

# Annexes

## Annex 1: Detailed tables

### A.1.1 Availability, accessibility and clarity

**Table A.1.1.1**

Average share of observations marked as “free for publication” per dataset (all items)

**Percentage of total observations**

(July 2021 to June 2023 / Q3 2021 to Q2 2023)

Country	Monthly b.o.p.	Quarterly b.o.p.	Quarterly i.i.p.
	All items	All items	All items
<b>Euro area</b>			
BE	100	100	100
DE	97	79	93
EE	100	95	98
IE	0	91	89
GR	100	100	100
ES	82	67	94
FR	94	96	95
HR	88	100	100
IT	100	100	100
CY	0	87	87
LV	100	99	99
LT	100	95	95
LU	47	34	40
MT	100	86	82
NL	0	100	100
AT	0	33	62
PT	84	36	34
SI	100	100	100
SK	100	100	100
FI	99	99	96
<b>Euro area median</b>	98	96	95
<b>Non-euro area</b>			
BG	100	100	100
CZ	98	99	98
DK	100	90	89
HU	100	97	100
PL	100	98	100
RO	98	90	94
SE	98	98	95

Source: ECB.

Note: The percentages are calculated based on the number of observations and do not consider the relative importance (magnitude) of the data.

**Table A.1.1.2**

Clarity of accessibility to b.o.p./i.i.p. data

	Website	Download available	Charts and tables	Press releases	Hotline
<b>Euro area</b>					
BE	Y	Y	Y	Y	Y
DE	Y	Y	Y	Y	Y
EE	Y	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y	Y
IE	Y	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y	Y
GR	Y	Y	Y	Y	Y
ES	Y	Y	Y	Y	Y
FR	Y	Y	Y	Y	Y
HR	Y	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y	Y
IT	Y	Y	Y	Y	Y
CY	Y	Y	Y (b.o.p., i.i.p.)	Y	Y
LV	Y	Y	Y	N	Y
LT	Y	Y	Y	Y	Y
LU	Y (NCB)	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y (NCB, NSI)	Y (NCB, NSI)
MT	Y	Y	Y	Y	Y
NL	Y	Y	Y	Y	Y
AT	Y	Y	Y	Y	Y
PT	Y	Y	Y	Y	Y
SI	Y	Y	Y	Y	Y
SK	Y	Y (b.o.p., i.i.p.)	N	Y	Y
FI	Y	Y	Y	Y	Y
<b>Euro area data</b>	Y	Y	Y	Y	Y
<b>Non-euro area</b>					
BG	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y (b.o.p., i.i.p.)	Y	Y
CZ	Y	Y	Y	Y	Y
DK	Y	Y	Y	Y	Y
HU	Y	Y	Y	Y	Y
PL	Y	Y (b.o.p., i.i.p.)	Y	Y	Y
RO	Y	Y	Y (b.o.p., i.i.p.)	Y	Y
SE	Y	Y	Y	Y	Y

Source: ECB.

## A.1.2 Accuracy and reliability (including stability)

**Table A.1.2.1**

Upward revisions ratio for the current account (monthly data)

### Percentage of revised periods

(April 2020 to March 2023; as a percentage of total revision periods)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	94	77	91	77	86	91	71	60	80	66
<b>DE</b>	100	97	46	46	100	100	86	83	100	100
<b>EE</b>	89	94	69	69	94	97	66	71	74	71
<b>IE</b>	69	91	51	37	66	80	60	74	100	100
<b>GR</b>	71	86	100	96	77	94	34	54	NA	100
<b>ES</b>	83	94	51	77	49	86	91	97	89	74
<b>FR</b>	74	74	71	77	54	63	77	57	80	80
<b>HR</b>	63	66	46	57	77	63	69	71	49	69
<b>IT</b>	94	94	71	86	83	80	80	83	80	54
<b>CY</b>	74	83	91	100	82	82	49	34	67	58
<b>LV</b>	91	91	60	77	94	97	84	89	61	35
<b>LT</b>	89	89	74	86	77	69	77	91	71	78
<b>LU</b>	100	97	46	86	100	94	77	80	100	91
<b>MT</b>	77	80	20	83	74	80	71	77	37	80
<b>NL</b>	89	77	63	43	54	51	83	77	43	60
<b>AT</b>	97	89	63	66	74	77	100	100	60	57
<b>PT</b>	83	74	34	80	86	57	74	47	80	66
<b>SI</b>	100	89	51	69	94	94	100	63	86	100
<b>SK</b>	94	74	89	71	77	74	89	60	66	69
<b>FI</b>	83	86	60	94	80	86	91	77	77	49
<b>Euro area median</b>	89	87	61	77	79	81	77	76	77	70
<b>Non-euro area</b>										
<b>BG</b>	91	100	11	26	100	91	94	100	80	66
<b>CZ</b>	80	80	43	77	71	51	66	89	66	37
<b>DK</b>	97	97	63	86	100	100	91	86	77	40
<b>HU</b>	97	100	40	63	86	83	89	94	71	77
<b>PL</b>	66	66	26	29	83	86	66	83	94	86
<b>RO</b>	91	74	69	46	80	63	77	71	63	74
<b>SE</b>	97	63	91	23	71	66	94	71	43	57

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.2****Upward revisions ratio for the current account (quarterly data)****Percentage of revised periods**

(Q2 2020 to Q1 2023; as a percentage of total revision periods)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	75	75	83	58	83	83	58	58	58	42
<b>DE</b>	100	100	36	36	100	100	80	80	100	100
<b>EE</b>	67	100	50	50	92	92	50	92	75	92
<b>IE</b>	100	91	64	91	91	73	100	100	100	100
<b>GR</b>	42	75	89	100	100	100	33	42	NA	NA
<b>ES</b>	92	100	67	92	42	92	100	100	67	83
<b>FR</b>	75	75	92	67	58	42	75	75	83	92
<b>HR</b>	67	100	17	67	92	100	75	92	50	100
<b>IT</b>	92	83	92	83	58	92	75	83	67	55
<b>CY</b>	100	100	83	83	100	100	92	100	75	83
<b>LV</b>	100	83	67	83	100	100	82	50	33	50
<b>LT</b>	75	92	50	42	82	100	75	67	40	82
<b>LU</b>	92	92	25	17	100	100	83	75	92	83
<b>MT</b>	92	92	92	100	92	92	67	67	75	92
<b>NL</b>	75	27	67	83	91	82	67	27	73	45
<b>AT</b>	100	100	25	42	92	75	100	100	17	25
<b>PT</b>	83	92	25	67	83	50	83	50	75	67
<b>SI</b>	100	83	67	42	100	100	100	67	75	100
<b>SK</b>	100	83	92	75	83	92	100	42	92	83
<b>FI</b>	83	83	42	75	100	92	75	50	67	50
<b>Euro area median</b>	92	91	67	71	92	92	78	71	75	83
<b>Non-euro area</b>										
<b>BG</b>	100	100	92	58	92	92	100	92	50	58
<b>CZ</b>	55	82	55	64	45	64	64	100	82	27
<b>DK</b>	100	100	58	42	100	100	83	75	83	25
<b>HU</b>	83	100	33	50	75	100	83	100	75	83
<b>PL</b>	42	42	33	33	83	75	58	75	73	67
<b>RO</b>	75	58	30	33	50	58	67	50	67	75
<b>SE</b>	100	100	50	33	100	75	83	33	58	75

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.3**

Upward revisions ratio for the international investment position (quarterly data)

**Percentage of revised periods**

(Q2 2020 to Q1 2023; as a percentage of total revision periods)

	Financial account		Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>								
<b>BE</b>	100	67	100	50	83	17	75	50
<b>DE</b>	75	92	67	70	100	80	67	50
<b>EE</b>	100	75	92	75	58	33	83	42
<b>IE</b>	100	100	75	58	92	83	75	67
<b>GR</b>	75	42	67	75	NA	NA	50	NA
<b>ES</b>	100	100	83	100	67	42	83	50
<b>FR</b>	92	83	67	50	73	64	83	50
<b>HR</b>	100	92	100	55	83	55	83	92
<b>IT</b>	100	100	75	67	100	92	42	50
<b>CY</b>	42	42	42	42	58	33	83	17
<b>LV</b>	100	58	92	75	92	44	92	50
<b>LT</b>	100	100	92	92	91	NA	67	75
<b>LU</b>	100	100	100	58	100	75	75	83
<b>MT</b>	58	75	67	75	25	58	92	75
<b>NL</b>	75	75	58	55	83	55	73	75
<b>AT</b>	100	92	100	83	92	25	100	75
<b>PT</b>	100	92	83	58	67	42	83	67
<b>SI</b>	75	58	100	58	50	50	42	33
<b>SK</b>	92	75	92	42	33	50	42	42
<b>FI</b>	58	33	50	58	92	50	83	83
<b>Euro area median</b>	100	79	83	58	83	50	79	50
<b>Non-euro area</b>								
<b>BG</b>	92	92	100	83	83	25	75	67
<b>CZ</b>	82	91	55	73	NA	NA	91	64
<b>DK</b>	83	100	75	58	25	58	83	67
<b>HU</b>	75	100	75	83	67	75	92	75
<b>PL</b>	92	92	42	92	92	33	92	50
<b>RO</b>	100	67	92	67	83	50	100	42
<b>SE</b>	67	92	92	67	92	50	0	58

Source: ECB.

**Table A.1.2.4**

## Directional reliability indicator for the current account (monthly data)

**Percentage of revised periods**

(April 2020 to March 2023; as a percentage of total revision periods)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	89	74	80	71	80	77	69	63	69	86
<b>DE</b>	97	94	89	94	91	91	91	89	89	89
<b>EE</b>	91	89	94	91	71	80	71	71	91	86
<b>IE</b>	86	80	86	89	86	86	83	83	89	94
<b>GR</b>	100	91	93	96	100	100	100	97	NA	100
<b>ES</b>	100	94	100	100	89	77	86	80	69	94
<b>FR</b>	89	94	100	97	94	77	83	89	74	83
<b>HR</b>	89	69	80	60	94	83	63	60	71	54
<b>IT</b>	89	97	97	86	94	91	74	89	89	86
<b>CY</b>	89	97	91	94	82	91	91	89	89	79
<b>LV</b>	91	74	100	100	83	74	74	71	88	90
<b>LT</b>	91	97	100	97	89	89	91	94	94	91
<b>LU</b>	77	89	69	80	80	74	77	86	57	74
<b>MT</b>	69	63	91	66	71	66	57	63	49	34
<b>NL</b>	91	86	97	91	77	71	83	74	94	89
<b>AT</b>	89	86	86	86	79	80	86	80	60	60
<b>PT</b>	97	100	94	97	100	100	100	94	97	91
<b>SI</b>	100	91	97	89	91	91	77	83	83	89
<b>SK</b>	94	94	100	91	51	69	66	66	66	69
<b>FI</b>	89	89	97	94	71	86	86	69	66	71
<b>Euro area median</b>	90	90	94	91	84	81	83	81	83	86
<b>Non-euro area</b>										
<b>BG</b>	91	80	94	97	89	77	66	63	69	74
<b>CZ</b>	94	94	97	97	43	51	80	89	100	91
<b>DK</b>	83	89	89	74	80	86	74	89	94	71
<b>HU</b>	80	91	91	94	66	60	63	60	74	69
<b>PL</b>	77	83	83	94	77	77	54	60	46	89
<b>RO</b>	89	100	94	100	71	69	80	86	94	94
<b>SE</b>	80	86	94	94	63	60	69	71	46	57

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.5**

## Directional reliability indicator for the current account (quarterly data)

**Percentage of revised periods**

(Q2 2020 to Q1 2023; as a percentage of total revision periods)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	100	82	73	73	91	100	73	91	64	64
<b>DE</b>	100	90	100	100	100	100	89	78	78	78
<b>EE</b>	100	100	91	100	100	91	73	64	91	91
<b>IE</b>	80	90	100	90	100	80	70	90	100	90
<b>GR</b>	100	100	100	100	100	89	100	100	NA	NA
<b>ES</b>	91	82	100	100	100	100	100	82	64	91
<b>FR</b>	100	91	100	100	91	73	91	91	73	100
<b>HR</b>	100	91	91	100	100	100	73	100	91	90
<b>IT</b>	91	100	100	91	100	91	73	91	100	100
<b>CY</b>	55	64	100	100	91	82	36	55	73	64
<b>LV</b>	100	82	82	82	91	91	80	73	91	100
<b>LT</b>	91	100	100	100	90	91	82	91	78	100
<b>LU</b>	73	91	82	73	100	91	73	73	73	91
<b>MT</b>	64	45	100	73	82	64	36	45	55	55
<b>NL</b>	82	90	91	82	90	100	55	80	90	80
<b>AT</b>	91	100	73	73	100	91	91	91	91	91
<b>PT</b>	91	91	91	91	100	91	100	91	91	100
<b>SI</b>	100	82	100	82	100	100	82	73	64	82
<b>SK</b>	82	82	100	91	100	100	73	73	100	91
<b>FI</b>	91	100	100	100	100	100	91	100	82	82
<b>Euro area median</b>	91	90	100	91	100	91	76	86	82	91
<b>Non-euro area</b>										
<b>BG</b>	100	100	91	100	100	82	64	91	45	73
<b>CZ</b>	100	100	100	90	90	90	80	100	100	100
<b>DK</b>	100	91	82	91	91	100	91	100	100	100
<b>HU</b>	100	100	100	100	91	91	82	82	82	91
<b>PL</b>	82	100	100	100	100	100	55	55	50	82
<b>RO</b>	91	91	100	100	100	91	73	91	82	91
<b>SE</b>	91	100	100	100	91	100	91	100	100	100

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.6**

Directional reliability indicator for the international investment position (quarterly data)

**Percentage of revised periods**

(Q2 2020 to Q1 2023; as a percentage of total revision periods)

	Financial account		Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>								
<b>BE</b>	91	91	73	91	91	91	82	91
<b>DE</b>	91	100	78	100	89	100	100	100
<b>EE</b>	100	91	100	91	100	100	100	100
<b>IE</b>	82	82	73	100	100	100	82	91
<b>GR</b>	100	100	91	91	NA	NA	NA	NA
<b>ES</b>	82	73	91	73	100	73	100	91
<b>FR</b>	100	100	55	64	90	90	91	100
<b>HR</b>	82	91	100	100	100	90	73	82
<b>IT</b>	100	91	100	64	91	100	100	91
<b>CY</b>	73	73	64	64	100	82	100	91
<b>LV</b>	91	82	91	91	100	100	100	100
<b>LT</b>	82	82	91	91	100	NA	82	100
<b>LU</b>	64	64	64	64	91	91	91	100
<b>MT</b>	82	82	45	45	82	73	73	82
<b>NL</b>	100	91	73	80	91	100	100	91
<b>AT</b>	100	73	91	91	100	100	100	100
<b>PT</b>	91	100	82	82	100	100	73	91
<b>SI</b>	100	91	82	82	100	100	100	100
<b>SK</b>	100	100	91	100	100	100	100	100
<b>FI</b>	91	100	91	73	100	91	100	100
<b>Euro area median</b>	91	91	86	86	100	100	100	100
<b>Non-euro area</b>								
<b>BG</b>	91	100	73	91	100	100	91	100
<b>CZ</b>	90	90	80	100	NA	NA	100	100
<b>DK</b>	100	100	73	82	100	100	91	100
<b>HU</b>	82	91	82	91	82	100	91	100
<b>PL</b>	91	91	73	100	100	100	91	100
<b>RO</b>	100	100	100	100	91	91	91	100
<b>SE</b>	100	100	91	91	73	73	100	100

Source: ECB.



