The textile and clothing industry in the EU

A survey

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1. AN INTRODUCTION TO TEXTILES AND CLOTHING

The textile and clothing industry (T/C industry) is a very diverse and heterogeneous industry, with its products being used by virtually everybody – private households and business alike. Its activities range from the production of raw materials (i.e. natural as well as man-made fibres) to the manufacture of a wide variety of semi-finished and finished products. Every private household regularly buys garments, bed linen or carpets. Downstream parts of the T/C industry – such as the clothing industry – consume the output of more upstream parts (such as fabrics of all types and colours). The T/C industry is also intertwined with the agricultural sector when it needs inputs in the form of natural fibres (such as cotton or wool), and with the chemicals industry when it comes to the wide range of man-made fibres such as nylon or polyester. Hardly any other industrial sector could do without so-called technical (or industrial) textiles, which include products which are as diverse as filters, conveyer belts, optical fibres, packing textiles, ribbons and tapes, air bags, insulation and roofing materials, etc.

The textile and clothing sector is an important part of the European manufacturing industry, giving employment to more than 2 million people. Its importance for social and economic cohesion is increased by the fact that it is dominated by a large number of small and medium-sized enterprises, which are often concentrated in particular regions, thus contributing greatly to their wealth and cultural heritage.

Being one of the oldest sectors in the history of industrial development, the textile and clothing industry is often referred to as a 'traditional industry', as a sector belonging to the so-called 'old economy'. These notions divert attention from the fact that the European textile and clothing industry has undergone significant restructuring and modernisation efforts during the past ten to fifteen years, making redundant about one third of the total work force, increasing productivity throughout the production chain, and reorienting production towards innovative, high-quality products.

Like many other sectors, the textile and clothing industry has been greatly affected by the phenomenon of globalisation. Europe and the United States are not only important producers of textile and clothing products, they are also the most attractive outlets for the so-called exporting countries, many of which are situated in South-East Asia. It should be noted that many developing countries, and indeed also least developed countries, have become very competitive in textiles and clothing, as they combine low wage costs with high-quality textile equipment and know-how imported from more industrialised countries.

In 2005, the process of trade liberalisation – which started in 1995 with the signing of the WTO Agreement on Textiles and Clothing (ATC) – will have been completed. It will bring about a new world order in textiles trade, since large textile nations like China, India or Indonesia will no longer be confronted with quantitative restrictions when exporting to the EU or the US. Whether European industry will be able to remain a global player also in the new Millenium, will depend on its ability to constantly improve its competitiveness (e.g. through innovation, the increased use of information and communication technologies, clear focus on products with high quality and/or fashion content, the delocalisation of highly labour intensive activities, etc.), but also on the negotiating skills of EU trade negotiators striving for truly open world markets. After all,

many potential export markets are still virtually closed due to a large variety of tariff and non-tariff barriers to trade.

This paper aims to describe the development of the EU textile and clothing industry during the past ten to fifteen years, as well as its potential to cope with the challenges ahead. Chapter 1 describes the main features characterising the T/C industry, and its position in the EU's overall manufacturing industry. Chapter 2 contains an overview of the industrial and regional structure of this rather complex sector. It also provides some information on recent developments in terms of production, productivity and employment. Chapter 3 looks into the development of international trade flows.

Chapter 4 briefly puts the sector into the EU policy context, and highlights – by way of example – three areas of particular relevance to the (future) performance of the sector: the increased use of information and communication technologies; the concept of the so-called pan-Euro-Mediterranean zone; and the field of industrial textiles as an example of a very promising sub-sector focusing with a strong focus on innovation and quality.

Finally, Chapter 5 attempts to shed some empirical light on the question as to what extent European industry is involved in so-called 'quality competition', i.e. competition where the decision to buy is mainly influenced by the quality (or related aspects) of a product, and to a lesser extent by its price.

1.1. Definition of the textile and clothing industry [1]

In this paper, the T/C industry is meant to comprise the following activities:

- the treatment of raw materials, i.e. the preparation or production of various textile fibres, and/or the manufacture of yarns (e.g. through spinning).
  - 'Natural' fibres include cotton, wool, silk, flax, jute, etc.
  - 'Man-made' fibres[2] include cellulosic fibres (e.g. viscose), synthetic fibres (i.e. organic fibres based on petrochemicals, such as polyester, nylon/polyamide, acrylic, polypropylene, etc), and fibres from inorganic materials (e.g. glass, metal, carbon or ceramic).
- the production of knitted and woven fabrics (i.e. knitting and weaving);
- finishing activities – aimed at giving fabrics the visual, physical and aesthetic properties which consumers demand – such as bleaching, printing, dyeing, impregnating, coating, plasticising, etc;
- the transformation of those fabrics into products such as:

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[1] In the Community's 'Combined Nomenclature' (established by Regulation EEC N°2658/87), 'textile' products are covered by Chapters 50-60 and 63, and 'clothing' products are contained in Chapters 61 and 62. The corresponding chapters in the NACE database are NACE Rev 1 17 for 'textiles' and NACE Rev 1 18 for 'clothing'.

[2] The terms 'man-made', 'synthetic' and 'artificial' fibres are often used interchangeably. According to the manufacturing processes used, 'synthetic' fibres are those gained through polymerization of organic monomers, while 'artificial' fibres are obtained through chemical transformation of natural organic polymers.

– garments, knitted or woven (= the so-called 'clothing' industry);
– carpets and other textile floor coverings;
– home textiles (such as bed linen, table linen, toilet linen, kitchen linen, curtains, etc);
– technical, or 'industrial', textiles (see Annex 1).

The distribution sector constitutes the last element of the so-called 'textile and clothing chain' and is therefore important for all T/C products which are sold to the final consumer. Although some T/C companies have set up their own distribution networks in the framework of their vertical integration strategy, the manufacturing and distribution sectors remain very different in their characteristics and nature, and should therefore be treated separately. For this reason, all the statistics and most of the analysis contained in this paper are limited to the manufacturing T/C industry, while distribution-related matters are referred to on an ad-hoc basis only.

1.2. General characteristics of the EU textile and clothing industry

The T/C industry is a very global industry, with constantly increasing trade flows all over the world. Globalisation and ongoing liberalisation expose EU industry to ever more competition from a large number of low-labour cost countries (especially from Asia), for which the sector constitutes one of the most important sources of income and employment. As a result, the degree of import penetration[3] has increased considerably, from 12% in 1990 to 23% in 1999 for textiles, and from 30% in 1990 to 46% in 1999 for clothing.[4] In the light of the huge labour cost differential between many third countries and Europe, EU industry strives to remain competitive by means of higher productivity, and through competitive strengths such as innovation, quality, creativity, design and fashion.[5]

These competitive advantages are the result of a permanent process of restructuring and modernisation. The sector has been adopting new technologies at a fast pace, both with regard to information and communication technologies and new production techniques. Equally, EU industry has a leading role in the development of new products, such as man-made textile fibres or technical textiles.

As far as work force is concerned, Europe has seen a sharp decline in employment over the past two decades, losing as much as 47% (in textiles) and 40% (in clothing) over the period 1980 to 1995.[6] The fact that EU production declined to a much lesser extent than

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[3] Import penetration is defined as the share of imports in total consumption within the EU.

[4] Source: OETH reports on the EU Textile and Clothing Sector for 1997 and 2000 (OETH = L'Observatoire Européen du Textile et de l'Habillement).

[5] A striking example is the Belgian carpet industry: Belgium is the second largest carpet producer in the world (after the US), and the largest world exporter of such products. Another example is Italy, whose highly fashionable garments are bought all over the world.

[6] During the same period of time, the Americas (i.e. North and Latin America) lost almost 30% (textiles) and 20% (clothing), while Asia managed to increase T/C employment by almost 50% (textiles) and above 100% (clothing). Source: OETH report on 'Textile, Clothing, Footwear – A World Employer' (2000)

EU employment suggests a substantial rise in productivity during that period, brought about by the restructuring process referred to above. Moreover, it is generally acknowledged that the quality of the European workforce exceeds that of other world regions. Women account for a large proportion of the T/C workforce, in particular in clothing. Recently, EU industry has had some difficulty in attracting highly qualified staff (such as staff with sound knowledge of information and communication technologies).

Europe's T/C industry is dominated by a large number of small and medium-sized enterprises, the average company having 19 employees (in 1999).[7] Most companies are privately owned, and few are listed on the stock exchange (mainly on the secondary market). This low degree of concentration has to be compensated by increased co-operation along the textile and clothing chain, both horizontally and vertically. The growing use of the opportunities offered by e-commerce should allow small companies to pool their needs on electronic market places.

Subcontracting accounts for an important part of activities of Europe's T/C industry, though varying considerably between Member States. These subcontracting activities are spread between a web of thousands of small businesses, often taking the form of cottage industries, which play an essential role as a source of employment and income, and which are often highly concentrated in particular regions.[8]

The recent restructuring process has also involved the outsourcing of more labour-intensive operations (which have less added value) to countries such as the accession candidate countries (in particular, Romania and Poland) and countries of the Mediterranean Rim (such as Tunisia or Morocco). Labour cost comparisons for the clothing industry illustrate the large wage gap between countries such as Germany (US$ 18 per hour), Poland (US$ 2.77), Morocco (US$ 1.36) or Romania (US$ 1.04).[9] In their outsourcing strategies, EU manufacturers prefer those countries over some Asian countries with even lower wage rates (such as Vietnam with US$ 0.22 or China, US$ 0.43) due to their geographical proximity and their higher quality standards. Thus, EU companies remain able to respond quickly to changing market demands, and they can more easily maintain control over the management and quality of the outsourced operation.

A large number of such operations are carried out as outward processing transactions. Such OPT transactions involve basically the export of EU fabric, cuttings or semi-finished garments to neighbouring low-wage countries, which make them up into finished garments for re-import into the EU. The liberalisation of trade with the countries in question – i.e. the recent removal of all quotas and tariffs for imports into the EU – has had a clear effect on OPT reporting in trade statistics. Previously, operators declared such transactions as 'OPT' transactions in order to benefit from lower tariff rates (since duty was due for the 'value added' only). Under the present preferential regime, this is no longer necessary, and companies avoid the unnecessary administrative work involved in

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[7] Source: Euratex ('European Apparel and Textile Organisation'), based on Eurostat.

[8] Compare the case study on Zara (in Section 2.1.1.), whose clothes are produced in a design-and-manufacturing centre in La Coruna, with most of the sewing done by seamstresses from 400 local co-operatives.

[9] All figures for 1998 (Source: Werner International).

OPT reporting. However, while official trade statistics even indicate a decline in OPT activities, estimates of the real economic situation suggest constantly rising OPT trade. The OETH estimates that 1999 OPT imports of clothing amounted to € 11.3 bn – which corresponds to more than a quarter of total clothing imports into the EU.

1.3. Role of EU textiles and clothing in EU manufacturing

In 1999, some 120,000 T/C companies, employing more than 2 million people, created a turnover of € 178 bn. Within the overall EU manufacturing industry, the T/C industry accounted for about 4% of total production and turnover, and 7.6% of employment. [10]

Over the past decade, the T/C industry has made significant restructuring and modernisation efforts, involving considerable reductions in production and, above all, employment. Figure 1 uses exports as an indicator of the importance of textiles and clothing in total EU manufacturing, and shows the development of the share of textiles and clothing exports in total manufacturing exports between 1988 and 2000.

The importance of textile and clothing in total manufacturing exports has diminished between 1988 and 2000, though not drastically (4.8% in 2000 after 5.9% in 1988)[11]. In 2000, textiles accounted for almost two thirds of total textile and clothing exports.

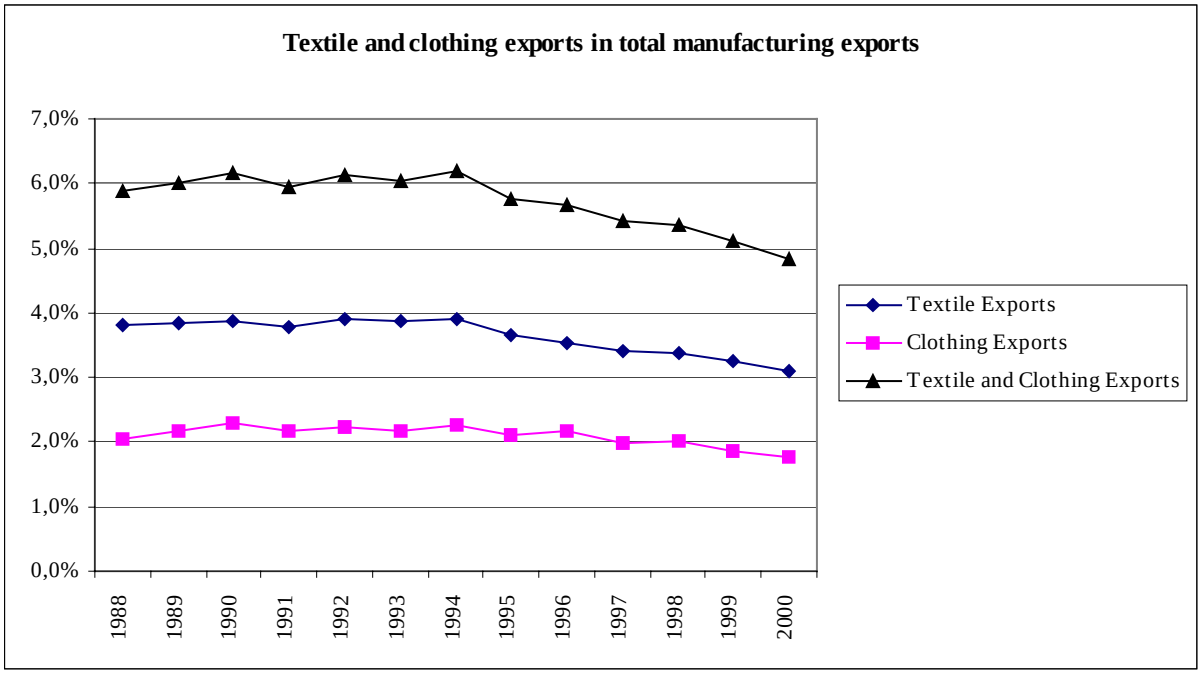
In terms of imports, the share of textiles and clothing in total manufacturing is somewhat higher, amounting to 8.8% in 2000, after 10.9% in 1998 (see figure 2). The decline between 1988 and 2000 is due to the decreasing share of textile imports (2.8% after 5.4%), while the share of clothing imports increased from 5.5% in 2000 to 6% in 2000. The evolution of textile imports depends on the size and performance of the EU's own T/C industry (i.e. the industrial users of imported textiles), whereas the demand for imported garments is determined by the final consumer.[12]

Figure 1: Share of textiles and clothing in total manufacturing exports (at EU level)

[10] Source: OETH (based on Eurostat). According to statistics provided by Euratex, the figures for turnover and employment are slightly higher, since Euratex also takes into account the chemical fibres industry.

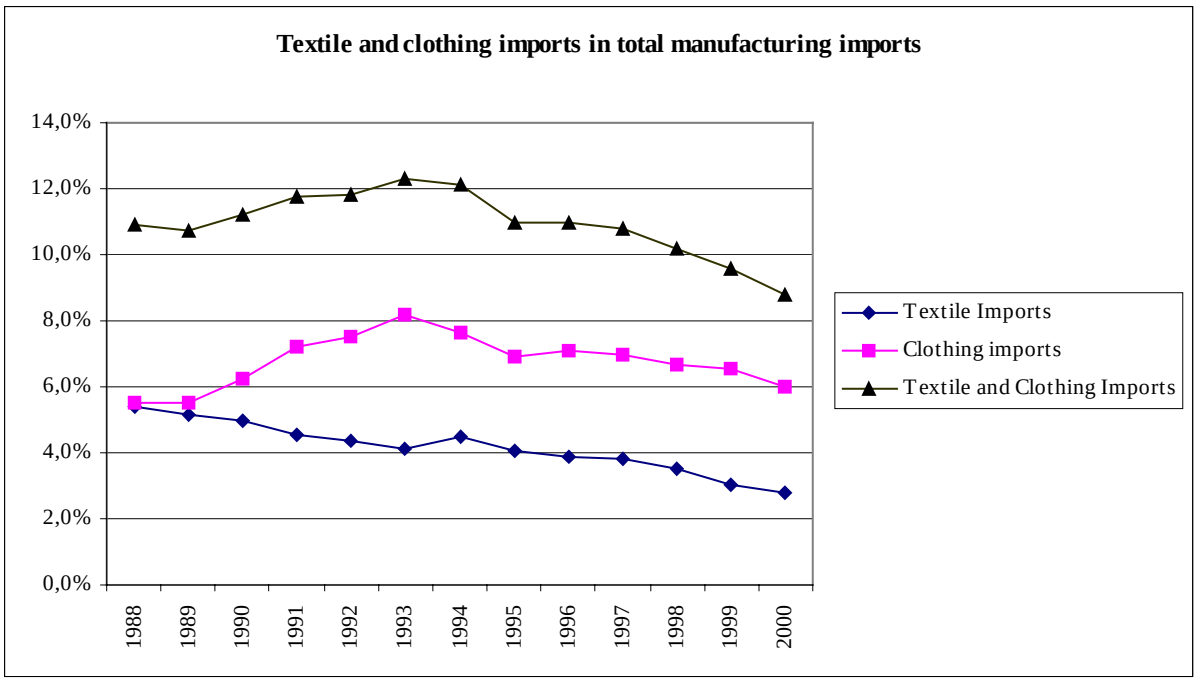
[11] This is not surprising: while the sector has become smaller in size, it has improved its productivity, and – to some extent – also moved towards the production of higher value-added items.

[12] While the relative weight of textile and clothing imports has decreased between 1988 and 2000, imports have nevertheless grown in absolute terms: In 1988, textile and clothing imports amounted to € 13.2 bn and € 13.5 bn, respectively. In 2000, those values stood at € 22.3 bn and € 47.3 bn, respectively, which corresponds to annual average growth rates of 5.7% for textiles and 20.8% for clothing.



Source: Author, based on Eurostat (Comext). Underlying figures in nominal terms. 'Total manufacturing' is defined as CN Chapters 29-96 and 99, ' Textiles' as Chapters 50-60 and 63, 'Clothing' as Chapters 61-62. Figures before 1995 exclude Austria, Finland and Sweden.

Figure 2: Share of textiles and clothing in total manufacturing imports (at EU level)



Source: Author, based on Eurostat (Comext). Underlying figures in nominal terms. 'Total manufacturing' is defined as CN Chapters 29-96 and 99, ' Textiles' as Chapters 50-60 and 63, 'Clothing' as Chapters 61-62. Figures before 1995 exclude Austria, Finland and Sweden.

2. THE EU TEXTILE AND CLOTHING INDUSTRY – STRUCTURE AND TRENDS

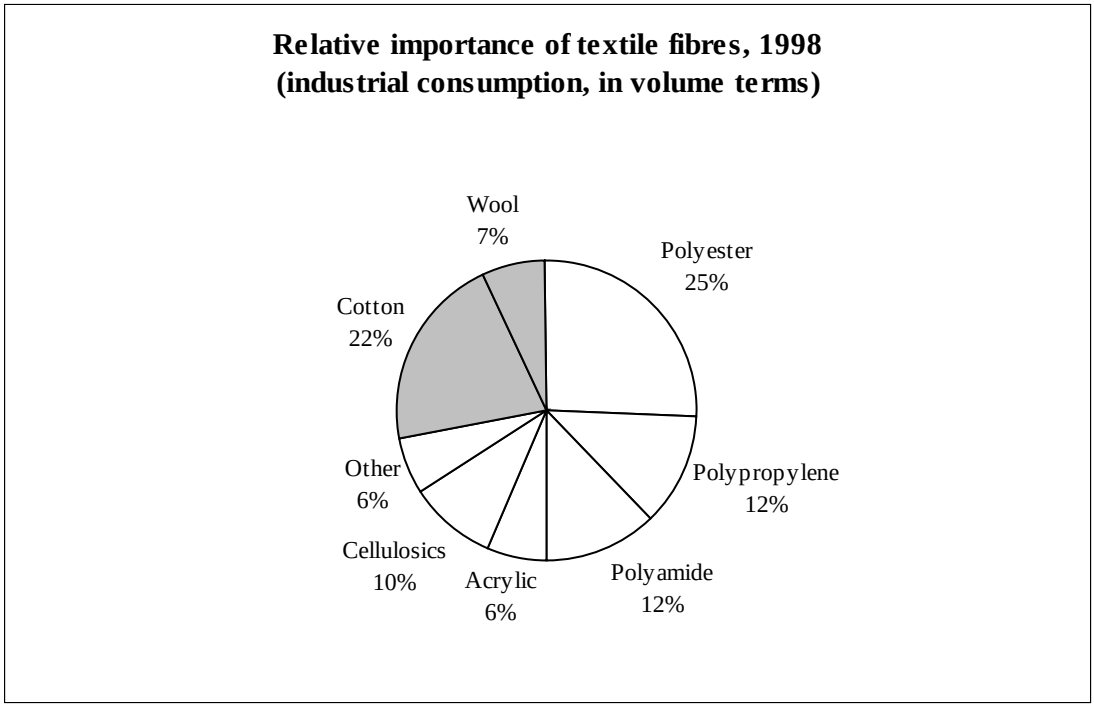
2.1. Structure and regional concentration of EU industry

Industrial structure

The T/C chain is composed of a wide range of industrial sub-sectors, using the entire range of fibres. European industry is still engaged in all production stages, ranging from raw materials (in particular, the production of man-made fibres), to semi-processed products (in particular, spinning, weaving, knitting, and finishing activities), to the final products (e.g. home textiles, carpets, technical textiles, garments).

