



**Table 1 Seasonally adjusted indices for the non-financial traded services sector<sup>1</sup>**  
**Base Year: 2009=100**

Period	Total Monthly Services		
	Index	% change on previous period	Annual % change
2009	100.2		
2010	96.3		-3.9
2011	98.7		2.6
2011 3rd quarter	98.8	-0.1	2.8
4th quarter	99.5	0.7	2.2
2012 1st quarter	101.3	1.8	3.6
2nd quarter	103.7	2.4	4.9
3rd quarter	104.7	0.9	5.9
2011 April	97.6	-0.7	1.8
May	99.9	2.3	6.8
June	99.2	-0.7	2.1
July	97.6	-1.6	1.4
August	99.8	2.2	4.8
September	99.1	-0.7	2.1
October	97.3	-1.8	1.3
November	100.7	3.5	2.4
December	100.4	-0.3	2.8
2012 January	100.6	0.1	2.5
February	101.9	1.3	5.2
March	101.3	-0.6	3.1
April	101.5	0.1	3.9
May	106.1	4.5	6.2
June	103.7	-2.2	4.5
July	105.2	1.4	7.7
August	105.7	0.5	6.0
September	103.1	-2.4	4.1
October <sup>2</sup>	107.0	3.8	10.0

<sup>1</sup> Based on Seasonal Patterns up to October 2012

<sup>2</sup> Provisional Value Indices based on early returns from respondents

**Table 2(a) Seasonally adjusted indices by sector<sup>1</sup>**

**Base Year: 2009=100**

Period	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles			Wholesale trade <sup>3</sup>		
	Index	% change		Index	% change	
		on previous period	Annual % change		on previous period	Annual % change
2009	100.1			100.2		
2010	102.0		1.9	105.2		5.0
2011	105.2		3.1	112.0		6.5
2011 3rd quarter	104.1	0.1	1.2	110.9	1.9	4.2
4th quarter	108.1	3.8	4.9	117.7	6.2	8.4
2012 1st quarter	107.9	-0.2	3.3	118.8	1.0	7.3
2nd quarter	108.6	0.7	4.4	120.4	1.3	10.7
3rd quarter	110.3	1.6	6.0	122.9	2.1	10.9
2011 April	104.0	0.2	1.5	108.7	-1.5	5.0
May	103.7	-0.3	1.4	108.1	-0.6	3.8
June	104.5	0.8	0.5	109.5	1.4	0.0
July	102.7	-1.8	0.2	106.7	-2.6	1.3
August	103.8	1.1	1.6	110.8	3.8	5.5
September	105.9	2.0	1.9	115.2	4.0	5.9
October	104.4	-1.5	1.1	111.5	-3.2	4.0
November	110.8	6.2	6.7	122.1	9.5	11.2
December	109.0	-1.6	6.9	119.5	-2.1	10.0
2012 January	107.2	-1.7	2.0	117.8	-1.5	5.1
February	108.6	1.3	3.9	120.7	2.5	9.9
March	107.8	-0.7	3.9	118.0	-2.3	6.9
April	106.9	-0.9	2.8	116.1	-1.6	6.8
May	111.5	4.3	7.6	124.5	7.3	15.3
June	107.5	-3.6	2.8	120.5	-3.3	10.0
July	111.0	3.3	8.1	124.2	3.1	16.4
August	111.5	0.4	7.4	125.5	1.0	13.3
September	108.6	-2.6	2.5	119.1	-5.1	3.4
October <sup>2</sup>	115.3	6.2	10.5	128.7	8.0	15.4

<sup>1</sup> Based on Seasonal Patterns up to October 2012

<sup>2</sup> Provisional Value Indices based on early returns from respondents

<sup>3</sup> Wholesale trade is a sub-component of Wholesale and retail trade; repair of motor vehicles and motorcycles