**Table A.1.2.7****SMAPE for the current account (monthly data)**

As a percentage of average underlying first and last assessments

(April 2020 to March 2023)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	3	2	3	2	5	4	6	7	8	4
<b>DE</b>	2	2	0	1	5	4	7	7	10	6
<b>EE</b>	3	3	1	1	6	7	12	11	11	6
<b>IE</b>	3	5	5	3	4	8	7	7	35	28
<b>GR</b>	0	1	0	1	1	1	3	5	0	0
<b>ES</b>	1	1	1	1	2	4	7	6	11	3
<b>FR</b>	3	2	0	0	1	3	12	12	11	5
<b>HR</b>	4	4	4	4	9	6	11	25	11	9
<b>IT</b>	2	3	1	1	3	3	11	17	7	6
<b>CY</b>	26	24	7	3	20	25	39	39	16	11
<b>LV</b>	2	3	1	1	5	5	3	23	4	3
<b>LT</b>	1	2	0	1	6	6	22	25	4	4
<b>LU</b>	4	3	8	5	6	5	4	3	5	5
<b>MT</b>	25	26	7	7	7	5	49	46	13	15
<b>NL</b>	3	3	1	1	4	5	11	8	7	6
<b>AT</b>	4	3	2	2	2	4	24	18	5	6
<b>PT</b>	1	1	0	1	2	2	5	3	2	2
<b>SI</b>	1	1	0	1	2	4	8	12	5	5
<b>SK</b>	2	2	1	1	4	4	9	7	19	10
<b>FI</b>	2	2	1	1	4	3	5	8	7	9
<b>Euro area median</b>	2	3	1	1	4	4	8	9	7	6
<b>Non-euro area</b>										
<b>BG</b>	3	3	1	1	10	8	29	38	22	14
<b>CZ</b>	1	2	0	0	4	5	7	12	3	3
<b>DK</b>	0	0	0	0	0	0	0	0	0	0
<b>HU</b>	4	4	1	1	7	7	29	22	10	9
<b>PL</b>	2	1	2	1	5	4	19	8	24	7
<b>RO</b>	1	2	1	0	4	8	5	12	3	3
<b>SE</b>	0	0	0	0	0	0	0	0	0	0

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.8****SMAPE for the current account (quarterly data)**

As a percentage of average underlying first and last assessments

(Q2 2020 to Q1 2023; as a percentage of average underlying first and last assessments)

	Current account		Goods		Services		Primary income		Secondary income	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>										
<b>BE</b>	1	1	3	3	1	1	5	5	5	3
<b>DE</b>	1	1	0	0	3	2	5	5	7	5
<b>EE</b>	1	1	0	0	2	4	11	5	7	2
<b>IE</b>	2	2	1	1	2	3	4	2	2	1
<b>GR</b>	0	1	0	1	0	0	3	4	0	0
<b>ES</b>	1	1	0	0	1	2	5	4	5	1
<b>FR</b>	2	1	0	0	1	1	7	5	5	2
<b>HR</b>	2	1	2	1	2	3	9	6	6	8
<b>IT</b>	1	2	0	1	1	2	11	16	6	0
<b>CY</b>	18	17	1	1	9	9	31	29	5	2
<b>LV</b>	1	1	1	1	3	4	1	3	1	2
<b>LT</b>	1	1	1	1	1	2	15	5	2	2
<b>LU</b>	3	2	6	1	6	5	2	2	4	5
<b>MT</b>	20	19	5	4	3	3	36	34	5	12
<b>NL</b>	2	1	2	2	2	2	3	3	3	3
<b>AT</b>	2	2	1	1	1	1	19	13	3	2
<b>PT</b>	1	1	0	0	1	2	4	3	2	1
<b>SI</b>	1	1	2	2	1	3	8	10	4	5
<b>SK</b>	1	1	1	1	1	1	5	7	6	6
<b>FI</b>	1	1	0	0	2	1	4	5	5	5
<b>Euro area median</b>	1	1	1	1	2	2	5	5	5	2
<b>Non-euro area</b>										
<b>BG</b>	2	2	1	1	3	5	18	12	10	11
<b>CZ</b>	0	1	0	0	0	0	2	7	1	1
<b>DK</b>	1	1	1	1	3	3	4	4	3	1
<b>HU</b>	1	1	0	0	3	3	7	7	6	4
<b>PL</b>	1	1	2	1	2	1	15	4	15	1
<b>RO</b>	0	1	0	0	0	4	3	4	2	2
<b>SE</b>	2	1	1	0	4	3	3	1	3	1

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.9****SMAPE for the international investment position (quarterly data)**

As a percentage of average underlying first and last assessments

(Q2 2020 to Q1 2023)

	Financial account		Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>								
BE	1	1	3	2	0	0	1	1
DE	1	1	1	1	1	3	0	0
EE	0	0	1	1	0	0	1	0
IE	1	0	1	1	1	0	1	1
GR	1	0	4	3	0	2	1	0
ES	0	0	1	1	0	0	0	0
FR	1	0	2	0	0	0	1	1
HR	5	2	14	2	2	1	9	3
IT	1	1	2	1	0	1	0	0
CY	1	1	2	3	1	22	1	10
LV	0	0	1	0	0	0	1	0
LT	3	3	6	3	1	0	3	4
LU	1	1	1	2	1	0	0	1
MT	17	17	43	17	23	32	6	15
NL	0	0	0	0	1	0	0	0
AT	1	1	2	2	0	0	1	0
PT	0	0	1	0	0	0	0	0
SI	0	0	1	1	0	0	1	0
SK	0	0	1	0	0	0	0	0
FI	0	0	2	1	0	1	1	0
<b>Euro area median</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>Non-euro area</b>								
BG	1	1	3	1	0	0	1	1
CZ	1	1	1	1	0	0	1	1
DK	1	1	2	3	0	0	1	1
HU	1	2	2	2	0	0	2	1
PL	1	0	0	1	0	0	3	0
RO	1	0	2	1	2	0	1	0
SE	1	1	1	2	1	1	3	0

Source: ECB.

**Table A.1.2.10****MACE for the financial account (monthly data)**

As a percentage of average underlying first and last assessments for the related positions

(April 2020 to March 2023)

	Financial account		Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>								
<b>BE</b>	0.7	0.8	1.2	1.1	0.3	0.5	2.4	1.8
<b>DE</b>	0.3	0.3	0.8	1.0	0.6	0.2	0.4	0.3
<b>EE</b>	1.2	1.1	2.6	1.3	0.6	2.3	3.2	1.5
<b>IE</b>	0.5	0.5	1.4	1.0	0.3	0.3	1.7	1.8
<b>GR</b>	0.2	0.1	0.5	0.6	0.1	0.1	0.3	0.1
<b>ES</b>	0.4	0.3	0.8	0.7	0.4	0.7	0.7	0.4
<b>FR</b>	0.8	0.8	0.9	1.0	1.1	1.2	2.3	1.7
<b>HR</b>	3.9	1.9	4.7	1.9	5.6	4.3	10.3	3.8
<b>IT</b>	0.4	0.3	1.5	1.2	0.3	0.3	0.8	0.4
<b>CY</b>	1.8	1.7	1.9	1.8	1.9	3.8	2.0	3.8
<b>LV</b>	0.6	0.7	2.4	1.7	0.5	0.3	1.2	0.8
<b>LT</b>	1.6	1.6	3.6	2.6	1.0	0.2	3.4	2.3
<b>LU</b>	0.7	0.7	1.4	1.5	0.5	0.7	2.7	2.2
<b>MT</b>	0.6	0.6	1.3	0.5	0.9	3.1	1.0	1.3
<b>NL</b>	0.7	0.7	1.0	1.2	0.8	0.7	2.0	1.2
<b>AT</b>	0.8	0.6	1.8	1.9	0.3	0.3	1.1	1.0
<b>PT</b>	0.2	0.2	1.2	0.5	0.3	0.3	0.8	0.3
<b>SI</b>	0.2	0.8	0.8	0.7	0.1	2.0	0.4	0.6
<b>SK</b>	1.1	0.7	5.2	1.7	0.3	0.5	1.0	0.4
<b>FI</b>	0.7	0.9	2.4	2.6	0.4	1.4	1.4	1.8
<b>Euro area median</b>	0.7	0.7	1.4	1.2	0.4	0.6	1.3	1.2
<b>Non-euro area</b>								
<b>BG</b>	0.8	0.7	3.0	0.9	0.6	0.4	2.7	1.5
<b>CZ</b>	0.5	0.6	0.9	0.5	0.7	1.5	2.3	2.2
<b>DK</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>HU</b>	3.8	3.3	4.6	4.1	1.1	0.1	2.1	1.1
<b>PL</b>	0.9	0.7	1.9	1.2	0.3	0.2	3.4	0.8
<b>RO</b>	1.0	0.7	4.8	1.1	2.5	0.7	1.8	0.9
<b>SE</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: ECB.

**Table A.1.2.11****MACE for the financial account (quarterly data)**

As a percentage of average underlying first and last assessments for the related positions

(Q2 2020 to Q1 2023)

	Financial account		Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	RoW	RoW	RoW	RoW	RoW	RoW	RoW	RoW
<b>Euro area</b>								
<b>BE</b>	0.3	0.4	0.7	0.5	0.1	0.1	0.7	0.9
<b>DE</b>	0.1	0.1	0.3	0.4	0.2	0.1	0.2	0.2
<b>EE</b>	0.6	0.5	1.9	0.5	0.1	1.8	0.8	0.4
<b>IE</b>	0.2	0.2	0.5	0.5	0.1	0.1	0.5	0.5
<b>GR</b>	0.0	0.0	0.4	0.4	0.0	0.1	0.1	0.0
<b>ES</b>	0.2	0.1	0.6	0.5	0.1	0.2	0.4	0.2
<b>FR</b>	0.2	0.1	0.6	0.4	0.4	0.1	0.4	0.3
<b>HR</b>	2.4	0.7	0.8	0.3	0.3	0.2	8.6	1.7
<b>IT</b>	0.3	0.2	1.1	0.9	0.1	0.1	0.4	0.1
<b>CY</b>	1.8	1.7	2.2	2.0	0.7	1.8	0.8	1.2
<b>LV</b>	0.4	0.4	1.6	0.9	0.4	0.1	0.4	0.1
<b>LT</b>	0.8	0.8	1.3	1.1	0.7	0.0	2.2	1.1
<b>LU</b>	0.3	0.3	0.6	0.5	0.2	0.3	1.8	0.5
<b>MT</b>	0.5	0.5	1.1	0.5	0.9	2.9	0.7	0.6
<b>NL</b>	0.3	0.3	0.5	0.6	0.2	0.2	0.3	0.2
<b>AT</b>	0.4	0.4	1.0	1.1	0.1	0.1	0.7	0.5
<b>PT</b>	0.1	0.1	0.5	0.2	0.1	0.2	0.5	0.2
<b>SI</b>	0.2	0.6	0.6	0.6	0.0	1.4	0.4	0.3
<b>SK</b>	0.1	0.1	0.5	0.3	0.0	0.0	0.0	0.0
<b>FI</b>	0.2	0.4	1.0	1.4	0.1	0.5	0.1	0.3
<b>Euro area median</b>	0.3	0.3	0.6	0.5	0.1	0.2	0.5	0.3
<b>Non-euro area</b>								
<b>BG</b>	0.4	0.5	0.8	0.7	0.1	0.1	1.8	0.5
<b>CZ</b>	0.2	0.3	0.7	0.3	0.0	0.0	0.5	0.6
<b>DK</b>	0.5	0.5	0.6	0.8	0.1	0.1	0.6	0.2
<b>HU</b>	0.6	0.5	0.7	0.6	0.5	0.0	1.2	0.4
<b>PL</b>	0.4	0.3	1.0	0.6	0.1	0.1	1.3	0.3
<b>RO</b>	0.5	0.2	1.9	0.2	1.4	0.3	0.9	0.3
<b>SE</b>	0.4	0.4	0.7	0.7	0.4	0.5	0.6	0.4

Source: ECB.

**Table A.1.2.12**

NRR (monthly data) – counterpart area the rest of the world

Current account revisions as a percentage of current account items; financial account positions as a percentage of underlying positions

(April 2020 to March 2023)

	Current account					Financial account			
	Total	Goods	Services	Primary income	Secondary income	Total	Direct investment	Portfolio investment	Other investment
<b>Euro area</b>									
BE	3	4	4	6	8	0.3	1.1	0.6	2.0
DE	1	1	3	11	4	0.4	0.7	0.7	0.5
EE	3	3	6	23	19	0.6	1.7	1.8	2.6
IE	8	13	11	11	15	0.2	1.3	0.5	1.4
GR	1	2	1	5	0	0.1	0.6	0.2	0.2
ES	1	1	5	6	14	0.3	0.6	0.9	0.7
FR	3	1	4	17	11	0.4	0.9	1.6	1.1
HR	9	10	25	42	28	2.9	3.3	7.9	7.8
IT	2	2	4	9	18	0.4	1.5	0.4	0.5
CY	4	9	11	6	20	0.2	0.6	4.2	4.2
LV	3	2	5	43	12	0.6	2.4	0.7	1.1
LT	3	1	8	61	10	1.6	4.0	1.1	4.3
LU	2	12	4	3	5	0.0	1.0	0.6	3.2
MT	2	24	5	1	40	0.3	0.5	1.7	1.5
NL	4	5	5	12	19	0.2	0.8	1.2	1.8
AT	3	3	5	14	19	0.5	0.9	0.6	1.1
PT	1	2	4	11	6	0.1	0.8	0.4	0.5
SI	2	1	3	26	11	0.7	0.8	2.0	0.5
SK	2	2	4	21	34	0.5	0.9	0.4	0.9
FI	2	2	5	10	27	0.8	2.1	1.4	1.4
<b>Euro area median</b>	3	2	5	11	15	0.4	0.9	0.8	1.3
<b>Non-euro area</b>									
BG	3	2	13	57	52	0.8	1.4	0.8	2.8
CZ	3	1	5	27	9	0.6	0.5	1.9	2.8
DK	0	0	0	0	0	0.0	0.0	0.0	0.0
HU	2	2	6	12	20	0.3	0.2	0.6	1.4
PL	3	2	8	29	39	0.9	1.7	0.4	2.6
RO	4	1	15	28	7	0.8	1.8	1.6	1.8
SE	0	0	0	0	0	0.0	0.0	0.0	0.0

Source: ECB.

Note: The national concept is used or the goods series.