An approximation of the relative importance of individual fibres in Europe's T/C sector is given in the following graph. In terms of industrial consumption, man-made fibres accounted for about 72% (in 1998, in terms of volume). Cotton is the most important natural fibre.

Figure 3: Relative importance of textile fibres



Note: The grey areas represent natural fibres, the white ones relate to man-made fibres. Source for statistics: CIRFS (Comité International de la Rayonne et des Fibres Synthétiques) and Euratex. Figures relate to EU and EFTA. No comparable information is available for 'flax' and 'silk', which together are estimated to represent about 5% of total fibre consumption.

The main distinction to be made in the T/C sector is that between 'textiles' and 'clothing' products, with textiles accounting for about 60% of Community activity (based on a combination of turnover, added value, and employment)[13]. Their special characteristics as well as performance can be characterised as follows:

Table 1: Comparison between textiles and clothing industry (figures for 1999)

	TEXTILES	**CLOTHING**
Weight in total T/C sector	60%	40%
Importance of factors of production	Capital intensive	Labour intensive
Productivity as % of average productivity in EU manufacturing	66%	46%
Turnover (€ bn)	109	69
Investment (€ bn)	5	1.2
Imports (€ bn)	17	41
Exports (€ bn)	22	13
Trade balance (€ bn)	+ 5	- 28
Import penetration rate	23%	46%
Employment	1,160,000	924,000
% of companies with less than 20 employees	75%	>80%

Source: OETH report 2000, based on Eurostat

According to industrial activity, the 'textile' industry can be further broken down into various sub-sectors. Industry indicates their relative importance as follows: [14]

Table 2: Relative importance of sub-sectors of the textiles industry

Sub-sector	**Share (%)**
Woven fabrics	22
Technical/industrial textiles (incl. carpets)	21
Knitted fabrics and articles	18
Yarn and thread	16
Textile finishing	12
Home textiles	11
TOTAL TEXTILES	100

Source: Euratex, based on Eurostat

Some of these activities can also be vertically integrated (partially or totally), with one single enterprise carrying out spinning and/or weaving and/or finishing operations.

[13] Source: Euratex, which used an average of the following three indicators: turnover, value added, and number of persons employed.

[14] Source: Euratex.

However, due to the increasing degree to which certain activities have been sourced out, the number of fully integrated textile companies has gone down markedly over the past decade.

The interdependence of the individual parts of the textile and clothing chain should be emphasised. If, for example, EU activity in downstream parts of the chain diminishes, upstream operators risk being affected too, since they lose important customers for their high-quality, and high value-added products. Similarly, when EU spinners or weavers are driven out of the market, downstream operators lose high-quality suppliers which are situated in geographical proximity (and are able to respond quickly to rapidly changing customer demands).

Case Study: The vertical integration concept of ZARA

Zara, the Spanish clothing chain which was founded in 1963 as a maker of ladies' lingeries in the Galician town of La Coruna, is considered to be 'a spectacular exception to the rule' according to which 'vertical integration has gone out of fashion in the consumer economy'[15].

Over the past five years, Zara has increased the number of stores from 180 (mainly in Spain) to 450 in 30 different countries. Revenues have grown by an average of 27% a year since 1998.

Zara's success is based on a vertically integrated business model embracing design, just-in-time production (starting with basic fabric dyeing), marketing and sales. This gives the company the flexibility needed to respond to fast changing fashion trends. Its products are developed in a design-and-manufacturing centre in La Coruna, with most of the sewing down by 400 local subcontractors. Designers are in constant touch with store managers to find out which items are most in demand. As they are also supported by real-time sales data from all 450 stores, they are able to feed repeat orders and new designs into the manufacturing plant. The plant, in turn, ships the goods to the stores twice a week, which eliminates the need for warehouses and keeps inventories low.

As a result, Zara only needs three weeks to make a new line from start to finish – compared to an industry average of nine months. 10,000 new designs are created each year, none of them staying in a store for more than one month. Whereas Zara has committed only 15% of its production at the start of a season, the figure at the average EU retailer is as high as 60%. Zara can therefore more easily dump a product line which has turned out to be unpopular.

[15] Richard Hyman of Verdict, a retail consultancy in London, quoted from The Economist, 'Floating on air', May 19th 2001, p. 68. Also the remainder of this case study is based on that Economist article.

While, in absolute numbers, the T/C sector is clearly dominated by SMEs, a considerable percentage of turnover is generated by a limited number of big companies. The following table indicates, for a number of selected countries, the share of the main three (and the main five) companies in the total turnover of that country's textile or clothing industry. The degree of concentration varies considerably from country to country. It should be noted that Italy – the EU's main T/C producer – has a very heterogeneous company structure.

Table 3: Share of top-3/top-5 companies in total T/C turnover

Country	**Textile industry**		**Clothing industry**	
	Share of top-3 companies	Share of top-5 companies	Share of top-3 companies	Share of top-5 companies
UK	43 %	52 %	22 %	33 %
France	21 %	28 %	28 %	35 %
Germany	14 %	20 %	35 %	46 %
Italy	9 %	12 %	20 %	25 %
US	23 %	31 %	(no data)	(no data)

Source: Euratex (Bulletin 2000/1)

During the most recent past, the following business trends among Europe's – and the world's – most significant textile and clothing enterprises have been observed:[16]

- In the light of ever-increasing globalisation and liberalisation, the world's top T/C companies (or groups of companies) have more than ever focused on restructuring and rationalising – a trend which has even accelerated during the first half of the year 2000;
- Part of this process has been increased diversification of product and market portfolios. In Europe, this has concerned, above all, luxury and upmarket manufacturers, including clothing companies diversifying into accessories (such as shoes, or spectacles);
- Europe has also witnessed an unprecedented increase in acquisitions and mergers, which have trebled over the past three years, thus deeply changing the industrial and commercial scene in Europe. In that context, it can be observed that:
  - The clothing sector and distribution are more often subject to mergers than the textile sector;
  - Medium-sized companies are getting increasingly involved in the acquisition of other companies. Unlike larger companies, they usually carry out those acquisitions within the same market segment rather than in downstream or upstream parts of the chain;
  - One of the main objectives of such activities has been to increase the profitability of investments in brands and distribution networks.

[16] Main Source: Euratex, Bulletin 2000/1

- An increasing number of companies are trying to exploit the so-called 'fashion system', by means of which a well-known brand name acquired in other sectors is used for textile and clothing products so as to increase the return on investment in brands;
- As a result of globalisation and the conclusion of preferential trade agreements, there has been an increasing trend towards the internationalisation and relocation of production, and an ever more complex diversification of sources of supply.

In terms of company size (expressed in turnover), Europe has rather few global players. While there are 6 European companies/groups among the worlds 36 biggest textiles companies (defined as companies whose annual turnover exceeds € 1 bn), the biggest European group ranks only n° 18 (Coats Viyella Textiles, UK) [17]. In the clothing industry, 26 companies exceed the turnover threshold of € 1 bn, 6 of which are situated in one of the EU's Member States. Europe's biggest clothing group (Holding di Partecipazioni, Italy) ranks n° 5.

For sector-specific global company rankings (including Europe's top 10), see Annex 2. In contrast to the average European T/C company, most of the big players contained in Annex 2 are listed on the stock exchange.[18] However, some of the top-10 companies are still wholly privately owned (such as the German Daun & Cie. AG), or mainly privately owned (such as the French company 'Chamatex', where more than 80% of the capital is in family possession). Inditex – the Spanish holding company whose centerpiece is Zara[19] – put out an initial public offering on the Madrid bourse in May 2001.

One of the most striking business trends of the past few years has been the increasing degree of concentration in the distribution sector. Formerly, T/C products were sold by a powerful industry to a distribution sector which was mostly composed of SME retailers. Today, distribution is increasingly being controlled by a limit number of big players, which are in a position to put the upstream part of the textile and clothing chain under considerable pressure as far as terms of payment and delivery are concerned. The system has thus changed rapidly from 'industry driven' to 'customer driven'. [20]

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[17] It should be noted that the major European groups are active both in the textile and clothing sectors. For the sector-specific rankings (established by Euratex, in Bulletin 2000/1), only the sector-specific turnover was taken into account.

[18] For information on the stock exchange performance of those companies, see http://profiles.wisi.com

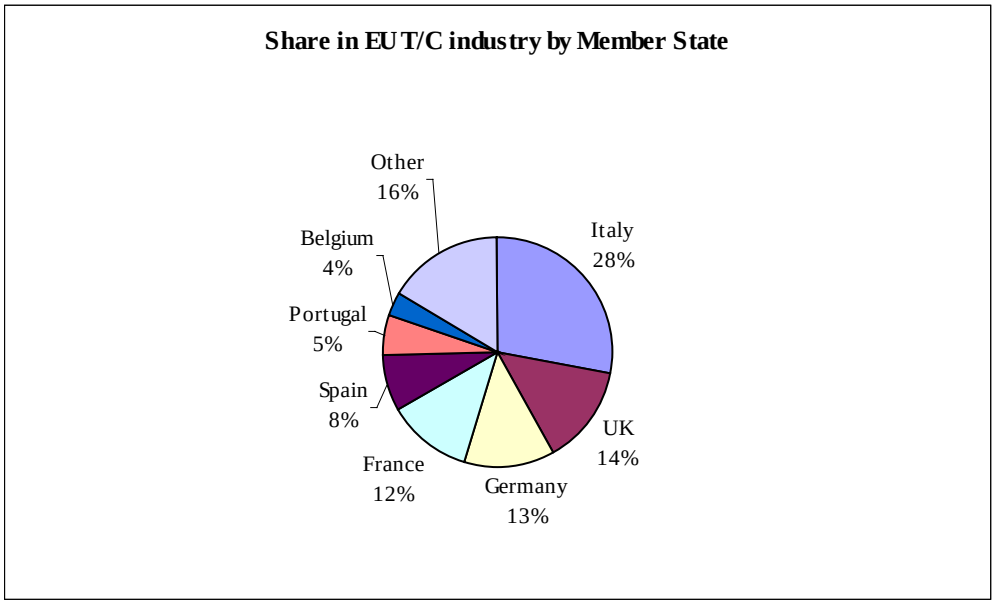
[19] See also the case study on Zara further above.

[20] For example, the French retailer Carrefour recently acquired several of its formal rivals, and has become the market leader in Belgium, Spain, Portugal, Greece, Italy, Brazil, Argentina and Chile (Source: OETH report 2000).

Regional concentration of EU industry

Based on a combination of the indicators 'turnover', 'value added', and 'employment', Italy is by far the most important T/C country in Europe (with a share of 31% of the EU total), followed by the United Kingdom (15%), Germany (14%), France (13%), Spain (9%), and Portugal (6%):[21]

Figure 4: Share in EU T/C industry by Member State



Source: Euratex

For the large T/C countries, Italy, UK, Germany, and France, the relative importance of the 'textile' and 'clothing' industries is quite close to the EU average (i.e. 60% textiles, 40% clothing). For some southern Member States (such as Spain, Portugal and Greece), there is a higher concentration on clothing, while countries such as the Netherlands, Sweden, Belgium and Austria have focused their activities on the textiles sector.[22]

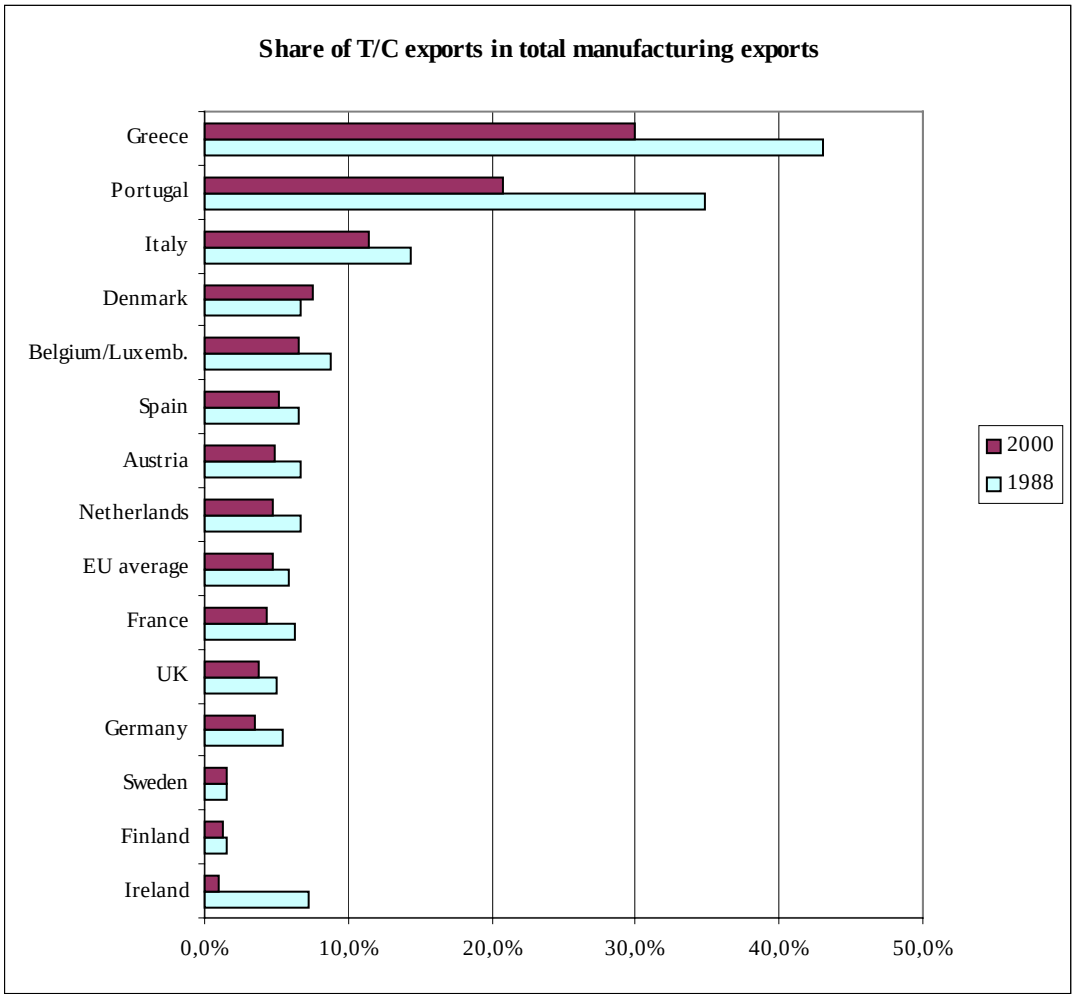
Figure 5 uses the share of 'textile and clothing exports' in 'total manufacturing exports' as a proxy[23] for the relative importance of the T/C sector in individual EU Member States:

[21] Source: Euratex ('Memorandum on Preferential Rules of Origin', February 2000), based on Eurostat.

[22] Compare figures 9 and 10 in Section 2.2, illustrating changes in employment in the textile and clothing sectors, respectively, between the years 1995 and 1999.

[23] Exports do not necessarily reflect a country's economic activity in a given sector (such as production, or employment), as goods might simply be transhipped through that country. Caution is therefore called for, in particular regarding trade statistics for countries with huge harbour facilities (such as the Netherlands) which are used as a gateway for other (e.g. landlocked) countries.

Figure 5: Share of textiles and clothing in total manufacturing exports (at Member State level)



Source: Author, based on Eurostat (Comext). Exports (in nominal terms) to the rest of the world (including the other 14 Member States). Ranking according to year 2000 shares. 'Total manufacturing' is defined as CN Chapters 29-96 and 99, ' T/C' (Textiles/Clothing) as Chapters 50-63. For Austria, Finland and Sweden, no Eurostat figures are available for 1988 (1995 figures have been used instead).

In all Member States except Denmark, the share of T/C exports in total manufacturing exports has gone down since 1988 – sometimes drastically (e.g. in Ireland). For some countries, the relative importance of the T/C industry in total manufacturing is very significant; this applies in particular to Greece and Portugal, and to a lesser extent also to Italy. In general, the importance of the T/C sector is much greater in the Southern part of Europe than in Northern Europe.[24]

Table 4 illustrates the development of the revealed comparative advantage of five selected EU Member States between 1988 and 2000. The index[25] used for this analysis is based on commodity-specific trade balances, in order to arrive at some notion of a

[24] This partly explains the clear split between the production-oriented South and the trade-oriented North when it comes to defining the EU's position in a trade policy context.

[25] Index of revealed comparative advantage: $h = (Xij - Mij) / (Xij + Mij)$, with $-1 \leq h \leq 1$;
where X = exports, M = imports, i = commodity i, j = country j
The index is ordinal: If the value of the index for commodity i exceeds that of other commodities, the country in question has a greater comparative advantage in commodity i than in those commodities.

country's resource abundance.[26] Negative values of the index ($-1 \leq h \leq 0$) suggest a trade deficit, positive values ($0 \leq h \leq +1$) a trade surplus. Distinction is made between trade with non-EU Member States (i.e. Rest of the World) and trade with the other 14 EU Member States.

Table 4: Revealed comparative advantage for selected EU Member States

	1988	**1992**	**1997**	**1999**	**2000**
France					
RoW	-0,13	-0,22	-0,19	-0,23	-0,24
EU14	-0,19	-0,18	-0,14	-0,15	-0,16
Greece					
RoW	0,01	-0,11	-0,25	-0,19	-0,19
EU14	0,25	0,13	0,09	0,05	0,04
UK					
RoW	-0,37	-0,46	-0,44	-0,51	-0,55
EU14	-0,32	-0,16	-0,13	-0,17	-0,17
Italy					
RoW	0,29	0,20	0,29	0,21	0,20
EU14	0,44	0,44	0,45	0,46	0,45
Portugal					
RoW	0,48	0,45	0,32	0,31	0,27
EU14	0,41	0,30	0,28	0,25	0,23

Source: Author, based on Comext (Eurostat), Regime 4, total textile and clothing, in value terms. RoW: rest of the world. EU14: EU Member States excluding the country under consideration.

The above table shows that:

- Greece, the UK and Italy traditionally have a higher comparative advantage in their intra-EU trade than in their trade with the rest of the world, while the opposite is true for Portugal. France was relatively more competitive on world markets in 1988 but has ever since lost ground in world trade while maintaining its comparative advantage within the EU.

- In trade with the rest of the world, France, Greece and the UK have a negative comparative advantage, while Italy and – above all – Portugal show positive values. For all five countries, however, the development between 1988 and 2000 has been unfavourable.

- In trade within the EU, Italy performs best, followed by Portugal and Greece. As in global trade, the UK and France show negative values. Between 1988 and 2000,

[26] The index is used in B. Balassa and M. Noland (1989): 'The Changing Comparative Advantage of Japan and the United States', Journal of Japanese and International Economies, June.

