PRICE DISCRIMINATION IN THE EUROPEAN CLOTHING SECTOR

Gianpaolo Rossini

ottobre '88

N/ 58

PRICE D. .RIMINATION IN THE EUROPEAN CLOTHING SECTOR

Gianpaolo Rossini
University of Verona
Italy

Revised version October 1988

Paper presented at the fifteenth Annual Conference of EARIE
August 31-September 2 1988; Rotterdam

ABSTRACT

Price differences for identical goods across EEC countries have been for some years a sign of lagging integration. Many studies have considered industries like the car industry where price differences are a big proportion of the net price. We have conducted our enquiry into the unexplored clothing industry, discovering a great deal of price differences for similar or even identical goods. Some econometric specifications have been tested to approach the phenomenon which lends itself to a tentative interpretation based on per capita income differences plus import penetration from third world countries.

I wish to thank A.Jacquemin and C.Antonelli for their useful comments at the Rotterdam presentation,while keeping full responsability for the entire paper.

Financial support from the University of Bologna and from Prometeia is acknowledged.

Gianpaolo Rossini
Istituto di Scienze Economiche-Università di Verona
Via dell'Artigliere 19
I-37129 Verona

1. INTRODUCTION

In four years the EEC will be a single market and many national peculiarities concerning production, consumption and trade, are going to be swept away. In the minds of the authors of the White Paper [Commission of the EC,(1985) "The Completion of the Internal Market",White paper of the Commission for the European Council,Com (85)310 def.] the elimination of technical, fiscal, physical barriers should let national markets loose their usual features in the EEC (see Pelkmans-Robson,1987).

As recent research has shown (see Breitenacher-Paba-Rossini, 1988) there are industries in which the degree of integration in the EEC is already substantially advanced.

The textile and clothing industry is one among these sectors. Firms interviewed in four major European states (Great Britain, Germany, France, Italy) have asserted that exporting to any EEC country is not hampered by any severe barrier. Just slight obstacles remain due to 1. different VAT's, 2. exchange rates fluctuations and3. some residual custom control. On top of that an Italian firm has declared that it finds easier to sell to Germany than to Southern Italy.

Despite of these statements is it really the EEC market for textile and clothing merchandises so integrated?

This is the question we would like to address and we shall try to answer it by analysing prices of the same goods at the same time in different EEC countries. There are sectors like the car industry in which huge differences of prices across countries for the same car have become the signal of the delays of the integration process (see Pelkmans, 1984; Ginsburgh-Vanhamme, 1988). Do we have the same phenomenon in the clothing industry

and if so, how do we explain it? Will it be dueto slight barriers which still exist when trading in the EEC?

2.A CROSS SECTION ANALYSIS OF CLOTHING PRICES

The main question to be addressed concerns the existence of residual barriers to trade among EEC countries. We decided to inquire into the existence and dimension of barriers through the analysis of prices of identical goods across Europe.

The reasonwhy we do that is the following: if the price of the same good, for instance cotton jeans, diverges substantially between countries it means either that there are natural barriers (transport costs) that do not make arbitrage profitable through riexporting, or that there are other kinds of barriers (administrative and custom costs) which make exporting costly.

The first set of reason explains why prices stay different among countries, yet it does not explain why they are set at different levels.

Before answering these questions we would rather examine prices . In tables 1a, 1b, 1c we present data on gross prices for some clothing goods in the EEC countries for years 1975, 1980, 1985. From these tables it appears that price differences are huge for many goods and do not decrease over time as integration becomes more influential for firm policies and consumer habits.

