

Annexes

Annex 1: Detailed tables by country

Accessibility and clarity

Table A.1.1

Accessibility of financial accounts data

Country	Website	Download	Charts and tables	Press release	Hotline
Euro area					
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
Euro area	Y	Y	Y	Y	Y
Non-euro area					
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.

Internal consistency

Table A.1.2.1

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

Period: Q4 2012 to Q2 2018

Country	Consistency rate
Euro area	
BE	100
DE	100
EE	100
IE	98
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	100
FI	100
Non-euro area	
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, 2017

Country	Private sector debt, consolidated	Private sector credit flow, consolidated	Total financial sector liabilities, non-consolidated	Household debt, consolidated
	% difference (QFA-AFA)/QFA			
Euro area				
BE	-0.00	-0.00	-0.00	0.00
DE	-0.49	-0.47	0.09	-0.00
EE	0.00	-0.00	0.42	0.00
IE	-7.24	-1.06	-1.18	0.18
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	-0.71	-0.72	0.00	-0.18
CY	-0.00	0.00	-0.15	0.00
LV	0.00	0.00	-0.00	0.01
LT	-0.26	0.01	-0.06	-0.66
LU	-0.00	0.00	0.01	0.00
MT	-0.02	-0.02	-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	-2.62	4.74	0.27	0.50
FI	0.00	0.00	0.00	0.00
Non-euro area				
BG	0.11	-0.49	3.24	10.75
CZ	16.31	3.04	0.81	6.20
DK	-2.22	1.28	9.61	-9.26
HR	0.00	0.00	-0.00	0.00
HU	0.00	0.00	0.87	0.00
PL	-0.00	-0.00	-0.04	0.00
RO	0.00	0.00	-0.00	0.00
SE	0.00	0.00	-0.00	0.00
UK	0.06	-0.32	0.00	0.00

Revision indicators

Table A.1.3.1

Symmetric mean absolute percentage error (SMAPE*) for the period Q2 2016 to Q1 2018, as a percentage

(for non-EA countries for the period Q4 2016 to Q4 2017)

