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[^0] or internal use is permitted.

# Retail Sales Index <br> May 2011 (First Estimates) <br> April 2011 (Final Figures) 

Seasonally Adjusted Retail Sales Index - All Businesses
(Base year $2005=100$ )

| Volume Index | Value Index |
| ---: | ---: |
| 94.6 | 89.7 |
| 91.5 | 87.4 |
| 92.7 | 88.4 |
|  |  |
| $+1.3 \%$ | $+1.1 \%$ |
| $-2.1 \%$ | $-1.5 \%$ |

## Retail Sales volume decreased by 2.1\% in May 2011 compared with May 2010

The volume of retail sales (i.e. excluding price effects) decreased by $2.1 \%$ in May 2011 when compared with May 2010 and there was a monthly increase of $1.3 \%$. If Motor Trades are excluded, the volume of retail sales decreased by $5.1 \%$ in May 2011 when compared with May 2010, while there was a monthly decrease of $0.6 \%$.

Motor Trades ( $+13.0 \%$ ) and Electrical Goods ( $+2.9 \%$ ) were the only categories that showed year-on-year increases in the volume of retail sales this month. Hardware Paints \& Glass ( $-13.9 \%$ ), Other Retail Sales ( $-10.3 \%$ ) and Fuel ( -9.9 ), were amongst the eleven categories that showed year-on-year decreases in the volume of retail sales this month.

The value of retail sales decreased by $1.5 \%$ in May 2011 when compared with May 2010 and there was a month-on-month change of $+1.1 \%$. If Motor Trades are excluded, there was an annual decrease of $3.5 \%$ in the value of retail sales and a monthly decrease of $1.2 \%$.

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Table 1 Seasonally Adjusted Indices of Total Retail Sales ${ }^{1}$

Total Retail Sales for all Businesses Combined

| Period | Value of Sales |  |  | Volume of Sales |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Index | \% change on previous period | Annual \% change | Index | \% change on previous period | Annual \% change |
| 2006 Year | 108.1 | 8.1 | 8.1 | 107.3 | 7.3 | 7.3 |
| 2007 Year | 116.0 | 7.3 | 7.3 | 114.7 | 6.9 | 6.9 |
| 2008 Year | 110.8 | -4.5 | -4.5 | 107.7 | -6.1 | -6.1 |
| 2009 Year | 90.9 | -18.0 | -18.0 | 92.6 | -14.0 | -14.0 |
| 2010 Year | 89.1 | -2.0 | -2.0 | 93.5 | 1.0 | 1.0 |
| 2010 1st quarter | 87.2 | -4.2 | -2.5 | 90.9 | -3.5 | 1.7 |
| 2nd quarter | 90.0 | 3.2 | -0.7 | 94.8 | 4.3 | 3.0 |
| 3rd quarter | 89.3 | -0.8 | -2.5 | 94.1 | -0.7 | 0.2 |
| 4th quarter | 89.0 | -0.3 | -2.2 | 93.5 | -0.6 | -0.7 |
| 2011 1st quarter | 87.8 | -1.3 | 0.7 | 91.4 | -2.2 | 0.6 |
| 2009 December | 91.9 | 1.3 | -12.5 | 95.5 | 1.9 | -7.5 |
| 2010 January | 83.5 | -9.1 | -6.5 | 85.1 | -10.8 | -2.2 |
| February | 88.3 | 5.7 | -0.8 | 92.8 | 9.0 | 3.4 |
| March | 89.3 | 1.2 | -0.4 | 94.1 | 1.4 | 3.4 |
| April | 90.8 | 1.6 | 1.8 | 95.4 | 1.4 | 6.2 |
| May | 89.7 | -1.2 | -0.8 | 94.6 | -0.9 | 2.8 |
| June | 89.5 | -0.3 | -2.7 | 94.5 | -0.1 | 1.0 |
| July | 89.0 | -0.5 | -3.0 | 93.8 | -0.7 | -0.2 |
| August | 89.6 | 0.7 | -2.0 | 94.5 | 0.7 | 0.9 |
| September | 89.2 | -0.5 | -2.5 | 94.0 | -0.5 | 0.0 |
| October | 89.8 | 0.6 | -0.6 | 94.4 | 0.4 | 1.4 |
| November | 89.2 | -0.6 | -1.6 | 93.9 | -0.5 | 0.2 |
| December | 88.2 | -1.2 | -4.0 | 92.4 | -1.6 | -3.2 |
| 2011 January | 87.1 | -1.2 | 4.3 | 89.4 | -3.2 | 5.1 |
| February | 88.1 | 1.0 | -0.3 | 92.2 | 3.0 | -0.6 |
| March | 88.2 | 0.1 | -1.3 | 92.3 | 0.2 | -1.9 |
| April | 87.4 | -0.9 | -3.7 | 91.5 | -0.9 | -4.2 |
| May ${ }^{2}$ | 88.4 | 1.1 | -1.5 | 92.7 | 1.3 | -2.1 |