**Table 2(b) Seasonally adjusted indices by sector<sup>1</sup>****Base Year: 2009=100**

Period	Information and Communication			Business Services		
	Index	% change		Index	% change	
		on previous period	Annual % change		on previous period	Annual % change
2009	100.2			100.1		
2010	99.1		-1.1	94.4		-5.7
2011	100.0		0.9	100.9		6.9
3rd quarter	99.9	0.0	0.5	101.8	-0.9	9.1
4th quarter	103.6	3.7	2.5	98.6	-3.2	-0.9
1st quarter	109.4	5.6	13.3	98.2	-0.4	-2.1
2nd quarter	110.7	1.2	10.9	101.7	3.6	-1.0
3rd quarter	108.3	-2.2	8.5	103.7	1.9	1.8
April	98.4	2.2	1.2	99.0	-5.2	6.3
May	102.4	4.0	11.2	105.0	6.0	17.6
June	98.9	-3.4	-2.7	104.4	-0.5	13.8
July	95.6	-3.3	-6.1	101.5	-2.8	12.7
August	104.9	9.7	8.6	101.4	-0.1	7.7
September	99.2	-5.5	-0.6	102.7	1.3	7.1
October	101.1	1.9	3.7	97.3	-5.2	1.9
November	104.7	3.6	6.3	98.1	0.8	-7.1
December	105.0	0.3	-2.2	100.3	2.2	3.0
January	108.3	3.1	11.0	98.8	-1.5	-1.6
February	110.9	2.4	15.6	98.3	-0.5	2.3
March	109.2	-1.5	13.4	97.5	-0.9	-6.7
April	107.4	-1.7	9.1	98.5	1.1	-0.5
May	114.4	6.5	11.7	104.8	6.4	-0.2
June	110.5	-3.4	11.8	101.9	-2.8	-2.4
July	109.1	-1.3	14.1	105.3	3.3	3.7
August	109.5	0.4	4.4	104.4	-0.8	3.0
September	106.4	-2.8	7.3	101.4	-2.8	-1.2
October	107.7	1.2	6.5	107.8	6.3	10.7

<sup>1</sup> Based on Seasonal Patterns up to October 2012<sup>2</sup> Provisional Value Indices based on early returns from respondents