Table 1a

GROSS PRICES OF CLOTHING IN DM IN 1975

	D	F	I	N	B	L	U.K	IRL	DK	EUR-9	ST.DEV.	S.T./MEAN
1	288.13	451.30	319.56	305.45	360.49	325.61	248.40	283.95	348.67	325.73	54.86	0.06
2	140.00	207.32	174.60	136.19	187.43	171.07	106.77	101.20	155.51	153.34	33.68	0.08
5	71.32	85.19	62.38	71.56	84.29	90.59	62.54	73.44	93.19	77.17	10.87	0.05
7	192.00	216.03	206.66	180.24	231.96	215.65	197.83	180.52	288.77	212.19	31.54	0.05
10	307.29	331.17	274.31	312.63	298.05	321.14	194.04	206.39	365.53	290.06	53.43	0.07
11	107.43	193.04	167.41	133.27	140.27	156.47	114.30	103.30	166.27	142.42	29.03	0.07
12	114.29	142.36	56.48	136.96	140.13	133.78	101.40	116.53	208.92	127.87	38.24	0.11
13	74.88	87.68	64.01	86.72	71.22	83.48	79.00	78.71	87.14	79.20	7.62	0.03
14	71.41	72.68	59.11	80.63	81.02	75.64	86.56	70.23	90.04	76.37	8.85	0.04
16	52.00	65.36	51.20	48.15	53.18	53.18	42.93	39.76	56.27	51.34	7.02	0.05
17	32.16	34.49	33.19	30.24	30.08	32.51	28.42	26.35	34.81	31.36	2.66	0.03
19	12.94	10.69	12.42	11.41	11.71	10.37	13.77	11.88	13.40	12.07	1.10	0.03
24	66.30	64.98	41.23	64.16	57.02	55.80	36.75	36.82	51.28	52.71	11.23	0.08
25	51.20	64.70	43.25	46.18	49.03	51.62	35.39	41.48	56.98	48.87	8.19	0.06
27	3.93	4.63	4.58	5.64	5.00	4.24	4.01	2.43	4.06	4.28	0.83	0.07
35	61.98	76.38	34.64	65.90	61.47	66.05	30.73	32.86	42.00	52.45	16.31	0.11
38	24.10	22.23	10.45	18.73	23.04	16.50	16.55	19.47	21.84	19.21	4.03	0.07
39	66.86	84.65	67.21	67.01	66.39	73.38	59.40	66.15	60.73	67.97	7.01	0.04

SOURCE: DATA FROM EUROSTAT CALCULATIONS BY PROMETEIA

1 wool coat for man
2 raincoat for man
5 trousers for man
7 wool blazer
10 wool coat for woman
11 raincoat for woman
12 dress for woman in jersey
13 woman skirt
14 trousers for woman
16 blue jeans
17 shirt for man
19 slip for man
24 pullover for man
25 chemise for woman
27 slip for woman
35 wool pullover for woman
38 children's pullover
39 sporting outfit

Table 1b

GROSS PRICES OF CLOTHING IN ECU IN 1980

	D	F	I	N	B	L	U.K	IRL	DK	GR	SP	P
307	124.12	155.90	128.40	151.82	153.05	154.51	:	108.08	198.05	128.53	149.84	110.24
309	73.81	82.07	85.71	87.89	83.86	89.72	57.78	44.94	102.08	72.45	91.05	66.71
312	29.68	35.32	23.14	32.21	34.91	40.31	32.94	25.76	44.00	21.82	33.02	21.44
313	26.08	27.73	18.18	26.29	24.28	28.62	25.02	18.76	29.33	23.01	25.08	26.59
315	80.23	105.27	82.94	89.14	102.26	103.91	87.08	73.22	132.35	73.39	107.68	69.65
317	12.15	15.83	15.00	12.86	12.81	18.56	13.68	10.92	20.49	14.15	20.38	15.28
320	12.96	20.19	17.45	13.14	17.00	22.69	16.81	14.00	28.06	19.42	23.55	14.29
321	5.88	6.29	5.37	5.79	6.26	6.86	5.58	3.08	6.56	2.40	6.28	5.89
322	4.85	4.93	3.17	3.18	5.04	5.48	3.24	3.36	5.35	3.53	3.75	4.09
326	126.85	140.73	100.60	136.61	127.70	150.33	:	90.72	184.00	127.51	133.44	99.12
330	43.96	54.08	30.21	51.25	38.99	51.37	42.66	33.88	52.44	25.62	45.78	28.98
333	26.31	26.28	17.15	25.68	27.02	29.45	18.43	21.00	26.13	21.69	27.24	25.45
336	13.00	:	16.82	10.43	16.07	16.30	15.84	14.00	18.15	11.53	18.3	13.21
337	12.42	18.73	15.41	12.21	11.13	12.65	12.60	10.22	22.71	14.21	23.58	13.57
339	1.12	2.59	1.56	1.43	1.15	1.73	1.53	1.26	1.15	1.19	3.03	1.08
340	1.90	2.29	1.28	1.54	1.95	2.45	:	:	1.96	2.60	2.87	2.67
344	15.35	18.98	13.49	15.18	20.48	25.60	14.40	11.34	17.59	16.29	19.52	16.41
346	10.58	12.15	11.37	11.00	9.68	10.02	9.54	10.36	9.33	8.67 :		9.48
348	17.08	17.48	9.53	13.54	11.64	14.55	:	:	:	9.80 :	:	