	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					
Euro area																	
BE	0.24	0.06	0.51	0.05	2.82	0.44	1.90	0.47	7.43	2.36	0.25	0.89	2.86	0.21	2.96	0.42	3.40
DE	0.02	0.01	0.09	0.01	NA	NA	0.24	0.30	1.82	0.73	0.19	0.04	0.01	NA	0.53	0.39	0.39
EE	0.13	0.06	0.87	0.13	1.05	0.19	0.78	0.25	6.95	1.27	0.20	0.49	0.08	7.30	2.41	1.31	1.89
IE	0.10	0.01	0.10	0.03	1.72	0.19	1.32	0.23	4.41	0.81	0.06	0.35	0.11	0.02	1.46	0.20	0.01
GR	0.04	0.03	0.15	0.10	24.15	1.33	0.64	0.15	NA	NA	0.07	0.33	0.25	0.14	3.49	0.17	0.56
ES	0.19	0.03	0.72	0.10	1.40	0.49	0.54	0.11	1.70	0.50	0.05	0.43	0.42	0.00	0.83	0.67	0.20
FR	0.05	0.01	0.85	0.10	0.13	0.03	5.27	0.19	12.66	0.46	0.04	0.70	0.63	1.15	3.38	0.19	NA
IT	0.04	0.02	1.20	0.06	2.08	0.02	0.39	0.14	0.00	0.00	0.05	0.14	0.26	NA	0.48	0.29	0.57
CY	0.11	0.08	0.18	0.11	77.61	41.01	0.52	0.16	0.02	0.05	0.15	2.33	0.33	5.36	3.38	1.19	6.31
LV	0.00	0.02	0.01	0.16	NA	NA	0.16	0.00	0.78	0.08	0.07	0.10	0.12	NA	0.01	0.00	0.01
LT	0.01	0.03	0.95	0.24	5.16	5.28	0.61	0.31	4.01	0.77	0.10	0.49	0.17	4.33	2.29	1.68	0.08
LU	2.62	0.37	4.93	0.25	22.21	0.49	0.88	0.70	10.19	1.84	0.29	1.32	0.11	0.12	2.05	1.47	18.70
MT	0.45	0.92	0.72	0.79	3.87	2.46	1.16	0.02	4.59	0.47	0.16	0.74	0.78	7.20	0.12	8.47	100.00
NL	0.37	0.03	2.21	0.04	10.51	1.40	17.52	0.45	45.17	2.06	0.20	1.51	1.00	0.28	2.58	0.61	0.29
AT	0.34	0.08	0.69	0.05	0.57	0.19	1.21	0.24	2.41	0.88	0.05	0.16	0.07	0.18	0.84	0.36	0.75
PT	0.16	0.04	0.21	0.07	1.19	0.25	0.51	0.29	4.72	1.55	0.07	0.26	0.32	0.12	0.21	0.81	0.46
SI	0.10	0.07	0.28	0.17	0.03	NA	0.24	0.05	0.00	0.00	0.01	0.04	0.00	NA	0.52	NA	NA
SK	0.00	NA	0.25	0.07	7.13	0.12	0.06	0.03	0.00	0.00	0.11	1.04	0.99	0.01	1.47	3.52	0.00
FI	0.04	0.04	0.63	0.14	1.87	0.40	1.75	0.92	6.83	1.94	0.12	0.29	0.13	0.34	5.24	2.06	1.77
Euro area	0.24	0.01	0.43	0.04	1.69	0.19	2.69	0.19	7.66	0.50	0.09	0.09	0.31	0.23	0.58	0.17	0.19
Median	0.10	0.03	0.63	0.10	1.87	0.25	0.64	0.23	4.21	0.75	0.10	0.43	0.25	0.14	1.47	0.61	0.51
Non-euro area																	
BG	0.33	0.11	0.49	0.22	2.95	0.53	0.54	0.18	1.39	0.55	0.21	0.54	0.04	0.99	4.65	2.00	0.00
CZ	0.05	0.03	3.72	0.04	0.05	0.02	0.36	0.49	6.38	2.70	0.16	0.09	0.00	0.04	0.89	0.05	NA
DK	0.50	0.08	0.78	0.10	0.20	0.06	4.77	0.14	16.57	0.66	0.06	1.33	0.06	0.08	6.88	0.17	1.26
HR	0.00	0.00	0.65	0.17	0.81	0.82	2.16	0.64	7.34	2.09	0.07	0.08	0.21	NA	0.54	0.02	0.59
HU	0.40	0.09	1.14	0.06	2.68	0.90	1.00	0.30	4.82	1.51	2.13	2.03	0.22	0.08	3.95	0.14	0.15
PL	0.08	0.08	0.36	0.09	3.53	0.35	0.59	0.11	1.10	0.16	0.08	0.09	0.13	NA	0.94	0.26	NA
RO	0.04	0.02	0.88	1.73	14.85	0.73	1.72	0.30	9.25	0.31	0.16	0.28	0.43	0.00	1.16	0.18	0.01
SE	0.30	0.02	0.62	0.06	4.56	0.57	0.45	0.19	1.32	0.23	0.04	0.14	0.07	NA	0.41	0.76	0.72
UK	0.24	0.07	0.42	0.03	1.58	0.28	3.26	0.24	NA	NA	0.03	0.07	0.02	0.15	0.22	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 2016 to Q1 2018, as a percentage of GDP

(for non-EA countries for the period Q4 2016 to Q4 2017)

