

# Annexes

## Annex 1: Detailed tables by country

### 1.1 Accessibility and clarity

**Table A.1.1.1**

Accessibility of financial accounts data

Country	Website	Download	Charts and tables	Press release	Hotline
<b>Euro area</b>					
BE	Y	Y	Y	Y	Y
DE	Y	Y	Y	Y	Y
EE	Y	Y	Y	Y	Y
IE	Y	Y	Y	Y	Y
GR	Y	Y	N	N	Y
ES	Y	Y	Y	Y	Y
FR	Y	Y	Y	Y	Y
IT	Y	Y	Y	N	Y
CY	Y	Y	Y	Y	Y
LV	Y	Y	Y	N	Y
LT	Y	Y	Y	Y	Y
LU	Y	Y	N	N	Y
MT	Y	Y	Y	N	Y
NL	Y	Y	Y	Y	Y
AT	Y	Y	Y	N	Y
PT	Y	Y	Y	Y	Y
SI	Y	Y	Y	N	Y
SK	Y	Y	Y	N	N
FI	Y	Y	Y	Y	Y
<b>Euro area</b>	Y	Y	Y	Y	Y
<b>Non-euro area</b>					
BG	Y	Y	Y	N	Y
CZ	Y	Y	Y	Y	Y
DK	Y	Y	Y	Y	Y
HR	Y	Y	N	N	N
HU	Y	N	Y	Y	Y
PL	Y	Y	Y	N	Y
RO	Y	Y	Y	N	Y
SE	Y	Y	Y	Y	Y
UK	Y	Y	Y	N	Y

Source: ECB.

## 1.2 Internal consistency

**Table A.1.2.1**

Indicator on validation rules, ratio of satisfied validation rules, as a percentage

(period: Q4 2012 to Q2 2019)

Country	Consistency rate
<b>Euro area</b>	
BE	100
DE	100
EE	100
IE	97
GR	100
ES	100
FR	100
IT	100
CY	100
LV	100
LT	100
LU	100
MT	100
NL	100
AT	100
PT	100
SI	100
SK	99
FI	100
<b>Non-euro area</b>	
BG	100
CZ	99
DK	96
HR	95
HU	99
PL	100
RO	99
SE	99
UK	86

**Table A.1.2.2**

Consistency across frequencies, 2018

Country	Private sector debt, consolidated	Private sector credit flow, consolidated	Total financial sector liabilities, non-consolidated	Household debt, consolidated
	% difference (QFA-AFA)/QFA			
<b>Euro area</b>				
BE	-0.00	-0.00	-0.00	-0.00
DE	-0.00	0.00	0.00	0.00
EE	0.00	-0.00	0.00	0.00
IE	-2.98	-0.25	1.33	1.68
GR	0.00	0.00	-0.00	0.00
ES	-0.00	-0.00	0.00	0.00
FR	0.00	-0.00	0.00	0.00
IT	0.54	0.37	0.12	0.08
CY	0.00	-0.22	-0.11	0.00
LV	0.00	-0.00	0.00	0.00
LT	-0.00	0.00	-0.16	-0.00
LU	0.00	-0.00	0.03	0.00
MT	-0.01	-0.01	-0.00	0.00
NL	0.00	0.00	0.00	0.00
AT	0.00	0.00	0.00	-0.00
PT	0.00	0.00	-0.00	0.00
SI	-0.00	-0.00	0.00	-0.00
SK	0.82	5.26	-0.14	0.31
FI	0.00	0.00	0.00	0.00
<b>Non-euro area</b>				
BG	-0.00	0.00	-0.08	0.00
CZ	13.92	0.29	0.28	-0.59
DK	0.15	0.73	13.42	-9.62
HR	0.00	0.00	-0.00	0.00
HU	-0.00	0.00	0.98	0.00
PL	-0.00	0.00	0.00	0.00
RO	-0.00	-0.00	0.00	-0.00
SE	0.00	0.00	0.00	0.00
UK	-3.29	-0.90	-0.29	-3.34

## 1.3 Revision indicators

**Table A.1.3.1**

Symmetric mean absolute percentage error\* for the period Q2 2017 to Q1 2019, as a percentage

(for non-EA countries for the period Q4 2017 to Q4 2018)