[^1]Table 2 Seasonally Adjusted Indices of Total Retail Sales (Excluding Motor Trades) ${ }^{1}$
Base Year: 2005=100

| Period | Total Retail Sales for all Businesses Combined (Excl Motor Trades) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value of Sales |  |  | Volume of Sales |  |  |
|  | Index | \% change on previous period | Annual \% change | Index | \% change on previous period | Annual \% change |
| 2006 Year | 108.1 | 8.1 | 8.1 | 107.6 | 7.6 | 7.6 |
| 2007 Year | 115.8 | 7.1 | 7.1 | 115.0 | 6.9 | 6.9 |
| 2008 Year | 114.9 | -0.8 | -0.8 | 111.8 | -2.8 | -2.8 |
| 2009 Year | 102.1 | -11.1 | -11.1 | 104.2 | -6.8 | -6.8 |
| 2010 Year | 97.8 | -4.2 | -4.2 | 102.4 | -1.7 | -1.7 |
| 2010 1st quarter | 99.0 | 1.0 | -6.7 | 103.3 | 1.4 | -2.8 |
| 2nd quarter | 98.3 | -0.7 | -4.1 | 103.5 | 0.2 | -0.2 |
| 3 rd quarter | 96.9 | -1.4 | -4.2 | 101.8 | -1.6 | -2.2 |
| 4 th quarter | 95.9 | -1.0 | -2.1 | 100.2 | -1.6 | -1.7 |
| 2011 1st quarter | 97.1 | 1.3 | -1.9 | 100.3 | 0.1 | -2.9 |
| 2009 December | 97.8 | -0.1 | -11.1 | 101.8 | -0.2 | -6.3 |
| 2010 January | 98.4 | 0.6 | -8.3 | 101.6 | -0.2 | -4.7 |
| February | 98.8 | 0.4 | -7.6 | 104.0 | 2.3 | -3.1 |
| March | 99.6 | 0.7 | -4.7 | 104.2 | 0.2 | -1.1 |
| April | 98.9 | -0.6 | -3.4 | 104.2 | 0.1 | 1.2 |
| May | 98.6 | -0.3 | -3.4 | 103.5 | -0.7 | 0.0 |
| June | 97.6 | -1.0 | -5.1 | 102.9 | -0.6 | -1.6 |
| July | 97.0 | -0.6 | -4.9 | 102.0 | -0.9 | -2.5 |
| August | 97.1 | 0.0 | -3.9 | 102.1 | 0.2 | -1.7 |
| September | 96.6 | -0.4 | -3.8 | 101.5 | -0.6 | -2.1 |
| October | 96.9 | 0.3 | -1.6 | 101.5 | 0.0 | -0.5 |
| November | 96.1 | -0.9 | -1.9 | 101.1 | -0.4 | -0.9 |
| December | 95.0 | -1.1 | -2.9 | 98.4 | -2.7 | -3.3 |
| 2011 January | 97.7 | 2.9 | -0.7 | 100.5 | 2.2 | -1.0 |
| February | 96.6 | -1.2 | -2.3 | 100.2 | -0.3 | -3.6 |
| March | 96.9 | 0.3 | -2.7 | 100.1 | -0.1 | -3.9 |
| April | 96.3 | -0.6 | -2.7 | 98.9 | -1.2 | -5.2 |
| May ${ }^{2}$ | 95.2 | -1.2 | -3.5 | 98.2 | -0.6 | -5.1 |