	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					
Euro area																	
BE	0.28	0.07	3.07	0.33	0.83	0.13	5.53	1.38	5.34	1.70	2.81	9.85	15.32	0.15	9.97	0.60	0.46
DE	0.02	0.01	0.33	0.04	NA	NA	0.22	0.28	0.24	0.10	1.71	0.31	0.06	NA	0.30	0.48	0.13
EE	0.10	0.05	1.94	0.29	0.13	0.02	1.08	0.34	1.21	0.22	0.79	1.89	0.22	0.55	1.77	0.14	0.54
IE	0.10	0.01	0.26	0.07	0.20	0.02	5.50	0.96	1.84	0.34	2.04	11.61	0.86	0.22	12.45	0.40	0.00
GR	0.04	0.03	0.42	0.30	0.14	0.01	0.78	0.18	0.00	0.00	0.36	1.58	1.09	0.01	0.50	0.03	0.01
ES	0.24	0.04	2.61	0.38	0.08	0.03	1.02	0.21	0.62	0.18	0.38	3.34	2.38	0.00	0.84	0.36	0.05
FR	0.05	0.01	3.86	0.47	0.08	0.02	11.16	0.41	11.56	0.42	0.56	8.71	5.23	1.40	2.58	0.40	NA
IT	0.03	0.02	5.86	0.32	0.37	0.00	0.50	0.17	0.00	0.00	0.38	1.03	1.31	NA	0.30	0.28	0.06
CY	0.24	0.17	0.83	0.53	0.65	0.34	2.14	0.68	0.00	0.00	4.57	72.44	2.72	1.79	73.65	0.52	1.84
LV	0.00	0.01	0.02	0.33	NA	NA	0.21	0.00	0.12	0.01	0.30	0.40	0.39	NA	0.00	0.00	0.00
LT	0.00	0.01	1.66	0.42	0.08	0.08	0.47	0.24	0.59	0.11	0.26	1.24	0.35	0.16	0.60	0.14	0.01
LU	3.30	0.47	15.52	0.78	22.94	0.50	5.20	4.19	15.90	2.87	152.01	701.02	5.08	17.87	682.63	10.09	1.63
MT	0.44	0.90	3.17	3.50	0.47	0.30	2.83	0.06	5.44	0.56	7.38	33.61	7.59	6.74	3.95	19.06	0.00
NL	0.78	0.06	14.43	0.23	3.71	0.49	46.10	1.19	15.54	0.71	5.66	42.60	6.94	0.64	36.14	0.82	1.06
AT	0.33	0.08	2.41	0.18	0.14	0.05	1.87	0.37	0.88	0.32	0.42	1.27	0.36	0.17	1.06	0.22	0.08
PT	0.21	0.06	0.84	0.26	0.41	0.09	0.92	0.52	1.24	0.41	0.59	2.12	1.74	0.03	0.35	0.49	0.09
SI	0.05	0.04	0.54	0.34	0.00	NA	0.26	0.05	0.00	0.00	0.02	0.11	0.00	NA	0.11	NA	NA
SK	0.00	NA	0.40	0.11	0.98	0.02	0.05	0.03	0.00	0.00	0.33	3.23	2.38	0.00	0.23	0.62	0.00
FI	0.06	0.05	1.78	0.40	0.55	0.12	3.39	1.77	4.17	1.19	0.96	2.28	0.70	0.37	3.32	1.29	0.06
Euro area	0.27	0.02	1.78	0.16	0.42	0.05	4.91	0.34	3.92	0.26	1.17	1.21	1.88	0.45	2.05	0.22	0.08
Median	0.10	0.04	1.78	0.33	0.20	0.03	1.08	0.34	0.88	0.22	0.59	2.28	1.31	0.16	1.06	0.40	0.06
Non-euro area																	
BG	0.15	0.05	1.28	0.57	0.23	0.04	0.89	0.29	0.24	0.09	0.75	1.94	0.10	0.02	1.68	0.31	0.00
CZ	0.03	0.02	8.45	0.09	0.01	0.00	0.36	0.49	1.05	0.44	0.81	0.42	0.01	0.01	0.44	0.01	NA
DK	1.14	0.19	4.67	0.59	0.04	0.01	8.90	0.27	7.29	0.29	1.10	22.72	0.47	0.17	24.77	0.38	1.85
HR	0.00	0.00	1.53	0.41	0.07	0.07	3.78	1.12	3.81	1.09	0.29	0.31	0.58	NA	0.12	0.00	0.28
HU	0.15	0.03	2.83	0.15	0.09	0.03	1.28	0.38	1.27	0.40	12.46	11.87	0.53	0.02	11.66	0.02	0.01
PL	0.05	0.05	0.71	0.18	0.45	0.05	0.47	0.08	0.06	0.01	0.25	0.29	0.29	NA	0.23	0.06	NA
RO	0.01	0.01	1.18	2.32	0.02	0.00	1.22	0.21	0.23	0.01	0.28	0.48	0.59	0.00	0.13	0.01	0.00
SE	0.50	0.03	3.67	0.37	1.95	0.24	1.11	0.47	1.05	0.18	0.53	1.70	0.48	NA	0.53	0.39	1.24
UK	0.41	0.13	2.72	0.20	0.61	0.11	3.97	0.29	NA	NA	0.52	1.24	0.27	0.17	1.10	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 2016 to Q1 2018, as a percentage

(for non-EA countries for the period Q4 2016 to Q4 2017)