	Households (including NPISHs)				Non-financial corporations						Financial corporations						
	Loans		Total assets		Debt securities		Loans		Intra NFC loans		Total	Total	MFI	IVF	OFI	IC	PF
	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Transactions	Stocks					
<b>Euro area</b>																	
<b>BE</b>	0.19	0.08	0.67	0.05	1.02	0.44	1.40	0.22	6.41	1.74	0.09	0.32	0.24	0.35	1.08	0.10	2.12
<b>DE</b>	0.02	0.02	0.12	0.03	0.00	0.00	0.77	0.17	13.73	0.70	0.10	0.30	0.62	0.00	1.50	0.13	0.18
<b>EE</b>	0.10	0.01	1.26	0.12	0.43	0.13	1.30	0.39	8.99	1.48	0.20	1.24	0.05	2.79	5.41	2.58	0.76
<b>IE</b>	0.43	0.05	0.48	0.04	1.15	0.55	3.54	0.32	13.77	1.77	0.25	0.98	0.11	0.08	3.87	0.29	0.11
<b>GR</b>	1.86	0.15	0.40	0.11	4.08	1.01	0.75	0.20	NA	NA	0.12	1.06	1.32	0.09	3.95	0.07	0.64
<b>ES</b>	0.13	0.02	2.01	0.08	40.56	0.86	1.28	0.25	6.33	0.71	0.05	0.28	0.72	0.80	0.85	1.90	1.53
<b>FR</b>	0.02	0.00	0.36	0.09	3.15	0.05	5.76	0.33	14.34	0.74	0.07	0.45	0.41	0.15	2.90	0.11	NA
<b>IT</b>	0.04	0.05	0.54	0.09	1.42	0.07	0.30	0.16	0.05	0.05	0.09	0.06	0.08	0.00	0.53	0.25	0.39
<b>CY</b>	0.27	0.13	1.44	0.37	91.73	20.40	0.89	0.17	1.90	0.74	0.43	26.78	0.18	4.86	34.00	0.53	7.01
<b>LV</b>	0.29	0.07	9.30	0.42	2.04	0.46	4.89	0.58	13.35	2.40	0.13	0.29	0.28	0.71	1.30	0.15	0.05
<b>LT</b>	0.20	0.02	1.55	0.17	0.16	0.18	0.39	0.46	2.66	1.44	0.04	0.26	0.13	1.35	1.56	0.58	0.00
<b>LU</b>	1.11	0.27	0.75	0.53	3.99	0.68	4.63	1.23	12.10	2.01	0.30	1.56	0.05	0.83	2.16	1.19	15.87
<b>MT</b>	0.92	0.35	3.35	0.95	1.74	1.54	3.14	0.35	2.52	0.80	0.18	2.99	0.37	25.93	3.01	1.93	34.39
<b>NL</b>	0.87	0.04	1.00	0.02	10.30	0.57	6.85	0.30	23.02	0.98	0.24	1.57	2.80	1.24	1.37	0.90	1.44
<b>AT</b>	0.22	0.09	1.12	0.03	0.96	0.31	1.23	0.33	2.61	0.69	0.07	0.19	0.17	0.06	1.31	0.45	1.06
<b>PT</b>	0.49	0.05	2.45	0.12	12.12	0.36	3.17	0.13	6.82	1.10	0.05	0.29	0.08	0.16	1.17	0.30	0.22
<b>SI</b>	0.06	0.04	6.70	0.28	0.00	0.00	0.36	0.06	3.81	0.76	0.01	0.51	0.71	0.00	0.25	0.00	0.00
<b>SK</b>	0.00	0.00	0.50	0.07	5.00	0.21	1.11	0.46	2.97	2.48	0.06	0.27	0.09	0.00	3.43	0.62	0.00
<b>FI</b>	1.37	0.17	0.38	0.06	2.21	0.17	2.64	0.94	5.75	1.69	0.13	0.37	0.21	0.29	3.79	1.30	1.36
<b>Euro area</b>	0.14	0.02	0.26	0.04	1.56	0.09	2.17	0.17	7.33	0.52	0.05	0.78	0.16	0.13	2.84	0.19	0.33
<b>Median</b>	0.22	0.05	1.00	0.09	2.04	0.36	1.30	0.32	6.37	1.04	0.10	0.37	0.21	0.29	1.56	0.45	0.70
<b>Non-euro area</b>																	
<b>BG</b>	0.23	0.04	0.71	0.16	1.56	0.46	1.13	0.22	9.46	3.52	0.15	0.96	0.04	0.03	7.63	0.86	0.02
<b>CZ</b>	0.02	0.00	0.62	0.10	0.00	0.00	0.32	0.13	6.83	2.57	0.11	0.88	0.00	0.26	7.65	0.41	0.00
<b>DK</b>	0.30	0.04	0.22	0.04	0.33	0.99	1.69	0.57	4.84	2.30	0.12	0.81	0.13	0.31	3.17	0.34	0.45
<b>HR</b>	0.09	0.01	1.03	0.14	0.00	0.00	1.81	0.56	5.75	1.63	0.01	0.19	0.32	0.00	0.53	0.18	0.29
<b>HU</b>	0.29	0.06	0.88	0.07	15.31	1.01	1.02	0.28	3.74	0.88	0.39	0.91	0.24	3.10	1.37	0.24	0.21
<b>PL</b>	0.01	0.00	0.19	0.04	0.22	0.34	0.29	0.08	0.60	0.24	0.10	0.15	0.06	0.00	1.43	0.18	0.00
<b>RO</b>	0.09	0.03	1.42	2.79	11.52	8.66	0.58	0.24	8.15	3.84	0.14	0.25	0.28	0.00	1.73	0.67	0.02
<b>SE</b>	0.04	0.01	0.48	0.05	0.59	0.35	2.03	0.10	0.82	0.22	0.03	0.40	0.06	0.00	3.19	1.04	0.19
<b>UK</b>	1.24	0.10	0.70	0.05	0.34	0.01	1.56	0.39	NA	NA	0.06	0.10	0.03	0.08	0.32	NA	NA

