



ORGANIZACIÓN INTERNACIONAL DEL CAFÉ
ORGANIZAÇÃO INTERNACIONAL DO CAFÉ
ORGANISATION INTERNATIONALE DU CAFÉ

ICC 105-3

27 August 2010
Original: French

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Study

International Coffee Council
105th Session
21 – 24 September 2010
London, England

**Comparative analysis of retail prices of
coffee in importing countries**

Background

In the context of its programme of activities, the Organization pays particular attention to factors likely to influence coffee consumption in importing countries, especially the retail prices of roasted coffee. The analysis of developments in retail coffee prices in importing countries contained in this document was prepared against this background.

Action

The Council is requested to take note of this document.

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COMPARATIVE ANALYSIS OF RETAIL PRICES OF COFFEE IN IMPORTING COUNTRIES

INTRODUCTION

1. Coffee roasting is an important component of the food and drinks processing industry in many importing countries. Retail prices vary from place to place and exert an important influence in the development of coffee consumption. This study aims to carry out a comparative analysis of retail price changes in a representative selection of importing countries.

2. The methodology used is based on observation of average annual retail prices during the period 1975 to 2009. The criterion for the selection of importing countries to be studied was based on an average annual import volume of at least 1.5 million bags during the period covered by the study. Ten importing countries were selected on this basis (Table 1).

Table 1: Average imports of selected importing countries (in thousands of 60-kg bags)

Importing country	Average 1975-2009	Percentage share	Period average		Percentage share	
			1975-1989	1990-2009	1975-1989	1990-2009
Belgium	2 707	3.0	1 808	3 382	2.6	3.3
France	6 113	6.8	5 669	6 445	8.0	6.2
Germany	12 990	14.5	9 773	15 403	13.9	14.9
Italy	5 316	6.0	3 963	6 331	5.6	6.1
Japan	5 217	5.8	3 579	6 445	5.1	6.2
Netherlands	2 859	3.2	2 764	2 930	3.9	2.8
Spain	3 008	3.4	1 885	3 851	2.7	3.7
Sweden	1 634	1.8	1 670	1 607	2.4	1.6
United Kingdom	2 934	3.3	2 520	3 244	3.6	3.1
USA	20 753	23.2	19 654	21 577	27.9	20.9
Sub-total selected countries	63 531	71.1	53 285	71 215	75.6	68.9
All importing Members 1/	74 255	83.1	60 876	84 288	86.3	81.5
All importing countries	89 305	100.0	70 528	103 388	100.0	100.0

1/ For the purpose of this study, Japan has been grouped with the importing Members.

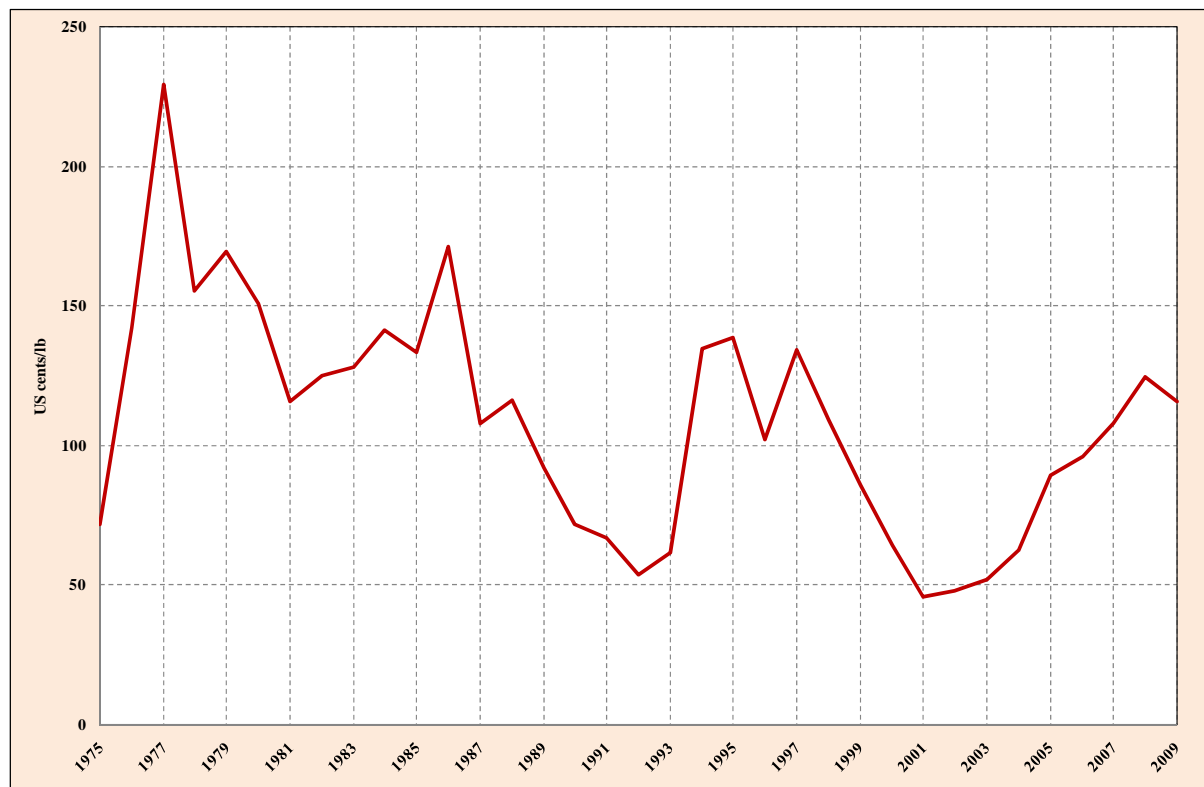
3. These ten countries account for nearly 71% of total coffee imports by all importing countries over the period under study. More specifically, their share of world imports was nearly 69% during the period 1990 to 2009 compared to 76% between 1975 and 1989. This means that the ten importing countries selected hold the dominant share of the world's coffee processing industry. Comparison between retail prices in these ten countries, expressed both in national currencies and US dollars, is the main focus of this study. It should be noted, however, that changes in international coffee prices during the period under study and their relation with retail coffee prices were also taken into account.

I. RELATION BETWEEN ICO COMPOSITE INDICATOR PRICES AND RETAIL PRICES

A. ICO composite indicator prices

4. Graph 1 shows the behaviour of the ICO composite indicator price from 1975 to 2009. The alternation between upward and downward price movements is evident. The analysis is divided, however, into two main periods. The first, from 1975 to 1989, corresponds to the period during which the coffee market was subject to regulation under the provisions of successive International Coffee Agreements¹. During this period coffee prices were relatively high, the ICO composite indicator price averaged at 136.49 US cents per lb.