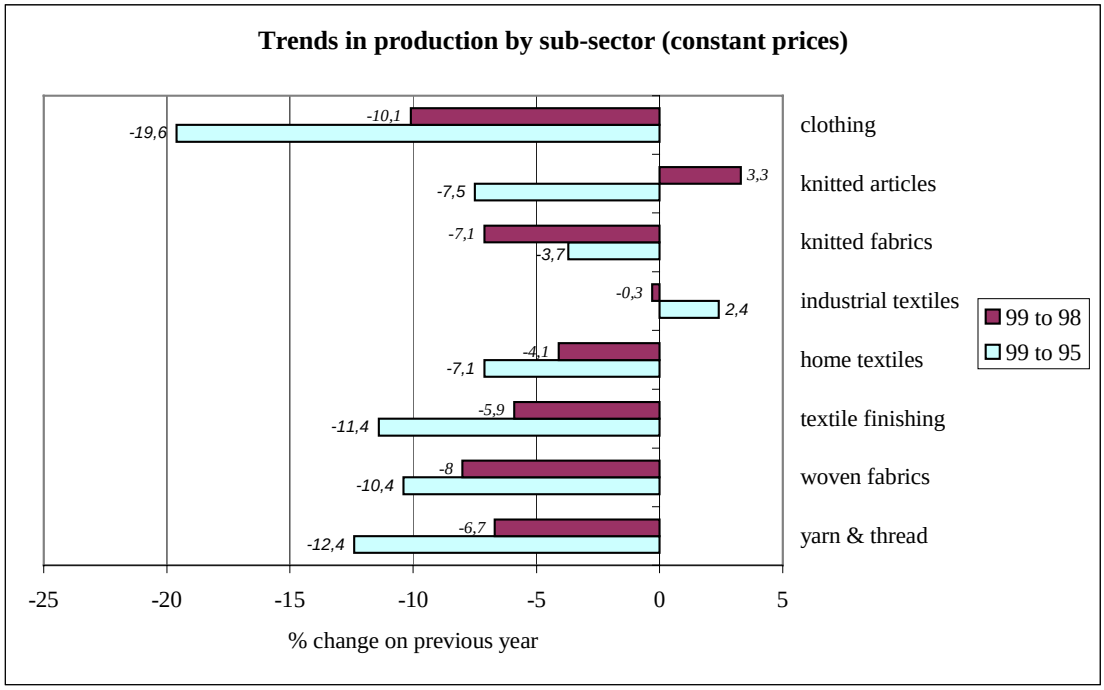
Greece and Portugal have lost ground, while the other three countries have more or less maintained the levels of their comparative advantage.

Overall, Italy and Portugal have shown the best performance. While Italy is known to combine high levels of productivity with assets such as quality and fashion, Portugal's relative strength has – in spite of considerable restructuring efforts – largely been due to its comparatively low labour cost.

2.2. Production, productivity and employment

With the exception of industrial textiles, all sub-sectors of the textile and clothing industry experienced a decline in production between 1995 and 1999, with production in clothing products being hit hardest:

Figure 6: Trends in production by sub-sectors (1995 to 1999)



Source: OETH report, 2000 (based on Eurostat)

This – negative – trend was pursued between 1998 and 1999, except for knitted articles, the production of which increased by 3.3%.

Overall, EU production of textiles fell by 4.1% in 1999 (after a decrease by 2.2% in 1998), and production of clothing articles decreased by as much as 10.1% in 1999 (after a decline by 2.4% in 1998). For 1999, the total value of production is estimated at around € 77 billion for textiles, and € 60 billion for clothing.[27]

Given that the consumption of clothing products on the EU market has been fairly stable during that period of time, imported garments have increasingly replaced garments made

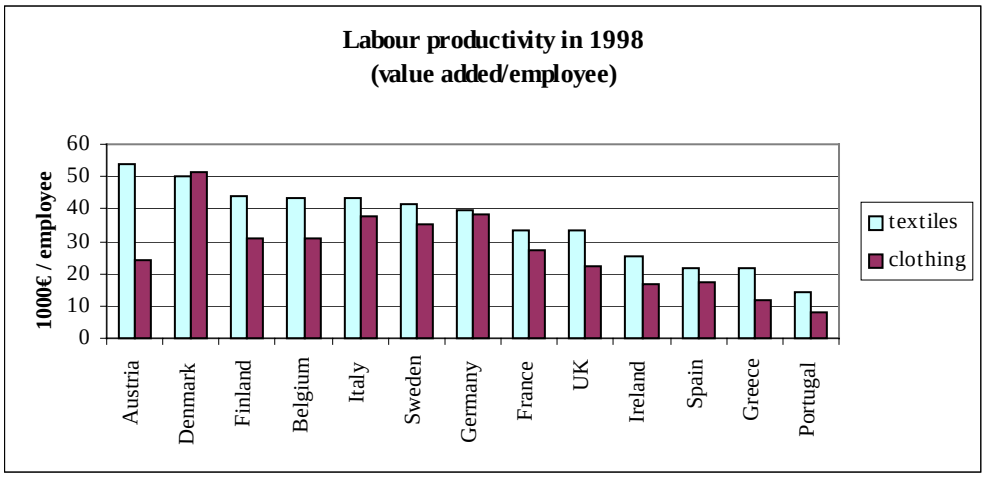
[27] These figures do not take account of a large number of small companies for which no production statistics are available.

in the EU, thereby reaching a market penetration rate of 46% in 1999 (after 30% in 1990). In textiles, the import penetration rate has reached 23%; this, however, of a gradually shrinking market, with textile consumption on the EU market having declined as a result of the reduction of the size of the EU textile and clothing industry.

In view of the high average proportion of labour cost in total production cost (estimated at 60% for clothing, and 40% for textiles), production costs are relatively high in the EU. In the clothing industry, for example, hourly labour costs in countries like Indonesia, India or China vary from US$ 0.24 to 0.62. In the EU, by contrast, they range from US$ 4.5 in Portugal to US$ 23 in Denmark. This competitive disadvantage is partly offset by high levels of labour productivity (expressed in value added per employee) – which is much higher in the EU than in Asia, but lower than in the US, Japan or Switzerland.[28] For a comparison of labour productivity levels in the textile industry, see Annex 3.

As far as labour productivity is concerned, the EU – like other industrialised countries – is relatively more competitive in textiles than in clothing, given that advanced technologies can be used more extensively in the textile industry. In clothing, developing countries are more competitive, as they are able to fully exploit their labour cost advantage. Within the EU, the Member States with the highest levels of labour productivity were situated in the northern part of Europe (with the exception of Italy and France). The lowest rates can be found in Portugal and Greece[29] (see figure 7).

Figure 7: Labour productivity of EU Member States, 1998



Source: Euratex ('Memorandum on preferential rules of origin'), based on Eurostat. Ranking according to labour productivity in textiles.

The advantage of EU industry over its (Asian) competitors in terms of labour productivity is, however, not sufficiently large to compensate for the huge differentials in terms of

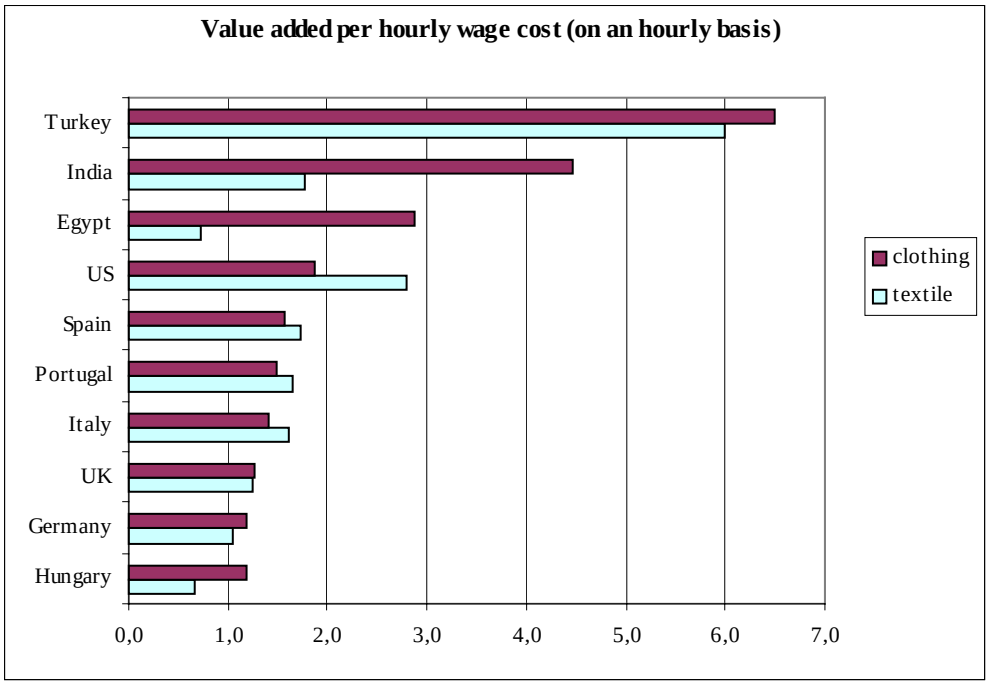
[28] It should be noted, though, that labour productivity in textiles and clothing is below the average of the total EU manufacturing industry (with 66% and 46% of average productivity, respectively). However, growth in T/C productivity has been quite high between 1990 and 1998: the annual average growth in productivity was 4.2% in textiles, and 3.7% in clothing.

[29] It should be noted that countries like Portugal, Greece, Spain and – to a lesser extent – Ireland are still able to compensate part of their lower labour productivity levels by lower labour cost. In textiles, for example, Portuguese hourly labour costs of 4.5 US$/hour are much lower than those of Denmark (23.1 US$/hour) or Germany (21.5 US$/hour).

wage costs. An Indian worker, for example, who produces only 10% of the value added generated by his European counterpart (say, in one hour), may still be the 'more productive' worker as long as his hourly wage is lower than 10% of the wage of the European worker.

It makes therefore sense to calculate the 'value added per wage cost (on an hourly basis)', in order to take account of this interrelationship between 'labour productivity' and 'wage cost'. Figure 8 shows that ratio for a selected number of countries for which all the necessary data are available. (Note: High value means high competitiveness.)

Figure 8: Value added per hourly wage cost, selected countries



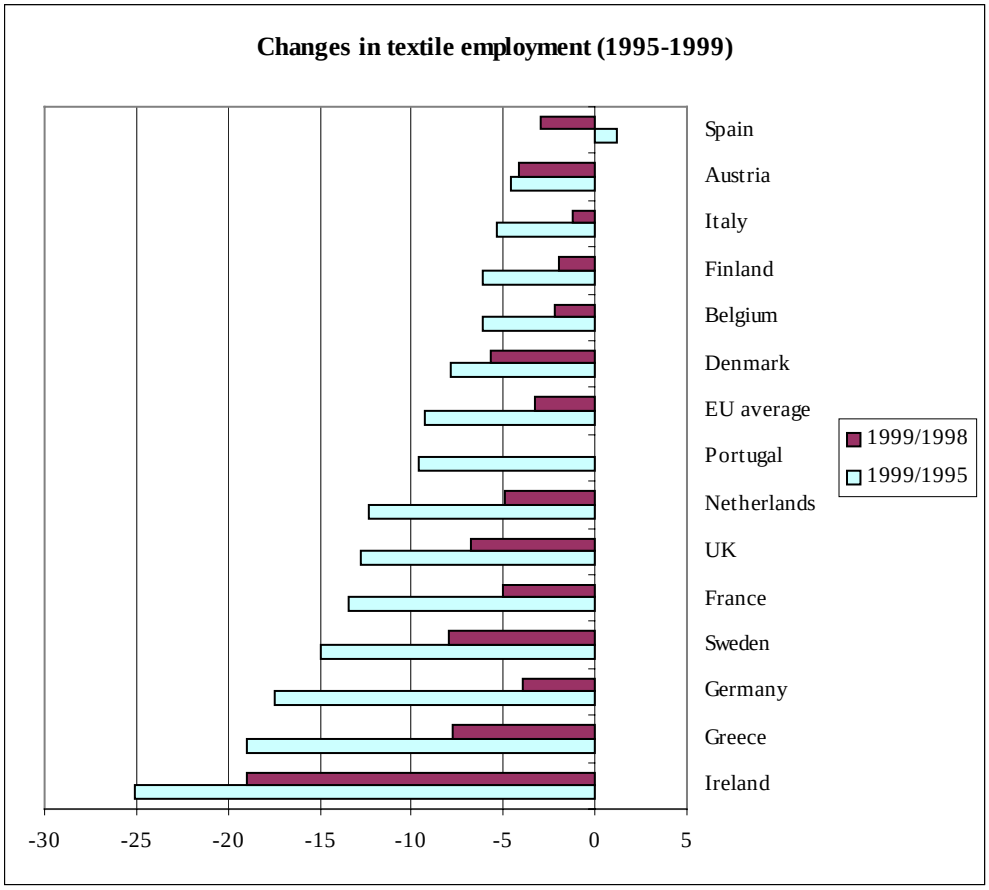
Source: Author, based on figures provided by the OETH, which based itself on ILO, United Nations Database and Eurostat. All figures for 1996 and in US$.

In this comparison – where the 'value added per employee per hour' was divided by 'hourly wage cost' – Turkey performs best because it combines a reasonably high level of labour productivity (24,192 US$/employee in textiles compared to Germany's US$ 43,816) with lower wage costs (12.13 US$/hour compared to Germany's US$ 23). For the same reason, Portugal and Spain perform better than northern European countries. Countries like India cannot fully exploit their wage cost advantage (1 $/hour in textiles), since labour productivity is well below European or American standards (2,277 US$/employee).

The decline in EU production during the past years was clearly exceeded by the parallel decline in employment. The 1999 employment levels – 1.2 million in textiles and 0.9 million in clothing – were well below the 1995 figures: during that period of time, employment in textiles went down by 9%, employment in clothing by as much as 13%.

In textiles, Ireland experienced the most drastic decline in employment (minus 25% between 1995 and 1999), followed by Greece and Germany. Spain was the only Member State which managed to increase textiles employment between that period of time:

Figure 9: Employment in the textiles sector – developments between 1995 and 1999



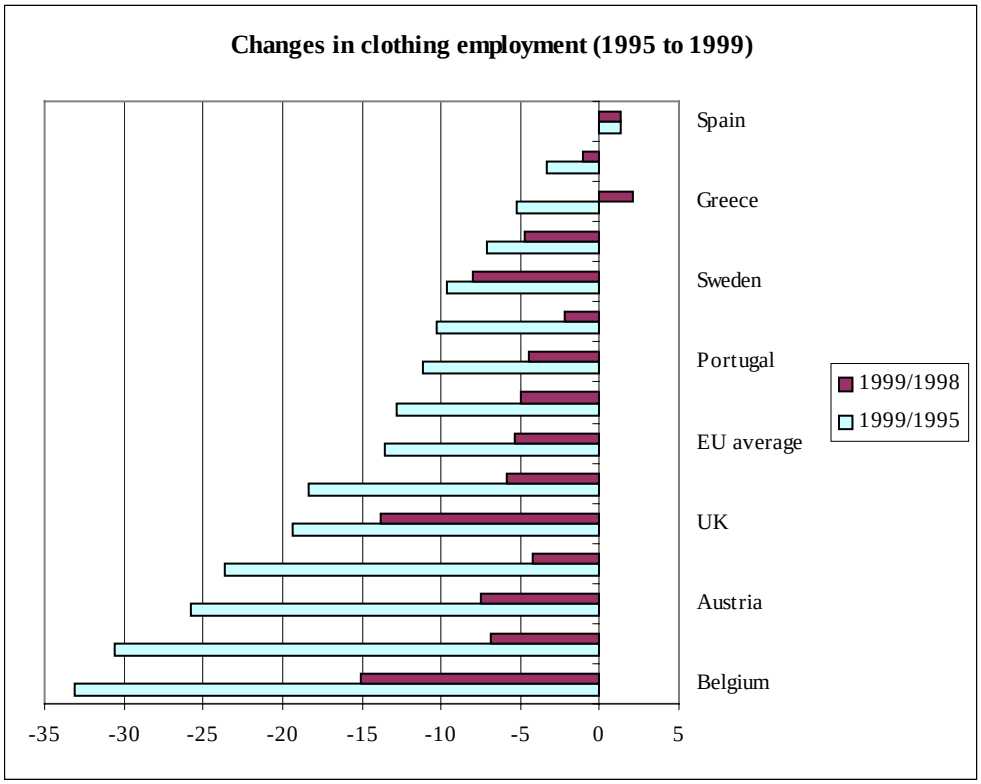
Source: OETH report 2000, based on Eurostat

In clothing, the loss in employment has been even more significant, with three Member States losing more than 25% of jobs between 1995 and 1999: Belgium, Germany, and Austria.

Figures 9 and 10 clearly show that countries like Belgium, Austria and Denmark have reduced their engagement in the clothing industry, while maintaining a strong position in textiles (e.g. by focusing on niche markets/products).[30] Spain has managed to maintain T/C employment at high levels, and also Italy has performed comparably well, both in textiles and in clothing.

[30] Compare also Section 2.1.2 on the 'regional concentration of EU industry'.

Figure 10: Employment in the clothing sector – developments between 1995 and 1999



Source: OETH report 2000, based on Eurostat

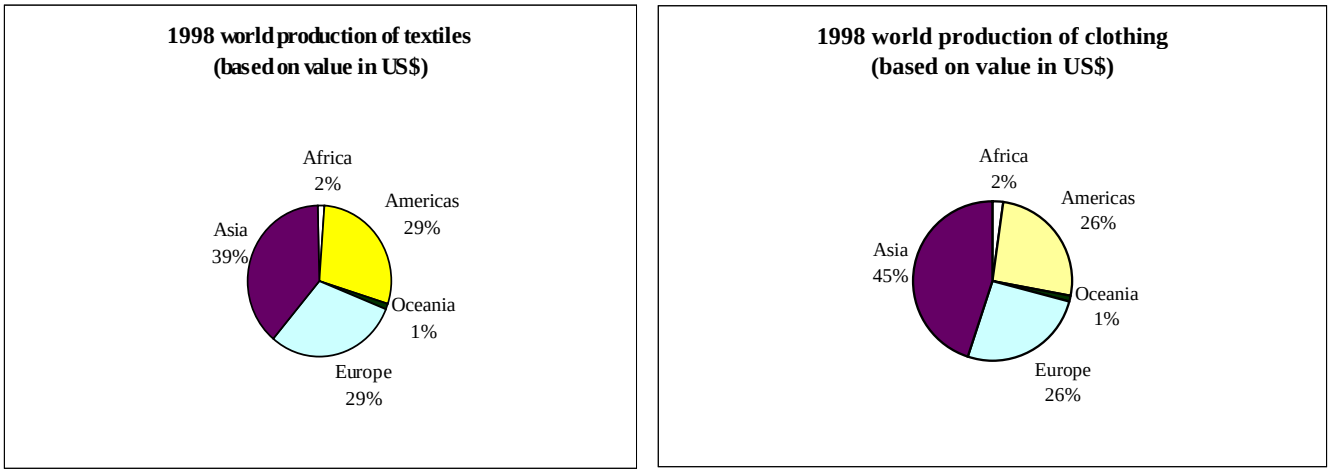
3. EU TEXTILE AND CLOTHING IN THE GLOBAL ECONOMY

The T/C industry is one of the most global industries in the world, and constitutes an important source of income and employment for many countries in the world, in particular for many developing countries. In 1999, it accounted for 5.7% of the production value of world manufacturing output (in US$), 8.3% of the value of manufactured goods traded in the world, and more than 14% of world employment. [31]

3.1. Role of EU textiles and clothing in the global economy

Europe's share in world production of textiles was 29% in 1998, thus very similar to that of the Americas[32], but lower than Asia's share (with 39%). As for world production in clothing, Europe and the Americas (26% each) were well behind Asia (45%):

Figure 11: 1998 world production of textiles and clothing



Source: Figures from OETH report on the factors of competitiveness of the T/C industry, October 2000. OEHT based itself on World Bank, United Nations database and Eurostat.

Europe is the world's largest importer of both textiles (40% of world imports) and clothing (more than 45%). As regards T/C exports, the EU ranks second behind China (if intra-EU trade is disregarded). China's lead is much more significant in clothing than it is in textiles: In clothing, China's share in total world exports rose from 14.6% in 1990 to 23.7% in 1998, while Europe's share decreased from 10.5% to 8.8%. In textiles, Europe is almost as strong as China (even if intra-EU trade is neglected), and has managed to increase its share in total world exports from 14.5% in 1990 to 15.2% in 1998. For a more detailed breakdown of the world's most important exporters of textile and clothing products, see Annex 4. [33]

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[31] Source: OETH report 2000, based on ILO, United Nations database and Eurostat.

