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DTI ECONOMICS PAPER NO. 2

A comparative study of
the British and Italian textile
and clothing industries

NICHOLAS OWEN

ALAN CANNON JONES
LONDON COLLEGE OF FASHION

APRIL 2003



The DTI drives our ambition of 'prosperity for all' by working to create the best environment for business success in the UK. We help people and companies become more productive by promoting enterprise, innovation and creativity.

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Foreword

Following the reviews of the DTI in Autumn 2001, the Department emphasised the need to put analysis at the heart of policy-making. As part of this process we have decided to make our analysis and evidence base more publicly available through the publication of a series of DTI Economics Papers that will set out the thinking underpinning policy development.

The motivation for this paper, the second in this series, is DTI's concern that British industries improve their performance. To assist this process, business strategies and government policies need to be informed by a better understanding of the approach and methods which are adopted by the more successful industries in other countries, how they differ from those adopted in the UK, and the lessons which British managements and policy-makers might usefully learn from them. For all that is said and written about competitiveness, there are very few concrete comparisons of the performance of British producers and of their principal competitors. This is such a study. It is based on patient fieldwork and goes to the heart of what competitiveness is about – the quality of what is produced, production methods and costs.

I hope that this paper, like others in this series, will stimulate discussion and form part of a wider dialogue between the DTI and the research community.

Vicky Pryce

Chief Economic Adviser and Director General, Economics

Acknowledgements

This study was directed and mainly drafted by Nicholas Owen, Director, Industry Studies at the DTI. Alan Cannon Jones, Senior Lecturer in Outerwear Technology at the London College of Fashion, provided the technical analysis of tailored suits and how they are made in different factories, which appears in Chapter 3.

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We would also like to acknowledge the contributions of 360GRADI, a Prato textile consultancy, for carrying out for us a survey of Prato textile producers and for arranging company visits.

The authors are grateful to the managers of all those textile and clothing companies, in both countries, who allowed us to visit them, for their time, trust and patience.

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Finally, we are most grateful Professor Judith Chaney, formerly of the London Institute, for reading successive drafts and making a number of helpful drafting suggestions.

The analysis and the conclusions drawn from this study are those of its originators and are not intended to reflect the views of the DTI or of any other organisation.

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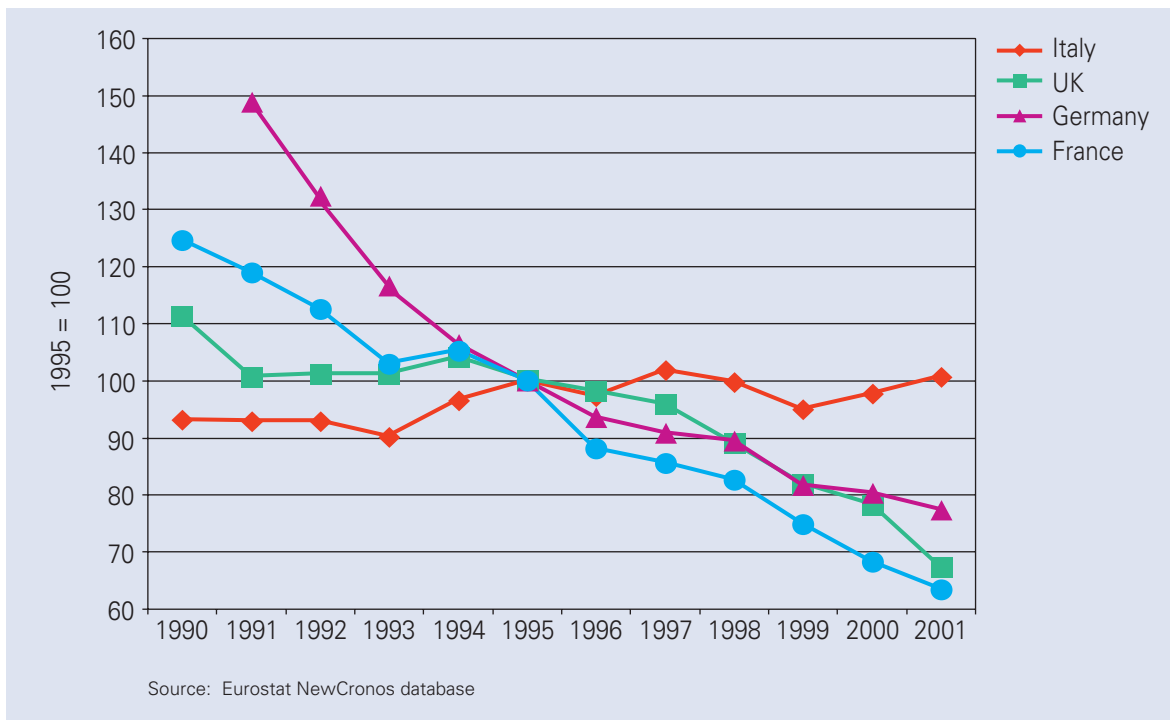
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1 Introduction

Why is the Italian textile and clothing industry so much more successful than its British counterpart? The Italian textiles and clothing industry grew in real terms through the 1990's whereas the British industry declined by 40% – see Chart 1.1¹. The French and German textile and clothing industries suffered similar declines.

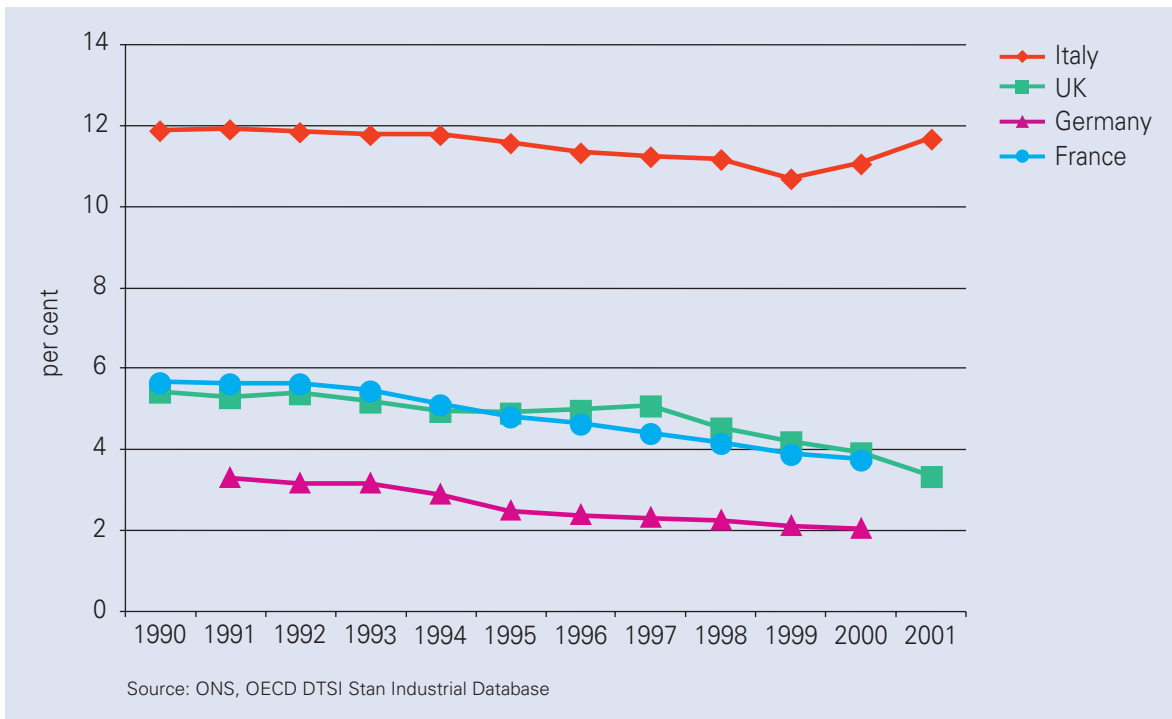
CHART 1.1
OUTPUT INDICES: TEXTILE AND CLOTHING INDUSTRIES



In 2001 the Italian textile and clothing sector (output £16.6 billion) was over three times larger than the British industry (output £5.1 billion) and accounted for 11.7% of Italian manufacturing output, whereas its British counterpart accounted for just 3.3% of British manufacturing output. The Italian textile and clothing industry's share of Italian manufacturing output remained virtually unchanged between 1990 and 2001 – see Chart 1.2 – whereas the corresponding share of the British industry fell by one-third in that period.

¹ Gross value added, measured as turnover less purchases of goods for resale, materials and services. Thus "output" is the total incomes (wages and profits) generated by the industry.

CHART 1.2
TEXTILES AND CLOTHING SHARE OF MANUFACTURING OUTPUT



In 2000 Italy's exports of woollen and worsted fabrics and men's suits were respectively 15 and 12 times those of the United Kingdom. This divergence in performance is the more striking in view of how much unites the two industries. Textiles and clothing are among the oldest manufacturing sectors in both Italy and the UK. Both operate in highly regulated economies facing competition from countries with low labour costs and much lower levels of workplace regulation.

Purpose and methodology of the study

This study attempts to get behind these statistics in order to explain these differences in performance and to see whether best practice in the Italian industry might be adopted in the UK. The study was carried out in response to a recommendation by The Textiles and Clothing Strategy Group (TCSG)², which includes representatives from the UK industry, trade unions, Higher Education and the DTI.

The approach taken in this study is to compare what companies in the two industries actually do – looking at the products they offer, how they make them, and at what unit cost – and to set these findings in the context of the Italian and UK economies as a whole, in order to comment on whether it would be feasible to introduce Italian best practice into the UK industry. In this sense the study is a departure from industry studies

² Textiles and Clothing Strategy Group, "A National Strategy for the UK Textile and Clothing Industry", Department of Trade and Industry, June 2000 (copies available from the British Apparel and Textile Confederation).

which rely simply on comparative statistics. What tends to be missing from such studies is a sense of how things are actually made, and made to add value; and the subjective dimension, which happens to be unusually important in this industry, where feel and style are important to consumers and where fashion changes constrain the degree of product standardisation and production volume. The study is also a departure from the DTI's "competitiveness studies", which for the most part contain no comparisons with foreign competitors at all and no analysis of the supply-side (e.g. the economics of production, how British products compare with those they have to compete against, whether they cost more or less to manufacture).

A case study methodology has been used. In order to achieve some depth and comparability we have focussed on just two segments of the industry – woollen and worsted fabrics and men's tailored suits. They were chosen for study because they are complex, high value products, in which the British industry traditionally excelled but now performs much less well than the Italians³. We have visited weaving mills and suit factories in the two countries over a 24-month period commencing in the Spring of 2001. We set out to interview companies which were among the leading producers in each country, rather than attempt to cover representative samples of companies across the size spectrum in each country. The average size, in terms of employees, of the companies which were visited in each country was significantly larger than that of the average enterprise in their respective industries. The Italian companies were similar in size to their UK counterparts, in terms of employees.

TABLE 1.1
AVERAGE SIZE OF ENTERPRISE, BY EMPLOYEES, IN THE
PARENT INDUSTRIES AND OF THOSE VISITED IN THE STUDY

SIC	Industry	Industry ^a		Study ^b	
		UK ^c	Italy	UK	Italy
171-173	Textile spinning, weaving and finishing	36	75	274	285
182	Other wearing apparel	17	48	583	571

a Annual Censuses of Production, 1997 for Italy, 1998 for the UK
b These averages refer to five British and three Italian textile mills; three British and two Italian suit factories. The third Italian suit manufacturer produced just the interlinings, and was rather smaller.
c Full-time equivalents

3 We had hoped to include knitwear and approached five of the leading British knitwear manufacturers. One replied that it would be difficult to respond to our questions at that particular time because the company was repositioning itself, one declined and the other three did not reply.

WOOLLEN AND WORSTED FABRICS

In fabrics we have concentrated in the UK mainly on West Yorkshire and in Italy on two major but different textile districts, Piemonte (Biella and the Sesia Valley) and the Tuscan city of Prato. Five mills were visited in the UK and in Italy, three mills were visited in Piemonte and a dozen were surveyed in Prato. Where like comparison of production is possible we have tried to piece together some comparisons of the operating features and cost structures based on the questionnaire at Annex A. In Prato we commissioned a survey of twenty weavers and fifteen “weavers without looms” (“impannatori”), with the help of local textile consultants.

MEN'S TAILORED SUITS

For men's tailored suits we have:

- carried out a technical analysis of four suit jackets, two English-made and two Italian-made, from mid-market and the top-end suppliers;
- compared the way in which comparable suits are made in three British and three Italian suit factories.

Any study is difficult which touches – as this study does – on matters which are commercially sensitive. It was not possible to gain access to as many mills or factories as we would have liked and the study does not pretend to offer a definitive statement about the textiles and clothing industry in either country. What it does do is home in on some technical and micro-economic factors which we believe lie at the heart of the industry.

As researchers we approached the study with an open mind. The fact that the British textile and clothing industry is now by far the smaller of the two industries does not necessarily mean that its *survivors* are any less competitive than their Italian counterparts. It may be the case that the answers to the study's exam question could only be found in the British companies that have disappeared.

The report

The report has four main Chapters. Chapter 2 deals with the woollen and worsted industries and chapter 3 contains a similar discussion in relation to the production of men's tailored suits. In Chapter 4, these findings are set in the broader context of the Italian and UK economies and various explanations of the relative performance are considered. Conclusions and recommendations are set out in Chapter 5. The report is directed to a range of audiences: those in the industry itself, those in other industries, those wishing better to understand the two economies, policy-makers. For this reason, in Chapters 2 and 3 we provide brief descriptions of the main production processes and explanations of some technical terms, to enable the layperson better to understand the report.

1.1 Summary

In *woollen and worsted fabrics* the reason why the British producers have been losing out to the Italians does not appear to be due to any shortcomings on delivery performance (how long in advance orders must be placed, and whether orders are delivered on time): if anything the British mills offer quicker and more reliable delivery than the Italian mills. The answer has more to do with the unit cost of production: the Italian mills produced a given quality of fabric at a lower unit cost than their British competitors. They achieved this in Piemonte by exploiting scale economies, controlling the entire process, with heavy investment allied to excellent production engineering, working closely with local machinery suppliers; in Prato by fluid alliances of entrepreneurs and artisans. The entrepreneurs (“*impannatori*”) spot opportunities, arrange materials and capital and bear risk, and rely on highly specialised small-scale weavers who supply at highly competitive prices and are prepared to experiment with materials and equipment.

The study’s statistical analysis of fabric mills suggests that, for a given type of fabric, British mills could match Italian unit costs if they achieved the same scale – total volume and average order size – as the Italians. So how could they achieve these volumes? Part of the answer is to step up their design and marketing. The Italian criticism of the British woollen and worsted producers is that they are slow to change their fabric designs and that they do not promote their products as vigorously do the Italians. In part this may be due to the fact that the British producers have less to offer than the Italians that is new, reflecting a cultural difference: the British consumer’s traditional approach to a suit is that the fabric should endure for years, whereas the Italian approach is that the suit is worn out after being dry-cleaned only five times.

The Italians appeared more innovative in all aspects of the business – yarns, fabrics, and machines. Equipment that was designed for one type of fabric had been adapted for another. The best Italian mills gain advantages in production by engaging in machinery design and adapting machinery to their own needs, in a way that is less/not evident in British mills. In yarns and fabrics there was a freer use of colour. It was encouraging to note that one UK mill in particular achieves an originality and use of colour in its collections, and refreshes them at a rate which matches the Italians. British weavers should be more adventurous in design in terms of both colours and mixtures. They should offer two collections a year. With more to show their customers, they should support these collections with greater marketing efforts, using their own employees rather than agents for this purpose.

In general, British woollen and worsted producers need to be more visible to the buying public. In addition to promoting British wool textiles as a generic brand, we believe that British wool textile manufacturers need to promote *company* brands. In contrast to their Italian counterparts, British fabric producers tend to be completely invisible to those who buy suits made from their material. In the British retail clothing market there is no equivalent to the “*Intel within*” message which features on most of the world’s personal computers. British woollen and worsted producers should to seek to have their label, and the *type* of fabric, displayed in garments which are made from their fabrics.

The dilemma which faces British manufacturers of *men's tailored suits* – one which also faces many other manufacturing industries – is that its volume products cannot compete on quality with the best, and cost too much to manufacture to compete with the cheapest. Our analysis of British and Italian suits and suit factories suggests that when the two industries work to the same price the products are quite similar, although the Italians still manage to design in touches which add value.

When not constrained by price, the Italian producers we visited achieve the greater quality by adopting a traditional, “controlled tailoring” approach – once favoured by British producers – whereas most British producers today opt for the “engineered” method, which seeks to reduce the labour content. Rather than engineering out the labour content of the product in response to low-wage competition, the Italian approach is to add value. The study provides a number of examples of how their successful producers do this, by designing in touches which add softness and enhance handle and appearance.

The differences between the two industries do not appear to lie in better equipment. British and Italian factories were equipped with broadly similar machines, from the same equipment manufacturers. Such differences as were observed were either a matter of preference, or they flowed from the differences in manufacturing philosophy. Italian suit producers add additional value not so much by machines but by what is in their heads – through imaginative ideas, a deep understanding of materials and how garments are best constructed, and the skills of their employees.

The “engineered” method which has been adopted by British producers appears to a dead-end; simplifying the product just makes it easier still to move it offshore to lower-wage locations. Rather than engineering out labour content in response to low-wage competition British menswear manufacturers should look to add more value, exploiting the enthusiasm for the classic English style.

What, if anything, should *government* do? Is State Aid part of the answer? Like other Continental countries, the Italian Government offers much more State Aid than does the British Government (over four times as much as a percent of manufacturing value added in the period 1997-99). This study was less impressed by this than by the Italian vocational training system. Technical secondary schools lie at the heart of the thriving textile and clothing clusters in Italy. The school in Prato alone provides its district with more school leavers with A Level-equivalent qualifications relevant to the industry each year than the total number of NVQs Level 3 awarded in textiles and clothing by City & Guilds and Skills for Industry. The policy issues here for the UK are whether to create vocational secondary schools and whether to accord greater priority to vocational secondary education.

2

Woollen and worsted fabrics

Woollen and worsted fabrics take their names from the yarns involved. Woollen yarn is drawn from randomly orientated fibres with the result that the cloth which is woven from it has a rough or fluffy texture (Harris Tweed jackets are an example). Worsted⁴ yarn is drawn from combed fibres, which are thus aligned with the yarn, imparting a density and a smooth texture to the cloth, as in the material used to make most men's tailored suits.

Historically these two types of fabric have tended to be produced in different industrial districts. The British woollen industry was centred in Dewsbury in West Yorkshire, manufacturing heavy woollen fabrics such as those used in making coats (for example, "donkey jackets"). The equivalent district in Italy is Prato, which contributed in the 1960s and 1970s to the demise of the Dewsbury trade. There is no longer a British equivalent to Prato. The British worsted industry is centred in Bradford and Huddersfield. Its counterpart is located in the Biella district, North West of Milan, so it is there that we look for comparisons in worsted fabrics.

The reference to industrial districts is the moment to introduce another theme of this Chapter – the concept of "clusters". The term was coined by Michael Porter⁵ but a century earlier Alfred Marshall had (as usual) got to the heart of the matter: "When an industry has thus chosen a locality for itself, it is likely to stay there long; so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously"⁶. Clusters generate competitive advantages such as: proximity to a wider range of specialist skills, services and equipment suppliers than would be available to a geographically isolated factory; economies of scope whereby it is economic to provide a central facility (an industry-orientated technical college, for example); and a shared knowledge of techniques and market information. Much has been written since about clusters – some of it banal: they exist in every economy and in many industries. The key questions for us in this study are: why are some clusters in this industry more vibrant than others, and manage to sustain themselves while others collapse; and whether those which have hollowed out can ever be revived.

4 The term derived from the Norfolk village of Worstead in which Flemish weavers settled in the 14th Century, encouraged by Edward III.

5 "...a nation's competitive industries are not spread evenly through the economy but are connected in what I term clusters consisting of industries related by links of various kinds", Michael E Porter, "The Competitive Advantage of Nations", Macmillan 1990.

6 Alfred Marshall, "Principles of Economics", 8th edition, Macmillan, 1890.

2.1 Trade performance

The UK woollen and worsted producers achieved a positive balance of trade in 2000. In the context of the trade performance of the UK textile and clothing industry as a whole (exports £5.8 billion in 2000, imports £12.9 billion⁷) this was an outstanding achievement.

