

Table 1(a) Seasonally Adjusted Indices of Production in all Building and Construction¹
Base: Year 2005 = 100

Period	Total Production in all Building and Construction					
	Value of Production			Volume of Production		
	Index	% change on preceding period	Annual % change	Index	% change on preceding period	Annual % change
2006	109.7	9.7	9.7	103.8	3.8	3.8
2007	99.6	-9.2	-9.2	89.9	-13.4	-13.4
2008	73.2	-26.5	-26.5	63.9	-28.9	-28.9
2009	45.6	-37.7	-37.7	40.4	-36.8	-36.8
2010	32.3	-29.2	-29.2	28.3	-30.0	-30.0
2006 1st quarter	110.5	7.8	19.3	107.2	6.2	13.8
2nd quarter	106.5	-3.6	5.7	101.4	-5.4	0.3
3rd quarter	105.5	-0.9	2.3	99.4	-2.0	-3.4
4th quarter	116.2	10.1	13.4	107.0	7.6	6.0
2007 1st quarter	104.0	-10.5	-5.9	95.2	-11.0	-11.2
2nd quarter	104.9	0.9	-1.5	95.0	-0.2	-6.3
3rd quarter	96.3	-8.2	-8.7	86.0	-9.5	-13.5
4th quarter	93.2	-3.2	-19.8	83.3	-3.1	-22.1
2008 1st quarter	84.3	-9.5	-18.9	74.0	-11.2	-22.3
2nd quarter	77.9	-7.6	-25.7	67.8	-8.4	-28.6
3rd quarter	70.1	-10.0	-27.2	60.9	-10.2	-29.2
4th quarter	60.6	-13.6	-35.0	52.8	-13.3	-36.6
2009 1st quarter	53.6	-11.6	-36.4	47.2	-10.6	-36.2
2nd quarter	47.1	-12.1	-39.5	41.6	-11.9	-38.6
3rd quarter	43.6	-7.4	-37.8	38.7	-7.0	-36.5
4th quarter	38.2	-12.4	-37.0	33.9	-12.4	-35.8
2010 1st quarter	35.0	-8.4	-34.7	30.9	-8.8	-34.5
2nd quarter	32.8	-6.3	-30.4	28.6	-7.4	-31.3
3rd quarter	31.4	-4.3	-28.0	27.4	-4.2	-29.2
4th quarter	30.1	-4.1	-21.2	26.3	-4.0	-22.4
2011 1st quarter	26.3	-12.6	-24.9	23.4	-11.0	-24.3
2nd quarter ²	24.4	-7.2	-25.6	21.9	-6.4	-23.4

¹ Based on Seasonal Patterns up to Quarter 2, 2011.

² Provisional

Table 1(b) Seasonally Adjusted Indices of Production in Building (excluding civil engineering)
Base: Year 2005 = 100

Period	Total Production in Building (excluding civil engineering)					
	Value of Production			Volume of Production		
	Index	% change on preceding period	Annual % change	Index	% change on preceding period	Annual % change
2006	108.3	8.3	8.3	102.2	2.3	2.3
2007	94.9	-12.4	-12.4	85.5	-16.4	-16.4
2008	65.0	-31.5	-31.5	56.7	-33.7	-33.7
2009	35.8	-44.9	-44.9	31.7	-44.1	-44.1
2010	24.1	-32.6	-32.6	21.1	-33.3	-33.3
2006 1st quarter	109.5	8.5	16.7	104.9	4.4	11.0
2nd quarter	105.8	-3.4	3.4	100.0	-4.7	-1.4
3rd quarter	104.1	-1.6	1.9	99.2	-0.8	-3.6
4th quarter	113.7	9.2	12.7	104.8	5.6	4.3
2007 1st quarter	99.6	-12.4	-9.0	90.6	-13.5	-13.6
2nd quarter	101.4	1.8	-4.2	91.5	1.0	-8.5
3rd quarter	91.4	-9.9	-12.2	82.5	-9.8	-16.8
4th quarter	87.2	-4.6	-23.3	77.4	-6.2	-26.1
2008 1st quarter	77.1	-11.6	-22.6	67.6	-12.7	-25.4
2nd quarter	69.9	-9.3	-31.1	60.9	-9.9	-33.4
3rd quarter	60.9	-12.9	-33.4	53.1	-12.8	-35.6
4th quarter	52.0	-14.6	-40.4	45.0	-15.3	-41.9
2009 1st quarter	44.0	-15.4	-42.9	38.9	-13.6	-42.5
2nd quarter	37.6	-14.5	-46.2	33.4	-14.1	-45.2
3rd quarter	32.7	-13.0	-46.3	28.9	-13.5	-45.6
4th quarter	28.9	-11.6	-44.4	25.5	-11.8	-43.3
2010 1st quarter	25.4	-12.1	-42.3	22.5	-11.8	-42.2
2nd quarter	23.8	-6.3	-36.7	21.0	-6.7	-37.1
3rd quarter	24.4	2.5	-25.4	21.0	0.0	-27.3
4th quarter	22.9	-6.1	-20.8	20.0	-4.8	-21.6
2011 1st quarter ¹	21.3	-7.0	-16.1	19.0	-5.0	-15.6
2nd quarter ²	20.1	-5.6	-15.5	18.3	-3.7	-12.9

