the second largest regional market

Shipments of single jersey circular knitting machinery to the textile industry in **other Europe** (Turkey) increased by 10.6% to 481 machines in 2016.

As a result, the share of global shipments which went to the industry rose from 4.6% to 5.2% and the industry continued to constitute the second largest regional market.

However, the rise came after three years of double digit decline and, as a result, shipments were at their third lowest level since 2001

However, the rise in shipments in 2016 came after declines of 21.5% in 2015, 32.6% in 2014 and 15.3% in 2013. As a result, shipments were at their second lowest level since 2009 and their third lowest level since 2001, and were well below the annual average of 659 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industries in Africa fell by 29.0% and the share of global shipments which went to the industries fell

Shipments of single jersey circular knitting machinery to the textile industries in **Africa** fell by 29.0% to 242 machines in 2016 and the share of global shipments which went to the industries fell from 3.6% to 2.6%. However, the industries continued to constitute the third largest regional market.

But shipments were above their annual average over the ten years to 2016

Also, the fall in shipments in 2016 followed jumps of 26.3% in 2015 and 57.9% in 2014 and, as a result, shipments in 2016 remained above the annual average of 227 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industries in South America fell for the sixth consecutive year

Shipments of single jersey circular knitting machinery to the textile industries in **South America** declined by 15.1% to 230 machines in 2016, following declines of 17.9% in 2015, 36.0% in 2014, 6.5% in 2013, 12.8% in 2012 and 22.5% in 2011.

As a result, they were at their lowest level since 2003

As a result, shipments in 2016 were at their lowest level since 2003 and were well below the annual average of 565 machines which were shipped to the industries over the ten years to 2016.

Furthermore, the share of global shipments which went to these industries fell

Furthermore, the share of global shipments which went to these industries fell from 2.9% in 2015 to 2.5% in 2016 although the industries continued to constitute the fourth largest regional market.

Shipments to the textile industries in Western Europe increased by 31.7%

Shipments of single jersey circular knitting machinery to the textile industries in **Western Europe** increased by 31.7% to 187 machines in 2016.

As a result, the industries ranked fifth after ranking sixth in the previous year and shipments were above their annual average over the ten years to 2016

As a result, the share of global shipments which went to these industries rose from 1.5% to 2.0% and the industries constituted the fifth largest regional market after ranking sixth in the previous year.

Furthermore, shipments in 2016 were above the annual average of 174 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in North America declined by 18.9% and their share of global shipments fell from 2.1% to 1.7%

Shipments of single jersey circular knitting machinery to the textile industries in **North America** declined by 18.9% to 159 machines in 2016. As a result, the share of global shipments which went to these industries fell from 2.1% to 1.7% and the industries constituted the sixth largest regional market after constituting the fifth largest regional market a year earlier.

Also, they were below their annual average over the ten years to 2016

Furthermore, the number of machines shipped to the industries in 2016 was below the annual average of 177 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in Eastern Europe shot up by 193.3%—

Shipments of single jersey circular knitting machinery to the textile industries in **Eastern Europe** shot up by 193.3% to 132 machines in 2016 and the share of global shipments which went to these industries rose from 0.5% to 1.4%.

—and were more than double their annual average over the ten years to 2016

Furthermore, shipments in 2016 were at their highest level since 2000 and were more than double the annual average of 63 machines which were shipped to the industries over the ten years to 2016.

However, the industries continued to constitute the smallest regional market

However, the industries continued to constitute the smallest regional market.

Table 6: Shipments of single jersey circular knitting machinery by region and leading countries of destination, 2015 and 2016

Rank			Shipments		% change	% share of world	
2015	2016		2015	2016	2016/15	2015	2016
1	1	Asia[a]	7,938	7,804	-1.7	84.7	84.5
2	2	Other Europe[b]	435	481	10.6	4.6	5.2
3	3	Africa	341	242	-29.0	3.6	2.6
4	4	South America	271	230	-15.1	2.9	2.5
6	5	Western Europe	142	187	31.7	1.5	2.0
5	6	North America	196	159	-18.9	2.1	1.7
7	7	Eastern Europe	45	132	193.3	0.5	1.4
		World	**9,368**	**9,235**	**-1.4**	**100.0**	**100.0**
1	1	China	4,183	3,323	-20.6	44.7	36.0
2	2	India	1,345	1,481	10.1	14.4	16.0
3	3	Bangladesh	837	1,106	32.1	8.9	12.0
5	4	Vietnam	414	549	32.6	4.4	5.9
4	5	Turkey	435	481	10.6	4.6	5.2
6	6	Indonesia	337	318	-5.6	3.6	3.4
15	7	Pakistan	59	202	242.4	0.6	2.2
10	8	Taiwan	121	200	65.3	1.3	2.2
7	9	Egypt	187	135	-27.8	2.0	1.5
8	10	South Korea	155	102	-34.2	1.7	1.1
13	11	Thailand	62	94	51.6	0.7	1.0
19	12	Iran	49	87	77.6	0.5	0.9
9	13	Brazil	125	82	-34.4	1.3	0.9
12	14	Argentina	65	77	18.5	0.7	0.8
14	15	Mexico	60	70	16.7	0.6	0.8
30	16	Russia	24	58	141.7	0.3	0.6
16	17	Philippines	56	56	0.0	0.6	0.6
60	18	UAE	2	54	2,600.0	0.0	0.6
29	19	Sri Lanka	27	53	96.3	0.3	0.6
17	20	Italy	51	52	2.0	0.5	0.6
18	21	USA	50	43	-14.0	0.5	0.5
23	22	Colombia	40	42	5.0	0.4	0.5
20	23	Uzbekistan	48	41	-14.6	0.5	0.4
32	24	Germany	21	39	85.7	0.2	0.4
25	25	Portugal	35	38	8.6	0.4	0.4
37	26	Japan	14	31	121.4	0.1	0.3
36	26	Spain	15	31	106.7	0.2	0.3
44	28	Djibouti	7	30	328.6	0.1	0.3
44	28	Poland	7	30	328.6	0.1	0.3
n/a	30	Kyrgyzstan	0	23	n/a	0.0	0.2
27	30	Peru	28	23	-17.9	0.3	0.2
48	30	Ukraine	6	23	283.3	0.1	0.2
21	33	Honduras	44	22	-50.0	0.5	0.2
11	34	Malaysia	105	21	-80.0	1.1	0.2
24	35	Ethiopia	36	17	-52.8	0.4	0.2
		World	**9,368**	**9,235**	**-1.4**	**100.0**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Single jersey circular knitting machinery: individual country markets

The largest national market for single jersey circular knitting machinery in 2016 was the textile industry in China

By far the largest national market for single jersey circular knitting machinery in 2016 was the textile industry in **China**.

In fact, China has held first place since 1999, when it displaced the USA.

However, shipments to the industry were down by 20.6% to their lowest level since 2003—

However, shipments to the industry in China were down by 20.6% to 3,323 machines in 2016 following a 14.6% decline in 2015 and a plunge of 70.7% in 2014. As a result, they were at their lowest level since 2003. Furthermore, the fall in 2016 accounted for the entire decline in global shipments. As a result, the share of global shipments which went to the industry fell from 44.7% to 36.0%.

—and were only a third of their annual average over the ten years to 2016

Moreover, the number of machines shipped in 2016 was only a third of the annual average of 9,967 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in India rose by 10.1% to a record high for the second consecutive year—

Shipments of single jersey circular knitting machinery to the textile industry in **India** rose by 10.1% to 1,481 machines in 2016 following a 34.4% jump in the previous year. As a result, they reached a record high in 2016 for the second consecutive year and were well above the annual average of 920 machines which were shipped to the industry over the ten years to 2016.

—and their share of global shipments increased from 14.4% to 16.0%

Furthermore, the share of global shipments which went to the industry increased from 14.4% to 16.0% and the industry remained the second largest market.

Shipments to the textile industry in Bangladesh increased by 32.1% to a record high—

Shipments of single jersey circular knitting machinery to the textile industry in **Bangladesh** increased by 32.1% to 1,106 machines in 2016 following a 61.3% jump in the previous year. As a result, shipments reached a record high and were well above the annual average of 739 machines which were shipped to the industry over the ten years to 2016.

—and their share of global shipments increased from 8.9% to 12.0%

Furthermore, the share of global shipments which went to the industry rose from 8.9% to 12.0% and the industry remained the third largest market.

Shipments to the textile industry in Vietnam increased by 32.6% to a record high—

Shipments of single jersey circular knitting machinery to the textile industry in **Vietnam** increased by 32.6% to 549 machines in 2016.

The increase came after a 2.8% decline in 2015 but this followed increases of 76.8% in 2014 and 49.7% in 2013. As a result, shipments reached a record high in 2016 and were more than double the annual average of 238 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed one place to become the fourth largest market

Furthermore, the share of global shipments which went to the industry rose from 4.4% to 5.9% and the industry climbed one place to become the fourth largest market.

Shipments to the textile industry in other Europe rose by 10.6% but the industry slipped one place to become the fifth largest market

Shipments of single jersey circular knitting machinery to the textile industry in **Turkey** increased by 10.6% to 481 machines in 2016 and the share of global shipments which went to the industry rose from 4.6% to 5.2%.

However, the industry slipped one place to become the fifth largest market.

Furthermore, the rise came after three consecutive double digit declines and, as a result, shipments were at their third lowest level since 2001

Furthermore, the rise in shipments in 2016 came after declines of 21.5% in 2015, 32.6% in 2014 and 15.3% in 2013. As a result, shipments in 2016 were at their second lowest level since 2009 and their third lowest level since 2001, and were well below the annual average of 659 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in Indonesia declined by 5.6%

Shipments of single jersey circular knitting machinery to the textile industry in **Indonesia**—the sixth largest market—declined by 5.6% to 318 machines in 2016. As a result, the share of global shipments which went to the industry fell from 3.6% to 3.4%.

The decline represented the third in four years and, as a result, shipments were at their lowest level since 2005

Furthermore, the decline in shipments represented the third in four years, having followed a 4.0% rise in 2015 and sharp declines of 39.6% in 2014 and 43.6% in 2013. As a result, shipments in 2016 were at their lowest level since 2005 and were well below the annual average of 468 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in Pakistan surged by 242.4% to their highest level since 2003—

Shipments of single jersey circular knitting machinery to the textile industry in **Pakistan** surged by 242.4% to 202 machines in 2016. As a result, they were at their highest level since 2003 and were well over double the annual average of 77 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed eight places to become the seventh largest market

Furthermore, the share of global shipments which went to the industry rose from 0.6% to 2.2% and the industry climbed eight places to become the seventh largest market.

Shipments to the textile industry in Taiwan shot up by 65.3% and were well above their annual average over the ten years to 2016

Shipments of single jersey circular knitting machinery to the textile industry in **Taiwan** shot up by 65.3% to 200 machines in 2016.

As a result, shipments were well above the annual average of 146 machines which were shipped to the industry over the ten years to 2016.

Table 7: Cumulative shipments of circular knitting machinery by type, region and leading countries of destination, 2007-16

Single			%	Double			%	Total			%
Rank		No	share	Rank		No	share	Rank		No	share
1	Asia[a]	134,345	87.7	1	Asia[a]	126,761	91.0	1	Asia[a]	261,106	89.3
2	Other Europe[b]	6,585	4.3	2	Other Europe[b]	3,967	2.8	2	Other Europe[b]	10,552	3.6
3	South America	5,646	3.7	3	South America	2,068	1.5	3	South America	7,714	2.6
4	Africa	2,267	1.5	4	Africa	2,018	1.4	4	Africa	4,285	1.5
5	North America	1,774	1.2	5	Western Europe	1,996	1.4	5	Western Europe	3,740	1.3
6	Western Europe	1,744	1.1	6	North America	1,770	1.3	6	North America	3,544	1.2
7	Eastern Europe	631	0.4	7	Eastern Europe	560	0.4	7	Eastern Europe	1,191	0.4
	Not Specified	185	0.1		Not Specified	100	0.1		Not Specified	285	0.1
	World	**153,177**	**100.0**		**World**	**139,240**	**100.0**		**World**	**292,417**	**100.0**
1	China	99,669	65.1	1	China	95,891	68.9	1	China	195,560	66.9
2	India	9,196	6.0	2	India	9,429	6.8	2	India	18,625	6.4
3	Bangladesh	7,386	4.8	3	Bangladesh	4,197	3.0	3	Bangladesh	11,583	4.0
4	Turkey	6,585	4.3	4	Turkey	3,967	2.8	4	Turkey	10,552	3.6
5	Indonesia	4,679	3.1	5	Indonesia	3,075	2.2	5	Indonesia	7,754	2.7
6	Brazil	3,648	2.4	6	Vietnam	2,903	2.1	6	Vietnam	5,285	1.8
7	Vietnam	2,382	1.6	7	Taiwan	2,029	1.5	7	Brazil	4,736	1.6
8	South Korea	2,257	1.5	8	South Korea	1,589	1.1	8	South Korea	3,846	1.3
9	Taiwan	1,464	1.0	9	Thailand	1,436	1.0	9	Taiwan	3,493	1.2
10	Egypt	1,251	0.8	10	Macau	1,265	0.9	10	Thailand	2,452	0.8
11	Macau	1,035	0.7	11	Brazil	1,088	0.8	11	Macau	2,300	0.8
12	Thailand	1,016	0.7	12	USA	849	0.6	12	Egypt	2,042	0.7
13	Pakistan	767	0.5	13	Egypt	791	0.6	13	USA	1,545	0.5
14	Argentina	757	0.5	14	Italy	650	0.5	14	Pakistan	1,403	0.5
15	USA	696	0.5	15	Pakistan	636	0.5	15	Iran	1,303	0.4
16	Uzbekistan	685	0.4	16	Iran	632	0.5	16	Italy	1,266	0.4
17	Iran	671	0.4	17	Uzbekistan	551	0.4	17	Uzbekistan	1,230	0.4
18	Italy	616	0.4	18	Singapore	516	0.4	18	Argentina	1,052	0.4
19	Peru	555	0.4	19	Japan	456	0.3	19	Singapore	970	0.3
20	Malaysia	511	0.3	20	UAE	452	0.3	20	Mexico	860	0.3
21	Colombia	473	0.3	21	Mexico	414	0.3	21	Peru	857	0.3
22	Philippines	463	0.3	22	Hong Kong	370	0.3	22	Malaysia	751	0.3
23	Singapore	454	0.3	23	Germany	333	0.2	23	Colombia	694	0.2
24	Mexico	444	0.3	24	Peru	302	0.2	24	Hong Kong	671	0.2
25	Syria	432	0.3	25	Argentina	295	0.2	25	Japan	649	0.2
26	Portugal	346	0.2	26	Spain	245	0.2	26	Philippines	646	0.2
27	Hong Kong	301	0.2	27	Malaysia	240	0.2	27	UAE	638	0.2
28	Honduras	299	0.2	28	Honduras	237	0.2	28	Syria	631	0.2
29	Russia	298	0.2	29	Portugal	234	0.2	29	Germany	602	0.2
30	Germany	269	0.2	30	Morocco	222	0.2	30	Portugal	580	0.2
31	Mauritius	212	0.1	31	Colombia	221	0.2	31	Honduras	536	0.2
32	Morocco	195	0.1	32	Sri Lanka	203	0.1	32	Russia	480	0.2
33	Sri Lanka	194	0.1	33	Syria	199	0.1	33	Morocco	417	0.1
34	Japan	193	0.1	34	Philippines	183	0.1	34	Sri Lanka	397	0.1
35	UAE	186	0.1	35	Russia	182	0.1	35	Mauritius	383	0.1
	World	**153,177**	**100.0**		**World**	**139,240**	**100.0**		**World**	**292,417**	**100.0**

NB: calculations are based on unrounded data; numbers may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Furthermore, the industry climbed two places to become the eighth largest market

Furthermore, the share of global shipments which went to the industry rose from 1.3% to 2.2% and the industry climbed two places to become the eighth largest market.

Shipments to the textile industry in Egypt declined by 27.8% and the industry slipped two places to become the ninth largest market

Shipments of single jersey circular knitting machinery to the textile industry in **Egypt** declined by 27.8% to 135 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 2.0% to 1.5% and the industry slipped two places to become the ninth largest market.

But shipments were above their annual average over the ten years to 2016

However, the decline in shipments in 2016 followed jumps of 53.3% in 2015 and 67.1% in 2014 and, as a result, shipments in 2016 were above the annual average of 125 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in South Korea declined by 34.2% and the industry slipped two places to become the tenth largest market

Shipments of single jersey circular knitting machinery to the textile industry in **South Korea** declined by 34.2% to 102 machines in 2016 following falls of 13.4% in 2015 and 30.9% in 2014.

As a result, the share of global shipments which went to the industry fell from 1.7% to 1.1% and the industry slipped a further two places in the rankings to become the tenth largest market after slipping one place a year earlier.