Graph 1: ICO composite indicator price
Calendar year averages: 1975 to 2009



5. The second period, denominated the free market period, includes observations from 1990 onwards. During this time the average of the ICO composite indicator price was 88.06 US cents per lb – 35% lower than the average of the preceding period. As there were a number of price swings during this period, it has been divided into four sub-periods corresponding to the alternation between price rises and falls.

6. The first sub-period lasted from 1990 to 1993 when price levels fell steadily following the suspension of the economic clauses of the International Coffee Agreement 1983. During

¹ For the purpose of this study, the period 1975 to 1989 is regarded as being influenced by market regulation mechanisms even though quotas were only in force for part of this period (October 1980 to February 1986 and October 1987 to July 1989).

this sub-period, the average of the ICO composite indicator price was 63.33 US cents per lb. The second sub-period, reflecting a relative upsurge in prices, lasted from 1994 to 1998. The average of the ICO composite indicator price was 123.56 US cents per lb. The third sub-period covers the most recent crisis of low coffee prices from 1999 to 2004 with the average ICO composite indicator price at 59.56 US cents per lb. The fourth sub-period, from 2005 to 2009, is characterized by a recovery in price levels, with the average ICO composite indicator price rising to 106.54 US cents per lb – nearly 79% higher than the average during the previous period. Table 2 shows the average of the ICO group and composite prices during the periods and sub-periods studied.

**Table 2: ICO group and composite indicator prices
Period averages – US cents per lb**

	Period			Sub-period			
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-04	2005-09
ICO composite	108.81	136.49	88.06	63.33	123.56	59.56	106.54
Colombian Milds	132.86	158.29	115.06	82.51	157.72	83.80	135.97
Other Milds	123.75	145.24	107.64	77.31	149.54	76.57	127.28
Brazilian Naturals	123.96	161.21	96.02	69.74	139.51	63.99	111.98
Robustas	91.28	125.69	65.46	49.34	97.58	39.91	76.91

B. Relations between prices of green coffee and retail coffee prices

7. In order to analyse the relation between prices of green coffee, as measured by the ICO indicator prices, and retail coffee prices, correlation coefficients between the two series were calculated and, in addition, the extent to which changes in world prices are passed on at retail price level in importing countries was studied. Table 3 shows the results of correlation tests between the ICO composite indicator price and retail prices in the countries studied.

Table 3: Correlation coefficients between the ICO composite indicator and retail prices

	Period			Sub-period			
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-2004	2005-09
Belgium	0.37	0.72	0.73	0.37	0.09	0.49	0.99
France	0.66	0.59	0.57	0.82	-0.05	0.56	0.99
Germany	0.61	0.62	0.80	0.01	0.48	0.73	0.99
Italy	-0.21	0.28	0.46	-0.24	-0.50	0.31	0.99
Japan	-0.02	-0.30	0.31	-0.60	0.42	0.90	-0.32
Netherlands	0.39	0.76	0.72	-0.29	0.07	0.47	1.00
Spain	0.39	0.41	0.64	0.25	-0.22	0.70	0.99
Sweden	0.55	0.57	0.85	0.51	0.32	0.96	0.98
United Kingdom 1/	-0.25	0.11	0.54	0.34	-0.28	0.75	0.59
USA	0.22	0.62	0.83	0.80	0.49	0.66	0.94

1/ Soluble coffee

8. For the entire period under study (1975 to 2009) relatively strong coefficients were recorded only in the case of France, Germany and, to a lesser extent, Sweden, showing a positive correlation between the ICO composite indicator price and retail prices in these three countries. When the broader period is divided into two distinct periods, however, a number of countries show high correlation coefficients.

9. During the first period, from 1975 to 1989, high positive correlations were recorded in six countries, namely Belgium, France, Germany, Netherlands, Sweden and the United States. Japan was the only country that showed a (weak) negative correlation.

10. The second period, 1990 to 2009, which is characterized by the absence of any intervention mechanisms in the coffee market, showed positive correlations between the ICO composite indicator price and retail prices in all importing countries. Japan and Italy, however, showed lower correlations (below 0.5) between retail prices and international prices.

11. The free market period can be divided into two sub-periods of low price levels: 1990 to 1993 and 1999 to 2004; and two sub-periods of relatively high prices: 1994 to 1998 and 2005 to 2009. During the first sub-period of low international prices only France, Sweden and the United States recorded a strong correlation with retail prices. Japan recorded a strong negative correlation, indicating an increase in retail prices while international prices were falling. During the second sub-period (1994 to 1998), coinciding with high price levels, correlation coefficients were not particularly significant, with the exception of Italy, where a negative coefficient (-0.50) was recorded. During the third sub-period (1999 to 2004), known as the coffee crisis period in exporting countries, with international prices of green coffee at their lowest level in many decades, correlation coefficients were strongly positive in many countries. Retail prices accompanied the fall in international green coffee prices in almost all the markets studied. During the last sub-period, which began in 2005 with the recovery in price levels, there was a very strong positive correlation between retail prices and international prices in all the countries studied except Japan, which showed a weak negative correlation coefficient.

12. A second series of statistical tests analysed the relevance of relations between retail prices and international prices, by means of coefficients of determination that measure the proportion of the variation in the retail price which is explained by variations in international prices (Table 4). In other words, the coefficient of determination indicates the proportion of the variation in international prices that is passed on to retail prices in the selected importing countries. For the period as a whole (1975 to 2009), relations between retail prices and international prices are weak in all the countries studied, although France and Germany show relatively significant coefficients of determination.