NA – no revisions (in the case of the United Kingdom data are not available for the October 2018 transmission).

\*In the case of transactions: underlying stocks in the denominator – mean absolute comparative error (MACE).

**Table A.1.3.2**

Mean absolute revision for the period Q2 2017 to Q1 2019, as a percentage of GDP

(for non-EA countries for the period Q4 2017 to Q4 2018)

	Households (including NPISHs)				Non-financial corporations						Financial corporations						
	Loans		Total assets		Debt securities		Loans		Intra NFC loans		Total	Total	MFI	IVF	OFI	IC	PF
	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Transactions	Stocks					
<b>Euro area</b>																	
<b>BE</b>	0.22	0.09	3.86	0.28	0.29	0.13	3.90	0.61	3.99	1.08	0.98	3.31	1.22	0.25	3.25	0.14	0.32
<b>DE</b>	0.02	0.02	0.44	0.11	0.00	0.00	0.76	0.16	2.11	0.11	0.92	2.69	3.48	0.00	0.84	0.16	0.06
<b>EE</b>	0.08	0.01	2.86	0.27	0.05	0.01	1.72	0.51	1.54	0.25	0.78	4.87	0.12	0.22	4.66	0.27	0.22
<b>IE</b>	0.36	0.05	1.12	0.10	0.12	0.06	13.47	1.23	6.16	0.79	8.13	31.50	0.81	1.06	32.23	0.53	0.08
<b>GR</b>	2.05	0.16	1.13	0.31	0.04	0.01	0.87	0.24	0.00	0.00	0.48	4.38	4.95	0.01	0.58	0.01	0.01
<b>ES</b>	0.15	0.03	7.38	0.29	4.74	0.10	2.29	0.45	2.47	0.28	0.40	2.19	4.01	0.40	0.79	1.03	0.36
<b>FR</b>	0.02	0.01	1.64	0.41	1.72	0.03	13.17	0.75	15.07	0.78	0.87	5.75	3.46	0.19	2.38	0.24	0.00
<b>IT</b>	0.04	0.04	2.63	0.43	0.25	0.01	0.37	0.19	0.00	0.00	0.66	0.40	0.39	0.00	0.33	0.25	0.05
<b>CY</b>	0.54	0.26	6.30	1.63	0.08	0.02	3.37	0.65	0.03	0.01	16.73	1,052.24	1.33	1.99	1,051.23	0.22	1.97
<b>LV</b>	0.12	0.03	17.56	0.80	0.03	0.01	6.01	0.72	2.35	0.42	0.51	1.10	0.81	0.02	0.83	0.01	0.01
<b>LT</b>	0.09	0.01	2.80	0.31	0.01	0.01	0.31	0.36	0.43	0.24	0.12	0.69	0.26	0.06	0.42	0.05	0.00
<b>LU</b>	1.40	0.34	2.42	1.71	3.26	0.56	26.59	7.06	21.08	3.50	153.53	793.60	2.07	119.86	681.78	7.87	1.29
<b>MT</b>	0.86	0.33	14.55	4.11	0.20	0.18	7.73	0.87	2.80	0.89	8.08	135.70	3.22	47.66	99.37	3.66	0.00
<b>NL</b>	1.77	0.09	6.32	0.14	3.04	0.17	19.32	0.85	9.42	0.40	6.61	43.13	19.05	2.81	18.71	1.14	5.13
<b>AT</b>	0.22	0.08	3.94	0.11	0.21	0.07	1.91	0.51	0.99	0.26	0.55	1.44	0.83	0.06	1.58	0.25	0.12
<b>PT</b>	0.64	0.06	9.83	0.46	3.64	0.11	5.47	0.23	1.70	0.27	0.41	2.32	0.43	0.04	1.84	0.17	0.04
<b>SI</b>	0.03	0.02	13.99	0.59	0.00	0.00	0.36	0.06	0.49	0.10	0.03	1.58	1.63	0.00	0.05	0.00	0.00
<b>SK</b>	0.00	0.00	0.81	0.12	0.63	0.03	1.08	0.45	0.31	0.26	0.20	0.91	0.24	0.00	0.67	0.11	0.00
<b>FI</b>	1.75	0.21	1.07	0.18	0.60	0.05	5.25	1.87	3.88	1.14	1.00	2.91	1.12	0.32	2.64	0.79	0.04
<b>Euro area</b>	0.16	0.03	1.06	0.15	0.38	0.02	4.00	0.31	4.09	0.29	0.71	10.46	1.00	0.27	10.00	0.24	0.14
<b>Median</b>	0.22	0.05	2.86	0.31	0.21	0.03	3.37	0.51	2.11	0.27	0.78	2.91	1.22	0.19	1.84	0.24	0.05
<b>Non-euro area</b>																	
<b>BG</b>	0.10	0.02	1.80	0.41	0.10	0.03	1.77	0.35	1.67	0.62	0.52	3.33	0.10	0.00	3.12	0.13	0.01
<b>CZ</b>	0.01	0.00	1.46	0.24	0.00	0.00	0.32	0.13	0.90	0.34	0.58	4.49	0.01	0.05	4.61	0.09	0.00
<b>DK</b>	0.68	0.10	1.31	0.24	0.06	0.17	3.31	1.11	2.41	1.15	2.04	13.93	0.97	0.64	12.66	0.75	0.65
<b>HR</b>	0.06	0.01	2.45	0.32	0.00	0.00	3.13	0.96	3.31	0.94	0.05	0.73	0.91	0.00	0.11	0.04	0.14
<b>HU</b>	0.10	0.02	2.17	0.17	0.39	0.03	1.26	0.35	0.99	0.23	1.98	4.66	0.55	0.92	3.22	0.03	0.02
<b>PL</b>	0.00	0.00	0.37	0.09	0.02	0.04	0.23	0.06	0.04	0.01	0.31	0.46	0.13	0.00	0.37	0.04	0.00
<b>RO</b>	0.03	0.01	1.80	3.55	0.01	0.01	0.38	0.16	0.15	0.07	0.23	0.41	0.37	0.00	0.20	0.03	0.00
<b>SE</b>	0.07	0.01	2.80	0.28	0.28	0.17	5.22	0.26	0.69	0.18	0.36	4.58	0.39	0.00	3.77	0.52	0.33
<b>UK</b>	2.06	0.17	4.37	0.34	0.13	0.00	1.95	0.49	NA	NA	1.04	1.71	0.28	0.09	1.46	NA	NA