**Table A.1.2.13**

NRR (quarterly data) – counterpart area rest of the world

Current account revisions as a percentage of current account items; financial account positions as a percentage of underlying positions

(Q2 2020 to Q1 2023)

	Current account				Financial account transactions			Financial account positions					
	Goods	Services	Primary income	Secondary income	Direct investment	Portfolio investment	Other investment	Direct investment	Portfolio investment	Other investment			
<b>Euro area</b>													
<b>BE</b>	2	2	1	3	6	0.1	0.5	0.1	1.1	1.4	3.0	0.4	2.1
<b>DE</b>	1	1	2	8	4	0.1	0.2	0.3	0.2	1.5	2.1	4.5	0.3
<b>EE</b>	3	1	3	24	12	0.3	1.0	0.9	0.8	0.5	1.2	0.3	1.2
<b>IE</b>	2	1	5	2	1	0.1	0.5	0.1	0.6	0.4	2.1	1.1	2.6
<b>GR</b>	1	1	0	5	0	0.1	0.4	0.0	0.1	1.0	5.3	1.8	0.5
<b>ES</b>	1	1	3	5	6	0.1	0.3	0.3	0.4	0.2	1.3	0.7	0.5
<b>FR</b>	1	1	2	10	7	0.1	0.6	0.3	0.4	0.8	3.5	0.5	1.0
<b>HR</b>	2	3	3	23	12	2.1	0.6	0.4	6.2	3.5	5.5	4.9	8.4
<b>IT</b>	1	1	3	6	9	0.2	0.6	0.1	0.2	0.3	1.5	0.5	0.4
<b>CY</b>	1	2	6	2	10	0.1	0.3	2.0	1.7	0.4	6.3	51.3	25.4
<b>LV</b>	2	2	3	7	4	0.1	1.0	0.6	0.3	0.6	1.1	0.2	1.0
<b>LT</b>	1	1	2	18	6	0.4	1.2	0.8	1.3	0.7	2.1	2.6	1.7
<b>LU</b>	1	12	4	2	5	0.0	0.5	0.3	1.7	0.1	1.3	0.8	1.5
<b>MT</b>	1	7	2	1	27	0.2	0.4	1.7	1.1	0.8	20.5	115.2	11.1
<b>NL</b>	3	2	1	7	9	0.1	0.3	0.2	0.4	0.2	0.8	0.6	1.5
<b>AT</b>	2	2	1	11	4	0.2	0.4	0.2	0.7	1.0	1.6	1.1	1.0
<b>PT</b>	1	1	3	7	5	0.1	0.3	0.3	0.2	0.3	0.7	0.6	0.2
<b>SI</b>	1	1	3	17	12	0.6	0.6	1.4	0.4	0.6	1.6	0.3	0.8
<b>SK</b>	1	1	2	13	9	0.1	0.5	0.0	0.0	0.2	0.7	0.1	0.2
<b>FI</b>	1	1	2	6	15	0.4	0.7	0.5	0.2	0.8	5.0	1.1	1.2
<b>Euro area median</b>	1	1	2	7	6	0.1	0.5	0.3	0.4	0.6	1.8	0.7	1.1
<b>Non-euro area</b>													
<b>BG</b>	1	1	5	16	34	0.5	1.2	0.2	1.8	0.7	1.9	0.2	3.5
<b>CZ</b>	2	0	1	17	3	0.2	0.2	0.0	0.9	1.6	4.0	0.1	1.4
<b>DK</b>	2	1	3	7	7	0.2	0.6	0.1	0.6	0.9	2.2	0.9	1.6
<b>HU</b>	1	1	2	5	13	0.1	0.1	0.3	0.8	1.4	1.8	0.3	0.7
<b>PL</b>	1	1	2	16	26	0.4	0.9	0.2	1.1	0.5	2.4	0.8	3.3
<b>RO</b>	2	0	7	12	7	0.5	0.8	0.8	0.9	0.9	2.0	1.3	0.9
<b>SE</b>	2	2	3	7	4	0.4	0.2	0.7	0.8	1.2	1.0	1.9	7.2

Source: ECB.

Note: The national concept is used or the goods series.

## A.1.3 Internal consistency Indicators

### Validation rules

**Table A.1.3.1**

Average share of satisfied integrity rules/validations for the monthly balance of payments

#### Percentage of possible integrity rules

(July 2021 to June 2023)

	CS	Geo2	Geo3	RS	SIGN
<b>Euro area</b>					
BE	100	100	100	100	99.2
DE	100	86.7	53.6	100	100
EE	100	100	100	100	99.5
IE	100	100	100	100	98.8
GR	100	100	100	100	100
ES	100	100	100	100	100
FR	100	99.7	100	100	100
HR	100	100	100	100	99.7
IT	100	100	100	100	99.8
CY	100	100	100	100	100
LV	100	100	100	100	100
LT	100	100	100	100	99.1
LU	100	100	100	100	100
MT	100	100	100	100	99.7
NL	100	100	100	100	99.8
AT	100	100	100	100	100
PT	100	100	100	100	100
SI	100	100	100	100	100
SK	100	100	100	100	100
FI	100	100	100	100	100
<b>Euro area median</b>	100	100	100	100	100
<b>Non-euro area</b>					
BG	100	100	100	100	98.8
CZ	100	100	100	100	99.9
DK	99.1	100	100	100	97.9
HU	100	100	100	100	99.1
PL	100	100	100	100	99.6
RO	100	100	100	100	99.6
SE	100	100	100	100	100

Source: ECB.

Notes: The voluntary nature of transmission for non-euro area countries (Eurostat Regulation) may lead to the non-availability of some results for those countries.

The calculations are based on the latest requirements set out in the amended ECB Guideline on external statistics.

Data revisions received in December 2023 for the indicated reference periods are reflected in the table.

#### Types of validations:

CS: counterpart sector (follows the same intuition as the reference sector type).

GEO2,3,4: geographical breakdown, e.g. the sum of the intra and extra-euro area/EU transactions should be equal to transactions vis-à-vis the RoW.

RS: reference sector (total economy (S1) should be consistent with the sum of the subsectors, i.e. S121, S12T, S13, S1P).

SIGN: verifies whether items that should have a positive sign are in fact positive.



**Table A.1.3.2****Share of satisfied integrity rules/validations for the quarterly balance of payments****Percentage of possible integrity rules**

(Q3 2021 to Q2 2023)

	ACC	CONS	CS	FUNC	Geo2	Geo3	Geo4	IAI	MAT	RS	SIGN	STR
<b>Euro area</b>												
<b>BE</b>	93.8	98.9	100	100	100	100	100	100	100	100	99.7	100
<b>DE</b>	100	100	100	100	95.3	91.5	100	100	100	100	99.3	100
<b>EE</b>	100	100	100	100	100	100	100	100	100	100	99.7	100
<b>IE</b>	91.7	100	100	99.3	100	100	100	99.4	100	99.8	98.7	99.8
<b>GR</b>	100	100	100	100	100	100	100	100	100	100	99.9	100
<b>ES</b>	100	100	100	100	100	100	100	100	100	100	99.6	100
<b>FR</b>	91.7	99.5	100	100	99.99	100	99.5	99.4	100	99.7	98.8	100
<b>HR</b>	100	100	100	97.7	100	100	100	99.5	100	99.9	99.7	100
<b>IT</b>	100	100	100	100	100	100	100	100	100	100	99.5	100
<b>CY</b>	100	100	100	100	100	100	100	100	100	100	99.9	100
<b>LV</b>	100	100	100	100	100	100	100	100	100	100	99.9	100
<b>LT</b>	97.9	100	100	100	100	100	100	100	100	100	99.5	100
<b>LU</b>	100	100	100	100	100	100	100	100	100	99.9	99	100
<b>MT</b>	91.7	100	100	93.8	100	97.6	99.7	99.7	91.9	100	100	97.6
<b>NL</b>	100	100	100	99.7	100	100	100	100	100	100	98.7	100
<b>AT</b>	100	100	99.6	100	100	100	100	100	100	100	99.9	99.7
<b>PT</b>	100	100	100	100	100	100	100	100	100	99.8	99.5	100
<b>SI</b>	100	100	100	100	100	100	100	100	100	100	100	100
<b>SK</b>	100	100	100	100	100	100	100	99	100	100	100	100
<b>FI</b>	100	100	100	100	100	100	100	99.9	100	100	99.6	100
<b>Euro area median</b>	100	100	100	100	100	100	100	100	100	100	99.7	100
<b>Non-euro area</b>												
<b>BG</b>	100	100	100	99.1	100	100	98.6	99.8	100	100	99.8	99.8
<b>CZ</b>	100	100	100	98.5	100	100	100	99.5	100	100	98.9	100
<b>DK</b>	80.9	96.8	98	81.4	99.1	99.6	88.8	100	66.2	95	98.6	78.9
<b>HU</b>	100	100	100	98.5	100	100	100	99.5	100	99.8	98.5	100
<b>PL</b>	91.7	100	100	96.4	100	100	100	99.3	100	100	99.5	98.5
<b>RO</b>	100	99.6	100	97	100	100	100	99.9	100	100	99.5	100
<b>SE</b>	100	99.6	92.9	98.4	100	100	100	100	100	99.2	98	100

Source: ECB.

Notes: The voluntary nature of transmission for non-euro area countries (Eurostat Regulation) may lead to the non-availability of some results for those countries.

The calculations are based on the latest requirements set out in the amended ECB Guideline on external statistics.

Data revisions received in December 2023 for the indicated reference periods are reflected in the table.

Additional types of validations:

ACC: accounting item, e.g. the balance should be equal to credit minus debit.

CONS: time consistency (the sum of the monthly data should be equal to the data reported quarterly).

FUNC: functional category (equality between the financial account and its sub-account following BPM6 conventions).

IAI: international accounts item, e.g. the current account is equal to the sum of its components (goods, services, and primary and secondary income).

MAT: maturity classification, e.g. long-term and short-term maturities add up to all original maturities.

STR: instrument and asset classification, e.g. gross external debt is equal to the sum of its sub-components.

**Table A.1.3.3**

Share of satisfied integrity rules/validations for the quarterly international investment position

**Percentage of possible integrity rules**

(Q3 2021 to Q2 2023)

	ACC	CS	CURR	FUNC	Geo2	Geo3	Geo4	MAT	OW	REC	RS	SIGN	STR
<b>Euro area</b>													
<b>BE</b>	100	100	100	96.6	100	100	100	100	100	100	100	100	100
<b>DE</b>	100	100	100	100	100	100	100	100	100	100	99.8	100	100
<b>EE</b>	100	100	100	100	100	100	100	100	100	100	99.9	100	100
<b>IE</b>	90.9	100	100	100	100	100	100	100	100	100	99.9	98.8	100
<b>GR</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>ES</b>	100	100	100	100	100	100	100	100	99.7	100	100	99.82	100
<b>FR</b>	90.9	100	100	100	100	100	98.3	100	100	100	99.4	99.7	99.8
<b>HR</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>IT</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>CY</b>	90.9	100	100	100	100	100	100	100	99.4	100	100	99.4	100
<b>LV</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>LT</b>	97.7	100	100	100	100	100	100	100	100	100	100	100	100
<b>LU</b>	100	100	100	100	100	100	100	100	100	100	96.6	99.6	100
<b>MT</b>	90.9	99.5	51.9	92.4	100	92.6	100	79	97.3	100	100	99.9	94.4
<b>NL</b>	100	100	100	100	100	100	100	100	100	100	100	99.6	100
<b>AT</b>	100	100	100	100	100	100	100	100	100	100	99.6	99.3	100
<b>PT</b>	100	100	100	100	100	100	100	100	100	100	99.7	100	100
<b>SI</b>	100	100	100	100	100	100	100	100	100	100	100	99.9	100
<b>SK</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>FI</b>	100	100	100	100	100	100	100	100	100	100	99.9	99.9	100
<b>Euro area median</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Non-euro area</b>													
<b>BG</b>	100	99	100	100	100	100	61.3	96.8		100	100	99.7	98.8
<b>CZ</b>	100	100	100	100	100	100	100	100	100	100	99.9	99.8	100
<b>DK</b>	90.9	80	100	100	100	100	100	100	98.8	100	86.4	98.4	100
<b>HU</b>	100	100	100	100	100	100	100	100	100	100	99.7	99.8	100
<b>PL</b>	50	100	100	100	99.2	98.2	100	100		100	100	99.7	100
<b>RO</b>	100	100	100	100	100	100	100	100	100	100	99.9	99.7	100
<b>SE</b>	100	88	100	100	100	100	100	100	100	100	98.7	99.8	100

Source: ECB.

Notes: The voluntary nature of transmission for non-euro area countries (Eurostat Regulation) may lead to the non-availability of some results for those countries.

The calculations are based on the latest requirements set out in the amended ECB Guideline on external statistics.

Data revisions received in December 2023 for the indicated reference periods indicated are reflected in the table.

Types of validations:

CURR: currency classification, e.g. the currency breakdown of debt securities adds up to the total.

REC: position/flow reconciliation (positions, transactions and other flows are interlinked: position in period t is equal to position in period t-1 plus transactions in period t plus other flows in period t).

**Table A.1.3.4**

## Average time consistency for the current account

## Consistency between monthly and quarterly data as a percentage of the respective item

(Q3 2021 to Q2 2023)

	Current account				Goods				Services				Primary income				Secondary income			
	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW
<b>Euro area</b>																				
<b>BE</b>	100	100	-	100	100	100	100	100	100	100	-	101	100	100	100	100	100	100	100	100
<b>DE</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>EE</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>IE</b>	100	100	-	100	100	100	100	100	100	100	-	100	99	100	100	100	100	100	100	100
<b>GR</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>ES</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>FR</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>HR</b>	100	101	-	101	100	102	104	101	97	98	-	95	106	99	97	100	99	100	98	100
<b>IT</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>CY</b>	100	100	-	100	101	100	101	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>LV</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>LT</b>	100	100	-	100	100	100	100	100	100	101	-	100	100	100	100	100	100	100	100	100
<b>LU</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>MT</b>	98	99	-	99	100	100	100	100	100	100	-	100	100	100	102	104	100	100	100	100
<b>NL</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>AT</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>PT</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>SI</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>SK</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>FI</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>Euro area median</b>	100	100	-	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100	100	100
<b>Euro area</b>	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-
<b>Non-euro area</b>																				
<b>BG</b>	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100
<b>CZ</b>	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100
<b>DK</b>	-	102	-	101	-	99	-	100	-	104	-	103	-	103	-	99	-	104	-	103
<b>HU</b>	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100
<b>PL</b>	-	99	-	100	-	100	-	100	-	100	-	99	-	99	-	96	-	97	-	98
<b>RO</b>	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100
<b>SE</b>	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100

Source: ECB.

Note: The totals in the table are recalculated from the country data, by summing up the instrument and sector breakdowns. A number higher than 100 indicates that the monthly total is higher than the quarterly value.

**Table A.1.3.5**

## Average time consistency for the financial account

## Consistency between monthly and quarterly data as a percentage of the respective item

(Q3 2021 to Q2 2023)

	Direct investment				Portfolio investment				Other investment			
	Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW	Extra EA	RoW
<b>Euro area</b>												
<b>BE</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>DE</b>	100	100	100	101	100	100	-	100	100	100	100	100
<b>EE</b>	100	100	100	100	100	100	-	99	100	100	100	100
<b>IE</b>	100	100	100	100	100	100	-	100	100	100	98	100
<b>GR</b>	100	100	102	101	100	100	-	100	100	100	100	100
<b>ES</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>FR</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>HR</b>	98	100	100	102	101	98	-	109	100	102	107	107
<b>IT</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>CY</b>	100	100	97	100	100	100	-	100	100	100	100	100
<b>LV</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>LT</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>LU</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>MT</b>	100	101	102	103	76	125	-	103	100	100	100	100
<b>NL</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>AT</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>PT</b>	100	100	100	100	100	100	-	100	100	100	101	109
<b>SI</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>SK</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>FI</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>Euro area median</b>	100	100	100	100	100	100	-	100	100	100	100	100
<b>Euro area</b>	100	-	100	-	100	-	100	-	100	-	100	-
<b>Non-euro area</b>												
<b>BG</b>	-	100	-	100	-	100	-	100	-	100	-	100
<b>CZ</b>	-	100	-	100	-	100	-	100	-	100	-	100
<b>DK</b>	-	106	-	111	-	103	-	93	-	101	-	110
<b>HU</b>	-	100	-	100	-	100	-	100	-	100	-	100
<b>PL</b>	-	97	-	99	-	100	-	100	-	98	-	100
<b>RO</b>	-	100	-	100	-	100	-	100	-	100	-	100
<b>SE</b>	-	100	-	100	-	100	-	100	-	100	-	100

Source: ECB.

Note: The totals in the table are recalculated from the country data, by summing up the instrument and sector breakdowns. A number higher than 100 indicates that the monthly total is higher than the quarterly value.