TABLE 2.1
UK TRADE IN WOOLLEN AND WORSTED, 2000
TOP 10 EXPORT MARKETS AND SOURCES OF IMPORTS

Exports		Imports	
To:	£ million	From:	£ million
World	169	World	89
Japan	20	Italy	51
Italy	18	Portugal	6
France	12	France	6
USA	11	Israel	5
Germany	11	Germany	3
Hong Kong	7	Turkey	3
Hungary	6	Irish Republic	3
Denmark	6	India	2
Morocco	6	Denmark	2
Belgium	5	Belgium	1
All textiles and clothing	5,800		12,900

Source: HM Customs & Excise.

Tables 2.2 and 2.3 show how the volume and structure of UK's trade is changing. Exports fell sharply between 1997 and 2000, to all the major markets except Italy. However, the countries in which suit manufacture is expanding – Israel, Morocco and the Philippines – are also expanding markets for British suiting material.

⁷ Monthly Review of Trade Statistics, for Textiles (SITC 65) plus Clothing (SITC 84).

TABLE 2.2

UK EXPORTS OF WOOLLEN AND WORSTED MAJOR MARKETS 1997 AND 2000

Exports To:	1997 £ million	2000 £ million
World	247.6	169.4
Japan	33.5	19.5
Germany	20.6	10.6
Italy	20.0	18.1
France	18.2	12.2
Hong Kong	15.0	6.6
USA	13.8	11.3
Hungary	15.2	6.0
Belgium	7.9	4.6
Denmark	5.7	6.0
Portugal	6.1	3.6
Singapore	4.6	2.1
Saudi Arabia	4.5	3.0
South Korea	4.3	4.4
Netherlands	3.6	1.6
Irish Republic	4.2	3.5
Kuwait	3.2	3.0
Canada	3.1	1.7
Philippines	3.0	4.3
Poland	3.6	1.1
Belarus	2.8	2.1
Malta	2.8	1.1
Taiwan	2.7	0.7
Norway	2.6	0.9
China	3.3	1.7
Russia	2.5	0.6
Morocco	0.3	5.8
Israel	0.7	2.1

Source: HM Customs & Excise

TABLE 2.3
UK IMPORTS OF WOOLLEN AND WORSTED, 1997 AND 2000

From:	1997 £ million	2000 £ million
World	138.5	89.1
Italy	86.8	51.5
France	13.3	6.3
Portugal	10.9	6.4
Germany	5.2	3.3
India	5.0	2.3
Denmark	2.0	2.2
Irish Republic	2.0	1.7
Turkey	1.8	2.9
Spain	1.3	0.9
Netherlands	0.9	0.5
Switzerland	0.7	0.7
Israel	0.3	4.5

Source: HM Customs & Excise

The British woollen and worsted industry's achievement in 2000 was dwarfed by Italy's – see Table 2.4. Italy's exports of woollen and worsted were more than 15 times greater than the UK's. Her exports to Germany alone were 250% of the UK's total exports.

TABLE 2.4
ITALIAN TRADE IN WOOLLEN & WORSTED, 2000
12 MAJOR MARKETS AND SOURCES OF IMPORTS

Exports		Imports	
To:	£million	From:	£million
World	1,220	World	80
Germany	238	United Kingdom	17
France	96	France	11
Japan	81	Germany	7
Spain	61	Turkey	7
USA	59	Czech Rep.	6
Hong Kong	54	Poland	6
United Kingdom	50	Portugal	5
South Korea	41	Spain	3
Turkey	39	Switzerland	3
Romania	34	Austria	2
Poland	33	Greece	2
Portugal	32	USA	1

Source: Eurostat

These figures reveal a close link between the British and Italian clothing industries. Each industry was the largest supplier of woollen and worsted to the other country's market. Italy accounted for 57% of the UK total imports.

The trade data also tell us something about comparative quality of the products traded by the two countries, if we compare unit values (£ per kilogram). Table 2.5 compares the unit values (£ per kilogram) of the two countries' trade in woollen and worsted with the world, and with each other, in 2000. The average unit value of the UK's exports in 2000 was 50% more than the average unit value of its total imports, whereas the unit value of Italy's imports in 2000 was 50% more than the unit value of its exports. The contrast was more pronounced in respect to the trade between the two countries: the average unit value of the UK's exports to Italy was over three times as high as the unit value of its imports from Italy. The British industry may not export much, in comparison with the Italian industry, but its exports are of a high quality. It exported more to Italy in 2000 than any other woollen and worsted industry.

TABLE 2.5
AVERAGE UNIT VALUES: BRITISH AND ITALIAN
TRADE IN WOOLLEN AND WORSTED, 2000

£ per kilogram		
	Total exports	Total imports
United Kingdom	18.9	12.5
Italy	7.2	11.3
	Exports to Italy	Imports from Italy
United Kingdom	36.6	11.4
	Exports to the UK	Imports from the UK
Italy	11.2	38.7

Sources: Eurostat for Italy, HM Customs & Excise for the UK.

2.2 Manufacturing processes

This Chapter explains some of the processes involved in manufacturing woollen and worsted cloth and can be skipped by readers who are already familiar with the industry, or not interested in how it operates. The production of high-quality woollen and worsted fabrics is a mixture of art and science, much more so than cotton weaving, and it is this subtlety that enables this branch of textiles to survive in high-wage economies. The weaving processes are pretty much determined by the capability of the looms but there is more differentiation and art in the finishing processes, which impart a distinctive appearance and handle to the fabric. For example, in one UK mill the scouring (washing) is carried out in ancient wooden tubs which, it was claimed, contribute to the texture of the fabric in a way in which modern stainless steel vessels do not.

In weaving the warp is the longitudinal fibre (yarn), the weft is inserted at right angles to it. The warp yarns are referred to as "ends", weft yarns as "picks". The number of ends per square metre typically exceeds the number of picks. Softer and lighter fabrics involve fewer picks per metre. For greater strength in worsted weaving the yarn is typically doubled in both warp and weft ("double folded"); less robust, lighter fabrics are made with a single weft.

Yarn is delivered by the spinner to the mill on large, cross-wound cones and is then transferred to weft bobbins suitable for shuttle weaving machines (winding), wound onto a beam (warping) and coated with a solution such as starch to protect it from the rigours of weaving (sizing). The warp yarns are then drawn, in the correct order, through the

heald eyes (or the jacquard harness), and then through the reed (drawing in). The heald allows the warp yarns to be manipulated so as to create vertical space between them (the “shed”) into which the weft is inserted.

Manipulation of the warp yarns creates the desired construction of the fabric, each with its own texture and appearance. For example, to produce a plain weave (“one on one”), each warp is lifted over alternate weft yarns, so that alternate warp yarns are lifted, and their neighbours are depressed by the heald. A twill weave is achieved by raising two adjacent warp yarns and depressing the third. “Two on one” (Gabardine) imparts a diagonal texture on one side, plain on the other. “Two on two” imparts a diagonal texture on both sides of the fabric and makes for durability (e.g. cavalry twill).

Weft insertion is achieved, in increasing order of speed, by a shuttle (the traditional method, now no longer used except for jacquard looms), a projectile, a gripper, or a jet of air or water. The looms in the mills we visited used a gripper (a “rapier”). Pushed by a delivery rod, at up to 480 times a minute, the gripper takes the yarn from the weft cone and transports it to the centre of the shed, from where it is accepted by a takeover rod approaching from the other side.

Woven cloth is then finished by a succession of processes which relieve the fabric of the tensions imparted by the weaving process and give it the desired wearing and aftercare characteristics. It is first wet finished – scoured to remove dirt, oils, and sizes and then shrunk and thickened in a fulling mill – and then dry finished. It is dried over heated rollers in a tentering machine. Because the previous processes would have extended the fabric’s length and reduced its width, this machine grips the edges of the fabric to control its dimensions (before such machines were available the fabric was dried in the open air, “on tenterhooks”). The dry finishing processes include raising to bring up a fluffy texture, cropping to give the fabric a smooth level finish, pressing by means of pressing platens, and decatizing (a steam pressing treatment) to impart uniformity of appearance and dimensional stability.

Dyeing can be done at three stages: tops, yarn, or piece. Top dyeing is technically the best method; dyeing (plain) fabrics at the piece stage has the advantage that the mill can delay the dyeing operation, allowing a quicker response to customer orders or saving of stocks (or both). Dyeing wool is a difficult process because wool can vary from animal to animal in respect to its capacity for absorbing dyes.

Weaving is a relatively capital-intensive operation, with one operative looking after upwards of eight looms. A critical factor in weaving is machine utilisation: the proportion of their available time that the looms actually produce fabric. Other things being equal, this proportion is higher:

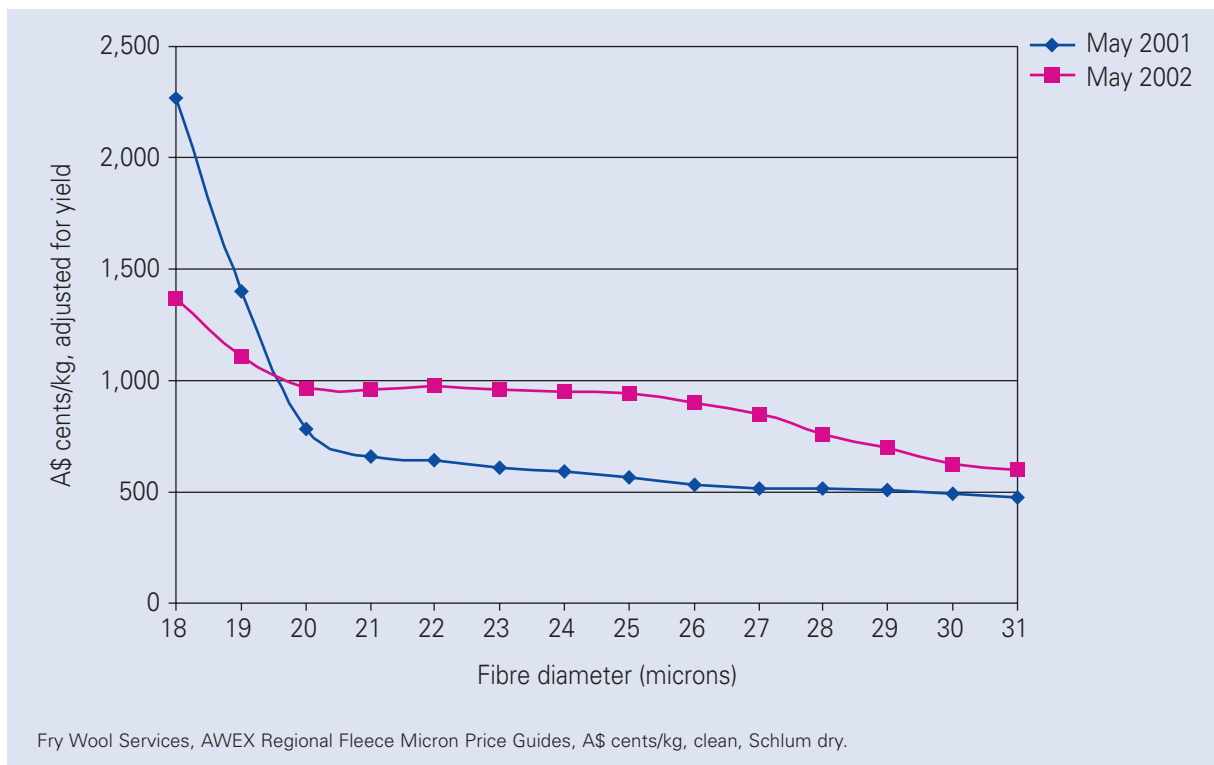
- the longer is the production run
- the fewer interruptions for yarn breakages
- the quicker the looms can be changed over from one type of fabric to the next.

If plain follows plain (i.e. the ends line up), it is possible to make a changeover in just one hour. A changeover to a new configuration would require four hours, or longer. Smaller producers tend to operate shorter production runs and hence have lower rates of machine utilisation.


Because wool is a natural, animal fibre, it is difficult to weave it with the consistency associated with a wholly synthetic product, whose composition can be wholly controlled throughout the manufacturing process. Worsted fabrics are delivered with acknowledged faults, identified in each roll by “strings”. One 1 string per 10 metres (or six per 60 metre piece) is standard in the UK but one mill achieves fewer (2.4 strings per 60 metre piece). The supplier is paid according to “net metrage”, calculated as the gross metrage less 0.2 metres per string. Mending is laborious and skilful: in some mills we noted that the number of employees who were engaged on repairing faults in the fabric exceed the number engaged in weaving it. Inspection is carried out by eye, by running the fabric against a light, rather than by testing equipment.

The diameter of the wool fibre has a strong bearing on the feel and cost of the fabric: the smaller the diameter, the softer the fabric, and the higher the price. Raw wool prices are inversely related to the fibre diameter, much more so below 20 microns (i.e. 20 millionths of a metre).

CHART 2.1
AUSTRALIAN WOOL PRICES (FLEECE – SOUTHERN REGION)



Fabrics are described – not always accurately – according to the scale below. Thus, for example, a fabric manufactured from yarns made of 18.5-micron fibres is described as a “Super 100s”.

Fibre quality Microns	Superscale	Price
19-20	Super 80s	
18-18.9	Super 100s	
18.0	Super 110s	
17-17.9	Super 120s	
16-16.9	Super 140s	
16.0	Super 150s	

Measured according to IWS TM24 on fibres from end-product

A serviceable High Street suit might typically be made from a Super 80s fabric whereas a better quality suit would be made from Super 110s and upwards – see the suit comparisons in the next Chapter at Table 3.6.

2.3 Britain and Piemonte compared

Competitiveness is essentially about three factors: the quality of the product, the price at which it is offered, and how quickly and reliably it can be delivered. On the quality aspect, the trade data revealed the relatively high unit values of British exports of woollen and worsted fabrics. British fabrics are respected and admired, in Italy and elsewhere. Indeed, better-off Italians aspire to look English. Hence the English Look is imitated by Italian designers, using Yorkshire fabrics, or fabrics which look like them. English fabrics are traditionally noted for their construction, durability and other functional attributes. The Italian tradition is orientated more towards effects, the look and the feel (“handle”) of the fabric, catering for customers who expect to replace their suits more frequently than do their counterparts in the UK.

On delivery performance, if anything the British producers were superior in respect to delivery lead times and reliability. UK mills operate on three-month delivery (but sometimes only six to eight weeks). It was not our impression that Italian mills are noted for their delivery performance, operating on three- to five-month delivery⁸.

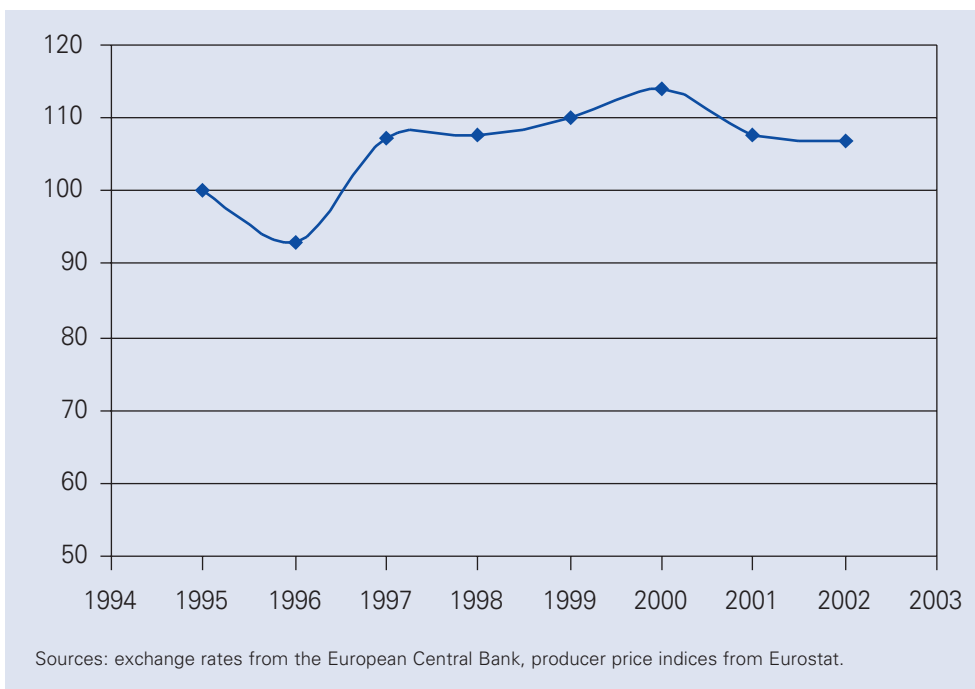
⁸ It was reported to us by some British suit producers that delivery dates promised by Italian suppliers can sometimes require some interpretation: “delivered by Thursday” did not necessarily mean “arriving at the customer’s factory gate or before that day”; it might simply mean that the consignment would have physically left the mill in Italy by that day.

Buyers are prepared to live with such long or sometimes wayward delivery dates because of the quality of Italian fabrics and/or because the Italians “are a pleasure to do business with”.

Turning to prices, the perception of the UK wholesale trade appears to be that, at the upper end of the quality spectrum, British mills charge more than Italian mills for a given type of material. An Italian producer reckoned that UK prices were typically 50% higher than theirs for the same quality, as well as being more traditional in design. This perception was shared by fabric merchants. The point was also acknowledged by some UK producers, who characterised themselves as niche producers of small quantities of relatively expensive, highest-quality cloth, which offered the suit manufacturer something distinctive and exclusive. How then did the Italians achieve this price advantage, and is it possible to replicate whatever it is that they do in British mills?

The survey work for this study was undertaken at a time when the relative cost of manufacturing in the UK had risen for several years, due to the appreciation of sterling. Relative to the lire, sterling appreciated by 18% between 1995 and 2002⁹. Over this period the Italian producers raised their Lire/€ prices by 6%. If the British mills had done the same, their prices, relative to the Italian would have risen by 18% – the full extent of the sterling appreciation. In the event British producers *reduced* their prices over this period by 4%, thereby absorbing some of the effects of the appreciation. The net result was that the UK’s textile weaving producer prices increased relative to Italian producer price index by about 8% – see Chart 2.2.

CHART 2.2
TEXTILE WEAVING PRODUCER PRICES: UK/ITALY
COMMON CURRENCY BASIS, 1995 = 100



9 From an average of 2,571 lire/£ in 1995 to 3,040 lire/£ in 2002.

The rise in the prices of British products, relative to Italian prices, coincided with a switch away from British fabric suppliers to their Italian competitors. For example, the source of the fabrics used in men's suits sold by a leading British High Street retailer (some 2.5 million metres a year) changed in this period in the following way:

	UK %	Italy %	Other %
1996	60	30	10
2001	30	60	10

There is an understandable nostalgia for the Golden Age of competitiveness (1992-1995), when sterling had depreciated after the UK's withdrawal from the ERM. Looking forward, a key question when this analysis was carried out was whether the British industry could compete with the Italians if sterling remained at about its 2002 parity against the euro (£1 = €1.57)¹⁰. The answer mainly depended on where this sterling appreciation has left the cost of labour in the UK – the principle means of adding value – compared to the cost of labour in Italy.

According to the latest available official statistics (for 2000, Table 2.6), the cost per employee in Italy (inclusive of social charges) was rather lower than UK levels in textile weaving, quite similar in textile finishing and higher in clothing manufacture. Italian manufacturers managed to achieve higher value added per employee in all the three branches of textiles and clothing of interest to this study – textile weaving, textile finishing and clothing.

TABLE 2.6
COMPARISONS OF COST AND VALUE ADDED PER EMPLOYEE UK AND ITALY, 2000

	Cost per employee £000		Value added per employee £000	
	UK	Italy	UK	Italy
Textile spinning	17.9	15.1	26.2	25.4
Textile weaving	19.2	16.7	23.4	28.3
Textile finishing	18.2	17.8	27.5	28.1
Knitwear	16.6	11.9	19.9	21.9
Clothing	10.8	11.7	17.9	20.8

Source: Eurostat New Cronos database

¹⁰ By the time this study went to press (End-February 2003), sterling had depreciated to €1.46.

Evidence from our interviews suggests that the cost of employing production workers were quite similar in the two industries in 2001/2002 – see a comparison of the average cost per employee in some woollen and worsted mills in Table 2.7.