NA – no revisions (in the case of the United Kingdom data are not available for the October 2018 transmission).

**Table A.1.3.3**

Upward revision ratio for the period Q2 2017 to Q1 2019, as a percentage

(for non-EA countries for the period Q4 2017 to Q4 2018)

	Households (including NPISHs)				Non-financial corporations						Financial corporations						
	Loans		Total assets		Debt securities		Loans		Intra NFC loans		Total	Total	MFI	IVF	OFI	IC	PF
	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Transactions	Stocks					
<b>Euro area</b>																	
<b>BE</b>	100	50	0	38	0	25	75	38	50	50	13	63	100	0	38	88	38
<b>DE</b>	86	43	38	88	NA	NA	75	50	100	63	25	88	100	NA	13	50	75
<b>EE</b>	63	75	75	63	14	50	88	38	100	38	75	100	75	50	100	63	25
<b>IE</b>	0	0	0	50	14	43	100	88	100	100	38	88	13	0	100	57	0
<b>GR</b>	100	50	25	25	50	60	100	38	NA	NA	38	0	0	100	100	14	33
<b>ES</b>	13	50	100	75	100	25	0	63	100	63	50	25	13	100	63	100	88
<b>FR</b>	38	14	63	63	13	25	100	88	100	88	88	88	88	50	100	63	NA
<b>IT</b>	63	71	75	50	57	67	63	50	50	0	75	88	88	NA	38	88	25
<b>CY</b>	100	75	100	50	60	67	0	38	17	71	63	100	63	0	100	100	100
<b>LV</b>	100	50	0	50	100	40	25	50	50	38	75	13	0	43	38	0	100
<b>LT</b>	100	67	100	50	63	38	25	63	50	50	50	100	100	88	63	38	100
<b>LU</b>	50	38	38	75	63	63	100	88	100	88	75	100	88	100	75	88	50
<b>MT</b>	100	63	100	38	88	63	100	88	38	75	38	75	50	100	63	50	100
<b>NL</b>	100	50	100	38	43	38	88	88	88	88	38	100	100	88	75	100	100
<b>AT</b>	50	50	100	75	38	63	100	63	100	75	75	50	13	25	75	63	50
<b>PT</b>	100	38	100	38	0	71	100	50	100	63	38	100	100	75	100	25	50
<b>SI</b>	17	33	100	63	NA	NA	100	88	0	50	75	100	100	NA	0	NA	NA
<b>SK</b>	NA	57	100	50	25	25	57	50	29	50	50	88	75	0	71	75	33
<b>FI</b>	0	38	50	63	0	50	100	38	100	50	50	38	50	25	63	13	75
<b>Euro area</b>	38	50	88	38	63	50	100	100	100	100	63	100	50	13	100	100	0
<b>Non-euro area</b>																	
<b>BG</b>	60	60	100	60	50	80	100	80	100	100	100	100	100	100	100	80	100
<b>CZ</b>	20	20	80	60	NA	NA	80	40	75	75	20	80	67	50	80	75	NA
<b>DK</b>	80	40	40	80	60	80	60	40	60	20	100	100	60	80	100	40	20
<b>HR</b>	100	20	100	100	NA	NA	100	100	100	100	40	100	100	NA	40	100	0
<b>HU</b>	100	80	100	80	0	0	100	100	100	100	40	100	100	100	80	100	20
<b>PL</b>	20	40	100	40	20	80	100	80	20	40	60	80	80	NA	100	40	NA
<b>RO</b>	40	80	40	40	100	75	60	80	20	50	40	20	0	0	80	75	50
<b>SE</b>	100	60	100	60	80	80	100	80	60	40	100	0	0	67	0	0	40
<b>UK</b>	0	20	20	60	100	40	20	60	0	0	80	80	20	100	80	0	0