Source: EUROSTAT

307 wool coat for man
309 raincoat for man
312 classic trouser for man
313 jeans for man
315 wool tweed jacket for man
317 classic shirt
320 wool pullover for man
321 t'shirt for man
322 slip for man
326 wool coat for women
330 wool skirt
333 velveteen trousers for woman
336 classic shift for woman
337 wool pullover for woman
339 slip for woman
340 collant nylon for woman
344 velveteen children's trousers
346 cotton jacket for child
348 mix of fibre salopette for bebe'

Table 1a

AVERAGE GROSS PRICES OF CLOTHING IN ECU IN 1985

	D	F	I	N	B	L	U.K.	IRL	DK	GR	SP	P
516	172.00	151.00	153.00	140.80	172.50	209.40	186.00	:	226.00	:	171.10	:
517	183.00	176.00	183.00	185.30	231.00	180.40	161.00	192.90	203.00	198.00	190.40	120.70
519	102.00	109.00	137.00	86.10	115.10	110.40	79.00	73.40	110.00	117.00	139.30	85.80
524	34.00	32.00	28.00	32.30	38.10	34.40	22.00	26.60	41.00	29.00	30.60	34.80
522	43.00	46.00	45.00	44.90	79.20	50.50	45.00	44.90	60.00	50.00	:	30.20
527	115.00	106.00	152.00	100.50	172.70	148.10	86.00	102.30	156.00	110.00	167.70	95.60
531	35.00	61.00	46.00	60.90	67.00	64.20	45.00	38.00	49.00	35.00	71.00	70.00
535	16.00	23.00	24.00	18.90	21.30	22.20	15.00	15.40	18.00	25.00	26.70	21.90
537	18.00	30.00	27.00	20.80	35.80	25.20	19.00	21.00	22.00	27.00	:	23.10
543	21.50	:	26.20	29.80	46.30	38.20	26.00	24.50	32.00	36.00	31.80	33.90
545	5.40	5.30	5.40	5.70	6.40	11.20	5.00	5.40	8.40	3.90	4.70	9.60
547	3.60	3.60	3.00	3.20	:	:	3.80	5.90	5.30	4.30	4.40	13.30
553	185.00	176.00	221.00	126.00	149.50	214.10	85.00	182.40	202.00	171.00	187.10	111.10
559	65.00	73.00	49.00	41.00	60.70	61.50	41.00	65.60	90.00	38.00	64.10	44.00
560	49.00	41.00	41.00	33.30	41.40	65.10	26.00	43.30	32.00	:	36.50	26.20
566	24.50	23.15	:	21.46	37.93	25.52	20.44	24.24	14.37	:	30.59	21.95
567	31.00	26.00	28.00	29.60	38.60	26.30	29.00	33.20	36.00	33.00	:	36.60
568	4.80	5.90	3.60	4.60	:	:	3.40	:	4.40	4.00	:	:
572	2.20	1.20	2.00	1.70	2.00	2.70	:	1.90	2.30	3.30	2.40	2.70
578	24.60	20.60	20.80	17.20	42.90	24.00	16.20	16.00	23.70	27.30	24.10	44.10
580	14.10	13.30	20.90	11.70	30.50	18.40	14.30	13.70	9.90	15.20	:	18.10
586	20.30	26.40	23.60	17.50	36.60	37.00	12.90	12.00	:	25.80	:	23.90

Source: Data from EUROSTAT

516 wool loden for man
517 wool tweed coat for man
519 raincoat for man
524 jeans for man
522 classics trousers for man
527 wool tweed jacket for man
531 sporting outfit for man
535 classics shirt
537 cotton sport shirt
543 wool pullover for man
545 t'shirt for man
547 slip for man
553 wool coat for woman
559 wool skirt
560 trousers for women mix of fibre
566 chemise for women
567 wool pullover for woman
568 slip for woman
572 collant nylon
578 velveteen children's trousers
580 cotton children's shirt
586 cotton salopette for bebe'

Tables 1a,1b,1c.

One might simply object that prices presented above are gross prices, hence differences are due to national divergences between VAT rates. Net prices should likely display lower differences. We tried to see whether this objection was reasonable, by getting net prices from gross prices. As a result of that net prices are reported in tables 2a and 2b for 1980 and 1985 excluding 1975 since it could not be properly treated due to taxation systems which were not homogeneous at that time because not all countries had adopted simultaneously the VAT tax (see Commission of the EC,"Inventory of Taxes" various years).