[^2]Table 3 Seasonally Adjusted ${ }^{1}$ Value and Volume Indices of Retail Sales for 13 Retail Businesses
(Preliminary Estimates)
Base Year: 2005=100

|  | mina | Estimat |  | Year | 2005=10 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Retail Business - NACE REV 2 | May 2011 |  |  |  |  |  |
|  | Value of Sales |  |  | Volume of Sales |  |  |
|  | Index | \% change on previous month | $\begin{array}{r} \text { Annual \% } \\ \text { change } \end{array}$ | Index | \% change on previous month | Annual \% change |
| Motor Trades | 66.6 | 11.3 | 9.2 | 71.9 | 7.4 | 13.0 |
| Non-Specialised Stores (excluding Department Stores) | 115.5 | -1.5 | -0.4 | 114.5 | -1.8 | -1.5 |
| Department Stores | 85.1 | -2.4 | -3.2 | 110.3 | -2.4 | -3.5 |
| Food beverages \& Tobacco | 86.4 | -0.4 | -3.9 | 85.3 | -0.5 | -4.3 |
| Fuel | 108.1 | 2.4 | 1.1 | 79.3 | 1.9 | -9.9 |
| Pharmaceuticals Medical \& Cosmetic Articles | 104.3 | 0.8 | -4.6 | 112.3 | 0.8 | -5.6 |
| Clothing, Footwear \& Textiles | 81.5 | -4.7 | -7.6 | 112.5 | -4.9 | -7.8 |
| Furniture and Lighting | 59.3 | 2.4 | -10.4 | 78.0 | 2.9 | -7.2 |
| Hardware, Paints \& Glass | 74.7 | -12.3 | -14.5 | 78.1 | -11.8 | -13.9 |
| Electrical Goods | 73.8 | 1.4 | -3.1 | 125.6 | 2.0 | 2.9 |
| Books, Newspapers and Stationery | 71.8 | -2.8 | -7.3 | 65.7 | -1.9 | -9.6 |
| Other Retail Sales | 77.9 | 1.8 | -8.6 | 92.2 | 1.6 | -10.3 |
| Bars | 74.4 | -3.6 | -7.9 | 68.4 | -2.6 | -8.1 |
| All Businesses excl. Motor Trades | 95.2 | -1.2 | -3.5 | 98.2 | -0.6 | -5.1 |
| All Businesses | 88.4 | 1.1 | -1.5 | 92.7 | 1.3 | -2.1 |
| Of which:Combined Groups |  |  |  |  |  |  |
| All Businesses excl Motor Trades \& Bars | 97.9 | -0.8 | -3.0 | 103.2 | -0.6 | -4.8 |
| Motors \& Fuel | 74.8 | 5.9 | 6.3 | 73.3 | 4.0 | 6.2 |
| All Bus. Excl. Motor Trades, Fuel \& Bars | 96.5 | -1.3 | -3.4 | 106.6 | -1.2 | -4.0 |
| Food Businesses | 113.0 | -1.2 | -0.6 | 112.0 | -1.9 | -1.7 |
| Non-Food (Excl Motor Trades, Fuel \& Bars) | 82.0 | -2.0 | -7.2 | 100.7 | -1.7 | -7.1 |
| Household Equipment | 71.4 | -3.5 | -9.6 | 93.6 | -3.2 | -6.8 |
| Books, Newspapers Stationery \& Other Goods | 77.1 | 0.6 | -8.3 | 86.0 | 0.4 | -10.2 |

[^3]Table 4 Seasonally Adjusted ${ }^{1}$ Value and Volume Indices of Retail Sales for 13 Retail Businesses
Base Year: 2005=100