TABLE 2.7
AVERAGE ANNUAL COST PER EMPLOYEE 2001/2002 (INCLUSIVE OF SOCIAL CHARGES)
TEXTILE MILLS

Location	Production worker £	Non-production worker £
Britain	15,600 – 16,990	18,200 – 27,000
Italy	16,700 – 17,250	28,300 – 35,800

Source: Company interviews

These comparisons suggest that the lower prices charged by Italian mills are not due to lower labour costs, so we now look elsewhere for the answer.

We have been able to visit eight woollen and worsted mills in the two countries and to compile details of some of their essential operating features – the type of fabric they typically produce, the annual volume of material they produce, the average size of their orders and their unit manufacturing cost – see Table 2.8 and the questionnaire at Annex A. These estimates of unit costs should be regarded, for the most part, as indicative rather than precise. In some cases the company provided detailed costings of specific fabrics; for the remainder we sought to calculate an average unit cost, based on estimates of the company’s total labour costs and their significance within the total cost structure of the business.

We then attempt to explain differences in the unit manufacturing costs of each mill’s best-selling fabrics, in terms of the type of fibres used, the mill’s total volume and its average volume per order. The purpose of the exercise is to discover whether the costs of each mill are higher or lower than we would expect, and whether there is any evidence of a systematic “British” or an “Italian” factor at work here.

TABLE 2.8
EIGHT BRITISH AND ITALIAN MILLS: PRODUCT TYPE, SIZE AND UNIT COST¹

Mill	Fabric type (Superscale)	Fabric type (microns)	Production (million metres/year)	Average order size (metres)	Estimated unitcost (£/metre)
A	190	14.0	0.34	100	54.5
B	190	14.0	0.93	500	40.6
C*	150 ²	16.0	0.85	150	23.1
D	120	17.5	0.13	65	24.5
E*	120	17.5	1.00	150	15.3
F*	110	18.0	6.30	550	5.9 ³
G	100	18.5	1.01	270	9.3
H	100	18.5	3.70	2000	6.5

* Italian mills.

1 Adjusted to Q2 2002 prices, using the respective producer price indices for the two industries, and the 2002 exchange rate (€ 1 = £ 0.637).

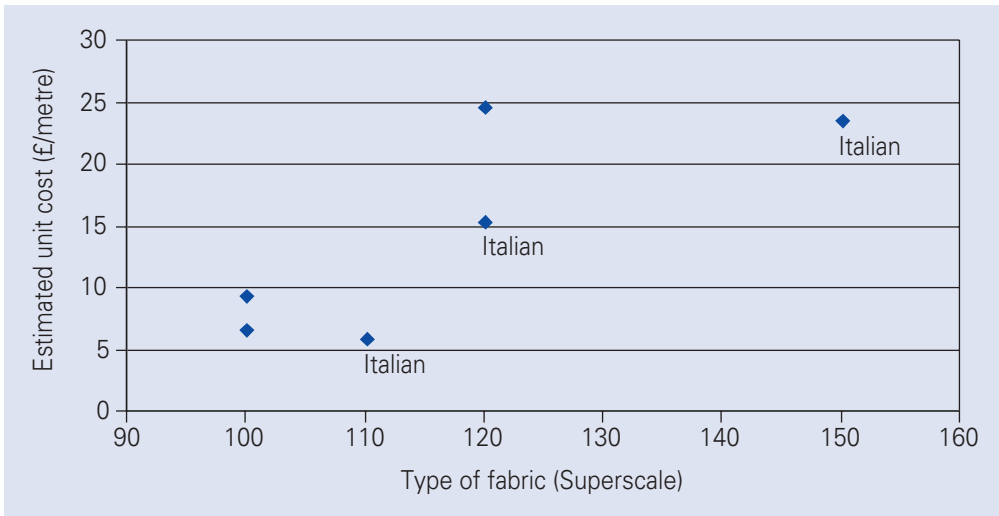
2 The data here refer to the mill's cashmere blends: it also produced substantial volumes of pure cashmere

3 Adjustment made for single-ply fabric.

4 The mill's warp length. Its average order size well in excess of this, but the economies deriving from long production runs are probably exhausted at the practical length of a warp.

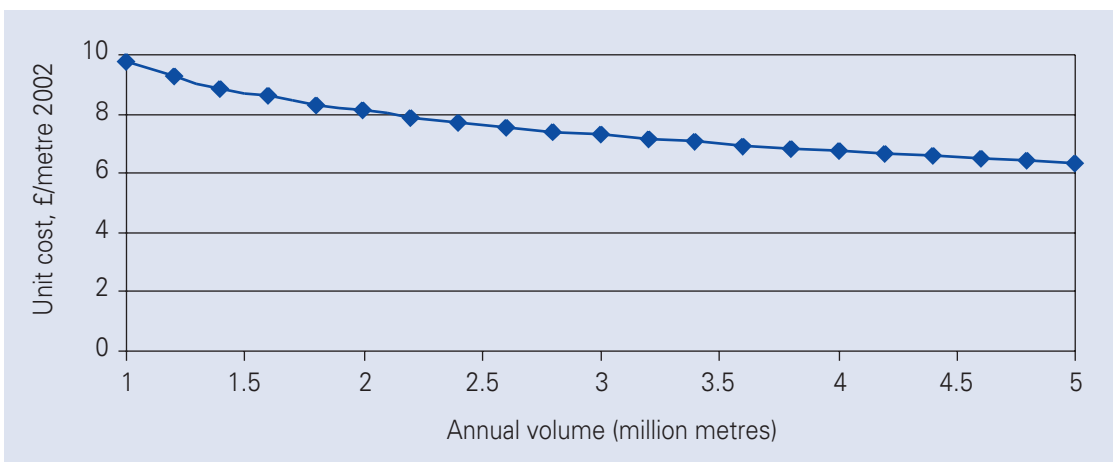
The first conclusion to be derived from Table 2.8 is that the lower prices charged by Italian mills derived from *unit cost* advantages. For a given quality of fabric, the Italian mills produced at a lower unit cost (or conversely, for a given unit cost, the Italian produced a higher quality fabric) – see Chart 2.3, for the six mills producing fabrics in the Super100s-150s range.

CHART 2.3
TYPE OF FABRIC AND UNIT MANUFACTURING COST
2002 PRICES AND EXCHANGE RATE



How did they achieve this? This is not an industry which is noted for its economies of scale, in the sense that the minimum efficient size of mill is quite small in relation to the size of the market. The minimum efficient scale for woollen (and cotton) mills has been estimated to be a sales turnover of €25 million¹¹, equivalent perhaps to about 5 million metres a year. One of the mills we interviewed estimated that the minimum efficient scale for woollen weaving is between 3.5 and 5.0 million metres a year, using between 50 and 75 looms on a three-shift basis. But according to our analysis of unit costs – see Annex B – differences in scale do matter *below* this size – in the size range within which the mills we have visited happen to lie (0.13 to 6.3 million metres) – see Chart 2.4.

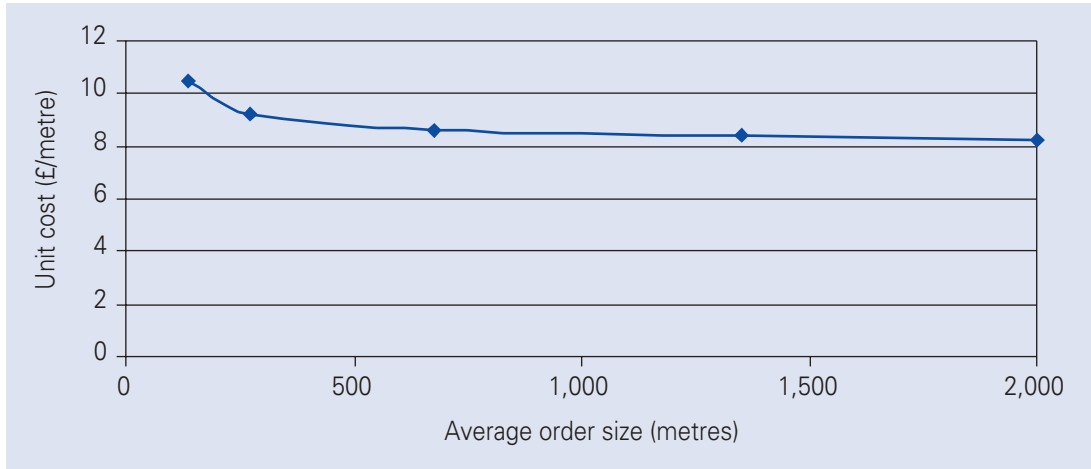
CHART 2.4
ECONOMICS OF SCALE IN WOOLLEN AND WORSTED MANUFACTURER
(SUPER 100S, AVERAGE ORDER SIZE 270 METERS)



¹¹ Economists Advisory Group, "Volume 4: Economies of scale", Sub series V: Impact on competition and scale effects, The Single Market Review, European Communities, 1997, page 35, Table 3.3.

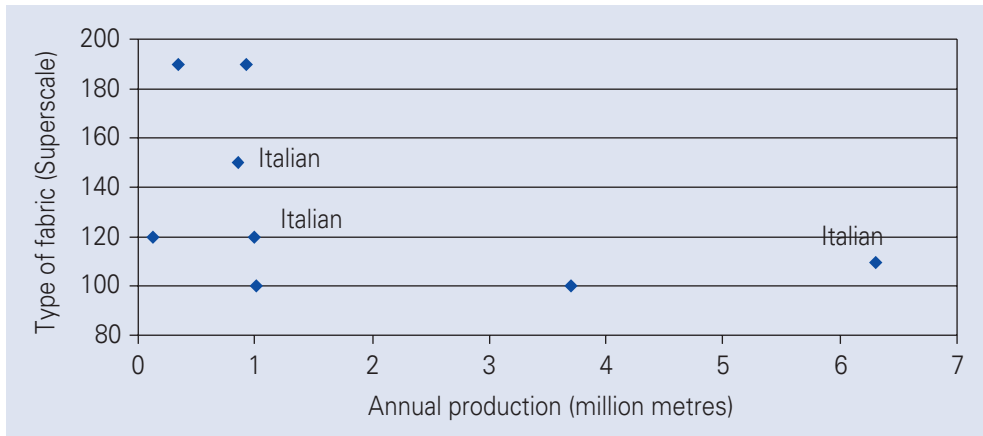
The size of the average order also has bearing on unit cost – see Chart 2.5¹².

CHART 2.5
UNIT COST AND AVERAGE ORDER SIZE (PRODUCED IN THE SAME MILL)



For a given quality of fabric, the Italian mills produce in greater volume.

CHART 2.6
EIGHT MILLS: PRODUCTION AND TYPE OF FABRIC



This fact contributes to a lower unit cost. By how much? Statistical analysis – see Annex B, Regression 2 – suggests that, holding each of the other three factors constant:

- The unit cost of a Super 120s (17.5 micron) fabric is on average 32% higher than that of a Super 100s (18.5 micron);
- The unit cost of a mill producing one million metres of fabric a year is 16% lower than that of a mill producing one-half of that quantity¹³;
- The unit manufacturing cost of an order for 260 metres (four “pieces”) of a fabric of a particular weave and colour is 6% lower than that of an order of half that quantity.

¹² Based on calculations made by one of the mills.

The point of interest here is whether the mills from either country tend to have higher or lower unit costs than we would predict, knowing what we do about them. Table 2.9 indicates whether the unit cost of each mill was greater or less (the “variance”) than the mill’s unit cost that we predict in Annex B.

TABLE 2.9
EIGHT MILLS: ESTIMATED AND PREDICTED UNIT COSTS

Mill	Estimated ¹ (£/metre)	Predicted by statistical model ² (£/metre)	Variance ³
A	54.5	57.8	-6%
B	40.2	38.8	5%
C*	23.4	22.6	2%
D	24.5	25.0	-2%
E*	15.2	13.8	10%
F*	5.9	6.7	-11%
G	9.3	9.9	-5%
H	6.6	5.9	10%

* Italian mills

1 Adjusted to 2002 prices and on basis of 2002 average exchange rate (€ 1 = £ 0.637)

2 Predicted by Regression 2, Annex B, Table B.

3 Estimated less predicted, as a percentage of the latter.

On this (admittedly limited) evidence and analysis, they do not. Compared to the unit costs which our model predicts for each mill, the unit cost of one of the Italian mills (Mill C) was quite close, that of the second (Mill E) was significantly higher and that of the third (mill F) was significantly lower. The unit costs of two of the five British mills were higher than the model predicts and those of the other three were lower. In short, we find no evidence of a systematic “British” or an “Italian” factor at work here.

These results are broadly consistent with what we observed. Mills in both countries reported in similar ways on interruptions for yarn breakages and the time needed to change looms over from one type of fabric to the next. The same machine (the Uster

13 This is higher than expected. A study by Scherer his colleagues (F. M. Scherer, Alan Beckenstein, Erich Kaufer and R. Dennis Murphy, “The Economics of Multi-Plant Operation”, Harvard University Press, 1975) estimated that doubling the size of a mill producing cotton and broad woven fabrics - a technology similar in some ways to that used for woollen and worsted - would reduce unit cost by 5%. Our estimate might also be picking up the effect of other factors, such as the higher costs of producing short runs of high-quality products, or that the more efficient mills may have expanded more than the less efficient.

Delta) was used in both countries for drawing-in. The Italian mills achieved higher volumes because they had installed more looms; volume per loom did not appear to be any higher than that of a UK mill producing a similar fabric. Similar looms (e.g. Dornier rapier) were used in both countries, with similar insertion rates (around 480 picks per minute for worsted weaving and lower rates (380 picks per minute) for cashmere woollen weaving. The Italian mill with an exceptionally low unit cost had been conspicuous in taking out labour by automation (e.g. in materials handling) and achieving higher labour productivity in weaving operations (12 looms per operative as compared to 8 in the UK).

The message from the statistical analysis is that British mills could match Italian unit costs if they achieved the scale of the Italians. But how could they do that? It is not simply a matter of deciding to set the same, higher minimum order size as the Italian mills – four pieces (280 metres) per colour. Italian mills are able to impose such a limit because they are confident of winning these larger orders. Indeed, some British mills may survive against Italian competition precisely because they are prepared to accept small orders. The only way to break out of the small order-high unit cost cycle is to step up design and marketing, with greater volume in mind. But this alone would not be sufficient: the Italians have also secured advantages in production through their history and culture. They engage in machinery design and adapt machinery to their own needs – see box below – in ways that are less evident in British mills¹⁴.

¹⁴ One Prato mill recounted how a French dyeing machine designed for cotton had been adapted to treat angora, much to the amazement of the machine's supplier and how one of the mill's operatives had discovered that running one finishing machine with minimum water levels led to fewer breakages of fabric.

MAINTAINING FAMILY TRADITIONS – VITALE BARBERIS CANONICO

“The best value top mill”, according to a fabric merchant in Savile Row, the Barberis woollen business can be traced back to the late seventeenth century, when it began selling cloth on Biellese markets¹⁵. The first document dates from 1663 when the family paid tax to the local feudal lord partly in cash and partly in bolts of grey twill cloth. The present factory, located at an altitude of 500 meters in the town of Pratrivero in the foothills of the Alps, was completed in 1910. The premises are spotlessly clean (“If a rat wishes to cross the floor, he would need the Engineer’s permission”).

Vitale Barberis Canonico started work there in 1918. When in 1966 he became too ill to continue it fell to his two sons, Alberto and Luciano, only recently graduated, to take over the management of the business. Recalling those years, and his father pacing about in the night, thinking about a technical or business problem, Alberto Barberis “felt the weight of responsibility towards the workers”. The brothers complement each other, Alberto looking after management and machines, Luciano the products and markets. In this sense they are replaying the roles of their 18th Century ancestors Giovanni Antonio and Giuseppi Barberis, who were respectively granted patents to “manufacture woollen cloth” and to trade in “Trivero and the towns of the province where there are fairs and markets”. Their philosophy is to aspire to achieve the best quality and to adapt the most advanced equipment to the needs of the mill.

A significant event in the recent history of the Biellese was a flood which forced the Biellesi to re-equip. Vitale Barberis Canonico did not itself suffer any heavy damage from the flood but it made it apparent to the company how important they were to their customers. The mill is fully integrated, owning farms in Australia, so that it can control the entire manufacturing process, and specialises in high-quality suiting fabrics. Four designers work on the premises – all products of the Biella Technical Institute. There is clearly an engineering mind at work here – that of Alberto Barberis, who originates minor modifications to most equipment he buys. The production system is highly automated. The spindles are not touched by human hand, being transferred automatically from machine to machine and into an automated yarn store with 3,000 cages. Finished products are also mechanically handled, marked, wrapped, packed and then stored for delivery. Some of the transfer systems are bespoke.

The mill operates four shifts a day of six hours each, for six days a week. The weaving shed houses 90 looms, mostly rapier-type, operating at 450 picks per minute. Its unique feature is that each loom is covered by a hood to suppress its considerable noise, from around 95 decibels to around 85. Employees’ hearing is protected and it is possible to have a conversation in the weaving room – an unusual event in weaving. When visited, the mill was testing 20 air jet looms which can operate at 600 picks per minute. The company’s attitude to marketing is that all countries in which suits are worn are regarded as potential markets.

¹⁵ Teresio Gamaccio, Claudio Altarocca and Alvar Gonzales-Palacios, “Vitale Barberis Canonico: The story of a family business”, Umberto Allemandi.

More generally, the Italian mills gain advantages from clusters which were not so apparent in Bradford, including: the contribution made by the local textile institutes which take children from the ages of 14 to 18; the local presence of textile equipment manufacturers; fine specialisation (e.g. subcontractors for mending); the scope for cushioning the mills against fluctuations in orders by contracting-out; and a shared knowledge of and enthusiasm for textiles. This culture is evident in what one can see in a Biella mill – see the box above. Management gurus' preaching about "total quality", "involvement" and "continual improvement" have nothing to teach these people: it is ingrained in the Piedmontese manufacturing tradition.

2.4 The Prato story: flexible ways of thinking and working

In addition to looking at particular mills, we also looked more generally at the differing ways in which the British and Italian industries organise textile production. Textile production can be organised broadly in two ways: in a vertically integrated way, whereby mills buy raw wool, spin their own yarn, weave and finish their fabrics; or in a subcontracting mode, whereby entrepreneurs contract out these operations, functioning as "weavers without looms". The mills in Bradford and Huddersfield were traditionally vertically integrated, as they are in Biella; Prato adopts the subcontracting format.

Within the subcontracting mode there are two principal variants in the Italian industry¹⁶: the Tuscany model, in which small firms buy processing of short production runs from specialist subcontractors; and the Veneto model which features medium-sized and large integrated firms, which outsource longer production runs to relatively large and multi-stage subcontractors, some of whom are located in neighbouring East European Countries. We identify Prato with the Tuscany model and made a detailed study of some of its firms. Prato may explain how Italy manages to export such large quantities of woollen fabric, much of it at a low cost, to judge by the average unit value of these exports of £7 per kilogram noted in Table 2.5¹⁷. Lastly, the subcontracting model is relevant because it is the direction in which some surviving Yorkshire mills are now headed.

Prato is a town of about 300,000 inhabitants situated a few kilometres from Florence. From the 12th Century to the present day Prato's fortunes have waxed and waned with the cloth trade. As in West Yorkshire, the impulse for cloth manufacture at Prato was water, and perhaps also the proximity, on Monteferrato, of a dark slimy earth suitable for fulling¹⁸. Prato derived its name from the meadow – prato – around which its early buildings clustered. Prato is today the most important centre for the Italian textiles and apparel industry. The industry has about 5,000 enterprises and 50,000 employees, about a sixth of its total inhabitants (the Biella and Bergamo district employs 32,000). Prato is mainly a woven textile district: about 72% of these 50,000 employees are engaged in textile production, 16% in apparel and 12% in knitwear.

16 Sebastiano Brusco and Daniela Bigarelli, "Industrial Structure and Training Needs in the Knitwear and Clothing Sectors in Italy", March 1997, based on interviews with 6,000 knitwear and clothing firms in nine Italian regions.

17 If these exports weigh on average 250 grams/metre, so that there are four metres to a kilo, this is equivalent to just €3 per metre.

18 "In the 12th Century the waters of the Bisenzio were made to flow through the city in a network of canals, providing water for its fulling mills and dyeing establishments", Iris Origo, "The Merchant of Prato, Jonathan Cape, 1957.