Also, shipments were less than half their annual average over the ten years to 2016

Furthermore, shipments to the industry in 2016 were at their lowest level since 2007 and were less than half the annual average of 226 machines which were shipped to the industry over the ten years to 2016.

Over the ten years to 2016, the largest national market was the textile industry in China with a 65.1% share of global shipments, followed by the industries in India, Bangladesh, Turkey, Indonesia, Brazil, Vietnam, South Korea, Taiwan and Egypt

Over the ten years to 2016, the largest national market for single jersey circular knitting machinery was the textile industry in China with a 65.1% share of global shipments over this period (Table 7).

The second largest national market was the textile industry in India with a 6.0% share of the global total, followed by the industries in Bangladesh (with a 4.8% share), Turkey (with a 4.3% share), Indonesia (with a 3.1% share), Brazil (with a 2.4% share), Vietnam (with a 1.6% share), South Korea (with a 1.5% share), Taiwan (with a 1.0% share) and Egypt (with a 0.8% share).

DOUBLE JERSEY CIRCULAR KNITTING MACHINERY

Global shipments of double jersey circular knitting machinery fell by 3.3% in 2016 but they were still at their third highest level on record

Global shipments of double jersey circular knitting machinery declined by 3.3% to 16,924 machines in 2016 (Table 8) following a 7.0% fall in 2015.

However, the fall in 2015 came after increases in five of the previous six years. As a result, shipments in 2016 were still at their third highest level on record.

Figure 3
Cumulative shipments of circular knitting machinery, selected countries, 2007-16

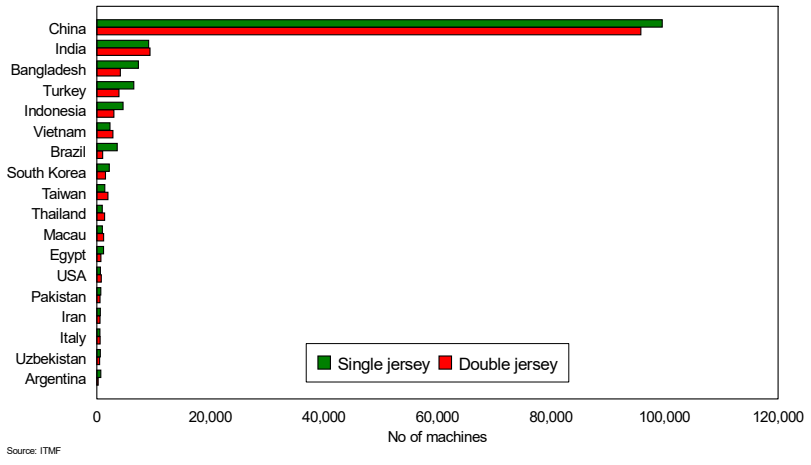
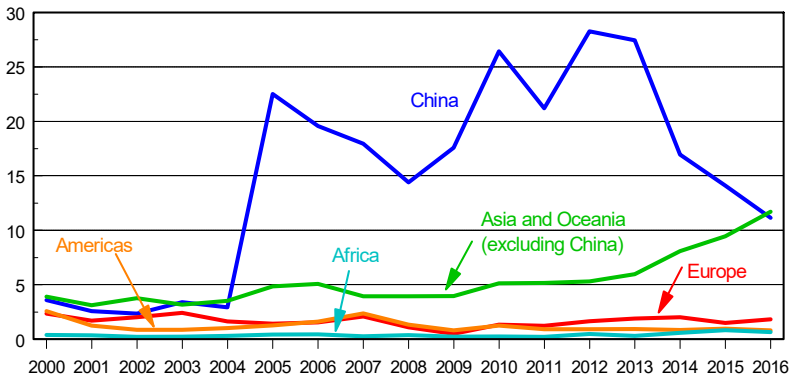


Figure 4
Shipments of circular knitting machinery, by region, 2000-16
('000 machines)



Double jersey circular knitting machinery: regional markets

Shipments of double jersey circular knitting machinery to the textile industries in Asia declined by 3.6% in 2016—

Shipments of double jersey circular knitting machinery to the textile industries in **Asia** declined by 3.6% to 15,065 machines in 2016.

As a result, the share of global shipments which went to these industries fell slightly from 89.3% to 89.0% although Asia remained by far the largest regional market.

—but they were still at their third highest level on record

Furthermore, despite the decline, shipments in 2016 were at their third highest level on record and were well above the annual average of 12,676 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industry in other Europe edged down by 0.7% but their share of global shipments remained stable and shipments were well above their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industry in **other Europe** (Turkey) edged down by 0.7% to 532 machines in 2016. However, the share of global shipments which went to the industry remained stable at 3.1% and the industry continued to constitute the second largest regional market.

Furthermore, shipments were well above the annual average of 397 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industries in Africa declined by 13.8% but they were still at their second highest level on record and more than double their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industries in **Africa**—which constituted the third largest regional market—declined by 13.8% to 420 machines in 2016 and the share of global shipments which went to these industries fell from 2.8% to 2.5%.

However, the decline in shipments followed jumps of 56.1% in 2015 and 121.3% in 2014 and, as a result, shipments in 2016 were at their second highest level on record. Furthermore, they were more than double the annual average of 202 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in Western Europe shot up by 52.7% and the industries constituted the fourth largest regional market after ranking fifth a year earlier

Shipments of double jersey circular knitting machinery to the textile industries in **Western Europe** shot up by 52.7% to 397 machines in 2016.

As a result, the share of global shipments which went to these industries rose from 1.5% to 2.3% and the industries constituted the fourth largest regional market after ranking fifth a year earlier.

Furthermore, shipments were at their highest level since 2001 and almost double their annual average over the ten years to 2016

Furthermore, the rise in shipments represented the third in four years, having followed an 18.8% decline in 2015 and jumps of 160.2% in 2014 and 61.8% in 2013. As a result, shipments in 2016 were at their highest level since 2001 and were almost double the annual average of 200 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in North America declined by 28.4% and the industries constituted the fifth largest regional market after ranking fourth a year earlier

Shipments of double jersey circular knitting machinery to the textile industries in **North America** declined by 28.4% to 217 machines in 2016.

As a result, the share of global shipments which went to the industries fell from 1.7% to 1.3% and the industries constituted the fifth largest regional market after ranking fourth a year earlier.

However, despite the decline, shipments were at their second highest level since 2007

However, the decline in shipments in 2016 followed four consecutive years of double digit growth. As a result, shipments in 2016 were at their second highest level since 2007 and were above the annual average of 177 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in South America edged up by 0.5% and the industries continued to constitute the sixth largest regional market

Shipments of double jersey circular knitting machinery to the textile industries in **South America** edged up by 0.5% to 200 machines in 2016.

As a result, the share of global shipments which went to these industries rose from 1.1% to 1.2% and the industries continued to constitute the sixth largest regional market.

Also, shipments were in line with their annual average over the ten years to 2016

Also, shipments to these industries were more or less in line with the annual average of 207 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in Eastern Europe increased by 12.0% to their second highest level on record and were well above their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industries in **Eastern Europe** increased by 12.0% to 93 machines in 2016.

The increase represented the third in four years, having followed an 11.7% decline in 2015 and jumps of 59.3% in 2014 and 59.5% in 2013. As a result, shipments in 2016 were at their second highest level on record and were well above the annual average of 56 machines which were shipped to the industries over the ten years to 2016.

However, the industries continued to constitute the smallest regional market

However, the industries accounted for only 0.5% of global shipments and continued to constitute the smallest regional market.

Double jersey circular knitting machinery: individual country markets

Shipments of double jersey circular knitting machinery to the textile industry in China declined by 21.1% in 2016 to their lowest level since 2008 and were well below their annual average over the ten years to 2016

The largest national market for shipments of double jersey circular knitting machinery in 2016 was the textile industry in **China**.

However, shipments to the industry declined by 21.1% to 7,827 machines during the year and the share of global shipments which went to the industry fell from 56.7% to 46.2%.

Furthermore, the decline in shipments followed a 17.7% fall in the previous year. As a result, shipments in 2016 were at their lowest level since 2008 and were well below the annual average of 9,589 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in India shot up by 44.1%—

Shipments of double jersey circular knitting machinery to the textile industry in **India** shot up by 44.1% to 2,753 machines in 2016 following a 30.6% increase in 2015 and a surge of 155.3% in 2014.

—and reached a record high for the third consecutive year

As a result, shipments in 2016 reached a record high for the third consecutive year and were almost treble the annual average of 943 machines which were shipped to the industry over the ten years to 2016.

Also, their share of global shipments rose from 10.9% to 16.3%

Furthermore, the share of global shipments which went to the industry rose from 10.9% to 16.3% although the industry remained the second largest market.

Table 8: Shipments of double jersey circular knitting machinery by region and leading countries of destination, 2015 and 2016

Rank			Shipments		% change	% share of world	
2015	2016		2015	2016	2016/15	2015	2016
1	1	Asia[a]	15,626	15,065	-3.6	89.3	89.0
2	2	Other Europe[b]	536	532	-0.7	3.1	3.1
3	3	Africa	487	420	-13.8	2.8	2.5
5	4	Western Europe	260	397	52.7	1.5	2.3
4	5	North America	303	217	-28.4	1.7	1.3
6	6	South America	199	200	0.5	1.1	1.2
7	7	Eastern Europe	83	93	12.0	0.5	0.5
		World	**17,494**	**16,924**	**-3.3**	**100.0**	**100.0**
1	1	China	9,925	7,827	-21.1	56.7	46.2
2	2	India	1,910	2,753	44.1	10.9	16.3
4	3	Bangladesh	750	1,072	42.9	4.3	6.3
3	4	Vietnam	867	837	-3.5	5.0	4.9
6	5	Indonesia	440	596	35.5	2.5	3.5
5	6	Turkey	536	532	-0.7	3.1	3.1
7	7	Taiwan	407	515	26.5	2.3	3.0
13	8	Pakistan	105	244	132.4	0.6	1.4
9	8	Thailand	238	244	2.5	1.4	1.4
8	10	South Korea	271	227	-16.2	1.5	1.3
10	11	Egypt	172	177	2.9	1.0	1.0
16	12	Iran	96	155	61.5	0.5	0.9
58	13	UAE	4	145	3,525.0	0.0	0.9
11	14	USA	145	117	-19.3	0.8	0.7
18	15	Italy	80	99	23.8	0.5	0.6
37	16	Portugal	21	89	323.8	0.1	0.5
39	17	Djibouti	18	82	355.6	0.1	0.5
31	18	Sri Lanka	39	76	94.9	0.2	0.4
26	19	Germany	54	69	27.8	0.3	0.4
25	20	Brazil	55	68	23.6	0.3	0.4
19	21	Mexico	78	64	-17.9	0.4	0.4
17	22	Malaysia	91	60	-34.1	0.5	0.4
24	23	Argentina	57	59	3.5	0.3	0.3
27	23	Philippines	46	59	28.3	0.3	0.3
30	25	Spain	40	58	45.0	0.2	0.3
23	26	Japan	58	57	-1.7	0.3	0.3
71	27	Kazakhstan	1	44	4,300.0	0.0	0.3
12	28	Uzbekistan	113	39	-65.5	0.6	0.2
15	29	Ethiopia	97	35	-63.9	0.6	0.2
39	30	Poland	18	34	88.9	0.1	0.2
20	30	Singapore	76	34	-55.3	0.4	0.2
51	32	Mauritius	6	31	416.7	0.0	0.2
32	33	Peru	36	30	-16.7	0.2	0.2
44	34	Belgium	10	28	180.0	0.1	0.2
33	34	Colombia	29	28	-3.4	0.2	0.2
41	34	Morocco	16	28	75.0	0.1	0.2
29	34	Russia	42	28	-33.3	0.2	0.2
		World	**17,494**	**16,924**	**-3.3**	**100.0**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Shipments to the textile industry in Bangladesh increased by 42.9% to a record high for the second consecutive year

Shipments of double jersey circular knitting machinery to the textile industry in **Bangladesh** increased by 42.9% to 1,072 machines in 2016 following jumps of 73.6% in 2015, 67.4% in 2014 and 81.7% in 2013. As a result, shipments in 2016 reached a record high for the second consecutive year.

Also, they were well over double their annual average over the ten years to 2016—

Also, they were well over double the annual average of 420 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed one place to become the third largest market

Furthermore, the share of global shipments which went to the industry rose from 4.3% to 6.3% and the industry climbed a further place in the rankings to become the third largest market after climbing two places in the previous year.

Shipments to the textile industry in Vietnam declined by 3.5% and the industry slipped one place to become the fourth largest market

Shipments of double jersey circular knitting machinery to the textile industry in **Vietnam** declined by 3.5% to 837 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 5.0% to 4.9% and the industry slipped one place to become the fourth largest market.

However, shipments were at their second highest level on record and were almost treble their annual average over the ten years to 2016

However, the decline in shipments in 2016 followed jumps of 51.3% in 2015, 235.1% in 2014 and 35.7% in 2013 and, despite the decline in 2016 alone, shipments were at their second highest level on record.

Furthermore, they were almost treble the annual average of 290 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in Indonesia increased by 35.5% to a record high and were almost double their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industry in **Indonesia** increased by 35.5% to 596 machines in 2016.

The increase represented the sixth double digit rise in eight years. As a result, shipments in 2016 reached a record high and were almost double the annual average of 308 machines which were shipped to the industry over the ten years to 2016.

Also, the industry climbed one place to become the fifth largest market

Also, the share of global shipments which went to the industry in 2016 rose from 2.5% to 3.5% and the industry climbed one place to become the fifth largest market.

Shipments to the textile industry in Turkey edged down by 0.7%

Shipments of double jersey circular knitting machinery to the textile industry in **Turkey** edged down by 0.7% to 532 machines in 2016 following a 30.5% decline in 2015.

Nevertheless, their share of global shipments remained stable

Nevertheless, the share of global shipments which went to the industry remained stable in 2016, at 3.1%, although the industry slipped one place to become the sixth largest market.

Also, shipments in 2016 were well above their annual average over the ten years to 2016

Also, the 30.5% decline in 2015 followed five consecutive years of strong growth and, as a result, shipments in 2016 were well above the annual average of 397 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in Taiwan increased by 26.5% to a record high and were well over double their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industry in **Taiwan** increased by 26.5% to 515 machines in 2016 following increases of 62.8% in 2015, 56.3% in 2014 and 22.1% in 2013. As a result, shipments in 2016 reached a record high for the second consecutive year and were well over double the annual average of 203 machines which were shipped to the industry over the ten years to 2016.

Also, their share of global shipments rose from 2.3% to 3.0%

Furthermore, the share of global shipments which went to the industry rose from 2.3% to 3.0% although the industry remained the seventh largest market.

Shipments to the textile industry in Pakistan surged by 132.4% to a record high and the industry climbed five places to become the eighth largest market

Shipments of double jersey circular knitting machinery to the textile industry in **Pakistan** surged by 132.4% to a record high of 244 machines in 2016. As a result, the share of global shipments which went to the industry increased from 0.6% to 1.4% and the industry climbed five places to become the eighth largest market.

Furthermore, shipments in 2016 alone accounted for as much as 38.4% of total cumulative shipments to the industry over the ten years to 2016.

Shipments to the textile industry in Thailand increased by 2.5% and the industry climbed one place to become the eighth largest market

Shipments of double jersey circular knitting machinery to the textile industry in **Thailand** increased by a modest 2.5% to 244 machines in 2016 following a surge of 133.3% in the previous year.

As a result, the share of global shipments which went to the industry remained stable in 2016, at 1.4%, although the industry climbed a further place in the rankings to eighth place, having climbed seven places a year earlier.

Furthermore, shipments were at their highest level since 1999

Furthermore, shipments in 2016 were at their highest level since 1999 and their second highest level on record, and were well over the annual average of 144 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in South Korea declined by 16.2% and the industry slipped two places to become the tenth largest market but shipments were above their annual average over the ten years to 2016

Shipments of double jersey circular knitting machinery to the textile industry in **South Korea** declined by 16.2% to 227 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 1.5% to 1.3% and the industry slipped two places to become the tenth largest market.

However, shipments in 2016 were above the annual average of 159 machines which were shipped to the industry over the ten years to 2016.

Over the ten years to 2016, the largest national market was the textile industry in China with a 68.9% share of global shipments, followed by the industries in India, Bangladesh, Turkey, Indonesia, Vietnam, Taiwan, South Korea, Thailand and Macau

Over the ten years to 2016, the largest national market for double jersey circular knitting machinery was the textile industry in China with a 68.9% share of global shipments (see Table 7).

The second largest national market was the textile industry in India with a 6.8% share, followed by the industries in Bangladesh (with a 3.0% share), Turkey (with a 2.8% share), Indonesia (with a 2.2% share), Vietnam (with a 2.1% share), Taiwan (with a 1.5% share), South Korea (with a 1.1% share), Thailand (with a 1.0% share) and Macau (with a 0.9% share).