Table 4: Coefficients of determination (R^2)

	Period		
	1975-2009	1975-1989	1990-2009
Belgium	13.7%	51.1%	53.1%
France	43.5%	35.4%	32.1%
Germany	37.5%	38.5%	64.2%
Italy	4.6%	7.7%	21.4%
Japan 1/	0.1%	9.3%	9.6%
Netherlands 2/	15.1%	57.9%	51.6%
Spain 3/	15.2%	16.9%	41.5%
Sweden	30.2%	32.7%	72.6%
United Kingdom 4/	6.3%	1.3%	29.4%
USA	5.3%	38.9%	69.4%

1/ Period starting 1982 (not 1975), where relevant

2/ Period starting 1977 (not 1975), where relevant

3/ Periods end in 2008, where relevant

4/ Soluble coffee

II. COMPARATIVE ANALYSIS OF CHANGES IN RETAIL PRICES EXPRESSED IN US CURRENCY

A. Changes in retail prices

13. Table 5 shows period averages of retail prices expressed in US cents per lb.

Table 5: Average retail prices of roasted coffee in selected importing countries (US cents per lb)

	Period			Sub-period				% change	
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-2004	2005-09	1990-2009 to 1975-89	2005-2009 to 1999-94
Belgium	363.28	335.19	384.35	300.65	410.13	338.10	481.05	14.7%	42.3%
France	309.75	341.60	285.86	287.46	298.40	232.99	335.50	-16.3%	44.0%
Germany	393.41	398.15	389.86	386.12	429.03	302.07	459.05	-2.1%	52.0%
Italy	483.59	370.84	568.15	534.59	545.68	499.74	699.58	53.2%	40.0%
Japan	1 050.97	859.94	1 127.38	1 233.30	1 507.73	1 031.76	777.04	31.1%	-24.7%
Netherlands	326.04	304.67	342.92	297.74	365.57	295.87	430.36	12.6%	45.5%
Spain	338.89	335.39	341.16	335.24	371.66	287.91	379.30	1.7%	31.7%
Sweden	340.31	337.48	342.44	312.02	427.35	294.09	339.89	1.5%	15.6%
United Kingdom 1/	1 121.21	824.75	1 343.55	988.48	1 376.37	1 318.04	1 625.39	62.9%	23.3%
USA	302.48	273.42	325.43	270.61	374.91	310.98	340.09	19.0%	9.4%
ICO composite	108.81	136.49	88.06	63.33	123.56	59.56	106.54	-35.5%	78.9%

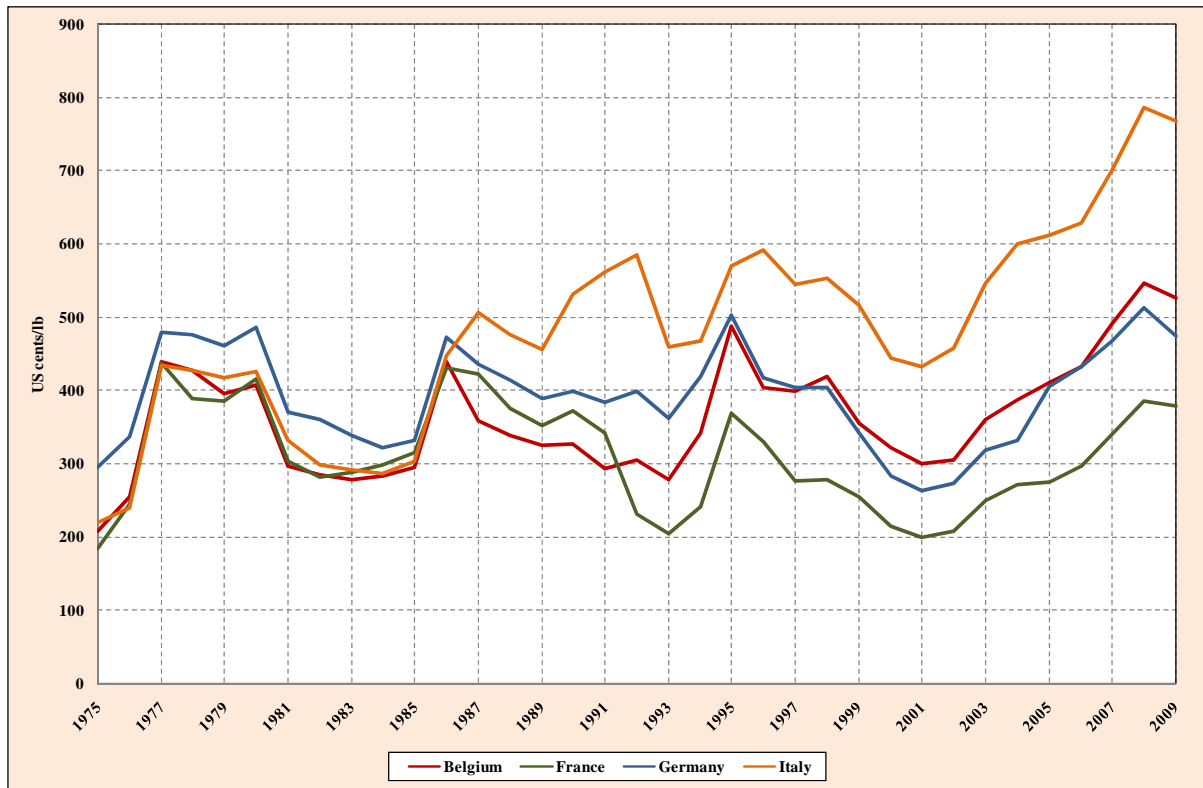
1/ Soluble coffee

14. The table above shows that, for the period 1975 to 2009 as a whole, retail prices were highest in Japan and Italy while the lowest average was recorded in the United States. Retail price data for the United Kingdom are not directly comparable with those in other countries since they relate to soluble coffee. During the regulated market period the highest retail prices were recorded in Japan, Italy and Germany. This was also the case during the free market period (1990 to 2009). On the other hand, comparison between retail price changes during the recent period of relatively high world prices (2005 to 2009) and variations in the preceding period when world price levels were very low (1999 to 2004) shows that retail price increased in all the importing countries except Japan, where the retail price fell by 24.7%. Japan, Italy, Germany, Belgium and the Netherlands recorded the highest retail prices while prices in the United States remained relatively low.