Prato thrived after the Second World War, supplying carded wool for the manufacture of winter apparel, relying on reclaimed wool. Prato producers sought to imitate British fabric and their output was sold, by British manufacturers, as “Made in England”. It then faced a crisis when the modern ready-to-wear market developed in the 1970s (Armani, Versace), involving the use of lighter weight fabrics. Prato switched from wool (which accounted for 80% of production in 1960) to wool mixes, cotton and silk, producing summer as well as winter fabrics. Employment declined from 60,000 to 45,000 in the 1980s but has since recovered and stabilized at around 50,000.

Prato has an adaptable manufacturing culture. The producers which had specialised in finishing, working hard to hide the defects in reclaimed wool, applied the same approach to cotton fabrics. Prato developed the Airo finishing standard, by which machines break the fibre in order to impart a softer feel to it, and the washed silk concept, involving violent finishing processes and repeated washing. It now produces stylish mixes of wool and noble fibres, some of which are misdescribed by retailers as the noble fibre e.g. cashmere, to the annoyance of UK producers of genuine cashmere. A similar attitude to improvisation informs the Prato approach to machinery.

THE STRUCTURE OF THE DISTRICT

Prato is a classical “cluster”. There is a strong culture of interchange of information and of networking. We were told that Prato firms rarely had watchmen at their gates and this was borne out by our visits to firms around the town. Economies of scale and scope are exploited, for example, in the treatment and distribution of water, and in training. The pool of labour is refreshed each year by 40-45 school leavers from Prato’s technical secondary school. We noted instances of narrow functional specialisation, typical of clusters. Mobile specialists visit mills and work by the hour to do the knotting at the end of pieces, working twice as fast as non-specialist weaving staff. If a new order requires that looms be reset, specialist loom setters remove the relevant piece of the loom to reset it on a special-to-purpose machine, quicker than it could be done in-house.

The Prato system depends upon entrepreneurs known as “impannatori” who co-ordinate the chain of production, from design, ordering of raw materials, work specification to the weaver, finishing and checking, and final delivery to the customer, arranging finance for independent sub-contracting firms. Some impannatori are purely entrepreneurs with no physical assets; others undertake some activities in-house – hybrids of the pure impannatori and a vertically integrated firm.

COSTS OF PRODUCTION

Does the Prato system generate cost and price advantages? To find out we commissioned a survey of twenty weavers and fifteen impannatori with the help of a Prato firm of consultants. Like the textile mills, they were asked questions about numbers employed, wage rates and social costs, other costs of production, use of machinery, length of production runs, output levels. The 14 complete replies from the contract weavers are summarised in Table 2.10.

TABLE 2.10
A PORTRAIT OF 14 PRATO CONTRACT WEAVING ESTABLISHMENTS, 2001

Characteristic	Average per establishment
Owners, partners	1
Total number of employees	4
Equipment	
Active looms	13
Weft speed per minute	412
Average cost per loom (£)	27,000
Work patterns	
Number of shifts	2.3
Looms per employee	3.4
Hours worked per week	102
Effective production time (%)	84
Production	
Production (metres/month)	60,000
Production per machine hour (metres)	14
Price per metre (£)	0.40
Delivery	
Time between receipt and shipping of orders	7-15 days
% orders produced on time	94

Source: Questionnaire survey conducted for the study

Three points of interest to note in these replies are that:

- The low average price of weaving (£0.40 or €0.62 per metre);
- Work was delivered between one and two weeks of receiving the order (and the yarn which accompanies it);
- The larger contract weavers tended to charge lower prices¹⁹.

This cost of weaving illustrates the way in which the Pratese subcontracting system creates an intense degree of competition, which drives down prices. The average price of weaving – £0.40 per metre – was only about one-seventh of the unit cost of the weaving stage in Britain at the time of this survey (Autumn 2001). To judge by their average of 520 picks per metre²⁰ – much lower than, say, 1,900 or more for a Yorkshire

¹⁹ A statistical relationship which seemed reasonably plausible here was:
Price per metre = constant * picks/metre^{0.58} * monthly production^{-0.19} Adjusted R² = 0.67. This implies that prices decline by about 12% with each doubling of volume – less than was the case for the woollen and worsted mills.

²⁰ Which results in an average of 14 metres per hour at an average weft insertion rate of 412 picks per minute. This compares to about eight metres an hour in West Yorkshire, at rather higher insertion rates.

worsted fabric – the Pratese weavers are producing quite loosely constructed fabrics (woollen, polyester-viscose, nylon-cotton, cotton and linen, linen and viscose and stretch fabrics – it was difficult to pin respondents down on exactly *what* types of fabric they were producing). Even so, it is not clear that these differences in specification alone could account for such a large difference in the costs of weaving.

Our sample of *impannatori* indicated that the typical price for woollen fabrics averaged about €7.5 per metre (£4.65 per metre) and ranged from around €4.7 to €9.8 per metre (£2.90 to £6.10)²¹. We do not have any direct data on the costs of the dyeing, finishing and checking functions but by combining the replies from the weavers and the *impannatori* we estimate a Prato cost structure in Table 2.11.

TABLE 2.11
ESTIMATED COST STRUCTURE OF THE PRATO SUBCONTRACTING SYSTEM

Raw materials	30%
Weaving	10%
Finishing	40%
Impannatore's mark-up	20%
Selling price by the impannatore	100%

Source: Survey replies

The interesting feature of this breakdown is that weaving accounts for about 10% of the selling price. There is more value added – and more money to be made – in finishing than in weaving.

Another, defensive, strength of the Prato model is that it limits the costs imposed by the European Union's growing culture of regulation. The INPS (the national social security authority) imposes slightly lower employers' social security rates on smaller Italian enterprises²². More importantly, small enterprises are exempt from a range of regulations that occupy management time and/or restrict managements' ability to manage. Firms employing more than 15 employees are obliged to conform to a range of employment conditions: for example, they cannot in effect dismiss employees²³ and are required to allow union activities and representation. Tax breaks on reinvested income are available for firms with not more than 20 employees. So, confronted with the challenge of responding to the fickle ways and seasonal demands of the clothing trade, saddled with such job-for-life and other obligations, the pragmatic Prato response is to establish companies with fewer than 15 employees.

21 On the basis of 3,109 lire/£ in 2001.

22 EMPLOYERS' SOCIAL SECURITY RATES: % OF SALARY, GENERAL INDUSTRY

Employees	Blue-collar workers	White-collar workers
Up to 15	41.57%	39.35%
16 and over	42.77%	40.55%

23 The Italian Government has made a proposal to extend a greater flexibility on labour relations to the larger firms, but this has run into resistance.

2.4 Conclusions

The British woollen and worsted industry may not export much, in comparison the Italian industry, but its exports are of a high quality. It exported more to Italy in 2000 than any other woollen and worsted industry. It is respected and admired, in Italy and elsewhere, for the construction and durability of its products. But for some time it has been losing out to the Italians. Why? The answer does not appear to be due to any shortcomings on delivery: if anything the British mills offer quicker and more reliable delivery than the Italian mills. Part of the answer is that, for a given quality of product, Italians manufacture at a lower cost than the British competitor. How do they achieve this?

- The Piemonte story is that they do so by exploiting scale economies, controlling the entire process, with heavy investment allied to excellent production engineering, working with local machinery suppliers (a cluster story again);
- The Prato story is that they do so by fluid alliances of entrepreneurs and artisans, whose respective skills complement each other. The entrepreneurs identify opportunities, arrange materials and capital, and tap into a pool of highly specialised and competitive small-scale weavers who supply at impressively low prices and are prepared to experiment with materials, processes and equipment.

The integrated Piemonte model and the weaver-without-loom Prato model have both been successful: will both survive or will one of them win out? We are seeing the emergence of a variety of organisational solutions within the British woollen and worsted sector: vertical integration by the cashmere producers, weaving-without-loom by commission weavers (e.g. Clissolds), and mixed strategies²⁴. The Piemonte producers would emphasise the advantages in controlling the entire raw material-spinning-weaving-finishing process, to achieve the desired finish and to minimise faults. Prato producers, and increasingly, the Yorkshire producers, too, argue that there are no synergies whatever between these processes, and that greater downward pressure on costs can be achieved via the Prato model. There may also be a cost penalty associated with vertical integration if this means shorter production runs than can be achieved by the specialist weavers and finishers. It is possible that vertical integration is now only viable at the upper end of the quality range, where its marketing advantages (“from farm to fabric”) can outweigh the cost penalties involved.

Whichever solution is adopted, the British mills need to achieve bigger margins.

Three possible ways of doing this are:

- building volumes in order to bring unit costs down;
- enhancing the handle and appearance of their fabrics
- building brands.

²⁴ For example, Drummond has hived off its weaving to a management buy-out (Heritage Weaving) as well as its wool finishing (to Gladstone) within the Bradford mill, but retains a dyeing and finishing facility for worsted fabrics within the now integrated Drummond-Parkland operation.

A number of leading Italian companies have developed powerful brands, which are associated in an intimate way with their founders, in a way which is rare in the UK. Some of them – like Zegna – are vertically integrated, having begun as cloth producers and then moving forwards into clothing. For such companies the company's own cloth can serve as a selling point for its clothing. In contrast, the British cloth producers are completely invisible, even to those who buy suits made from their material. In the British retail clothing market there is no equivalent to the "Intel within" message which features on most of the world's personal computers. The labelling inside a suit rarely mentions the fabric producer: suit manufacturers are clearly averse to – or see no advantage in – drawing attention to it. If British fabric suppliers could find a way to communicate over the heads of the suit manufacturers to their final customers, suit manufacturers would regard the fabric producer's label as a selling point.

3

Men's tailored suit manufacture

The manufacture of men's tailored suits was chosen for study because such suits are complex, high value products, in which the British industry traditionally excelled; and because the trading performance of the two industries is strikingly different. "Men's tailored suits" is a broad term. The cheapest (unkindly described as "a first offender's suit") retail in the UK at less than £100, whereas a bespoke tailored suit, made from a highest-quality fabric made exclusively for the tailor can cost over £4,000. Bespoke tailors typically offer suits at £1,800-£2,000. Some retailers offer made-to-measure by machine (the so called "demi-measure") at £500-£800. This study focuses on off-the-peg, "middle market" suits retailing at between £200 and £600. The approach which is adopted in this part of the study is to:

- compare the trade performance of the two industries (what do they sell, to which countries, and in what quantities?)
- discuss some economics of tailored suits
- explain the basic manufacturing processes involved
- compare British and Italian *products* from a technical point of view
- compare British and Italian *methods of manufacture*
- and through this process, discover some of the reasons for the greater success of the Italian suit producers.

3.1 Trade performance

To set the background, let us first look in detail at a recent trade picture. In 2000 the UK exported men's suits worth £34 million – about one-seventh of the value of its imports of men's suits in that year (Table 3.1). Italy dominated the bilateral exchange with the UK, exporting £28 million of suits to the UK and importing less than £1 million.

TABLE 3.1
UK TRADE IN MEN'S SUITS, 2000
TOP 10 MARKETS AND SOURCES OF IMPORTS

Exports		Imports	
To:	£million	From:	£million
World	34	World	232
Irish Republic	12.0	Italy	28
USA	4.1	Portugal	16
Germany	2.7	Hungary	15
France	2.6	Czech Republic	15
Belgium	1.4	Israel	14
Netherlands	1.2	Netherlands	11
Japan	1.1	Morocco	10
Spain	0.9	Malta	9
Italy	0.9	China	9
Hong Kong	0.8	Turkey	7

Source: HM Customs & Excise.

The value of Italy's exports of suits in 2000 were £406 million – about six times higher than the UK's and two-and-a-half times greater than Italy's imports of suits. Italy's exports tend to be directed to high-income markets, whereas its imports derive mainly from low-income countries.

TABLE 3.2
ITALIAN TRADE IN MEN'S SUITS, 2000
TOP 10 MARKETS AND SOURCES OF IMPORTS

Exports		Imports	
To:	£million	From:	£million
World	406	World	155
USA	123	Romania	41
France	44	China	26
United Kingdom	37	Switzerland	13
Switzerland	33	Slovakia	13
Germany	31	Croatia	10
Japan	16	Tunisia	9
Spain	12	Germany	8
Greece	11	Turkey	5
Netherlands	11	Hungary	4
Belgium	8	France	4

Source: Eurostat

Table 3.3 provides a comparison of how much value each country secures for each kilogram of exports.

TABLE 3.3
AVERAGE UNIT VALUES: BRITISH AND ITALIAN TRADE IN MEN'S SUIT, 2000

	£ per kilogram	
	Total exports	Total imports
United Kingdom	34	21 ^a
Italy	78	20
	Exports to Italy	Imports from Italy
United Kingdom	41	90 ^b
	Exports to the UK	Imports from the UK
Italy	106	41

a Excluding two large, dubious entries of less than £1 per kilogram.
b 1999 figure, the 2000 figure being suspect.
Sources: Eurostat for Italy, HM Customs & Excise for the UK.

According to this measure of quality – crude as it is – both countries export higher quality products than they import, as one would expect. However, the value per kilogram of Italy's exports of suits was four times greater than that of its imports – rather higher than the equivalent United Kingdom ratio. The suits which the United Kingdom exports to Italy are of lower quality than those which it imports from Italy. Contrast this table with Table 2.5 – the equivalent table for woollen and worsted – where the situation was reversed. It is no accident, perhaps, that of these two UK industries the one which exports products of a higher value per kilogram than those which the UK imports – the woollen and worsted industry – achieves a positive balance of payments, whereas the reverse is the case in men's suits.

These comparisons indicate that the Italian trading performance is far superior to that of the British. They also indicate how far the British industry has declined. Despite Britain's honourable tradition of men's tailoring and its image of catering for the tastes of the discerning buyer, the value per kilogram of the suits which the UK exported to Italy was on a par with those exported to Italy by Jordan, Portugal, Slovakia and Turkey – low-wage countries with no comparable pedigree in this industry.

3.2 Some economics of making suits

British and Italian factories face competition from countries in which the cost of labour is much lower (Morocco, Israel, Egypt, Rumania, Hungary). For example, the hourly wage for sewing in Morocco is reported to be one-fifth of that in the UK²⁵. Table 3.4 compares the costs of manufacturing the same suit in the United Kingdom and under contract in Morocco. The final column states the cost of each element in Morocco as a percentage of the cost of that element in the UK. Including allowances for central support and transport the cost of the suit was 25% less in Morocco.

TABLE 3.4
COMPARATIVE COSTS: UNITED KINGDOM AND MOROCCO
QUALITY SUIT, JUNE 2001

	United Kingdom		Morocco	
		£		£ % of UK cost
Linings & Trimmings	10		Linings & Trimmings	5 47
Packaging	1		Packaging	1 100
Labour	23		Sub-Contractors Cost	25
Overheads	27		Carriage	2
Labour and overhead	50		Sub-Contractor plus carriage	27 54
Cloth	27		Cloth	27 100
			Outwork Uplift 10.5%	6
Works Cost	89		Works Cost	66 75
Support Uplift 10.4%	9		Support Uplift 10.4%	7
Total Works Cost	98		Total Works Cost	73 75

Source: UK company

In general, the speed-to-market advantage of producing in the UK would offset some of this cost disadvantage²⁶, but not in this segment of the market, where fashion changes relatively slowly, the size of order tends to be large, and there is a demand for colour

²⁵ David Birnbaum, Just-style.com, 18 October 2002.

²⁶ Roger DH Warburton, "Partnerships: survival strategy for the apparel industry", Griffin Manufacturing, University of Massachusetts, Dartmouth, June 2001. Warburton proposes a mixed ordering policy (bulk orders placed with low-cost, offshore suppliers and quick-response orders placed with local suppliers) to address the retailing problem of having to dispose of unsold stock at heavy discounts as a result of over-ordering or losing orders through under-ordering.

consistency. A supplier of single-colour garments to a High Street chain needs to guarantee a match between jackets and trousers in any of the company's stores. To achieve this it is necessary to "top-dye" i.e. dye the wool tops, rather than the fabric, requiring a lead-time for top-dyed fabrics of 16 weeks, implying a lead-time for the suit itself of 20 weeks. The time penalty associated with sourcing from Morocco – only a matter of three days to a week – is not significant within a lead-time of 20 weeks. If, on other hand, dyeing could be delayed until the content of orders became clear, the lead-time could be reduced because pieced-dyed greige can be ordered on a 6-8 week delivery.

The two industries are similarly placed in terms of the cost of labour, inclusive of social charges. We noted in Table 2.6 that for the clothing industry *as a whole* the cost per employee in Italy was about 8% higher than that in the UK in 2000. Table 3.5 provides a more detailed comparison of the cost per employee in two suit factories. The comparison is not exact, complicated as it is by the very different systems of taxes and social charges in the two countries – see footnotes to the Table. What emerges from it is that:

- the Italian employee takes home a good deal less than his/her British counterpart;
- but because taxes and social charges are so much higher in Italy, the total cost per employee is about the same in the two countries.

TABLE 3.5
COMPARATIVE COST OF LABOUR, UK AND ITALY
MANUAL WORKERS, GARMENT FACTORIES, 2002^a

Monthly pay	UK £	UK € ^b	Italy €
Gross plus employer's NIC^c	999	1,558	1,554^e
Gross	900	1,403	1,067
Employee's NIC ^d	90	140	
Net of NIC	810	1,263	
Income tax	74	116	
Take-home pay	735	1,147	750

a Based on a factory visit in the UK in 2001, up rated to late 2002 using the average % pay increase 2001-2002 for manual workers reported in the New Earnings Survey, October 2002, and factory visits in Italy in Autumn 2002.

b On the basis that €1 = £ 0.641 in December 2002.

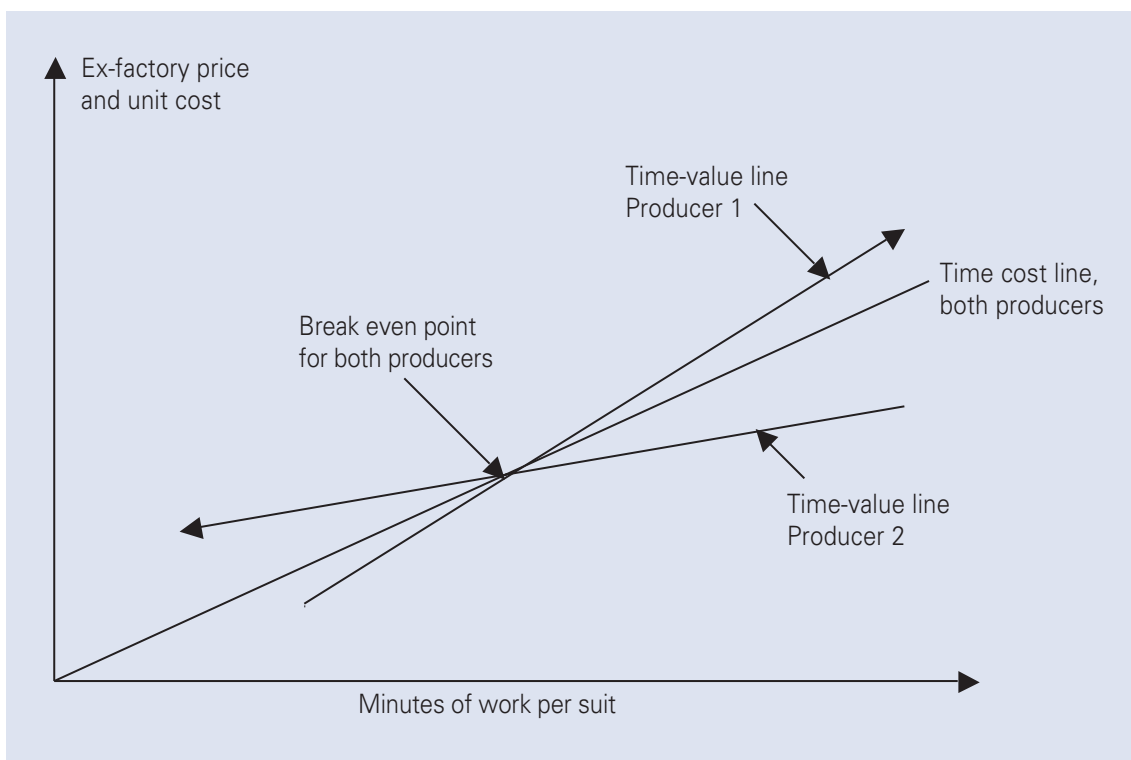
c 11.80% from April 2002.

d 10% from April 2002

e Estimated from reported average take-home pay ("retribuzione netta") of direct workers in the factory, on the basis that gross pay ("retribuzione lordo") is 142% of that; and that the addition of various social charges brings the employer's cost to about 207% of take-home pay.