**Table A.1.3.6**

## Average relative explained changes for financial account sub-components

## Consistency between positions and flows as a percentage of the underlying i.i.p. item

(Q3 2021 to Q2 2023)

	Direct investment		Portfolio investment		Other investment	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
<b>Euro area</b>						
<b>BE</b>	100	100	100	100	100	100
<b>DE</b>	100	100	100	100	100	100
<b>EE</b>	100	100	100	100	100	100
<b>IE</b>	100	100	100	100	100	100
<b>GR</b>	100	100	100	100	100	100
<b>ES</b>	100	100	100	100	100	100
<b>FR</b>	100	100	100	100	100	100
<b>HR</b>	100	100	100	100	100	100
<b>IT</b>	100	100	100	100	100	100
<b>CY</b>	100	99	100	100	99	99
<b>LV</b>	100	100	100	100	100	100
<b>LT</b>	100	100	100	100	100	100
<b>LU</b>	100	100	100	100	100	100
<b>MT</b>	90	95	89	91	98	95
<b>NL</b>	100	100	100	100	100	100
<b>AT</b>	100	100	100	100	100	100
<b>PT</b>	100	100	100	100	100	100
<b>SI</b>	100	100	100	100	100	100
<b>SK</b>	100	100	100	100	100	100
<b>FI</b>	100	100	100	100	100	100
<b>Euro area median</b>	100	100	100	100	100	100
<b>Euro area</b>	100	100	100	100	100	100
<b>Non-euro area</b>						
<b>BG</b>	100	100	100	100	100	100
<b>CZ</b>	100	100	100	100	100	100
<b>DK</b>	89	89	88	88	89	89
<b>HU</b>	100	100	100	100	100	100
<b>PL</b>	-	-	-	-	-	-
<b>RO</b>	100	100	100	100	100	100
<b>SE</b>	-	-	-	-	-	-

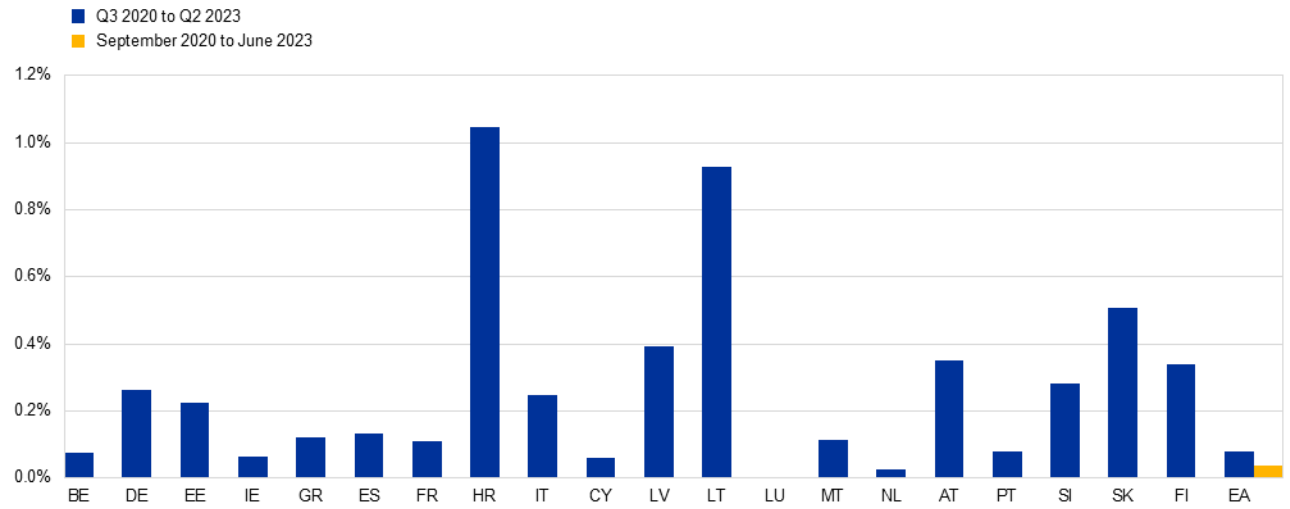
Source: ECB.

## Net errors and omissions

Chart A.1.3.1

Average net errors and omissions relative to the average international investment position

As a percentage of the i.i.p.



Source: ECB.

## A.1.4 External consistency/coherence

### Coherence with foreign trade statistics

**Table A.1.4.1.**

Directional consistency for b.o.p. total goods and ITGS (merchandise trade)

As a percentage of the analysed period

(Q3 2020 to Q2 2023; as a percentage of the analysed period)

	Exports/goods credits		Imports/goods debits	
	Rest of the world	Extra-euro area	Rest of the world	Extra-euro area
<b>Euro area</b>				
BE	91	91	100	91
DE	91	100	100	91
EE	73	73	91	91
IE	64	73	73	64
GR	100	100	100	80
ES	100	100	100	100
FR	100	100	100	82
HR	91	91	100	100
IT	100	100	100	100
CY	82	78	91	89
LV	91	100	91	73
LT	100	100	100	100
LU	73	73	82	73
MT	73	80	82	80
NL	100	100	82	73
AT	100	100	100	100
PT	100	82	82	100
SI	82	64	73	82
SK	100	100	91	100
FI	100	91	100	91
<b>Euro area median</b>	95	95	95	91
<b>Euro area</b>	-	100	-	100
<b>Non-euro area</b>				
BG	100	-	100	-
CZ	82	-	91	-
DK	91	-	82	-
HU	100	-	82	-
PL	91	-	100	-
RO	100	-	100	-
SE	100	-	100	-

Source: ECB.

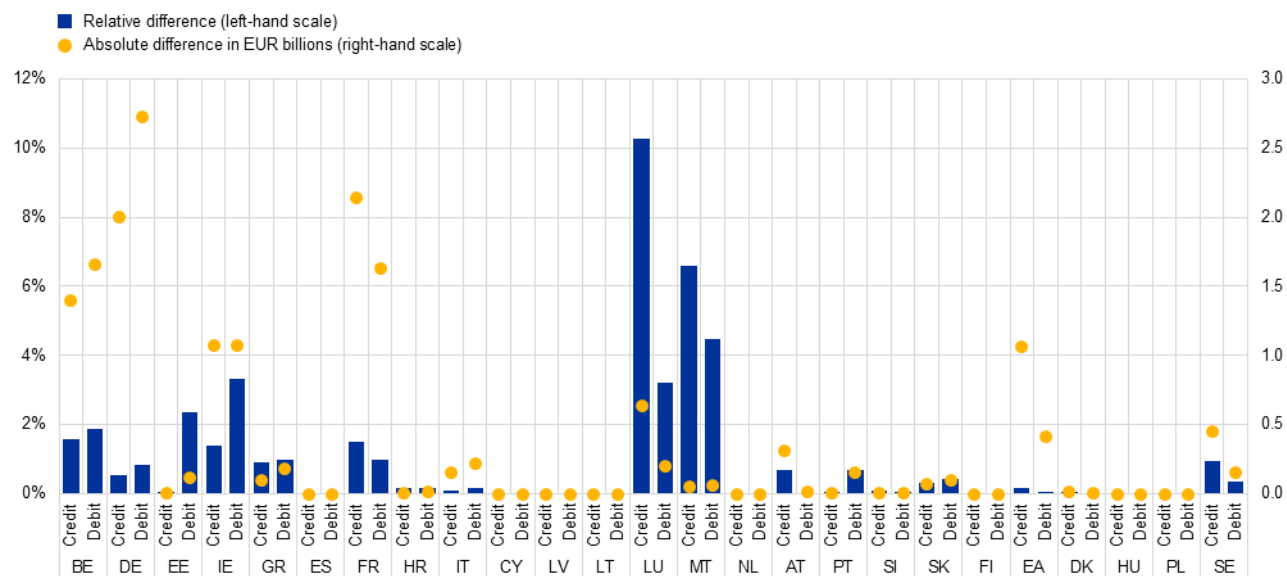
## Consistency with sectoral accounts

### Chart A.1.4.1

Discrepancies in goods between the b.o.p. and the RoW account

Average as a percentage of the respective b.o.p. account item, in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



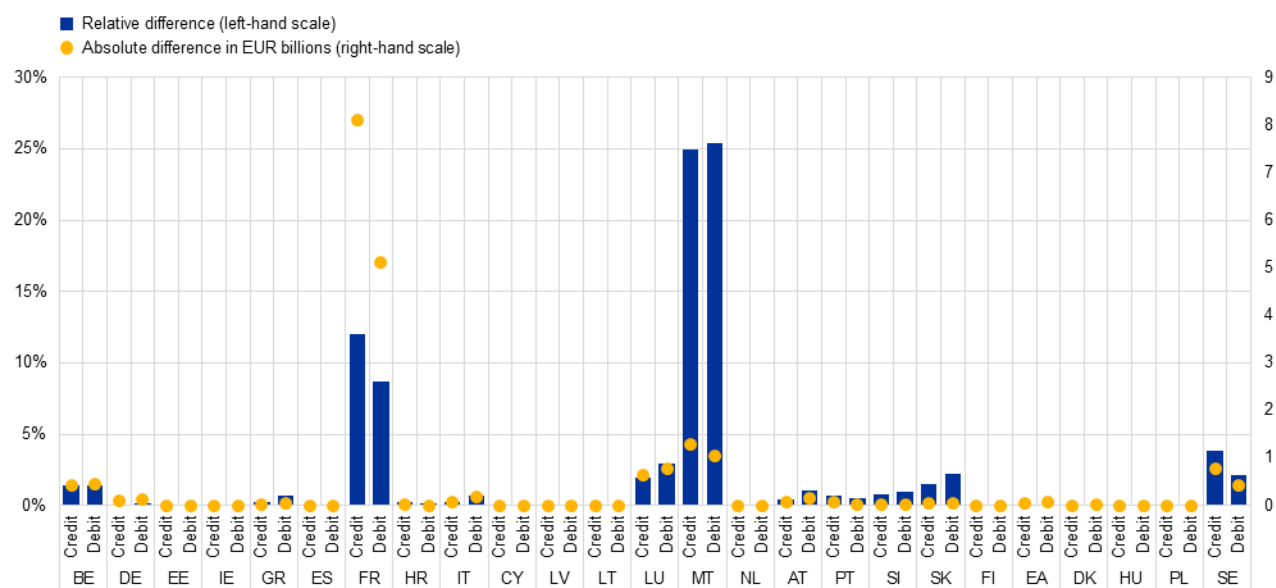
Source: ECB.

### Chart A.1.4.2

Discrepancies in services between the b.o.p. and the RoW account

Average as a percentage of the respective b.o.p. account item, in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



Source: ECB.

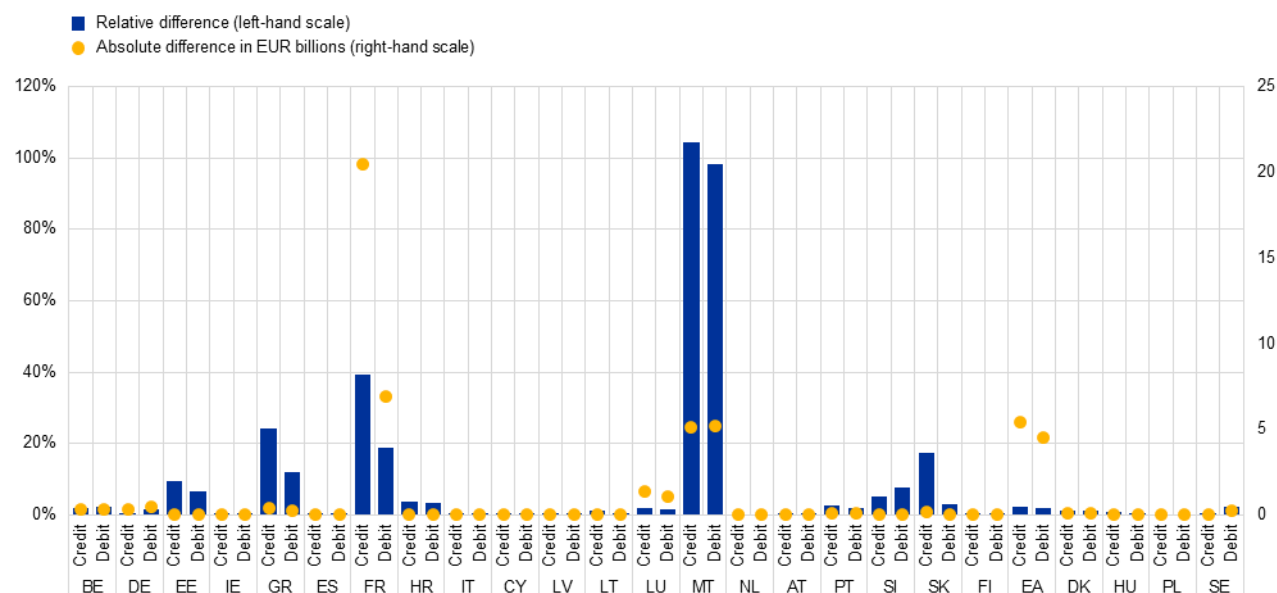


### Chart A.1.4.3

#### Discrepancies in primary income between the b.o.p. and the RoW account

Average as a percentage of the respective b.o.p. account item, in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



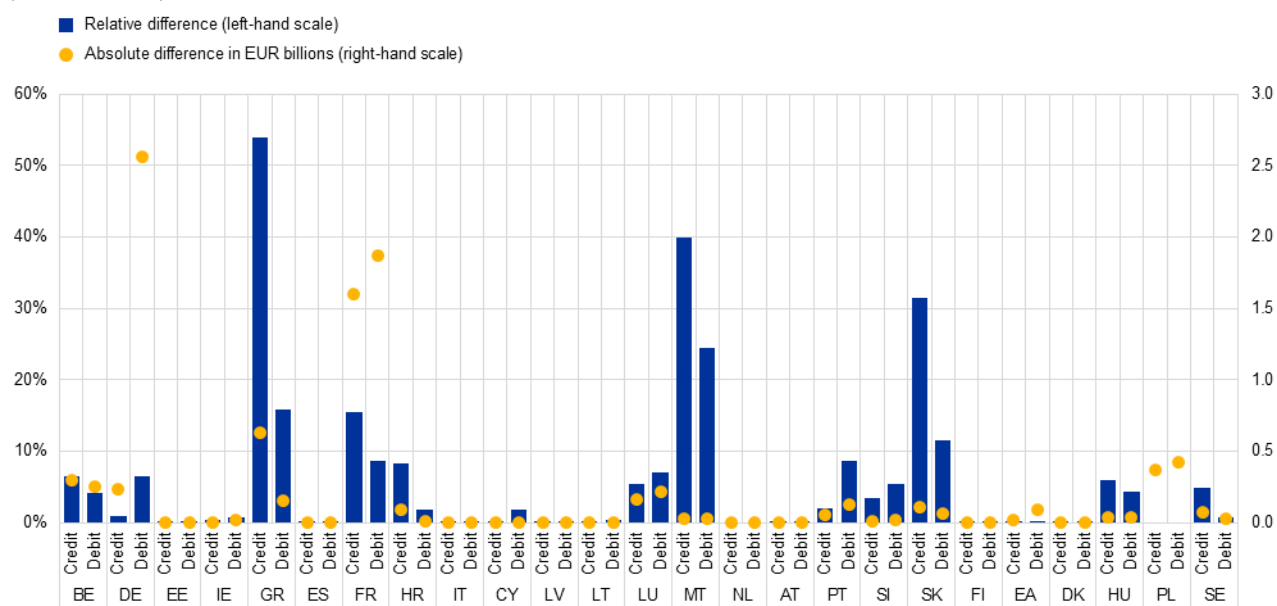
Source: ECB.

### Chart A.1.4.4

#### Discrepancies in secondary income between the b.o.p. and the RoW account

Average as a percentage of the respective b.o.p. account item, in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



Source: ECB.