	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					
												Stocks	Trans- actions	Stocks	Trans- actions	Stocks	Trans- actions
Euro area																	
BE	100	63	38	25	88	38	88	50	0	63	63	38	0	100	100	88	88
DE	63	75	38	88	NA	NA	63	38	83	50	50	63	63	NA	75	25	100
EE	14	43	88	38	0	63	13	38	0	13	100	100	75	100	88	38	0
IE	0	50	20	43	100	100	100	50	100	100	50	100	75	100	100	0	50
GR	50	50	38	75	100	100	75	25	0	0	88	50	71	100	50	25	75
ES	88	50	100	50	50	50	75	75	100	83	63	75	38	100	88	50	63
FR	0	13	100	38	88	75	100	88	100	88	88	100	100	25	100	38	NA
IT	25	57	88	38	38	57	38	38	0	0	88	50	13	NA	100	88	63
CY	63	50	38	38	88	57	88	75	40	57	88	88	63	100	88	63	38
LV	0	100	100	100	NA	NA	0	0	50	40	38	75	100	NA	100	100	100
LT	38	50	38	25	67	43	63	50	50	38	38	100	100	100	100	88	75
LU	63	75	50	88	100	75	25	50	63	88	63	100	88	75	100	75	38
MT	13	63	25	38	25	88	50	50	75	50	25	100	100	100	38	100	100
NL	88	38	100	63	88	63	88	75	100	100	38	0	13	88	0	63	13
AT	75	63	100	50	0	17	100	63	100	63	63	63	63	63	63	50	0
PT	63	50	88	75	0	67	75	50	100	38	75	25	0	38	75	14	67
SI	50	50	63	50	0	NA	100	88	100	67	38	29	0	NA	0	NA	NA
SK	0	NA	100	33	75	33	0	100	60	57	50	75	100	100	75	100	100
FI	100	57	0	75	50	88	100	50	100	63	75	75	50	38	100	0	57
Euro area	88	50	88	50	100	75	100	75	100	75	50	88	50	75	63	25	13
Median	100	63	38	25	88	38	88	50	0	63	63	38	0	100	100	88	88
Non-euro area																	
BG	20	40	100	100	0	50	80	80	100	100	100	100	20	33	100	100	100
CZ	80	60	100	100	75	50	40	0	0	0	40	80	67	0	80	75	NA
DK	100	0	100	0	0	75	100	25	100	25	25	100	25	50	100	50	25
HR	50	50	100	40	0	0	100	100	100	100	20	60	80	NA	20	100	20
HU	100	40	100	80	20	0	40	20	20	20	60	60	100	67	60	80	100
PL	60	40	80	40	0	60	100	80	0	0	20	60	40	NA	40	100	NA
RO	40	100	80	80	25	25	0	80	0	50	40	0	0	0	60	25	0
SE	100	40	100	40	100	100	40	60	100	40	40	40	60	NA	80	40	0
UK	100	60	80	20	20	40	60	60	NA	NA	80	80	60	100	80	NA	NA

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

Table A.1.3.4

Directional reliability indicator for the period Q2 2016 to Q1 2018, as a percentage

(for non-EA countries for the period Q4 2016 to Q4 2017)

	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					
Euro area																	
BE	88	88	75	75	88	88	63	88	50	75	100	63	50	88	63	75	88
DE	100	100	100	100	100	100	75	75	75	75	88	100	75	100	88	75	88
EE	100	88	88	75	75	88	63	75	38	63	100	88	88	88	88	75	75
IE	88	88	100	75	100	88	100	100	88	75	100	100	88	88	88	88	88
GR	100	88	88	100	63	100	88	75	100	100	100	100	88	88	88	75	75
ES	88	100	88	75	88	88	75	100	63	88	100	88	88	88	50	63	88
FR	100	88	88	75	100	100	88	100	88	38	100	100	63	75	88	88	NA
IT	88	100	75	100	75	100	88	88	100	100	100	100	88	100	75	88	63
CY	75	88	88	63	38	63	50	100	100	100	75	63	63	88	50	75	75
LV	88	88	100	88	100	100	88	88	88	100	100	88	75	100	88	88	88
LT	100	100	75	88	88	100	100	88	75	100	88	100	88	75	75	75	88
LU	100	100	63	88	75	100	50	75	75	88	75	75	88	88	63	75	38
MT	88	50	88	63	50	75	100	88	63	63	88	75	88	75	88	75	38
NL	88	75	88	100	100	75	75	100	25	75	100	75	88	88	75	63	88
AT	88	100	100	50	100	88	100	50	88	25	88	100	75	88	63	75	75
PT	100	75	88	100	75	63	63	50	50	63	100	75	88	88	75	50	75
SI	100	100	88	75	100	100	100	100	100	100	100	100	88	100	88	100	100
SK	100	100	100	100	75	100	100	100	100	100	75	100	88	88	75	75	88
FI	100	75	100	75	88	88	75	88	63	63	100	100	88	75	88	88	50
Euro area	100	100	88	88	63	75	75	88	88	63	88	100	100	100	75	88	88
Median	100	63	38	25	88	38	88	50	0	63	63	38	0	100	100	88	88
Non-euro area																	
BG	100	60	100	80	100	100	60	80	20	80	60	100	100	100	100	60	100
CZ	100	100	100	100	100	100	100	80	60	100	100	100	100	100	100	100	100
DK	40	80	100	100	80	100	80	80	40	100	100	80	80	100	100	80	80
HR	100	100	100	100	100	80	40	80	60	80	100	100	100	80	80	100	100
HU	60	100	100	100	80	80	20	80	60	40	80	60	80	100	60	100	100
PL	80	100	80	80	60	100	60	60	100	100	100	80	80	100	100	100	100
RO	100	80	80	80	80	100	80	80	100	80	100	100	80	100	80	100	100
SE	100	100	100	80	80	80	80	100	100	100	100	80	80	100	100	100	80
UK	100	40	80	100	100	100	60	100	NA	NA	80	80	100	100	100	NA	NA