So, faced with similar costs of labour, and competition from low-wage countries which can produce and deliver a suit at 75% of the cost of doing so in the UK, what survival strategies are available to British and Italian factories? There are essentially two, diametrically opposite strategies. The first is to engineer out as much labour cost as possible; the second is to build more quality into the product, at the cost of more labour, in an attempt to secure a position in a higher niche in the market, clear of the low-cost competition. Chart 3.1 attempts to clarify the idea. A more theoretical analysis is shown at Annex C.

CHART 3.1
TWO MANUFACTURING STRATEGIES



The chart examines the options facing two suit producers. The unit production cost of a suit is depicted here increasing linearly with time – the “time-cost” line – as more minutes of labour are devoted to it. The time-cost line is shown here as the same for both producers because, as we have seen, the cost per employee is about the same in both the British and Italian factories. The ex-factory price also increases with the labour content – the “time-value” lines. Producer 1’s time-value line is steeper than Producer 2’s: it is able to add more value per additional minute than producer 2.

Suppose that the two producers start at their breakeven point, where their two lines cross, where unit cost and ex-factory price are equal. What are their best strategies? Producer 1 can do best for itself by moving to the *right*, devoting more labour to its suits, so that it reaches a point at which its ex-factory price exceeds its unit cost. The best

strategy for Producer 2 is to move to the *left* of its breakeven point. By engineering out some of its labour costs Producer 2 can also reach a comfort zone where its ex-factory price exceeds its unit cost.

The two strategies are quite different and either can succeed. To understand them better we provide now a short account of how the more demanding garment in a tailored suit – the jacket – is constructed and manufactured.

3.3 A layman's guide to making a tailored jacket²⁷

A tailored jacket has an intricate structure, composed of as many as 40-50 components or sub-assemblies. Its manufacture may involve up to 75 separate operations. The first step in the production process is the "marker" – a pattern according to which the many components of the suit are cut from the material. The experienced marker maker tries to configure these so as to waste as little of the cloth as possible. He/she is assisted in this nowadays by computer-based equipment which searches for the best configuration, assisted by human intervention, based on the marker maker's experience of what patterns have worked in the past. These methods allow as much as 91% of the cloth to be utilised for some garments but in suit manufacture, an 80% utilisation would be considered acceptable, 85% very good. The material is then layered, perhaps with as many as 40 plies at a time, and then cut. Cutting is a capital-intensive operation which tends therefore to be operated on a two-shift basis in the factories we visited.

The production sequence is, in principle, similar to making cars. The various parts are made first, they are then assembled into sub-assemblies which are progressively brought together for final assembly. Smaller items are made first or in parallel with the body fronts – interlinings, back sections, pockets, collars, sleeves, and sleeve linings. Pockets and interlinings are attached to the body front. Back sections are joined to the fronts, then collars. Sleeves are lined and then joined to the body. Buttonholes and buttons are added.

Sewing operations involve a range of types of stitches (chain, lock, overedge, blind, buttonhole, and variants thereof), depending on the operation. In jacket manufacture these stitches are usually performed using a range of machines, each specialising in a particular stitch. Automatic machines are available which are capable of switching from one type of sewing operation to another, like a machine tool, but these tend not to be found in suit factories. The higher quality the suit, the greater the number of discrete processes involved in its manufacture. To illustrate, a lower end of the market (or corporate wear) suit retailing in the UK at less than £100, a medium quality High Street suit retailing at £200 and a better quality suit retailing at £350 might respectively involve 18, 35 and 42 separate sewing operations.

27 Material for this section was drawn from Verlag Europa-Lehrmittel, "Clothing Technology: from Fibre to Fashion", Second English Edition, 1999 and notes by Alan Cannon Jones.

Most of the parts of a suit are visible to the wearer. An important one which is not visible is the canvas interlining (also referred to as the “front canvas”), which lies inside the front of a jacket and plays a critical part in its performance. It consists of layers of cotton and horsehair, which hold air and allow the suit to breathe, making the garment more comfortable to wear. The better quality, “fully floating” interlinings are sewn together, in such a way as to impart a three-dimensional quality to the jacket. The cheaper interlinings are fused together and then to the top fabric, in a conveyor fusing press using heat, pressure and a synthetic polymer adhesive. These fused interlinings are more rigid and contribute less to the jacket’s shape and comfort.

Under pressing is carried out at various stages of the assembly, by ironing (as in the domestic sense), to make sewing easier or more accurate, and for those components such as collars and cuffs which could not easily be top pressed. A range of mechanical presses, each with a moulded shape (“buck”), are used for top pressing the completed garment.

At this point the car assembly analogy is no longer wholly apt because the machine-paced production line of the car industry is not used in menswear: the product is too varied, and bottlenecks would occur. The favoured approach is the “progressive bundle” system, whereby all the parts needed to make a suit are bundled together, and are progressively assembled. Operators are grouped according to the section of the garment on which they work and the work is passed between them. This system has the flexibility to cope with variations between one suit and another, with training and absenteeism.

3.4 Comparing products

To compare British and Italian suits, in terms of their construction, style and quality, we focus on the technically more challenging element of a suit – the jacket – and provide a technical analysis of four suit jackets – two English-made and two Italian-made.

By deconstructing each jacket we sought to:

- compare their construction and the machining methods which have been used in their manufacture;
- assess the relative merits of each garment in terms of value for money;
- appreciate in technical terms how value is added in each country.

The four garments are compared schematically in Table 3.6. The product comparisons are developed further when we discuss how suits are manufactured in the two countries.

TABLE 3.6
FOUR TAILORED JACKETS COMPARED

Feature	UK I Medium quality	Italy I Medium quality	UK II High quality	Italy II High quality
Material	Dark grey herringbone, pure new wool, Super 80s	Grey with blue stripe Italian, pure new wool, Super 100s	Grey birds eye, pure new wool. Grade of cloth not shown	Dark grey, pure new wool, Italian (Loro Piana Super 120s)
How made	100% machine-made	100% machine-made	100% machine-made	90/10% machine/hand-made
Front/canvas	Fully fused front with floating chest piece, stitched bridle tape	Fully fused front with floating chest piece, fused bridle tape	Full floating front canvas interlining, pad stitched lapel	Full floating front canvas interlining, pad stitched lapel
Under-collar	Non-woven under-collar, zigzag construction, square gorge	Non woven under-collar, bagged zigzag construction, round gorge	Melton under-collar, zigzag construction, square gorge	Melton under-collar, padded canvas attached, bagged zigzag construction, round gorge
Sleeve cuff	Non-working sleeve cuff	Non-working sleeve cuff	Non-working sleeve cuff	Optional fully working or mock cuff
Lining	Twill, bar tacked pocket ends	Viscose, bar tacked pocket ends	Good quality viscose taffeta	High quality Bemberg viscose taffeta, d-tacked pocket ends
Armhole	Part fixed	Fully fixed	Fully fixed	Fully fixed, hand-sewn
General construction	Adequate construction, pocket finish below average	Adequate construction, very good pockets	Well constructed to give good wear and appearance	High quality construction to give excellent wear and appearance
Finish	Firmer finish and handle	Zigzag hem soft finish, softer finish and handle	Softer finish than most UK tailored garments	Soft finish, hems machine-felled and hand-finished for a soft finish
Pressing	Good but with a hard finish	Very good pressing with attention to detail.	High standard	Very good/excellent, high quality (dry) steam
Feel	Firm English feel	Typical Italian engineered garment	Very English feel	Attention to detail. Characteristically Italian "open coat" construction
Look	English designer look	English diluted Italian look	Lacks designer edge	Classic/traditional look, not high fashion
Value for money	Good high street value	Good high street value: the better of the UK I and Italy I	Good value compared to Italian equivalent	Very good value: the best jacket seen on the study

Garments UK I and Italy I are, respectively, British- and Italian-made, medium-priced High Street jackets, both retailing in the UK, in the same store, at just under £200 (in 2001 and 2002). Both offer considerable value for money. They are typical of European “engineered” garments – see more on this below – which could have been produced anywhere in Western and Eastern Europe. They are both constructed with a fused front and floating chest.

Garments UK II and Italy II are higher quality jackets. Garment Italy II is made of a better quality (Super 120’s) fabric which gives it a softer handle. Whereas the cut of UK II is “old classic”, suitable for the 50-plus businessman, the cut on the Italian jacket is “modern classic”, and is able to cater for a wider age range (say 25 to 65) by offering two distinct variants – one with an 8 cm difference (“drop”) between chest and waist for the younger, more athletic figure and one with an 6 cm drop for the more mature figure. UK II featured a 6cm drop, as did the Classic version of Italy II. The shape of the Italian garment is more flattering, in that its cut and construction makes the garment fit the body better. In short, the UK garments have a heavy, solid look whereas the Italian garments have a flair and elegance.

Garment UK II has added value by virtue of its fully canvassed front interlining construction, padded lapels and its typical English feel. The manufacturer has also paid particular attention to details that produce a softer finish and handle in the garment. Garment Italy II is of a higher quality, and retails at a higher price, than Garment UK II. It has fully canvassed front panels using a mix of high quality interlinings provided by Bertero, some fusible interlinings (lapel corner, pocket flaps and welt). Its sleeve cuffs, jacket hems and vents, internal support and pocket bags are interlined with a high quality sewn-in cotton (e.g. Silesia) of a much higher quality than is found in the UK-produced garments. Its soft shoulder was significantly different to those in the other three jackets, and was similar to that achieved by the top end of Italian tailoring.

By studying their construction it was apparent that comparable manufacturing equipment had been used to make all four garments. The cutting on all garments was accurate, having been carried out using CAD/CAM equipment such as Gerber and Lectra. The seam construction on all garments was of a typical lockstitch type performed on Pfaff, Brother and Juki sewing machines. The stitch construction to ISO 9000 standards in all jackets would be expected to perform in all normal wearing and working conditions. Special automatic stitching equipment has been incorporated into the production methods to perform component manufacturing that includes dart sewing, pocket preparation and insertion, sleeve preparation and insertion. Blind stitch machines have been employed for attaching control tapes.

The one noticeable difference between the British and the Italian methods was in the way zigzag machines had been used. This is specialised machine that has been used in the collar construction of all four garments but with a different interpretation on the Italian jackets. Both UK manufacturers have used the machine in the normal mode of stitching the collar sections together with the stitch appearing on the surface. In Garments Italy I and II the manufacturer has reversed the attachment of the top and under-collar leaf edge seam to “bag out” the collar with a looser stitch. This imparts an

imitation hand-stitch effect and also gives a softer feel to the construction of the garment. One Italian manufacturer has also used the zigzag machine to sew the lining hem of the jacket from the inside, giving an imitation hand stitch effect with a softer finish here, too. These two operations have added a value at minimum cost.

Garment Italy I is not without a weakness. The bridle tape (behind the lapel roll) has been fused (pressed) on, whereas both the UK manufactured garments have stitched this into position – a more secure method. The Italian fused method has a high risk of detaching during wear and dry cleaning processes is out of keeping with the overall good construction methods used in the jacket. This method would save less than a minute in manufacturing time; it does not add any value and does not contribute to the softer finish of the garment.

Each manufacturer has used similar pressing equipment. Italy I is judged to be better pressed in terms of attention to detail and finish than its British counterpart UK I. Of the two, the Italian jacket is marginally better in quality than that which was manufactured in the UK, attributable mainly to the use of manufacturing methods that have resulted in a softer garment. The similarities between British and Italian tailoring and production methods are more striking than the differences. However, the Italians gain advantages over their British counterparts in terms of adding value at modest additional cost, by designing in touches which add softness and enhance handle and appearance, and giving greater attention to detail in the pressing operations²⁸.

3.5 Comparing factories

We now compare the ways in which suits are made in British and Italian factories: schematic comparisons of five suit factories are shown in Table 3.7, based on visits to three British suit factories and three Italian factories (two making suits and one making interlinings). Due to difficulties in gaining access to such factories there is not an exact match between suit and factory (for example, we did not see the Italy I jacket being made). It may be helpful at this point to understand two broad options open to factory managements:

- *“Controlled tailoring”*: This involves the “open coat” method of construction, whereby the body of the garment is constructed in an “open” configuration, in that the shoulder seams are not joined until the body is complete with both outer cloth and the inside lining. This method was used extensively by UK manufacturers prior to the 1970s and latterly by Chester Barrie and Jaeger, whose factories closed during the past year, but has now almost disappeared in the UK. Apart from traditional tailors in Savile Row, Cheshire Manufacturing – a scaled-down derivative of Chester Barrie – and Wensum may be the only surviving exponents.
- The *“engineered” method*: In the 1970s many factories adopted either the Swedish or German “engineered” methods of producing garments, in order to reduce the making time (or “standard minute value”) in response to low-cost offshore competition. This eliminates as many manual operations as possible, especially those result in no

²⁸ As predicted by the theoretical model in Annex C, when both producers make to the same price (UK I and Italy I), quality differences are less than when producers’ prices are unconstrained (UK II and Italy II).

permanent change to the garment. An example of the latter is basting stitching: stitching which holds the fabric in place to facilitate other operations – comparable to the use of scaffolding during building operations – to be removed when the garment is complete. The “work study” attitude which motivates the engineering approach is: “why pay to put something *in* which you then have to pay to take *out*?”

So in the factory comparisons which follow we are looking at such general themes as:

- Which of the two construction methods outlined above – the “controlled tailoring” and the “engineered” method – are preferred in the two countries?
- Are Italian factories better equipped, and if so, in respect to which operations?
- Are the Italian workers on average more skilled?

The Italian production philosophy appears to favour the first of the two methods outlined above. Rather than engineering out the standard minute value of the product in response to low-wage competition, the Italian approach to construction is to add value, often by hand sewing. As one Italian manager expressed it: “the German (engineering) approach is to make the man fit the suit: The Italian approach is to make the suit fit the man”. So what does this distinction mean in practice, in terms of the way in which a jacket is constructed? In British suit factories two shells are produced, the inner and the outer, which are then “bagged” – i.e. sewn together and turned inside out without the fitting or trimming of linings. The Italian approach involves an “open” structure. The shoulder seams are not joined until after the lining is fitted and trimmed. During the preparation phase, the British approach is to bring the pieces together in a relatively flat, two-dimensional way, even when inserting a full canvas. In contrast to this engineering approach, Italian factories make frequent use of basting stitches, using single needle, single stitch, manual feed machines, in order to hold the pieces together in a more three-dimensional way, prior to stitching.

TABLE 3.7

FIVE SUIT FACTORIES COMPARED: PRODUCTS, METHODS AND EQUIPMENT

	UK A	UK B	UK C	Italy A	Italy B
Product	Better quality garments with full canvassed, own-label products retailing at about £350.	Medium quality, fully fused with floating chest piece, for High Street customer, retailing for about £200.	Medium quality garments, fully fused with a floating chest piece (Next, John Lewis), retailing for about £300; and better quality garments (for Hackett, Harrods), fused with a half canvas chest piece.	Better quality garments, full canvas front, 30% of garment hand-tailored, retailing at about €600-650.	Better quality garments: 70% are half-canvassed, retailing at about €700, the remainder are fully canvassed, and 85% hand-tailored, retailing at €1,200.
Production systems	Used a construction of inner and outer shells, which are then "bagged out". Linings are inserted before sewing the shoulder seams.	An "engineered operation", producing a limited range of products, with order sizes in excess of 5,000.	An "engineered operation".	Engineered "open coat". Everything open, not "bagged out"	Engineered "open coat". Everything open, not "bagged out"
Design and pattern	Very similar systems. The British factories choose Gerber or Lectra, the Italians choose Investronica. The technical design staff produce prototype patterns by traditional methods and then digitise the pattern blocks into the system after samples have been approved and sealed.				
Cutting	Gerber Automatic Cutter x 3	Gerber Cad/Cam equipment	Lectra Cad/Cam equipment, three cutting heads, band knives, straight & rotary blades for small parts/trim etc.	Investronica Cad/Cam equipment	Investronica Cad/Cam equipment
Preparation	Two Meyer and Kannegiesser microprocessor-controlled machines, achieving high control over a wide range of fabrics.	Meyer microprocessor-controlled fusing machines.	Kannegiesser microprocessor-controlled fusing.	Pfaff and Dürkopp single stitch lockstitch sewing machines.	Kannegiesser microprocessor-controlled fusing machine, Pfaff and Dürkopp single stitch lockstitch machines.

	UK A	UK B	UK C	Italy A	Italy B
Make and trim	Sewing equipment by Pfaff, Juki & Brother. Specialist equipment included Complett (edge stitching), AMF (jigs & button sewing) Reece (buttonholes), Dürkopp (pockets & auto dart machines)	The equipment ranged from Juki, Pfaff and Dürkopp, and included a mix of old and new (e.g. for buttonholes, a Reece machine for sampling and a Dürkopp microprocessor-controlled, electronic machine for production).	A wide variety of flat and special machines for production processes that included Dürkopp, Juki, Brother, Mitsubishi, Toyota, and a small number of Pfaff. Examples include Dürkopp automatic machines (long seams with tracks) for darts and long seams, AMF autojig machines for pocket preparation, Dürkopp automatic machines for pocket insertion.	Pfaff and Dürkopp sewing machines, with Complett machines for simulated hand sewing. Edge tape rather than iron-on, lining hems sewn by hand, identification of parts by sewn-on tickets, rather than adhesive, so a not to leave marks.	Pfaff sewing machines plus automatic pocket insertion machines and Complett machines for simulated hand sewing. Special equipment for inserting wool yarn into pocket jettings for a simulated bespoke effect. Complett simulated hand-stitching machines for lapel edges. Die cutting presses were used to final shape lapels and front edges. A Strobel blindstich machine for padding lapels and Lewis sewing machines for simulated handstiching of linings, hems and cuffs.
Pressing	Mainly Test & Brisay with some Macpi & J1's, with horizontal and vertical buck systems (men's and women's buck shapes). Viet finishing equipment for linings and touch up.	The main final pressing machines were Macpi, Test and Brisay, included both horizontal and vertical pressing bucks. Older, Ibis J1 kidney-shaped presses for pressing items such as vents, nip & drape, sleeves on jackets and fly on trousers had received "in house" engineering (e.g. the addition of pneumatics to reduce operator fatigue).	Under pressing with Ibis and Viet equipment. Fronts are blocked during production. Top pressing using Macpi (Italian) machines and some Ibis J1 presses. All pressing equipment was fitted with men's shape bucks which were used also for women's garments.	Automated Rotundi (Italian) carousel machines, vertical for sleeves, all else horizontal. Intensive under pressing after each sewing operation. A triple-buck machine opening centre and side seams simultaneously.	Automated Rotundi carousel machines and Hoffman hand-operated presses. As in Italy A, a great deal of detail was put into under-pressing and top-pressing of all garments.
Estimated standard minutes per garment	Jackets: 130-150 Trousers: 60	Jackets: 110 to 115 Trousers: 35 to 40	Jackets: medium 110, better 125 Trousers: medium 43, better 60	Jackets : 290 Trousers: 60	Jackets : 300 Trousers: 60

Detailed points of difference between Italian and British design and approach to manufacture were evident in almost any feature of the garment one cared to examine – collars, front panels, shoulders, pockets. For example, in one of the Italian factories the under-collar is a traditional Melton – a pad stitched to canvas – whereas the UK factories used a fused Melton. In the Italian factory the top collar (fabric) is cut in one piece and shaped by a single operation, using a specially designed and shaped pressing buck and head. This method is close to the method used by a master tailor and has been improved by the use of a special-to-purpose pressing buck which ensures that each collar is shaped to exacting standards rather than according to the operator’s judgement.

The Italians attach the top and under-collar together by zigzag machines used inverted (bagged and turned) – a method which is now adopted in UK factories but not in those we visited. The point of this is that the collar looks as if it had been hand stitched when it is in fact machined, adding value. They attach the collar to the jacket by stitching the top collar to the facing and lining. The seam is then opened by hand whilst the seam allowance is basted onto the jacket neck. The collar is then turned over and the under-collar is basted into position on the neck. Outworkers sew the under-collar onto the jacket by hand. The collar seam is pressed from the outside of the garment rather than the inside, eliminating any risk of stretching or distorting the neck seam.