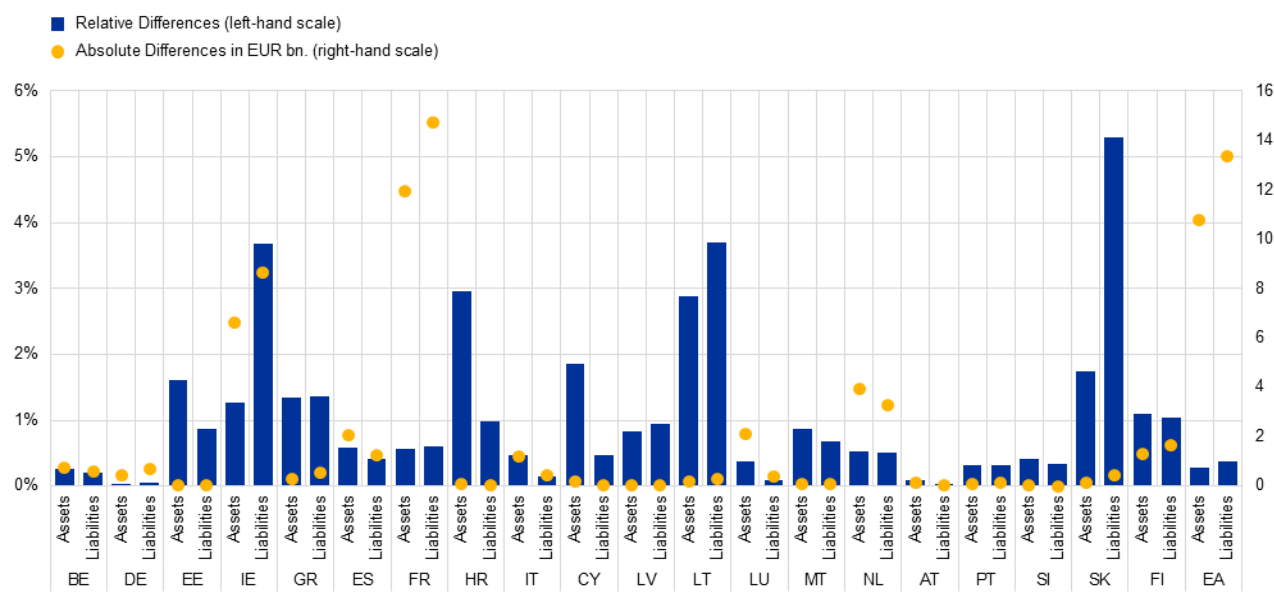
## Coherence with MFI balance sheet data

### Chart A.1.4.5

Differences between the b.o.p. (other investment) and BSI transactions (loans and deposits) – monthly data (MFI excluding the Eurosystem)

#### Percentage of the respective b.o.p. account item

(July 2020 to June 2023)



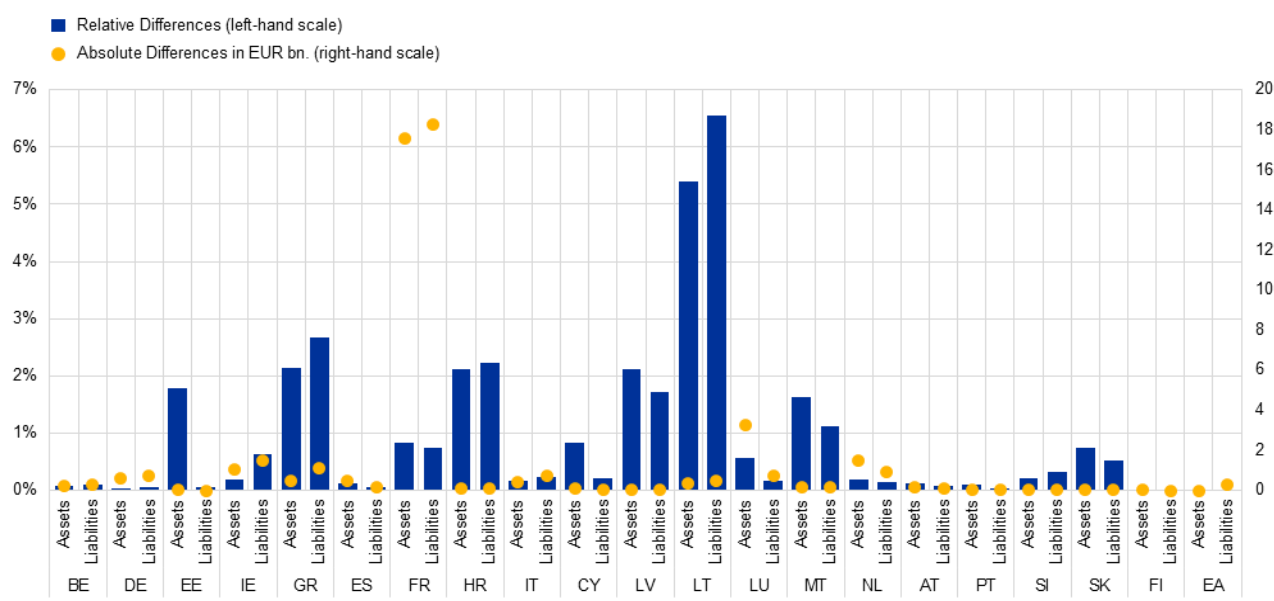
Source: ECB.

### Chart A.1.4.6

Loans and deposits transactions discrepancies between the b.o.p. and BSI – quarterly data (MFI excluding the Eurosystem)

#### Percentage of the respective b.o.p. account item

(Q3 2020 to Q2 2023)



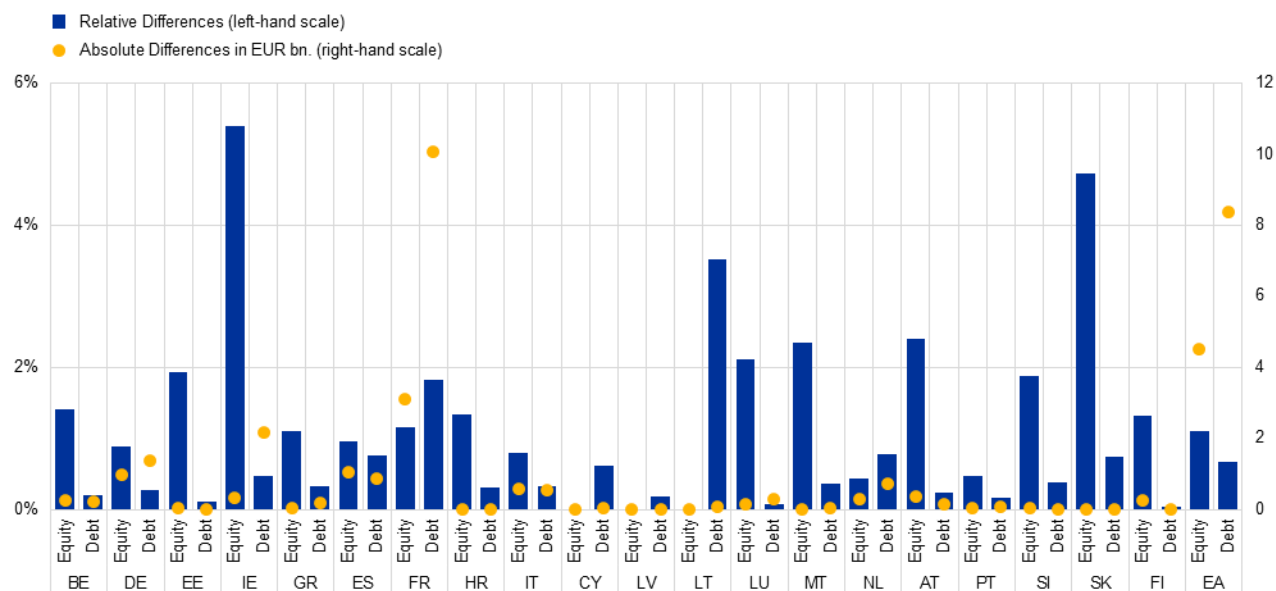
Source: ECB.

**Chart A.1.4.7**

Equity and debt securities assets transactions discrepancies between the b.o.p. and BSI – monthly data (MFI excluding the Eurosystem)

Percentage of the respective b.o.p. account item

(July 2020 to June 2023)



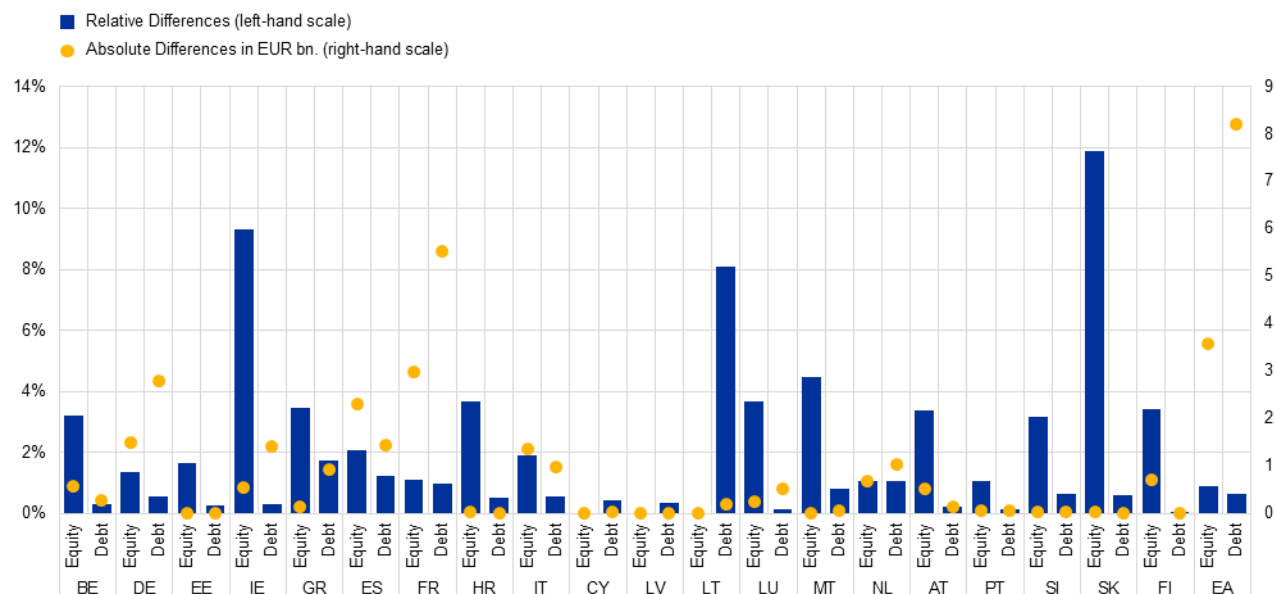
Source: ECB.

**Chart A.1.4.8**

Equity and debt securities assets transactions discrepancies between the b.o.p. and BSI – quarterly data (MFI excluding the Eurosystem)

Percentage of the respective b.o.p. account item

(Q3 2020 to Q2 2023)



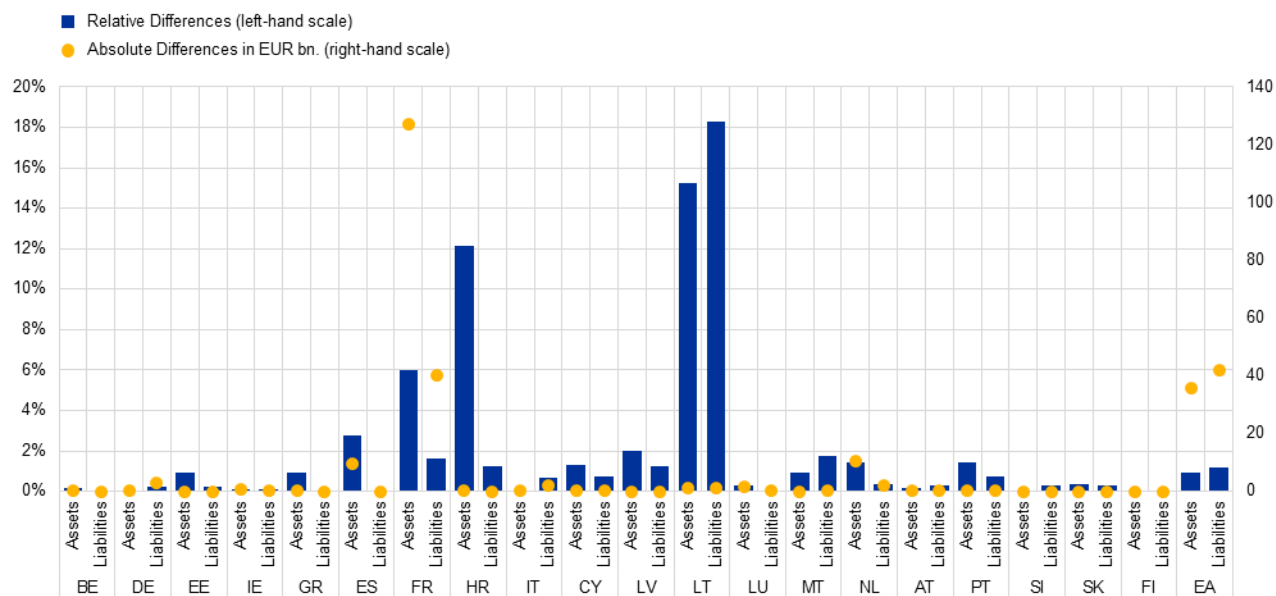
Source: ECB.

**Chart A.1.4.9**

Loans and deposits positions discrepancies between the i.i.p. and BSI – quarterly data (MFI excluding the Eurosystem)

**Percentage of the respective i.i.p. account item**

(Q3 2020 to Q2 2023)



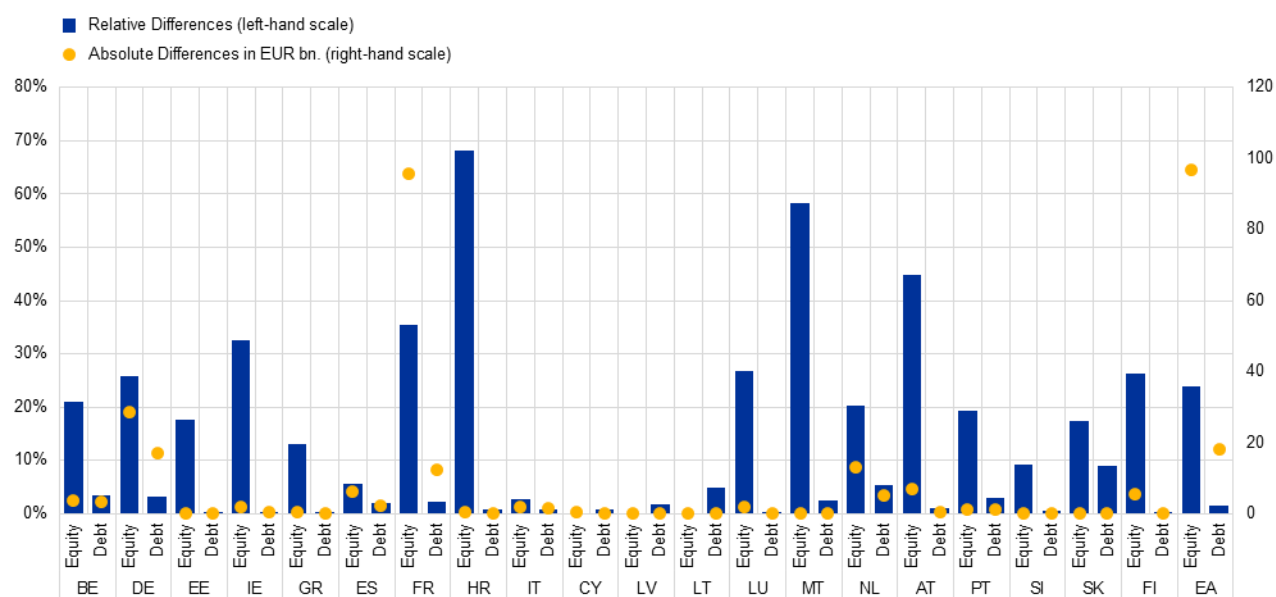
Source: ECB.