[32] 'Americas' comprises North America and Latin America.

[33] Source: OETH report 2000, based on WTO statistics.

3.2. EU trade regime and trade performance [34]

The T/C sector has traditionally been a highly protected sector, where the main 'importing' countries such as Europe or the US have been applying a wide range of quantitative restrictions (quotas), whereas most 'exporting' countries (e.g. those from East Asia, or from the Indian sub-continent) have been protecting their own markets by prohibitively high import tariffs and/or numerous non-tariff barriers.

Since 1995, world trade in textiles and clothing has been governed by the WTO Agreement on Textiles and Clothing (ATC)[35], which provides for the progressive application of the entire range of GATT rules to the sector by 1 January 2005. This implies, in particular, the gradual abolition of all remaining quotas: in 1995, products covering 16% of 1990 imports (= the reference year) had to be liberalised, followed by another 17% in 1998. On 1.1.2001, the so-called 'third stage of integration' will have to take place, this time covering 18% of imports – thus leaving 49% of trade potentially eligible to quotas until full liberalisation at the beginning of 2005.[36] Unlike the first two stages of integration, which – from the EU point of view – did not touch upon its most sensitive product categories, the third stage will imply the removal of quotas for a number of products which are considered to be very sensitive.[37]

At present, the EU applies import quotas against (one or more) products from 23 supplier countries – either under the ATC (against 14 countries), or under bilateral agreements with non-WTO members (9 countries, including Vietnam and, for the time being, China and Taiwan). Nevertheless, in spite of that quota regime, about 70% of total EU imports (in value terms) are imported without any quantitative restrictions.[38]

Moreover, many third countries enjoy tariff-free access to the EU market (or access at reduced tariff rates), either under the various preferential trade arrangements/agreements (e.g. with the CEECs, the Mediterranean countries, the countries belonging to the European Economic Area, the ACP countries, etc.), or under the Generalised System of Preferences, GSP (which provides for zero tariffs for least developed countries, and for tariff reductions of 15% for the remaining countries covered by that regime).[39] As a result, in 1999, almost 50% of all EU imports were exempted from customs duties (compared to only 28% in 1994).

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[34] For this section, 'textiles' are defined as CN Chapters 50-60 and 63, with the exception of raw materials, and 'clothing' comprises CN Chapters 61 and 62. 1988 figures exclude Austria, Finland and Sweden. Intra-EU trade is excluded, unless otherwise specified. Source: Eurostat (Comext; Regime 4).

[35] The ATC replaced the so-called 'Multi-Fibre Agreement' (MFA-Agreement).

[36] It should be noted that the liberalisation effect of the ATC is not limited to the removal of quotas, but also provides for regular increases in the 'annual growth rates' of those quotas which are maintained until the end of the transitional period.

[37] WTO members are, in principle, free to select the products which they intend to liberalise. However, they have to ensure that a reasonable balance is struck between the following main product groups: fibres and yarns; fabrics; made-up textile articles; garments.

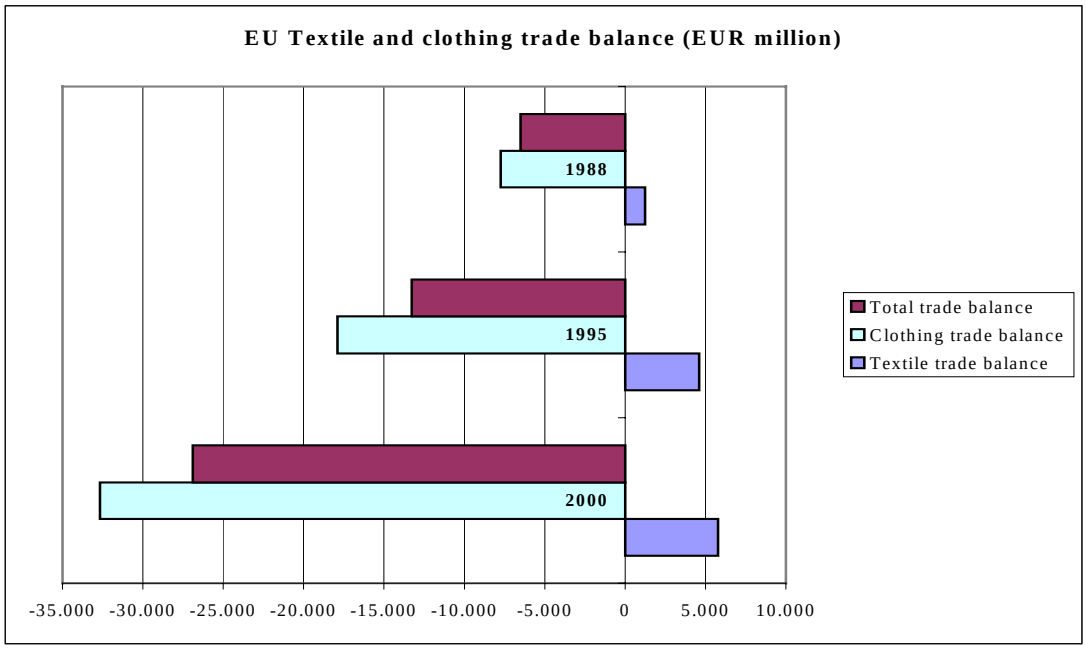
[38] No quotas are maintained, for instance, against the US, Canada, the CEECs, the countries of the Mediterranean Rim, the ACP countries or any other least developed country (such as Bangladesh), etc.

[39] The list of GSP beneficiaries comprises some 150 countries, 48 of which have been identified as LLDCs.

Non-preferential supplier countries have to pay the following tariff rates when exporting to the EU: 0% for raw materials, 4% for fibres and yarns, 8% for fabrics and made-up products, and 12% for garments. This tariff structure is significantly lower than that of most of the EU's trading partners, some of which have 'bound' their tariffs within the WTO at levels of 40% and higher. It should be noted that even the US maintains some tariff peaks above 40%. In this context, a new WTO round aiming at across-the-board tariff cuts would be helpful to reduce the current imbalance faced by EU operators.

Between 1988 and 2000, the EU's trade deficit in textile and clothing trade has increased from € 6.5 bn to € 27 bn. Without the (growing) surplus in textiles trade, the overall trade deficit would have been even larger:

Figure 12: EU textile and clothing trade balance, 1988 to 2000



Source: Author, based on statistics from Eurostat (Comext).

The surplus in textiles is mainly generated in the EU's trade with the Central and Eastern European countries (CEECs)[40] and the Maghreb countries: many EU operators send fabrics to those countries, have them transformed into garments, and re-import those garments into the EU.[41] This also contributes to the EU's huge trade deficit in clothing.

[40] In this paper, CEEC means: Poland, Hungary, Slovakia, Czech Republic, Bulgaria, Romania, Slovenia, Estonia, Lithuania and Latvia.

[41] This outsourcing activity – also referred to as outward processing transaction (OPT) – has already been dealt with in more detail in Section 1.3 ('General characteristics of EU industry').

Table 5 contains the countries/regions with whom the EU maintains the highest trade surpluses as well as the highest trade deficits in textiles trade:

Table 5: Trade balance in textiles (1000 €) – selected trading partners

	1988	1995	2000	annual growth
CEECs	378,019	2,872,477	4,772,320	97%
Maghreb	691,177	1,777,855	2,582,412	23%
USA	549,657	560,835	1,481,362	14%
Pakistan	-351,361	-701,653	-1,014,225	16%
China	-325,150	-785,127	-1,666,286	34%
India	-584,927	-1,255,696	-1,811,166	17%
Total	**1,245,398**	**4,613,702**	**5,781,268**	**30%**

Source: Author, based on Eurostat (Comext). Countries/Regions ranked according to trade surplus in 2000.

The increasing industrial co-operation between the EU and the CEEC/Maghreb countries – mainly in the form of OPT trade – has increased the respective EU's trade surpluses considerably between 1988 and 2000. As for trade deficits in textiles, the deficit vis-à-vis China has grown fastest.

The main trade deficits and surpluses in clothing are contained in Table 6:

Table 6: Trade balance in clothing (1000 €) – selected trading partners

	1988	1995	2000	Change 2000/1988
China	-989.007	-3.528.780	-7.350.343	54%
CEECs	-893.293	-3.911.585	-6.128.882	49%
Turkey	-1.152.217	-3.133.321	-5.073.778	28%
Maghreb	-1.030.429	-2.915.078	-4.056.962	24%
Hong Kong (CH)	-2.157.174	-1.941.353	-2.574.169	2%
Bangladesh	-124.670	-966.886	-2.525.579	160%
Japan	462.333	1.447.069	1.362.334	16%
Switzerland	1.130.900	1.393.394	1.728.985	4%
US	1.127.690	928.573	2.179.341	8%
Total	**-7.742.080**	**-17.898.841**	**-32.676.963**	**27%**

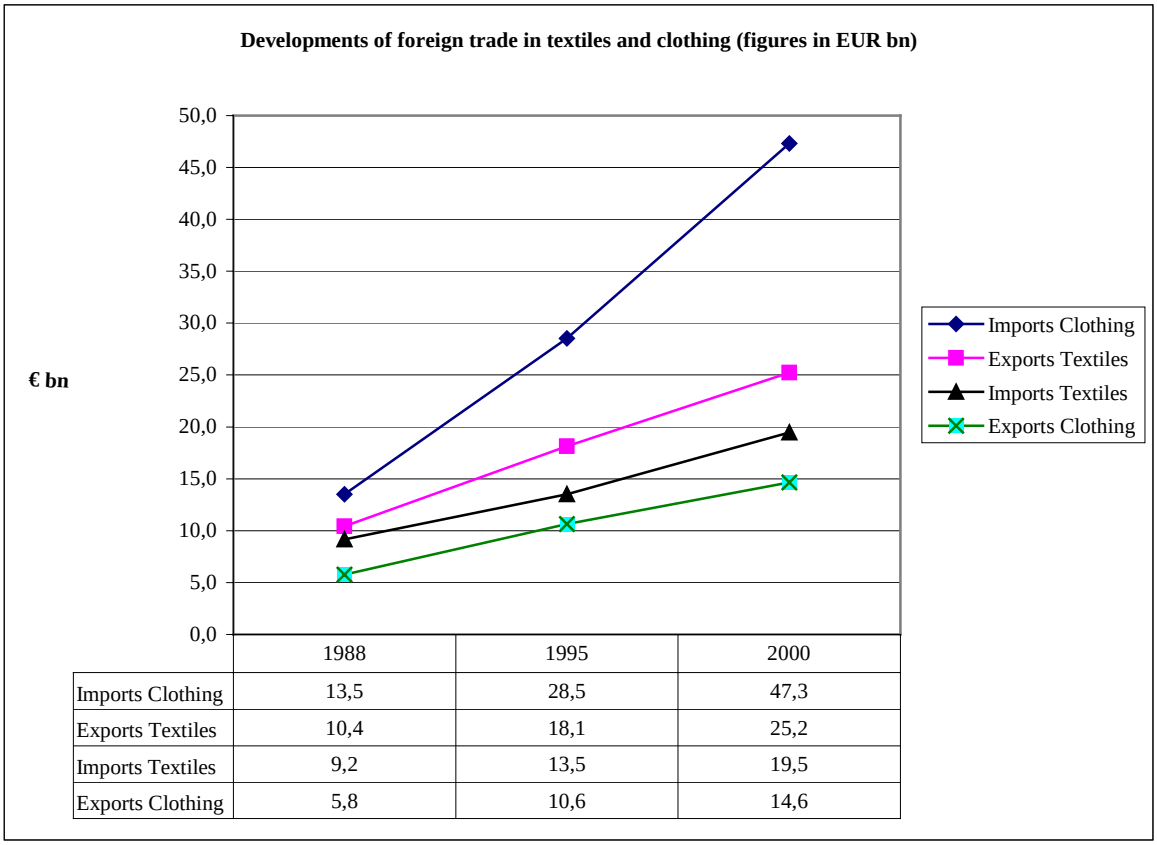
Source: Author, based on Eurostat (Comext). Countries/Regions ranked according to trade deficit in 2000.

China's surplus in clothing shows an impressive growth rate between 1988 and 2000, and also exceeds that of the CEECs. Turkey's strong performance can be explained by the establishment of a customs union between the EU and Turkey. Bangladesh has managed to fully exploit its special LLDC status, which allows it to export to the EU tariff free as well as quota free. The EU's most important surpluses in clothing trade are the US,

Switzerland and Japan – countries which have the necessary purchasing power to buy high quality (fashion) products made in Europe.

Figure 13 shows that the EU's trade in both clothing and textiles has grown between 1988 and 2000. In nominal terms, the annual growth rates amounted to 21% for clothing imports, 13% for textile exports, 12% for textile imports, and 9% for clothing exports:

Figure 13: Developments of foreign trade in textiles and clothing (1988-2000)



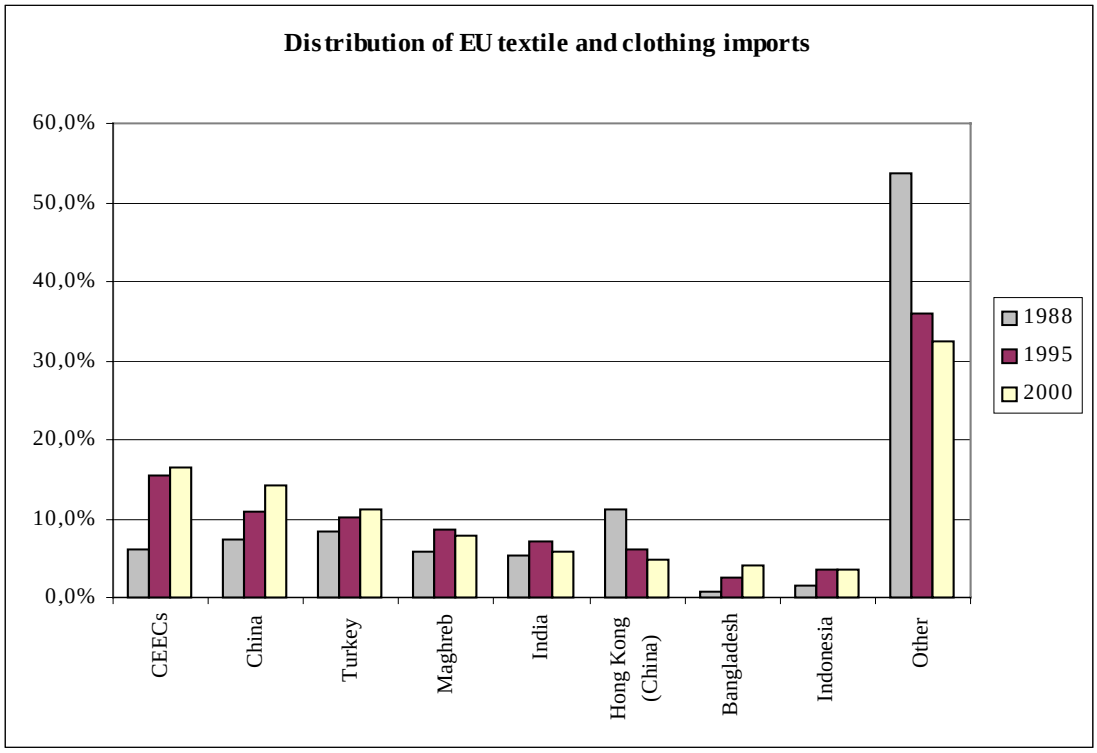
	1988	1995	2000
Imports Clothing	13,5	28,5	47,3
Exports Textiles	10,4	18,1	25,2
Imports Textiles	9,2	13,5	19,5
Exports Clothing	5,8	10,6	14,6

Source: Author, based on Eurostat (Comext).

The fact that imports into the EU – and clothing imports in particular – have been growing sharply over the past years is not surprising in the light of the economic environment which has been described above: import quotas are being eliminated gradually; the EU's customs tariffs are comparatively low; Europe maintains a large number of preferential trade agreements; and – contrary to many of its trading partners – it does not apply any substantial non-tariff barriers (such as cumbersome customs procedures, certification or labelling requirements, etc.). Moreover, due to its large population enjoying relatively high income, Europe – like the US – is a very interesting consumer market, attracting textile and clothing imports from all over the world.

Figure 14 shows that all major textile and clothing suppliers of the EU (with the exception of Hong Kong) have managed to increase their share on the EU market between 1988 and 2000 – to the detriment of the remaining supplier countries. This suggests an increasing degree of concentration among the EU's clothing suppliers – a trend which is likely to be reinforced after the complete liberalisation of the sector in 2005.

Figure 14: Distribution of EU textile and clothing imports



Source: Author, based on Eurostat (Comext). Imports in value terms.

The increasing trade relations with the CEECs and the Maghreb countries are not only a result of OPT trade, the importance of which has already been referred to above. Also direct trade has increased, following the gradual conclusion of Europe Agreements with the CEECs (which provide for mutual free market access), and the Free Trade Agreements with Tunisia and Morocco.[42]

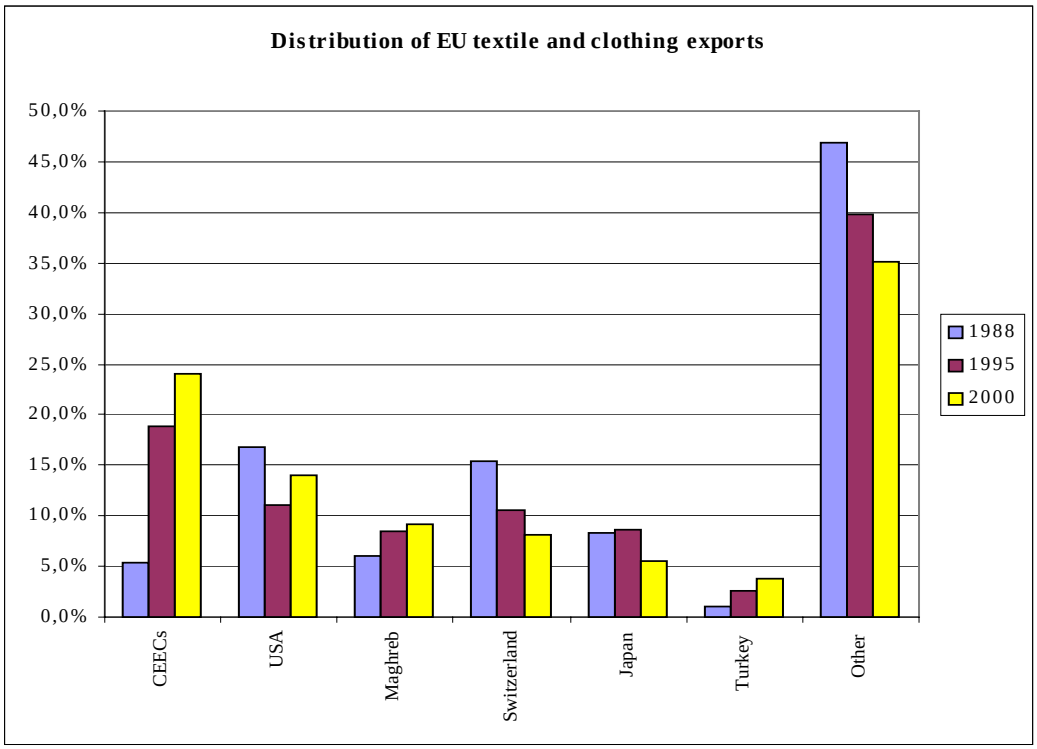
More detailed import statistics per supplier country can be found in Annex 5.

As far as exports are concerned, European industry keeps complaining about very restrictive trading regimes of a series of (potential) trading partners, which apply both tariff and non-tariff barriers. Developing countries in particular – for whom the textile and clothing industry often represents a major factor of income and employment – have put in place a very effective (and little transparent) set of import impediments. It is worth mentioning that the main purpose of those import restrictions is to fend off imports from other developing countries – which tend to produce comparable products at similar prices – rather than those of European exporters. It is sometimes argued that Europe would not be able to sell its 'expensive' products to those countries anyway – even if it were allowed to do so. This holds true only to a limited extent, as in most developing countries there are also – sometimes interestingly large – high-income segments of the population. Those 'niche' markets can be very attractive outlets for EU industry, especially in the case of highly populated countries.

The distribution of EU textile and clothing exports is shown in Figure 15:

[42] It should be noted that Tunisia and Morocco were granted the right to phase out their customs tariffs over a transitional period of 12 years, while the EU eliminated its tariffs immediately.