NA – no revisions (in the case of the United Kingdom data are not available for the October 2018 transmission).

**Table A.1.3.4**

Directional reliability indicator for the period Q2 2017 to Q1 2019, as a percentage

(for non-EA countries for the period Q4 2017 to Q4 2018)

	Households (including NPISHs)				Non-financial corporations						Financial corporations						
	Loans		Total assets		Debt securities		Loans		Intra NFC loans		Total	Total	MFI	IVF	OFI	IC	PF
	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions	Transactions	Stocks					
<b>Euro area</b>																	
<b>BE</b>	100	75	75	75	88	75	63	75	88	100	100	75	88	88	88	88	75
<b>DE</b>	100	88	100	100	100	100	100	75	38	75	88	100	75	88	63	88	88
<b>EE</b>	100	100	88	63	88	100	75	75	50	88	100	75	88	88	75	50	75
<b>IE</b>	75	100	88	50	75	88	88	100	75	63	75	100	63	88	88	75	88
<b>GR</b>	63	50	100	75	88	100	75	100	100	100	88	100	88	88	88	88	88
<b>ES</b>	88	100	88	100	50	75	63	88	75	63	88	88	50	88	50	50	63
<b>FR</b>	100	100	100	63	100	100	100	75	100	75	100	100	75	75	75	75	88
<b>IT</b>	88	100	88	100	50	100	63	75	75	88	100	100	88	88	63	88	63
<b>CY</b>	88	100	75	50	38	63	88	75	75	88	75	38	75	88	25	88	25
<b>LV</b>	100	75	75	100	75	75	50	38	88	88	100	100	88	75	38	88	88
<b>LT</b>	100	100	100	100	88	100	100	88	63	75	100	100	88	88	75	75	88
<b>LU</b>	88	63	38	63	75	63	38	88	75	88	88	63	75	88	75	75	50
<b>MT</b>	75	63	63	38	50	75	100	25	63	75	88	88	88	63	88	75	38
<b>NL</b>	88	63	100	100	88	88	63	88	63	75	75	38	75	88	50	75	88
<b>AT</b>	88	88	100	88	100	75	88	38	88	25	75	88	88	88	38	75	38
<b>PT</b>	88	100	100	100	88	75	88	88	63	88	100	88	75	75	63	38	88
<b>SI</b>	100	88	88	63	100	100	88	100	88	100	100	100	88	88	88	88	88
<b>SK</b>	100	100	100	75	75	100	75	75	75	88	100	100	88	88	63	88	88
<b>FI</b>	100	88	88	88	88	100	63	50	75	63	100	100	88	75	75	63	38
<b>Euro area</b>	100	100	88	88	88	100	63	88	100	88	100	100	100	100	75	100	88
<b>Non-euro area</b>																	
<b>BG</b>	100	60	80	60	100	100	80	80	20	80	100	100	100	100	80	40	100
<b>CZ</b>	100	100	100	80	100	100	80	100	60	100	100	80	100	100	100	100	100
<b>DK</b>	60	60	80	80	100	60	60	40	80	60	100	60	80	40	80	100	60
<b>HR</b>	100	100	60	100	100	100	40	80	60	80	100	80	100	100	80	80	100
<b>HU</b>	100	80	100	100	80	80	100	100	40	60	100	100	100	80	60	100	80
<b>PL</b>	100	100	100	80	80	100	100	100	100	100	80	80	100	100	100	100	100
<b>RO</b>	100	80	40	40	60	80	100	100	80	60	100	80	80	100	100	80	100
<b>SE</b>	100	100	80	60	100	100	100	100	80	100	100	100	100	100	80	100	100
<b>UK</b>	80	60	80	60	80	80	40	40	0	0	100	80	100	100	100	0	0