Other illustrations of how the Italian producer adds value are provided by the treatment to the front panels and shoulders. Whereas British factories use fusible interlinings for the front panels, the Italian factories use them only for smaller operations, such as the lapel corner of the facing, pocket flaps, pocket welt. The quality Italian jackets have fully floating natural canvassed front panels, using a mix of Bertero interlinings (see box below).

The British factories we visited address the shape of the shoulder in one of two ways – the “classic” and “modern” – whereas one Italian factory used both of these as well as a third – a soft shoulder, similar to that achieved by the top end of Italian tailoring (e.g. by Brioni, Zegna, Kiton and Belvest). To each of these it designed a specific type of sleeve head roll, to suit the shoulder shape and the drape of the sleeve.

The cut of the soft shoulder is that of a natural shoulder shape, following the body contour without exaggeration, producing a comfortable garment and a more relaxed look. The insertion of the sleeve involves creating as much fullness in the sleeve head as possible without pleating the fabric. The fullness is to be seen and not pressed clean as in engineered garments²⁹. The garment appears to have no shoulder padding but in fact does have a small soft shoulder pad which after pressing is reduced to a fine layer. The shoulder pad is made of only natural fibres (cotton and cotton wadding) for this effect to be achieved. The sleeve head roll is also a single layer of high quality wadding sewn into the sleeve seam. There is no canvas in the sleeve roll interlining as found in all other jackets examined.

The Italian factories inserted pockets by automatic machines (Pfaff and Dürkopp), as in British factories we visited, but whereas the British manufacturers and garments which we examined supported and strengthened the pocket by fusible interlinings, the Italian

²⁹ This gives a very “tailored” appearance often associated with a “Neapolitan” look, created by a master tailor in Napoli and was favoured by the Duke of Windsor and a number of Hollywood film personalities during the 1950s.

producer used a non-woven patch placed prior to insertion behind the pocket to produce a soft finish. This is no less effective in terms of strength and durability and is in fact further strengthened and enhanced by the inclusion of a stitched D-tack on the end of each pocket mouth. This is put in using the Pfaff auto-d-tack machine – equipment which is seldom found in UK factories.

EQUIPMENT

We concluded that garments were made in the two countries using broadly similar equipment. As Table 3.7 indicates, the same equipment manufacturers appear in both countries, or if they are different, the difference is largely a matter of preference (e.g. as between the Gerber and Investronica systems), rather than a difference between a Rolls Royce and the family saloon. The Italians were more efficient in pattern cutting, lay planning and using the automatic cutters and in relation to weekly volumes, employed fewer staff in the cutting rooms than did the UK factories. We noted some differences in equipment, but these flowed largely from the differences in manufacturing philosophy which we noted above. The Italians deploy single-stitch, lockstitch machines in the preparation stage whereas the British dispense with this operation; and Pfaff auto-d-tack machine for pockets which are seldom seen in British factories. The Italians pay more attention to pressing, and hence have a more varied suite of presses and bucks (which provide the desired shapes) more specifically related to particular tasks. In contrast, one British factory used the same bucks for men's and women's jackets.

The three notable equipment differences we noted were all “off-line”, rather than directly concerned with physical operations on the production line. One Italian factory operated with real-time information on every production line, with a PC tracking garments' progress. Another employed an electron microscope and a software-driven PC to identify faults in completed garments, permitting them to be invisibly mended. One Italian factory had fully automated both its materials warehouse (with stacking and retrieval systems) as well as the movement, storage and retrieval of finished garments (the same approach was noted in one of the Piemonte mills). This seems to be an *appropriate* use of the engineering approach: moving materials and products around the factory adds no value to the product, so automate it.

The Italian workers appear on average to be the more skilled. They are required to be more flexible in the ways they use their equipment. Some of them perform tasks which are not carried out in the British factories, for example, when attaching the collar to the jacket, Italian operatives roll the seam as it is fed around the neck (like rolling a cigarette). There is less supervision in Italian factories, where one supervisor manages 50 employees, compared to about 20 in the British factories. Italian employees are expected to carry out longer and more complex sequences of operations, and to cope with more variety. The payment systems are quite different, reflecting the differences noted above. The British factories favour an individual piece rate work system (although one section of one factory operated on a team basis); the Italians favour the measured day work approach.

The importance of the interlining in suit construction has already been mentioned. A distinctive feature of the Italian suit-making industry is the presence of a specialist interlining company, Bertero Interlinings – see box below – which manufactures pre-made front canvases, mainly for clients in Italy and also in other European countries. British clients include Chester Barrie, Wensum and a number of Savile Row tailors. There is no resource of this kind in the UK – an instance of Adam Smith’s observation that the extent of specialisation is limited by the size of the market. Italy’s large market creates an opportunity for such a specialist producer of a small item, costing a few euros, which is a key component of the suit (as is, say, a fuel injection system to a car).

A SPECIALIST SUPPLIER – BERTERO INTERLININGS

Bertero is the brand name for Finanziaria Confezioni, founded in 1967 to supply pre-made front canvases, chest pieces and sleeve rolls to the garment industry. Its factory at Vinovo, near Vicenza, employs 100 people, of whom one was the manager, two were administrators, two were Cad/Cam operators and the remaining 95 were direct employees – an astonishingly lean organisation. The factory is equipped to a high standard, including a full Investronica Cad/Cam suite for the design, pattern design, grading, lay planning, automatic laying up, and cutting of all canvases and components. This enables Bertero to custom-make each canvas to the requirements set by the clients’ designers and technologists.

The factory is set up with predominantly Pfaff and Dürkopp sewing equipment, all with extensive work place engineering. The basting machines all are fitted with specially designed contoured beds to ensure the correct shape is formed in each canvas. Each canvas includes a number of components, such as front, chest canvas (can be more than one layer), shoulder canvas (usually a minimum of two layers cut at 45 degrees to the grain) and chest felt. The canvases all include darts and wedges to ensure that the final shape is three-dimensional. The sewing thread (Gutermann) is soft and of a high quality which blends invisibly into the canvas. This ensures that the canvases are smooth and will not cause any distortion on the outer fabric or final appearance of the jacket. The completed canvases are put through a shrinking process (either hot or cold water), which itself depends on each client’s specifications, to ensure stability throughout its life in the garment.

Since the product is made according to the customers’ requirements, why do not the Italian manufacturers make this item themselves? The reason is that Bertero offers low and predictable prices, consistent quality, achieved by specialist equipment needed for the operations and a skilled workforce which makes nothing else but interlinings. In addition, Bertero clearly understands the structure of each suit and what each of its clients is trying to achieve, and indeed, advises clients whether their designs are likely to succeed.

The technical examples provided in this Chapter are each small in themselves but taken together, they help to explain how the Italian producers have achieved their competitive position. They suggest that in this industry, and probably in many others, manufacturing excellence and competitiveness are not achieved by following some management consulting doctrine or by heavy capital investment, but by acquiring and passing on a deep understanding of the product, by ingenious design allied to close attention to detail. The Italian producers have preserved these traditions in a way in which the British producers have found it difficult to do, in the circumstances in which they have found themselves. The Italian manufacturing system (Open Coat) and quality standards are comparable with those of the late Chester Barrie company and production by the likes of Daks, Aquascutum, Burberry and Benjamin Simon during the 1950s and 1960s. Whereas the British producers responded to offshore competition by taking value out of the garment, the Italians have adopted the best of garment engineering and combined it with the highest hand tailoring skills. An example, is Pal Zileri – see box below.

3.6 Conclusions: add value, exploit the English Look

We began this Chapter with an analysis of the trade picture, noting that the value of Italy's exports of suits in 2000 (£406 million) was about six times higher than the UK's. Taking value per weight as a crude indicator of quality, both countries export higher quality products than they import, as one would hope and expect, but the value per kilogram of Italy's exports of suits was four times greater than that of its imports – much higher than the equivalent United Kingdom ratio (one-and-a-half). The United Kingdom exports suits to Italy which are less than half the value per kilogram of those which it imports from Italy.

We then illustrated the challenge faced by both industries – the cost advantage enjoyed in suit manufacture by low-wage countries – and then characterised two production strategies for responding to this competition, “controlled tailoring” and the “engineered” method. We then found that the Italian producers had adopted the former, the British the latter. Which is the better strategy? Of the three British suit factories we visited in 2001, one had closed and another had contracted significantly by November 2002. The first strategy is easier to copy and in any case will never wholly succeed in matching, say, Moroccan unit labour costs. The Italian strategy – building in more value – is the more durable basis for long-term survival because higher quality work is harder to copy. This is a strategy which is easy to state but difficult to execute: why else would everybody not do it?

Our analysis of British and Italian suits and suit factories suggests that:

- When the two industries work to the *same* price (Jackets UK I and Italy I in Table 3.6) the products are quite similar, although the Italians still manage to design in touches which add softness and enhance handle and appearance, and to give greater attention to detail, notably in pressing operations.

HAND TAILORING ON A VOLUME BASIS – PAL ZILERI

Pal Zileri is the brand name for Forall Confezioni SPA – a company which was founded in 1970 in Quinto Vicentino, a small town near Vicenza in North East Italy. Its founders were experienced entrepreneurs in the textiles and clothing industry whose concept was to produce menswear with the same quality features as a hand-tailored product, with creative content, but on an industrial scale. One of the founding partners, Gianfranco Barizza, is now Chairman of the company. Forall employs 800 people at its Quinto Vicentino factory and produces 650 tailored jackets per day. Each year the company as a whole sells nearly 250,000 jackets a year, some produced by a subcontractor, and 450,000 pairs of trousers.

The visitor enters a converted country estate whose elegant buildings serve as a reception area, showroom, design studio, finished goods warehouse and restaurant. All the employees are served lunch here, in two shifts, to a standard and in a style which are as remote from those of the British works canteen as could be imagined, at a cost to the employee of just €2-3. They are also provided here with space, if they wish, for their schoolchildren to do their homework while they themselves complete their day's work. These facilities have excited great interest in Italy and have featured in television programmes, and reflect the way in which the company values its employees. Those employed at Forall undertake periods of training which for the most complicated operations such as attaching sleeves may last up to two years.

The factory is a 1970s building across the road, connected by a tunnel through which finished garments travel by means of a fully automated overhead rail system to the warehouse. It operates on BAR Code and delivers each garment to the correct hanging rail and selects garments to complete each order. Pal Zileri produce a rich mix of styles and fabrics, including classic, modern, soft tailoring, morning coats, tuxedos, tail coats, special occasion wear. Production throughput time is 12 days from cutting to dispatch. Pal Zileri has taken the best features of garment engineering and combining them with the highest hand tailoring skills. The final finishing and quality control section included an electron microscope attached to a PC, which allowed invisible faults to be detected and rectified.

The company is now developing single-brand stores in its export markets (the London store opened in September 2002, to the accompaniment of Maseratis), having pioneered this approach in Italy in the 1980s. In 2001 Forall earned € 6.2 million on a turnover of €114 million.

- When not constrained by price, the Italian producers we visited achieve the greater quality which we have inferred from the trade statistics by adopting a traditional, “controlled tailoring” approach – once favoured by British producers – whereas most British producers today opt for the “engineered” method. Rather than engineering out the standard minute value of the product in response to low-wage competition, the Italian approach is to add value. We have provided a number of examples of how successful Italian producers do this, enabling them to fight their way clear from low-wage competition. Recalling Chart 3.1, Producer 1 represents the Italian producers, Producer 2 the British.
- “Adding value” must be done cost effectively and with ingenuity in order to succeed. We concluded that Italian factories are not on the whole much better equipped than their British counterparts. They add value by what is in their heads – through imaginative ideas and a deep understanding of materials and how garments are best constructed, drawing on a deep pool of skills.

The dilemma facing parts of the British clothing industry, as it does many other manufacturing industries, is that its volume products cannot compete on quality with the best, and cost too much to manufacture to compete with the cheapest. The principal lesson from this study is that in countries with British and Italian wage and regulatory costs it is possible to survive as a volume suit manufacture only by adding value to the product in cost effective and imaginative ways. We have tried to illustrate what it actually means for this industry *in specific terms* (e.g. construction, sewing operations, choices of machinery). In this sense we do not claim to have compared like-with-like. Indeed, that in part is the point we are making: if the British factories *were* able to produce suits which were more like their Italian counterparts, more of these factories would be making suits today.

A difficulty which confronts the British menswear industry is that while many of the world’s wealthier customers admire and aspire to the style of the Edwardian gentleman, the British themselves tend to be suspicious of sartorial aspirations. They are for the most part generally content with the excellent value for money offered in its High Street. The Italians – themselves great admirers of the English look – have exploited this obvious opportunity, supplying British style – as well as their own – at affordable prices.

This perhaps is the clue to where the best opportunities lie for British suit designers and producers. Each generation tries to develop its own style and approach to clothes. Although this is less evident in suits than in casual wear, there have been signs of willingness to pay more for design and quality in the British suit market. In the 1980s and 1990s the Italian Look benefited more from this than did the English, through the brands of Armani, Zegna and Hugo Boss. This has not happened by chance. The Italian industry has promoted its style both through trade fairs and by dressing of stars in films and at social events. The Armani wardrobe of Richard Gere in the film “American Gigolo” was an example. More recently Brioni, the luxury brand from Rome, created the suits for James Bond, the iconic connoisseur of the best in clothes, cars and much else³⁰.

30 “The Man who dresses 007”, *Drapers Record & Menswear*, 9 November 2002.

In America the Italian look went down well but they also developed a “preppy” look, influenced by English style but adapted and pushed by American brands (e.g. Calvin Klein).

Only Paul Smith in England has been able to capitalise on and modernise elements of English style. The old classic English brands were not widely appreciated in their home country. They were seen as expensive and too associated with the upper classes to appeal widely in the U.K. while the latter was a key part of their appeal *outside* the U.K. There are some signs that this may be changing. This enthusiasm for the classic English style has been dubbed “gentlemania”³¹ and was evident in the Milan and Paris menswear catwalk shows for Winter/Autumn 2002, and since.

With such an advantage, would it not be possible for British suit manufacture to revive itself? To illustrate the challenges involved in the adding-value strategy, the retail mark-up on the ex-factory cost in the UK is around 200%; a garment which leaves a UK factory at £100 retails at about £300 (both inclusive of VAT). So the challenge for a producer considering the adding-value strategy is: for every £10 spent on additional materials, direct labour and better design, can it persuade the customer to pay an additional £30?

The producer would have to ask himself whether he has the designers who understand how to construct a better suit – one which feels and looks good because it has the three-dimensionality to adapt itself to the human body, “breathes” and is pleasant to handle? Could he find technicians who understand how to translate that design into a sequence of manageable cutting and sewing operations? Could he train and retain the employees capable of carrying out these more intricate operations, accurately and to time? Is he prepared to invest in the necessary equipment, for example, a pressing line with sufficient variety of shapes to do justice to such a suit? And is he able to communicate the refinements of a better suit to a market which does not understand many (or indeed, any of) the subtleties of such a suit, either by developing a powerful brand name, or by selling to exclusive retailers?

In thinking about such questions, the surviving – and potential – British suit manufacturers could take away the following encouraging thought from this study. It is that the Italian manufacturers are not succeeding by deploying some rocket science. They are succeeding by deploying and extending *traditional* methods of suit manufacture, which a number of British producers used to deploy, and which still are being deployed in parts of the British clothing industry.

31 James Sherwood, writing in the Independent (16 May 2002). “The only nation slow on the uptake is Britain”. Referring to Dunhill, Gieves & Hawkes, Holland & Holland, Burberry, Daks and Aquascutum, Sherwood remarks that “it’s high time our home-grown British brands capitalised on the world’s love affair with gentlemania: “forget high fashion: all these old boys need to do is to stick to their guns and let gentlemania do the rest”.

4

Italian success, British decline: other candidate explanations

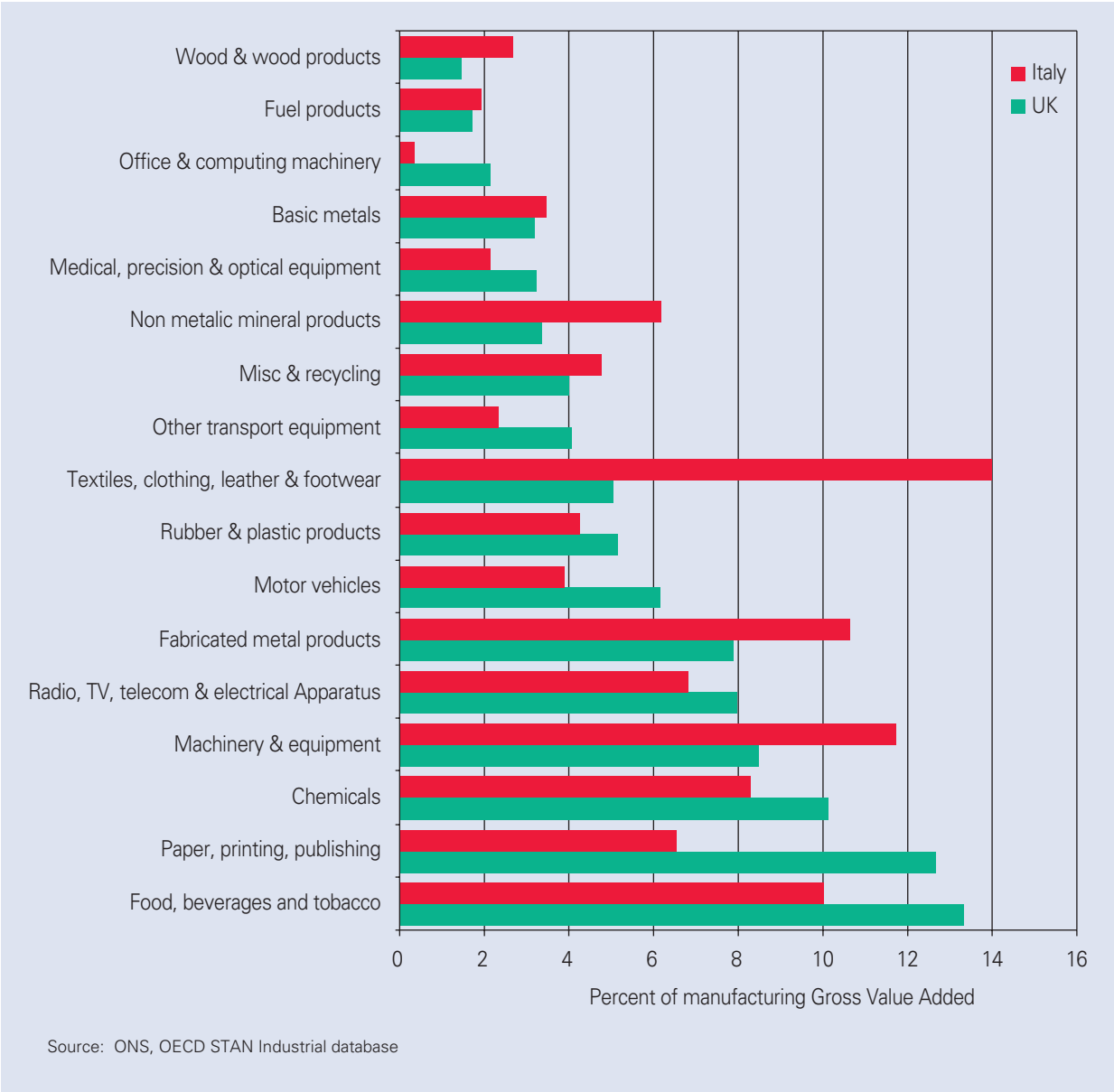
The study addresses the question: why is the British textile and clothing industry less successful than its Italian counterpart? We have so far looked directly at what companies in these industries do – at their products and how they make them. But are there other factors at work, too?

4.1 The industries in their contexts: sources of competitive advantage

Competitiveness is a multi-dimensional concept; not only must an industry compete for markets against its foreign counterparts; it also has to compete for resources with the other industries in its own, national economy. The two textile and clothing industries have to be seen within these national contexts, within national patterns of comparative advantage and *disadvantage*. The forces that shape these patterns tend to channel talent and resources within each economy into certain types of industry, and divert them from others.