Figure 15: Distribution of EU textile and clothing exports



Source: Author, based on Eurostat (Comext). Exports in value terms.

The single most important buyer of both EU textiles and clothing products is the US, taking up – in 2000 – as much as 17.5% of EU clothing and 12% of EU textile exports. EU exports to Switzerland and Japan – which are concentrated in clothing – are still significant, although their share in total EU exports has gone down since 1988. The impressive increase in exports to the CEECs is not only due to textile exports in the OPT context: also their share in EU clothing exports is as high as 14.8%. (In textiles, this share is, of course, even higher, reaching 29.5% in 2000). The figures for Turkey show that the customs union has increased T/C trade flows both ways, with Turkey assuming a growing share in total EU exports.

More detailed export statistics can be found in Annex 6.

As for the future development of the EU's external trade in clothing and textiles, it can be assumed that the trend of rising imports is likely to be sustained, given the gradual elimination of quotas under the ATC. Whether EU industry will be able to expand exports at the same pace will, of course, depend on its international competitiveness, but also on the Community's ability to open up export markets by means of bilateral or multilateral trade negotiations.[43]

[43] In 2000, the European Commission obtained a negotiating mandate from the Council of Ministers, allowing it to enter into bilateral textile and clothing negotiations with those ATC member countries which are still subject to EU quotas. The aim of such negotiations is to obtain mutual market access improvements. The EU is also involved in negotiations with the Mercosur countries and with Chile in order to establish Free Trade Agreements (including trade in textile and clothing products). At the multilateral level, the date at which a new WTO Round may be launched is still highly uncertain.

In any event, the complete liberalisation of the sector in 2005 will not only increase competition between EU industry and foreign suppliers, but also competition among those suppliers. As a matter of fact, the current quota regime has not only protected EU industry itself, but also some (smaller) supplier countries which otherwise would not have been able to cope with competition from giants such as China, India or Indonesia. For those supplier countries, EU import quotas have therefore been less of a protectionist instrument hindering their exports to the EU than a 'guaranteed' slot of the EU market which otherwise would have been filled by the big players.

Fully liberalised world markets could therefore result in a few big players driving smaller (and perhaps less competitive) suppliers out of the market. In this context, China's upcoming accession to the WTO will have major implications, as the rules under the ATC (including the elimination of all quotas by 2005) will also apply to China – which is already the world's largest T/C producer and exporter, and is known to have the potential of further expanding its activities considerably once all trade restrictions are gone.

All of this means that, apart from losing its main instrument of reducing the overall amount of trade flows towards its domestic market, the EU will also experience a clear change in the structure of its suppliers. This may be advantageous in so far as downstream operators of the European T/C chain will be able to source their inputs (i.e. raw materials and semi-finished products) without any limitations from the cheapest/best supplier on the world market, which will therefore also increase their own competitiveness. Of course, also the European consumer is likely to benefit from cheaper clothing products as well as household textiles.

On the other hand, the EU loses an important tool of promoting trade with neighbouring countries – such as the accession candidate countries or countries of the Mediterranean rim – which currently benefit from free access to the EU market while their (Asian) competitors are still confronted with quotas. This is, at present, a considerable incentive for EU investors to co-operate with companies in those neighbouring countries – investors which, after 2005, might be tempted to delocalise their production to regions which are more remote, but offer even lower wage levels.

Also from the point of view of development policy, the complete liberalisation of the sector will have major implications. At present, the ACP countries – as well as all (other) least developed countries – are exempted from quotas (and, mostly, also from tariffs). This special treatment has allowed countries like Bangladesh to achieve remarkable successes on the EU market. On the market for Tee-Shirts, for example, Bangladesh has obtained a share of around 25% on the EU market – with all its major competitors having been restricted by quotas. With most of the preferential treatment gone (except for some tariff preferences), developing countries therefore risk being among the losers of the liberalisation of the world textiles and clothing sector.

3.3. Comparison between EU and US

In textiles and clothing, the most striking similarity between the EU and the US is the fact that those two regions are the world's most important importers of T/C products, given their sheer size – in terms of population and income – and their high average purchasing power. The two regions constitute the most important outlets for the so-called exporting countries, which are mainly situated in Asia. Moreover, both the EU and the US remain important T/C producers themselves – with a particular emphasis on high value added products.

The EU and the US also show similar statistics concerning the relative importance of the T/C industry in total manufacturing output, value added, and employment. In terms of productivity, the EU lags behind the US, which benefits from lower production costs (per hour) combined with higher labour productivity (in terms of value added per person employed). The US has also been somewhat faster in adopting new information and communication technologies, in particular as far as e-commerce is concerned.

As regards the availability of raw materials, the US still has an important cotton industry (which has considerable lobbying power in the context of international negotiations). The EU, by contrast, does not produce significant amounts of natural fibres, while it is still very much involved in all downstream activities concerning those fibres.

In terms of trade, the EU traditionally outperforms the US in terms of exports. In 1998, the EU accounted for 15.2% of all world exports of textiles (14.5% in 1990), and for 8.8% of all world clothing exports (10.5% in 1990). The corresponding figures for the US are 6.1% (4.8% in 1990) for textiles and 4.9% (2.4% in 1990) for clothing.[44]

In bilateral T/C trade, the EU runs traditionally a large trade surplus vis-à-vis the US (which is the EU's main export market):

Table 7: US-EU bilateral textiles and clothing trade, 1995-2000, in value terms

	Imports from US (million €)			**Exports to US (million €)**			**Trade balance (million €)**		
	1995	*1999*	*2000*	*1995*	*1999*	*2000*	*1995*	*1999*	*2000*
Textile	1,268	1,394	1,539	1,828	2,492	3,020	561	1,098	1,481
Clothing	443	383	387	1,372	2,118	2,566	929	1,735	2,179
Total	1,711	1,777	1,926	3,200	4,610	5,586	1,489	2,833	3,660

Source: Comext (Eurostat), Regime 4, CN Chapters 50-63 with the exception of raw materials

In value terms, the EU's trade surplus has grown considerably between 1995 and 2000. One of the main reasons for this favourable development might have been that economic growth has been much stronger in the US than in Europe. This has certainly contributed to the fact that American final consumers have increased their spending on EU clothing

[44] Source: OETH report 2000, based on WTO statistics.

products, while European consumers spent less on US garments in 2000 than five years ago. It should be noted that, in several studies, the income elasticity of clothing products has been estimated at around '1', which means that spending on clothing tends to grow proportionately with income.[45] During the past few years, the EU's trade balance has also benefited from the depreciation of the Euro against the US dollar – between 1.1.1999 and 1.1.2000, for example, the Euro depreciated against the dollar by 4.9%.

In spite of this positive macro-economic background, European imports of US textiles kept growing between 1995 and 2000, though at a relatively low rate. EU industry needs certain high-quality textile inputs from the US, which it cannot easily substitute by other sources. In this context, it is interesting to note that empirical evidence suggests that textile products are less price elastic than clothing products, i.e. the demand for textiles decreases to a smaller extent when prices go up.[46]

In volume terms, the situation described above is confirmed as far as clothing is concerned, with decreasing imports and increasing exports between 1995 and 2000. By contrast, imports of US textiles have slightly decreased. Also, in contrast to the considerable increase in terms of value, EU exports of textile products were, in 2000, below the 1995 level.

Table 8: US-EU bilateral textiles and clothing trade, 1995-2000, in volume terms

	Imports from US (1000 tons)			**Exports to US (1000 tons)**			**Trade balance (1000 tons)**		
	1995	*1999*	*2000*	*1995*	*1999*	*2000*	*1995*	*1999*	*2000*
Textile	326	307	301	349	299	326	23	-8	25
Clothing	20	13	13	19	26	39	-1	13	26
Total	346	320	314	368	325	365	22	5	51

Source: Comext (Eurostat), Regime 4, CN Chapters 50-63 with the exception of raw materials

[45] Source: Heinz Kohler, Intermediate Microeconomics: Theory and Applications, Scott Foresman, New York 1986.

[46] In the US, for instance, the price elasticity of cotton has been estimated at '0.12', as compared to '3' for women's hats (Source: Edwin Mansfield, Microeconomics, 7th edition, W.W. Norton & Company, New York 1991).

Table 9 illustrates the evolution of the revealed comparative advantage of the EU vis-à-vis the United States and the Rest of the World (RoW). [47]

Table 9: EU's revealed comparative advantage vis-à-vis the US

	1990 (*)		1995		1997		1999		2000	
	RoW	US	RoW	US	RoW	US	RoW	US	RoW	US
Textiles	0,06	0,17	0,15	0,18	0,14	0,17	0,13	0,28	0,13	0,32
Clothing	-0,42	0,60	-0,46	0,51	-0,47	0,52	-0,52	0,69	-0,53	0,74

Source: Author, based on Comext (Eurostat), Regime 4, value terms. RoW: rest of the world. 1990 figures do not include Austria, Finland and Sweden

As can be seen from the above table:

- the EU's revealed comparative advantage over the US is much higher than that over the rest of the world (both for textiles and clothing);
- in trade with the rest of the world, the comparative advantage of the EU's textile industry exceeds that of the clothing industry, while the opposite is true for trade with the US;
- in textiles, the comparative advantage against the Rest of the World has been fairly stable since 1995 (and is slightly higher in 2000 than it had been in 1990). As far as the US is concerned, the EU's comparative advantage has been growing from 0.17 in 1990 to 0.32 in 2000;
- in clothing, the disadvantage against the Rest of the World keeps deteriorating, whereas the advantage over the US has been further increasing during the past few years.

As far as the respective foreign trade regimes are concerned, the US regime for T/C products has to be considered as much more restrictive than that applied by the EU: The US applies quotas against a much larger number of countries (including many LLDCs), maintains fewer preferential trade relations, and applies higher tariffs than the EU (including some tariff peaks). This difference in trade policy has a direct effect on the EU market: many products which exporting countries would otherwise have exported to the US are sold on the more open EU market.

[47] For the methodology used, see footnote 25 under Section 2.1.2.

4. ECONOMIC AND POLICY CONTEXT DETERMINING THE PERFORMANCE OF THE T/C SECTOR

4.1. Overview

In order to remain competitive on international markets, the T/C industry is faced with a number of challenges. The following list of areas concerned is not exhaustive, but is aimed at giving an overview of issues of major concern to industry. In some of those areas, European, national and regional policy makers can play a role in trying to improve the framework conditions under which companies carry out their activities. In general, however, it is up to operators themselves to adapt quickly to an economic environment which is characterised by an ever increasing pace of change.

– Industry has to maintain its competitive edge by constantly improving production technology and distribution methods, and by designing new innovative products. Investment in innovation and R&D[48], and the rapid adoption of state-of-the-art information and communication technologies (ICTs) are crucial factors of success. While textiles and clothing have traditionally been 'technology users' rather than 'technology generators', the situation is evolving: some enterprises in the sector have become important generators of new technologies, by developing either new materials or cleaner and more efficient textile processing technologies, enabling them to obtain new high added-value products for multi-sectoral applications.[49]

– The sector is faced with the risk that new technical requirements aimed at protecting the environment (e.g. concerning hazardous materials) or the consumer (e.g. labelling requirements) might hinder the proper functioning of the internal market. Diverging requirements threaten to distort competition between Member States (if they are not harmonised at EU level), and/or between the EU and third countries (if they are not harmonised at global level). Moreover, free and non-discriminatory access to the public procurement market is needed to fully exploit the potential of the internal market (e.g. uniforms for armies, etc).

– Given that fashion and design are key competitive advantages of European industry, infringements of intellectual property rights may erode those advantages and reduce the return on investment in those areas.

– In the area of employment and training, the sector – like other industrial sectors – is faced with the difficulty of recruiting highly qualified personnel (e.g. for ICT-related

[48] Investment in R&D is estimated at 3-5% of turnover of the average T/C company.

[49] A recent example of an innovative product is 'powerskin', a swimming suit developed by the French company 'Arena'. This suit, which enabled swimmers at the Olympic Games in Sydney (summer 2000) to improve their performance by several tenths of a second, was the result of two years of research. The combined use of a new weaving method and two high-tech fibres has resulted in a fabric which is thinner, flatter, and more elastic than traditional materials. Powerskin is 30% lighter than swimming suits made of fibres such as polyamide and Lycra.

activities). In the international context, it is hard for EU operators to compete with third countries which do not respect the social core labour standards adopted by the International Labour Organisation (ILO). For this reason, labour unions insist on a 'social clause' to be inserted in any new agreement – bilateral or multilateral – concerning the sector.

– In view of the increasing degree of liberalisation on the EU market, the opening up of export markets is of crucial importance to EU industry (whose exports accounted for 18.5% of turnover in 1999). However, operators are still faced with a wide range of tariff and non-tariff barriers applied by many trading partners. For this reason, industry strongly supports the European Commission in its intention to improve access to third country markets through all means available (including bilateral negotiations aimed at mutual market access improvements).

– Industry also attaches great importance to the respect by third countries of their international obligations under the WTO (concerning dumping, export subsidies, technical barriers to trade, etc).

These and other issues have been addressed in the action plan 'to increase the competitiveness of the European textiles and clothing industry'[50], which identified some main EU policy areas as well as instruments available at EU, national or sectoral level.

In the following sections, a few priority areas have been singled out which deserve particular attention in the years ahead. (This does not imply, however, that the other issues outlined above are less important.)

4.2. ICT and e-commerce

The interaction between enterprises in all parts of the chain by means of electronic exchange of information is essential to speed up the sector's reactions to market fluctuations and to cut distribution and stock management costs. The application of ICT is bound to lead to a more integrated and improved supply chain, and to a further reduction in the time taken for products to reach the final consumer.

An Esprit project on 'information technology for the textile and clothing industry', published in 1998, identified the following key business priorities related to IT:[51]

– The need for horizontal integration of IT systems used in the same company. The fragmentation of the T/C industry – which has been reflected in the development of IT tools for the various production processes – has resulted in so-called 'islands of technology'. There is therefore a need for the establishment of data interface standards and/or the development of universal integration platforms that will be able to 'digest' data originating from the various 'islands'.

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[50] COM(97)454, followed up by a 'tableau de bord' in 1999, and a progress report on the implementation of the action plan in summer 2000. (http://europa.eu.int/comm/enterprise/library/lib-competitiveness/libr-competitiveness.html)

[51] Source: M. Martensson, 'IT for the European Textile-Clothing Industry: Current IT Usage, Needs and Trends', IOS Press, 1998.

– The need for standards facilitating further vertical chain integration. Given that the T/C chain is very complex and fragmented, 'vertical integration' and 'quick response' (QR) are a predominant strategic issue for EU industry. Large retail chains have developed their own QR systems with their manufacturing subcontractors, based on point-of-sales information, automatic replenishment, supply chain management, etc. However, there is still a lack of uniformity, of common standards. This relates, inter alia, to the accurate and efficient exchange of basic business documents (such as purchase orders), and the implementation of standardised bar-coding techniques for product and shipping container identification. The ongoing relocation of production in low labour cost countries also requires systems which support remote production planning and control – so as to integrate remote production sites efficiently.

– The need for advanced CAD and multimedia systems. State-of-the-art CAD systems offering realistic simulations of fabrics are important for weavers and producers of apparel. To obtain faithful colour representations, the identification and communication of colours must relate to a standard colour representation system.

The above issues set aside, one of the main tasks ahead is the raising of the awareness of the commercial benefits of IT, especially among SMEs. Although many managers and manufacturers are aware of the existence of IT solutions to their problems, they are uncertain as to whether investment in IT would be economically justified, i.e. result in measurable benefits. Moreover, many operators are concerned about security issues, both with regard to internet payment transactions and to the confidentiality of information exchanged (e.g. designs, models). Finally, there is a shortage of qualified personnel in this area (see following section).

Overall, the use of ICT by the T/C sector is still lagging behind that of other industrial sectors. However, textile and clothing companies are catching up at great speed: While only 28% of French T/C companies had been connected to the Internet in 1997, that figure had already reached 69% in 1999.[52] For a sectoral comparison (for France), see Annex 7.

In the ICT context, the development of electronic commerce, both in the fields of B2B ('Business to Business') and B2C ('Business to Consumers'), is very important. While, at present, e-commerce is mainly employed by large T/C companies and groups, it offers great opportunities also for SMEs, which can pool their highly fragmented activities and search globally for their suppliers and their markets.

B2C is mainly used for online sales of clothing products. At present, Europe is clearly lagging behind the US, where 1999 online sales amounted to € 1.2 bn (compared with € 150 million in Europe). However, according to estimates by the Boston Consulting Group[53], sales growth is expected to be higher in Europe than in the US: online clothing sales could reach between € 350 and 400 million in 2000, and up to € 2 bn in 2002. [54]

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[52] Source: Ministère de l'Economie, des Finances et de l'Industrie, 'Le 4 Pages des statistiques industrielles, N° 136, August 2000.

[53] The US Boston Consulting Group is an international strategy and general management consulting firm.

[54] Source: OETH report 2000.

Especially in the distribution sector, a number of projects are underway. For example, at the beginning of 2000, Sears Roebuck, Sainsbury and Carrefour linked up with the software giant Oracle to develop a web-based marketplace for retailers.[55]

B2B, which still accounts for the bulk of all e-commerce applied by the sector, may be used to form large groups of buyers, to seek links with suppliers all over the world, and to optimise buying and inventory activities. Geographically dispersed buyers and sellers with a shared business interest can browse electronic supplier catalogues, request or bid for contracts, or place orders. According to industry sources, this may reduce the cost of processing purchasing orders by more than 50%.

> The US group 'VF Corp', for example, which manufactures products such as Lee or Wrangler Jeans, is increasingly using e-commerce to negotiate prices and conditions with its suppliers. The individual members of the group choose the quantities and qualities needed from the group's internet catalogue. The group's savings due to its co-ordinated purchasing activities amount to between 10 and 25%.[56]

During the past few years, new business-to-business sites have been created at a breathtaking pace. One of the most ambitious projects has been the 'WorldWide Retail Exchange', which is the combined site of 11 major US and European retailers (which were joined by another 11 companies in August 2000)[57], and which contains links with more than 100,000 suppliers. Some other platforms are specialised in T/C products only, such as 'Fashion-X-Change' (fashion-x-change.com), which matches supply and demand and receives a 5% commission from the seller. 'TexYard.com' covers the entire chain from yarns, to fabrics and garments; 'ClickTex' (ClickTex.com) specialises on fibres, yarns and fabrics; 'I-Textile' (i-textile.com) focuses on sourcing in the Far East; 'Tex-Bid.com' is a platform for technical textiles, etc. etc.

The innovation and knowledge society not only enables companies to improve their competitiveness, it also offers a huge potential for employing people qualified in the new technologies. However, the textile and clothing industry – like other industries – has some difficulty in attracting such qualified staff to the sector.

In the light of this challenge, the Lisbon European Summit of 23-24 March 2000 pinpointed education and training as priorities. In this context the 'e-learning' initiative launched by the Commission aims to increase the number of people qualified in information and communication technologies.

To attract a qualified workforce the first step must be to improve the image of the sector, for example by way of an information campaign aimed at the potential workforce in schools and youth information centres. The image of the sector does not only depend on the quality of the products, but also on the production methods used, and the quality of working conditions.

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[55] In the meantime, Pinault-Printemps Redoute and Metro have joined that platform ('Global Net Xchange'; www.gnx.com).

[56] Source: Journal du Textile N°1632, 1st September 2000.

[57] Among the participants are Albertson's, K-Mart, Kingfisher, Marks&Spencer, Tesco, Delhaize, etc.

4.3. Pan-Euro-Mediterranean zone[58] and enlargement

For some years now, the T/C sectors in the Central and Eastern European Countries (CEECs) and those in the Mediterranean rim have seen restructuring that has opened up new potential in the international economy. The use by EU economic operators of outward processing traffic (OPT) has been based on the low level of pay in these countries and on their textile and clothing traditions, which guarantee adequate quality. Despite marked rises in wages, these countries continue to attract European industry, which has helped them to become familiar with the modern production techniques used in the European Union. As a result, more and more EU businesses are developing internationalisation and co-operation strategies within this zone.

The sector strongly advocates the creation of a pan-Euro-Mediterranean free trade zone, so as to have access to a market of more than 660 million people. The improvement of the functioning of that zone is one of the main priorities of EU industry, which considers co-operation within the zone as the most promising long-term strategy in a world of completely liberalised textile trade, and also as the European response to the creation of NAFTA.