FLAT KNITTING MACHINERY

ELECTRONIC FLATBED KNITTING MACHINERY

Global shipments of electronic flatbed knitting machinery rose by 99.1% to a record high in 2016

Global shipments of electronic flatbed knitting machinery shot up by 99.1% to 139,636 machines in 2016. The rise followed jumps of 52.1% in 2015 and 31.0% in 2014 and, as a result, shipments reached a record high in 2016.

The rise was due to a 99.6% increase in shipments of machinery smaller than 70"—

The rise in shipments of electronic flatbed knitting machinery in 2016 was due entirely to an increase in shipments of machinery smaller than 70". In fact, these were up by 99.6%, or 69,598 machines, to a record high of 139,499 machines.

—as shipments of machinery 70" or larger plunged by 41.9% to a record low

Shipments of machinery measuring 70" or larger, by contrast, plunged by 41.9%, or 99 machines, to a record low of just 137 machines.

In fact, there has been a significant shift towards smaller machines in recent years

There has been a significant shift towards smaller machines in recent years. In 2000 the share of machines smaller than 70" was only 58.0% while machines 70" or larger accounted for the other 42.0%.

But in 2016 machines smaller than 70" accounted for no less than 99.9% of total shipments, and this percentage was up from 99.7% in the previous year.

Table 9: Breakdown of electronic flatbed knitting machinery shipments by type and region, 2016

	up to 70"		70" or over		Total	
Destination	**No**	**% share**	**No**	**% share**	**No**	**% share**
Africa	655	0.5	0	0.0	655	0.5
North America	418	0.3	4	2.9	422	0.3
South America	969	0.7	19	13.9	988	0.7
Asia[a]	131,364	94.2	34	24.8	131,398	94.1
Eastern Europe	1,046	0.7	14	10.2	1,060	0.8
Western Europe	2,969	2.1	6	4.4	2,975	2.1
Other Europe[b]	2,078	1.5	60	43.8	2,138	1.5
World	**139,499**	**100.0**	**137**	**100.0**	**139,636**	**100.0**

NB: percentage calculations may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

The shift has been partly due to a preference among Chinese knitters for compact machines with multi-gauge functions

The main reasons for the shift towards smaller machines over the 15-year period are as follows.

- Many Chinese knitters prefer compact machines with multi-gauge functions.

Also, short needle beds up to 70" are large enough for making parts of clothing

- It is more common today to produce parts of clothing such as sleeves, front parts and back parts. For this purpose, short needle beds of up to 70" are large enough.

Electronic flatbed knitting machinery: regional markets

Geographically, the rise in shipments of electronic flat-bed knitting machinery in 2016 was due largely to an increase in shipments to the textile industries in Asia

Geographically, the rise in shipments of electronic flatbed knitting machinery in 2016 was due primarily to a sharp increase in shipments to the textile industries in Asia.

However, there were also noticeable increases in shipments to the industries in five of the six other regions analysed in this report.

Shipments to the textile industries in Asia were up by 102.1% to a record high and were almost three times their annual average over the ten years to 2016

Shipments of electronic flatbed knitting machinery to the textile industries in **Asia** were up by 102.1%, or 66,369 machines, to 131,398 machines in 2016.

As a result, shipments in 2016 reached a record high and were almost three times the annual average of 47,419 machines which were shipped to the industries over the ten years to 2016.

Furthermore, their share of global shipments rose from 92.7% to 94.1%

Furthermore, the share of global shipments which went to these industries rose from 92.7% to 94.1% and the industries continued to constitute by far the largest regional market for electronic flatbed knitting machinery.

Shipments to the textile industry in other Europe shot up by 124.4% to a record high and the industry climbed one place to become the second largest regional market

Shipments of electronic flatbed knitting machinery to the textile industry in **other Europe** (Turkey) shot up by 124.4% to 2,975 machines in 2016. As a result, shipments reached a record high and were almost double the annual average of 1,679 machines which were shipped to the industry over the ten years to 2016.

Furthermore, the share of global shipments which went to the industry rose from 1.9% in 2015 to 2.1% in 2016 and the industry climbed one place to become the second largest regional market.

Shipments to the textile industries in Western Europe rose by 45.8% to their highest level since 2001 but the share of global shipments which went to these industries fell from 2.1% to 1.5%

Shipments of electronic flatbed knitting machinery to the textile industries in **Western Europe** rose by 45.8% to 2,138 machines in 2016. As a result, shipments were at their highest level since 2001 and were well above the annual average of 1,386 machines which were shipped to the industries over the ten years to 2016.

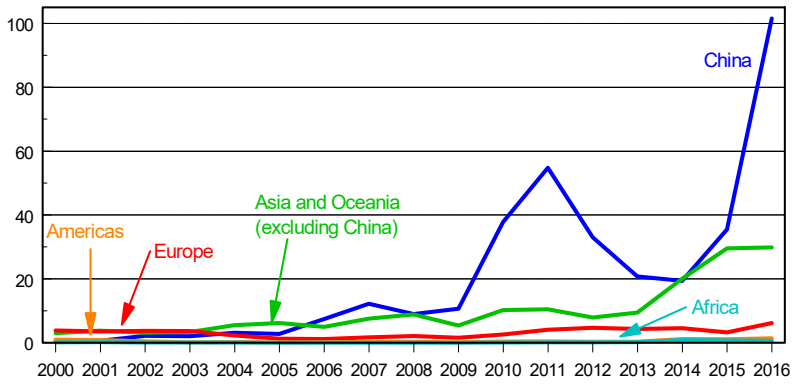
However, the rise in shipments in 2016 was slower than the increase in global shipments and, as a result, the share of global shipments which went to the industries fell from 2.1% in 2015 to 1.5% in 2016. Furthermore, the industries constituted the third largest regional market after ranking second in the previous year.

Table 10: Shipments of flatbed knitting machinery by region and leading countries of destination, 2015 and 2016

Rank			Shipments		% change	% share of world	
2015	2016		2015	2016	2016/15	2015	2016
1	1	Asia[a]	65,029	131,398	102.1	92.7	94.1
3	2	Other Europe[b]	1,326	2,975	124.4	1.9	2.1
2	3	Western Europe	1,466	2,138	45.8	2.1	1.5
6	4	Eastern Europe	460	1,060	130.4	0.7	0.8
4	5	South America	774	988	27.6	1.1	0.7
5	6	Africa	759	655	-13.7	1.1	0.5
7	7	North America	323	422	30.7	0.5	0.3
		World	**70,137**	**139,636**	**99.1**	**100.0**	**100.0**
1	1	China	35,465	101,550	186.3	50.6	72.7
2	2	Bangladesh	16,522	16,886	2.2	23.6	12.1
4	3	Vietnam	1,829	3,628	98.4	2.6	2.6
5	4	Turkey	1,326	2,975	124.4	1.9	2.1
3	5	India	3,844	2,857	-25.7	5.5	2.0
8	6	Italy	905	1,403	55.0	1.3	1.0
7	7	Cambodia	1,095	1,242	13.4	1.6	0.9
6	8	Hong Kong	1,134	1,009	-11.0	1.6	0.7
11	9	Thailand	657	802	22.1	0.9	0.6
15	10	Russia	344	767	123.0	0.5	0.5
10	11	South Korea	662	609	-8.0	0.9	0.4
16	12	Pakistan	342	588	71.9	0.5	0.4
14	13	Indonesia	358	554	54.7	0.5	0.4
9	14	Myanmar	861	422	-51.0	1.2	0.3
17	15	Brazil	290	387	33.4	0.4	0.3
27	16	Germany	125	320	156.0	0.2	0.2
20	17	Mexico	185	315	70.3	0.3	0.2
12	18	Sri Lanka	607	301	-50.4	0.9	0.2
18	19	Japan	264	299	13.3	0.4	0.2
19	20	Kenya	202	296	46.5	0.3	0.2
39	21	Ukraine	61	216	254.1	0.1	0.2
25	22	Argentina	132	200	51.5	0.2	0.1
30	23	Spain	101	192	90.1	0.1	0.1
21	24	Taiwan	173	161	-6.9	0.2	0.1
23	25	Peru	137	125	-8.8	0.2	0.1
35	26	Colombia	81	115	42.0	0.1	0.1
73	27	Venezuela	4	105	2,525.0	0.0	0.1
26	28	USA	131	102	-22.1	0.2	0.1
33	29	Madagascar	85	94	10.6	0.1	0.1
22	30	Mauritius	170	90	-47.1	0.2	0.1
32	30	UK	98	90	-8.2	0.1	0.1
29	32	Kazakhstan	109	86	-21.1	0.2	0.1
38	33	Morocco	64	63	-1.6	0.1	0.0
60	34	Mongolia	10	55	450.0	0.0	0.0
39	35	Malaysia	61	54	-11.5	0.1	0.0
		World	**70,137**	**139,636**	**99.1**	**100.0**	**100.0**

NB: calculations are based on unrounded data; numbers may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Figure 5
Shipments of electronic flatbed knitting machinery, by region, 2000-16
('000 machines)



Source: ITMF

Shipments to the textile industries in Eastern Europe surged by 130.4% to their second highest level on record and the industries constituted the fourth largest regional market after ranking sixth in the previous year

Shipments of electronic flatbed knitting machinery to the textile industries in **Eastern Europe** surged by 130.4% to 1,060 machines in 2016. The surge followed a decline of 57.7% in the previous year and, as a result, shipments in 2016 were below the peak reached in 2014. However, they were at their second highest level on record and were more than double the annual average of 445 machines which were shipped to the industry over the ten years to 2016.

Furthermore, the share of global shipments which went to these industries edged up from 0.7% to 0.8% and the industries constituted the fourth largest regional market after ranking sixth in the previous year.

Shipments to the textile industries in South America rose by 27.6% to a record high and were more than double their annual average over the ten years to 2016

Shipments of electronic flatbed knitting machinery to the textile industries in **South America** rose by 27.6% to 988 machines in 2016 following a 3.2% increase in 2015 and a surge of 194.1% in 2014.

As a result, shipments in 2016 reached a record high for the third consecutive year and were more than double the annual average of 424 machines which were shipped to the industries over the ten years to 2016.

However, the industries constituted the fifth largest regional market after ranking fourth in the previous year

However, the rise in shipments to the industries in South America in 2016 was slower than the increase in global shipments and, as a result, the share of global shipments which went to these industries fell from 1.1% to 0.7%. Furthermore, the industries constituted the fifth largest regional market after ranking fourth in the previous year.

Shipments to the textile industries in Africa fell by 13.7% and their share of global shipments fell from 1.1% to just 0.5%

Shipments of electronic flatbed knitting machinery to the textile industries in **Africa** fell by 13.7% to 655 machines in 2016 following a 14.8% decline in 2015.

As a result, the share of global shipments which went to the industries fell from 1.1% to just 0.5% and the industries constituted the sixth largest regional market after ranking fifth in the previous year.

Nevertheless, they were still at their third highest level on record and were more than double their annual average over the ten years to 2016

Nevertheless, the decline in 2015 followed five consecutive years of growth, culminating in a surge of 341.1% in 2014. As a result, shipments in 2016 were at their third highest level on record and were more than double the annual average of 303 machines which were shipped to the industries over the ten years to 2016.

Shipments to the textile industries in North America rose by 30.7% to a record high—

Shipments of electronic flatbed knitting machinery to the textile industries in **North America** rose by 30.7% to a record high of 422 machines in 2016. Furthermore, they were well over double the annual average of 162 machines which were shipped to the industries over the ten years to 2016.

—but the share of global shipments which went to these industries fell to just 0.3% and the industries continued to constitute the smallest regional market

However, the rise in shipments to the industries in North America in 2016 was slower than the increase in global shipments. As a result, the share of global shipments which went to these industries fell from 0.5% to just 0.3% and the industries continued to constitute the smallest regional market.

Electronic flatbed knitting machinery: individual country markets

Shipments of electronic flatbed knitting machinery to the textile industry in China surged by 186.3% to a record high in 2016—

Shipments of electronic flatbed knitting machinery to the textile industry in **China** surged by 186.3%, or 66,085 machines, to 101,550 machines in 2016 following an 82.9% jump in the previous year.

As a result, shipments in 2016 reached a record high and were more than treble the annual average of 33,473 machines which were shipped to the industry over the ten years to 2016.

—and their share of global shipments rose from 50.6% to 72.7%

Furthermore, the share of global shipments which went to the industry rose from 50.6% in 2015 to 72.7% in 2016 and the industry remained the largest market.

Shipments to the textile industry in Bangladesh edged up by 2.2% to a record high for the third consecutive year and were more than double their annual average over the ten years to 2016—

Shipments of electronic flatbed knitting machinery to the textile industry in **Bangladesh** edged up by 2.2% to 16,886 machines in 2016 following a jump of 46.1% in 2015 and a surge of 185.5% in 2014. As a result, shipments reached a record high in 2016 for the third consecutive year.

Furthermore, shipments in 2016 were well over double the annual average of 6,262 machines which were shipped to the industry over the ten years to 2016.

—although the share of global shipments which went to the industry fell sharply

Admittedly, the share of global shipments which went to the industry fell sharply from 23.6% in 2015 to 12.1% in 2016. Nonetheless, the industry remained the second largest market.

Shipments to the textile industry in Vietnam rose by 98.4% to a record high—

Shipments of electronic flatbed knitting machinery to the textile industry in **Vietnam** rose by 98.4% to 3,628 machines in 2016. The rise came after a 6.5% decline in 2015 but this followed surges of 373.6% in 2014 and 164.7% in 2013. As a result, shipments in 2016 reached a record high and accounted for 44.2% of cumulative shipments to the industry over the ten years to 2016.

—and the industry climbed one place to become the third largest market

Admittedly, the share of global shipments which went to the industry remained static at 2.6% but the industry climbed one place to become the third largest market.

Shipments to the textile industry in other Europe shot up by 124.4% to a record high—

Shipments of electronic flatbed knitting machinery to the textile industry in **Turkey** shot up by 124.4% to 2,975 machines in 2016. As a result, shipments reached a record high and were almost double the annual average of 1,679 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed one place to become the fourth largest market

Furthermore, the share of global shipments which went to the industry rose from 1.9% in 2015 to 2.1% in 2016 and the industry climbed one place to become the fourth largest market.

Shipments to the textile industry in India declined by 25.7% and the industry slipped two places to become the fifth largest market

Shipments of electronic flatbed knitting machinery to the textile industry in **India** declined by 25.7% to 2,857 machines in 2016.

As a result, the share of global shipments which went to the industry fell from 5.5% to just 2.0% and the industry slipped two places to become the fifth largest market.

However, shipments were still at their second highest level on record and were well over double their annual average over the ten years to 2016

However, the decline in shipments in 2016 came after surges of 108.9% in 2015 and 342.3% in 2014 and, as a result, shipments in 2016 were still at their second highest level on record.

Furthermore, they were well over double the annual average of 1,028 machines which were shipped to the industry over the ten years to 2016.

Shipments to the textile industry in Italy rose by 55.0% to their highest level since 2002—

Shipments of electronic flatbed knitting machinery to the textile industry in **Italy** rose by 55.0% to 1,403 machines in 2016. As a result, they were at their highest level since 2002 and were well above the annual average of 976 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed two places to become the sixth largest market

Admittedly, the share of global shipments which went to the industry fell from 1.3% in 2015 to 1.0% in 2016. However, the industry climbed two places to become the sixth largest market.

Shipments to the textile industry in Cambodia rose by 13.4% to a record high but the share of global shipments which went to the industry fell and the industry remained the seventh largest market

Shipments of electronic flatbed knitting machinery to the textile industry in **Cambodia** rose by 13.4% to 1,242 machines in 2016 following a 12.1% increase in 2015 and a jump of 163.3% in 2014. As a result, shipments in 2016 reached a record high for the third consecutive year and were almost double the annual average of 680 machines which were shipped to the industry over the ten years to 2016.

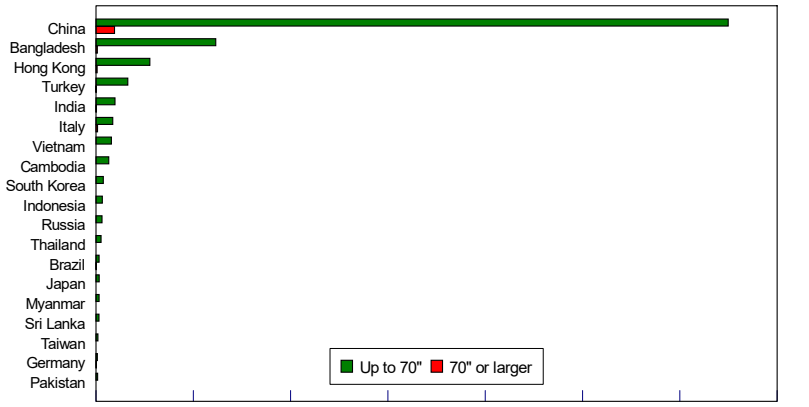
However, the share of global shipments which went to the industry fell from 1.6% in 2015 to just 0.9% in 2016 and the industry remained the seventh largest market.