¹ Based on Seasonal Patterns up to Quarter 2, 2011.

² Provisional

Table 1(c) Seasonally Adjusted Indices of Production in Civil Engineering¹

Base: Year 2005 = 100

Period	Total Production in Civil Engineering					
	Value of Production			Volume of Production		
	Index	% change on preceding period	Annual % change	Index	% change on preceding period	Annual % change
2006	118.7	18.7	18.7	112.4	11.7	11.7
2007	130.3	9.7	9.7	117.5	4.5	4.5
2008	126.6	-2.8	-2.8	110.3	-6.1	-6.1
2009	108.8	-14.1	-14.1	96.2	-12.8	-12.8
2010	85.0	-21.9	-21.9	74.4	-22.6	-22.6
2006 1st quarter	115.8	4.9	37.2	112.2	1.7	29.1
2nd quarter	113.3	-2.2	21.8	106.5	-5.1	17.5
3rd quarter	117.0	3.3	6.2	110.2	3.5	-0.4
4th quarter	128.7	10.0	16.6	120.5	9.3	9.2
2007 1st quarter	131.2	1.9	13.3	119.8	-0.6	6.8
2nd quarter	130.3	-0.7	15.0	117.3	-2.1	10.1
3rd quarter	128.6	-1.3	9.9	114.1	-2.7	3.5
4th quarter	130.9	1.8	1.7	118.6	3.9	-1.6
2008 1st quarter	129.5	-1.1	-1.3	114.2	-3.7	-4.7
2nd quarter	131.1	1.2	0.6	113.7	-0.4	-3.1
3rd quarter	127.0	-3.1	-1.2	109.2	-4.0	-4.3
4th quarter	118.6	-6.6	-9.4	104.0	-4.8	-12.3
2009 1st quarter	113.9	-4.0	-12.0	99.1	-4.7	-13.2
2nd quarter	107.4	-5.7	-18.1	97.3	-1.8	-14.4
3rd quarter	110.5	2.9	-13.0	96.8	-0.5	-11.4
4th quarter	103.2	-6.6	-13.0	91.4	-5.6	-12.1
2010 1st quarter	95.3	-7.7	-16.3	83.5	-8.6	-15.7
2nd quarter	88.4	-7.2	-17.7	79.6	-4.7	-18.2
3rd quarter	74.2	-16.1	-32.9	63.4	-20.4	-34.5
4th quarter	82.0	10.5	-20.5	71.2	12.3	-22.1
2011 1st quarter ¹	56.8	-30.7	-40.4	50.0	-29.8	-40.1
2nd quarter ²	51.2	-9.9	-42.1	48.2	-3.6	-39.4

¹ Based on Seasonal Patterns up to Quarter 2, 2011.