**Table 2(c) Seasonally adjusted indices by sector<sup>1</sup>**

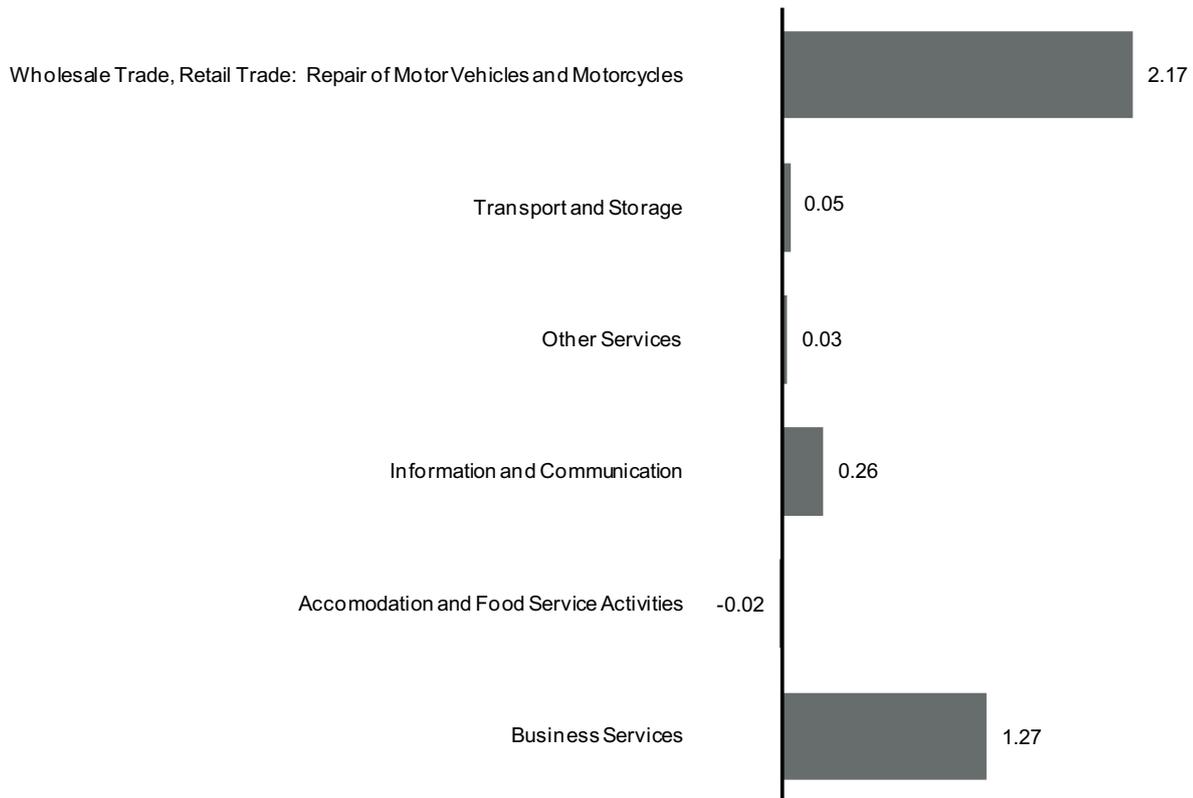
Period	Base Year: 2009=100								
	Transportation and Storage			Accommodation and Food Service Activities			Other Services <sup>3</sup>		
	Index	% change		Index	% change		Index	% change	
	on previous period	Annual % change		on previous period	Annual % change		on previous period	Annual % change	
2009	100.7			100.5			99.9		
2010	92.8		-7.9	90.4		-10.1	78.3		-21.6
2011	96.9		4.5	89.4		-1.1	71.9		-8.2
2011 3rd quarter	99.0	2.3	6.4	89.1	-2.0	-1.3	72.3	-0.8	-2.8
4th quarter	96.5	-2.5	5.1	86.7	-2.7	-3.9	68.4	-5.5	-2.5
2012 1st quarter	101.2	4.8	6.2	86.7	0.0	-4.4	71.1	3.9	-4.0
2nd quarter	109.1	7.8	12.7	88.6	2.1	-2.6	74.1	4.4	1.7
3rd quarter	112.6	3.2	13.7	91.7	3.5	2.9	72.3	-2.5	0.0
2011 April	94.7	-1.0	2.6	91.3	2.0	2.6	73.0	-2.1	-11.1
May	97.4	2.9	5.4	91.1	-0.3	1.2	74.1	1.5	-2.4
June	98.3	1.0	5.8	90.3	-0.9	-1.5	71.7	-3.2	-10.1
July	100.0	1.7	6.4	90.2	0.0	0.3	73.0	1.8	-7.5
August	98.9	-1.1	8.3	89.2	-1.1	-0.4	73.8	1.2	-0.1
September	98.1	-0.8	4.5	87.9	-1.5	-3.9	70.1	-5.1	-0.6
October	96.5	-1.7	5.0	86.4	-1.7	-6.8	66.5	-5.1	-5.0
November	96.5	0.1	5.2	87.0	0.7	-3.1	70.5	6.0	0.4
December	96.6	0.1	5.0	86.8	-0.3	-1.6	68.0	-3.5	-2.9
2012 January	98.6	2.1	5.4	87.5	0.8	-3.7	69.2	1.7	-7.6
February	100.6	2.0	3.9	84.7	-3.2	-7.7	74.9	8.3	3.3
March	104.4	3.8	9.2	88.0	3.9	-1.8	69.0	-8.0	-7.5
April	107.3	2.8	13.3	88.3	0.3	-3.3	72.7	5.3	-0.5
May	108.8	1.4	11.7	88.4	0.2	-2.9	74.5	2.5	0.6
June	111.3	2.3	13.2	89.0	0.6	-1.5	75.3	1.0	4.9
July	110.7	-0.5	10.7	90.8	2.0	0.6	73.2	-2.7	0.3
August	114.1	3.0	15.3	93.6	3.1	4.9	72.1	-1.6	-2.4
September	113.0	-1.0	15.1	90.7	-3.1	3.2	71.6	-0.8	2.1
October <sup>2</sup>	113.4	0.4	17.6	90.4	-0.3	4.6	72.0	0.7	8.3