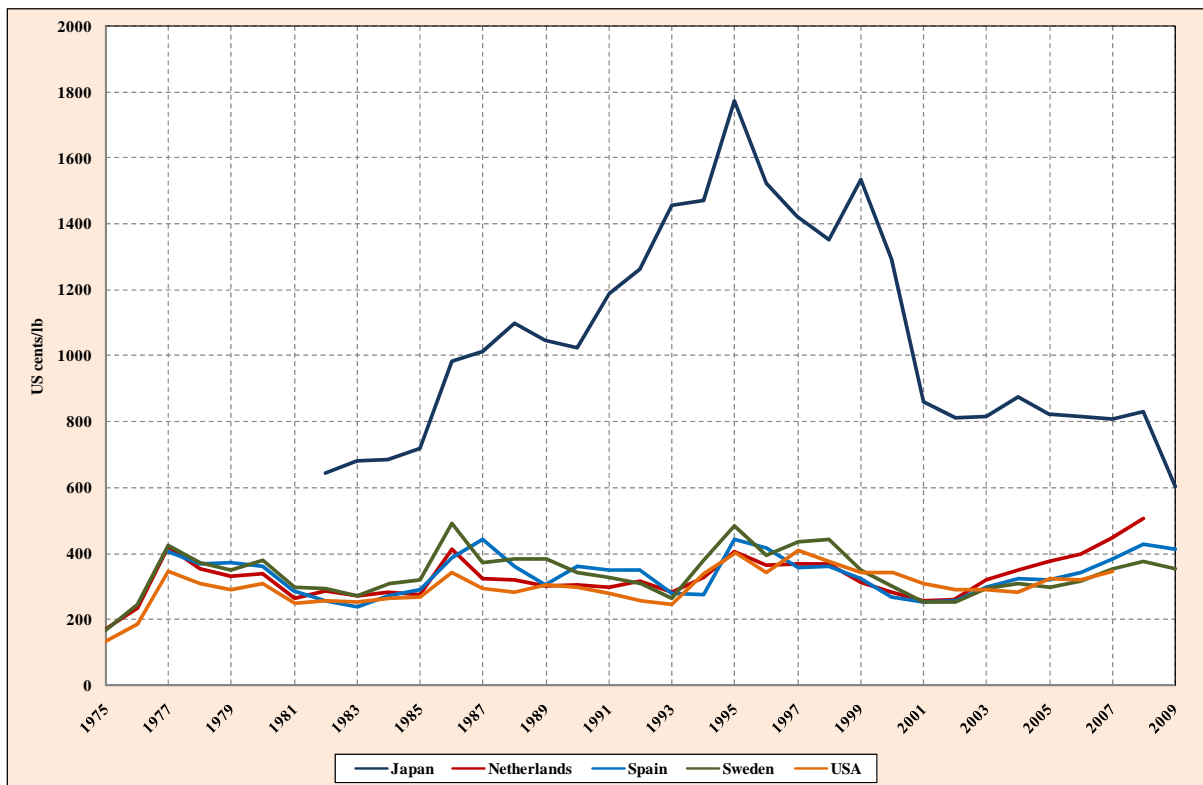
15. More specifically, during the free market period from 1990 to 2009 there were two sub-periods of falling prices (1990 to 1993 and 1999 to 2004) and two sub-periods of relatively high prices (1994 to 1998 and 2005 to 2009). Retail prices increased in all countries during the sub-period 1994 to 1998 compared to the sub-period 1990 to 1993. However, increases were only slight in Italy (+2.1%) and France (+3.8%). When world prices weakened again during the sub-period 1999 to 2004, retail prices also fell, but in much greater proportions in some countries. During the sub-period 2005 to 2009, characterized by relatively high prices with an average increase of 78.9% in the ICO composite indicator prices compared to the level in the sub-period 1999 to 2004, the retail price fell by 24.7% in Japan in contrast to the other importing countries, where retail prices rose by percentages varying from 9.4% in the United States to 52% in Germany.

16. Overall, it can be noted that retail prices in Japan do not necessarily follow changes in world prices. Moreover, retail prices of roasted coffee in Japan are the highest among the importing countries studied. This disparity may be attributable to the complexity of the distribution system in Japan, which is characterized by relatively high costs associated with getting goods to the point of final sale. Graphs 2 and 3 show retail prices in selected importing countries.

**Graph 2: Retail prices of roasted coffee in selected importing countries:
Belgium, France, Germany and Italy**



**Graph 3: Retail prices of roasted coffee in selected importing countries:
Japan, Netherlands, Spain, Sweden and USA**



B. Comparison between growth rates of retail prices

17. Table 6 shows annual growth rates of retail prices in US currency in importing countries during the different periods studied.

Table 6: Annual growth rates of retail prices (US cents per lb)

	Period			Sub-period			
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-2004	2005-09
Belgium	2.8%	3.3%	2.5%	-5.2%	5.2%	1.7%	6.4%
France	2.2%	4.8%	0.1%	-18.4%	3.7%	1.3%	8.3%
Germany	1.4%	2.0%	0.9%	-3.3%	-0.9%	-0.6%	4.0%
Italy	3.8%	5.4%	2.0%	-4.8%	4.3%	3.1%	5.8%
Japan 1/	-0.2%	7.2%	-2.7%	12.4%	-2.1%	-10.6%	-7.4%
Netherlands 2/	3.4%	4.2%	2.9%	-2.6%	3.0%	2.2%	10.4%
Spain 3/	0.1%	-2.4%	0.7%	-8.3%	7.0%	0.0%	6.6%
Sweden	2.2%	6.0%	0.2%	-8.3%	3.9%	-2.6%	4.4%
United Kingdom 4/	4.5%	8.0%	2.2%	-7.2%	7.9%	0.3%	2.1%
USA	3.0%	6.1%	1.1%	-5.9%	2.6%	-3.6%	3.0%

1/ Period starting 1982 (not 1975), where relevant

2/ Periods end in 2008, where relevant

3/ Period starting 1977 (not 1975), where relevant

4/ Soluble coffee

18. Over the period 1975 to 2009 as a whole, retail prices in US currency recorded positive annual growth rates in all importing countries except Japan. The highest annual growth rates were recorded in the United Kingdom (+4.5%), Italy (+3.8%) and the Netherlands (+3.4%). Spain recorded a low annual growth rate (+0.1%). During the period 1975 to 1989, high annual growth rates were recorded in almost all the countries studied with the exception of Spain (-2.4%). During the free market period (1990 to 2009) annual growth rates in a number of countries slackened in comparison to the previous period. Japan recorded negative growth (-2.7%) in retail coffee prices during the free market period. During the short period 1990 to 1993 retail prices fell in all countries but rose by 12.4% in Japan. During the recent crisis of low coffee price levels from 1999 to 2004, retail prices fell only in Germany (-0.6%), Sweden (-2.6%), USA (-3.6%) and Japan (-10.6%). Since 2005 retail prices have gone up in all countries except Japan.

C. Relations among retail prices in importing countries

19. The relation between retail prices in importing countries was analysed for the period 1975 to 2009 as a whole before considering the 1975 to 1989 and 1990 to 2009 sub-periods. Tables 7a and 7b show the results of correlation tests and the coefficients of determination (R^2) calculated for the entire period from 1975 to 2009. The figures in these tables indicate that variations in retail prices in Japan are independent of changes in other countries since

correlation coefficients are very weak with the exception of those for Sweden and the USA. Even in the case of the relation between retail prices in Japan and these two countries, the coefficients of determination indicate proportions of only 24.2% and 18.8%. The second feature highlighted by the results of this test is the existence of a weak relation between Italy and three other European Union countries (France, Germany and Sweden). Similarly, retail prices in the United Kingdom have a weak relation with those of certain other European countries, namely France, Germany, Spain and Sweden.