**Chart A.1.4.10**

Equity and debt securities assets positions discrepancies between the i.i.p. and BSI – quarterly data (MFI excluding Eurosystem)

**Percentage of the respective i.i.p. account item**

(Q3 2020 to Q2 2023)



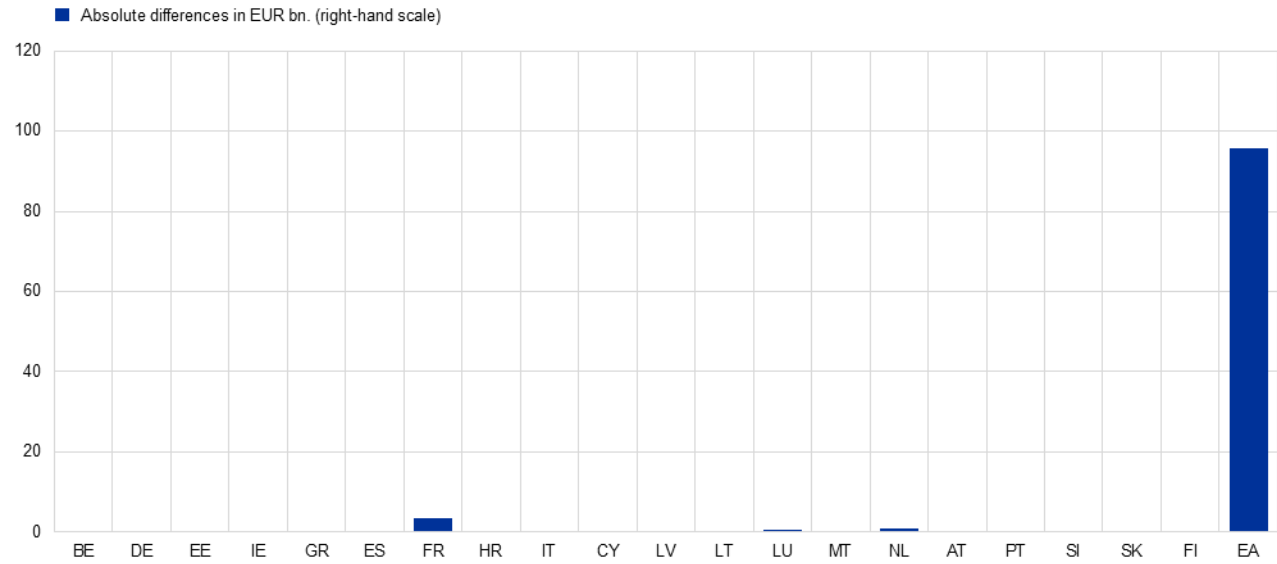
Source: ECB.

### Chart A.1.4.11

#### MMF shares liabilities positions discrepancies between the i.i.p. and MMF statistics

##### Average absolute difference in EUR billions

(Q3 2020 to Q2 2023)



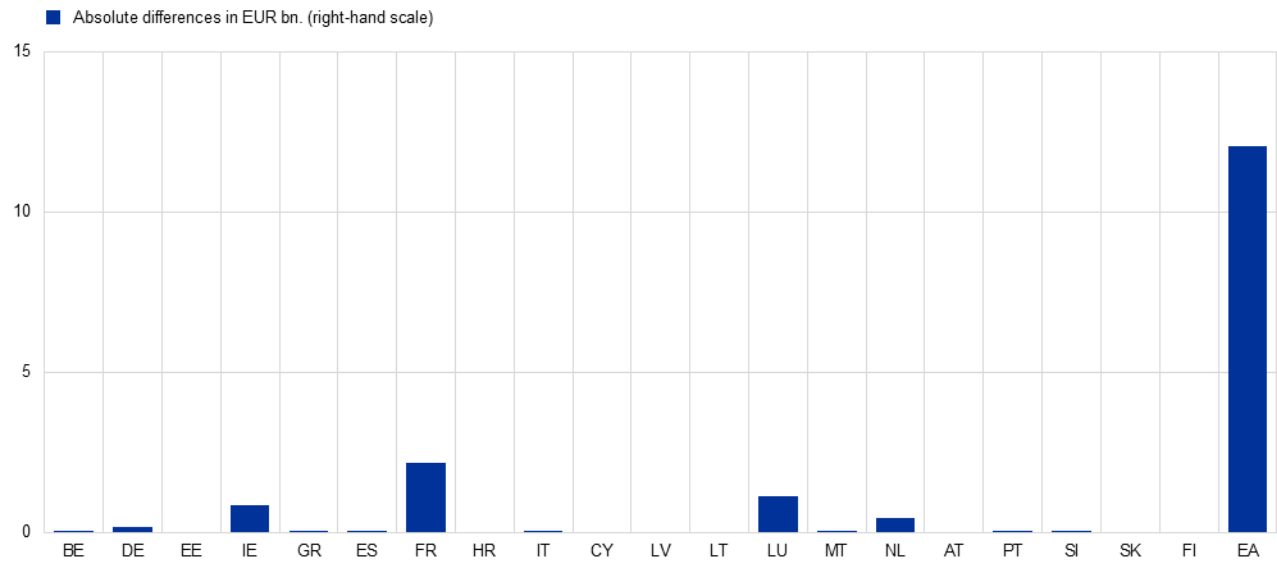
Source: ECB.

### Chart A.1.4.12

#### MMF shares liabilities transactions discrepancies between the b.o.p. and MMF statistics

##### Average absolute difference in EUR billions

(Q3 2020 to Q2 2023)



Source: ECB.

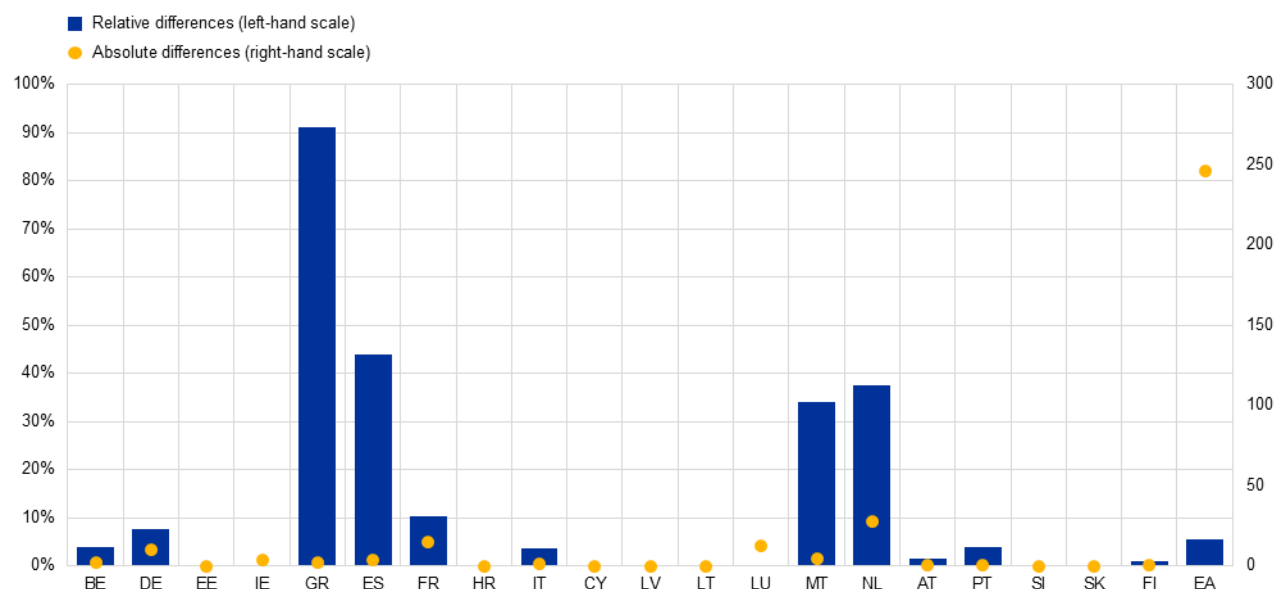
## Coherence with investment fund statistics

### Chart A.1.4.13

IVF positions liabilities discrepancies between the b.o.p. and IF statistics

As a percentage of the respective i.i.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



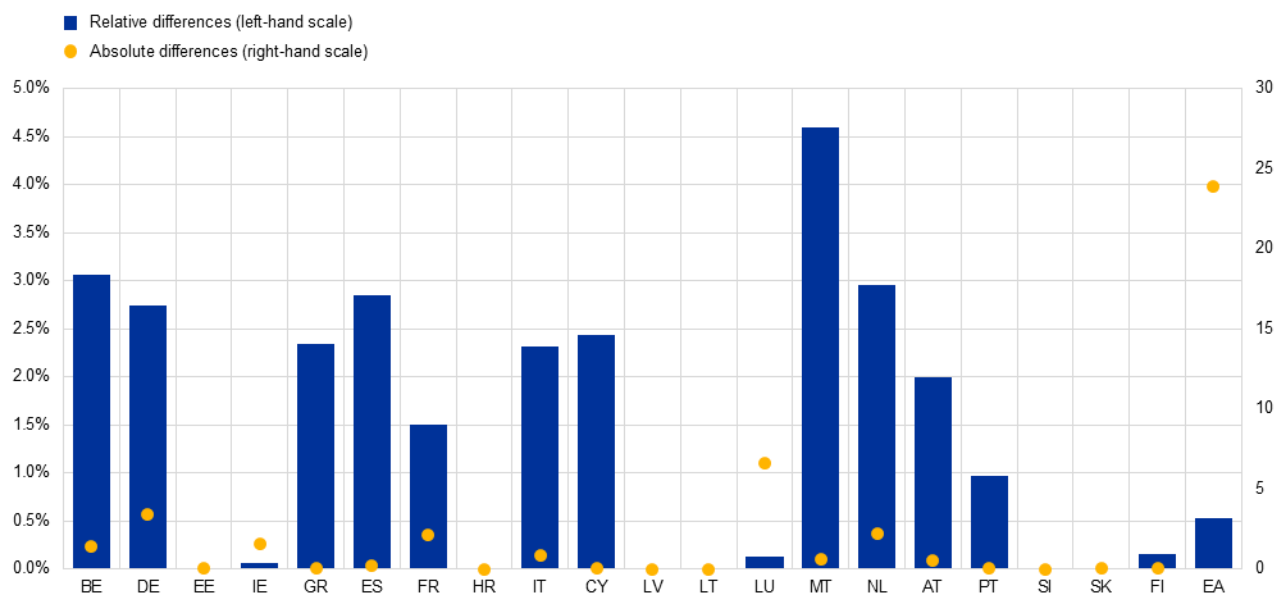
Source: ECB.

### Chart A.1.4.14

IVF transaction liabilities discrepancies between the i.i.p. and IF statistics

As a percentage of the respective b.o.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



Source: ECB.

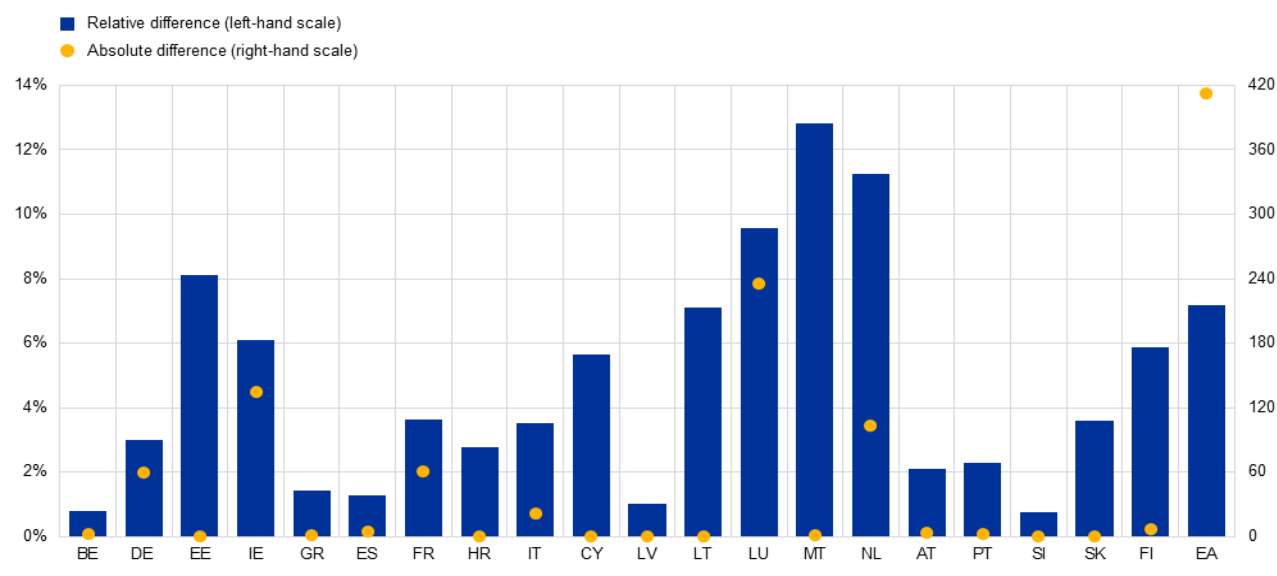
## Coherence with securities holdings statistics

**Chart A.1.4.15**

Portfolio investment debt securities positions discrepancies between the i.i.p. and SHSS statistics

Average as a percentage of the respective i.i.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



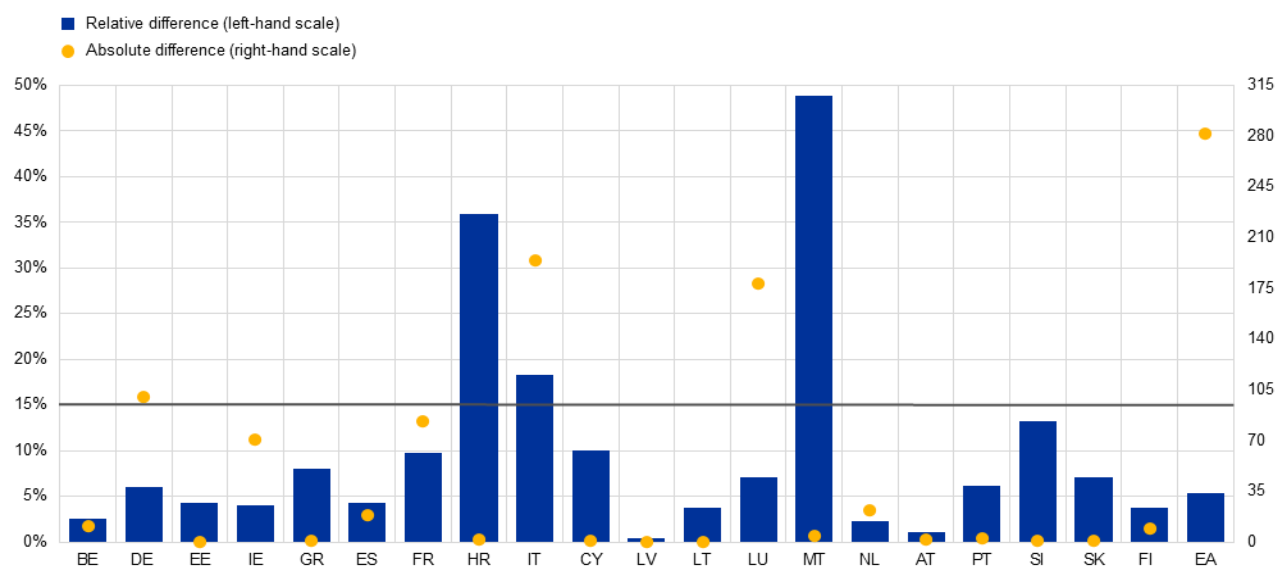
Source: ECB.