The industrial structures of the British and Italian economies are quite different, as Chart 4.1 makes clear. Compared to the UK, the Italians are strong not only in textiles, clothing and footwear, but also in fabricated metal products, machinery and equipment. On the other hand the Italians are comparatively weak in office and computing machinery, aerospace, motor vehicles, paper and publishing, mining, quarrying and oil.

CHART 4.1
STRUCTURES OF MANUFACTURING SECTORS COMPARED (AVERAGE 1996 TO 2000)



Patterns of specialisation do not arise by chance; they flow from a country's culture and institutions. In his analysis of how and why nations specialise in different industries, Michael Porter³² observed that Italy specialised in industries which have low capital requirements, low formal educational requirements but high *informal* training requirements. He identified Italy's unique strength as "the out-of-school learning process in many of the internationally successful industries such as textiles and furniture, whereby highly specialized knowledge and skills are passed on within families and from generation to generation"³³. With their low capital requirements for entry, the great majority of successful Italian industries, such as textiles, shoes, tiles, jewellery, specialized machinery, and even appliances were less disadvantaged than most by an almost non-existent public equity market, influenced by a few large investors and a commercial banking system prohibited by law from holding equities and from making long-term loans.

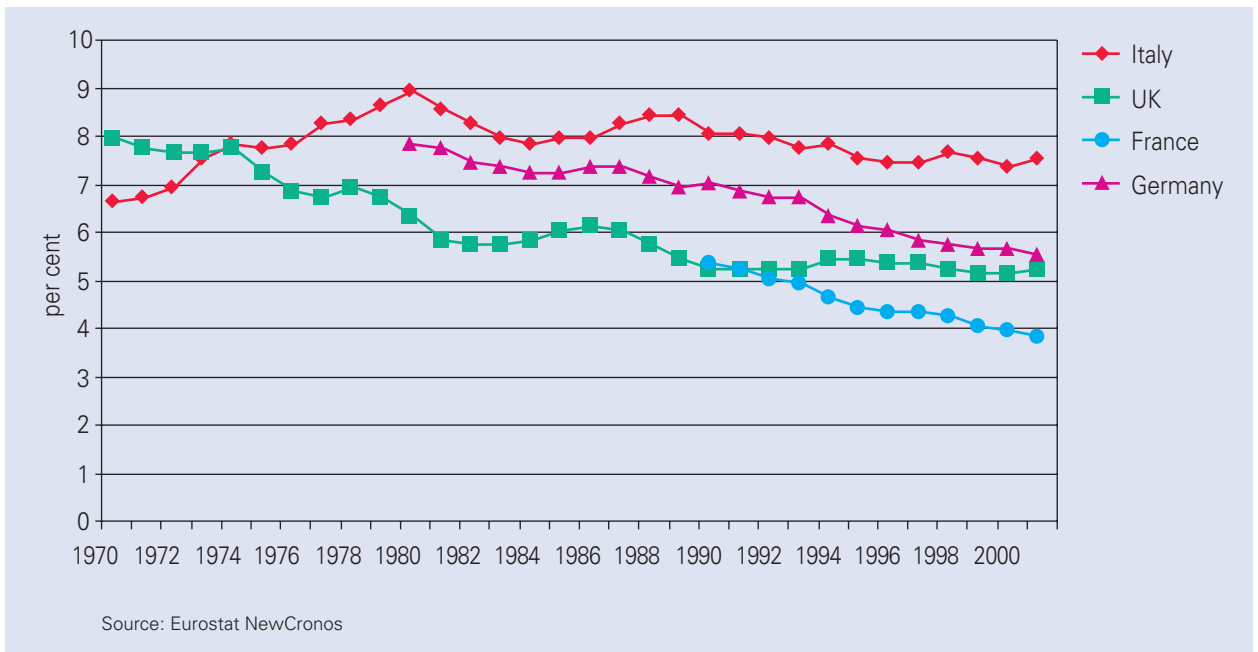
Britain's industrial strengths derive from a quite different set of factors, some historical, some natural: investment in defence (aerospace), strong university pharmacological research (chemicals, including pharmaceuticals), the English language (paper, printing and publishing), a powerful advertising industry (food products, beverages and tobacco), natural resources (mining, quarrying and oil). Several of these British successes have high capital requirements, high formal educational requirements – exactly the opposite of the Italian comparative advantage.

The Italian industry is also more fortunate than the British in having a demanding domestic market, which values style. The Italians devote a higher share of their income to clothing than do the British, French and Germans, and have done so for many years – see Chart 4.2.

32 Michael E Porter, *op. cit.*

33 "Italian companies provide little formal training, nor do they actively support the universities. Hence advanced training in Italy is like other training, informal and on the job. Italy does well in industries where this approach is suitable; it does poorly where human resources with advanced formal training are necessary (such as computers and aerospace)", *op. cit.* Page 437.

CHART 4.2
CLOTHING'S SHARE OF HOUSEHOLD EXPENDITURE



It is a prediction of economic theory that, under certain assumptions (economies of scale in production and product differentiation, both of which we judge to be the case in textiles and clothing), an industry in an economy whose consumers spend a higher proportion of their income on the products of that industry will tend to be a net exporter of those products³⁴. In other words, Italy would operate a positive trade balance with the UK in textiles and clothing even if the Italian products were *no better* than British products. A larger market supports more varieties of differentiated products. The message here to the British textile and clothing industry is: "Bad luck, it's not all your fault: comparative advantage is working against you!"

4.2 Differences in retailing

The structures of British and Italian retailing are quite different. British retailing is dominated by powerful High Street department stores, whereas independent family firms retain a strong position in Italian retailing. The British retailing tradition (strong *retail* brands, make-to-order contracting) relieves suppliers of problems of design and marketing, but at the cost of leaving them invisible to the consumer and with a limited capacity to innovate. It is difficult to supply large volumes of merchandise to one retailer and at the same time, promote one's own brand through other retailers. This dependence has exposed some British clothing manufacturers to shifts in retailers' business strategies. With its buy-British procurement policy and a deep understanding of fabrics and garment manufacture, Marks & Spencer carried a large section of the British clothing industry for

³⁴ Paul Krugman "Scale economies, product differentiation, and the pattern of trade", *The American Economic Review*, Vol. 70, No.5, December 1980, pp. 950-959.

many years with vast, regular and minutely specified orders. When this traditional approach ran into difficulties in 1999/2000 the company was forced to rethink its strategy. By widening its range and procurement options it had managed by 2002 to recover its poise and position in the High Street.

There is tendency on the part of some sections of the British clothing industry to lay their problems at the doors of the dominant British retail chains, maintaining that by forcing to make to mid-market price points (£99, £149, £199, £275) they stifle creativity and variety³⁵. But complaints of this sort do not explain why, for example, there is a Marks & Spencer in the United Kingdom and not in Italy. The reason is surely that the two markets are quite different, and that British and Italian retailers are different, adapted as they are to these different markets and cultures. Not only does the British consumer spend less, and buy lower quality products than his Italian counterpart; he/she is perhaps less confident about choosing individualistic or idiosyncratic clothes, and therefore more inclined to seek the reassurance and guidance provided by the department store.

If the British retailing format is so inimical to design and quality, how is it that Italian producers are now competing in the UK High Street? Although no Italian suit brands compete in John Lewis with British brands, Marks & Spencer now offer Italian styles, and in Selfridges the Italian producers (Armani, Cerruti, Canali, Hugo Boss (German, owned by Marzotto, Ermenegildo Zegna) outnumber the British (Gieves & Hawkes, Aquascutum (whose suits are manufactured by the Italian company, Nervesa), Boateng). Part of the reason why more UK producers are not managing to secure a floor place in the quality end of the High Street, according to one buyer we spoke to, is that they are not offering something distinctive, with brand strategies which are coherent in the sense that the image matches the products offered³⁶.

4.3 Comparative levels of State Aid

A view which we have heard from British companies and representatives is that the Italian industry receives more generous state support than they do, and that this is a major reason for their high level of investment, and comparative success. The first statement is almost certainly correct. Italy offers more State Aid to its manufacturing sector than does the UK. Over the period 1997-99 the UK provided €1,400 million a year (at constant 1998 prices) in State Aid to manufacturing industry whereas Italy, France and Germany provided respectively four, three and seven times that amount³⁷.

35 There is some support for this view from economic theory. According to the model outlined in Annex C, if all other factors remained unchanged, an increase in buying power on the part of retailers would tend to depress wholesale prices and product quality.

36 This buyer was evidently not alone. In her feature article "Classic Dilemma", in *Drapers Record & Menswear*, 30 November 2002, Åse Anderson commented that a number of classic British brands were foundering, having tried to move their product on too fast for their traditional customers.

37 'Ninth Survey on State Aid in the European Union', COM (2001) 403 Final, Brussels 18.7.2001.

In this period, Italy provided over four times as much State Aid as the UK as a percent of manufacturing value added and three times as much per person employed – see Table 4.1.

TABLE 4.1
STATE AID TO MANUFACTURING – ANNUAL AVERAGE IN CONSTANT (1998) PRICES

	Percent of value added		Euro per person employed	
	1995-1997	1997-1999	1995-1997	1997-1999
Italy	5.0	2.7	2,030	1,110
United Kingdom	0.7	0.6	360	320
EU15	2.6	1.9	1,190	920

European Commission, "Ninth Survey on State Aid in the European Union, Brussels, July 2001, COM (2001) 403 final., Table 7.

The two countries allocate their State Aid in slightly different ways, reinforcing the perception that there is more State Aid available in Italy. Although most of the two countries' State Aid is offered in the form of regional grants, a larger proportion is made available in Italy for "rescue and restructuring" and for specific manufacturing sectors. The UK spends more on "horizontal objectives", such as promoting R&D and SMEs – Table 4.2. Another difference is that Italy makes one-third of its State Aid available in the form of tax exemptions whereas this form of provision is negligible in the UK.

TABLE 4.2
ALLOCATION OF STATE AID TO MANUFACTURING IN THE FOUR MAIN MEMBER STATES, BY OBJECTIVE: 1997-1999

	Horizontal objectives %	Rescue and restructuring %	Specific sectors %	Regional objectives %
Italy	18	4	5	73
UK	39	0	1	61
EU15	34	3	7	56

Source: European Commission, Ninth State Aids Survey, Table 8.

There is no comparative breakdown of these State Aids for the textile and clothing industry but it seems highly likely, looking at the size and composition of these totals, that the Italian textile and clothing industry has received, and continues to receive more State Aid, in total and in proportion to its size, than does its British counterpart. This is probably true of *most* Italian manufacturing industries. To what extent does this help to explain the relatively high levels of investment undertaken by some Italian companies, for apparently so little rewards? The larger Italian producers we spoke to – not in regions eligible for regional grants – said that they were too large, and in the wrong place, to be eligible for investment subsidies. Of the 14 small Prato weavers that responded to our survey, two had received state aid (in both cases, 20% of the cost of the investment).

Comparisons of State Aid need to be viewed in the context of States' total dealings with industry. In relation to industry (and much else) there is a greater tendency to tax-and-spend on the Continent. The structure of pay and taxes is very different in the two countries. In Italy the social charges on the employer are significantly higher and the employee's take-home pay is correspondingly lower. In other words, the Italian employee receives a higher proportion of his/her earnings in the form of a "social wage".

TABLE 4.3
SOCIAL SECURITY CONTRIBUTIONS PAID BY EMPLOYERS AND WORKERS, 2000

Country ^a	Cost/employee £US	Contributions as % of total costs		
		Employer	Employee	Total
Italy	33,340	25	7	32
UK	30,924	9	7	16

a Single worker without family or children.
Source: Revenue Statistics 1965-2001, Special Feature: Social Security Contributions, OECD 2002.

But does State Aid improve industries' performance? It either pays companies to do what they would have done anyway or it encourages investment of doubtful value, directed as it is by officials with no detailed knowledge of the industries concerned. Most of it is directed to particular regions, which remain "in need" of support, decade after decade. The main competitive thrust of the Italian textile and clothing industry comes not from the assisted regions in the Mezzogiorno but from the *unassisted* industrial districts in the North (Milan, Biella, Prato, Veneto).

4.4 Training

Patterns of success and decline tend to reinforce themselves. In one British mill we visited there was no sign of anyone much under 40 years old. Whereas young people were once content to follow their parents into the textile industry they are not disposed to enter a dying industry, with its shift-work and noise, when they could earn as much or more working in a bank or in a “new economy” industry³⁸. The British textile and clothing industry has the more difficult recruiting task because other sectors of the UK economy, especially the financial services sector, are larger in the UK, as a share of GDP, than their Italian counterparts, and are strong attractors of staff.

The number of qualified new entrants becoming available to the British industry each year is indicated by the National Vocational Qualifications (NVQs) awarded in the UK each year in textiles and clothing by two major awarding bodies, the City & Guilds of London Institute and Skillfast-UK.

TABLE 4.4
NATIONAL VOCATIONAL QUALIFICATION (NVQ) CERTIFICATES
AWARDED IN TEXTILES AND CLOTHING IN THE UK^a

Scheme Name	Level	1998-99	1999-00	2000-01	2001-02
NVQ in manufacturing sewn products	Level 1	134	170	90	565
	Level 2	429	450	315	412
NVQ in manufacturing textiles	Level 1	58	88	21	12
	Level 2	66	198	198	71
	Level 3	0	12	63	44
NVQ in clothing supervisory studies	Level 3	3	4	0	0

^a By the City & Guilds of London Institute and Qualifications for Industry (QFI)
Sources: The City & Guilds of London Institute and Skillfast-UK respectively.

Most of the certificates were at Levels 1 and 2. Only 44 certificates were issued in 2001-02 at Level 3 – the A Level equivalent. This number is about the same as the number (40-45) who leave Prato’s technical secondary school each year with textile qualifications, having studied there from the age of 14 to 18. This is a key difference between the British and Italian educational systems. The recent graduates of these Italian technical secondary schools (Prato, Biella, Novara) were to be found in the mills we visited, holding down responsible, middle-management positions.

³⁸ Nor is there always an enthusiasm on the part of experienced employees to train their successors, for fear that as soon as the youngster is trained, the older worker would be let go, as so many have been in this industry. The worker’s job security resides in his irreplaceable skill.

There are perhaps differences in the *breadth* of training provided in the two countries. The comparative study of British and German manufacturers of ladies' outerwear by Steedman and Wagner³⁹ concluded that training in the United Kingdom is narrowly based, equipping employees for the more standardised items produced in long production runs, but less well for high-fashion items which are typically produced in short production runs. A young British clothing designer told us that he found it impossible to arrange for a collection of clothes to be made up rapidly in the UK whereas it was relatively straightforward to arrange this in Italy.

4.5 The family business confronts Anglo-Saxon economics

Another important difference between the two industries – and indeed between the two economies – lies in the way they are organised – a preponderance of public companies in the UK and a preponderance of family firms in Italy⁴⁰. This difference corresponds to quite different attitudes to business. Anglo-Saxon shareholder capitalism views factories simply as assets, to be exploited, traded, closed down as the occasion dictates. If a company is worth more without its factories, close the factories and sell the brand!

The Italian family business views its assets in a different way. Firstly, the family is to a large degree defined by its factory and its history and associations. Hence, closing down the factory in difficult times it is not regarded as an option. Its attitude to investment is in some ways quite different to that in the UK. The expectation is that the business will be handed on, in good shape, to the next generation. The time perspective is longer than Anglo-Saxon payback requirements⁴¹. One British manager mused on how an Italian mill could spend £70 million on new equipment and earn a margin on its annual sales of 5 million metres, worth £50 million, sufficient to pay for this capital, plus interest on the £10 million working capital that this turnover would require. Part of the answer might be that whereas a British mill might be charged 13% for its capital by its parent company, the Italian family firm might accept a return of only, say, 5% from investing in its mill, rather than earning 3% interest in a savings account.

The family also avoids problems which perplex the Anglo-Saxon model: whether and how much to invest in training, knowing that those who are trained will probably leave? The family firm trains its own members, confident that they will remain in the business. Employees are also regarded in some sense as family, too; many may have followed

39 Hilary Steedman and Karin Wagner, "Productivity, machinery and skills: clothing manufacture in Britain and Germany", National Institute Economic Review, Number 128, May 1989.

40 Sir Geoffrey Owen noted in his Pasold Lecture ("Globalisation in textiles: corporate strategy and competitive advantage", Third Pasold Lecture, London School of Economics, 11 December 2001) that "This fragmented structure is highly conducive to flexibility and quick response – precisely the qualities that are most crucial in today's markets" and that "successive the United Kingdom governments snuffed out by taxation that tier of privately-owned, medium-sized businesses which has proved such a source of strength in Germany and Italy".

41 Porter has this to say on the Italian attitude to investment: "Owners, managers, and workers are closely attached to the industry and often to a particular region where the industry is located. The company itself is often like an extended family, where employees are known and feel important. These conditions lead to a very long-term orientation in Italian companies and a commitment to sustained investment. When problems arise, Italian owners will pour all they have into new machinery or make whatever changes necessary to preserve the business. To exit voluntarily is unthinkable. One cannot close down the family. Low margins or even no margins for a time are far preferable."

their parents into the business. Our impression is that the Italian managers communicate their knowledge of and enthusiasm for their product, both to outsiders and to their employees, in ways which not all their British counterparts manage to do. In part this is to do with the fact that they are family, not just here-today-gone-tomorrow employees. In part it is to do with the fact that they involve themselves with the work in the factory⁴².

4.6 Conclusions

A simple answer to the question which prompted this study – why are the Italian textile and clothing industries so much more successful than the British? – is that Italy has a comparative advantage in these industries whereas the United Kingdom does not. This comparative advantage has to do with a variety of factors – the ways these particular industries play to the Italian culture, taste, spending patterns, the Italian approach to informal training and the strengths of the Italian family firms which predominate this industry – their commitment and their positive attitudes to re-investment and training. The converse of this is that a number of other industries succeed better in the United Kingdom than they do in Italy, so that young Britons perceive better opportunities in these other industries than do young Italians. These perceptions in turn affect the provision of technical training for this industry in the two countries. In short, powerful forces are at work here, which are difficult wholly to resist.

We were not persuaded that national differences in retailing – High Street chains in the UK, independent family firms in Italy – helped to explain the different performances of the two textile and clothing industries. Nor is it clear, in our view, that State Aid is a significant part of the answer. Like other Continental countries, Italy offers more State Aid to its manufacturing sector than does the UK, in more sector-specific ways. Like *most* Italian manufacturing industries, the Italian textile and clothing industry probably receives more State Aid, in total and in proportion to its size, than does its British counterpart. Most of this support is directed regionally, and so cannot account for the competitive thrust of the Italian companies located in the unassisted industrial districts in the North such as Milan, Biella, Prato and Veneto. Social charges on the employer are significantly higher in Italy than in the UK, so that it is not straightforward to compare the combined impacts of taxes and subsidies in the two countries.

42 In this way they avoid the so-called “principal-agent problem”: that owners of a business have difficulty in ensuring that the managers whom they appoint operate in their best interests. In attempts to align the interests of the managers more in line with their own, shareholders give away a substantial part of the company to their managers, in the form of stock options.

5

Conclusions and recommendations

A (too) simple answer to the question which prompted this study – why are the Italian textile and clothing industries so much more successful than the British? – is that Italy has a comparative advantage in these industries whereas the United Kingdom does not. This comparative advantage has to do with the ways these particular industries (along with a number of other consumer goods industries) play to the Italian culture, taste, spending patterns and the strengths of the Italian family firm.

It appears, then, that the British industry has been dealt a poor hand, in terms of comparative advantage. But even if one accepts this observation, could the British industry not play its hand *better*? The recommendation which prompted this study referred to “best practice in the Italian industry” and asked how that might be adapted to the UK. We have looked for answers at what producers in both countries actually produce, and how.

BRITISH AND ITALIAN WOOLLEN AND WORSTED PRODUCTS

The British woollen and worsted industry remains a trading success, in that it achieves a balance of payments surplus. It exported more to Italy in 2000 than any other woollen and worsted industry. It is respected and admired, in Italy and elsewhere. Indeed, better-off Italians aspire to look English. Hence the English Look is imitated by Italian designers, using Yorkshire fabrics, or fabrics which look like them.