AVERAGE NET PRICES OF CLOTHING IN ECU IN 1980

	D	F	I	N	B	L	U.K	IRL	DK	EUR-9	ST.DEV.	S.T./MEAN
307	107.98	128.46	109.14	124.49	127.03	146.78	:	91.87	154.48	110.03	42.95	0.06
309	64.21	67.63	72.85	72.07	69.60	85.23	49.11	38.20	79.62	66.50	13.80	0.07
312	25.82	29.10	19.67	26.41	28.98	38.29	28.00	21.90	34.32	28.05	5.40	0.07
313	22.69	22.85	15.45	21.56	20.15	27.19	21.27	15.95	22.88	21.11	3.42	0.06
315	69.80	86.74	70.50	71.47	84.88	98.71	74.02	62.24	103.23	80.18	13.24	0.06
317	10.57	13.04	12.75	10.55	10.63	17.63	11.63	9.28	15.98	12.45	2.60	0.07
320	11.28	16.64	14.83	10.77	14.11	21.56	14.29	11.90	21.09	15.25	3.88	0.09
321	5.12	5.18	4.56	4.75	5.20	6.52	4.74	2.62	5.12	4.87	0.96	0.07
322	4.22	4.06	2.69	2.61	4.18	5.21	2.75	2.86	4.17	3.64	0.88	0.09
326	110.36	115.96	85.51	112.02	105.99	142.81	:	77.11	143.52	99.25	40.82	0.07
330	38.25	44.56	25.68	42.03	32.36	48.80	36.26	28.80	40.90	37.52	7.10	0.07
333	22.89	21.65	14.58	21.06	22.43	27.98	15.67	17.85	20.38	20.50	3.84	0.07
336	11.31	:	14.30	8.55	13.34	15.49	13.46	11.90	14.16	11.39	4.46	0.06
337	10.81	15.43	13.10	10.01	9.24	12.02	10.71	8.69	17.71	11.97	2.81	0.08
339	0.97	2.13	1.33	1.17	0.95	1.64	1.30	1.07	0.90	1.27	0.37	0.10
340	1.65	1.89	1.09	1.26	1.62	2.33	:	:	1.53	1.26	0.75	0.09
344	13.35	15.64	11.47	12.45	17.00	24.32	12.24	9.64	13.72	14.43	4.06	0.10
346	9.20	10.01	9.66	9.02	8.03	9.52	9.54	8.81	7.28	9.01	0.82	0.03
348	14.86	14.40	8.10	11.10	9.66	13.82	:	:	:	7.99	6.02	0.09

Source: Data from EUROSTAT calculations by PROMETEIA

307 wool coat for man
309 raincoat for man
312 classic trouser for man
313 jeans for man
315 wool tweed jacket for man
317 classic shirt
320 wool pullover for man
321 t'shirt for man
322 slip for man
326 wool coat for women
330 wool skirt
333 velveteen trousers for woman
336 classic shift for woman
337 wool pullover for women
339 slip for woman
340 collant nylon for woman
344 velveteen children's trousers
346 cotton jacket for child
348 mix of fibre salopette for bebe'