² Provisional

Table 2(a) Seasonally Adjusted Indices of Production in Residential Building¹

Base: Year 2005 = 100

Period	Total Production in Residential Building					
	Value of Production			Volume of Production		
	Index	% change on preceding period	Annual % change	Index	% change on preceding period	Annual % change
2006	107.4	7.4	7.4	101.5	1.5	1.5
2007	88.7	-17.4	-17.4	80.0	-21.2	-21.2
2008	50.7	-42.9	-43.0	44.2	-44.8	-44.8
2009	21.0	-58.5	-58.7	18.6	-58.0	-58.1
2010	13.2	-37.0	-37.0	11.6	-37.6	-37.6
2006 1st quarter	108.2	10.0	14.3	103.4	6.8	8.5
2nd quarter	104.2	-3.7	0.5	99.7	-3.6	-3.7
3rd quarter	103.6	-0.6	1.1	98.4	-1.3	-5.0
4th quarter	113.5	9.6	15.3	104.4	6.1	7.9
2007 1st quarter	94.5	-16.7	-12.7	85.6	-18.0	-17.2
2nd quarter	96.4	2.0	-7.5	87.7	2.5	-12.0
3rd quarter	84.6	-12.2	-18.3	75.8	-13.6	-23.0
4th quarter	79.4	-6.1	-30.0	70.8	-6.6	-32.2
2008 1st quarter	64.6	-18.6	-31.6	56.7	-19.9	-33.8
2nd quarter	56.0	-13.3	-41.9	48.6	-14.3	-44.6
3rd quarter	47.0	-16.1	-44.4	40.9	-15.8	-46.0
4th quarter	35.0	-25.5	-55.9	30.5	-25.4	-56.9
2009 1st quarter	27.6	-21.1	-57.3	24.1	-21.0	-57.5
2nd quarter	22.1	-19.9	-60.5	19.6	-18.7	-59.7
3rd quarter	18.3	-17.2	-61.1	16.3	-16.8	-60.1
4th quarter	16.0	-12.6	-54.3	14.2	-12.9	-53.4
2010 1st quarter	14.4	-10.0	-47.8	12.7	-10.6	-47.3
2nd quarter	13.3	-7.6	-39.8	11.6	-8.7	-40.8
3rd quarter	12.9	-3.0	-29.5	11.2	-3.4	-31.3
4th quarter	12.3	-4.7	-23.1	10.8	-3.6	-23.9
2011 1st quarter ¹	11.0	-10.6	-23.6	9.7	-10.2	-23.6
2nd quarter ²	10.0	-9.1	-24.8	9.0	-7.2	-22.4

¹ Based on Seasonal Patterns up to Quarter 2, 2011.

² Provisional

Table 2(b) Seasonally Adjusted Indices of Production in Non-Residential Building¹

Base: Year 2005 = 100

Period	Total Production in Non-Residential Building					
	Value of Production			Volume of Production		
	Index	% change on preceding period	Annual % change	Index	% change on preceding period	Annual % change
2006	111.9	11.9	11.9	106.0	5.9	5.9
2007	118.6	6.0	6.0	107.1	1.0	1.0
2008	119.7	0.9	0.9	104.4	-2.5	-2.5
2009	92.3	-22.9	-22.8	81.6	-21.8	-21.7
2010	65.8	-28.7	-28.7	57.6	-29.5	-29.5
2006 1st quarter	114.6	4.5	26.5	111.2	2.6	21.1
2nd quarter	111.3	-2.9	14.6	105.8	-4.9	8.0
3rd quarter	107.4	-3.5	5.7	100.9	-4.6	-0.4
4th quarter	114.3	6.4	4.2	106.1	5.2	-2.1
2007 1st quarter	118.4	3.6	3.3	108.0	1.8	-2.9
2nd quarter	119.0	0.5	6.9	107.5	-0.5	1.6
3rd quarter	119.8	0.7	11.5	106.7	-0.7	5.7
4th quarter	117.3	-2.1	2.6	106.2	-0.5	0.1
2008 1st quarter	123.2	5.0	4.1	106.8	0.6	-1.1
2nd quarter	121.1	-1.7	1.8	105.5	-1.2	-1.9
3rd quarter	116.4	-3.9	-2.8	100.9	-4.4	-5.4
4th quarter	117.9	1.3	0.5	104.4	3.5	-1.7
2009 1st quarter	104.7	-11.2	-15.0	91.3	-12.5	-14.5
2nd quarter	95.7	-8.6	-21.0	84.2	-7.8	-20.2
3rd quarter	89.6	-6.4	-23.0	79.4	-5.7	-21.3
4th quarter	79.1	-11.7	-32.9	71.6	-9.8	-31.4
2010 1st quarter	66.6	-15.8	-36.4	57.8	-19.3	-36.7
2nd quarter	62.1	-6.8	-35.1	54.2	-6.2	-35.6
3rd quarter	70.5	13.5	-21.3	61.4	13.3	-22.7
4th quarter	63.8	-9.5	-19.3	56.8	-7.5	-20.7
2011 1st quarter ¹	60.0	-6.0	-9.9	52.7	-7.2	-8.8
2nd quarter ²	57.0	-5.0	-8.2	51.1	-3.0	-5.7

¹ Based on Seasonal Patterns up to Quarter 2, 2011.