But despite this reputation for quality the British industry has for some time been losing out to the Italians, and declining. In 2000 Italy exported more than 15 times more woollen and worsted than the UK. Her exports to Germany alone were well over double the UK’s total exports of woollen and worsted. Why? The answer does not appear to be due to any shortcomings on delivery performance (how long in advance orders must be placed, and whether orders are delivered on time): if anything the British mills offer quicker and more reliable delivery than the Italian mills. Part of the reason has to do with unit costs. For a given quality of product, Italians produce woollen and worsted fabric at a lower cost than their British competitors. How do they achieve this?

- The Piemonte story is that they do so by exploiting scale economies, controlling the entire process, with heavy investment allied to excellent production engineering, working closely with local machinery suppliers.

- The Prato story is that they do so by fluid alliances of entrepreneurs and artisans, whose respective skills complement each other. The entrepreneurs (in the original sense of the term – one who arranges and organises) spot opportunities, arrange materials and capital and bear risk; they tap into a pool highly specialised and competitive small-scale weavers who supply at astonishing low prices and are prepared to experiment with materials and equipment.

The message from our statistical analysis is that, for a given type of fabric, British mills could match Italian unit costs if they achieved the same scale – total volume and average order size – as the Italians. So how could they achieve these volumes? British mills should step up their design and marketing. The Italian criticism of the British woollen and worsted producers is that they are slow to change their fabric designs and that they do not promote their products as vigorously do the Italians. Whereas the Italian attitude is that any market in which suits are worn has potential for sales the British attitude has something about it of the “you know where we are if you want it”. In part this may be due to the fact that the British producers have less than the Italians that is new, reflecting a cultural difference: the British consumer’s traditional approach to a suit is that the fabric should endure for years, whereas the Italian approach is that the suit is worn out after being dry-cleaned only five times.

The Italians appeared more innovative in all aspects of the business – yarns, fabrics, and machines. In yarns and fabrics there was a freer use of colour. Equipment that was designed for one type of fabric had been adapted for another. British weavers should be more adventurous in design in terms of both colours and mixtures. They should offer two collections a year. With more to show their customers, they should support these collections with greater marketing efforts, using their own employees rather than agents for this purpose. This is not beyond the reach of British producers: one UK mill in particular, Johnstons of Elgin, achieves an originality and use of colour in its collections, and refreshes them at a rate which matches the Italians.

We have noted instances of what Italian producers do, but can these practices be adopted in the UK? In terms of practical specifics of producing woollen and worsted fabrics (e.g. construction of fabrics, management of mills, delivery performance) it did not seem to us, from what we ourselves could see or were told, that the UK producers are less capable. The differences are more elusive: they are either in the air, or the Italians’ heads. To emulate the Italians would amount almost to recreating the Italian culture of manufacturing in the UK. Our impression is that the Italian producers excel more in whatever it is they have chosen as the basis of their competitive strategy. Thus, if that basis is design, the design ethos is evident. In some British mills one has the impression that the designers may have been doing a different job a year earlier, and may be doing a different one a year later. In the Italian case, one senses that the designer (“Disegnatore”) will be the chief designer in the future, if not in his existing company then in another. If, on the other hand, unit cost is the basis of the company’s competitive advantage, the best Italian mills gain advantages by engaging in machinery design and adapting machinery to their own needs, in a way that is less/not evident in British mills.

In general, British woollen and worsted producers need to be more visible to the buying public. Our emphasis here is slightly different to that proposed in the TCSG's Strategy Report. In addition to promoting British wool textiles as a generic brand, we believe that British wool textile manufacturers need to promote *company* brands.

A number of leading Italian companies have developed powerful brands, which are associated in an intimate way with their founders, in a way which is rare in the UK. Some of them – like Zegna – are vertically integrated, having begun as fabric producers and then integrating forwards into clothing. Whereas in these cases the companies' own fabrics serve as a selling point, British fabric producers are completely invisible to those who buy suits made from their material. In the British retail clothing market there is no equivalent to the "Intel within" message which features on most of the world's personal computers. Suit manufacturers are clearly averse, or see no need, to draw attention to the supplier of their fabric (or even the grade of fabric). British woollen and worsted producers should seek to have their label, and the *type* of fabric (e.g. Super 100s), displayed in garments which are made from their fabrics. Their websites need to make their histories better known and to educate a public in the finer points of fabric and clothing manufacture. If British fabric suppliers could in this way establish a sufficient presence in the retail market, suit manufacturers would perceive an advantage in drawing attention to the fabric supplier.

In terms of the way they organise production, British producers might reflect on business models provided by Piemonte and Prato. The vertically integrated Piemonte model affords control over quality, but mills not producing the highest quality fabrics (cashmere, Super120s and above) should move away – or further away than they have already – from the traditional, vertically integrated structure of production, and adopt instead the Prato model, buying in yarn, weaving, mending and finishing services from specialists. They should not look to load their mills or their subcontractors with a variety of fabrics; rather, they should specialise in longer runs of specific types.

MEN'S SUITS

The trade picture in men's suits is a dismal one. In 2000 Italy exported suits worth over £400 million – about six times more than the UK. The UK's imports were over seven times its exports. Taking value per weight as a crude indicator of quality, both countries export higher quality products than they import, but this difference was more pronounced in Italy's favour. The United Kingdom exported suits to Italy which were on average less than half the value per kilogram of those which it imports from Italy. Of the three British suit factories we visited in 2001, one had closed and another had contracted significantly by November 2002. So what light does this study throw on the sad demise of such factories, and on what is needed if British companies are to succeed in the future?

The dilemma facing parts of the British clothing industry, as it does many other manufacturing industries, is that its volume products cannot compete on quality with the best, and cost too much to manufacture to compete with the cheapest. Our analysis of British and Italian suits and suit factories suggests that when the two industries work to the same price (Jackets UK I and Italy I in Table 3.6) the products are quite similar, although the Italians still manage to design in touches which add value.

When not constrained by price, the Italian producers we visited achieve the greater quality which we have inferred from the trade statistics by adopting a traditional, “controlled tailoring” approach – once favoured by British producers – whereas most British producers today opt for the “engineered” method. Rather than engineering out the standard minute value of the product in response to low-wage competition, the Italian approach is to add value. We have provided a number of examples of how their successful producers do this, by designing in touches which add softness and enhance handle and appearance. In this way they have been able to fight their way clear from low-wage competition.

The solution to adding value cost-effectively does not appear to us to lie in better equipment. We found that British and Italian factories were equipped with broadly similar machines, from the same equipment manufacturers. Such differences as we observed were either a matter of preference (e.g. as between the Gerber and Investronica systems) rather than a difference between a Rolls Royce and the family saloon, or they flowed from the differences in manufacturing philosophy. For example, the Italians deploy single-stitch, lockstitch machines in the preparation stage whereas the British dispense with this operation. The Italians pay more attention to pressing, and hence have a more varied suite of presses and bucks (which provide the desired shapes) more specifically related to particular tasks. In contrast, one British factory used the same bucks for men’s and women’s jackets. One Italian factory had fully automated both its materials warehouse (with stacking and retrieval systems) as well as the movement, storage and retrieval of finished garments (the same approach was noted in one of the Piemonte mills). This seems to be an *appropriate* use of the engineering approach: moving materials and products around the factory adds no value to the product, so automate it.

We concluded that Italian suit producers add additional value not so much by machines but by what is in their heads – through imaginative ideas, a deep understanding of materials and how garments are best constructed, and the skills of their employees. We have tried to illustrate what this actually means *in specific terms* (e.g. how the Italian garments are constructed and how their sewing and pressing operations are carried out). The “engineered” method which has been adopted by British producers appears to us to be a dead-end. Indeed, simplifying the product just makes it easier still to move it offshore to lower-wage locations. Rather than engineering out the standard minute value of the product in response to low-wage competition British menswear manufacturers should look to add more value by giving greater attention to detail. In that spirit they should exploit the enthusiasm for the classic English style which was evident in the Milan and Paris menswear catwalk shows for Winter/Autumn 2002.

GOVERNMENT

What, if anything, should government do? Is State Aid part of the answer? Like other Continental countries, the Italian Government offers much more State Aid to its manufacturing sector than does the British Government, and in more sector-specific ways. How impressed should we be by the fact that, in the period 1997-99, Italy provided over four times as much State Aid as the UK as a percent of manufacturing

value added and three times as much per person employed? What proportion of State Aid is a waste of resources or damaging to an economy, either because it pays companies to do what they intended to do anyway, or because it allows those who do not have a deep understanding of an industry – politicians and officials – to determine its investment decisions?

When comparing headline totals, State Aid also needs to be viewed and compared as part of each country's total tax and subsidy system. The social charges levied on the employer are also significantly higher in Italy than in the UK. Even if industry-specific data on State Aid were available, it would not be straightforward to compare the combined impacts of taxes and subsidies on the costs of the two industries⁴³. In any case, it is difficult to make an intellectual case for a "dining à la carte" approach – seeking the relatively large investment subsidies such as are available in another country while benefiting from a comparatively low level of social charges in one's own.

The most useful support that an industry might hope to receive from its government is vocational training. Such training, provided in technical secondary schools, lies at the heart of the thriving textile and clothing clusters in Italy. The school in Prato alone provides its district with more school leavers qualified to enter the industry each year than the total number of NVQs Level 3 awarded in textiles and clothing by City & Guilds and Skills for Industry. The issues here for the UK are structural: whether to create vocational secondary schools, of the type which furnish Italian companies with their future supervisors and middle managers; and whether to accord more priority to vocational education than Higher Education.

THE PROSPECTS FOR THE BRITISH TEXTILE AND CLOTHING INDUSTRY

Finally, what sort of a future has the British textile and clothing industry? Consider the following thought-experiment: suppose that the trade picture was the reverse of that described in this study; that it had been the British textiles and clothing industry which had emerged as the dominant EU producer. A study such as this one would then have sought to "explain" British success in woollen and worsted fabrics, and the suits which are made from them. It would have mentioned the long history of English wool and textiles, noting that England produced the finest wool in the world in the Middle Ages, attracting the Flemish weavers, and that Britain hosted the industrial revolution, in which this industry played a central role; the way in which the lifestyle of Britain's wealthier classes expressed itself in a style which still has an enduring international appeal; the supply of able British designers, well trained in Britain's colleges of fashion and design. It would have been a plausible story, suggesting, therefore, that these factors are powerful sources of advantage, on which the industry could still build.

43 For example, what proportion of these social costs are borne ultimately by the employee, in the form of lower wages?

Annex A

Questionnaire for textile mills

We would like to learn the following about British and Italian weaving mills.

A PRODUCTION

- Could you tell us first about the type of fabrics you produce?
- How many metres of fabric do you typically produce a year?
- What is the typical size of the orders you supply?
- What is your annual sales revenue?
- What proportion of production is made *to order*, and what for *stock*?
- If *to order*, what is the factory's *typical* order-to-delivery time?

B PRODUCTION SYSTEMS

- How many production looms do you operate?
- What was their approximate total cost?
- What are their typical weft insertion rates (picks per minute, metres per minute)?
- How long does it typically take to set up the looms?
- For what percentage of that time are the looms actually producing fabric?

C EMPLOYEES

- How many people do you employ (in total, by broad function e.g. weaving, mending, finishing, and by broad category (e.g. production, indirects, managers)
- Pay rates for broad categories of employee (including employers' national insurance contributions).

D ILLUSTRATIVE COST STRUCTURES

Would it be possible to break down your cost of manufacturing in the following way?

Cost element	% of total
Raw materials	
Salaries and wages	
Social costs/charges	
Power, water and waste	
Packaging and freight	
Business rates	
Other overheads	
Depreciation and interest	
Total annual cost	100%

E GOVERNMENT SUPPORT

What forms of government support, and how much, did you receive in the past year?

ALLEGATO Studio di analisi comparativa: materie da analizzare

Vorremmo ricavare le seguenti informazioni relativamente agli stabilimenti tessili britannici ed italiani.

A PRODUZIONE

- Quanti pezzi/metri di tessuto (e di che spessore) vengono normalmente prodotti al anno?
- Quale è il quantitativo tipico degli ordini ricevuti?
- Quale è il fatturato annuo tipico?
- Quale proporzione della produzione dell'azienda è fatta *su ordinazione*, e quale per *merce in magazzino*?
- Se *su ordinazione*, quali sono i tempi *tipici* di fornitura dello stabilimento?

B SISTEMI DI PRODUZIONE

- Quanti telai di produzione sono attivi (marca, anno)?
- Quale è stato approssimativamente il loro costo totale?
- Quale è la velocità tipica di alimentazione della trama (colpi/metri al minuto)?
- Quanto tempo è normalmente necessario per approntare i telai?
- Per che percentuale di quel tempo i telai producono effettivamente tessuti?

C Dipendenti

- Il numero totale di dipendenti occupati in tutti i processi di produzione di tessuti
- Occupazione in base alla funzione, in ciascuna fase di produzione (dipendenti per turno/totale dei turni)
- Stipendi per ciascun tipo di dipendente (con/senza i contributi di previdenza sociale a carico del datore di lavoro)

D STRUTTURA ILLUSTRATIVA DEI COSTI

Costo totale di produzione all'anno	
Elemento di costo	% del totale
Materie prime	
Salari e stipendi	
Costi sociali/contributi previdenziali	
Elettricità, acqua e rifiuti	
Imballaggio e trasporto	
Imposte municipali per aziende	
Altre spese d'esercizio	
Ammortamento e interessi	
Costo totale annuale	

E SUPPORTO STATALE

Che tipo di supporto statale e quale ammontare è stato ottenuto lo scorso anno?

Annex B

Statistical analysis of weaving mills

Table B shows some regression results. The estimated relationship is:

$$\text{Unit cost} = \text{constant} * \text{fibre diameter}^{\alpha} * \text{annual production}^{\beta} * \text{average order size}^{\lambda}$$

where α , β and λ are the parameters to be estimated. Transforming to logarithms for estimating purposes:

$$\log(\text{unit cost}) = \log(\text{constant}) + \alpha \log(\text{fibre diameter}) + \beta \log(\text{annual production}) + \lambda \log(\text{average order size}).$$

TABLE B
REGRESSIONS RESULTS: EIGHT MILLS
DEPENDENT VARIABLE: (LOGARITHM) ESTIMATED UNIT COST

Explanatory variables (in logarithms)	Regression 1 (at 2001 prices and exchange rate ¹)	Regression 2 (at 2002 prices and exchange rate ²)
Constant	17.5	17.5
Fibre diameter (microns)	-5.05* (15.2)	-5.03* (15.5)
Annual production (million metres/year)	-0.256* (8.15)	-0.253* (8.18)
Average order size (metres)	-0.092 ³	-0.092 ³
Adjusted R ²	0.985	0.985

t ratios in parentheses
* Significant at the 1% level
¹ € 1 = £ 0.622
² € 1 = £ 0.637
³ Estimated from the unit costs of different order sizes provided by one of the mills.

Because average order size is quite highly correlated with annual production we estimated the average order size parameter from data supplied by one of the mills.

Annex C

Prices and qualities: some economic theory

Imagine an industry composed of just two players, Producer 1 and Producer 2, which manufacture differentiated products. The quantity, x_i , which each producer can sell (to retailers) depends upon its own and its competitor's wholesale price, P_i , and quality, Q_i :

$$x_1 = a_{10} + a_{11}P_1 + a_{12}P_2 + a_{13}Q_1 + a_{14}Q_2$$

$$< 0 \quad > 0 \quad > 0 \quad < 0$$

$$x_2 = a_{20} + a_{21}P_1 + a_{22}P_2 + a_{23}Q_1 + a_{24}Q_2$$

$$> 0 \quad < 0 \quad < 0 \quad > 0$$

The costs of each producer depend upon quantity and quality, in the following way:

$$C_1 = x_1 (c_{10} + c_{11}Q_1 + c_{12}x_1) + c_{13}Q_1^2$$

$$C_2 = x_2 (c_{20} + c_{21}Q_2 + c_{22}x_2) + c_{23}Q_2^2$$

Higher quality products cost more to manufacture ($c_{11} > 0$) and there is also a fixed cost associated with quality ($c_{13} > 0$). If there are economies of scale, $c_{12} < 0$:

By differentiating an expression for each producer's profit with respect to its price and quality and setting each differential to zero, we can establish the first order conditions for profit maximisation. The textbook interpretation of this Nash equilibrium is that each producer assumes that its rival will not change its price and quality in response to changes in its own price and quality. A better description is that both producers are aware of and take into account the interdependence in which they are involved. Each knows that its rival aims at maximising its own profit. It can reasonably anticipate that it will choose the solution determined by its own first order conditions. Thus, in choosing a solution based on its own first order conditions, each firm is confident that he can anticipate what the other will do (as in a game of football or bridge), and does the best for itself within that competitive setting. Each firm will also observe that its anticipations will have been fulfilled⁴⁴.

⁴⁴ Françoise Forges and Jacques-François Thisse, "Game theory and industrial economics: an introduction", in George Norman and Manfredi La Manna (eds), "The New Industrial Economics: Recent developments in industrial organisation, oligopoly and game theory", Edward Elgar, 1992.

The first order conditions for profit maximisation are:

P_1	P_2	Q_1	Q_2	=	
$2a_{11}(1 - a_{11}c_{12})$	$a_{12}(1 - a_{11}c_{12})$ $- a_{11}a_{12}c_{12}$	$a_{13}(1 - a_{11}c_{12})$ $- a_{11}(a_{13}c_{12} + c_{11})$	$a_{14}(1 - a_{11}c_{12})$ $- a_{11}a_{14}c_{12}$		$a_{11}(c_{10} + a_{10}c_{12})$ $- a_{10}(1 - a_{11}c_{12})$
$[a_{21}(1 - a_{22}c_{22})$ $- a_{21}a_{22}c_{22}]$	$2a_{22}(1 - a_{22}c_{22})$	$a_{23}(1 - a_{22}c_{22})$ $- a_{22}a_{23}c_{22}$	$a_{24}(1 - a_{22}c_{22}) -$ $a_{22}(c_{21} + a_{24}c_{22})$		$a_{22}(c_{20} + a_{20}c_{22})$ $- a_{20}(1 - a_{22}c_{22})$
$a_{13}(1 - a_{11}c_{12})$ $- a_{11}(a_{13}c_{12} + c_{11})$	$-(2a_{12}a_{13}c_{12})$ $+ a_{12}c_{11})$	$-2[a_{13}(a_{13}c_{12} +$ $c_{11}) + c_{13}]$	$-(2a_{13}a_{14}c_{12} +$ $a_{14}c_{11})$		$a_{13}(c_{10} + a_{10}c_{12})$ $+ a_{10}(a_{13}c_{12} + c_{11})$
$-(2a_{21}a_{24}c_{22})$ $+ a_{21}c_{21})$	$a_{24}(1 - a_{22}c_{22})$ $- a_{22}(c_{21} + a_{24}c_{22})$	$- [a_{23}a_{24}c_{22} + a_{23}$ $(c_{21} + a_{24}c_{22})]$	$- 2[a_{24}(c_{21} + a_{24}$ $c_{22}) + c_{23}]$		$a_{24}(c_{20} + a_{20}c_{22})$ $+ a_{20}(c_{21} + a_{24}c_{22})$

By solving this and choosing parameters which:

- satisfy the second order conditions for profit maximisation:
- yield plausible results (e.g. margins on sales of about 5-10%).

we can explore the best strategies available to the two producers.

A TYPICAL SIMULATION RESULT

BASE CASE: IDENTICAL COST AND DEMAND PARAMETERS, ALL VARIABLES = 100

SIMULATION: PRODUCER 1 HAS A COST ADVANTAGE ($c_{11} < c_{12}$)

	Producer 1	Producer 2
Quality	115	85
Price	106	95
Quantity sold	114	86
Profit	126	77
Profit/sales	105	94

The quality-at-lower-cost firm (Producer 1) produces to a higher quality. This is not fully reflected in its price: hence it sells a higher quantity than Producer 2. Producer 2's best reply is to *reduce* quality. Although this is Producer 2's *best* reply, it does not mean that it is viable in the long term: its profit/sales is lower than in the base case and it may eventually be forced out of business. Economies of scale tend to dramatise these differences.

If prices for both players are *given* e.g. a suit must retail at £199 and hence be delivered for, say, £66, Producer 1 still opts for a higher level of quality but the quality differences are now narrower than in the unconstrained case.

An increase in the degree of retailer monopsony power, represented by leftwards shifts in both producers' demand function (a lower a_i), tends to depress the optimum quality.



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