Vertical discrepancies

Table A.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
Households euro area								
BE	-1,457	6,822	12,693	5,705	0%	2%	3%	1%
DE	0	0	0	0	0%	0%	0%	0%
IE	-4,257	-3,633	-2,413	-843	-1%	-1%	-1%	0%
GR	-10,949	-10,704	-12,329	-12,251	-6%	-6%	-7%	-7%
ES	-10,114	-11,000	-13,301	-18,212	-1%	-1%	-1%	-2%
FR	3,426	4,404	-1,167	24,564	0%	0%	0%	1%
IT	-10,758	-16,908	-28,026	-14,795	-1%	-1%	-2%	-1%
NL	-8,584	-2,374	-2,757	-1,582	-1%	0%	0%	0%
AT	-1,177	-1	1,994	-931	0%	0%	1%	0%
PT	0	0	0	0	0%	0%	0%	0%
SI	1,384	1,467	1,482	1,528	3%	3%	3%	4%
FI	-4,018	-5,469	-6,586	-6,626	-2%	-2%	-3%	-3%
EA	-5,795	3,280	-15,099	5,971	0%	0%	0%	0%
Household non-euro area								
CZ	-178,025	-126,489	-126,425	-110,723	-4%	-3%	-3%	-2%
DK	-1	0	-2,809	-2,808	0%	0%	0%	0%
HR	-5,730	NC	NC	NC	-2%	NC	NC	NC
PL	-95,714	-76,983	-62,803	-53,687	-5%	-4%	-3%	-3%
RO	-127,425	-32,751	-15,688	-14,951	-15%	-4%	-2%	-2%
SE	158,051	122,807	111,534	95,771	3%	3%	2%	2%
UK	-17,470	-17,633	-24,906	-27,240	-1%	-1%	-1%	-1%
Non-financial corporations euro area								
BE	-8,708	-13,708	-18,404	-5,725	-2%	-3%	-4%	-1%
DE	-40,900	-40,638	28,552	70,245	-1%	-1%	1%	2%
IE	-15,512	6,471	7,134	9,136	-5%	2%	2%	3%
GR	5,164	8,036	9,427	7,615	3%	4%	5%	4%
ES	9,361	10,581	13,507	18,883	1%	1%	1%	2%
FR	-18,931	2,202	-22,211	-1,433	-1%	0%	-1%	0%
IT	-31,323	-10,591	-2,915	-119	-2%	-1%	0%	0%
NL	7,783	3,831	3,973	-598	1%	1%	1%	0%
AT	-2,033	-574	-1,614	-319	-1%	0%	0%	0%
PT	-585	-392	-479	-423	0%	0%	0%	0%
SI	-73	333	-47	390	0%	1%	0%	1%
FI	11,281	19,057	29,529	32,839	5%	9%	13%	15%
EA	5,066	-3,893	14,486	-6,050	0%	0%	0%	0%