| Retail Business - NACE REV 2 | April 2011 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value of Sales |  |  | Volume of Sales |  |  |
|  | Index | \% change on previous month | Annual \% change | Index | \% change on previous month | Annual \% change |
| Motor Trades | 59.9 | -4.9 | -4.8 | 66.9 | -1.0 | -1.8 |
| Non-Specialised Stores (excluding Department Stores) | 117.2 | 0.4 | 1.1 | 116.5 | 1.0 | -0.2 |
| Department Stores | 87.2 | -0.8 | 0.3 | 113.0 | -1.0 | 1.2 |
| Food beverages \& Tobacco | 86.7 | -1.9 | -4.9 | 85.8 | -2.0 | -5.4 |
| Fuel | 105.6 | -0.9 | -0.7 | 77.8 | -0.1 | -11.8 |
| Pharmaceuticals Medical \& Cosmetic Articles | 103.5 | -0.1 | -7.1 | 111.4 | 0.0 | -8.3 |
| Clothing, Footwear \& Textiles | 85.4 | -1.8 | -2.0 | 118.2 | -2.6 | 0.7 |
| Furniture and Lighting | 57.9 | -0.4 | -13.3 | 75.8 | -1.5 | -10.3 |
| Hardware, Paints \& Glass | 85.2 | 4.1 | -1.0 | 88.5 | 3.9 | -0.5 |
| Electrical Goods | 72.8 | 0.4 | -7.4 | 123.2 | 1.5 | -1.8 |
| Books, Newspapers and Stationery | 73.9 | 2.7 | -14.6 | 66.9 | 0.9 | -15.2 |
| Other Retail Sales | 76.6 | -4.2 | -16.5 | 90.7 | -4.5 | -16.5 |
| Bars | 77.2 | 1.8 | -4.9 | 70.3 | 1.3 | -6.2 |
| All Businesses excl. Motor Trades | 96.3 | -0.6 | -2.7 | 98.9 | -1.2 | -5.2 |
| All Businesses | 87.4 | -0.9 | -3.7 | 91.5 | -0.9 | -4.2 |
| Of which:Combined Groups |  |  |  |  |  |  |
| All Businesses excl Motor Trades \& Bars | 98.7 | -0.8 | -3.2 | 103.8 | -0.6 | -4.9 |
| Motors \& Fuel | 70.6 | -1.4 | -3.4 | 70.5 | 0.2 | -3.6 |
| All Bus. Excl. Motor Trades, Fuel \& Bars | 97.8 | -0.6 | -3.8 | 107.9 | -0.4 | -4.2 |
| Food Businesses | 114.4 | 0.0 | 0.7 | 114.1 | 0.9 | -0.3 |
| Non-Food (Excl Motor Trades, Fuel \& Bars) | 83.7 | -0.4 | -5.9 | 102.5 | -0.5 | -5.8 |
| Household Equipment | 74.0 | 0.8 | -5.0 | 96.6 | 1.1 | -2.2 |
| Books, Newspapers Stationery \& Other Goods | 76.6 | -3.4 | -15.6 | 85.6 | -2.7 | -16.8 |

[^4]Table 5 Seasonally Adjusted ${ }^{1}$ Value and Volume Indices of Retail Sales for 13 Retail Businesses
(Preliminary Estimates)
Base Year: 2005=100

| Retail Business - NACE REV 2 | March-May 2011 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value of Sales |  |  | Volume of Sales |  |  |
|  | Index | \% change on previous period | Annual \% change | Index | \% change on previous period | $\begin{array}{r} \text { Annual \% } \\ \text { change } \end{array}$ |
| Motor Trades | 63.2 | 5.5 | 2.8 | 68.7 | 6.3 | 6.2 |
| Non-Specialised Stores (excluding Department Stores) | 116.5 | 0.5 | 0.9 | 115.5 | 1.0 | -0.3 |
| Department Stores | 86.8 | 2.6 | -0.7 | 112.6 | 2.9 | 0.0 |
| Food beverages \& Tobacco | 87.3 | -0.8 | -4.1 | 86.3 | -0.9 | -4.5 |
| Fuel | 106.7 | 4.2 | 0.1 | 78.3 | 0.0 | -11.5 |
| Pharmaceuticals Medical \& Cosmetic Articles | 103.7 | -1.1 | -5.7 | 111.7 | -1.8 | -7.0 |
| Clothing, Footwear \& Textiles | 84.8 | -1.7 | -3.4 | 117.7 | -0.3 | -1.3 |
| Furniture and Lighting | 58.4 | 7.0 | -14.2 | 76.9 | 7.6 | -11.1 |
| Hardware, Paints \& Glass | 80.7 | 2.7 | -5.7 | 84.0 | 2.7 | -5.1 |
| Electrical Goods | 73.0 | -3.2 | -7.5 | 123.2 | -1.7 | -1.9 |
| Books, Newspapers and Stationery | 72.5 | -3.8 | -10.9 | 66.3 | -3.1 | -12.3 |
| Other Retail Sales | 78.3 | -6.7 | -13.2 | 92.8 | -4.7 | -14.9 |
| Bars | 75.8 | -3.3 | -7.1 | 69.3 | -3.5 | -7.8 |
| All Businesses excl. Motor Trades | 96.2 | -0.1 | -2.9 | 99.1 | -0.5 | -4.7 |
| All Businesses | 88.0 | 0.2 | -2.1 | 92.2 | 0.9 | -2.6 |
| Of which:Combined Groups |  |  |  |  |  |  |
| All Businesses excl Motor Trades \& Bars | 98.8 | 0.3 | -2.7 | 103.9 | 0.2 | -4.5 |
| Motors \& Fuel | 72.3 | 4.0 | 2.0 | 71.3 | 2.6 | 1.7 |
| All Bus. Excl. Motor Trades, Fuel \& Bars | 97.6 | -0.5 | -3.2 | 107.7 | 0.2 | -3.4 |
| Food Businesses | 114.0 | 0.4 | 0.6 | 113.1 | 1.0 | -0.4 |
| Non-Food (Excl Motor Trades, Fuel \& Bars) | 83.3 | -0.2 | -6.6 | 102.1 | -0.3 | -6.6 |
| Household Equipment | 73.0 | -0.3 | -7.7 | 95.3 | 0.4 | -4.9 |
| Books, Newspapers Stationery \& Other Goods | 77.8 | -4.0 | -12.6 | 86.6 | -4.7 | -14.6 |