² Provisional

Table 3(a) Annual Volume Indices of Production in all Building and Construction in the EU15, the EU27, the Euro Area and Member States 2000 to 2010 ¹

Base: Year 2005 = 100

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EU27	94.0	94.5	95.6	97.3	98.1	100.0	103.6	105.7	101.7	93.1	89.3
EU15	94.2	94.8	96.0	97.7	98.4	100.0	103.2	104.7	100.0	91.4	87.7
Euro Area (EA 16)	96.1	96.6	97.0	97.9	97.9	100.0	103.7	105.0	99.2	91.4	84.4
Euro Area (EA 17)	96.0	96.6	97.0	97.9	97.8	100.0	103.7	105.0	99.2	91.4	84.3
Belgium	102.9 ^p	100.4 ^p	97.8 ^p	97.6 ^p	100.5 ^p	101.0 ^p	104.4 ^p	106.0 ^p	105.6 ^p	102.2 ^p	100.1 ^p
Bulgaria	45.8	51.9	53.8	56.3	76.2	100.3	125.3	158.8	178.9	153.4	126.0 ^p
Czech Republic	70.5	78.0	80.2	87.7	95.1	100.2	106.6	114.0	113.5	112.9	104.7
Denmark	103.3 ^e	96.4	95.2	97.2	97.0	100.0	103.7	99.3	93.8	83.7	76.6
Germany	131.1	121.1	116.0	111.1	105.2	99.7	106.0	109.1	108.3	108.4	108.7
Estonia	53.7	55.9	68.6	72.7	81.9	100.2	127.2	144.4	125.3	88.0	77.1
Ireland	65.1	67.3	68.7	72.6	91.0	100.1	103.9	89.9	63.6	40.1	28.2
Greece	139.2	148.3	206.3	194.5	163.5	100.2	103.8	118.7	127.7	105.3	72.0
Spain	79.7 ^p	82.1 ^p	82.6 ^p	88.5 ^p	90.6 ^p	100.5	102.7	98.3	82.2	73.0	58.2
France	100.3	101.5	99.2	98.4	97.2	99.9	104.1	106.5	102.6	96.5	93.2
Italy	84.6	89.9	94.5	97.2	98.8	100.0	103.9	110.5	109.3	96.7	93.4
Cyprus	81.7	84.7	87.5	93.1	97.3	100.0	104.1	111.2	113.7	101.7	93.5 ^p
Latvia	57.0	60.6	67.9	76.8	86.8	100.3	113.6	129.1	125.1	81.4	62.3
Lithuania	51.1	54.9	66.8	85.4	91.2	100.3	122.0	149.1	155.2	79.9	73.8
Luxembourg	95.3	99.3	101.2	102.1	100.9	100.0	102.5	105.2	103.3	104.1	104.2
Hungary	62.6	68.4	80.7	82.9	86.5	100.1	99.4	85.5	81.0	77.5	69.4
Malta	70.0	67.2	82.9	78.1	84.4	99.9	104.3	111.8	119.2	109.7	109.9 ^p
Netherlands	105.9	107.8	104.5	99.3	96.8	99.9	102.2	107.9	111.3	108.0 ^e	96.2 ^e
Austria	81.1	80.6	81.0	91.0	95.5	100.2	106.1	110.2	109.2	107.4	102.8
Poland	125.9	112.2	100.9	93.6	91.9	100.3	116.0	134.9	148.6	155.3	161.0
Portugal	115.7	121.1	119.8	109.5	104.8	100.0	93.7	90.0	88.9	83.0	76.0
Romania	77.6	86.5	90.4	93.4	94.7	100.9	116.6	155.1	196.6	166.7	144.4
Slovenia	92.2	82.5	88.7	97.3	97.9	99.8	115.5	136.9	158.1	125.0	103.9
Slovakia	74.9	75.5	78.6	83.0	87.9	100.7	116.2	122.7	136.7	121.4	116.2
Finland	86.3 ^e	86.3 ^e	87.5 ^e	91.1 ^e	95.2 ^e	100.1 ^e	107.9 ^e	118.9 ^e	123.7 ^e	107.5 ^e	120.1 ^e
Sweden	91.7	96.7	97.0	97.0	97.0	100.0	108.0	114.6	119.5	115.3	122.1
United Kingdom	87.0	87.9	92.0	97.1	100.5	100.0	101.4	103.8	102.4	90.5	97.1 ^p

: Data not available, e Estimated value, p Provisional data, s Eurostat estimate.

Source: Eurostat

Data updated from previous publication.

The Euro Area (EA16) consists of Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Finland and Slovakia.

The Euro Area (EA17) consists of Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Finland, Slovakia and Estonia.