Table 2.5

AVERAGE NET PRICES OF CLOTHING IN ECU IN 1985

	D	F	I	N	B	L	U.K.	IRL	DK	GR	EUR-10	ST.DEV.	S.D./MEAN
516	147.92	122.91	125.46	114.05	139.73	196.04	158.10	:	176.28	:	118.13	63.663	0.07
517	157.38	143.26	150.06	150.09	187.11	169.58	136.85	173.61	158.34	178.20	160.45	15.374	0.03
519	87.72	88.73	112.34	69.74	93.23	103.78	67.15	66.06	85.80	105.30	87.98	15.566	0.06
524	29.24	26.05	22.96	26.16	30.86	32.34	18.70	23.98	31.98	26.10	26.84	4.119	0.05
522	36.98	37.44	36.90	36.37	64.15	47.47	38.25	40.41	46.80	45.00	42.98	8.145	0.06
527	98.90	86.28	124.64	81.41	139.89	139.21	73.10	92.07	121.68	99.00	105.62	22.832	0.07
531	30.10	49.65	37.72	49.33	54.27	60.35	38.25	34.20	38.22	31.50	42.36	9.786	0.08
535	13.76	18.72	19.68	15.31	17.25	20.87	12.75	13.86	14.04	22.50	16.87	3.245	0.06
537	15.48	24.42	22.14	16.85	29.00	23.69	16.15	18.90	17.16	24.30	20.81	4.302	0.07
543	18.92	:	21.32	24.30	37.50	35.91	22.10	22.05	24.96	32.40	23.95	10.060	0.09
545	4.64	4.31	4.43	4.62	5.18	10.53	4.25	4.86	6.55	3.51	5.29	1.898	0.12
547	3.10	2.93	2.46	2.59	:	:	3.23	5.31	4.13	3.87	2.76	1.592	0.10
553	159.10	143.26	181.22	102.06	121.10	201.25	72.25	164.16	157.56	153.90	145.59	36.037	0.08
559	55.90	59.42	40.18	33.21	49.17	57.81	34.85	59.04	70.20	34.20	49.40	12.365	0.08
560	42.14	33.37	33.62	26.97	33.53	61.19	22.10	38.97	24.96	:	31.69	14.854	0.11
566	21.07	18.84	:	17.38	30.72	23.99	17.37	21.82	11.21	:	16.24	9.415	0.10
567	26.66	21.16	22.96	23.98	31.27	24.72	24.65	29.88	28.08	29.70	26.31	3.170	0.04
568	4.13	4.80	2.95	3.73	:	:	2.89	:	3.43	3.60	2.55	1.750	0.07
572	1.89	0.98	1.64	1.38	1.62	2.54	:	1.71	1.79	2.97	1.65	0.766	0.11
578	21.16	16.77	17.06	13.93	34.75	22.56	16.20	14.40	18.49	24.57	19.99	5.919	0.10
580	12.13	10.83	17.14	9.48	24.71	17.30	14.30	12.33	7.72	13.68	13.96	4.601	0.11
586	17.46	21.49	19.35	14.18	29.65	34.78	12.90	10.80	:	23.22	18.38	9.348	0.13

Source: Data from EUROSTAT; calculation by PROMETEIA

516 wool loden for man
517 wool tweed coat for man
519 raincoat for man
524 jeans for man
522 classics trousers for man
527 wool tweed jacket for man
531 sporting outfit for man
535 classics shirt
537 cotton sport shirt
543 wool pullover for man
545 t'shirt for man
547 slip for man
553 wool coat for woman
559 wool skirt
560 trousers for woman mix of fibre
566 chemise for woman
567 wool pullover for woman
568 slip for woman
572 collant nylon
578 velveteen children's trousers
580 cotton children's shirt
586 cotton salopette for bebe'

Tables 2a,2b.

As can be seen from the above tables, net prices do not show lower divergences than gross prices. Standard deviations and coefficients of variation [in the last two columns on the right : the coefficient of variation has been computed by correcting it because not all series had the same number of observations . The coefficients of variation have been computed according to the following formula

St.Dev. / [Mean (√ n − 1)]

where n is the number of observations] prove that price discrimination across countries is a phenomenon which goes far beyond the problem of the so called "fiscal barriers". In other words VAT rates harmonization would not be able to bring prices across countries on a row.

3. INDUSTRIAL DETERMINANTS OF PRICE DIFFERENCES

When markets are somehow separeted, price differences among markets might be just the result of a discrimination policy by firms which want to take advantage of separation by charging in each market a different price according either to demand elasticity or to the degree of competition in that market.

Demand elasticity provides information on many features of a market.

First of all it (price elasticity) says something on the habits of consumers in that market, their willingness to buy the good produced by that sector.

Secondly it (income elasticity) tells us whether the good is

inferior, normal or a luxury.

A second thrust to the question of price discrimination could come from market structure. We might think that different market structures give rise to different prices when barriers among countries exist even to a slight degree. This is not to revive the old quarrel about structure-performance; yet we just want to maintain that relative concentration among national markets could be related to the degree of openess of national markets. Only because a more concentrated market is deemed to be less open we will say that higher concentration in the clothing sector could lead to higher prices.

This statement can also be supplemented by the analysis of economies of scale in the textile -clothing sector conducted elsewhere (see Breitenacher-Paba-Rossini, 1988; Mariotti, 1982; Boston Consulting Group, 1984; OECD, 1983, 1987; Owen, 1983). From the wide literature it appears that in this sector economies of scale at plant level do not extend very far. This makes the optimal plant rather small. However this does not mean that the dimension of the firm has to be small as well.Yet simply that concentration is more a matter of market and organization.

Then our supposition is that concentration is a sort of proxy for the existing barriers of a national market. This means that a market where concentration is higher is going to be a market in which international competition is lower and prices are higher.