[^5]Table 6
Volume of retail trade in the euro-zone, the EU27 and Member States ${ }^{1}$ Annual \% change compared with the same month of the previous year

|  | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Austria | 4.2 | 0.9 | -0.2 | -1.0 | -1.7 | -0.6 |
| Belgium | 4.1 | 1.6 | 0.3 | 3.0 | 1.7 | 5.8 |
| Finland | 3.2 | 1.8 | 3.7 | 3.1 | 1.4 | 4.1 |
| France | 6.0 | 4.2 | 5.0 | 5.9 | 3.9 | 5.2 |
| Germany | 0.1 | 0.4 | 3.0 | 2.0 | -0.7 | 0.5 |
| Greece | -11.7 | -19.4 | -16.0 | -10.5 | -17.6 | C |
| Ireland | 0.0 | -2.7 | -0.4 | -3.4 | -3.9 | -4.9 |
| Italy | -1.1 | -0.2 | 0.0 | 0.2 | -2.7 | c |
| Luxembourg | 13.0 | 5.6 | 12.2 | 13.3 | 5.7 | 9.4 |
| Netherlands | 1.3 | -2.7 | 0.7 | 1.3 | -1.2 | c |
| Portugal | -4.6 | -1.2 | -7.4 | -3.7 | -7.6 | -4.0 |
| Slovenia | 3.6 | -1.0 | 3.3 | 5.7 | 0.8 | 1.5 |
| Slovakia | -3.1 | -2.3 | 0.0 | 0.1 | -3.4 | -0.3 |
| Spain | -2.6 | -5.0 | -6.1 | -5.4 | -9.6 | -3.0 |
| Cyprus | 1.8 | 3.5 | 2.0 | 3.1 | -2.3 | c |
| Malta | 0.1 | -6.5 | -7.6 | -5.3 | -5.4 | -8.0 |
| EA17 | 1.1 | -0.1 | 0.5 | 1.1 | -1.7 | 1.1 |
| Denmark | 0.9 | -1.5 | -1.3 | -2.0 | -8.7 | 6.2 |
| Sweden | 4.5 | 2.9 | 2.6 | 2.8 | 0.6 | 4.7 |
| United Kingdom | 1.0 | 0.3 | 5.3 | 1.2 | 0.2 | 4.3 |
| Czech Republic | 0.0 | -3.9 | 1.8 | 2.4 | -0.4 | c |
| Estonia | 8.3 | 7.5 | -2.4 | 2.0 | 4.3 | 9.5 |
| Latvia | 7.9 | 8.1 | 0.3 | 3.6 | 1.4 | -1.1 |
| Lithuania | 4.1 | 1.9 | 3.6 | 6.7 | 5.8 | 7.3 |
| Hungary | -0.3 | -1.5 | 0.1 | 0.1 | -0.9 | C |
| Poland | 10.2 | 13.3 | 2.3 | 3.7 | -1.0 | 6.1 |
| Bulgaria | -4.8 | -3.7 | -0.2 | -0.1 | 1.4 | 0.5 |
| Romania | -8.5 | -9.8 | -7.1 | -4.6 | -5.4 | -6.3 |
| EU27 | 1.3 | 0.3 | 1.4 | 1.2 | -1.4 | 1.9 |
| Norway | 4.7 | 1.3 | 1.4 | 2.4 | 1.9 | 2.0 |
| Switzerland | 1.6 | -1.5 | -2.4 | 1.8 | -0.2 | 7.5 |

: Data not available,
${ }^{1}$ Data NACE 47 : All Business excluding Motor Trades \& Bars
${ }^{2}$ Data for Ireland is April 2011 final data
c Confidential
Source: Eurostat

## Background Notes

Retail Sales Introduction of updated series with base year 2005=100. Index

An updated Retail Sales Index (RSI) was introduced in the February 2009 release. The underlying methodology remains unchanged. The index is primarily intended to measure short-term trends. For long term analysis allowance must be made for the fact that the series does not reflect changes in retail structures between updates.