¹ Working Day Adjusted Series.

Table 3(b) Volume of Production in all Building and Construction in the EU15, the EU27, the Euro Area and Member States, annual % changes q2 2009 to q2 2011¹

Base: Year 2005 = 100

	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011
EU27	-8.4	-8.7	-6.1	-8.4	-1.6	-2.8	-3.8	0.4	-3.0
EU15	-8.5	-8.9	-6.1	-7.9	-1.3	-3.0	-4.3	0.2	-3.5
Euro Area (EA16)	-7.0	-8.8	-5.7	-9.7	-4.1	-8.1	-9.2	-2.5	-5.2
Euro Area (EA17)	-7.1	-8.9	-5.8	-9.8	-4.1	-8.1	-9.2	-2.5	-5.2
Belgium	-5.5 ^p	-0.4 ^p	-2.0 ^p	-3.0 ^p	-1.0 ^p	-1.3 ^p	-3.1 ^p	5.3 ^p	2.3 ^p
Bulgaria	-9.5	-16.6	-23.7	-25.7 ^p	-21.6 ^p	-14.3 ^p	-8.3 ^p	-15.9 ^p	-13.4 ^p
Czech Republic	1.9	1.1	1.6	-22.7	-9.0	-2.5	-2.5	6.4	-4.9
Denmark	-10.1	-13.0	-14.3	-23.4	-10.6	-0.6	0.9	16.6	-0.8
Germany	4.0	3.3	1.9	-8.7	4.0	3.5	-1.3	34.5	5.2
Estonia	-29.8	-29.9	-27.2	-34.3	-16.9	1.1	-4.7	34.6	11.5
Ireland	-39.1	-36.1	-35.2	-35.2	-31.8	-28.6	-22.4	-24.1	-23.7^p
Greece	-13.0	-20.9	-21.6	-23.3	-31.3	-37.1	-33.5	-32.7	-39.9 ^p
Spain	-11.6	-17.8	-5.3	-12.9	-7.0	-34.9	-27.5	-36.6	-27.9 ^p
France	-5.3	-5.7	-4.8	-4.4	-2.7	-1.8	-4.6	3.7	0.6
Italy	-11.3	-13.4	-8.2	-7.7	-4.9	0.8	-1.6	0.3	: ^c
Cyprus	-10.6	-10.4	-12.4	-5.8	-7.1	-8.0	-11.2 ^p	-9.1 ^p	: ^{cp}
Latvia	-32.4	-36.8	-38.5	-43.4	-35.3	-13.1	-9.6	-15.1	-0.9
Lithuania	-48.0	-49.3	-52.3	-42.9	-17.0	6.7	16.2	15.9	16.7
Luxembourg	-4.0	5.4	2.9	-1.1	3.9	1.6	-4.4	11.4	-1.3
Hungary	-0.6	-4.5	-7.6	-10.8	-15.1	-5.7	-10.5	-7.2	-11.1
Malta	-6.9	-8.8	-11.0	-2.6	-0.8	1.5 ^p	2.6 ^p	0.5 ^p	0.9 ^p
Netherlands	-0.8 ^e	-4.7 ^e	-8.5 ^e	-17.0 ^e	-10.3 ^e	-8.9 ^e	-6.9 ^e	8.0 ^e	2.4 ^e
Austria	-2.3	-1.2	0.1	-5.9	-3.6	-3.6	-4.6	-4.0	0.3 ^p
Poland	1.0	8.5	4.0	-16.0	1.4	7.6	11.7	17.9	19.7
Portugal	-4.7	-7.0	-8.4	-7.4	-8.9	-8.2	-9.3	-8.2	-7.7
Romania	-15.6	-21.8	-17.3	-21.3	-11.1	-17.5	-7.1	-4.9	-4.1
Slovenia	-19.0	-24.4	-20.5	-18.8	-16.8	-16.4	-16.2	-25.3	-31.1
Slovakia	-4.9	-7.5	-18.0	-13.2	-6.3	-2.7	1.8	-3.6	-3.4
Finland	-19.0 ^e	-11.5 ^e	-7.3 ^e	0.7 ^e	16.7 ^e	11.0 ^e	16.4 ^e	17.0 ^e	: ^{ce}
Sweden	-3.0	-2.4	-4.5	3.7	4.2	5.9	9.6	7.1	7.8
United Kingdom	-14.2	-9.9	-7.4	-2.3	8.6 ^p	12.0 ^p	10.5 ^p	6.2 ^p	0.0 ^p

: Data not available, c Confidential, e Estimated Value, p Provisional data, s Eurostat estimate.