We tried to test this proposition by using data on prices of two goods produced by two subsectors of clothing industry and the respective concentration indices. The analysis is mainly crossectional, i.e. over the two goods in each EEC country; also time in some way entered the picture since we have used data for 1975 and 1980 pooling cross sections with time series in order

to have a wider sample. Time series are not proper time series since we have just two observations over time. We have to remind that pooling times series and cross sections is acceptable ifstructural coefficients are stable over time (see Maddala,1977). Stability can be simply assessed by analysing the coefficient estimated each year. If these coefficients are stable according to the Chow test we can proceed with pooling, otherwise we cannot.

Let us describe the structure of the relation we want to test. We shall estimate a function whose dependent variable is the price of a good produced by the trousers subsector and a good produced by the knitwear subsector.

The prices come from Eurostat data and cover all EEC countries Concentration is the only explanatory variable: it has been computed by a Gini index on Eurostat data.

The function estimated was

Lprnet = a Lgini

a = 1.0181 S.E. = 0.043 T = 23.55 R^2 = 0.62

S.E.of regr.: 0.6715

log.likelihood = -16.838

where Lprnet is the log of prices while Lgini is the log of concentration indeces for trousers and knitwear in different EEC countries in 1975 and 1980. [log specification is introduced because the Gini coefficient is not a linear measure of concentration].

From the results obtained it seems that over 60 percent of price

differences for two clothing goods across the EEC can be explained by the differences in concentration of their respective country industry.

A second industrial determinant of price differences across EEC countries can be national consumer expenditure structure. The rationale for it can be traced from different elasticities to income of clothing expenditure in each EEC country. In other words we suggest that whenever a country has a higher elasticity of clothing expenditure to income prices of luxuriuos goods tend to be higher. We then collected data on the proportion of clothing expenditure respectively for man and for woman according to different income classes. These data are provided by Eurostat and have been reported in table 3.

AVERAGE ANNUAL EXPENDITURE OF HOUSEHOLDS
ACCORDING TO INCOME CATEGORIES IN 1979[a)]

	overall average				income lower than 1st quartile				income between the 1st quartile and median			
code	GERMANY	FRANCE	ITALY	U.K.	GERMANY	FRANCE	ITALY	U.K.	GERMANY	FRANCE	ITALY	U.K.
20000	810	840	1 045	796	766	713	594	589	733		869	735
21000	657	681	851	626	628	578	452	436	608	624	686	569
21010	668	676	846	626	618	575	448	436	601	619	682	569
21011	216	236		182	109	175		109	180	193		154
21012	375	296		282	421	308		228	348	283		253

	income between the median and the 3rd quartile				income higher than 3rd quartile			
code	GERMANY	FRANCE	ITALY	U.K.	GERMANY	FRANCE	ITALY	U.K.
20000	734	847	1 060	814	747	898	1 173	850
21000	609	685	845	633	628	783	979	683
21010	604	682	841	633	623	732	973	683
21011	207	237		180	224	276		210
21012	325	285		253	334	308		324

a) With total expenditure of households = 10 000.

Source: EUROSTAT
code 20000 = clothing and footwear
code 21000 = clothing other than footwear, including repairs
code 21010 = clothing other than footwear
code 21011 = men's garments
code 21012 = ladies' garments

table 3

From the above table it appears that aggregate clothing in Germany is an inferior good since its share declines as we move to higher income classes. We tried to find a relationship between the prices of goods which are usually bought by people with average income in the first income quartile and the proportion of their expenditure devoted to clothing. As can be seen this is a way to treat in a cirumvented manner the problem of different income elasticities among countries which should allow price discrimination [The problem of price elasticties has been examined recently for the clothing sector also by GATT,1984].
The empirical testings conducted in this case are very poor and we do not present the result since no significant relation seems to exist between the share of expenditure devoted by consumers belonging to different income classes and the prices charged for the goods they buy more frequently. Probably we should try to get data which describe more precisely income elasticities of diverse goods or group of goods.
Now we should shift our attention to price elasticities, since it is more likely that differences in these elasticities should be responsible for price discrimination.

4.STRUCTURAL DETERMINANTS OF PRICE DIFFERENCES

We are going to consider two sorts of structural determinants in order to explain price discrimination. One is per capita income differences among EEC countries and the other is the degree of import penetration from third countries.