Table 11: Cumulative shipments of electronic flat knitting machinery by type, region and leading countries of destination, 2007-16

Up to 70"			%	70" or over			%	Total			%
Rank		No	share	Rank		No	share	Rank		No	share
1	Asia[a]	461,370	91.9	1	Asia[a]	12,817	80.3	1	Asia[a]	474,187	91.5
2	Other Europe[b]	16,518	3.3	2	Western Europe	1,634	10.2	2	Other Europe[b]	16,786	3.2
3	Western Europe	12,229	2.4	3	South America	621	3.9	3	Western Europe	13,863	2.7
4	Eastern Europe	4,185	0.8	4	Eastern Europe	268	1.7	4	Eastern Europe	4,453	0.9
5	South America	3,619	0.7	4	Other Europe[b]	268	1.7	5	South America	4,240	0.8
6	Africa	2,901	0.6	6	North America	216	1.4	6	Africa	3,034	0.6
7	North America	1,402	0.3	7	Africa	133	0.8	7	North America	1,618	0.3
	Not Specified	11	0.0		Not Specified	0	0.0		Not Specified	11	0.0
	World	**502,235**	**100.0**		**World**	**15,957**	**100.0**		**World**	**518,192**	**100.0**
1	China	325,045	64.7	1	China	9,685	60.7	1	China	334,730	64.6
2	Bangladesh	61,734	12.3	2	Italy	962	6.0	2	Bangladesh	62,622	12.1
3	Hong Kong	27,888	5.6	3	Bangladesh	888	5.6	3	Hong Kong	28,662	5.5
4	Turkey	16,518	3.3	4	Hong Kong	774	4.9	4	Turkey	16,786	3.2
5	India	9,960	2.0	5	Germany	372	2.3	5	India	10,278	2.0
6	Italy	8,794	1.8	6	India	318	2.0	6	Italy	9,756	1.9
7	Vietnam	8,114	1.6	7	Brazil	302	1.9	7	Vietnam	8,209	1.6
8	Cambodia	6,723	1.3	8	Turkey	268	1.7	8	Cambodia	6,801	1.3
9	South Korea	3,917	0.8	9	Macau	234	1.5	9	South Korea	4,057	0.8
10	Indonesia	3,461	0.7	10	Argentina	180	1.1	10	Indonesia	3,558	0.7
11	Russia	3,275	0.7	11	Taiwan	158	1.0	11	Russia	3,408	0.7
12	Thailand	2,775	0.6	12	South Korea	140	0.9	12	Thailand	2,813	0.5
13	Japan	1,829	0.4	13	Russia	133	0.8	13	Brazil	2,081	0.4
14	Myanmar	1,796	0.4	14	USA	131	0.8	14	Japan	1,879	0.4
15	Brazil	1,779	0.4	15	Indonesia	97	0.6	15	Myanmar	1,843	0.4
16	Sri Lanka	1,733	0.3	16	Vietnam	95	0.6	16	Sri Lanka	1,751	0.3
17	Taiwan	1,197	0.2	17	Cambodia	78	0.5	17	Taiwan	1,355	0.3
18	Pakistan	1,028	0.2	18	France	67	0.4	18	Germany	1,268	0.2
19	Kenya	902	0.2	19	Mexico	65	0.4	19	Pakistan	1,038	0.2
20	Mexico	900	0.2	20	UK	64	0.4	20	Mexico	965	0.2
21	Germany	896	0.2	21	Poland	63	0.4	21	Kenya	933	0.2
22	UK	837	0.2	22	UAE	62	0.4	22	UK	901	0.2
23	Spain	692	0.1	23	Peru	60	0.4	23	Macau	847	0.2
24	Singapore	657	0.1	24	Spain	54	0.3	24	Argentina	797	0.2
25	Argentina	617	0.1	25	Japan	50	0.3	25	Spain	746	0.1
26	Macau	613	0.1	26	Myanmar	47	0.3	26	Singapore	674	0.1
27	Peru	497	0.1	27	Ecuador	45	0.3	27	USA	558	0.1
28	Madagascar	469	0.1	28	Thailand	38	0.2	28	Peru	557	0.1
29	USA	427	0.1	29	Romania	35	0.2	29	Madagascar	490	0.1
30	Mongolia	422	0.1	30	Kenya	31	0.2	30	Mongolia	443	0.1
30	Ukraine	402	0.1	31	Belgium	27	0.2	30	Ukraine	409	0.1
32	Mauritius	384	0.1	31	Portugal	27	0.2	32	Mauritius	396	0.1
33	Belgium	364	0.1	33	Madagascar	21	0.1	33	Belgium	391	0.1
34	North Korea	347	0.1	33	Mongolia	21	0.1	34	North Korea	362	0.1
35	Kazakhstan	306	0.1	35	Syria	20	0.1	35	Kazakhstan	314	0.1
	World	**502,235**	**100.0**		**World**	**15,957**	**100.0**		**World**	**518,192**	**100.0**

NB: calculations are based on unrounded data; numbers may not sum precisely due to rounding.
[a] Includes Oceania. [b] Turkey.
Source: International Textile Manufacturers Federation (ITMF).

Figure 6
Cumulative shipments of electronic flatbed knitting machinery, selected countries, 2007-16



Source: ITMF

Shipments to the textile industry in Hong Kong fell by 11.0% to their second lowest level on record—

Shipments of electronic flatbed knitting machinery to the textile industry in **Hong Kong** fell by 11.0% to 1,009 machines in 2016.

As a result, shipments in 2016 were at their second lowest level on record and were well below the annual average of 2,866 machines which were shipped to the industry over the ten years to 2016.

—and the industry slipped two places to become the eighth largest market

Furthermore, the share of global shipments which went to the industry declined from 1.6% in 2015 to just 0.7% in 2016 and the industry slipped two places to become the eighth largest market.

Shipments to the textile industry in Thailand rose by 22.1% to a record high for the second consecutive year—

Shipments of electronic flatbed knitting machinery to the textile industry in **Thailand** rose by 22.1% to 802 machines in 2016. The rise was the fourth in succession, having followed jumps of 106.6% in 2015, 16.1% in 2014 and 48.1% in 2013. As a result, shipments in 2016 reached a record high for the second consecutive year and accounted for 28.5% of cumulative shipments to the industry over the ten years to 2016.

—and the industry climbed two places to become the ninth largest market

Admittedly, the share of global shipments which went to the industry fell from 0.9% in 2015 to 0.6% in 2016. Nevertheless, the industry climbed two places to become the ninth largest market.

Shipments to the textile industry in Russia shot up by 123.0% to their second highest level on record—

Shipments of electronic flatbed knitting machinery to the textile industry in **Russia** shot up by 123.0% to 767 machines in 2016. However, this came after a plunge of 60.9% in the previous year and, as a result, shipments in 2016 remained below the level reached in 2014. Nevertheless, they were still at their second highest level on record and were well over double the annual average of 341 machines which were shipped to the industry over the ten years to 2016.

—and the industry climbed five places to become the tenth largest market

Admittedly, the share of global shipments which went to the industry remained static in 2016, at just 0.5%, but the industry climbed five places to become the tenth largest market.

Over the ten years to 2016, the largest national market was the industry in China with a 64.6% share of global shipments, followed by the industries in Bangladesh, Hong Kong Turkey, India, Italy, Vietnam, Cambodia, South Korea and Indonesia

Over the ten years to 2016, the largest national market for electronic flatbed knitting machinery was the textile industry in China with a 64.6% share of global shipments (Table 11 and Figure 6).

The second largest national market was the textile industry in Bangladesh with a 12.1% share, followed by the industries in Hong Kong (with a 5.5% share), Turkey (with a 3.2% share), India (with a 2.0% share), Italy (with a 1.9% share), Vietnam (with a 1.6% share), Cambodia (with a 1.3% share), South Korea (with a 0.8% share) and Indonesia (with a 0.7% share).

Glossary

3GT: the name of a family of polymers, fibres and textiles with stretch properties developed by Toray Industries, based on the polyester **polytrimethylene terephthalate** (**PTT**). **3GT** fibres are marketed by Invista under the brand name **T400** and **3GT** fabrics are marketed by Toray under the brand name Fitty.

807: a commonly used term (formerly utilised by US Customs) to describe a category of apparel which has been assembled in an overseas country from fabric pieces cut in the USA from fabric formed in any country. The duty levied on apparel imported under 807 is based only on the value added to the goods overseas rather than the whole customs value of the goods. This provision is now specified under code 9802.00.8065 of the USA's Harmonized Tariff Schedule (HTS). This **outward processing** arrangement benefits mainly countries which are close to the USA—particularly those in the Caribbean Basin (see also **807A**).

807A: a commonly used term (formerly utilised by US Customs) to describe a category of apparel which has been assembled in an overseas country from fabric pieces cut and formed in the USA. The duty levied on apparel imported under 807A, a modification of **807**, is based only on the value added to the goods overseas rather than the whole customs value of the goods. Also, goods imported under 807A are provided with almost unlimited access to the US market. This provision is specified under code 9802.00.8015 of the USA's Harmonized Tariff Schedule (HTS).

Abaca: a banana-like plant (*Musa textilis*) native to the Philippines which has broad leaves with long stalks. The fibres obtained from the stalks are used to make cordage, fabric, and paper. (Also called **manila** and **manila hemp**.)

Acetate: a type of **fibre** chemically derived from cellulose.

AGOA: African Growth and Opportunity Act. The act, implemented in October 2000, provides for duty-free and **quota**-free access to the US market for apparel made in Sub-Saharan Africa. To qualify for AGOA benefits, apparel must be made in an eligible Sub-Saharan African country and, normally, be produced from materials formed within the region or in the USA. For a limited period, however, the **third-country fabric provision** permits apparel makers in lesser developed Sub-Saharan African countries to source materials globally without losing AGOA benefits.

Air-laid: a **web** or **batt** of **staple fibres** formed using the **air laying** process.

Air laying: a method in which **fibres** are first dispersed into an air stream, and then condensed from the air stream on to a permeable cage or conveyor to form a **web** or **batt** of **staple fibres**.

Air texturing: a process in which yarns are over-fed through a turbulent air stream so that entangled loops are formed in the **filaments**.

Ajouré: an **embroidery** technique which creates open areas, often in figured patterns and usually on a woven fabric.

Alpaca: fibre from the fleece of the alpaca or llama.

Angora: the hair of the angora rabbit. Angora hair should be distinguished from the hair of the angora goat, which is the source of **mohair**.

Anti-dumping duty: an extra duty imposed on an imported product by an importing country (or group of countries, as in the case of the EU) to compensate for the **dumping** of goods by a foreign supplier.

Appliqué: a pattern constructed by applying one fabric on top of another.

Arran: a traditional style of fishermen's **cable**-knit sweaters.

Article XIX: an article describing a measure available to a member of the World Trade Organization (WTO) which enables it to protect its market from import surges (see **safeguard**).

Artificial fibres: see **cellulosic fibres**.

Art silk: artificial silk, usually made from **cellulosic fibres** such as **viscose rayon**.

Asean: Association of Southeast Asian Nations comprising Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Astrakhan: a thick woven or knitted cloth with a surface of loops or curls which imitates the coat of an Astrakhan lamb.

ATC: Agreement on Textiles and Clothing, which embodied the results of the negotiations on textiles and clothing conducted under the Uruguay Round of multilateral trade talks. The ATC provided for the phasing out of **MFA quotas** between January 1995 and December 2004.

Bandana: handkerchief designs in simple colour and white stylised patterns, including spots and **paisley**.

Barathea: a soft fabric with a lightly pebbled or ribbed surface which is constructed in a twilled hopsack or broken rib weave and is generally made from worsted wool—although it could be made from silk or other fibres. A worsted Barathea is often used to make evening jackets and dress coats.

Basket weave: a textile weave consisting of double threads interlaced to produce a checkered pattern similar to that of a woven basket.

Bast fibre: fibre obtained from the stems of certain types of plant.

Batik: a traditional dyeing process in which portions of cloth are coated with wax and therefore resist the dye, enabling distinctive patterns to be created. Batik fabrics are characterised by a streaky or mottled appearance.

Batt: single or multiple sheets of **fibre** used in the production of **nonwoven** fabric.

Bayadère: a fabric or design with horizontal plain or patterned stripes.

BCF: (bulked **continuous filament**) **textured yarn** used mainly in the construction of carpets or upholstery.

Bedford cord: a fabric constructed in such a way as to show rounded **cords** in the **warp** direction with pronounced sunken lines between them.

Bicomponent fibres and yarns: a yarn having two different **continuous filament** components (see also **multicompartment fibres and yarns** and **multicomponent fibres and yarns**).

Biopolishing: a finishing process which uses cellulase enzymes to remove fibre fuzz and pills from the fabric surface.

Birdseye: a fabric woven to produce a pattern of very small, uniform spots.

Blooming: the tendency of a yarn to become fuller-looking when wetted and dried under certain conditions. In practice, the overall yarn diameter increases slightly—resulting in a "halo effect" or softer look—and the length diminishes. The effect usually results from a change in **fibre crimp** and, hence a redistribution of the **fibres** in a yarn, rather than shrinkage of the **fibre** itself.

BOD: biological oxygen demand—a measure of pollution by oxygen-consuming organic materials in an effluent stream.

Boiling: a process in which a yarn or garment made from **staple fibre** containing wool or animal hair is left in boiling water so that the original fabric construction is obscured by the felted surface.

Bouclé: a compound yarn, similar to a **gimp** yarn, comprising a twisted core with an effect yarn wrapped around it so as to produce wavy projections on its surface. In general, **bouclé** yarns exhibit an irregular pattern of semi-circular loops and sigmoid spirals whereas **gimp** yarns display fairly regular semi-circular projections.

Bouclette: a small **bouclé** effect.

Bourette: a silk **noil** fabric made from short **fibre** (silk waste) with a textured surface.

Bowl: one of a pair of large rollers forming a **nip**.

Brocade: usually a **jacquard** woven fabric in which the figure is developed by **floating** the **warp** threads, the **weft** threads, or both, and **interlacing** them in a more or less irregular order.

Brocatelle: a heavy figured cloth in which the pattern is created by **warp** threads in a **satin weave**.

Brushed fabrics: fabrics which have undergone a **brushing** process to produce a **napped** surface. Brushed fabrics usually have a soft, slightly weathered, broken-in feel.

Brushing: a finishing process for woven or knitted fabrics in which brushes or other abrading elements are used to raise a **nap** (a fuzzy or downy surface).

Cable: to twist together two or more **folded yarns**.

Cabotage: the transport of goods or passengers between two points in the same country. Originally the term was used to refer to shipping but it now also covers aviation and road transport. Also commonly used as part of the term **cabotage** rights, which means the right of a company from one country to trade, operate aircraft or transport goods within the domestic borders of another country.

Caged yarn: a strand of yarn enclosed within a fine knitted tube which forms a "cage" through which the inner core is visible. In many yarns, the inner strand and the "cage" are in different but complementary colours.

Calendered: a term used to describe a fabric which has been passed through rollers to smooth and flatten it or confer surface glaze.

Camel: the hair of the camel or dromedary; also used as a broad description of fawn colour.

Canvas: a plain weave usually made from cotton or linen.

Caprolactam: a chemical intermediate used in the manufacture of polyamide (**nylon**).

Carbonisation: a chemical process for eliminating vegetable matter from animal fibres such as wool by degrading it to an easily friable (readily crumbled) condition. The process usually involves treatment with an acid followed by heating. Hydrochloric acid gas is used in the case of the dry carbonisation process while sulphuric acid solution is used in wet carbonisation.

Carded: description of a continuous **web** or **sliver** produced by **carding**.

Carding: the disentanglement, cleaning and intermixing of **fibres** to produce a continuous **web** or **sliver** suitable for subsequent processing. This is achieved by passing the **fibres** between moving pins, wires or teeth.

Cashmere: hair with a mean diameter of 18.5 microns or less from the downy undercoat of Asiatic or selectively bred feral goats.

Caterpillar yarn: yarn with protruding tufts which gives the appearance of a caterpillar.

Cationic dyeable yarn (CDY): a yarn dyed with **cationic dye**, usually made from modified polyester, modified nylon or acrylic, which is often used to achieve cross-dyed effects. Cationic dyeable yarn can be used in a pattern with regular yarn in the same fabric. The pattern becomes visible by dyeing the fabric in two baths, one for each of the types of yarn. When cationic fibre is fixed with conventional fibre, various multicoloured and cross-dye effects can be achieved from a single dye bath.

Cationic dye: a type of dye used on modified **polyester**, modified **nylon** or **acrylic** in order to achieve special effects, such as cross dyeing, in fabric form (see also cationic dyeable yarn (CDY).

Caustic washing: a scouring process which uses sodium hydroxide to remove non-cellulosic impurities—including hemicelluloses, mineral salts, pectin and wax—from cotton. The process yields a fabric which possesses a high and even wettability so that it can be bleached and dyed uniformly.