Table 7a: Correlation coefficients for retail prices in importing countries (1975 to 2009)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.60	0.79	0.77	0.03	0.96	0.78	0.68	0.72	0.80
France	0.60	1.00	0.81	0.25	-0.12	0.58	0.75	0.69	0.08	0.36
Germany	0.79	0.81	1.00	0.50	0.18	0.80	0.83	0.73	0.30	0.51
Italy	0.77	0.25	0.50	1.00	0.11	0.77	0.61	0.41	0.88	0.67
Japan	0.03	-0.12	0.18	0.11	1.00	0.10	0.27	0.49	0.11	0.47
Netherlands	0.96	0.58	0.80	0.77	0.10	1.00	0.75	0.72	0.68	0.78
Spain	0.78	0.75	0.83	0.61	0.27	0.75	1.00	0.73	0.35	0.53
Sweden	0.68	0.69	0.73	0.41	0.49	0.72	0.73	1.00	0.39	0.79
United Kingdom	0.72	0.08	0.30	0.88	0.11	0.68	0.35	0.39	1.00	0.77
USA	0.80	0.36	0.51	0.67	0.47	0.78	0.53	0.79	0.77	1.00

Table 7b: Coefficient of determination (R²)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	100.0%	35.4%	63.1%	59.6%	0.1%	92.5%	60.3%	46.7%	51.5%	61.7%
France	35.4%	100.0%	64.9%	6.2%	1.5%	33.9%	55.9%	47.6%	0.6%	14.0%
Germany	63.1%	64.9%	100.0%	25.5%	3.4%	63.2%	69.4%	53.9%	9.1%	27.4%
Italy	59.6%	6.2%	25.5%	100.0%	1.3%	59.8%	37.2%	16.7%	78.3%	44.7%
Japan	0.1%	1.5%	3.4%	1.3%	100.0%	1.0%	7.3%	24.2%	1.3%	18.8%
Netherlands	92.5%	33.9%	63.2%	59.8%	1.0%	100.0%	56.5%	51.8%	46.4%	57.5%
Spain	60.3%	55.9%	69.4%	37.2%	7.3%	56.5%	100.0%	52.7%	12.5%	30.6%
Sweden	46.7%	47.6%	53.9%	16.7%	24.2%	51.8%	52.7%	100.0%	15.4%	62.7%
United Kingdom	51.5%	0.6%	9.1%	78.3%	1.3%	46.4%	12.5%	15.4%	100.0%	59.7%
USA	61.7%	14.0%	27.4%	44.7%	18.8%	57.5%	30.6%	62.7%	59.7%	100.0%

20. Analysis of data for each of the 1975 to 1989 and 1990 to 2009 periods shows stronger correlations between the retail prices of many importing countries during the earlier period – 1975 to 1989 – in comparison with the second. The rare exceptions are found in Japan and the United Kingdom. Retail prices in Japan showed far more links with other countries during the period 1975 to 1989 (Table 8a and 8b) while no significant links were found for the period 1990 to 2009 (Table 9a and 9b). Correlation coefficients were much stronger between European Union countries, possibly as the result of price harmonization in the eurozone. The United States also showed strong positive correlation coefficients with European Union countries, but a strong negative coefficient with Japan.

Table 8a: Correlation coefficients between retail prices in importing countries (1975 to 1989)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.94	0.97	0.81	0.70	0.95	0.83	0.89	0.63	0.90
France	0.94	1.00	0.92	0.92	0.84	0.94	0.95	0.93	0.79	0.94
Germany	0.97	0.92	1.00	0.84	0.80	0.88	0.85	0.83	0.63	0.82
Italy	0.81	0.92	0.84	1.00	0.97	0.78	0.88	0.85	0.85	0.82
Japan	0.70	0.84	0.80	0.97	1.00	0.61	0.78	0.76	0.98	0.74
Netherlands	0.95	0.94	0.88	0.78	0.61	1.00	0.77	0.95	0.64	0.95
Spain	0.83	0.95	0.85	0.88	0.78	0.77	1.00	0.77	0.52	0.76
Sweden	0.89	0.93	0.83	0.85	0.76	0.95	0.77	1.00	0.77	0.95
United Kingdom	0.63	0.79	0.63	0.85	0.98	0.64	0.52	0.77	1.00	0.80
USA	0.90	0.94	0.82	0.82	0.74	0.95	0.76	0.95	0.80	1.00

Table 8b: Coefficient of determination (R²)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	100.0%	89.0%	93.8%	65.3%	48.5%	90.4%	68.4%	79.6%	39.4%	80.2%
France	89.0%	100.0%	84.9%	83.8%	70.8%	87.5%	90.6%	87.4%	61.7%	87.5%
Germany	93.8%	84.9%	100.0%	70.3%	63.6%	77.9%	72.3%	68.1%	39.9%	67.0%
Italy	65.3%	83.8%	70.3%	100.0%	93.9%	61.2%	77.1%	72.9%	71.6%	67.4%
Japan	48.5%	70.8%	63.6%	93.9%	100.0%	36.7%	61.5%	58.4%	96.6%	54.1%
Netherlands	90.4%	87.5%	77.9%	61.2%	36.7%	100.0%	59.7%	89.4%	40.6%	90.3%
Spain	68.4%	90.6%	72.3%	77.1%	61.5%	59.7%	100.0%	58.7%	26.7%	57.4%
Sweden	79.6%	87.4%	68.1%	72.9%	58.4%	89.4%	58.7%	100.0%	58.6%	90.4%
United Kingdom	39.4%	61.7%	39.9%	71.6%	96.6%	40.6%	26.7%	58.6%	100.0%	63.8%
USA	80.2%	87.5%	67.0%	67.4%	54.1%	90.3%	57.4%	90.4%	63.8%	100.0%