## 1.4 Vertical discrepancies

**Table 1.4.1**

Vertical discrepancies, four-quarter cumulative vertical discrepancies

	EUR millions*				As a percentage of GDP			
	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2017	Q4 2017	Q1 2018	Q2 2018
<b>Households – euro area</b>								
<b>BE</b>	2,929	3,390	-1,932	3,556	1%	1%	0%	1%
<b>DE</b>	0	0	0	0	0%	0%	0%	0%
<b>IE</b>	-527	-2,778	-3,794	-5,061	0%	-1%	-1%	-2%
<b>GR</b>	-10,462	-9,332	-9,949	-8,235	-6%	-5%	-5%	-4%
<b>ES</b>	-14,962	-10,339	-11,964	-12,058	-1%	-1%	-1%	-1%
<b>FR</b>	199	4,554	-3,344	-1,411	0%	0%	0%	0%
<b>IT</b>	9,613	-587	-3,596	141	1%	0%	0%	0%
<b>NL</b>	342	-4,230	-4,705	-7,633	0%	-1%	-1%	-1%
<b>AT</b>	-138	0	893	1,809	0%	0%	0%	0%
<b>PT</b>	0	0	0	0	0%	0%	0%	0%
<b>SI</b>	380	186	326	587	1%	0%	1%	1%
<b>FI</b>	-12,193	-9,677	-9,037	-13,172	-5%	-4%	-4%	-6%
<b>EA</b>	-40,562	-19,924	-29,926	-55,649	0%	0%	0%	0%
<b>Households – non-euro area</b>								
<b>CZ</b>	-54,598	-55,312	-57,933	-119,532	-1%	-1%	-1%	-2%
<b>DK</b>	0	0	1	0	0%	0%	0%	0%
<b>HR</b>	NC	NC	NC	NC	NC	NC	NC	NC
<b>PL</b>	-52,852	-51,405	-77,654	-102,574	-2%	-2%	-4%	-5%
<b>RO</b>	-25,319	-12,463	-11,048	-5,379	-3%	-1%	-1%	-1%
<b>SE</b>	17,811	57,078	60,539	92,642	0%	1%	1%	2%
<b>UK</b>	-33,293	-40,382	-45,912	-52,399	-2%	-2%	-2%	-2%
<b>Non-financial corporations – euro area</b>								
<b>BE</b>	-7,567	1,100	826	9,342	-2%	0%	0%	2%
<b>DE</b>	27,214	50,366	52,574	74,115	1%	2%	2%	2%
<b>IE</b>	-13,391	6,372	15,819	19,727	-4%	2%	5%	6%
<b>GR</b>	7,316	5,194	6,743	4,903	4%	3%	4%	3%
<b>ES</b>	16,920	10,444	11,545	10,931	1%	1%	1%	1%
<b>FR</b>	-21,427	3,809	28,329	35,810	-1%	0%	1%	2%
<b>IT</b>	9,847	-1,494	-16,653	-17,434	1%	0%	-1%	-1%
<b>NL</b>	1,962	1,503	467	1,725	0%	0%	0%	0%
<b>AT</b>	-543	-3,364	-2,595	2,082	0%	-1%	-1%	1%
<b>PT</b>	-331	-493	134	-182	0%	0%	0%	0%
<b>SI</b>	891	662	605	173	2%	1%	1%	0%
<b>FI</b>	13,079	9,061	-88	-1,784	6%	4%	0%	-1%
<b>EA</b>	40,539	20,088	30,319	55,570	0%	0%	0%	0%
<b>Non-financial corporations – non-euro area</b>								
<b>CZ</b>	146,560	179,787	163,446	191,891	3%	3%	3%	4%
<b>DK</b>	-2	-2	-2	-1	0%	0%	0%	0%
<b>HR</b>	NC	NC	NC	NC	NC	NC	NC	NC
<b>PL</b>	42,151	67,740	71,336	77,437	2%	3%	3%	4%



	EUR millions*				As a percentage of GDP			
	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2017	Q4 2017	Q1 2018	Q2 2018
<b>RO</b>	8,378	-8,512	-22,502	-7,827	1%	-1%	-2%	-1%
<b>SE</b>	-186,091	-65,584	-115,335	-66,509	-4%	-1%	-2%	-1%
<b>UK</b>	4,351	1,244	2,282	6,117	0%	0%	0%	0%