**Chart A.1.4.16.**

Portfolio investment equity (listed shares and investment funds shares) positions discrepancies between the i.i.p. and SHSS statistics<sup>1</sup>

Average as a percentage of the respective i.i.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



Source: ECB.

<sup>1</sup> The data shown for Malta refers to the period Q4 2020 to Q2 2023 and reflecting the i.i.p. data availability.

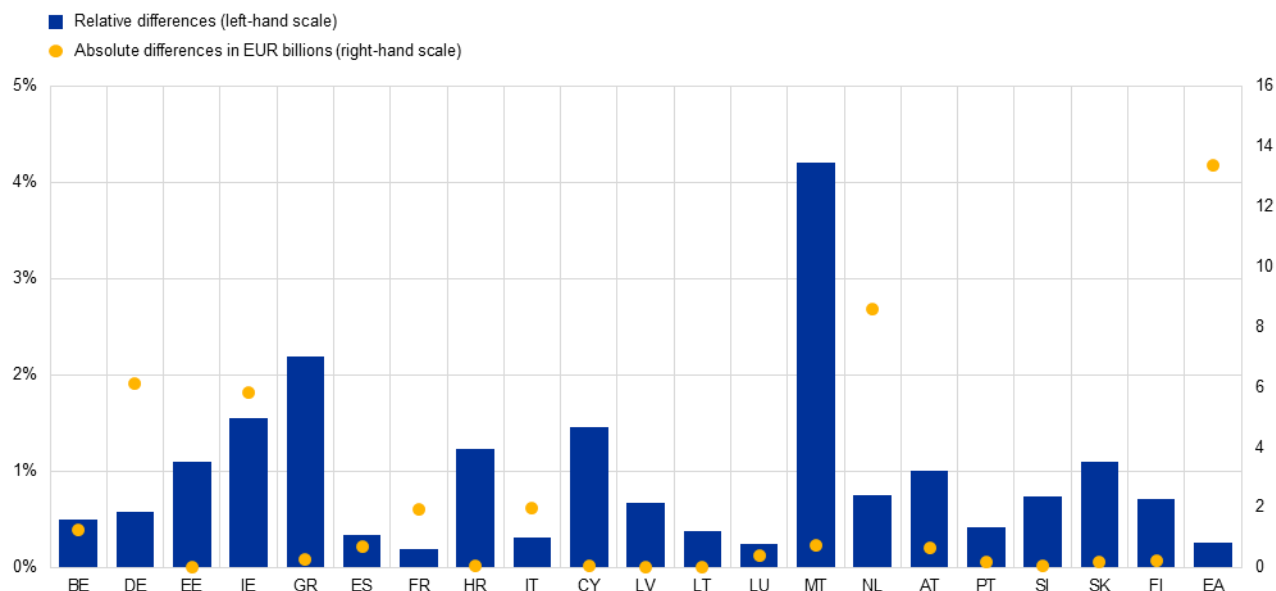
## Coherence with insurance corporation and pension fund statistics

### Chart A.1.4.17

ICPF transactions assets discrepancies between the b.o.p. and IC PF statistics

Average as a percentage of the respective b.o.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



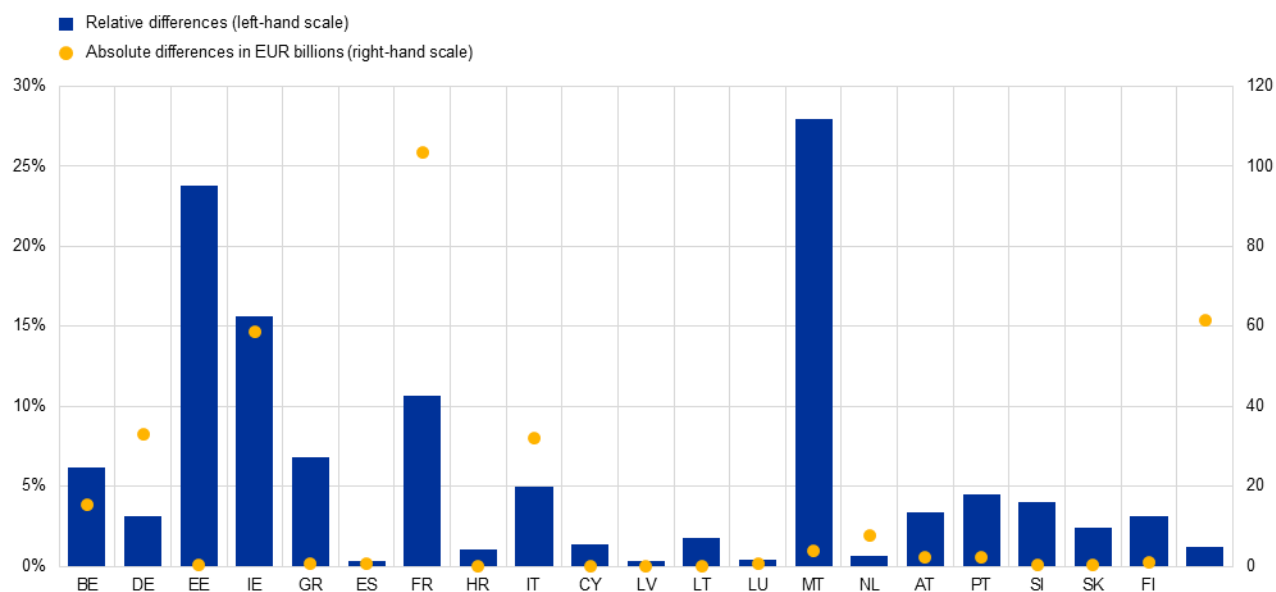
Source: ECB.

### Chart A.1.4.18

ICPF positions assets discrepancies between the i.i.p. and IC PF statistics

Average as a percentage of the respective i.i.p. account item (left-hand scale), in EUR billions (right-hand scale)

(Q3 2020 to Q2 2023)



Source: ECB.



## A.1.5 Asymmetries

**Table A.1.5.1**

ICGQ, foreign direct investment transactions

(Q3 2020 to Q2 2023)

Date	BE	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
2020Q3	0.53	0.54	0.76	0.40	0.72	0.27	0.73		0.65	0.72	0.71	0.69	0.51	0.95	0.70	0.61	0.47	0.46	0.56	0.80
2020Q4	0.59	0.46	0.73	0.52	0.82	0.33	0.55		0.32	0.81	0.49	0.85	0.44	0.95	0.58	0.25	0.72	0.54	0.43	0.46
2021Q1	0.46	0.54	0.77	0.71	0.62	0.44	0.57		0.59	0.54	0.60	0.62	0.51	0.78	0.59	0.62	0.34	0.68	0.39	0.55
2021Q2	0.49	0.35	0.11	0.62	0.75	0.22	0.48	0.27	0.44	0.88	0.72	0.52	0.73	0.84	0.61	0.72	0.56	0.24	0.61	0.55
2021Q3	0.54	0.39	0.55	0.49	0.56	0.19	0.37	0.50	0.56	0.68	0.44	0.48	0.65	0.86	0.40	0.57	0.70	0.34	0.40	0.35
2021Q4	0.83	0.37	0.18	0.93	0.41	0.28	0.61		0.55	0.53	0.05	0.31	0.68	0.89	0.67	0.46	0.51	0.36	0.56	0.53
2022Q1	0.41	0.41	0.46	0.41	0.59	0.49	0.43		0.60	0.54	0.32	0.64	0.73	0.79	0.81	0.68	0.57	0.46	0.39	0.57
2022Q2	0.45	0.41	0.85	0.43	0.60	0.40	0.49		0.44	0.69	0.44	0.68	0.38	0.76	0.60	0.49	0.64	0.44	0.67	0.76
2022Q3	0.50		0.46	0.72	0.67	0.56	0.53	0.44	0.53	0.77	0.37	0.49	0.78	0.65	0.66	0.52	0.42	0.52	0.43	0.63
2022Q4	0.52	0.24	0.52	0.87	0.60	0.63	0.56	0.62	0.33	0.56	0.42	0.51	0.49	0.76	0.38	0.66	0.69	0.53	0.57	0.61
2023Q1	0.52	0.54	0.54	0.76	0.73	0.38	0.50	0.74	0.56	0.92	0.54	0.68	0.71	0.67	0.50	0.50	0.62	0.49	0.44	0.77
2023Q2	0.38	0.52	0.65	0.38	0.63	0.33	0.64		0.44	0.88	0.31	0.47	0.30	0.83	0.36	0.71	0.65	0.69	0.50	0.47

Source: ECB.

**Table A.1.5.2**

XCGQ, foreign direct investment transactions

(Q3 2020 to Q2 2023)

Date	BE	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
2020Q3	0.12	0.06	0.49	0.19	0.19	0.11	0.25		0.17	0.47	0.15	0.22	0.34	0.72	0.38	0.56	0.07	0.04	0.31	0.32
2020Q4	0.24	0.39	0.48	0.33	0.38	0.24	0.27		0.15	0.57	0.19	0.54	0.15	0.40	0.29	0.18	0.49	0.09	0.26	0.02
2021Q1	0.07	0.14	0.42	0.26	0.39	0.21	0.24		0.27	0.16	0.15	0.07	0.15	0.68	0.24	0.21	0.10	0.46	0.16	0.44
2021Q2	0.33	0.23	0.05	0.29	0.40	0.15	0.19	0.13	0.20	0.38	0.17	0.11	0.33	0.56	0.32	0.37	0.38	0.08	0.08	0.14
2021Q3	0.28	0.24	0.25	0.36	0.07	0.02	0.16	0.35	0.53	0.19	0.19	0.24	0.34	0.15	0.33	0.22	0.35	0.01	0.11	0.20
2021Q4	0.67	0.06	0.09	0.20	0.10	0.17	0.23		0.25	0.30	0.01	0.18	0.38	0.63	0.28	0.19	0.12	0.18	0.13	0.22
2022Q1	0.12	0.29	0.19	0.19	0.11	0.18	0.09		0.28	0.26	0.14	0.55	0.55	0.72	0.09	0.30	0.24	0.19	0.07	0.18
2022Q2	0.28	0.13	0.76	0.19	0.22	0.08	0.23		0.18	0.40	0.10	0.34	0.22	0.13	0.16	0.22	0.28	0.08	0.12	0.14
2022Q3	0.04		0.17	0.21	0.46	0.10	0.25	0.26	0.27	0.55	0.16	0.11	0.66	0.47	0.32	0.09	0.22	0.31	0.16	0.42
2022Q4	0.36	0.15	0.37	0.61	0.27	0.23	0.02	0.18	0.06	0.37	0.15	0.12	0.28	0.22	0.16	0.31	0.34	0.30	0.14	0.12
2023Q1	0.23	0.23	0.33	0.36	0.10	0.08	0.27	0.13	0.10	0.22	0.30	0.57	0.31	0.34	0.24	0.14	0.44	0.23	0.14	0.21
2023Q2	0.23	0.16	0.32	0.18	0.29	0.14	0.02		0.04	0.30	0.09	0.07	0.16	0.36	0.14	0.35	0.44	0.20	0.10	0.10

Source: ECB.

**Table A.1.5.3**

## ICGQ, foreign direct investment positions

(Q3 2020 to Q2 2023)

Date	BE	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
2020Q3	0.07	0.09	0.23	0.27	0.23	0.07	0.09	0.22	0.09	0.33	0.23	0.17	0.14	0.53	0.10	0.15	0.13	0.24	0.18	0.13
2020Q4	0.06	0.09	0.19	0.27	0.21	0.08	0.09	0.23	0.07	0.34	0.25	0.15	0.14		0.10	0.15	0.13	0.24	0.19	0.13
2021Q1	0.08	0.10	0.22	0.28	0.21	0.09	0.11	0.24	0.10	0.25	0.24	0.15	0.14	0.48	0.13	0.15	0.14	0.25	0.19	0.13
2021Q2	0.09	0.10	0.20	0.28	0.21	0.09	0.11	0.22	0.10	0.24	0.24	0.15	0.14	0.48	0.12	0.14	0.15	0.26	0.21	0.13
2021Q3	0.08	0.10	0.19	0.26	0.18	0.09	0.10	0.21	0.11	0.24	0.24	0.13	0.14	0.48	0.12	0.13	0.16	0.25	0.21	0.13
2021Q4	0.11	0.10	0.19	0.30	0.21	0.10	0.10	0.21	0.10	0.45	0.11	0.14	0.14	0.61	0.12	0.13	0.16	0.24	0.22	0.14
2022Q1	0.11	0.10	0.26	0.30	0.20	0.09	0.10	0.20	0.09	0.45	0.13	0.15	0.14	0.61	0.12	0.14	0.16	0.26	0.22	0.16
2022Q2	0.12	0.09	0.21	0.26	0.20	0.08	0.10	0.21	0.09	0.45	0.13	0.13	0.14	0.60	0.12	0.15	0.16	0.26	0.21	0.13
2022Q3	0.11	0.10	0.22	0.24	0.20	0.08	0.09	0.20	0.09	0.46	0.12	0.15	0.13	0.61	0.11	0.15	0.15	0.25	0.20	0.12
2022Q4	0.12	0.09	0.18	0.27	0.22	0.08	0.10	0.21	0.09	0.45	0.13	0.14	0.15	0.60	0.11	0.16	0.16	0.25	0.21	0.16
2023Q1	0.12	0.09	0.19	0.26	0.24	0.09	0.11	0.18	0.10	0.45	0.13	0.17	0.14	0.61	0.12	0.15	0.16	0.26	0.21	0.15
2023Q2	0.12	0.09	0.19	0.26	0.26	0.08	0.10	0.17	0.10	0.45	0.13	0.17	0.14	0.57	0.12	0.15	0.16	0.26	0.22	0.15

Source: ECB.

**Table A.1.5.4**

## XCGQ, foreign direct investment positions

(Q3 2020 to Q2 2023)

Date	BE	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
2020Q3	0.02	0.04	0.11	0.19	0.04	0.02	0.06	0.03	0.06	0.25	0.10	0.08	0.07	0.28	0.04	0.12	0.08	0.19	0.11	0.08
2020Q4	0.01	0.05	0.12	0.17	0.05	0.04	0.06	0.07	0.04	0.26	0.13	0.06	0.08		0.04	0.12	0.09	0.17	0.08	0.08
2021Q1	0.03	0.04	0.09	0.17	0.07	0.05	0.05	0.07	0.07	0.20	0.13	0.06	0.07	0.30	0.05	0.12	0.09	0.19	0.09	0.09
2021Q2	0.03	0.04	0.08	0.15	0.07	0.05	0.06	0.07	0.07	0.19	0.13	0.07	0.08	0.30	0.05	0.12	0.09	0.19	0.09	0.09
2021Q3	0.02	0.05	0.08	0.12	0.08	0.05	0.05	0.06	0.09	0.20	0.13	0.07	0.08	0.30	0.05	0.11	0.10	0.19	0.09	0.09
2021Q4	0.04	0.05	0.11	0.15	0.07	0.07	0.05	0.06	0.08	0.42	0.06	0.06	0.09	0.51	0.06	0.10	0.11	0.18	0.09	0.09
2022Q1	0.04	0.05	0.13	0.17	0.05	0.05	0.05	0.08	0.08	0.41	0.06	0.09	0.09	0.52	0.06	0.10	0.10	0.20	0.09	0.09
2022Q2	0.04	0.05	0.17	0.18	0.05	0.05	0.05	0.08	0.07	0.41	0.06	0.05	0.08	0.51	0.06	0.11	0.11	0.20	0.09	0.07
2022Q3	0.04	0.05	0.18	0.17	0.02	0.05	0.05	0.08	0.08	0.43	0.06	0.04	0.08	0.51	0.05	0.12	0.10	0.19	0.09	0.07
2022Q4	0.04	0.05	0.15	0.15	0.01	0.05	0.05	0.09	0.08	0.41	0.06	0.04	0.08	0.51	0.05	0.12	0.11	0.19	0.09	0.10
2023Q1	0.04	0.05	0.13	0.14	0.00	0.05	0.05	0.06	0.09	0.41	0.08	0.13	0.08	0.51	0.05	0.11	0.11	0.20	0.10	0.09
2023Q2	0.04	0.05	0.13	0.12	0.02	0.05	0.05	0.05	0.08	0.41	0.08	0.14	0.08	0.49	0.05	0.11	0.12	0.20	0.11	0.09

Source: ECB.