One of the preconditions for the proper functioning of that zone is the implementation, by all countries belonging to the zone, of a harmonised set of preferential rules of origin, which are to be tailor-made to reflect the industrial structure in the zone. In order to fully exploit the potential of the zone, the so-called 'cumulation of origin' should be possible between any of its members. While, at present, (diagonal) cumulation of origin is already possible between the EU, the EEA, Switzerland, the CEECs and Turkey, the Southern Mediterranean countries are still excluded from cumulation, because they have not yet signed free trade agreements with all the other participants of the zone.

When examining the perspectives of EU industry in a wider Europe, particular attention has to be paid to the enlargement of the European Union and the effect this will have on the sector. In some of the accession candidate countries, the relative importance of the T/C sector in total manufacturing is well above the EU average (e.g. Lithuania, with a share of 24% in total manufacturing employment). Those countries will have to undergo a severe restructuring process, not least because of the fact that one of their main competitive advantages – lower labour costs – is bound to decrease over time. Moreover, the elimination of all quantitative restrictions vis-à-vis Asian countries by the EU in 2005 will increase competition for the CEEC countries when trying to sell their products on the EU market.

Annex 8 gives an overview of the importance of the T/C sectors in the CEECs and in some of the Mediterranean countries. T/C employment in the entire zone amounts to approximately 6.5 million people, with Turkey alone accounting for more than 44%.[59]

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[58] The term 'Euro-Mediterranean zone' usually denotes the objective of the so-called Barcelona process, which aims at increased economic, political and cultural co-operation between the EU, the European Economic Area (EEA), the Maghreb and the Mashrek countries. In this section, the prefix 'Pan-' is used to reflect the idea of expanding that Euro-Mediterannean zone to the CEECs and to Turkey.

[59] Source: Euratex (Memorandum on preferential rules of origin, February 2000).

4.4. Technical and high-technology textiles [60]

In recent years, technical textiles have become a vital component of EU industry (reaching a share of 27.6% in total textile production in 1999, after 25.8% in 1998), and its importance is bound to increase. Within the EU, the main producers of technical textiles are Germany (17% of the EU total), closely followed by the UK and France (16% each), Belgium (15%) and Italy (14%).

In the light of the fast pace of innovation in technical (or 'industrial') textiles, there is no generally accepted definition of this part of the textile industry. It relates both to kinds of products and to the application of textiles to particular uses.[61] Examples of (high-tech) products are high tenacity yarns, or special elastic or coated fabrics, all of which have a high technology content. As far as industrial applications are concerned, textile-based articles can offer considerable performance advantages compared to other materials. The vehicles and transport industry is the principal industrial user of technical textiles (29% in total EU consumption of such products in 1999), followed by furniture/home furnishing (14%) and construction/civil engineering (11%). For an overview of possible fields of application of technical textiles, see Annex 1.

Given that innovation in new materials, processes and products is an inherent feature of this sub-sector, expenditure on R&D is higher in this field than for 'conventional' textiles (reaching up to 8-10% of turnover, compared to the industrial average of 3-5%). In the development of fibres, yarns and fabrics, functional aspects – such as anti-bacterial, anti-static, UV protective, thermal, or biodegradable functions – are playing an increasingly important role. Since technical textiles are generally not fashion oriented, performance requirements and technical specifications determine the success of a product. Usually, technical textiles are created in a close relationship between the producer and the consumer so as to ensure tailor-made solutions to specific user purposes.

Europe is internationally very competitive in this area, and runs a trade surplus in technical textiles (+ € 2.1 billion in 1999). It should be noted that such products are not only exported to industrialised countries like the US and Switzerland (with their advanced technologies and applications), but also to developing countries. Depending on the type of product, the EU's main markets are as follows (figures for 1998):

– Technical fibres and yarns: US (18.2%), Switzerland (6.7%), Turkey (6.4%), Poland (6%), China (4%), Hong Kong (3.7%)

– Technical fabrics: Poland (10.2%), US (9.2%), Turkey (5.4%), Czech Republic (5.7%), Switzerland (5.2%)

– Technical made-up articles: US (19.7%), Switzerland (11.6%), Japan (8.9%), Norway (4.7%)

[60] All statistics in this section have been taken from the OETH report 2000, which contains a special topic on 'technical and high-technology textiles'.

[61] For this reason, it is very difficult to gather comparable statistical information at a global level.

In spite of the considerable potential of the market for technical textiles, it should be borne in mind that it will remain a niche market. The maintenance of a broader textiles base in Europe – including all conventional products – is essential to generate the turnover and the economies of scale which are needed to remain internationally competitive.

5. EUROPE'S POSITION IN QUALITY COMPETITION

Producers in Europe are faced with a higher cost structure than many of its most important competitors on world markets. This is due, inter alia, to higher social standards (wages, fringe benefits, social security payments, etc.), but also to more onerous requirements with regard to health, safety or the environment. In order to remain internationally competitive, those higher costs have to be offset by factors such as higher productivity levels, more efficient institutions and markets, and/or superior product quality:

- Labour productivity (in terms of value added per employee) is indeed much higher in Europe than in Asia (though lower than in the US or Switzerland), as Annex 3 illustrates for the textile industry. This advantage in productivity is, however, quickly eroded once the cost of labour is taken into account. Figure 8 in Section 2.2 showed that, due to its high wage costs, Italy, for example, produces less 'value added per hourly wage cost' than India – although its labour productivity is 25 times higher! There are clear limits to Europe's ability to cope with higher wages by means of ever increasing productivity, as technology and managerial skills are being spread world wide, through the investment of multinational companies, and, more generally, through information and communication technologies.

- Europe certainly benefits from its efficient institutions and markets. Since the creation of the single market in 1992, trade barriers within Europe have almost disappeared, and will further diminish once the Euro has become legal tender throughout most Member States (thus increasing complete price transparency). Europe's infrastructure is very well developed (ranging from means of transport to the quality of education and training), and the legal framework is predictable and reasonably transparent.

- Focusing on high quality is an alternative as well as a complement to higher productivity. In the longer run, higher prices – resulting from a less favourable cost structure – can only be sustained if the quality of European products exceeds that of its competing products.

Throughout this paper, it has been argued that Europe's competitive strength lies precisely in the higher quality of its products.[62] While this reasoning is widely acknowledged, this chapter aims to substantiate this 'qualitative' claim by making use of certain quantitative indicators which are based on empirical evidence (i.e. on trade statistics).

Section 5.1 presents the results of a recent cross-sectoral study by Mr Karl Aiginger, which examines the extent of 'quality competition' of various manufacturing industries in

[62] The term 'quality' is meant to go beyond the strictly 'technical' quality of the product (e.g. technical specifications, ability to satisfy a particular need, durability, reliability, etc), and to comprise also issues such as better design, better marketing, or higher fashion content.

Europe.[63] Section 5.2 further develops the methodology used by Mr Aiginger in order to take a closer look at the international performance of the textile and clothing chain.

5.1. Quality competition: the position of textiles and clothing in total manufacturing – an inter-industry comparison [64]

A very simple – but also very comprehensive – indicator of quality is the so-called unit value of exports, which is defined as nominal exports divided into weight (i.e. tons). The unit value is a comprehensive measure of quality in so far as a wide range of activities tend to increase the price of a product relative to its physical weight: using superior material input or higher skills; refining or further processing a product; making a product more specific to demand; increasing durability or reliability of the product; better design and advertising; etc.

Sectors where the unit value of exports exceeds the unit value of imports create a so-called 'quality premium' in exports, which can be assessed by means of a hypothetical calculation: if exports were priced as low as imports[65], exports would cost less. The difference between the real value of exports and the hypothetical (i.e. lower) value of exports is called the quality premium. Based on 1998 trade figures for the EU, Mr Aiginger calculates that the largest part of the European quality premium is accrued in the chemicals industry, followed by machinery, food and motor vehicles. Textiles rank fifth in this inter-sectoral comparison of sectors engaged in quality competition.

However, when commenting on the advantages and disadvantages of using the unit value as an indicator for quality, Mr Aiginger stresses that the textile and clothing industries are typical examples of sectors which have intrinsically high unit values, simply because the weight of the product is very low (e.g. silk scarves). As a result, such sectors would almost automatically perform better than sectors producing heavier goods. This sets, of course, certain limits to the usefulness of the unit value in inter-industry quality comparisons.[66]

A somewhat more sophisticated quality indicator is the so-called Revealed Quality Elasticity (RQE), which is based on the following logic: If prices are determinant in an industry, countries with low prices should sell large quantities and those with high prices should sell small quantities. These industries are deemed to be 'price elastic'. If, by contrast, countries charge high prices and are nonetheless able to sell large quantities, the product in question must have some characteristics which create a willingness to pay more. It is assumed that those characteristics are related to the quality of that product, which is therefore deemed to be 'quality elastic'.

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[63] Source: Karl Aiginger, Austrian Institute of Economic Research WIFO, Europe's Position in Quality Competition, Enterprise Paper N°3, 2001.

[64] This entire section is based on Mr Aiginger's work referred to in the previous footnote.

[65] More precisely: exports are to be priced 'at the unit value of imports'.

[66] This criticism is relevant, above all, in the case of a direct comparison of export unit values of different industries. The concept of 'quality premium' is concerned to a lesser extent, since it looks at export unit values and import unit values of a given sector.

In applying this methodology to a large number of industrial (sub-)sectors, Mr Aiginger arrives at the somewhat surprising result that 'footwear' and 'knitted and crocheted fabrics' are among the top 5 'quality sectors', only marginally behind 'general purpose machinery', 'agricultural and forestry machinery' and 'medical equipment'.

Again, Mr Aigining argues that attention must be paid when using the RQE for comparisons between the textile and clothing industries on the one hand, and other manufacturing industries on the other. For sectors like textile and clothing, which make extensive use of outward processing transactions, this method can yield misleading results: goods which are shipped to low-wage countries for processing are re-imported at a somewhat higher price (since processing has increased the value of the product). Similarly, the weight of the re-imported product tends to exceed the weight of the semi-finished product (because part of the inputs used are usually produced in the country where processing takes place, or have been imported from some other country). Therefore, if the exported and the (re-)imported product are classified in the same industry, that industry would be considered to have 'low quality elasticity' (as lower prices are combined with lower quantities). In reality, however, the factor which dominated over price as a competitive mode was not 'higher quality' but a 'higher degree of processing'.

5.2. Quality competition: the European textile and clothing industry – an intra-industry analysis

The quality indicators referred to above (i.e. 'unit values' and 'revealed quality elasticity') were said to yield ambiguous results when making comparisons between the T/C industry and other manufacturing industries. However, by using the same methodologies for an 'intra-industry' analysis, their major shortcomings can be eliminated, or at least reduced.

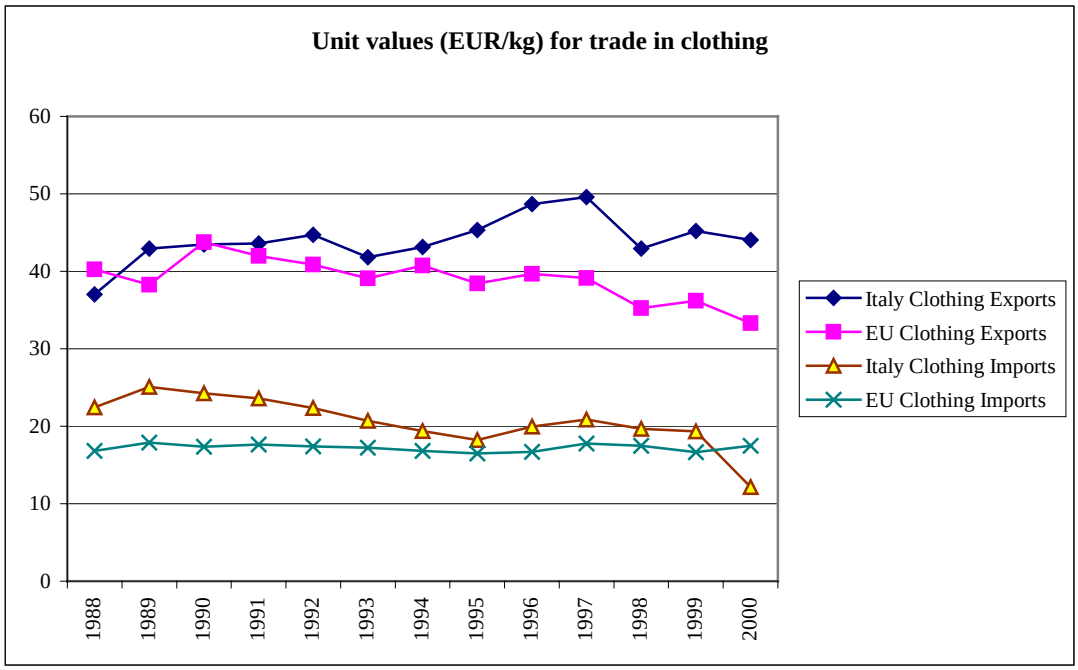
Unit values

Due to the intrinsically high unit values of certain products (such as textiles), unit values are not very reliable when comparing the degree of quality competition of different sectors. It is, for example, not possible to determine where exactly the 'textiles sector' is situated compared to the 'medical devices sector'. However, if unit values for one and the same sector[67] (e.g. 'textiles') are calculated for different countries, one can draw some reasonable comparisons between the EU and its trading partners, as well as between individual EU Member States. Also the evolution of such unit values over the years can yield interesting results.

Figure 16 contains the unit values for the clothing sector for total EU exports and imports. As a further yardstick, it also contains the respective figures for Italy, which is not only the EU's most important clothing nation, but is also commonly said to be above EU average in terms of quality and fashion.

[67] The more disaggregated the sector, the more reliable the result of the comparison.

Figure 16: Unit values for trade in *clothing* for the EU and Italy



Source: Author, based on Eurostat (Comext). 'EU' excludes Austria, Finland and Sweden prior to 1995. EU trade figures exclude intra-EU trade, while Italian trade figures include trade with the other 14 Member States.

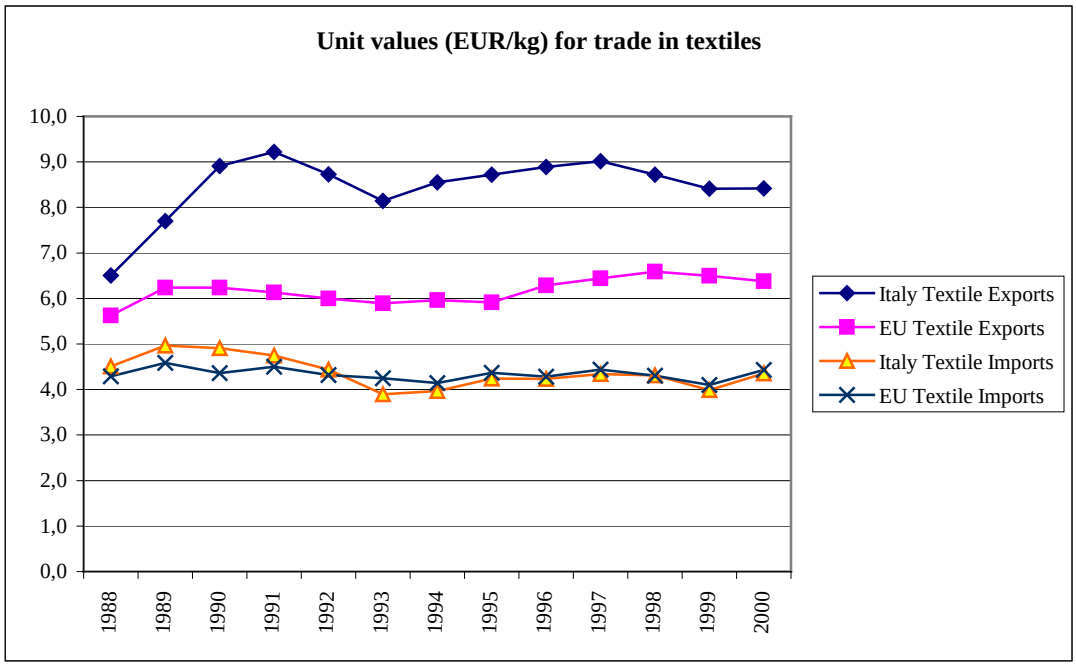
The unit values of both EU and Italian exports are well above the respective unit values of imported goods, thus suggesting a clear quality differential in favour of Europe (Italy).[68] As expected, Italy's unit values tend to be above the EU average both as far as exports and imports are concerned. All graphs are fairly stable over time (in nominal terms), suggesting a decline of unit values in real terms (if exchange rate fluctuations are disregarded).

Also in textiles, EU (Italian) exports clearly outperform EU (Italian) imports (see figure 17). In terms of exports, Italy is situated well above the EU average, whereas it hardly deviates from the EU average in terms of imports. Import unit values have remained stable between 1988 and 2000 both for the EU and for Italy, while export unit values have gone up – in particular for Italy, with 8.4 €/kg in 2000 after 6.5 €/kg in 1988.[69]

[68] In reality, this differential is even bigger since export statistics are indicated on a FOB basis, while the prices indicated in import statistics include transport and insurance costs (CIF).

[69] Figures 16 and 17 also illustrate the limited potential of 'unit values' when it comes to comparing the quality component of different sectors. Even between related sectors such as 'clothing' and 'textiles', the results are most ambiguous: In 2000, the EU's unit value of clothing exports of 33 €/kg clearly exceeds the unit value of textiles exports (6.4 €/kg), which suggests that the quality element is far more significant in clothing than it is in textiles. This result is not very likely when looking at economic and industrial realities.

Figure 17: Unit values for trade in *textiles* for the EU and Italy



Author, based on Eurostat (Comext). 'EU' excludes Austria, Finland and Sweden prior to 1995. EU trade figures exclude intra-EU trade, while Italian trade figures include trade with the other 14 Member States.

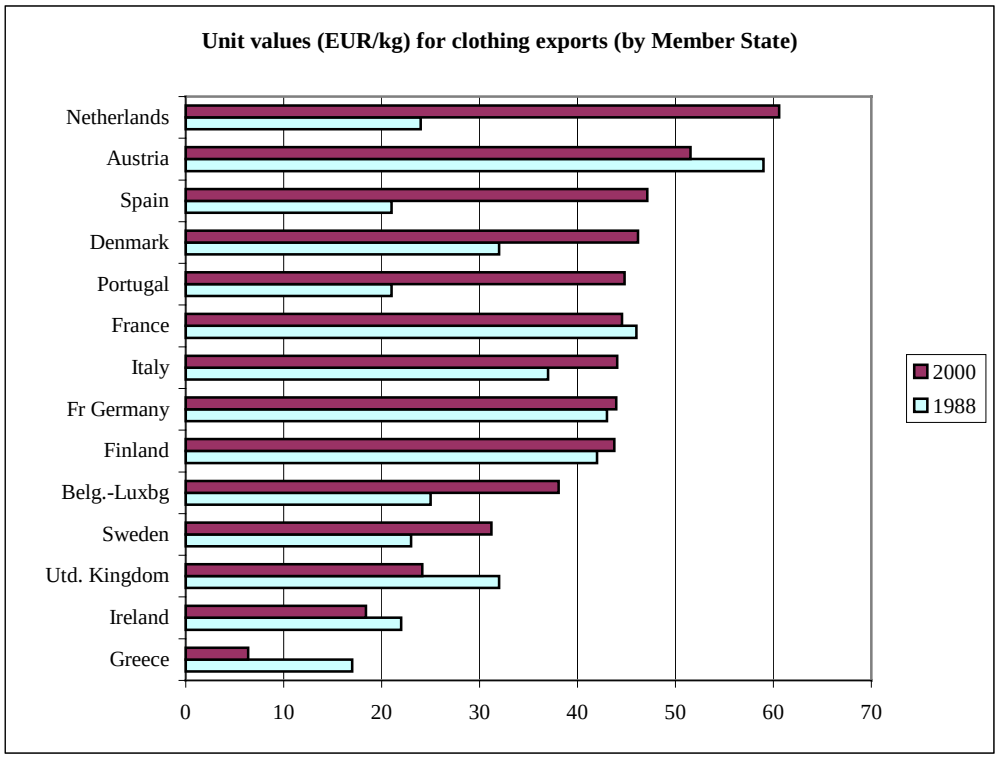
The observation that the unit value differential between Italy and the EU average is higher in textiles than it is in clothing is borne out when unit values are calculated at Member State level (see figure 18 for clothing exports, and figure 19 for textile exports).

