

# International Comparisons of Medicine Prices: 2011 Indices

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## Introduction

- The Department of Health (DH) in England has published international price comparisons of branded primary care medicines in its yearly Pharmaceutical Price Regulation Scheme (PPRS) Report to Parliament since 1996 (DH, 1996). The most recent Report contains comparisons for 2010 (DH, 2012).
- Two factors have a major effect on any international price comparison: i) the basket of medicines for which prices are compared; and ii) the exchange rates used to convert prices to pounds sterling from a variety of local currencies.

## Objectives

- To update the international price indices for 2011 using the same methods as the DH: bilateral comparisons among the countries of interest and the UK for the 250 branded primary medicines with the highest sales in England in 2011.

## Methods

- Three steps are involved in creating the database for price comparisons:
  - identify the top-selling 250 branded drugs in England; this has always been based on Prescription Cost Analysis (PCA) data for England, which only covers primary care drugs;
  - identify which of these 250 branded drugs are available in the comparator countries; prices and availability of this sample of branded drugs in the comparator countries is based on the IMS MIDAS database; and
  - match the PCA data with the IMS MIDAS data. The latter is the most labour intensive work as it requires to match manually the UK brand names with the international names. To do so, additional sources of information are used such as the online UK medicines compendium, IMS Data View and companies' websites.
- Bilateral comparisons imply the sample of brands available in both the UK and the comparator country varies between comparator countries, though considerable overlapping between samples is likely. Table 1 shows the % of total branded medicine sales in England in 2011 that the sample used for each pairwise comparison represents, e.g. the sample for comparing prices in the UK and Australia represents 51% of total 2011 branded medicine sales in England.
- For each bilateral basket, a weighted average price was calculated by multiplying the price in local currency by PCA UK volume sales for each comparator country and dividing total volume for the sample. Thereafter, the price index is converted into pounds sterling using market exchange rates.

Table 1. Value of sales in sample for each bilateral comparison as a share of total branded sales in England 2011

Country	Share of total branded NIC
Australia	51%
Austria	53%
Belgium	44%
Finland	54%
France	54%
Germany	58%
Ireland	60%
Italy	50%
Netherlands	56%
Spain	50%
Sweden	57%
US	40%

## Results

Table 2. Bilateral comparisons of ex-manufacturer prices (2005-2011)

	2005	2006	2007	2008	2009	2010	2011	2011 indices using five-year average exchange rate
Australia			94	94	126	139	143	120
Austria	96	94	96	111	125	117	115	112
Belgium	95	97	101	122	132	122	123	119
Finland	101	96	99	119	113	105	103	100
France	96	89	92	108	115	104	104	101
Germany	108	105	113	142	169	155	153	148
Ireland	103	105	112	134	144	133	123	119
Italy	84	78	83	101	120	113	101	98
Netherlands	95	94	99	115			117	113
Spain	84	85	88	109	118	106	101	98
Sweden		103	105	116	126	130	134	123
UK	100	100	100	100	100	100	100	100
US	198	188	183	252	249	281	331	313

Note: Blank cell = data not available. Source: "2005–2010" are from DH (2012); "2011" and "2011 indices using five-year average exchange rate" are OHE Consulting calculations using source data from IMS Health AG and PCA data.

Sources Table 3 : OHE Consulting calculation using source data from IMS Health AG and PCA data.  
Exchange rates: Bank of England (2012). "2007" = 2011 price index based on average Q4 2007 exchange rates, "2008" = 2011 price index based on average Q4 2008 exchange rates and so on, up to "2010" = 2011 price index based on average Q4 2010 exchange rates.

Table 3. Sensitivity analysis: 2011 price indices relative to UK=100 using different exchange rates

Q4 exchange rate used	2007	2008	2009	2010	2011
Australia	97	95	124	139	143
Austria	95	112	121	115	115
Belgium	101	120	129	123	123
Finland	85	101	109	103	103
France	86	102	110	104	104
Germany	126	149	161	153	153
Ireland	101	120	129	123	123
Italy	84	99	107	102	101
Netherlands	96	114	123	117	117
Spain	83	98	106	101	101
Sweden	108	116	124	132	134
US	254	330	318	329	331
UK	100	100	100	100	100

Table 4. Exchange rates used

£1 = each of the currencies	Q4 2007	Q4 2008	Q4 2009	Q4 2010	Q4 2011	Average Q4 rates
AUD	2.30	2.34	1.80	1.60	1.55	1.92
EURO	1.41	1.20	1.11	1.16	1.17	1.21
USD	2.05	1.57	1.63	1.58	1.57	1.68
SEK	13.12	12.23	11.44	10.73	10.60	11.62

## Discussion

- In the early 2000s, UK prices included in the annual PPRS Report to Parliament were among the highest relative to the comparator countries.
- From 2007 to 2008, however, there was a significant drop in the UK ranking, from mid-position to bottom range. This study does not explore the reasons for this change in rankings, as multiple factors come into play.
- Undoubtedly, however, a part of this change in the UK ranking is due to the depreciation of the pound sterling: the annual average effective exchange rate index (base Jan 2005 = 100) was 103.7 in Dec 2007 and 80 in Dec 2011 index.

## Conclusions

- Based on this analysis, prices in 2011 for the leading branded medicines in primary care in the UK were still in the bottom quartile.
- International price comparisons are not straightforward. Many issues and factors determine how prices of medicines in the UK compare to those in the rest of the world. There is no single, perfect method for analysing price differences across countries, but some methods are more appropriate than others and depend on the objective of the comparison.