## Annex 2: Methodological documentation for quality indicators

### A.2.1 Data availability

#### Average completeness ratio (ACR)

The average completeness ratio (ACR) is used to assess the completeness of the data transmitted and considers the average number of reported observations per period divided by the number of total mandatory series requested, in accordance with the ECB Guideline on external statistics.

There should be a breakdown by dataset (DSET): monthly b.o.p. (MBOP), quarterly b.o.p. (QBOP), quarterly i.i.p. (QIIP) and quarterly revaluations.

$$ACR_{DSET} = \frac{\sum_{t=1}^N \text{mandatory observations transmitted} / N}{\sum_{t=1}^N \text{Total no. of observations required per dataset per period} / N}$$

where N stands for the number of periods.

As the indicator only takes into account the number of mandatory series, the target value for the indicator is 100%.

#### Average Share of free observation

Accessibility refers to the conditions under which users can obtain, use and interpret data, ultimately reflecting how easy it is for them to access the data. Data accessibility may be limited by confidentiality constraints. The indicator used to assess accessibility is the average share of observations (obs.) marked as “free for publication” per period and per dataset (DSET):

$$\begin{aligned} & \text{Average share of free obs.}_{DSET} \\ &= \frac{\sum_{t=1}^N \text{No. of obs. marked as free}}{\sum_{t=1}^N \frac{\text{No. of obs. required per dataset per period}}{N}} \end{aligned}$$

## A.2.2 Accuracy and reliability (including stability)

### Upward revisions ratio

In principle, positive and negative revisions should occur with roughly the same frequency. If the revisions are, for example, systematically positive, this may point to under-coverage in early estimates that needs to be corrected. A simple indicator for this phenomenon is the ratio between upward revisions and the number of observations considered (N).

$$\text{Upward revisions ratio} = (\# \text{ upward revisions}) / N$$

Since positive and negative revisions should occur with roughly the same frequency, around half of the revisions should be upward. The prescriptive target for this indicator is therefore between 40% and 60%.

### Directional reliability indicator

To assess whether the information on the direction of changes contained in earlier estimates has been altered by the revisions, a two-by-two contingency table may be used. In this contingency table, the columns consist of positive and negative first differences in the initial estimates (I):

$$\Delta x_{tI} = x_{tI} - x_{(t-1)I}$$

The rows consist of positive and negative changes in the latest values (L):

$$\Delta x_{tL} = x_{tL} - x_{(t-1)L}$$

**Table A.2.2.1**

Contingency table for directional reliability

	$\Delta x_{tI} > 0$	$\Delta x_{tI} \leq 0$	<i>Subtotal</i>
$\Delta x_{tL} > 0$	$n_{11}$	$n_{12}$	$n_{11} + n_{12}$
$\Delta x_{tL} \leq 0$	$n_{21}$	$n_{22}$	$n_{21} + n_{22}$
<i>Subtotal</i>	$n_{11} + n_{21}$	$n_{12} + n_{22}$	$N$

The directional reliability indicator (Q) is then defined as follows:

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

This coefficient (Q) is equal to one if the changes following the first and latest estimates always have the same sign ( $n_{11} + n_{22} = N$ ) and is equal to zero when

there is a total dissociation ( $n_{11} + n_{22} = 0$ ). Higher values of this indicator are therefore preferred.

Since revisions should not substantially alter the economic message of the first assessments, the prescriptive target for the directional reliability indicator is somewhat high at 80%. This would mean that in at least eight out of ten cases, the first assessments correctly predict the movement of the series between two consecutive observations.

### Symmetric mean absolute percentage error (SMAPE)

SMAPE is a relative size symmetric indicator. It is suitable for measuring accuracy in time series where all observations have the same sign. It is calculated as follows:

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

This indicator is bounded between zero and one (or 100% in percentage terms) and gives relevance to the initial observation (the forecast of initial estimates).

### Mean absolute comparative error (MACE)

As transactions in financial assets and liabilities can be positive and negative, and therefore not usable in the denominator, revisions to financial assets and liabilities can be related to the respective i.i.p. item to assess their relative size. The indicator will be expressed as  $\frac{R}{P}$ , where P is the related i.i.p. item. As for strictly positive data, an average of the absolute value of this ratio can be taken over time in order to avoid revisions of opposite signs cancelling each other out in the resulting indicator.

$$MACE_{ratio\ of\ averages} = \frac{\frac{\sum_{t=1}^T |x_t^L - x_t^I|}{T}}{\frac{\sum_{t=1}^T |p_t^I|}{T}}$$

As the i.i.p. is not available at a monthly frequency, MACE calculations for revisions to monthly b.o.p. data use the i.i.p. level at the end of the corresponding quarter.

### Net relative revisions (NRR)

For balance/net time series, revisions cannot be properly related to the series value itself because the observations may have different signs, and more importantly, the values of the series may often be close to zero. As the revision of these balance/net data cannot meaningfully be related to the size of the variable itself, alternative dimensional measures of the series must be used. To enhance understanding of the size of the revisions for the balance/net items, the revisions can be related to

average current account flows or the underlying positions of financial assets/liabilities, as applicable. These indicators are NRRs and are calculated as follows:

$$NRR_{CA} = \frac{\sum_{t=1}^T |x_t^L - x_t^I| / T}{\frac{1}{2} \sum_{t=1}^T (x_t^{Lcredit} + x_t^{Ldebit}) / T}$$

$$NRR_{FA} = \frac{\sum_{t=1}^T |x_t^L - x_t^I| / T}{\frac{1}{2} \sum_{t=1}^T (p_t^{Lassets} + p_t^{Lliabilities}) / T}$$

The following table shows which measures of b.o.p./i.i.p. revisions are used in the annual quality report.

**Table A.2.2.2**  
Measures of b.o.p./i.i.p. revisions

	Current account	Financial account – transactions	Financial account – positions
Credit / Assets	SMAPE	MACE	SMAPE
Debit / Liabilities	SMAPE	MACE	SMAPE
Balance / Net	NRR	NRR	NRR

### A.2.3 Internal consistency

#### Average share of satisfied validations (ASSV)

The ASSV indicator is used in this report to assess the validation rules, and can be devised for each type of validation rule as follows:

$$ASSV_{DSET}^{TYPE} = 1 - \frac{(\sum_{t=1}^N \text{Total no. of validations not satisfied} / N)}{(\sum_{t=1}^N \text{Total no. of validations to be satisfied} / N)}$$

where TYPE refers to the type of validation,<sup>2</sup> DSET to the dataset in question and N to the number of observations for the period under analysis.

Since the indicator is applied only to mandatory series, national compilers are expected to provide fully validated data, and/or explanations when the target is not met. The recommended target should therefore be 100%.

#### Average time consistency (ATC)

Consistency between monthly and quarterly datasets is normally ensured by national compilers. However, some national compilers only produce monthly data for the

<sup>2</sup> The ECB and Eurostat provide a comprehensive record of all the validations and rules that BPM6 data are subject to upon reception (see the ECB's [Booklet](#) and Eurostat's [Vademecum](#)).

compilation of euro area aggregates, usually following a simplified compilation approach (e.g. partial accrual accounting only). Therefore, in some periods, quarterly and monthly data are not necessarily fully reconciled. The ATC indicator to assess monthly/quarterly consistency should be compiled as follows:

$$ATC = 1 - \frac{\sum_{t=1}^N [Q_t - SUM(M_{t_1}, M_{t_2}, M_{t_3})] / N}{\sum_{t=1}^N |Q_t| / N}$$

where  $Q_t$  represents the quarterly value for a given item and  $M_{t_1}, M_{t_2}, M_{t_3}$  are the corresponding monthly observations.

For the financial account, because transactions can be zero, the indicator should use the respective position series as a denominator (similar to the MACE indicator for revisions).

As national compilers should provide fully consistent data across monthly and quarterly frequencies, the recommended target is 100%.

### Average relative explained changes (AREC)

The position/flow reconciliation equation<sup>3</sup> ensures that b.o.p. and i.i.p. data are consistent. In order to ensure comparability between countries, AREC can be expressed as a percentage of the corresponding i.i.p. item:

$$AREC = 1 - \frac{(\sum_{t=1}^N |(LE(t) - LE(t-1) + T(t) + K7A(t) + K7B(t) + KA(t))|) / N}{\sum_{t=1}^N LE(t) / N}$$

As the other changes in volume are only requested (as agreed by the WG ES and BOP WG) with the RoW (W1) as the counterpart area, reconciliation can only be performed for the RoW counterpart area.

Position/flow consistency is one of the core features of the accounting framework and a necessary condition for a quality dataset. Full reconciliation (i.e. 100%) between positions and flows should therefore be the target.

### Average relative error (ARE)

The ARE for the current account can be calculated as follows:

$$ARE(EO)_{CA} = \frac{(\sum_{t=1}^N |EO_t|) / N}{\frac{1}{2} \sum_{t=1}^N ([CA, t]_c^{W1} + [CA, t]_b^{W1}) / N}$$

where  $EO_t$  represents net errors and omissions in reference quarter  $t$ ,  $N$  is the number of periods analysed (12 quarterly observations over three years),  $[CA, t]_c^{W1}$

<sup>3</sup>  $LE(t) = LE(t-1) + T(t) + K7A(t) + K7B(t) + KA(t)$ ;  $LE$  refers to positions,  $T$  to transactions,  $K7A$  to exchange rate changes,  $K7B$  to other price changes and  $KA$  to other changes in volume.

is the current account in reference quarter t for credit vis-à-vis the RoW (W1) and  $[CA, t]_D^{W1}$  represents the corresponding current account debit entry.

Since net errors and omissions are a residual (error) item in the b.o.p., they are expected to be relatively small and not persistently positive or negative. The ARE assesses the absolute size of the net errors and omissions in relation to the current account. The choice of target is subjective as net errors and omissions are not a direct result of the current account but of the inconsistencies between all the accounts. The prescriptive target should be the median of all EU Member States.

The ARE for the i.i.p. can be calculated as follows:

$$ARE(EO)_{i.i.p.} = \frac{(\sum_{t=1}^N |EO_t|)/N}{\frac{1}{2} \sum_{t=1}^N ([FA_{LE}, t]_A^{W1} + [FA_{LE}, t]_L^{W1})/N}$$

where  $EO_t$  represents net errors and omissions in reference quarter t, N is the number of periods analysed (12 quarterly observations over three years),  $[FA_{LE}, t]_A^{W1}$  is the i.i.p. in reference quarter t for assets vis-à-vis the rest of the world (W1) and  $[FA_{LE}, t]_L^{W1}$  represents the corresponding liabilities entry.

### Cumulative relative error (CRE)

The CRE for the current account can be expressed as follows:

$$CRE(EO)_{CA}^T = \frac{\sum_{t=1}^N EO_t}{([CA, T]_C^{W1} + [CA, T]_D^{W1})/2}$$

where  $EO_t$  represents net errors and omissions in reference quarter T, N is the number of periods analysed (12 quarterly observations over three years),  $[CA, t]_C^{W1}$  is the current account in reference quarter t for credit vis-à-vis the RoW (W1) and  $[CA, t]_D^{W1}$  represents the corresponding current account debit entry.

Likewise, this indicator can be calculated for the i.i.p. The denominator is defined as  $([FA_{LE}, t]_A^{W1} + [FA_{LE}, t]_L^{W1})/2$  in this case.

This indicator should be presented for several time periods (e.g. one year, five years, ten years) in order to show long-term behaviour and to isolate sensitivity to significant outliers.

This indicator tests the persistency of the sign of net errors and omissions or the bias. A value of zero would therefore be expected in the medium to long term. This target assumes that net errors and omissions should be a white noise process, i.e. one with a zero mean and no correlation between its values at different times. Cumulated errors and omissions should therefore tend to zero in the long run.



## A.2.4 Asymmetries

### Internal country geographical quality indicator (ICGQ)

The ICGQ provides information on the quality of the bilateral data. It is defined as follows:

$$ICGQ_i = \left[ w \cdot \frac{\sum_c |A_{i,c} - L_{c,i}|}{\sum_c |A_{i,c}| + \sum_c |L_{c,i}|} + (1 - w) \cdot \frac{\sum_c |L_{i,c} - A_{c,i}|}{\sum_c |L_{i,c}| + \sum_c |A_{c,i}|} \right]$$

where:

$i$  is the index of the country to which the quality index applies;

$c$  is the index of the counterpart country;

$w$  is a predefined weight that applies to all countries, which by default is equal to 0.5;

$\sum_c |A_{i,c}|$  reflects the sum of absolute values of the assets reported by country  $i$  (positions or transactions), broken down by counterpart country  $c$ .

Likewise,  $\sum_c |L_{i,c}|$  reflects the sum of absolute values of the liabilities reported by country  $i$ .

$\sum_c |A_{i,c} - L_{c,i}|$  measures the sum of absolute values of the bilateral asymmetries of the assets of country  $i$  vis-à-vis its counterparts.

$\sum_c |L_{i,c} - A_{c,i}|$  represents the sum of absolute values of the bilateral asymmetries of the liabilities of the same country  $i$  vis-à-vis its counterparts.

The ICGQ indicator is constrained to be within the range  $[0, 1]$ , with zero being optimal and one being the worst score.

It assesses the quality of the geographical breakdown vis-à-vis each of the countries that also provide geographical information, calculating the accuracy of the geographic classification in the sample of countries where bilateral data are provided by aggregating the absolute bilateral asymmetries. Higher values could be observed even when, on balance, a country reports a correct aggregate intra-euro area estimate but would be challenged to obtain the right allocation across individual counterpart countries.

### External country geographical quality indicator (XCGQ)

The XCGQ indicator provides information on country totals vis-à-vis the overall mirror data. It is defined as follows:

$$XCGQ_i = \left[ w \cdot \frac{|\sum_c A_{i,c} - \sum_c L_{c,i}|}{\sum_c |A_{i,c}| + \sum_c |L_{c,i}|} + (1 - w) \cdot \frac{|\sum_c L_{i,c} - \sum_c A_{c,i}|}{\sum_c |L_{i,c}| + \sum_c |A_{c,i}|} \right]$$

The XCGQ indicator takes the absolute difference between the total values reported and the total available mirror data. The purpose of the XCGQ indicator is to assess how well a country's intra-EU or intra-euro area aggregate is reflected in mirror data, thus providing an indicator of the quality of a country's intra/extra-breakdown. The XCGQ indicator is constrained to be within the range [0, 1], with values close to zero being good and values close to one indicating low quality, and one component being over or underestimated vis-à-vis the other.