Cavalry twill: a firm **warp**-faced cloth, woven to produce a steep **twill** effect.

CDY: see **cationic dyeable yarn**.

Cellophane effect: an effect created in a fabric which gives it the iridescent appearance of cellophane.

Cellulosic fibres: fibres made or chemically derived from a naturally occurring cellulose raw material.

Cellulosic filament: filaments made or chemically derived from a naturally occurring cellulose raw material.

Centipoise: a measure of viscosity, equal to 0.001 newton second per m^2.

Chainette: a tubular **cord** produced on a circular knitting machine.

Challis: a lightweight plain-weave fabric, made from cotton or wool, usually with a printed design.

Chambray: a cotton shirting fabric woven with a coloured **warp** and white **weft**.

Changeant: see **shot**.

Cheesecloth: an open lightweight plain-weave fabric, usually made from **carded** cotton yarns.

Chelator: substance which binds particular ions, removing them from solution.

Chemical bonding: part of a production route for making **nonwovens**; binders are applied to a **web** which, when dried, bond the individual **fibres** to form a coherent sheet.

Chenille: a yarn consisting of a cut pile which may be one or more of a variety of **fibres** helically positioned around axial threads that secure it. Gives a thick, soft tufty silk or **worsted velvet cord** or yarn typically used in **embroidery** and for trimmings.

Chiffon: a very light, transparent fabric in a plain weave.

Chiné: textiles with a mottled pattern.

Chinoiserie: fabric designs which are derived from or which are imitations of Chinese motifs.

Chintz: a glazed, printed, plain-weave fabric, usually made of cotton.

CIF: cost, insurance and freight.

Circular jersey: fabric produced on circular knitting machines (see also **weft knitting**).

Circular knitting: a fabric production technique in which fabric is knitted in the form of a tube. Usually, this is subsequently slit and finished as open width fabric. However, in the case of smaller width machines, the circular knitting process is used to make body width tubes which need not be slit, thus avoiding the need for a seam and thereby increasing wearer comfort. These machines can be further modified to knit body blanks which incorporate some shaping and are separated by a draw-thread.

Ciré: a lightweight performance fabric with a shiny surface made from **synthetic fibres** for use in outerwear.

Cloqué: a compound or double fabric with a figured blister effect, produced by using yarns of different character or twist which respond in different ways to finishing treatments.

CM: cut and make (see CMT).

CMT: cut, make and trim. A system whereby a manufacturer produces garments for a customer by cutting fabric provided by the customer and sewing the cut fabric into garments in accordance with the customer's specification. In many cases, the customer also arranges for the fabrics, trim and accessories to be supplied. In general, manufacturers operating on a CMT basis do not become involved in the design of the garment or in the procurement of materials but are merely concerned with its production.

Comforter: an "over-covering" on a bed that is made with a fabric shell filled with an insulating material.

Commission manufacturing: a form of production whereby manufacturing is undertaken by one manufacturer, for a fee, on behalf of another manufacturer or a non-manufacturer. Typically, commission manufacturing involves the production of goods utilising materials provided by the client, and ownership of materials remains with the client. Similarly, the goods made using these materials are owned by the client.

Composite, composite material: a product formed by intimately combining two or more discrete physical phases—usually a solid matrix, such as a **resin**, and a fibrous reinforcing component.

Conjugate fibres and yarns: see **bicomponent fibres and yarns**.

Continuous filament: see **filament**.

Conversationals: printed patterns using depictions of people and recognisable objects.

Cord: a term used to describe the way in which textile strands have been twisted, such as in **cabled** or plied yarns.

Cordelette: a yarn in which the fibre is wound like a cord.

Corduroy: a cut **weft** pile fabric in which the cut **fibres** form a surface of **cords** or **ribs** in the **warp** direction.

Core-spun yarn: a yarn consisting of an inner core yarn surrounded by **staple fibres**. A core-spun yarn combines the strength and/or elongation of the core thread and the characteristics of the **staple fibres** which form the surface.

Core-twisted yarn: a yarn produced by combining one **fibre** or **filament** with another during a twisting process.

Count: a measure of **linear density**. (See also **decitex**, **denier**, **English cotton count**, **metric count**, **Ne** and **Nm**.)

Countervailing duty: an extra duty imposed on an imported product by an importing country (or group of countries, as in the case of the EU) to compensate for subsidies deemed to be illegal which are given to the manufacturer of the product in the exporting country.

Courtelle: A brand name for acrylic **fibre** used by Acordis (formerly Courtaulds).

Cover factor (knitted fabrics): (tightness factor) a number that indicates the extent to which the area of a knitted fabric is covered by yarn. It is also an indication of the relative looseness or tightness of the knitting.

Cover factor (woven fabrics): a number that indicates the extent to which the area of a fabric is covered by one set of threads. For any woven fabric, there are two cover factors: a **warp** cover factor and a **weft** cover factor. Under the cotton system, the cover factor is the ratio of the number of threads per inch to the square root of the cotton yarn **count**.

Covert: a **warp**-faced fabric, usually of a **twill** weave, with a characteristic mottled appearance obtained by the use of a **grandrelle** (two-colour twisted yarn) or **mock grandrelle warp**.

Crease-resist finish: a finish, usually applied to fabrics made from cotton or other **cellulosic fibres** or their blends, which improves the crease recovery and smooth-drying properties of a fabric. In the process used most commonly, the fabric is impregnated with a solution of a reagent which penetrates the **fibres** and, after drying and **curing**, **cross-links** the **fibre** structure under the influence of a catalyst and heat. The crease-resistant effect is durable to washing and to normal use.

Crêpe: a fabric characterised by a crinkled or puckered surface.

Crêpe de chine: a lightweight fabric, traditionally of silk, with a crinkly surface.

Crêpon: a **crêpe** fabric which is more rugged than the usual **crêpe** with a fluted or crinkled effect in the **warp** direction.

Cretonne: a strong, printed cotton cloth which is sometimes made with a weft of cotton waste.

Crimp: the waviness of a **fibre** or **filament**.

Crimped yarn: see **textured yarn**.

Crock: a measure of the resistance of a fabric to the loss of colour due to rubbing or abrasion.

Crocking: the loss of dye colour due to rubbing or abrasion.

Cross-dyeing: the dyeing of a yarn or fabric containing a mixture of **fibres**, at least one of which is coloured separately.

Cross-linking: the creation of **chemical bonds** between **polymer** molecules to form a three-dimensional polymeric network, for example in a **fibre** or pigment binder.

Cupro: a **cellulosic fibre** obtained by the cuprammonium process.

Curcuma: a fabric with a yellow colour similar to that produced by the curcuma spice.

Cure: see **curing**.

Curing (chemical finishing): a process carried out after the application of a finish to a textile fabric in which appropriate conditions are used to effect a chemical reaction. Usually, the fabric is heat treated for several minutes. However, it may be subject to higher temperatures for short times (flash curing) or to low temperatures for longer periods and at higher **regain** (moist curing).

Cut and sew: a system of manufacturing in which shaped pieces are cut from a layer of fabric and stitched together to form garments. In the case of tubular knitted fabric, the cloth is either cut down one side and opened up into a flat fabric or left as a tube and cut to shape.

Cut, make and trim: see **CMT**.

Damask: a figured woven fabric in which the design is created by the use of **satin** and sateen weaves.

Decitex: a unit of the tex system. A measure of **linear density**; the weight in grams of 10,000 metres of fibre or yarn.

Decitex per filament (dpf): the average **decitex** of each **filament** in a **multifilament yarn**.

Decortication (flax): the process of removing woody outer layers from the stem of the **flax** plant to yield **flax fibres**.

Dégradé: a textile dyeing technique which is used to produce a gradual change in the shade of a colour from dark to light or vice versa.

Délavé: a fabric with a washed effect.

Delocalisation: the geographical move of a production unit to a low cost country. (Note that the term is increasingly being used to describe all forms of shifts in production, including foreign sourcing and **subcontracting**.)

Denier: a measure of **linear density**; the weight in grams of 9,000 metres of fibre or yarn.

Denim: a 3/1 **warp**-faced **twill** fabric made from a **yarn-dyed warp** and an undyed **weft** yarn. Traditionally, the **warp** yarn was indigo-dyed.

Denim bleaching: a finishing process which uses sodium hypochlorite to discolour denim fabric. It is used when the colour of the indigo needs to be lightened and also to clean up the pocket lining and the weft, which is visible on the inner face of the jeans.

Dent: the space between adjacent wires in a **reed**.

Dents/inch: a unit of measure which denotes the number of **reed** wires and spaces between adjacent wires in one inch.

Dévoré: the production of a pattern on a fabric by printing it with a substance that destroys one or more of the **fibre** types present.

Differential dyeing: a process in which a coloration treatment is applied to a textile containing fibres with different dyeing properties. Usually, the term refers to a combination of fibres of the same generic class in which some of the fibres have been modified to change their affinity for dye so that they dye more deeply or less deeply than standard fibres. However, differential dyeing can also occur when blends of different generic fibres types, such as cotton and polyester, are used.

Dip-dyed yarns: yarns produced by **dip dyeing**.

Dip dyeing: a process in which a textile or garment is dipped into a dye bath to achieve dye take-up only in those areas immersed.

District check: distinctive woollen checks originally made in different districts of Scotland.

DMT: dimethyl terephthalate—a chemical intermediate used in the manufacture of polyester.

Dobby machine: a device fitted to a weaving machine which is capable of being programmed to make **dobby weaves** by selectively raising some **heald** shafts containing **warp** threads and selectively depressing others. Dobby machines are capable of weaving a wider range of patterns than non-Dobby machines such as cam looms, but they are not capable of weaving the wide variety and sophistication of patterns offered by jacquard machines.

Dobby weave: a fabric, often of a complex construction, woven on a **dobby machine** by selectively raising some **heald** shafts containing **warp** threads and selectively depressing others.

Dogtooth or houndstooth check: a small colour and weave effect using a 2/2 **twill**.

Donegal: a **tweed** yarn or fabric with different colour **neps**.

Dope dyeing: a method of colouring man-made fibres by incorporating a dye or colorant in the spinning solution or polymer melt before extrusion into filaments.

Doupion: a fabric made of irregular, raw, rough silk reeled from double cocoons, or a **man-made fibre** substitute designed to imitate the silk equivalent.

Dpf: see **decitex per filament**.

Drafting: a process which reduces the **linear density** of an assembly of **fibres**. Drafting typically occurs in the early stages of producing yarns from **staple fibres**.

Drawing: a process in which **synthetic filaments** or yarns are stretched in order to orient the molecular chains in the **polymer** from which the **filaments** or yarns are made and thereby improve their strength.

Draw ratio: In a **drawing** process, the ratio of the **linear density** of the undrawn **yarn** to that of the drawn **yarn**.

Draw spinning: a process for spinning partially or highly oriented **filaments** in which the orientation is introduced after **melt spinning** but prior to the first forwarding or collecting device.

Draw textured yarn (DTY): yarn produced by the **draw texturing** method.

Draw texturing: a process in which the **drawing** stage of synthetic yarn manufacture is combined with the **texturing** process.

Draw twist: a process of orienting a **filament** yarn by drawing it and then twisting it in integrated sequential stages.

Drill: a **twill** fabric, usually piece-dyed, similar in construction to a **denim**.

Dry-laid: part of a production route for making **nonwovens**, in which a **web** of fibres is produced either by carding or by blowing the fibres on to an endless belt.

Dry laying: a process for forming a **web** or **batt** of **staple fibres** by carding and/or **air laying**.

Dry spinning: in the dry spinning process, **polymer** is dissolved in a solvent before being spun into warm air, where the solvent evaporates. This leaves the fibrous **polymer** ready for **drawing**.

DTY: see **draw textured yarn**.

Dumping: the offer for sale of large quantities of goods in a foreign market at low prices, usually in order to gain market share, while maintaining higher prices in the home market. Dumping may be deemed to have taken place when a product is sold in a foreign market at a price which is less than the cost of production plus a normal profit margin.

Durable press: (also known as permanent press) a finishing treatment designed to impart to a textile material or garment the retention of specific contours, including defined creases and pleats, which are resistant to normal usage, washing and/or dry cleaning.

Dye liquor: the liquid that contains the dye and the reagents necessary for dyeing.

Elastane: a fibre containing at least 85% by mass of a segmented polyurethane which possesses inherent stretch properties (also known as spandex, especially in the USA). Elastane fibre can be stretched by up to 700% without breaking and recovers to its original length after being stretched.

Elastolefin fibre: an inherently elastic fibre composed of at least 95% by mass of macromolecules made up of ethylene and at least one other olefin. The molecules are partially cross-linked. When the fibre is stretched to one and a half times its original length and released, it recovers rapidly and substantially to its initial length.

Elastomeric fibre: a fibre which possesses extremely high elongations at break and recovers fully and rapidly from high elongations up to its breaking point. The term "elastomer" is derived from "elastic polymer".

Electret: a permanently polarised dielectric material whose electric field is similar to the magnetic field of a permanent magnet.

Elite: a brand name used by Nylstar for a stretch polyamide 6.6 fibre.

Embossing: a process in which a pattern is formed in relief by passing fabric through a **calender** in which a heated metal **bowl** engraved with a pattern is compressed against a soft **bowl**.

Embroidery: a decorative pattern superimposed on an existing fabric by machine stitching or hand needlework.

Emerised: a fabric which has been passed over a series of emery-covered rollers to produce a suede-like finish.

End: (in weaving) an individual **warp** yarn.

End-and-end: fabrics having alternating **warp** yarns, usually one in a colour and one in white.

Engineered stripes: yarn dyed knitwear made on modern knitting equipment with wide bands of multiple colours. The effect is not possible to achieve on less sophisticated repeat machines.

English cotton count: see **Ne**.

Entrepôt: a trading centre or port at a geographically convenient location where goods are imported and re-exported without directly entering the local economy. According to the strict definition, goods are imported into and re-exported from an entrepôt without incurring liability for duties.

Enzyme washing: a bio-scouring process which is used as an alternative to caustic washing to remove non-cellulosic impurities from cotton. Bio-scouring involves treating the cotton with a mixture of enzymes, often cellulase and pectinase. The bio-scouring process yields a cotton substrate which possesses an intact cellulose structure with relatively low loss of weight and loss of strength.

Etamine: a fine wool **crêpe**.

Exhaustion: see **exhaust treatment**.

Exhaust treatment: a batchwise treatment in which a substance (such as a finish) is selectively adsorbed by a textile material immersed in the treatment liquor.

Fairisle: a type of sweater knitted with a coloured pattern in a traditional design originating in Scotland.

False twist: the twist inserted in a yarn using **false twisting** such that the net twist in the yarn is zero.

False twisting: a twisting operation applied at an intermediate position on a yarn so that no net twist can be inserted, as distinct from twisting at the end of a yarn where **real twist** is inserted.

False-twist texturing: a process in which a single **filament** yarn is twisted, set and untwisted. When yarns made from thermoplastic materials are heat-set in a twisted condition, the deformation of the **filaments** is "memorised" and the yarn is given greater bulk.

Fancy yarn: a yarn which differs from the normal construction of single and **folded yarns** by way of deliberately produced irregularities in its construction. These irregularities are formed by increasing the input of one or more of the yarn's components, or including periodic effects such as **knops**, loops, curls or **slubs**.

FDY: fully **drawn** yarn.

Fell (of the cloth): the edge of the fabric in a **weaving** loom formed by the last **weft** thread.

Felting: the matting together of **fibres** during processing. This is achieved on animal hair or wool by the application of moisture or heat, which causes the constituent **fibres** to mat together.

Fibre: a material used to make textiles which is flexible, fine, and has a high ratio of length to thickness.

Fibrillation: the longitudinal splitting of a **fibre** or **filament** to give either micro-fine surface hairs or a complete breakdown into sub-micron **fibres**. In fabrics for apparel, fibrillation can be used to create a variety of surface textures and attractive aesthetics. In **hydroentangled nonwoven** fabrics, the fibrils make entanglement easier and can give added strength to the fabric.

Fibroin: a tough, elastic protein which forms the principal component of raw silk.

Filament: a **fibre** of indefinite length.

Fil coupé: extra, floating, **wefts** which are embodied in a fabric, particularly a **jacquard**, and can be cut to produce a fringe effect.

Filigree: fine, intricate jeweller's work in gold or silver wire or a printed or embroidered pattern of swirling motifs resembling such work.

Filling: see **weft**.

Finish oil: oil that is put on a yarn, either flat or textured, to reduce friction during subsequent processing stages.

Flammé: a **slub yarn**.

Flannel: generally, a cotton or wool fabric, which has been **napped** on one or both sides (usually both) followed by a bleaching, dyeing or printing process and then brushed or rerun through the napping machine to revive the nap. Flannel fabrics are perceived to have a soft and warm feel.

Flannelette: a woven cotton fabric with a soft, raised surface.