	EUR millions*				As a percentage of GDP			
	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2018	Q4 2018	Q1 2019	Q2 2019

**Financial corporations: euro area**

<b>BE</b>	-5,433	2,584	112	-2,754	-1%	1%	0%	-1%
<b>DE</b>	2	0	3	4	0%	0%	0%	0%
<b>IE</b>	17,497	-7,987	-36,723	-36,708	5%	-2%	-11%	-11%
<b>GR</b>	3,575	4,734	3,905	7,740	2%	3%	2%	4%
<b>ES</b>	0	0	0	0	0%	0%	0%	0%
<b>FR</b>	48,201	-3,242	-16,030	-45,496	2%	0%	-1%	-2%
<b>IT</b>	12,579	16,767	26,736	17,518	1%	1%	2%	1%
<b>NL</b>	0	0	0	0	0%	0%	0%	0%
<b>AT</b>	1,353	1,722	1,342	-4,012	0%	0%	0%	-1%
<b>PT</b>	-340	8	-78	281	0%	0%	0%	0%
<b>SI</b>	-757	-606	-581	-436	-2%	-1%	-1%	-1%
<b>FI</b>	987	8,225	17,634	16,124	0%	4%	8%	7%
<b>EA</b>	0	0	0	0	0%	0%	0%	0%

**Financial corporations: non-euro area**

<b>CZ</b>	-88,426	-152,925	-159,060	-266,748	-2%	-3%	-3%	-5%
<b>DK</b>	2	2	2	1	0%	0%	0%	0%
<b>HR</b>	NC	NC	NC	NC	NC	NC	NC	NC
<b>PL</b>	35,781	4,575	28,238	25,581	2%	0%	1%	1%
<b>RO</b>	12,773	14,285	14,448	8,550	1%	2%	2%	1%
<b>SE</b>	235,016	36,322	105,964	30,935	5%	1%	2%	1%
<b>UK</b>	3,882	18,456	18,624	31829	0%	1%	1%	1%

\*For non-euro area countries the results are shown in the national currency.

## 1.5 Comparison with financial statistics

**Table 1.5.1**

Comparison with MFI balance sheet items (BSI) data and securities issues statistics (SEC), as a percentage

	External comparison					
	MFI loans to NFCs and HHs: FA – BSI statistics 2018		NFC debt securities: FA – SEC statistics 2018			
	Stocks	Transactions*	% difference (QFA-SEC)/QFA	Difference as % of GDP	% difference (QFA-SEC)/QFA	Difference as % of GDP
% difference (QFA-BSI)/QFA						
<b>Euro area</b>						
<b>BE</b>	1.14	-0.09	6.76	0.94	1.38	0.19
<b>DE</b>	-3.49	-0.01	10.60	0.59	0.51	0.03
<b>EE</b>	-0.54	-0.17	3.07	0.13	-4.25	-0.17
<b>IE</b>	-0.07	-0.50	32.11	1.78	10.83	0.60
<b>GR</b>	0.68	-0.12	-0.33	0.00	7.72	0.04
<b>ES</b>	0.02	0.00	-3.47	-0.29	0.71	0.06
<b>FR</b>	0.30	0.00	3.58	0.93	0.05	0.01
<b>IT</b>	0.01	0.03	6.17	0.53	-0.30	-0.03
<b>CY</b>	0.76	-3.43	100.00	0.02	100.00	0.02
<b>LV</b>	0.24	-0.89	13.14	0.08	1.36	0.01
<b>LT</b>	-0.07	0.00	14.62	0.35	-6.29	-0.15
<b>LU</b>	-1.79	-1.00	7.40	3.05	2.36	0.97
<b>MT</b>	0.54	0.00	-0.15	-0.01	0.95	0.06
<b>NL</b>	-0.12	-0.05	-16.36	-2.35	8.73	1.25
<b>AT</b>	3.31	-0.29	3.02	0.32	-0.42	-0.04
<b>PT</b>	0.24	-0.01	-0.26	-0.04	0.03	0.00
<b>SI</b>	0.21	-0.02	1.10	0.02	1.00	0.02
<b>SK</b>	0.64	0.22	22.05	1.20	9.12	0.50
<b>FI</b>	-1.53	-0.76	-3.54	-0.45	1.49	0.19
<b>Non-euro area</b>						
<b>BG</b>	1.48		-0.60	-0.02		
<b>CZ</b>	-0.35		0.65	0.05		
<b>DK</b>	1.58		4.74	0.37		
<b>HR</b>	0.39		-14.75	-0.49		
<b>HU</b>	-0.37		-31.08	-0.33		
<b>PL</b>	0.88		6.75	0.35		
<b>RO</b>	0.98		85.25	0.08		
<b>SE</b>	0.07		-2.39	-0.59		
<b>UK</b>	NA		-0.78	-0.15		

\*In the case of transactions – underlying stocks in the denominator, comparable transaction data are not available for non-euro area countries. Percentage differences can be inflated when values are very small.