In 2000, the unit value of clothing exports from the Netherlands was ten times as high as that of Greece. Italy was average. Individual Member States have evolved quite differently between 1988 and 2000: countries such as the Netherlands, Spain, Portugal, Denmark, and Belgium managed to increase their unit value considerably, while Greece, the UK, Austria and Ireland lost some ground (see figure 18).

In textiles, all EU Member States (with the exception of the United Kingdom) have managed to increase their unit values between 1988 and 2000, which can be regarded as an indicator that they have upgraded the average quality of their product range. This holds true especially for Finland, the Netherlands, Austria and Belgium, which are said to have specialised their textile production in certain (textile) niche markets. The excellent performance of Italy – which ranks second – is all the more impressive since Italy, unlike most other Member States, is still strongly involved in all sub-sectors of the textiles industry (see figure 19).

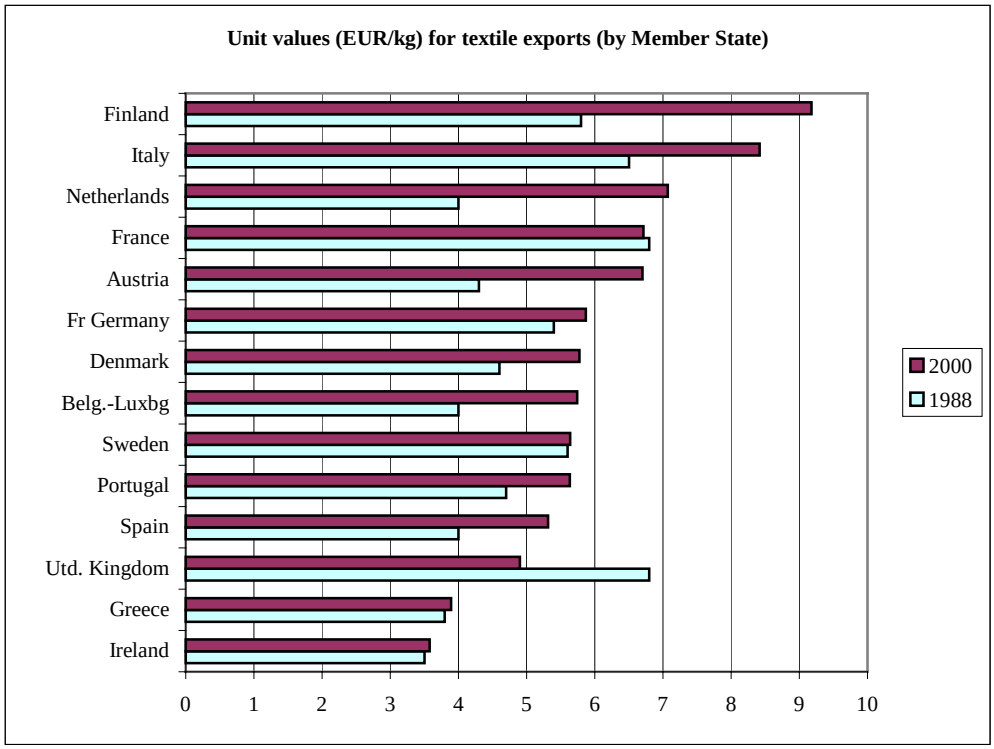
Both in clothing and in textiles, the UK, Ireland and Greece have the lowest unit values of exports. The UK is the only Member State whose units values have decreased for both textiles and clothing between 1998 and 2000.

Figure 18: Unit values for clothing exports by Member State, 1988 and 2000



Source: Author, based on Eurostat (Comext). All figures include exports to the remaining 14 Member States as well as to the Rest of the World. Ranking according to unit values in 2000

Figure 19: Unit values for textile exports by Member State, 1988 and 2000



Source: Author, based on Eurostat (Comext). All figures include exports to the remaining 14 Member States as well as to the Rest of the World. Ranking according to unit values in 2000

Revealed quality elasticity

Applying the concept of revealed quality elasticity (see Section 5.1), this section aims to:

- divide all textile and clothing products into three quality segments, i.e. into products of 'high', 'medium' and 'low' quality,
- examine to what extent the EU, its Member States, and its major trading partners are involved in (trade in) each of those segments;
- analyse to what extent that involvement has changed over time.

Throughout this paper, the underlying assumption has been that Europe is a high-quality producer, and that the restructuring and modernisation efforts of European industry during the past 10 to 15 years have implied a shift towards quality production.

In order to test this assumption, the degree of quality elasticity[70] has been determined in the EU's bilateral trade with its 30 most important trading partners[71] for 150 different T/C product groups[72]. The 150 product groups have subsequently been ranked according to quality elasticity, which, in turn, depends on the number of bilateral trading relations in which a particular product has proven to be quality elastic: product 'A', which is quality elastic in the EU's trade with all 30 trading partners is considered to be more quality elastic than product 'B' whose quality elasticity has been established in 15 bilateral trading relations only. The top 50 product groups are subsequently aggregated into the 'high-quality segment' (HQS), the next 50 products into the 'medium-quality segment' (MQS), and the remaining 50 products into the 'low-quality segment' (LQS).

Within the HQS, the product group which ranks highest according to the above methodology comprises 'textile products and articles for technical use'[73], which belong to the technical and high-technology textiles discussed in Section 4.4 of this paper. These products are closely followed by a number of different fabric types (non-wovens, as well

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[70] From the point of view of the EU, a product traded between the EU and any third country is considered as quality elastic:
(a) if its unit value in exports exceeds its unit value in imports and if the quantity exported 'nevertheless' (i.e. in spite of its relatively higher price) exceeds the quantity which is imported; or
(b) if its unit value in exports is lower than its unit value in imports and if exported quantities of that product are nevertheless inferior to imported quantities of that product.
By contrast, products where higher prices correlate with lesser quantities or vice versa are considered to be price elastic.

[71] The top 30 trading partners have been established on the basis of nominal trade figures for the year 2000 (Source: Eurostat/Comext). As the calculation of revealed quality elasticity involves both export and import statistics, trading partners have been ranked according to the cumulative amount of exports and imports of products falling under Chapters 50 to 63 of the Combined Nomenclature. The resulting list is headed by China, followed by Turkey, the US, Poland, and Switzerland.

[72] The 150 products correspond to the 4-digit tariff lines of Chapters 50 to 63 of the Combined Nomenclature. This high degree of disaggregation has been chosen in order to increase the validity of the results of the analysis: the more similar and homogeneous the components of a given product group, the more comparable are export and import unit values. Also the problem related to OPT activities (see Section 5.1) no longer occurs since exported and re-imported goods are no longer belong to the same product group.

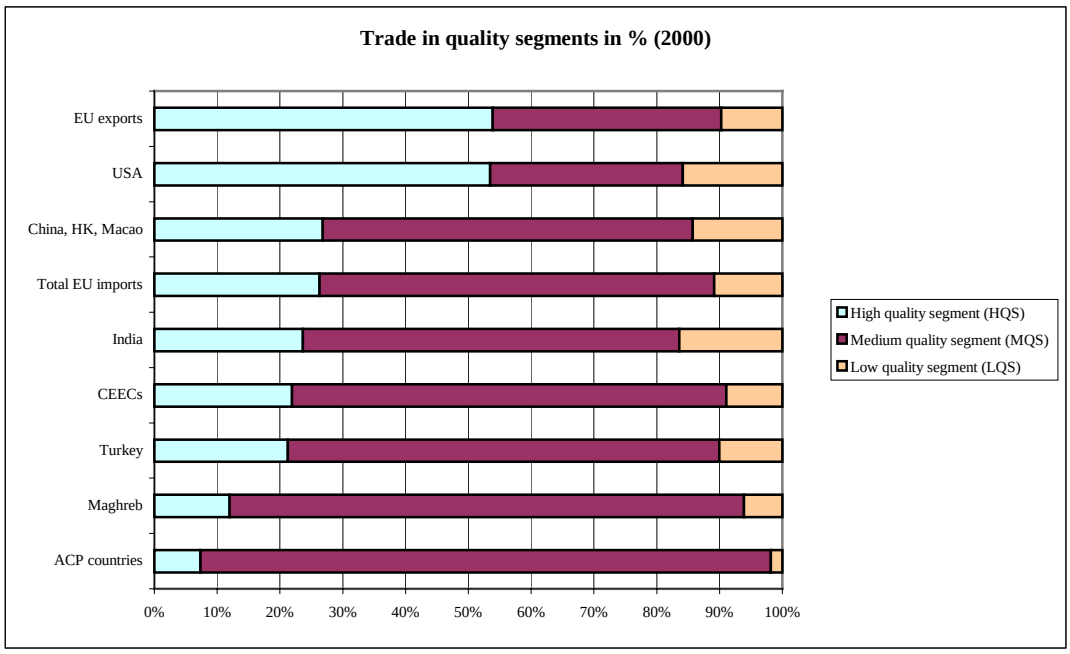
[73] CN 5911, for which the existence of 'quality elasticity' was established in 25 out of the 30 bilateral trade relations under investigation.

as woven fabrics of silk, cotton, or synthetic staple fibres). Although the HQS is mainly dominated by textile products, some selective clothing products also revealed a high degree of quality elasticity, for example babies garments, women's suits, or different types of overcoats. For those clothing products it can be assumed that – alongside quality in the more technical sense of the word – a high 'fashion' content enables European exporters to sell large(r) quantities at high(er) prices.

Most clothing products are included in the MQS, ranging from track-suits to brassieres, tights and slips, from jerseys and cardigans to ties and shawls. MQS textile products include some carpets, certain yarn types (e.g. cotton yarn, yarn of artificial filament, or yarn of man-made staple fibres), finished fabrics (e.g. coated or rubberised fabrics), or some technical textiles (such as conveyor or transmission belts). The only clothing products belonging to the LQS are gloves, handkerchiefs and men's underpants. On the textiles side, the LQS contains household products such as bed or table linen, but, above all, a large number of yarns and fibres, such as synthetic fibres.[74] Twines, cordage and ropes are those products which show the highest degree of price elasticity.[75]

Figure 20 illustrates the structure of total EU exports and imports, as well as of imports from some selected third countries, according to the three quality segments outlined above.

Figure 20: Trade in quality segments (2000)



Source: Author, based on Eurostat (Comext). HK = Hong Kong (China)

[74] It should be noted that the production of man-made fibres is a very capital intensive production. According to the findings of Karl Aiginger (whose paper was presented in Section 5.1), 'capital intensiveness' and 'quality' are negatively correlated.

[75] CN 5607, for which the existence of 'price elasticity' was established in 24 out of the 30 bilateral trade relations under investigation.

As it had been assumed, more than 50% of all EU exports fall under the HQS; only 10% have to be attributed to the LQS. Only imports[76] from the US show a similarly large HQS, while its LQS is bigger than that of the EU. Total imports into the EU (i.e. from all sources) are clearly concentrated in the MQS; only 26% fall under the HQS. This shows that EU operators are faced with the most intense competition from abroad when producing products of low or medium quality. On high quality products, the most direct competition comes from the US.

The quality structure of other main suppliers of the EU – such as China (including Macao and Hong Kong), India or Turkey – corresponds more or less to that of the average EU supplier. More or less the same applies to the CEECs, while the Maghreb countries show a much less favourable structure – in spite of the fact that the Maghreb countries are in direct competition with the CEECs when it comes to securing industrial co-operation with EU operators (e.g. in the form of OPT). Finally, more than 90% of all imports from the ACP countries (which enjoy preferential tariff treatment, and are exempted from any quantitative restrictions) are situated in the MQS, with the HQS accounting for as little as 7%. Table 10 shows to what extent the above scenario has changed since 1988:

Table 10: Trade in quality segments 1988/1995/2000

	1988			**1995**			**2000**		
	HQS	MQS	LQS	HQS	MQS	LQS	HQS	MQS	LQS
Total EU exports	49%	38%	13%	52%	38%	11%	54%	36%	10%
US	45%	41%	14%	50%	38%	12%	53%	31%	16%
China, HK, Macao	24%	61%	15%	24%	62%	14%	27%	59%	14%
Total EU imports	29%	60%	10%	28%	62%	11%	26%	63%	11%
India	23%	65%	12%	21%	63%	16%	24%	60%	16%
CEECs	31%	59%	10%	25%	66%	9%	22%	69%	9%
Turkey	23%	67%	10%	25%	66%	9%	21%	69%	10%
Maghreb	21%	75%	4%	14%	78%	7%	12%	82%	6%
ACP countries	12%	84%	4%	12%	85%	3%	7%	91%	2%

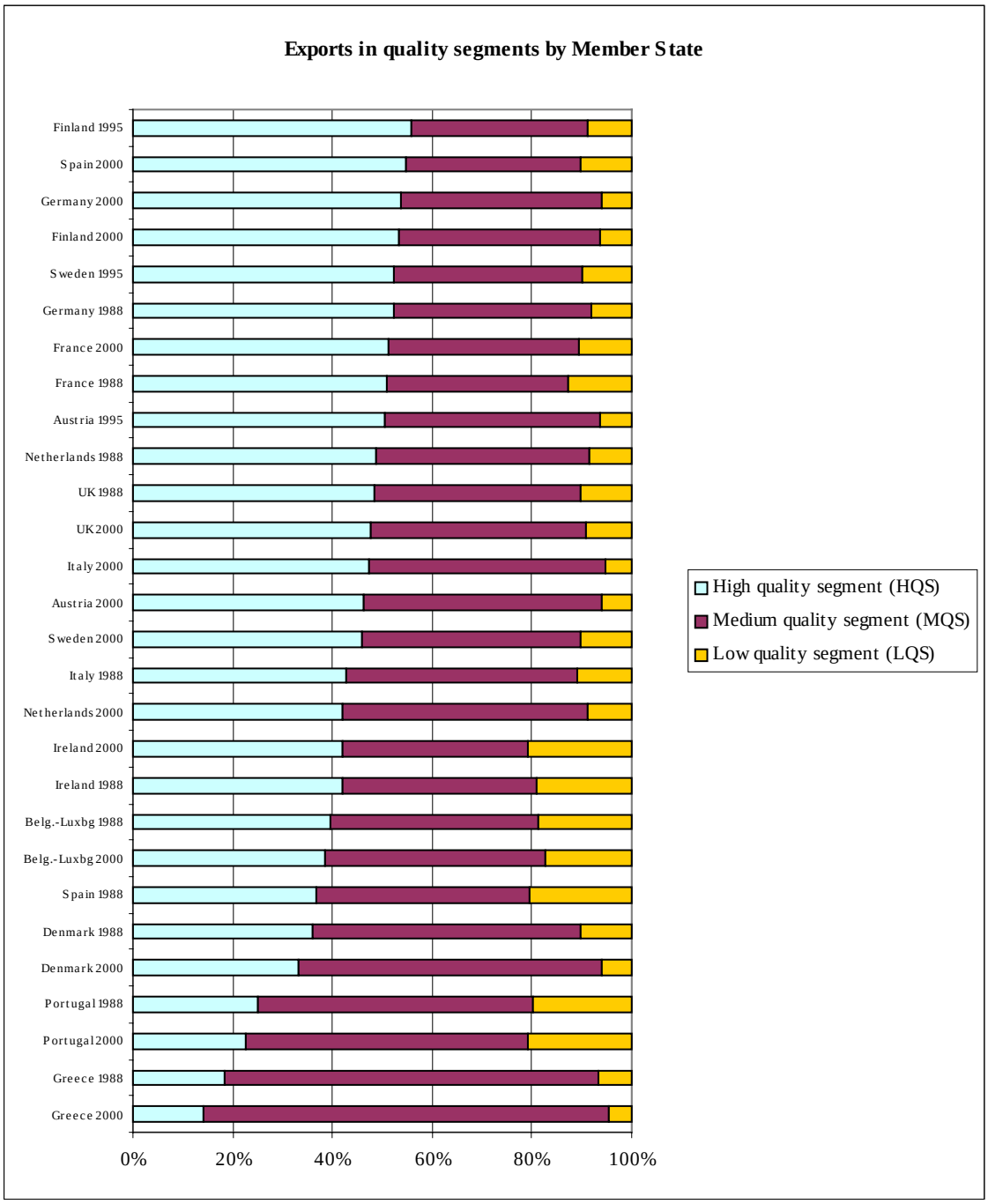
Source: Author, based on Eurostat (Comext). Underlying trade figures in value terms. 'EU' excludes Austria, Finland and Sweden prior to 1995. Countries are ranked according to size of HQS in 2000.

Between 1988 and 2000, the EU has increased its HQS share from 49% to 54%, to the detriment of both the MQS and the LQS. The US, which has grown faster in the HQS and has almost reached the EU level, has lost some ground in the MQS. Also China (including Macao and Hong Kong) has managed to increase its share in HQS products. The least beneficial development can be observed for the Maghreb countries, whose share in high quality products dropped from 21% in 1988 to 12% in 2000. Also the CEECs and the ACP countries have experienced a gradual erosion in their HQS shares. If the same methodology is applied to the exports of individual EU Member States, it is

[76] For this analysis, it is not very problematic to compare export with import data as the comparison does not concern prices. Subject of the comparison is the product mix, i.e. the composition of exports and imports.

possible to examine structural differences within the EU. Figure 21 shows a ranking of EU Member States according to their HQS export share. It includes their performance both in 1988 (1995)[77] and in 2000, so as to see whether their share in the HQS has increased/decreased since 1988 (1995), and whether they have moved up/down in the ranking of Member States.

Figure 21: Exports in quality segments by Member State



Source: Author, based on Eurostat (Comext). Exports include exports to other Member States as well as exports to the rest of the world.

[77] For Austria, Finland and Sweden, no data are available for 1988. 1995 data have been used instead.

In 2000, Spain had the largest share in HQS exports, followed by Germany, Finland and France. Portugal and Greece rank last. Between 1988 (or 1995) and 2000, Germany, Italy and – above all! – Spain have increased their share in the high quality segment (as well as their position in the internal EU ranking), while the opposite is true for Finland, Sweden, Austria and the Netherlands.[78]

Greece has by far the lowest share in the HQS. It is interesting to note, however, that also its share in the LQS is the lowest of all Member States, with most of its exports being concentrated in the MQS. It should also be noted that the low ranking of Greece in terms of revealed quality elasticities is in line with the findings of Section 5.2.1 concerning unit values (see figures 18 and 19), where Greece appeared at the end of the league both in textiles and in clothing.

As far as Spain is concerned, the impressive improvement in its ranking between 1988 and 2000 in figure 21 is more or less in line with Section 5.2.1, which showed very substantial increases in unit values of clothing exports, and considerable increases in textile exports.[79]

The low rankings of Greece and Portugal in figures 18 and 19 only relate to their share in trade in so-called 'quality' products, and is not à priori an indicator of their international competitiveness. In other words, those figures show in what products Greece and Portugal trade, but not how successful they are in doing so. Both countries are more involved in the so-called medium and low quality segments than other Member States. However, as their labour costs are clearly below the EU average, these countries stand a fair chance to successfully compete in products which are more price elastic than quality elastic. Figure 8 in Section 8.8, for example, suggested that Portugal's value added per hourly wage costs (i.e. labour productivity adjusted by wage levels) exceeds that of countries such as Italy, the UK or Germany. And Table 4 in Section 2.1.2 has shown that Greece and – above all – Portugal perform very well in terms of (revealed) comparative advantage – both on the EU and on international markets.

[78] The results of the analysis contained in this chapter – instructive as they may be! – should be interpreted with care, as the method which has been used to translate the complex concept of quality into measurable benchmarks has to be seen as a very rough approximation of reality.

[79] This also coincides with the findings of Section 2.2, where Spain performed very well in terms of 'value added per hourly wage costs' (see figure 8), and in terms of changes in employment between 1995 and 1999 (see figures 9 and 10).

6. CONCLUDING REMARKS

The T/C industry has long been characterised by a high degree of trade protection, given its high sensitivity for industrialised and developing countries alike. The removal of all quantitative import restrictions in 2005 will have major implications on global trade flows in T/C products. European industry will be deprived of the cushioning effect of those import restrictions which are still in place, and many current suppliers of the EU will run the risk of their market shares being taken over by large textile nations such as India, Indonesia, Pakistan or – above all – China.