Flax: the **fibre** used to make linen textiles.

Fleece fabric: a fabric, usually knitted, with a heavy **napped** surface on one side. The fabric is produced using two types of yarn, one for the face area and the other for the reverse. After fabric formation and processing, the reverse area is brushed to produce the fleece effect. The inside surface of a sweatshirt is usually napped.

Floating (warp): a length of **warp** yarn which passes over two or more **weft** threads (rather than intersecting with them) in a woven structure.

Floating (weft): a length of **weft** yarn which passes over two or more **warp** threads (rather than intersecting with them) in a woven structure.

Flock: a material obtained by reducing textile **fibres** to fragments by, for example, cutting, tearing, or grinding.

Flocking: a process in which short chopped lengths of **fibre** (**flock**) are applied to an adhesive coated backing fabric or other substrate. The application is usually carried out electrostatically.

Flock printing: a process in which a fabric is printed with an adhesive, followed by the application of finely chopped **fibres** over the whole surface of the fabric by means of dusting-on, an air blast, or electrostatic attraction. The **fibres** adhere to the printed areas, and are removed from the unprinted areas by mechanical action.

Flounce: hanging strips of material which are normally sewn to the hem of a skirt.

Foam printing: a process in which a rubber solution is turned into a foam and squeezed through a screen to make a **rubber print**. Also known as **puff rubber printing**.

Fob: free on board: a term used in international commercial law specifying at what point the seller transfers ownership of the goods to the buyer. The point at which ownership is transferred is important as the owner of the goods is responsible for damage or loss during transport. In fob transactions, goods are delivered on board a ship or to another carrier at no cost to the buyer.

Folded yarn: a yarn made by twisting two or more single yarns together in one operation.

FOY: fully oriented yarn.

Frisé: a fine **bouclé** yarn.

Fuji silk: a spun-silk fabric woven in a plain weave.

Full package supplier (garments): a supplier who carries out all steps involved in the production of a finished garment—including design, fabric purchasing, cutting, sewing, trimming, packaging, and distribution. Typically, a full package supplier will organise and coordinate: the design of the product; the approval of samples; the selection, purchasing and production of materials; the completion of production; and, in some cases, the delivery of the finished product to the final customer.

Gaberdine: a firmly woven, **warp**-faced **twill** cloth.

Garnetting: a type of **carding** process employed to open up waste **fibres** and yarns for subsequent recycling.

Gatt: General Agreement on Tariffs and Trade, a multinational trade organisation established in 1947 and based in Geneva, Switzerland. Gatt was superseded by the World Trade Organization (**WTO**) in 1995.

Gauge: the number of needles per unit length (usually 1 inch) along a needle bed or needle bar or flat knitting machine. For **circular knitting** machines, the unit length is the circumference of the needle cylinder.

Gauze: a lightweight open texture fabric produced in a plain weave or a simple **leno woven fabric**.

Generalised Scheme of Preferences (GSP): see **Generalised System of Preferences (GSP)**.

Generalised System of Preferences (GSP): a system of tariff preferences operated by developed countries. The EU's scheme, introduced in 1971 and known as the **Generalised Scheme of Preferences (GSP)**, is designed to foster the development of developing countries by granting them easier access to the EU market in the form of reduced or zero import tariffs. Beneficiary countries granted GSP treatment are not required to contribute anything in return.

Georgette: a fine lightweight open fabric woven in **crêpe** yarns.

Geotextile: a permeable textile cloth used in contact with soil or rock as part of a civil engineering operation.

Gilet: a waist- or hip-length garment, usually sleeveless, fastening up the front; sometimes made from a quilted fabric, and designed to be worn over a blouse or shirt.

Gimped yarn: a yarn similar to **bouclé** in which the effect component is wrapped around the core yarn either tightly or loosely according to the amount of excess delivery and the doubling twist inserted. Generally speaking, **bouclé** yarns exhibit an irregular pattern of semi-circular loops and sigmoid spirals whereas gimp yarns display fairly regular semi-circular projections.

Gingham: a plain-weave lightweight fabric, usually made of cotton, with small checks.

Ginnery: a factory where cotton **ginning** takes place.

Ginning: the process of separating cotton lint from the seed.

Grading (in garment manufacture): a process of adjusting the size of each pattern piece to fit different body sizes.

Grandrelle: a two-**ply yarn** composed of single yarns of different colours or contrasting lustre.

Greige: a term used to describe textile products prior to bleaching, dyeing or finishing. Some greige textiles may, however, contain dyed or finished yarns.

Greige cloth: see **grey cloth**.

Grey cloth: Grey cloth, also known as loom-state cloth or greige cloth, is a fabric in the condition in which it leaves the loom or knitting machine, ie before any bleaching, dyeing or finishing treatment has been given to it.

Grinning: a flaw in a fabric, especially a **ribbed fabric**, that occurs either when **warp** threads show through the covering **weft** threads or when the threads have slipped, leaving open spaces on either side.

Grosgrain: a plain-weave fabric with a rib in the **weft** direction, the rib being more pronounced than in a **taffeta**.

Ground: a base cloth for printing.

GSP: see **Generalised Scheme of Preferences (GSP)** and **Generalised System of Preferences (GSP)**.

Guipure: a **lace** construction produced by **embroidering** a thread pattern onto a fabric, the fabric being subsequently removed by chemical or other means to leave an open work **lace**.

Habotai: a lightweight silk fabric commonly used for linings, hangings and underwear.

Hand: fabric quality or characteristics—such as softness, firmness, drapability, or fineness—perceived by touch.

Hand feel: see **hand**.

Handle: see **hand**.

Hand scraping: a process in which dyed denim fabric is rubbed with sand paper to impart a worn look to its surface.

Hank: an unsupported coil comprising wraps of **yarn** (or **sliver**) made by winding the yarn on a reeling machine with a cross-wound pattern and then binding it to prevent tangling.

Hank dyeing: the process of dyeing a yarn in **hank** form; hank dyeing is used where the yarn must preserve a fuller handle and bulk in order to obtain the desired effect in a knitted garment.

Harris tweed: a woollen **tweed** fabric woven on handlooms by crofters in the Outer Hebrides in Scotland. Harris tweed is traditionally woven 75 cm wide but modern handlooms can produce 150 cm width fabric.

Heald: a steel wire or strip with an eye in the centre, or a similar device through which a **warp** yarn is threaded. The heald enables the yarn to be raised or lowered during weaving to create a **shed**.

Heald shaft: a frame in which a large number of **healds** are mounted. Typically a loom contains two or more heald shafts, depending upon the complexity of the weave pattern required. The heald shaft is raised or lowered by means of cams or a **dobby** mechanism to form a **shed** and to create different weave patterns.

Heddle: another word for **heald**.

Hemp: a light-coloured, strong **bast fibre** obtained from the hemp plant *Cannabis sativa*.

Herringbone: a broken **twill** weave giving a zigzag or herringbone effect.

Hollow spindle system: a system of yarn formation in which **sliver** or **roving** is **drafted** and the **drafted** twistless strand is wrapped with a yarn as it passes through a rotating hollow spindle. The binder or wrapping yarn is mounted on the hollow spindle and is unwound and wrapped around the core by rotation of the spindle. The technique may be used for producing a range of **wrap spun yarns** or **fancy yarns**.

Honeycomb: a fabric structure in which the **warp** and **weft** threads form ridges and hollows, so as to give a cellular appearance.

Hopsack: a modification of a plain weave in which two or more **ends** or **picks** weave as one.

Hydroentanglement: a process for bonding a **nonwoven** fabric by using high pressure water jets to **intermingle** the **fibres**.

Hydrophilic: a term used to describe a material which tends to mix with or to be wetted by water.

Hydrophilicity: the extent to which a material is **hydrophilic**.

Hydrophobic: a term used to describe a material which tends to repel or not to be wetted by water.

Hydrostatic head: a way of describing the pressure applied to a material in terms of the height of an equivalent column of water. Because the pressure exerted is determined solely by the height of the column, it is possible to use this figure to quantify how waterproof a fabric is. For example, a fabric which can withstand a hydrostatic head of one metre will resist the passage of water until the pressure of the water exceeds this value.

Ikat: a traditional technique resulting in a streaky effect, created by tying and dyeing lengths of yarn before weaving.

Industrial textiles: a category of **technical textiles** used as part of an industrial process, or incorporated into final products.

Innerwear: clothing, such as lingerie, designed to be worn next to the skin.

Intarsia: a motif design knitted in solid colours into a **weft knitted** fabric.

Interlaced yarn: see **intermingled yarn**.

Interlock fabric: an interlock fabric is a double faced rib-based weft knitted structure consisting of two 1x1 rib fabrics joined by interlocking sinker groups. It is made on machines equipped with two sets of opposed needles. This type of fabric has a bulky and soft handle and is used for making men's and women's T-shirts and also for producing furnishings.

Intermingled yarn: a **multifilament yarn** in which cohesion is imparted to the **filament** bundle by entwining the **filaments** instead of, or in addition to, twisting. The effect is usually achieved by passing the yarn under light tension through the turbulent zone of an air-jet.

Intumescent system (flame retardancy): a flame retardant system which undergoes charring and foaming upon thermal degradation (for example, when exposed to an ignition source such as a flame). A blown protective cellular char is formed on the surface of the textile, providing protection from heat and flame.

Islands-in-the-sea: a type of **bicomponent yarn** in which one component **polymer** is formed, during extrusion, as longitudinal strands within the matrix of a second **polymer**.

Jacob's fleece: the natural brown shade of the Jacob's sheep.

Jacquard: a description of techniques used for knitting and weaving to obtain large-scale and/or figured designs (named after the inventor, Joseph Marie Jacquard, 1752-1834). Jacquard looms are fitted with harnesses which facilitate control over individual **warp** threads, rather than groups of warp threads as in the case of non-jacquard looms. Consequently, jacquard looms are capable of weaving much more complex and sophisticated patterns than are possible using **dobby machines**.

Jaspé: a fabric characterised by a subtle striped effect.

Javanese: a **viscose** cloth made from a spun **weft** and **filament warp**, characterised by a dull sheen.

Jersey fabric: a generic name applied to **weft knitted** fabric.

Joint venture: a joint undertaking of a new, usually risky business in, for example, a developing country or in Eastern Europe.

Judo: a structured cloth constructed in varieties of **piqué** weave and usually made in cotton.

Jute: a **fibre** obtained from the **bast** layer of the plants *Corchorus capsularis* and *Corchorus olitorius*.

Kaftan: an oriental garment consisting of a long under-tunic tied at the waist by a girdle.

Kelim: Turkish carpets with stylised geometric patterns.

Kemp: coarse, white, dead animal-hair mixed with animal **fibre** which shows up in a finished yarn or fabric as a lighter colour.

Knop: a "bunch" of **fibres** appearing along the length of a yarn, giving a spot effect.

Lace: fine open-work fabric with a mesh ground upon which patterns are worked.

Lacquer: a fabric finish which achieves a varnished look.

Ladder yarn: a knitted **tape yarn** with the appearance of a ladder.

Lawn (fabric): a plain weave textile which was originally made from linen but is now made chiefly from cotton. The fabric is designed using fine, high count yarns, which results in a silky, untextured feel. The term lawn is also used in the textile industry to refer to a type of starched crisp finish given to a cloth product. The finish can be applied to a variety of fine printed or plain fabrics (see also **Tana Lawn**).

Lay: lengths of fabric, several plies high, which have been spread on a cutting table ready for cutting. The fabric is subsequently cut in accordance with a cutting plan which is usually designed to optimise materials utilisation.

Laying-up: the process of spreading lengths of fabric on a cutting table to make a **lay**.

Lay plan: a plan in garment making of the lay height, lay length, colour mix, selection of fabric pieces to be cut, and the batches from which the fabric is to be used.

Leaching: the removal of a substance (such as a dyestuff) by a liquid which is in contact with the substance.

Leno-mesh: a fabric in which **warp** threads have been made to cross one another between **picks** during **leno weaving**.

Leno weaving: a form of weaving in which **warp** threads are made to cross one another between **weft** insertions.

Leno woven fabric: a fabric characterised by an open cellular appearance.

Linear density: the weight per unit length of a yarn or **fibre**. Units of linear density include **decitex** and **denier**.

Liquor ratio: the ratio between the mass of liquor employed in a wet processing treatment and the mass of fibrous material treated.

Loden: a thick heavy waterproof woollen cloth which is used to make garments, especially coats.

LOI (limiting oxygen index): a measure of flammability; the level of oxygen in the oxygen/nitrogen atmosphere (expressed as a percentage) that must be present before a **fibre** will ignite and burn when exposed to flame.

Looper: an eyed stitch-forming element which carries an under thread or a cover thread on some types of sewing machine.

LOY: low orientation yarn.

Lurex: the brand name for a yarn with a metallic appearance, made by the company Lurex. The word is also used by the trade as a generic description.

Lycra: Invista's brand name for its **elastane** or **spandex fibre**.

Lyocell: the generic name given to a relatively new family of **cellulosic fibres** and yarns which have been produced by solvent spinning. The process is widely regarded as being environmentally-friendly, and the product offers a number of advantages over traditional **cellulosic fibres**.

Macramé: knotted threadwork.

Madras check: a colour-woven cotton fabric designed in colourful checks and usually associated with typical cotton checks from Madras in India.

Maguey (*Agave americana*): (also known as the Century Plant) an agave originally from Mexico but now cultivated worldwide The leaves of the plant yield **fibres**, known as *pita*, which are suitable for making rope, matting and coarse cloth. They are also used for the embroidery of leather in a technique known as *piteado*.

Mako cotton: very fine cotton spun from extra long **staple** Egyptian **fibre**.

Maltinté: a yarn that is dyed unevenly to achieve an artificial aged effect.

Manila, manila help: see **abaca**.

Man-made fibre: a **fibre** which is manufactured rather than occurring naturally. Man-made **fibres** can be further divided into: **cellulosic** or **artificial fibres**, which are made from naturally occurring **polymers** such as wood pulp; and **synthetic fibres**, which are made from chemically derived **polymers**.

Man-made filaments: filaments which are manufactured and which do not occur in nature.

Maquiladoras: plants, common in Mexico and other Latin American countries, which process and assemble components or part-assembled goods made in the USA or another country and return the finished products to the USA or elsewhere for final sale. Usually, *maquiladoras* are in-bond assembly plants, which means that incoming goods can be freely imported without being liable to customs duty.

Maquilas: see **maquiladoras**.

Marker (in garment manufacture): a plan of pattern pieces from which the cloth will be cut. Effectively it is the final "jigsaw" of all the pattern pieces to be cut in a particular lay.

Market capitalisation: a measure of company size, calculated by multiplying the number of shares which a company has issued by the current market price.

Marl yarn: a yarn, usually woollen-spun, consisting of two or more single **ends** of different colours twisted together. (See also **Grandrelle**.)

Marocain: a **crêpe** fabric with a **weft**-ways rib.

Masterbatch: a concentrated blend of pigments, additives and/or fillers in a base polymer. Masterbatch is added in small amounts to a large volume of material which is same as, or is compatible with, the base polymer to produce the desired formulation.

Matelassé: a double cloth with a quilted appearance.

mcd/m^2: millicandela per m^2. The candela is the SI (Système International) unit for luminous intensity.

Mélange: a yarn produced from coloured printed **tops** or **slivers**. It is indistinguishable from a mixture yarn in that each **fibre** carries more than one colour.

Melt blowing: part of a production route for making a **nonwoven** fabric; extruded **synthetic filaments** are sucked by high pressure air jets from the die to form random length, very fine **fibres** which are deposited on to a belt.

Meltblown: a type of **nonwoven** fabric which is made by sucking extruded **synthetic filaments** using high pressure air jets from a die to form random length, very fine **fibres** which are deposited on to a belt.

Melt flow index: an indication of the viscosity of molten **polymer**. The index serves to indicate the flow characteristics of a melt under given temperature and pressure conditions.

Melt spinning: the conversion of molten **polymer** into **filaments** by extrusion through a **spinneret** and subsequent cooling of the extrudate.

Mercerisation: a treatment of yarns or fabrics with caustic alkali, in which **fibres** are swollen and stretched to increase lustre in the finished product.

Merino wool: wool from the Merino sheep, with a mean **fibre** diameter generally of 24 microns or less.

Metallo-plastic: a yarn made from a synthetic or plastic material with a metallic appearance.

Metric count: see **Nm**.

MFA: Multi-Fibre Arrangement—a special protocol agreed by members of **Gatt** as derogation from normal **Gatt** rules. The MFA, which ran from 1974 to 1994, established a framework for individual pairs of **Gatt** member countries to negotiate bilateral agreements with a view to establishing quantitative restraints (**quotas**) on textile and clothing trade between the two partners. Normal **Gatt** rules insist that all **Gatt** parties are to be treated equally (see **MFN**). On January 1, 1995, the MFA was superseded by the Agreement on Textiles and Clothing (**ATC**).