## Annex 2: Methodological documentation of quality indicators

### 2.1 Descriptive measures

#### Upward revision ratio

The upward revision ratio is the ratio between the number of upward revisions and the number of observations considered (N) – the total number of revisions over time and across vintages, excluding zero values.

$$\text{Upward revision ratio} = \frac{\# \text{ upward revisions}}{N} (\%)$$

The prescriptive target for this indicator is between 30% and 70%. Since both positive and negative revisions should occur at roughly the same frequency, the revisions should be positive around half of the time.

#### Directional reliability indicator

To assess whether the information on the sign of the changes over time, as contained in the earlier assessments, has been systematically altered by revisions, a 2 x 2 contingency table may be drawn up. In this table, the columns consist of positive and negative first differences in the initial estimates:

$$\Delta x_t^I = x_t^I - x_{t-1}^I$$

The rows consist of positive and negative changes in the latest assessment:

$$\Delta x_t^L = x_t^L - x_{t-1}^L$$

**Table A.2.1**

Contingency table for directional reliability

	$\Delta x_t^I > 0$	$\Delta x_t^I \leq 0$	Subtotal
$\Delta x_t^L > 0$	n11	n12	n11 + n12
$\Delta x_t^L \leq 0$	n21	n22	n21 + n22
Subtotal	n11+ n21	n12 + n22	N

The directional reliability indicator (Q) is defined as:

$$Q = \frac{n_{11} + n_{22}}{N} (\%)$$

This indicator (Q) expresses the percentage of cases in which earlier and later assessments move in the same direction. It is equal to 1 (100%) if the changes following the first and the final assessment always have the same sign, while it is equal to 0 if that is never the case. High values for this indicator are optimal in terms of confirming data reliability.

## 2.2 Size measures

### Mean absolute percentage error

For strictly positive data, the relative measure of revisions equals the percentage change over the initial assessment:

$$\% \text{ change} = \left( \frac{x_t^L - x_t^I}{x_t^I} \right)$$

If the average over time is then computed, this is called the mean percentage error (MPE):

$$\text{MPE} = \overline{\left( \frac{x_t^L - x_t^I}{x_t^I} \right)}$$

As revisions can be both positive and negative, it is usually more appropriate to take the absolute value in order to avoid revisions of opposite signs cancelling each other out in the resulting indicator. So, if the average is calculated using the absolute values, the result is the mean absolute percentage error (MAPE).

$$\text{MAPE}_{\text{average of ratios}} = \frac{1}{T} \sum_{t=1}^T \left| \frac{x_t^L - x_t^I}{x_t^I} \right| (\%)$$

There are two alternative definitions of this indicator: the average of ratios and the ratio of averages.

$$\text{MAPE}_{\text{ratio of averages}} = \frac{\sum_{t=1}^T |x_t^L - x_t^I| / T}{\sum_{t=1}^T |x_t^I| / T} (\%)$$

The second definition has an advantage over the first – if a single data point of the denominator is close to zero, the indicator calculated as an average of ratios will be artificially magnified, which is not necessarily the case for the second definition. MAPE calculated as the ratio of averages is preferred to the first version.

To overcome the fact that transactions can be both positive and negative, and are therefore not useable in the denominator, MAPE for transactions is calculated as a percentage of the underlying stocks. If it is calculated that way, the resulting indicator is usually called a mean absolute comparative error (MACE), as revisions in series containing observations that have different signs or are close to zero cannot be properly related to the series value itself but to the alternative measure, as outstanding amounts or GDP.

## Symmetric mean absolute percentage error

MAPE is an asymmetric indicator; if revisions are, on average, positive, MAPE will be lower than if those revisions are, on average, negative. Where the denominator is identified in terms of the latest assessments, the results will be the opposite. SMAPE fixes the issues of asymmetry and is bounded between 0 and 1 (100%), while MAPE is not bounded on the upper side. In other words, SMAPE gives relevance to the initial observation while MAPE does not.

$$\text{SMAPE} = \frac{\sum_{t=1}^T |x_t^L - x_t^I| / T}{\sum_{t=1}^T (|x_t^L| + |x_t^I|) / T} (\%)$$

As with MAPE, this indicator for transactions is again calculated as a percentage of underlying stocks, which is also usually referred to as a MACE.

Additional notes:

Whenever GDP is used, it is the latest value available (in this case 2018).

For revisions, all figures are calculated as the difference between the data from the October 2019 and the data from the October 2018 transmissions.

For the rest of the tables and charts, unless specified otherwise, the figures are calculated using the data from the October 2019 transmission.