	EUR millions*				As a percentage of GDP			
	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2017	Q4 2017	Q1 2018	Q2 2018
Non-financial corporations non-euro area								
CZ	-23,834	-82,032	137,321	212,432	0%	-2%	3%	4%
DK	-8	-9	1,796	1,796	0%	0%	0%	0%
HR	9,649	NC	NC	NC	3%	NC	NC	NC
PL	64,411	54,793	45,067	40,436	3%	3%	2%	2%
RO	114,436	21,274	7,695	12,322	13%	2%	1%	1%
SE	129,089	-28,982	-61,388	-30,571	3%	-1%	-1%	-1%
UK	-4,359	5,424	5,496	19,231	0%	0%	0%	1%
Financial corporations euro area								
BE	9,038	4,960	3,759	-3,963	2%	1%	1%	-1%
DE	3	4	6	2	0%	0%	0%	0%
IE	-7,157	-5,314	3,252	39	-2%	-2%	1%	0%
GR	3,979	983	715	247	2%	1%	0%	0%
ES	0	0	0	0	0%	0%	0%	0%
FR	-5,067	-4,555	-1,172	36,516	0%	0%	0%	2%
IT	10,386	15,104	17,936	19,493	1%	1%	1%	1%
NL	0	0	0	0	0%	0%	0%	0%
AT	-1,069	-1,182	-6,007	-4,353	0%	0%	-2%	-1%
PT	-33	-174	-76	0	0%	0%	0%	0%
SI	-479	-550	-447	-593	-1%	-1%	-1%	-1%
FI	-3,428	-4,351	-6,944	-4,572	-2%	-2%	-3%	-2%
EA	0	0	0	0	0%	0%	0%	0%
Financial corporations non-euro area								
CZ	2,682	23,625	-20,884	6,477	0%	0%	0%	0%
DK	4	5	-880	-881	0%	0%	0%	0%
HR	-10,037	NC	NC	NC	-3%	NC	NC	NC
PL	44,268	62,724	52,054	32,918	2%	3%	3%	2%
RO	15,372	15,545	15,799	13,297	2%	2%	2%	2%
SE	-128,316	45,717	32,077	82,910	-3%	1%	1%	2%
UK	15,468	1,113	-7,674	-21,561	1%	0%	0%	-1%

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

Comparison with financial statistics

Table A.1.5.1

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

	External comparison					
	MFI loans to NFCs and HHs: FA – BSI statistics 2017		NFC debt securities: FA – SEC statistics 2017			
	Stocks	Transactions*	Stocks		Transactions*	
	% difference (QFA-BSI)/QFA		% difference (QFA-SEC)/QFA	Difference as % of GDP	% difference (QFA-SEC)/QFA	Difference as % of GDP
Euro area						
BE	1.26	0.31	10.65	1.57	-1.12	-0.17
DE	-2.70	-0.44	11.93	0.77	0.00	0.00
EE	0.17	-0.03	-13.89	-0.82	-4.26	-0.25
IE	-0.06	-1.63	8.60	0.47	0.91	0.05
GR	0.74	-0.09	0.43	0.00	44.90	0.17
ES	0.02	-0.01	-1.23	-0.04	0.05	0.00
FR	0.32	-0.03	8.16	2.33	-0.05	-0.02
IT	0.01	-0.09	12.75	1.23	-0.20	-0.02
CY	0.73	-0.46	100.00	0.51	353.86	1.80
LV	-0.42	-1.10	6.28	0.04	2.22	0.02
LT	-0.03	0.01	44.34	0.61	15.54	0.21
LU	0.00	0.02	35.37	19.88	0.76	0.43
MT	0.50	-3.16	-3.86	-0.24	-19.26	-1.19
NL	-4.22	0.50	-4.69	-0.92	-3.03	-0.59
AT	3.59	-0.27	4.74	0.53	-2.01	-0.23
PT	0.25	0.10	1.30	0.23	0.41	0.07
SI	0.31	0.28	2.17	0.05	2.96	0.07
SK	0.61	-0.05	33.51	2.26	-2.26	-0.15
FI	-0.53	1.41	0.89	0.12	1.31	0.18
Non-euro area						
BG	1.74		-0.62	-0.02		
CZ	-0.19		-6.76	-0.48		
DK	1.05		7.95	0.73		
HR	0.34		-16.26	-0.57		
HU	0.29		10.47	0.16		
PL	0.61		13.63	0.84		
RO	1.12		39.90	0.03		
SE	0.09		-1.73	-0.40		
UK	NA		-0.91	-0.18		

*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

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.

Size Measures

Mean absolute percentage error (MAPE)

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 (SMAPE)

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 2017).

For revisions, all figures are calculated as the difference between the data from the October 2018 and the data from the October 2017 transmissions.

For the rest of the tables and charts, unless specified otherwise, the figures are calculated using the data from the October 2018 transmission.