4.1 PER CAPITA INCOME DIFFERENCES

The first one is linked to the famous Linder (1961) specialization theory. According to Linder, countries with a higher per capita income tend to buy goods of better quality which should be priced at higher level. This theory is at the basis of a great deal of Intraindustry trade literature (see Loertscher-Wolter,1980; Helpman-Krugman,1985; Helpman,1981). It says that it is a matter of quality if we find for instance classic man wool trousers priced at a spread of about 40 percent between Hamburg and Milan or Madrid, and this quality is directly linked to the standard of living of a country. In other words in Germany people will buy on average better cloths since they are on average richer than their fellow EEC citizens in Madrid. This will imply that on average in German shops we find cloths better styled at a higher price.

We have tested this hypothesis by taking prices of the same goods in two different years (again pooling time series and cross sections data) as explained by per capita income of the respective countries.
The result is as follows:

Lprnet = c + b lgdpcapita

where lp2net is the log of net prices of two homogeneous goods in 1980 and 1985, c is a constant and lgdpcapita is per capita income in the the EEC countries.

c = -.2856 S.E. = .99 T = -.28

b = .3795 S.E. = .10 T = 3.47

R^2 = .4157

SE of regr. = .16

log lik = 8.32

F = 12.09

Even though almost one half of price discrimination is explained by per capita differences it seems that this explanatory variable is not sufficient to give reason of the entire phenomenon.

4.2. IMPORTS FROM THIRD COUNTRIES

It has been argued elsewhere (see Cline, 1987; Breitenacher-Paba-Rossini, 1988) that the degree of import penetration of a market by low cost producers, mainly coming from third world countries, might be one of the main causes of price differences. The reader could at this point ask why price differences are so great. After all the EEC is a common market in which all merchandises can circulate freely without any restraint and imports from third countries should explain mainly the level of overall prices in the EEC rather than price differences. Yet there are some goods which cannot freely circulate in the EEC. Which are and why? We have to remind that imports from third countries are regulated under the Multifiber Agreement which has set limits to imports of textiles and clothing. Yet this would be of no relevance if the limits where estaolished, say, by a uniform tariff or an EEC quota. The fact is that the MFA is "mainly an umbrella" (see Cline, 1987;

Silberston, 1984) while the actual content of MFA is represented by bilateral agreements signed separately by EEC national governments. Each government sets the limits it decides after negotiations with each country separately. Quotas established have to be consistent with the frame set by the MFA.
We know that when a country imposes a quota on an imported good the same quota can give rise to different prices according to the demand elasticities (see Corden,1971). If in addition quotas differ among countries because of separeted agreemnts prices will differ even more.
Yet that is not the end of the story. In presence of huge differences of prices of third countries goods among EEC countries there should be some arbitrage thruogh riexporting. That is in practice impossible because of art.115 of Rome Treaty which requires for every good the declaration of country of origin. Hence a T-shirt imported by Britain which has a more liberal policy cannot be riexported to France which has a more restrictive policy.

It is at this point interesting to see whether imports from third countries coupled to the restraint on riexporting can explain price differences. To do that we resort to imports in quantities available from CIRFS (Comité International de la Rayonne et des Fibres Synthetiques) and we tested our hypothesis. The results are as follows:

The estimated function is

Lprnet =c + d lquota

where the variables have the usual meaning [prnet is again the vector of the whole set of prices no longer restricted as before to only two prices when using p2net] and quota is the inverse of the degree of third world import penetration of a country .

c = 2.53 SE = .54 t = 4.62

d = 0.10 SE = .09 t = 1.16

R^2 = .07

SE of regression = .20

log lik. = 3.94

F = 1.33

As we can see the variable quota does not seem to explain that much.

However we could jointly use many variables to see whether we may be able tobetter explain the phenomenon of price discriminination by giving weight only to some or to all the variables mentioned. After few experiments, the best results were obtained when using as explanatory variables both per capita income and imports from third countries.

In this case the function estimated was

Prnet = c + b gdpcapita + d quota

c = 6.96 SE = 3.09 T = 2.25

b = 0.0013 SE = 0.00024 T = 5.56

d = 0.0091 SE = 0.0029 T = 3.09

R^2 = 0.678

SE of regr. = 2.93

log lik. = -45.79

F = 16.83

It appears that the best way to explain price differences in the EEC in the clothing sector is by using an econometric specification which takes into account both per capita income across countries and import penetration by third world producers [we have to remind that we include among producers from third world, NIC's and Eastern Europe]. These two variables are able to explain almost 2/3 of the price differences in a pooled cross section analysis: this is not a bad result after all. Moreover coefficients have the right sign.