Table 9a: Correlation coefficients between retail prices in importing countries (1990 to 2009)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.72	0.79	0.85	-0.23	0.96	0.78	0.57	0.86	0.67
France	0.72	1.00	0.80	0.76	-0.12	0.70	0.89	0.57	0.46	0.42
Germany	0.79	0.80	1.00	0.77	0.08	0.85	0.86	0.68	0.46	0.48
Italy	0.85	0.76	0.77	1.00	-0.44	0.91	0.78	0.31	0.69	0.29
Japan	-0.23	-0.12	0.08	-0.44	1.00	-0.12	0.10	0.54	-0.36	0.26
Netherlands	0.96	0.70	0.85	0.91	-0.12	1.00	0.78	0.56	0.79	0.54
Spain	0.78	0.89	0.86	0.78	0.10	0.78	1.00	0.72	0.49	0.52
Sweden	0.57	0.57	0.68	0.31	0.54	0.56	0.72	1.00	0.39	0.81
United Kingdom	0.86	0.46	0.46	0.69	-0.36	0.79	0.49	0.39	1.00	0.66
USA	0.67	0.42	0.48	0.29	0.26	0.54	0.52	0.81	0.66	1.00

Table 9b: Coefficient of determination (R²)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	100.0%	51.9%	61.8%	72.7%	5.5%	92.9%	60.7%	32.5%	73.3%	45.2%
France	51.9%	100.0%	64.3%	57.9%	1.4%	49.3%	79.6%	32.9%	20.7%	17.4%
Germany	61.8%	64.3%	100.0%	58.7%	0.7%	72.4%	74.3%	46.0%	21.0%	23.4%
Italy	72.7%	57.9%	58.7%	100.0%	19.6%	82.3%	60.4%	9.4%	48.1%	8.4%
Japan	5.5%	1.4%	0.7%	19.6%	100.0%	1.4%	1.0%	29.6%	12.9%	6.8%
Netherlands	92.9%	49.3%	72.4%	82.3%	1.4%	100.0%	60.3%	31.6%	61.8%	29.1%
Spain	60.7%	79.6%	74.3%	60.4%	1.0%	60.3%	100.0%	52.3%	24.5%	26.6%
Sweden	32.5%	32.9%	46.0%	9.4%	29.6%	31.6%	52.3%	100.0%	15.5%	65.2%
United Kingdom	73.3%	20.7%	21.0%	48.1%	12.9%	61.8%	24.5%	15.5%	100.0%	43.2%
USA	45.2%	17.4%	23.4%	8.4%	6.8%	29.1%	26.6%	65.2%	43.2%	100.0%

III. COMPARATIVE ANALYSIS OF RETAIL PRICES EXPRESSED IN NATIONAL CURRENCIES

A. Changes in retail prices expressed in national currencies

21. Table 10 shows annual growth rates of retail prices expressed in national currencies². Retail prices increased in all countries over the period 1975 to 2009 as a whole, with the exception of Japan where retail prices fell by 2.9% a year; and Germany, which recorded a slight fall in retail prices (0.2% p.a.). The highest annual increases were recorded in the United Kingdom (+5.6%) and Italy (+6.1%). During the regulated market period (1975 to 1989) all countries except Japan recorded retail price rises, but the steepest increases were recorded in Italy (+11.1%), the United Kingdom (+10.4%), Sweden (+9.4%) and France (+7.8). On the other hand, during the period 1990 to 2009 retail prices fell only in Japan (-3.7% p.a.) and France (-0.7%). Slight increases were recorded in the other countries concerned. During the sub-period 2005 to 2009 retail prices fell only in Japan (-5.6%), while all the other countries studied recorded positive growth rates during this period.

² In the case of eurozone countries, time series for the whole 1975 to 2009 period were constructed by converting prices in national currencies to euros at the exchange rate used at the introduction of the euro in 2002.

Table 10: Annual growth rates of retail prices (expressed in national currencies)

	Period			Sub-period			
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-04	2005-09
Belgium	2.1%	3.8%	1.8%	-4.1%	7.5%	-1.3%	3.5%
France	2.4%	7.8%	-0.7%	-17.4%	5.5%	-1.7%	5.3%
Germany	-0.2%	0.1%	0.2%	-2.5%	1.2%	-3.5%	1.0%
Italy	6.1%	11.1%	2.8%	4.3%	6.2%	0.0%	2.9%
Japan 1/	-2.9%	-1.5%	-3.7%	3.0%	4.1%	-11.5%	-5.6%
Netherlands 2/	1.7%	2.9%	1.8%	-1.9%	5.5%	-0.8%	4.4%
Spain 3/	1.5%	1.2%	1.6%	-1.4%	10.0%	-3.0%	3.7%
Sweden	4.1%	9.4%	1.5%	0.5%	4.9%	-4.8%	4.9%
United Kingdom 4/	5.6%	10.4%	2.9%	-1.7%	5.9%	-2.1%	6.0%
USA	3.0%	6.1%	1.1%	-5.9%	2.6%	-3.6%	3.0%

1/ Period starting 1982 (not 1975), where relevant

2/ Periods end in 2008, where relevant

3/ Period starting 1977 (not 1975), where relevant

4/ Soluble coffee

B. Changes in deflated retail prices

22. In order to isolate the impact of inflation on retail price changes, an index was introduced, corrected by the consumer price index and using the year 1982 as a base. Table 11 shows deflated or real growth rates.

Table 11: Annual growth rates of deflated retail prices

	Period			Sub-period			
	1975-2009	1975-1989	1990-2009	1990-93	1994-98	1999-04	2005-09
Belgium	0.7%	0.4%	1.8%	-4.1%	7.5%	-1.3%	3.5%
France	-1.5%	-0.2%	-1.9%	-19.2%	4.0%	-3.6%	6.3%
Germany	-2.4%	-2.9%	-1.4%	-6.5%	-0.3%	-5.1%	1.4%
Italy	-0.3%	-1.0%	0.4%	-1.0%	2.8%	-2.5%	3.9%
Japan 1/	-3.7%	-2.9%	-4.2%	1.2%	3.5%	-11.0%	-6.3%
Netherlands 2/	-1.2%	-0.8%	-0.6%	-5.0%	3.6%	-3.5%	2.6%
Spain 3/	-4.2%	-9.1%	-0.9%	-6.5%	6.8%	-6.0%	5.3%
Sweden	-0.5%	0.9%	0.0%	-4.3%	4.0%	-6.3%	5.1%
United Kingdom 4/	0.4%	1.2%	0.8%	-4.0%	2.7%	-4.5%	6.4%
USA	-0.7%	0.0%	-0.8%	-9.0%	0.2%	-6.0%	3.8%