<sup>1</sup> Based on Seasonal Patterns up to October 2012

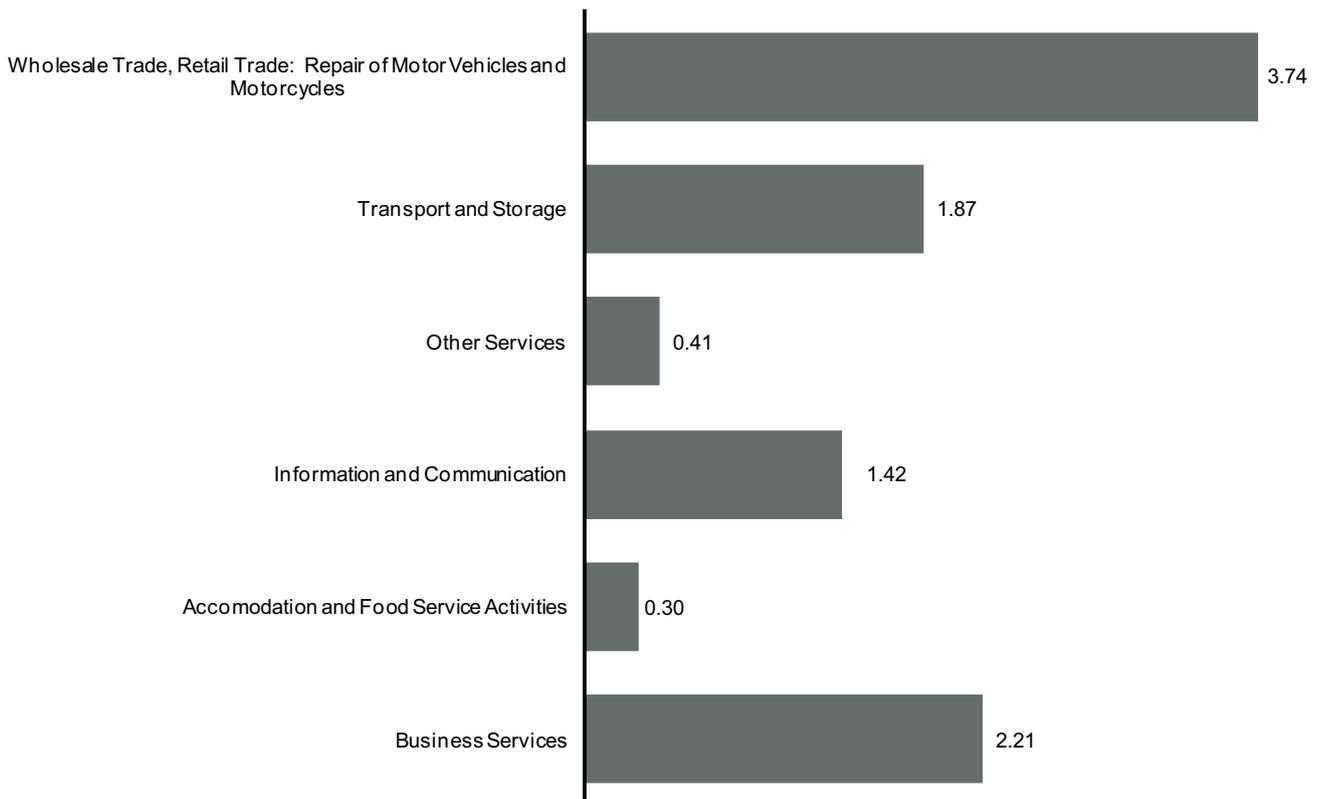
<sup>2</sup> Provisional Value Indices based on early returns from respondents

<sup>3</sup> See background notes

**Contributions to MSI Seasonally Adjusted Monthly Services Index  
Month on Month Change of 3.8% - October 2012**



**Contributions to MSI Seasonally Adjusted Monthly Services Index  
Year on Year Change of 10.0% - October 2012**



## Background Notes

**Introduction** The monthly services value index monitors trends in output at current prices of enterprises in the non-financial traded services sector. This is the first step in the development of a Services Production Index that measures gross value added changes at constant prices, i.e. a volume index.