Source: Eurostat

Data updated from previous publication.

The Euro Area (EA16) consists of Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Finland and Slovakia.

The Euro Area (EA17) consists of Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Finland, Slovakia and Estonia.

¹ Working Day Adjusted Series.

Background Notes

Production in Building & Construction Index	<p>The quarterly production in building and construction index provides quarterly statistics on output in the sector. The index monitors trends in the value and the volume of production in building and construction. The primary purpose of the index is to measure changes in value added at constant prices.</p> <p>The principal difference between the value and volume indices is that the volume index traces the quantitative volume of production (i.e. effect of price changes excluded) each quarter. The Capital Goods price index for Building and Construction was used as the price deflator for this series.</p> <p>This series is also available using the interactive tables in the CSO's Database Direct on www.cso.ie</p>
Reference Periods	The production in building and construction index is carried out on a quarterly basis (i.e. the first quarter covers January, February and March etc.).
Base Year	The set of indices, based on the Laspeyres Index, has been compiled with reference to base year 2005 = 100. The underlying structural weighting system is based on annual output in the Building and Construction sector as published in the DKM Economic Consultants Review of the Construction Industry for the year 2007, which presents annual output for reference year 2005.
Legal Basis	The survey is carried out in accordance with the Statistics (Quarterly Survey of Construction) Order 2009, Number 73 made under the 1993 Statistics Act. The statistics are also required for EU comparisons under Council Regulation (EC) No. 1165/98 which has been amended by Regulation (EC) No. 1893/2006 with the introduction of NACE Rev. 2.
Scope and Coverage	The production in building and construction index covers, on a sample basis, the production of all firms in the private (i.e. non-State) sector whose main activity is building, construction or civil engineering i.e. firms classified to division F of the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2). Approximately 2,000 firms are surveyed each quarter.
Seasonal Adjustment	<p>Seasonal Adjustment is conducted using the direct seasonal adjustment approach. Under this approach, each individual series is independently adjusted. Each individual seasonally adjusted series is calculated based on working day adjusted data.</p> <p>The adjustments are completed by applying the X-12-ARIMA model, developed by the U.S. Census Bureau to the working day adjusted data. This methodology estimates seasonal factors while also taking into consideration factors that impact on the quality of the seasonal adjustment such as:</p> <ul style="list-style-type: none"> • Outliers and level shifts in the series. <p>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", <i>Journal of Business & Economic Statistics</i>, 16, pp. 127-177.) and www.census.gov/srd/www/x12a/</p>
Methodology	A detailed description of the methodology is available on the CSO website at: http://www.cso.ie/surveysandmethodologies/documents/pdf_docs/qsc_methodology.pdf

**Comparison
with other
national series**

There are differences (due to timing, definitions and other factors) between the quarterly and annual trends measured by this survey and by other national data sources. In particular the quarterly series from the QSC show considerable volatility. Table A, below, compares the main *annual* results of the survey with national employment and house building indicators.

The series shows a decrease of 30.0% in the annual volume of production in building and construction, between 2009 and 2010. In the same period, employment in the sector, as measured by the QNHS, fell by 19.4%.

For residential buildings, the QSC shows a decrease of 37.6% in the annual volume of production between 2009 and 2010, whereas the house completions series shows a decrease of 44.7%.

Data on house-building commencements, a relatively new leading indicator, are also included in Table A. This indicator shows a decrease of 25.5% in residential building in 2010 when compared with 2009.

Table A: Comparison of Building and Construction sector indicators

New CSO Series			Other Indicators			
Seasonally Adjusted Volume of production in building and construction ³	Seasonally Adjusted Volume of production in civil engineering ³	Seasonally Adjusted Volume of production in residential building ³	Persons Employed in the Construction Sector ¹	House Completions ²	House Commencement Notices ²	
Index	Index	Index	No.	No.	No.	
2005=100	2005=100	2005=100				
2006	103.8	112.4	101.5	251,600	88,187	75,602
2007	89.9	117.5	80.0	269,900	78,027	48,876
2008	63.9	110.3	44.2	241,400	51,724	22,852
2009	40.4	96.2	18.6	155,400	26,420	8,604
2010	28.3	74.4	11.6	125,300	14,602	6,410

¹ Quarterly National Household Survey, April - June quarter, NACE Rev. 2.

² Source Department of the Environment, Heritage and Local Government.

³ Seasonally Adjusted series introduced in Q1 2010.