1/ Period starting 1982 (not 1975), where relevant

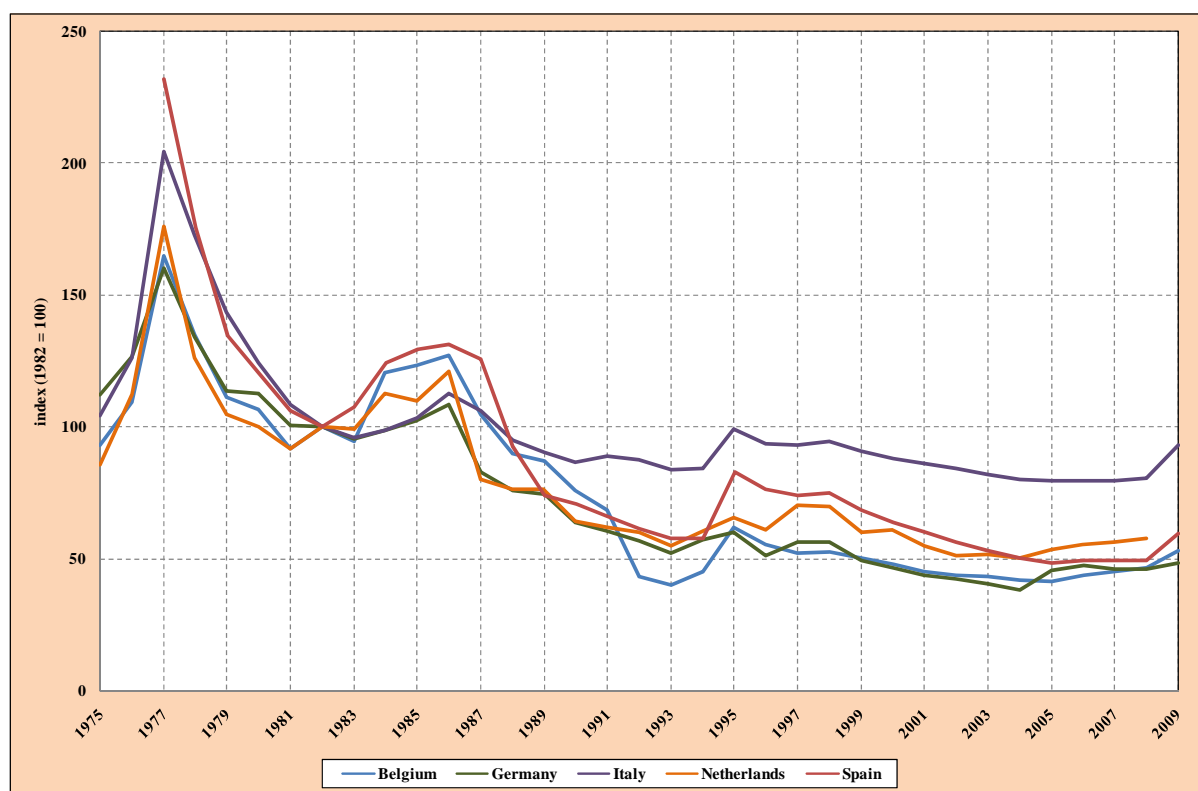
2/ Periods end in 2008, where relevant

3/ Period starting 1977 (not 1975), where relevant

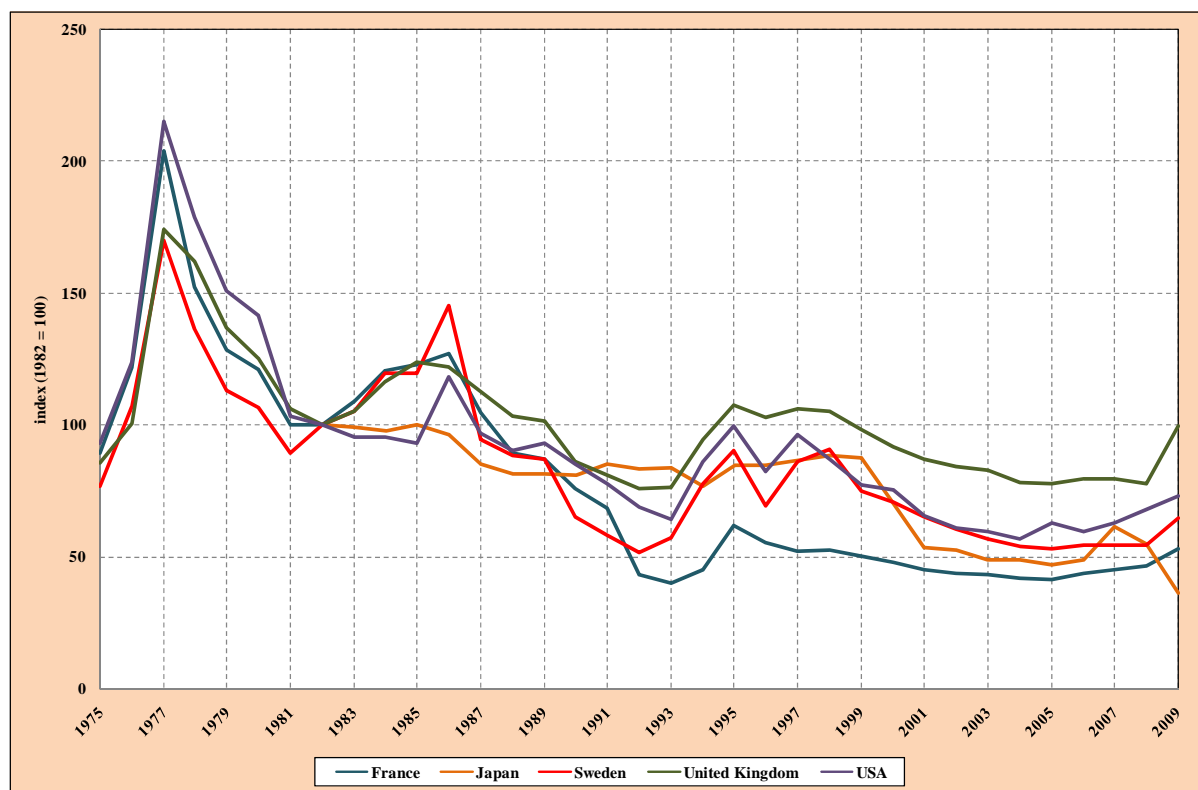
4/ Soluble coffee

23. For the period as a whole, deflated retail prices fell in all countries except Belgium and the United Kingdom, where they grew by 0.7% p.a. and 0.4% respectively. In the case of the 1975 to 1989 sub-period, the deflated data indicate negative annual growth rates in most of the selected countries, especially in Spain (-9.1%), Japan (-2.9%) and Germany (-2.9%). Price rises were recorded in Belgium (+0.4%), Sweden (+0.9%) and the United Kingdom (+1.2%), while prices in the USA remained unchanged in deflated terms. During the 1990 to 2009 sub-period, falls were recorded in most countries, particularly Japan (-4.2%), France (-1.9%), and Germany (-1.4%). The exceptions to this downward trend were Belgium (+1.8%), the United Kingdom (+0.8%) and Italy (+0.4%). Recent developments from 2005 to 2009 show marked increases in deflated retail prices in all the countries studied, with the exception of Japan. Graph 4 and 5 show the index of deflated retail prices (1982=100) in importing countries.