**Sample covered** The sample size is approximately 2,100 enterprises. The sample comprises a census of all enterprises with an annual turnover value of more than €20.0M or enterprises with more than 100 persons engaged. The remainder of the target population is stratified using 2-digit Statistical Classification of Economic Activities in the European Community, i.e. NACE Rev. 2 classifications. Each of these 2-digit NACE sectors are further subdivided into strata based on turnover. A simple random sample is then drawn from each stratum. Retail and Motor Trade figures are taken from the separate Retail Sales Index sample of approximately 1,400 enterprises.

The response rates for the provisional results are typically 49% in terms of the enterprises surveyed which represents 70% of the value of total turnover. The corresponding figures for the final results are 59% and 88% respectively. These response rates are based on averages for the 6 month period ending March 2012.

**Methodology** The business activity classifications used in this Statistical release are based on the Statistical Classification of Economic Activities in the European Community i.e. NACE Rev. 2. For further information on the NACE Rev. 2 classification of services activity, visit the CSO website: <http://www.cso.ie/px/u/NACECoder/NACEItems/searchnace.asp>.

The index system is structured on the non-financial traded services sector covered in the 2009 Annual Services Inquiry (ASI). This overall sector is broken down into 6\* separate sectors:

- Wholesale and Retail Trade\*; Repair of Motor Vehicles and Motorcycles (NACE 45-47)
- Transport and Storage (NACE 49-53)
- Accommodation and Food Activities (NACE 55,56\*)
- Information and Communication (NACE 58-63)
- Business Services (NACE 69-75 and NACE 78-82)
- Other Business Services
  - NACE 66 Activities auxiliary to financial services and insurance activities
  - NACE 68 Real estate activities
  - NACE 77 Rental and leasing activities
  - NACE 90-93 Arts, Entertainment and Recreation
  - NACE 95 Repair of computers and personal and household goods
  - NACE 96 Other personal service activities

Each of these sectors is then broken down into three distinct cells based on both turnover and employment. Gross value added (GVA) baseweights are obtained from the ASI 2009 for each of these cells. Using a matched sample approach these baseweights are then updated each calendar month. A change in reported turnover is used as a proxy for a change in GVA to update the baseweights. The returned turnover figures for some enterprises are adjusted when enterprises' turnover is atypical of the GVA - turnover ratio within a sector. \*The changes for the Retail, Motor and Bars components are obtained from the Retail Sales Inquiry. In the calculation of the index, Retail Trade and Motor Trade are treated as separate sectors. A Wholesale index is also published monthly.

**Seasonal Adjustment** Seasonal adjustment for each of the sectors is conducted using a direct seasonal adjustment approach. However, the overall MSI is estimated using the indirect approach, i.e. the MSI is derived by adding the weighted seasonally adjusted sub-components. The main reason for adopting the indirect to estimate the MSI is to improve the additivity of the MSI figures, i.e. monthly and annual changes in the MSI can be attributed directly to each of its sub-components. Seasonal adjustment models are developed for each series based on unadjusted data spanning from January 2009 to the current period. These models are then applied to the entire series. Seasonal factors are updated each month.

The adjustments are completed by applying the X-12-ARIMA model, developed by the U.S. Census Bureau to the unadjusted data. The ARIMA option in X12ARIMA is used to forecast and backcast the series in order to have enough data to run the seasonal adjustment, as currently we have less than 5 years of data. Due to the lack of a sufficiently long series the series are not adjusted for Easter and Trading effects. However seasonal estimates do take into account other factors that may impact on the quality of the seasonal adjustment, i.e. outliers, temporary changes and level shifts.

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.)