Reference The April 2011 period covers the 5 weeks from 03/04/11 to30/04/11 and the May 2011 period Period covers the 4 weeks from $01 / 05 / 11$ to 28/05/11.

New Base Year The set of new monthly retail sales indices has been compiled with reference to base year 2005= 100. The underlying structural weighting system is mainly based on the 2005 Annual Services Inquiry. Weights are updated from year to year using ratios of average weekly turnover by size class within business type.

Scope and
Coverage Coverage

The Retail Sales Index covers, on a sample basis, the retail sales of retail businesses, wholesale businesses with sizeable retailing activity and the separate sales establishments of non-distribution enterprises. Excluded from the index coverage are the direct retail sales from non-distribution establishments together with the incidental retail sales of wholesale businesses. Also excluded are sales by hawkers, street stalls and other retailing activities not conducted from permanent business premises. The statistical unit used for reporting sales figures in this inquiry is the enterprise (i.e. complete business covering all branches).

Methodology The business categories are based mainly on the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2). The index system is structured on the retailing enterprises covered in the 2005 Annual Services Inquiry classified by 13 retail business categories and four turnover (excluding VAT) ranges.

The value indices are calculated by updating the aggregate 2005 retail turnover (including VAT) of these enterprises in these cells using the monthly retail sales data provided by the enterprise respondent panel from 2005 onwards.

The compilation of the index for a current month is based on the percentage change in average weekly sales in these cells over the corresponding monthly period of the previous year. The monthly volume indices are calculated by deflating the seasonally unadjusted value indices by specially constructed retail price indices derived from the Consumer Price Index (CPI). A copy of the Retail Sales Index methodology is available on our website (www.cso.ie).

Seasonal All Retail Sales "unadjusted" series are trading day adjusted as they are based on either a Adjustment standardised four or five week reporting period (see reference period note above). Seasonal adjustment is conducted using the direct seasonal adjustment approach. Under this approach each individual series is independently adjusted, e.g. aggregate series are adjusted without reference to the component series. Each individual seasonally adjusted series is calculated based on unadjusted data spanning from January 2000 to the current period.

The adjustments are completed by applying the X-12-ARIMA model, developed by the U.S. Census Bureau to the unadjusted data. This methodology estimates seasonal factors while also taking into consideration factors that impact on the quality of the seasonal adjustment such as:

- Calendar effects, e.g. the timing of Easter,
- The phase shift effect, i.e. the fact the reporting period of the RSI does not coincide with the calendar month and
- Outliers, temporary changes and level shifts in the series.

For additional information on the use of X-12-ARIMA see (Findley, D.F., B.C. Monsell, W.R. Bell, M.C. Otto, and B. Chen (1998), "New Capabilities and Methods of the X-12-Arima Seasonal Adjustment Program", Journal of Business \& Economic Statistics, 16, pp. 127-177.) and www.census.gov/srd/www/x12a/

References A detailed description of the Retail Sales Index is available on the CSO website www.cso.ie Retrospective details for the current and previous series are also available on the CSO website.


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[^1]:    ${ }^{1}$ Based on Seasonal Patterns up to May 2011
    ${ }^{2}$ Provisional value and volume of sales indices based on early returns from sample retailers

[^2]:    ${ }^{1}$ Based on Seasonal Patterns up to May 2011
    ${ }^{2}$ Provisional value and volume of sales indices based on early returns from sample retailers

[^3]:    ${ }^{1}$ Based on Seasonal Patterns up to May 2011, individual series are independently adjusted

[^4]:    ${ }^{1}$ Based on Seasonal Patterns up to May 2011, individual series are independently adjusted

[^5]:    ${ }^{1}$ Based on Seasonal Patterns up to May 2011, individual series are independently adjusted