Graph 4: Deflated retail prices index



Graph 5: Deflated retail prices index



C. Correlations between deflated retail prices

24. Analysis of the correlation between retail price indexes in real terms confirms the existence of close links with retail prices in many importing countries. Correlation tests for all the periods and sub-periods studied indicate strong positive correlations between retail price indexes in real terms (Tables 12 to 15).

Table 12: Correlation coefficients for deflated retail price indexes in selected importing countries (1975 to 2009)

Country	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.42	0.82	0.96	0.59	0.39	0.14	0.96	0.91	0.65
France	0.42	1.00	0.82	0.25	0.30	0.96	0.93	0.58	0.03	0.87
Germany	0.82	0.82	1.00	0.70	0.65	0.77	0.60	0.86	0.53	0.87
Italy	0.96	0.25	0.70	1.00	0.53	0.19	-0.01	0.88	0.96	0.58
Japan	0.59	0.30	0.65	0.53	1.00	0.11	0.03	0.58	0.49	0.51
Netherlands	0.39	0.96	0.77	0.19	0.11	1.00	0.97	0.59	-0.08	0.86
Spain	0.14	0.93	0.60	-0.01	0.03	0.97	1.00	0.34	-0.24	0.81
Sweden	0.96	0.58	0.86	0.88	0.58	0.59	0.34	1.00	0.80	0.76
United Kingdom	0.91	0.03	0.53	0.96	0.49	-0.08	-0.24	0.80	1.00	0.32
USA	0.65	0.87	0.87	0.58	0.51	0.86	0.81	0.76	0.32	1.00

Table 13: Correlation coefficients for deflated retail price indexes in selected importing countries (1975 to 1989)

	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.96	0.91	0.86	0.85	0.98	0.93	0.94	0.85	0.86
France	0.96	1.00	0.87	0.92	0.73	0.96	0.98	0.92	0.92	0.91
Germany	0.91	0.87	1.00	0.89	0.92	0.88	0.93	0.73	0.71	0.87
Italy	0.86	0.92	0.89	1.00	0.36	0.83	0.93	0.75	0.89	0.98
Japan	0.85	0.73	0.92	0.36	1.00	0.86	0.56	0.65	0.40	0.32
Netherlands	0.98	0.96	0.88	0.83	0.86	1.00	0.92	0.94	0.81	0.82
Spain	0.93	0.98	0.93	0.93	0.56	0.92	1.00	0.89	0.95	0.89
Sweden	0.94	0.92	0.73	0.75	0.65	0.94	0.89	1.00	0.86	0.76
United Kingdom	0.85	0.92	0.71	0.89	0.40	0.81	0.95	0.86	1.00	0.90
USA	0.86	0.91	0.87	0.98	0.32	0.82	0.89	0.76	0.90	1.00

Table 14: Correlation coefficients for deflated retail price indexes in selected importing countries (1990 to 2009)

	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.57	0.97	1.00	0.58	-0.46	-0.70	0.98	1.00	0.79
France	0.57	1.00	0.66	0.57	0.40	0.26	-0.03	0.60	0.56	0.75
Germany	0.97	0.66	1.00	0.97	0.66	-0.32	-0.63	0.96	0.97	0.85
Italy	1.00	0.57	0.97	1.00	0.57	-0.48	-0.71	0.97	1.00	0.77
Japan	0.58	0.40	0.66	0.57	1.00	-0.21	-0.32	0.57	0.53	0.47
Netherlands	-0.46	0.26	-0.32	-0.48	-0.21	1.00	0.88	-0.27	-0.49	0.47
Spain	-0.70	-0.03	-0.63	-0.71	-0.32	0.88	1.00	-0.58	-0.72	-0.06
Sweden	0.98	0.60	0.96	0.97	0.57	-0.27	-0.58	1.00	0.98	0.88
United Kingdom	1.00	0.56	0.97	1.00	0.53	-0.49	-0.72	0.98	1.00	0.77
USA	0.79	0.75	0.85	0.77	0.47	0.47	-0.06	0.88	0.77	1.00

Table 15: Correlation coefficients for deflated retail price indexes in selected importing countries (2005 to 2009)

	Belgium	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	USA
Belgium	1.00	0.98	1.00	1.00	0.56	-0.97	-0.93	1.00	1.00	0.99
France	0.98	1.00	0.97	0.99	0.40	-0.95	-0.85	0.99	0.99	0.99
Germany	1.00	0.97	1.00	1.00	0.61	-0.97	-0.95	0.99	0.99	0.98
Italy	1.00	0.99	1.00	1.00	0.53	-0.97	-0.92	1.00	1.00	1.00
Japan	0.56	0.40	0.61	0.53	1.00	-0.98	-0.82	0.51	0.49	0.37
Netherlands	-0.97	-0.95	-0.97	-0.97	-0.98	1.00	0.98	-0.97	-0.98	-0.99
Spain	-0.93	-0.85	-0.95	-0.92	-0.82	0.98	1.00	-0.90	-0.89	-0.89
Sweden	1.00	0.99	0.99	1.00	0.51	-0.97	-0.90	1.00	1.00	1.00
United Kingdom	1.00	0.99	0.99	1.00	0.49	-0.98	-0.89	1.00	1.00	1.00
USA	0.99	0.99	0.98	1.00	0.37	-0.99	-0.89	1.00	1.00	1.00

CONCLUSION

25. Changes in world coffee prices appear to be passed on at the retail price level in many importing countries. This relation is much stronger when world price levels are high. During periods of rising world prices, rapid upward readjustments of retail prices occur in some importing countries. During periods of low world prices, as was the case in the period from 1999 to 2004, downward adjustments were much slower. The situation is completely different in the case of Japan where retail prices show little relation to world price changes.

26. In the case of relations between retail prices in importing countries themselves, there appears to be some convergence between countries. Japan is a singular case, however, since retail prices show no significant links with prices in other countries. It would be interesting to explore the extent to which these retail price levels influence consumption in Japan.

27. The analysis of deflated prices in national currency shows that most countries recorded declines from 1975 to 2009. In other words, retail prices do not appear to have constituted a significant obstacle to the expansion of consumption in the period under study.