Therefore we can say that

1. The higher the level of income per capita in a country the higher will be the level of the price of a good. This is a further comfirm of Linder, Helpman, Loetscher-Wolter hypothesis: a country which is on average richer will end up by buying the same good yet at a higher price, i.e. with higher quality specifications which let the good be priced higher.

2. The effect of third world import penetration stands clear as well. The influence of cheap imports on prices makes them lower where import penetration is higher (quota is the inverse of third world import penetration).

5. CONCLUSIONS

Some general conclusions might be drawn even though we do not have to attribute too much weight to the empirical relations we

have tested, because their econometric reliability is bounded.

It appears that the hypothesis of some intraindustry trade theorists can be extended. They maintained that a richer country exports merchandises which are priced higher because of their quality. This is the consequence of a specialization beginning on the domestic market where more affluent consumers prefer more luxurious goods. To this it can be added what we found: that countries with greater per capita income will pay more for the same goods which are sold at a lower price in less affluent countries within the EEC. This phenomenon could be thoght of as physiological and the 1992 single market should progressively eliminate it insofar as

1. consumer habits become more akin among EEC consumers, as integration goes on
2. producers become more European in terms of commercial networks
3. trade becomes even less costly because of the eventual elimination of any custom control and perhaps owing to fiscal harmonization.

However the second variable, we found significantly linked to price differences, tells us that a part of price differences is due to the discretionary import policy of each country or at least to the ability of third world producers to enter and be successfull on that market.

Will this disappear in 1992? The answer is not easy since it depends on what is going to happen to the MFA. The result will hinge upon the degree of discretionary power left to each country in negotiating import quotas. The greater will be the room left to bilateralism within the EEC (coupled to art.115 of Rome Treaty) the more likely will be the persistence of price differences among EEC country in the clothing sector.

6.REFERENCES

Boston Consulting Group, 1984, Les Mechanismes de la Competitivitè dans les Industries du Textile et de l'Habillement de la CEE, Paris

Breitenacher M., Paba S., Rossini G., 1988, The Cost of "Non-Europe" in the Textile-Clothing Industry, Research on the "Cost of Non Europe", Basic Findings Volume 14 ,Commission of the European Communities,Bruxelles.

CIFRS,Comité International de la Rayonne et des Fibres Synthètiques, Bullettin,various years.

Cline W.R., 1987, The Future of World Trade in Textiles and Apparel, Washington,Institute for International Economics.

Commission of the EC, 1980, Inventory of Taxes Documents, 1980 and after.

Corden M., 1971, The Theory of Protection , Oxford.

Eurostat,Comitextil Bullettin,various years.

GATT, 1984, Textiles and Clothing in the World Economy, Geneva.

GATT, 1975, Rapports du Comitè des Textiles.Sous -Comitè des Adjustments de Structure,various issues since 1975.

Ginsburgh V.-G.Vanhamme, 1988 ,"Price Discrimination in the EC Car Market:Some Further Results", Discussion Paper n.8804, Université Libre de Bruxelles.

Helpman E., 1981, "International Trade in the Presence of Product Differentiation, Economies of Scale and Monopolistic Competition: a Chamberlin - Heckscher - Ohlin Approach", Journal of International Economics ,pp.305-340.

Helpman E. - P.R.Krugman, 1985, Market Structure and Foreign Trade, Boston.

Linder S., 1961, An Essay on Trade and Transformation, Stockholm.

Loertscher R. - F.Wolter, 1980, "Determinants of Intra - Industry Trade: among Countries and across Industries", Weltwirtschaftliches Archiv, pp. 280-293.

Maddala G.S., 1977, Econometrics ,New York.

Mariotti S., 1982, Efficienza e struttura economica: il caso tessile - abbigliamento, Milan.

OECD, 1987, Structural Adjustment in Industry: Study of the Textile Industry , Paris.

Owen N. , 1983, Economies of Scale,Competitiveness,and Trade Patterns within the EC ,Oxford.

Pelkmans J., 1984, Market Integration in the European Community, The Hague .

Pelkmans J. - P.Robson, 1987, "The Aspirations of the White Paper", Journal of Common Market Studies ,Vol.XXV n.3, pp.181-192.

Silberston Z.A., 1984, The Multifibre Arrangement and the UK Economy, mimeo , Imperial College, London.

Gianpaolo Rossini is associate professor at the University of Verona and lecturer at the University of Bologna (Italy).