MFN: most favoured nation: a basic principle of the World Trade Organization (**WTO**) which requires countries to treat imports from one **WTO** member no less favourably than imports from another **WTO** member.

Microfibre: a **fibre** or **filament** with a **linear density** of less than 1.0 **decitex**. Some commercial **fibres** or **filaments** as coarse as 1.3 **decitex** are classified as microfibres by their producers.

Microfilament: a **continuous filament** with a **linear density** of less than 1.0 **decitex**. Some commercial **filaments** as coarse as 1.3 **decitex** are classified as microfilaments by their producers.

Micron (micrometre): one millionth (10^{-6}) of a metre.

Micronaire value: a measurement of cotton **fibre** quality. The micronaire value is a function of **fibre** fineness and maturity: low values indicate fine and/or immature **fibres**, whereas high values indicate coarse and/or mature **fibres**. The micronaire value is determined in practice by measuring the resistance to air flow of a specified mass of **fibres** (in the form of a "plug") confined in a chamber of a specified volume.

Microyarn: a yarn consisting of several **microfilaments**.

Milling: a process in which wool and other animal **fibre** fabrics are compacted by wetting them and putting them through a rotary milling machine.

Mock leno: a woven structure which imitates the appearance of **leno** weaves, ie it has an open structure.

Modal: a type of **cellulosic fibre** which has improved strength and modulus when wet.

Modulus: a measure of the ability of a **fibre** to resist extension. Normally measured as the ratio of the stress (or load) applied on a yarn or **filament** to the elongation (strain) resulting from the application of that stress.

Mohair: the hair of the angora goat.

Moiré: a rippled effect created by applying heat and heavy pressure by means of rollers on a **ribbed** or **corded** fabric. Where not deliberately introduced as part of a design, moiré effects are caused by faults in the fabric and have the appearance of wavy lines.

Moisture vapour transmission rate (MVTR): the rate at which a fabric allows moisture vapour to pass through to the outside air in a given time.

Moleskin: a thick cotton fabric, originally uncut **corduroy** having a very high **weft sett**, which is piece-dyed and given a smooth raised finish to simulate the fur of a mole.

Monofilament yarn: a yarn consisting of a single **filament**.

Mordant: a substance, usually a metallic compound, applied to a substrate to form a complex with a dye, which is retained by the substrate more firmly than the dye itself.

Mouliné: a type of two-colour twist yarn which gives a mottled effect in fabric.

Mousseline: a general term for very fine, semi-opaque fabrics—finer than muslins—made of silk, wool or cotton.

Multicompartment fibres: fibres formed from **multicomponent** (or **conjugate**) fibres by separately extruding fibres of different polymers. While still in the molten state, the fibres are combined and blown with fluid jets. This produces vortices within the fibre. As the fibre is drawn, the vortices can, under the right conditions, be converted to hollow structures running along the length of the fibre. The compartments so formed may lie side by side within the composite fibre or contained within it in an annular structure.

Multicomponent fibres and yarns: a yarn having two or more different **continuous filament** components (see also **multicompartment fibres and yarns** and **bicomponent fibres and yarns**).

Multifilament yarn: a yarn made up of more than one **filament**.

Nap: a soft or fuzzy surface on a fabric, usually achieved by brushing.

Napped: a fabric which has been treated to give a soft or fuzzy surface (**nap**) usually by brushing.

Ne: a unit denoting English cotton **count**, and an indirect (length per unit weight) measure of **linear density**. The Ne value is the number of 840 yd lengths of **yarn** weighing 1 lb.

Needlebonding: see **needlepunching**.

Needlefelting: see **needlepunching**.

Needlepunching: a process for making a **nonwoven** textile in which a continuous mat of randomly laid **fibres** or **filaments** is entangled with barbed needles. This causes matting and the production of a "felt" textile.

Needling: see **needlepunching**.

Nep: a small knot of entangled **fibres** commonly regarded as a fault but sometimes introduced as an effect.

Nip: a line or area of contact or proximity between two contiguous surfaces which move so as to compress and/or control the velocity of textile material passed between them.

Nm: a unit denoting metric **count**, an indirect (length per unit weight) measure of **linear density**. The metric **count** is the number of 1 km lengths of yarn weighing 1 kg.

Noil: shorter **fibres** separated from longer **fibres** in combing.

Nonwoven: (according to ISO 9092:1988) a manufactured sheet, **web** or **batt** of directionally or randomly orientated **fibres**, bonded by friction and/or cohesion and/or adhesion, excluding paper and products which are woven, knitted, tufted, **stitchbonded** incorporating binding yarns or **filaments**, or felted by wet-**milling**, whether or not additionally needled.

Nylon: another word for polyamide.

OBM: original brand manufacturing. See also **original design manufacturing (ODM)** and **original equipment manufacturing (OEM)**.

ODM: original design manufacturing. See also **original brand manufacturing (OBM)** and **original equipment manufacturing (OEM)**.

OEM: see **original equipment manufacturing**.

Offshore processing: see **outward processing**.

Ombré: a term used to describe fabrics with a dyed, printed or woven design in which the colour is graduated from light to dark and often into stripes of varying shades.

Ondé: a fabric with a waved effect produced by **calendering** or weaving.

Open-end spinning: a spinning system in which **sliver** feedstock is highly **drafted** and thus creates an open end or break in the **fibre** flow. The **fibres** are subsequently assembled on the end of a rotating yarn and twisted in. Techniques for collecting and twisting the **fibres** into a yarn include **rotor spinning** and friction spinning.

OPA: outward processing arrangements.

OPT: outward processing trade.

Organdie: a plain-weave fabric of light weight and with a permanent stiff finish.

Organza: a thin but stiff plain woven silk fabric.

Organzine: a silk yarn used for weaving or knitting. The yarn comprises single threads which are twisted, **folded** two-, three- or four-fold, and finally twisted in the direction opposite to that of the single yarn.

Original brand manufacturing (OBM): a business model which focuses on branding rather than on design (**original design manufacturing**—**ODM**) or manufacturing (**original equipment manufacturing**—**OEM**).

Original design manufacturing (ODM): a business model which focuses on design rather than on branding (**original brand manufacturing**—**OBM**) or manufacturing (**original equipment manufacturing**—**OEM**).

Original equipment manufacturing (OEM): a business model which focuses on the manufacturing process rather than on design (**original design manufacturing**—**ODM**) or branding (**original brand manufacturing**—**OBM**). In the clothing industry, OEMs typically manufacture according to customer specifications and in many cases use raw materials supplied or specified by the customer.

Ottoman: a **warp**-faced fabric showing a bold **weft**-way rib.

Outward processing: a procedure whereby a company based in one country exports material to another country for additional processing, and then reimports the processed products for further treatment, for domestic distribution, or for re-export. The most common form of outward processing involves the exporting of fabric from a high cost country to a low cost country for assembly or part-assembly into garments.

Oxford: a plain-weave shirting of good quality yarns that has two **warp ends** weaving as one.

Padding (finishing): the impregnation of a substrate with a liquor or paste followed by squeezing—usually by passing the substrate through a **nip**—to leave a specific quantity of liquor or paste on the substrate.

Paisley: a traditional decorative pattern featuring an Indian cone or pine.

Panné: a **satin**-faced **velvet** or silk fabric with a high lustre which is achieved by finishing.

Partially oriented yarn (POY): a **continuous filament** yam made by extruding a synthetic **polymer** so that a substantial degree of molecular orientation is present in the resulting **filaments**, but further molecular orientation is possible. The resulting yarn will usually require a positive draw ratio in subsequent processing in order to orient the molecular structure fully and optimise the yarn's tensile properties.

Passementerie: an open-work braid technique, traditionally used for furnishing braid.

PBT: polybutylterephthalate, a type of polyester used as an engineering plastic and, for specialist uses, in the form of a **fibre**.

Peachskin: the term used to describe the soft surface of certain textiles which feels like, and has the appearance of, the skin of a peach.

Pepper and salt: a fabric with a speckled effect, often black and white.

PET: polyethylene terephthalate **polymer**, the most common form of polyester.

Pick: a single **weft** thread in a fabric, as woven.

Pigment dyeing: a process used to give garments a characteristic "washed out" or weathered look, while offering good light- and wash-fastness and reasonable **crocking (wet-rub) resistance**. By their nature, pigments produce garments which change and age over time as they are washed. Unlike dyes, pigments are insoluble in water and are milled into a paste for garment dyeing or printing. The addition of anionic dispersing agents induces a slight negative charge on the surface of the pigment particles and, if the **fibre** has been treated to give it a positive charge, a polar bond is formed. The process is completed when a **resinous** binder is applied to lock the pigment in place. Alternatively, pigments such as Indigo can be reduced to a water-soluble or leuco form which may be used to dye fabrics in the same manner as dyestuffs. Once the dyeing stage is completed the material is exposed to air and this regenerates the pigment that is trapped inside the **fibres**. Surplus pigment is removed from the **fibre** surface by washing in a slurry of an abrasive material such as Fuller's Earth in a process known as fulling. This has been the method used traditionally on **worsted** men's suitings and, in recent years, on cotton **denim** for blue jeans.

Pima: a type of fine, extra-long **staple** cotton.

Piqué (knitted): a **jersey fabric** with a special pattern of loop formation.

Piqué (woven): a woven cloth showing rounded **cords** in the **weft** direction with sunken lines between them.

Placement print: a fabric printed with a single motif, such as a portrait head, for display on a particular part of a garment, as opposed to a fabric printed with a repeat pattern.

Plating: a process for making a knitted fabric from two yarns of different properties—one on the face of the fabric, the other on the back.

Plissé: a French term, meaning pleated, which is applied to fabrics with a puckered or crinkled effect.

Ply yarn: see **folded yarn**.

Pointelle: a form of knit stitch resembling **lace**.

Polar fleece: a fleece-back **jersey fabric**.

Polymer: a long molecule made up of many smaller repeat molecules; the following polymers are the main ones used to make **synthetic fibres**:

- polyacrylic;
- polyamide (**nylon**);
- polyester;
- polypropylene; and
- polyurethane.

Polymerise: the process of linking small chemical units together to form larger molecules.

Polynosic: a type of **cellulosic fibre** characterised by a high wet modulus of elasticity. When sanded or raised, fabrics made from this **fibre** have the soft, **peachskin** surface found in washed silks.

Polytrimethylene terephthalate (PTT): a polymer used in the manufacture of fibres and textiles with stretch properties, including those developed by Toray Industries and known as **3GT**.

Pongee: a lustrous lightweight plain-weave fabric, originally woven in silk.

Popcorn: a fabric which has undergone a special finishing technique to give it a texture resembling fluffy kernels of popcorn.

Poplin: a plain-weave cotton-type fabric with **weft**ways ribs and a high **warp sett**.

POY: see **partially oriented yarn**.

Prepreg: an assembly of **fibres** impregnated with **resin** that has been prepared for preforming into a **composite** shape; a subsequent **curing** process is used to set the **resin** and form the **composite**.

Prince of Wales: a large-scale check, typified by a reversing effect ground with an overcheck.

Product-specific safeguard: (see also **safeguard**, **textile safeguard**) a measure available to a member of the World Trade Organization (WTO) which enables it to protect its market from import surges of particular products from China which cause market disruption. The measure is applicable to any type of product (industrial and agricultural goods) and will remain available for use by WTO members until December 11, 2013.

Progressive bundle system: a system traditionally employed in apparel production where the task of assembling the garment is broken down into small operations, and bundles of work are progressed down the production line through each operation in sequence until the assembly process is complete (see also **unit production system**).

Provençal: small stylised florals typical of the Provence region of France.

PTA: purified terephthalic acid, used in the manufacture of polyester.

PTT: polytrimethylene terephthalate (see also **T400** and **3GT**).

Puff rubber printing: see **foam printing**.

Qiviut: hair from the musk ox. Qiviut is finer and more expensive than **cashmere**.

Quantitative limit: see **quota**.

Quilting: layers of padded cloth held together by stitching.

Quota: a quantitative restraint imposed by an importing country on an exporting country—or established by agreement between the two trading partners—which is designed to limit shipments of a product from the exporting to the importing country. (See also **MFA** and **ATC**.)

Radio frequency identification (RFID) systems: radio frequency identification (RFID) systems provide a method to automatically identify and locate manufactured products over distances of up to several hundred metres. They rely on storing and remotely retrieving data from electronic tags using devices which can transmit and pick up data via radio waves. The systems usually comprise a universal infrastructure which consists of electronic readers, tags and radio-frequency identification management computer software.

Raffia: a **fibre** obtained from the leaves of the raffia palm.

Ramie: a **bast fibre** similar to **flax**, the **fibre** used for making linen textiles.

Raschel: a two-needle **warp knitting** system.

Ratiné: a cloth with a rough surface, which has been achieved by finishing and/or the use of **fancy yarns**.

Rayon: a term used to describe **fibres** made from regenerated cellulose. (See also **viscose**, **modal** and **acetate**.)

Real twist: twist inserted in a yarn through the rotation of a yam **end** (as in **uptwisting** or downtwisting) or the repeated passage of a thread loop around an **end**, as in two-for-one twisting.

Redox: a type of chemical reaction in which one of the reagents is reduced, while another is oxidised.

Redox agent: a substance which promotes **redox** reactions.

Reed: a device consisting of several wires closely set which separate **warp** threads in a loom. The **reed** determines the spacing of the **warp** threads, guides the **weft** carrying device, and beats up the **weft** against the **fell** of the cloth.

Reed width: the width of the fabric in the **reed**.

Regain: the ratio of the weight of water in a material to the oven-dry weight of the material.

Resin: see **prepreg**, **composite**; also used as another word for **polymer**.

Resist treatment: a treatment applied to part of a fabric which causes the area treated to resist the take-up of dye.

Retting (flax): the subjection of a crop of **flax** or deseeded **flax** straw to chemical or biological treatment in order to make **fibre** bundles more easily separable from the woody part of the stem. (See also **decortication**.)

RFID: see **radio frequency identification (RFID) systems**.

Ribbon yarns: yarns that are woven or knitted in the form of a ribbon.

Rib fabric: a knitted fabric with a rib pattern. Depending upon the usage, the pattern can be altered to exhibit different rib effects. Rib fabric is used mainly in round necks and cuffs for certain types of T-shirts. It is also used for making undergarments.

Ring spun: a spinning system in which twist is inserted in a yarn by using a revolving traveller. This method gives a tighter twist than the more modern, faster and usually cheaper **open-end spinning** process.

Rinses: washing processes during which denim fabric is desized, rinsed and softened. Rinsing provides fabrics with a softer handle but does not discolour them.

Rotor spinning: a method of **open-end spinning** which uses a rotor (a high speed centrifuge) to collect and twist individual **fibres** into a yarn.

Roving: a collection of relatively fine fibrous strands used in the later or final processes of preparation for spinning.

Rubber printing: see **foam printing**.

Ruching: adding a frill of **lace** or other material, often pleated.

Safeguard: (see also **textile safeguard**, **product-specific safeguard**) a measure available to a member of the World Trade Organization (WTO), enabling it to restrict imports of a product temporarily (take "safeguard" action) under **Article XIX** of the WTO if its domestic industry is injured or threatened with serious injury caused by a surge in imports. An import "surge" justifying safeguard action can be a real increase in imports (an absolute increase), or it can be an increase in the share of imports in a shrinking market, even if the import quantity has not increased (relative increase). Industries or companies may request safeguard action by their government. A safeguard measure should not last more than four years, although this can be extended up to eight years. Measures imposed for more than a year must be progressively liberalised. An exporting country can retaliate against the imposition of a safeguard against it by, for instance, raising tariffs on exports from the country which is enforcing the safeguard measure.

Sandwash: the soft **peachskin** finish obtained by blasting a fabric with fine sand.

Sanforizing: a controlled compressive shrinkage process. The word Sanforized is a registered trade mark and can be used to describe fabrics which meet defined and approved standards of washing shrinkage.

Sari patterns: traditional Indian sari designs.

Satin weave: a **warp**-faced fabric with binders arranged to produce a smooth surface.

Schappe silk yarns: spun silk yarns which have not been degummed through a fermentation process. Up to 10% of gum may remain on the fibre prior to spinning.

Scouring: the treatment of textiles in aqueous or other solutions in order to remove natural fats, waxes, proteins and other constituents, as well as dirt, oil and other impurities.

Scutching (flax): the operation of separating the woody part of deseeded or **retted flax** straw.

SDY: see **spin draw yarn**.

Seasonless solids: basic colours which do not change from season to season, including black, white and navy.

Seersucker: a fabric characterised by the presence of puckered areas contrasted by flat areas, usually in stripes along the length of the cloth.

Sett: a term used to define the **weft** or **warp** density of a woven fabric, usually in terms of the number of threads per centimetre.

Shantung: a silk fabric similar to **pongee**, but heavier, which was originally woven in wild silk from Shantung, China.