Faced with the considerable labour cost advantage of its Asian competitors, EU industry finds it difficult to completely offset its cost disadvantage by means of improving its levels of productivity. Industry has long been aware of this challenge – at the very least since the adoption, in 1995, of the 10-year transitional period set out in the ATC.

It has responded to this economic environment by substantially restructuring and modernising its activities, and by improving its cost structure through the outsourcing of particularly labour-intensive operations – thus abandoning those parts of the value chain in which Europe had turned out to be less and less competitive. All of this has resulted in considerable reductions in terms of EU production and employment, and to a constantly growing penetration of the EU market by imported T/C goods. However, the streamlining of its activities, and increased focus on quality, have helped EU industry to maintain its (revealed) comparative advantage vis-à-vis the rest of the world – or even to slightly improve it as far as textiles are concerned.[80]

Of course, the process of restructuring and modernisation is a permanent exercise, which needs to be pursued on a continuous basis if Europe's T/C industry is to remain a key player on world markets also in the new Millenium. Whether this objective can be achieved, will depend, inter alia, on:

- the sector's continuous focus on design, fashion, innovation, creativity, and quality. Figure 20 (Section 5.2.2) illustrated that more than 50% of Europe's exports, but only 26% of its imports, are concentrated in the so-called 'high-quality segment'. At the same time, it is clear that Europe's T/C industry is too big to be squeezed into niche markets[81] – it needs a sufficiently broad economic base to generate the turnover and the economies of scale which are necessary to finance activities such as research and innovation which, in turn, are needed to come up with innovative and high-quality solutions.

- the sector's strategic choice with regard to the location of its production facilities: Will it maintain its (remaining) production within the EU, thus accepting higher production costs while benefiting from highly skilled staff and the geographical proximity to the

[80] See table 9 in Section 3.3: in textiles, the revealed comparative advantage of the EU vis-à-vis the rest of the world has increased from 0.06 in 1990 to 0.13 in 2000. Compared with the US, the EU's situation has improved both in textiles (0.17 to 0.32) and in clothing (0.60 to 0.74).

[81] A strategy which, to some extent, has been pursued by smaller T/C nations such as the Netherlands, Belgium, Austria or Sweden.

customer (which will help it to quickly adapt to changes in demand/fashion, produce 'just in time', and keep warehousing and transport costs low)? Will it keep investing in the so-called pan-Euro-Mediterranean zone, thus striving for a compromise between production costs and geographical distance? Or will it look for the cheapest production facilities world-wide once all import quotas have disappeared?

- the sector's ability to embrace the new opportunities created by new information and communication technologies, which require an adaptation of the way in which business has traditionally been done, especially within the many SMEs which are so typical of the T/C sector. This adaptation is not restricted to internal management techniques and procedures, it also concerns the way in which an enterprise organises its production, and its logistical systems.

- the ability of EU negotiators to create framework conditions which allow European operators to sell their products abroad whenever and wherever there is potential demand for textile and clothing products 'made in Europe'.

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ANNEX 1

Fields of application for technical textiles

SECTOR	EXAMPLES	MARKETS
Earthworks	Linings, netting, insulation, artificial grass ('geotextiles')	Construction companies for roads, water engineering, soil stabilisation, tunnels and other earthworks
Construction	Insulation and roofing materials ('building textiles')	Building firms, architects
Agriculture	Sun protection for greenhouses, fishing nets ('agrotextiles')	Farming, horticulture and fishing
Transport	Car mats and lining, airbags, fire resistant seat covers and carpets, safety belts	Producers of cars, aeroplanes, boats
Medical and healthcare	Bandages, medical corsetry ('medical textiles')	Hospitals, nursing homes, households
Protection	Safety nets, ribbons and tapes, fire resistant clothing ('protecting textiles')	Industry, public procurement, households
Packaging	Twine and cordage, sacks and bags, tarpaulins ('packing textiles')	Industry, distribution, households
Military and public services	Fire service equipment, bullet-proof jackets, army tents, parachutes, extinguishing blankets, tubes	Military/security, forestry, offshore oil industry
Specialised clothing	Sports, skiing and leisure	Active sports, mountaineering, households
Communications	Optical fibres, image conductor cables	Communication sector
Industry	Filters, drive and conveyer belts, abrasive belts	Engineering, machinery, chemicals, plastics, mining, energy, etc.
Furnishing	Interlaid scrims, braiding, shower curtains, umbrellas, parasols, deck chairs, textile wall papers	Decoration firms, households

Source: OETH report 2000

ANNEX 2

Biggest textiles companies, 1998

(turnover in million €)

Rank	Company name	Country	1998 Turnover	98/97 (%)
1	Sara Lee Corp.	US	6,636	+ 0.4
2	VF Corp. Knitting	US	4,951	+ 7.51
3	Toray Textiles	Japan	3,643	- 17
18	Coats Viyella Textiles	UK	1,495	- 12.6
19	Chamatex	France	1,397	(no data)
21	Gruppo Marzotto	Italy	1,351	+ 8.9
25	Courtaulds Textile (1)	UK	1,321	+ 0.5
29	Chargeurs Textile Intern.	France	1,138	- 17.2
40	Hartmann Gruppe	Germany	875	+ 5.4
41	Daun & Cie	Germany	838	+ 9.7
43	D.M.C.	France	813	- 10.3
45	Damart Groupe	France	804	- 0.6
47	Gamma Holding	Netherlands	792	+ 9.2

Biggest clothing companies, 1998

(turnover in million €)

Rank	Company name	Country	1998 Turnover	98/97 (%)
1	Sara Lee	US	6,636	+ 2.9
2	Levi Strauss Associates	US	5,352	- 14.5
3	VF Corporation	US	4,951	+ 7.5
4	Calvin Klein	US	4,817	(no data)
5	Holding di Partecipazioni	Italy	3,140	- 5.7
8	Adidas Konzern Clothing	Germany	2,184	+ 17.6
9	Benetton Clothing	Italy	1,973	+ 4.6
11	LVMH Clothing	France	1,818	- 0.8
16	Triumph International	Germany	1,375	+ 2.9
17	Zara International	Spain	1,356	+ 11.5
28	Marzotto Abbigliamento	Italy	963	+ 12.5
31	Max Mara Fashion	Italy	924	+ 16.5
33	Coats Viyella Clothing	UK	859	- 8.7
34	Courtaulds Clothing (1)	UK	837	+ 7.4

Source: Euratex, Bulletin 2000/1

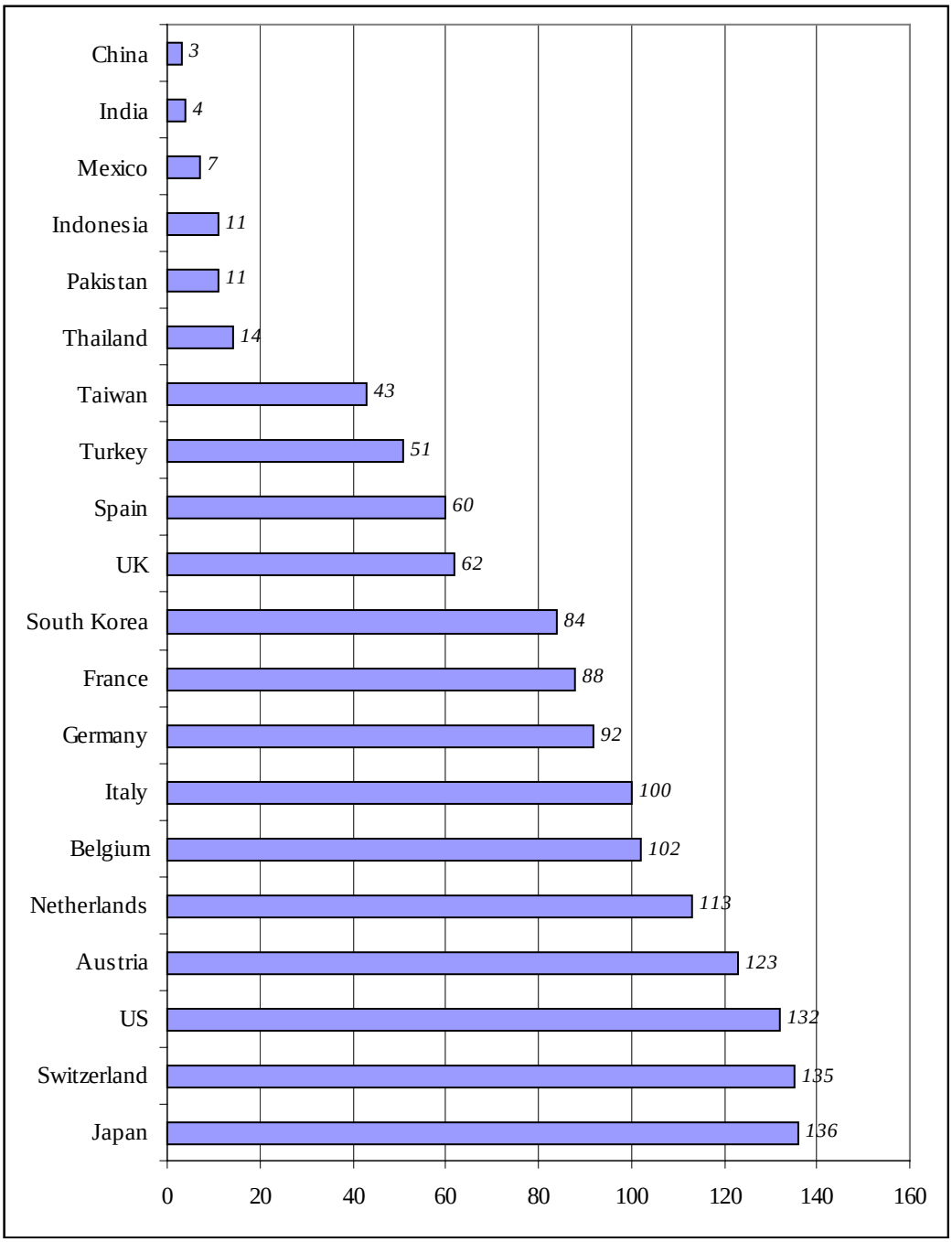
(1) Note that on 9 May 2000, Courtaulds was taken over by Sara Lee, and delisted from the London Stock Exchange on 7 June 2000.

ANNEX 3

Labour productivity in textile industry of top 20 world exporters of textiles

(value added per employee)

(Italy = 100)



Source: OETH report 2000 (based on ILO, United Nations Database, Eurostat)

ANNEX 4

World exports of textiles, 1990-1998

(million US$)

	1990	*1998*	*98/90 (%)*	*Share 1990 (%)*	*Share 1998 (%)*
World	104,520	150,950	44.4	100	100
EU (intra)	**35,672**	**37,683**	**5.6**	**34.1**	**25**
China	13,261	24,467	84.5	12.7	16.2
EU (extra)	**15,123**	**22,921**	**51.6**	**14.5**	**15.2**
South Korea	6,075	11,279	85.7	5.8	7.5
Taiwan	6,128	11,020	79.8	5.9	7.3
US	5,039	9,216	82.9	4.8	6.1
Japan	5,858	5,971	1.9	5.6	4.0
India	2,179	5,243	140.6	2.1	3.5
Pakistan	2,662	4,302	61.6	2.5	2.8

World exports of clothing, 1990-1998

(million US$)

	1990	*1998*	*98/90 (%)*	*Share 1990 (%)*	*Share 1998 (%)*
World	108,060	179,640	66.2	100	100
China	15,809	42,545	169.1	14.6	23.7
EU (intra)	**29,444**	**35,371**	**20.1**	**27.2**	**19.7**
EU (extra)	**11,338**	**15,803**	**39.4**	**10.5**	**8.8**
Hong Kong	9,266	9,667	4.3	8.6	5.4
US	2,564	8,793	242.9	2.4	4.9
Turkey	3,330	7,058	112	3.1	3.9
Mexico	587	6,603	1025	0.5	3.7
South Korea	7,878	4,651	-41	7.3	2.6
India	2,529	4,343	71.7	2.3	2.4

Source: OETH report 2000, based on WTO statistics

ANNEX 5

EU clothing suppliers (in 1000 €)

		1988		1995		2000		*Growth p.a.*
rank	*supplier*	*imports*	*share*	*imports*	*share*	*imports*	*Share*	
1	China	991,420	7.3%	3,542,110	12.4%	7,393,296	15.6%	54%
2	Turkey	1,163,394	8.6%	3,189,165	11.2%	5,307,776	11.2%	30%
3	Hong Kong	2,349,673	17.4%	2,546,886	8.9%	3,108,803	6.6%	3%
4	Romania	346,911	2.6%	971,664	3.4%	2,547,065	5.4%	53%
5	Tunisia	569,804	4.2%	1,729,428	6.1%	2,543,661	5.4%	29%
6	Bangladesh	124,735	0.9%	967,294	3.4%	2,527,729	5.3%	161%
7	Morocco	588,463	4.4%	1,631,273	5.7%	2,352,673	5.0%	25%
8	India	562,201	4.2%	1,588,441	5.6%	2,000,884	4.2%	21%
9	Poland	287,536	2.1%	1,603,714	5.6%	1,811,504	3.8%	44%
10	Indonesia	199,306	1.5%	908,332	3.2%	1,786,571	3.8%	66%
	CEECs	1,019,081	7.5%	5,058,580	17.7%	8,300,518	17.5%	60%
	Maghreb	1,158,378	8.6%	3,361,108	11.8%	4,896,473	10.3%	27%
	All suppliers	13,522,345	100%	28,538,429	100%	47,315,560	100%	21%

Source: Author, based on Eurostat. 1988 excludes Austria, Finland and Sweden. Ranking according to 2000 imports.

EU textile suppliers (in 1000 €)

		1988		1995		2000		*Growth p.a.*
rank	*supplier*	*imports*	*share*	*imports*	*share*	*imports*	*Share*	
1	Turkey	714,932	7.8%	1,038,873	7.7%	2,089,599	10.7%	16%
2	China	679,975	7.4%	1,022,485	7.6%	2,025,442	10.4%	16%
3	India	631,687	6.9%	1,339,719	9.9%	1,958,325	10.1%	18%
4	USA	892,439	9.7%	1,267,611	9.4%	1,538,437	7.9%	6%
5	Switzerland	1,338,284	14.6%	1,420,603	10.5%	1,191,756	6.1%	-1%
6	Pakistan	387,858	4.2%	752,928	5.6%	1,052,130	5.4%	14%
7	South Korea	313,467	3.4%	417,960	3.1%	1,041,602	5.4%	19%
8	Japan	698,370	7.6%	622,689	4.6%	819,226	4.2%	1%
9	Czech Rep.	n.a.	n.a.	411,259	3.0%	812,307	4.2%	20%
10	Taiwan	289,277	3.2%	326,028	2.4%	659,145	3.4%	11%
	CEECs	357,169	3.9%	1,407,428	10.4%	2,676,524	13.8%	54%
	Maghreb	163,203	1.8%	210,868	1.6%	267,483	1.4%	5%
	All suppliers	9,166,888	100%	13,517,558	100%	19,461,952	100%	9%

Source: Author, based on Eurostat. 1988 excludes Austria, Finland and Sweden. Ranking according to 2000 imports.

ANNEX 6

EU clothing markets (in 1000 €)

		1988		1995		2000		*Growth p.a.*
rank	*supplier*	*imports*	*share*	*imports*	*share*	*imports*	*Share*	
1	USA	1,289,123	22.3%	1,371,787	12.9%	2,566,349	8%	8.3%
2	Switzerland	1,430,410	24.7%	1,777,745	16.7%	2,074,293	4%	3.8%
3	Japan	570,999	9.9%	1,516,890	14.3%	1,433,151	13%	12.6%
4	Norway	494,566	8.6%	582,765	5.5%	644,884	3%	2.5%
5	Russia	n.a.	n.a.	281,763	2.6%	605,450	23%	23.0%
6	Romania	33,035	0.6%	144,242	1.4%	550,650	131%	130.6%
7	Hong Kong	192,498	3.3%	605,533	5.7%	534,635	15%	14.8%
8	Tunisia	90,352	1.6%	294,828	2.8%	442,876	33%	32.5%
9	Poland	33,427	0.6%	236,752	2.2%	390,887	89%	89.1%
10	Hungary	39,419	0.7%	240,815	2.3%	375,043	71%	71.0%
	CEECs	125,789	2.2%	1,146,995	10.8%	2,171,635	136%	135.5%
	Maghreb	127,949	2.2%	446,030	4.2%	839,511	46%	46.3%
	All markets	5,780,265	100%	10,639,589	100%	14,638,597	13%	12.8%

Source: Author, based on Eurostat. 1988 excludes Austria, Finland and Sweden. Ranking according to 2000 exports.

EU textile markets (in 1000 €)

		1988		1995		2000		*Growth p.a.*
rank	*supplier*	*imports*	*share*	*imports*	*share*	*imports*	*Share*	
1	USA	1,442,095	13.8%	1,828,445	10.1%	3,019,799	12.0%	9%
2	Poland	220,720	2.1%	1,496,092	8.3%	2,138,572	8.5%	72%
3	Romania	130,874	1.3%	627,480	3.5%	1,482,653	5.9%	86%
4	Tunisia	355,779	3.4%	977,107	5.4%	1,464,180	5.8%	26%
5	Morocco	384,584	3.7%	912,752	5.0%	1,303,286	5.2%	20%
6	Turkey	163,475	1.6%	693,011	3.8%	1,280,681	5.1%	57%
7	Switzerland	1,072,529	10.3%	1,243,889	6.9%	1,164,296	4.6%	1%
8	Czech Rep.	n.a.	n.a.	514,358	2.8%	1,011,064	4.0%	19%
9	Hungary	248,367	2.4%	582,830	3.2%	916,730	3.6%	5%
10	Hong Kong	276,707	2.7%	666,700	3.7%	897,934	3.6%	19%
	CEECs	735,188	7.1%	4,279,906	23.6%	7,448,844	29.5%	76%
	Maghreb	854,380	8.2%	1,988,723	11.0%	2,849,895	11.3%	19%
	All markets	10,412,286	100%	18,131,260	100%	25,243,220	100%	12%

Source: Author, based on Eurostat. 1988 excludes Austria, Finland and Sweden. Ranking according to 2000 exports.

ANNEX 7

Use of ICT by different industrial sectors (%)
(Example: France)

Sector	Mobile phones	Network-of micro-computers	Internet connection	Website	Intranet	Extranet
Total industry	**89**	**81**	**69**	**39**	**23**	**10**
Textiles	*88*	*75*	*64*	*30*	*19*	*7*
Clothing, leather	*77*	*57*	*50*	*30*	*11*	*5*
Water, gas, electricity	100	91	88	46	52	21
Pharmaceuticals	93	85	80	50	40	14
Electrical and electronic equipment	98	91	91	53	42	20
Chemical industry	91	88	74	45	30	12
Car industry	90	79	69	35	30	14
Mechanical equipment	93	80	70	40	23	9
Wood and paper	86	76	60	34	19	8
Metals	87	80	60	34	15	6

Source: *Ministère de l'Economie, des Finance et de l'Industrie*, 'Le 4 Pages des statistiques industrielles', N° 135, August 2000.

ANNEX 8

The (pan-) Euro-Mediterranean zone

Country	T/C Employment (1000 employees)	Share in total employment in zone (%)	Share in manufacturing employment (%)	Share in manufacturing production (%)
EU	**2,330**	**36**	**7.6**	**4.2**
EFTA (CH, Norway)	**35**	**0.5**	-	-
CEEC (total)	**1,253**	**19.3**	-	-
Bulgaria	89	1.4	-	6.1
Estonia	23	0.4	14	11
Hungary	103	1.6	3	2
Latvia	23	0.4	-	11
Lithuania	60	0.9	24	14
Poland	331	5.1	13	4.4
Slovakia	51	0.8	15	5.5
Czech Republic	112	1.7	10	3.5
Romania	430	6.6	4	8
Slovenia	31	0.5	14	9
MEDITERRANEAN	**2,859**	**44.1**	-	-
Egypt	500	7.7	-	13.6
Israel	23	0.4	16	-
Jordan	-	-	20	-
Malta	-	-	-	-
Morocco	187	2.9	39	17.6
Tunisia	220	3.4	-	-
Turkey	1,930	29.8	40	15.5
TOTAL ZONE	**6,477**	**100**		

Source: Euratex (Memorandum on preferential rules of origin, February 2000), which based itself on the latest available figures (ranging from 1994 to 1998).

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