Shape memory polymers (SMPs): chemical compounds which have one form at a certain temperature, which can be given a different shape when subjected to a stimulus such as heat, and which, under certain conditions, can return to their original "memorised" form. Current textile research is focused on using shape memory polymers to create "smart" fabrics with protective and moisture management capabilities.

Shed: an opening formed during weaving by raising some **warp** threads and lowering others to facilitate the passage of a **weft** yarn or a **weft** carrying device across the weaving machine.

Shepherd's check: a small check effect in contrasting colours, often black and white.

Shetland: a wool yarn or fabric with a soft yet firm handle, plain dyed or in mixture shades.

Shibori: a Japanese resist dyeing technique for creating patterns on cloth which has been folded and secured before immersion in the dye bath.

Shin gosen: fabrics made from ultra-fine polyester **filament** yarns with enhanced comfort, handle, drape and aesthetics. *Shin gosen* fabrics are designed specifically to appeal to end users by employing a combination of sophisticated **fibre** and fabric processing technologies.

Shirring: making puckers or gathers in a fabric, often by using elasticated thread in parallel rows.

Shives (flax): short pieces of woody waste beaten from **flax** straw during **scutching**.

Shot: a colour effect seen in a fabric woven with a **warp** of one colour and a **weft** of a contrasting colour.

Silicone softeners: softeners applied to improve the softness and handle of a fabric. Silicone softeners work by filling in irregularities in the fibre surface and thereby make surfaces feel and appear smoother. This, in turn, enables the fibres to slip easily past one another and prevent fibres sticking together.

Single knitted fabric: a fabric produced by knitting a single yarn continuously. In this type of fabric, the face and the back show different patterns.

Sinker: a sinker is a blade which works in conjunction with knitting needles, and assists with loop formation and holding a fabric down.

Sirospun yarns: worsted ply yarns spun on a slightly modified ring-spinning frame, which creates the yarns directly from two **rovings**. In forming the yarns, the spinning frame twists the two **rovings** together, thereby holding the **fibres** in place. The process, developed in Australia, eliminates the step of forming two separate single yarns.

Size: a substance applied to **warp** yarns (but also sometimes to **weft** yarns) prior to weaving in order to protect the yarns from abrasion, to strengthen them, and to lubricate them.

Sliver: fibres in rope form prior to twisting in the spinning process.

Slub yarns: yarns with a deliberately uneven surface.

SMS: a **nonwoven** structure consisting of **spunbonded/meltblown/spunbonded** layers.

Snarl yarns: yarns which are so highly twisted that they curl back on themselves into knots and snarls, like twisted strands of elastic.

Soleiado: a term, originally the name of a company, used to describe a **Provençal** print.

Sorona: a brand name for Invista's **PBT fibre**.

Space-dyed yarns: yarns produced by the **space dyeing** process.

Space dyeing: a dyeing process in which yarn is coloured at intervals.

Spandex: the generic name used in the USA to denote **elastane fibre**.

Spin drawing: a process for spinning partially or highly oriented **filaments** in which the spinning and **drawing** processes are integrated sequential stages. Most of the orientation in spin drawing is introduced between the first forwarding device and the take-up.

Spin draw yarn (SDY): yarn produced by the **spin drawing** method.

Spinneret: a nozzle or plate provided with fine holes or slits through which a **fibre**-forming solution or melt is extruded during **fibre** manufacture.

Spinning solution: a solution of **fibre**-forming **polymer** ready for extrusion through a **spinneret**.

Spunbonded: a nonwoven made from a continuous mat of randomly laid **filaments**. The **filaments** are bonded together by heat and pressure or **needlepunching**.

Spunbonding: the process used to manufacture **spunbonded nonwovens**.

Spunlaced fabric: a fabric manufactured by **spunlacing**.

Spunlacing: a process for bonding a **nonwoven** fabric by using high pressure water jets to intermingle the fibres.

Spunmelt: a **nonwoven** structure made by extruding molten polymer through **spinnerets** to form fibres. Spunmelt processes are used in the manufacture of **spunbond nonwovens**, **meltblown nonwovens** and combinations of the two.

Standard minute: the amount of effort expended in one minute by the average worker, suited and accustomed to his or her task, working at normal speed under normal conditions, with due allowance for fatigue resulting from the effort expended. A standard minute corresponds to the productivity to be expected from an average worker for a guaranteed minimum wage without financial incentives.

Standard performance: the rate of output which qualified workers will naturally achieve without over-exertion as an average over the working day or shift provided they know and adhere to the specified method and provided they are motivated to apply themselves to their work. This performance is denoted as 100 on the standard rating and performance scales.

Staple fibres (man-made): man-made fibres of predetermined short lengths, usually prepared by cutting or breaking **filaments** of the material into lengths suitable for their intended processing route.

Stitchbonding: a process in which a series of interlooped stitches are inserted along the length of a pre-formed fabric, an array of cross-laid yarns or a **fibre web**. Proprietary systems include Arachne, Malipol and Maliwatt.

Stone washing: a washing process in which jeans are put into a machine with a perforated drum, pumice stone is added, and the jeans are then tumbled in the machine. Stone washing creates a worn look on the surface of the fabric and imparts a soft handle.

Striated: an effect applied to a yarn to give the appearance of striations—lines of colour or fine parallel scratches or grooves, as on the surface of a rock over which a glacier has flowed.

Subcontracting: an arrangement whereby one business (subcontractor) manufactures all or part of a specific product on behalf of another business (main contractor) in accordance with plans and technical specifications supplied by the main contractor. The main contractor has final economic responsibility in such an arrangement.

Sublimation: a process in which a substance is changed directly from a solid into a gas or vapour without first melting.

Substantivity: the attraction between a **fibre** and a substance (such as a chemical finish) under conditions whereby the substance is selectively extracted by the **fibre** from the application medium (for example, water).

Sueded fabric: a fabric finished in such a way as to imitate suede leather.

Surfactant (surface active agent): a molecule which, when added to a liquid at low concentration, changes the properties of that liquid at a surface or interface. Surfactants are used in cleaners and detergents to: improve wetting and spreading; provide detergency by solubilising and suspending soils; produce, modify or control foam; emulsify and disperse substances such as silicone wax; couple or compatibilise formulation components; and modify viscosity.

Synthetic fibres: man-made fibres made from a **polymer** that has been produced artificially, in contrast to **fibres** made from naturally occurring **polymers** such as cellulose. The term synthetic **fibres** is also used to refer to **synthetic filaments**.

Synthetic filaments: man-made filaments made from a **polymer** that has been produced artificially, in contrast to **filaments** made from naturally occurring **polymers** such as cellulose.

T400: see **3GT**.

Tacking (jeans): a process which is used to make fold marks in jeans. Sections of the jeans are folded and then fixed using plastic tags which are inserted using tag guns. After washing, the tags are removed from the jeans.

Tactel: a brand name used by Invista for its **nylon fibre**.

Taffeta: a closely woven, plain-weave fabric with a crisp handle and a smooth surface.

Tana Lawn: a cool, crisp, fine cotton fabric supplied by the UK-based company Liberty. The fabric is named after Lake Tana in Sudan, from where Liberty sourced the yarn when it first introduced the fabric after the First World War.

Tanquis: a type of long **staple fibre** cotton.

Tape yarn: a yarn used for knitwear in the form of a tape with a large width-to-thickness ratio. Such yarns are typically formed by weaving or knitting. Knitted tape yarns are often made on circular knitting machines, giving them a tubular cross-section.

Tapestry: a closely woven figured fabric with a compound structure in which a pattern is developed by the use of coloured yarns in the **warp** or in the **weft** or both. A fine binder **warp** and **weft** may be incorporated. The fabric is woven on **jacquard** looms and is normally used for upholstery.

Tartan: a fabric, originally a woollen 2/2 **twill** worn by Scottish Highlanders, woven in checks of various colours.

Taupe: a brownish-grey colour, from the French word for "mole".

Technical textiles: textile materials and products manufactured primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics. End uses include aerospace, industrial, marine, medical, military, safety and transport textiles, and **geotextiles**.

Teflon: a brand name used by DuPont for a stain-resist fabric treatment.

Tenacity: a unit used to measure the strength of a **fibre** or yarn, usually calculated by dividing the breaking force by the **linear density**.

Tencel: a brand name used by Lenzing for a recently developed **cellulosic fibre** which is generically known as **lyocell**. Tencel, originally developed by Courtaulds, is stronger than **viscose cellulosic fibre** and is characterised by its softness and drape.

Tex: a measure of **linear density**; the weight in grams of 1,000 metres of fibre or yarn.

Textile safeguard: Under the terms of China's accession to the World Trade Organization (WTO), a special safeguard provision was available to members of the WTO for restricting imports of Chinese textile and apparel products in the event of market disruption due to increased imports. In general, any export restraint imposed was not permitted to last longer than one year unless it was reapplied through further consultations, or otherwise agreed to by China and the WTO member. The special textile safeguard mechanism was applicable until the end of 2008.

Textured yarn: a **continuous filament** yarn that has been processed to introduce durable **crimps**, coils, loops or other fine distortions along the lengths of the **filaments**.

Texturing: a process during which a **textured yarn** is produced.

Thai silk: silk from Thailand typified by a rough texture.

Thermal bonding: part of a production route for making **nonwovens** in which a **web**, which must contain some meltable **synthetic fibres**, is heated by a hot gas or by **calendering**. The **fibres** melt and form inter-**fibre** bonds.

Third-country fabric provision: also referred to as the special apparel provision. See **AGOA**.

Tie-dye: a traditional dyeing process in which fabric is tied and dyed.

Tinting (denim): a process used to overdye pre-dyed denim with a tinting dye to give the correct shade of blue required. Tinting can also be used to treat fabric with a pale blue tinting dye in order to improve the whiteness of any undyed parts. This process is often carried out as an alternative to using a fluorescent whitening agent to improve the whiteness of undyed material.

Titre: linear density. (See also **denier**, **decitex**.)

Toile de Jouy: classic designs originally created in the 1760s for the French court by textile designers in the town of Jouy en Josas.

Ton: (in this publication) 1,000 kilograms.

Top: sliver which forms the starting material for the **worsted** and other **drawing** systems. Tops are usually formed by combing, or by the cutting or controlled breaking of **continuous filament man-made fibres** and the assembly of the resultant **staple fibres** into **sliver**.

Tow: the name given to an untwisted assembly of a large number of **filaments**; tows are cut up to produce **staple fibres**.

Trashed denim: denim which has been given a highly distressed effect by cutting through the warp yarns on the surface of the fabric to reveal the white weft yarns underneath.

Tree bark: the visual effect of tree bark created in a fabric weave.

Tricotine: a **weft**-face woven fabric, originally with a cotton **warp** and **worsted weft**, which displays a fine, flat **twill** line.

Tricot, warp knitted: a **warp knitted** fabric knitted with two full sets of **warp** threads, each set making a 1 and 1 lapping movement but in opposite directions. Additionally the term is now used generically to cover all types of **warp knitted** fabric made on tricot **warp knitting** machines.

Tricot warp knitting machine: a **warp knitting** machine using bearded or compound needles mounted vertically, or nearly so, in which the fabric is supported and controlled by sinkers. The fabric is removed from the knitting point at approximately 90° to the needles' movement (nearer the horizontal than the vertical).

Tuck stitch: a stitch consisting of a held loop.

Tulle: a fine net fabric made from silk yarn.

Tussah: wild silk from Thailand characterised by an irregular surface.

Tweed: originally, a coarse, heavyweight, rough surfaced wool fabric for outerwear, woven in Scotland. The term is now applied to fabrics made in a wide range of weights and qualities, generally from woollen spun yarns.

Twill: a fabric produced by constructing a weave that repeats on three or more **warp** threads and **weft** threads, and produces diagonal lines on the face of the fabric.

Unit production systems: an advanced apparel manufacturing system in which a single garment is progressed through a sequence of operations. Using a unit production system, a garment is automatically transported via a computer-controlled overhead hanging system, which has been ergonomically designed to reduce the amount of handling of the garment (see also **progressive bundle system**).

UPS: see **unit production systems**.

Uptwisting: a system of twisting one or more yarns by withdrawing them over-end from a rotating package. Uptwisting forms the second stage in two-stage twisting.

Vegetal fibres: fibres derived from annual and perennial plants.

Velour: a knitted or woven pile fabric.

Velvet: a cut **warp** pile fabric in which the cut fibrous **ends** of yarn form the surface of the fabric.

Venetian fabric: a lightweight wool or worsted fabric in a **satin** or **twill** weave. In some cases the fabric is napped.

Viloft: a brand name for a **viscose fibre** with a hollow cross-section which offers softness, extra bulk and absorbency.

Viscose: the generic name for a type of **cellulosic fibre** or **cellulosic filament** obtained by the viscose process.

Voile: a lightweight open textured plain-weave cloth.

Waffle: a figured structure based on the **piqué** weave, which is often associated with the appearance of a honeycomb.

Wale: a column of loops along the length of a knitted fabric.

Warp: yarns which run along the length of a fabric.

Warp knitting: a method of making a knitted fabric in which the loops made from each of several **warp** threads are formed substantially along the length of the fabric. Warp knitting is characterised by the fact that each **warp** thread is fed more or less in line with the direction in which the fabric is produced.

Web: a sheet of **fibres** produced by a **carding** machine (carded web) or combing machine (combed web). (See also **batt**.)

Weft: yarns which run across the width of a fabric (also known as **filling**).

Weft knitting: a method of making a knitted fabric in which the loops made by each **weft** thread are formed substantially across the width of the fabric. Weft knitting is characterised by the fact that each **weft** thread is fed more or less at right angles to the direction in which the fabric is produced.

Wet-laid: a web of **fibres** or **nonwoven** fabric produced by depositing an aqueous slurry of **fibres** on to an endless belt (as in paper making).

Wet laying: the stage of a production route for making **nonwovens** in which a **web** of **fibres** is produced by depositing an aqueous slurry of **fibres** on to an endless belt (as in paper making).

Whipcord: a firmly constructed fabric with a bold, **warp twill**.

Whiskering: a term used to refer to processes in which permanent three-dimensional creases and crinkles are added to jeans. Whiskers are normally added to jeans at the tops of the legs, around the buttocks and behind the knees.

Wicking: the passage of fluids along or through a textile material.

Worsted: term used to describe yarns which are spun wholly from combed wool in which the fibres are reasonably parallel, and to describe fabrics or garments made from such yarns.

Wrapped yarn: see **wrap-spun yarn**.

Wrap spinning: a system for manufacturing **wrap-spun yarn**.

Wrap-spun yarn: a yarn consisting of a core wrapped with a binder.

WTO: World Trade Organization, a body based in Geneva, Switzerland, which superseded the General Agreement on Tariffs and Trade (**Gatt**) in 1995 following negotiations conducted between 1986 and 1993 under the Uruguay Round of multilateral trade talks.

Yarn: a product of substantial length and relatively small cross-section consisting of **fibres** and/or **filaments** with or without twist.

Yarn-dyed: a term used to describe a design or fabric which is constructed from, and coloured by means of, pre-dyed yarns.

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Textiles Intelligence

Textiles Intelligence Updates

Focusing on specific sectors of the textile and apparel industry, and complementing our range of research-based subscription products, our e-bulletins provide readers with an essential monthly round-up of business news and innovations for each sector – including apparel, performance apparel, technical textiles and home textiles.

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Who needs them? Product development teams, strategists, and those responsible for sourcing and international marketing.

Global Apparel UPDATE

focuses on developments in the apparel sector – such as accessories and fasteners, environmentally sustainable products and processes, fibres and fabrics, and wearable technology. Examples of business news include: acquisitions, divestments and mergers; corporate social responsibility; joint ventures, cooperation, licensing and distribution; markets and market forecasts; new facilities and stores; and retailing.

Performance Apparel UPDATE

focuses on developments in the performance apparel sector (sportswear and functional corporate clothing). Such developments include: anti-counterfeiting; environmentally sustainable materials and treatments; fabric technologies; finishing treatments; flame resistant fabrics; and performance fibres, yarns and fabrics. The business update section contains news of such companies as Adidas, Dow Chemical Company, Kraig Biocraft Laboratories, Lenzing, Microban, Nike, Noble Biomaterials, Rudolf Group, Speedo, Under Armour, and Unifi.

Technical Textiles Business UPDATE

provides details of news and developments in industrial fibres, technical textiles and nonwovens. Examples of developments include the latest in analytical methods, ballistic protection, coatings, composites, medical textiles, membranes, nonwovens, performance fabrics, self-repairing coatings for textiles, and wound dressings. The business update section includes details of a range of activities, including: acquisitions, divestments and mergers; closures; financial results; investments; joint ventures; and markets.

Home Textiles UPDATE

provides information about developments in the home textiles sector – including details of new bedding products, carpets, curtains, fabrics, finishes, table linen, towelling products and upholstery fabrics. The publication also includes trend forecasts, developments in the contract sector, and business information relating to events, joint ventures, financial results, and markets.

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