



EUROPEAN CENTRAL BANK

EUROSYSTEM

Tjeerd Jellema
Adviser
ECB

Measurement Challenges in the external account

STS 570 Multinational profit shifting
and illicit flows – can we measure
them?

Overview

1 Preliminaries

2 Foreign Direct Investment

A Developments in the euro area countries external account 2014-20

B Foreign direct investment measurement challenges

C Measures for Quality Improvement

3 Banknotes held by non-residents

Preliminaries : Multinational Profit Shifting

Try to observe

- Income flows, financial flows and balance sheets of multinational group enterprises (associates, subsidiaries)
- Observed by [national statistical compilers](#)

Profit Shifting?

- What is the starting point of the shift? [What is the normal?](#)
- Is the normal linked to a value judgement?
- Are MNE decisions regarding the GVC separable from their financial structure?

Alternative Realities

- FDI XDP, FDI UIC and UHC, exclusion of resident and non resident SPE's ([BD4 \[2008\]](#))
- Apportionment of consolidated income ([Rassier et al \[2017\]](#))
- Nationality approaches ([Tissot \[2015\]](#), [Borga et al \[2018\]](#))

Where does that leave us



Preliminaries : Where we stand now

Residency

- Compiled by euro area countries
- Emphasis on data that is comparable across countries
- Aggregated to EA level
- Consolidate intra EA flows

Asset Liability

- BPM6: FDI according to A/L
- Consistency with national accounts (sector accounts)
- Allows for further granularity as regards sectors and types of flows

Quarterly

- Policy need
- Observe developments in financial restructuring in response to policy initiatives as regards profit shifting (BEPS)
- [ECB Economic Bulletin on role of SPEs](#)

Overview

1 Preliminaries

2 Foreign Direct Investment

A Developments in the euro area countries external account 2014-20

B Foreign direct investment measurement challenges

C Measures for Quality Improvement

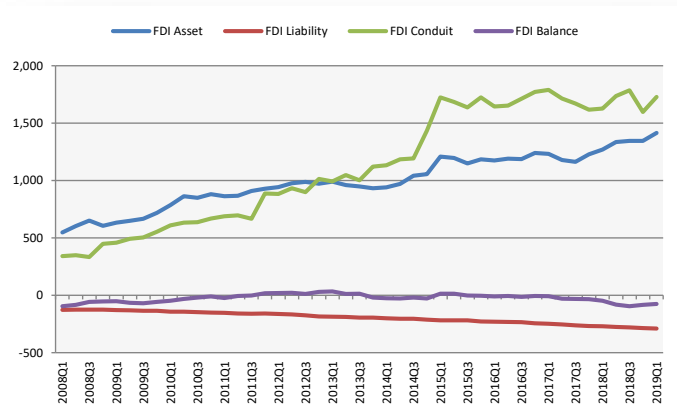
3 Banknotes held by non-residents

Euro area countries'

different experiences

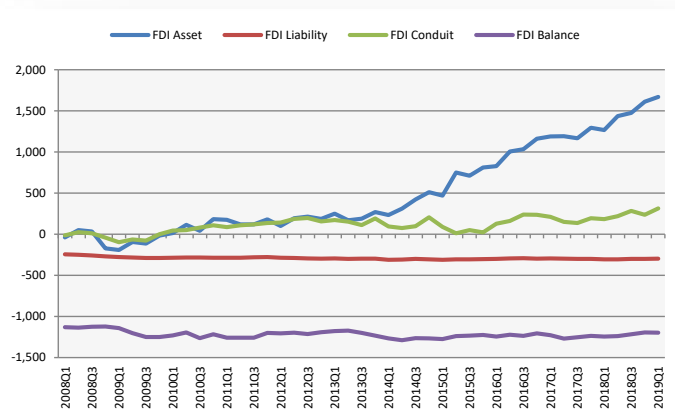
Net direct investment positions euro area countries

Billion EUR
Source ECB



NIIP euro area countries

Billion EUR
Source ECB



Label	Description	Country
Asset	FDI Assets exceed FDI Liabilities by more than 10%	DE
		IT
		FI
		FR
Balanced	Difference between FDI assets, liabilities, less than 10%, not belonging to the 7 largest positions	AT
		CY
		ES
		GR
Liability	FDI Liabilities exceed FDI Assets by more than 10%	EE
		LV
		MT
		PT
		SI
		SK
Conduit	among 7 largest euro area country FDI Assets / Liabilities positions	BE
		IE
		NL
		LU

Euro area countries and the geography of FDI positions

euro area countries
19Q1
FDI positions by
counterpart

EUR billion
Source ECB

2019	euro area				Other EU	CH & UK	BR, CA and US	CN, IN, JP	Offshore	Other	World	Net Position
	Assets	Balanced	Liabilities	Conduit								
Assets	488	290	46	1,476	295	546	695	216	109	444	4,607	1,277
Balanced	126	10	35	172	71	200	190	12	131	225	1,162	-175
Liabilities	33	24	9	58	18	14	10	0	17	27	202	-224
Conduit	1,493	496	109	3,191	360	2,592	2,571	161	966	1,049	12,989	1,085
Other EU	142	21	50	159								
CH & UK	550	185	39	1798								
BR, CA and US	244	74	22	2422								
CN, IN, JP	70	11	4	221								
Offshore	81	44	43	1860								
Other	102	182	69	547								
World	3,330	1,337	427	11,904								

euro area countries
average annual
change
14Q1-19Q1
FDI positions by
counterpart

EUR billion
Source ECB

Average annual differences 2014-2019	euro area				Other EU	CH & UK	BR, CA and US	CN, IN, JP	Offshore	Other	World	Net Position
	Assets	Balanced	Liabilities	Conduit								
Assets	23	10	0	66	12	19	37	13	6	13	200	72
Balanced	4		-1	7	-4	5	11	1	5	1	31	-16
Liabilities	3	2	1	3	1	1	1	0	1	-20	3	2
Conduit	52	13	4	148	11	152	138	11	49	54	637	32
Other EU	4	1	4	-7								
CH & UK	31	13	3	96								
BR, CA and US	5	-14	2	109								
CN, IN, JP	4	1	0	18								
Offshore	2	2	3	119								
Other	-4	11	-36	33								
World	128	47	1	605								

Overview

1 Preliminaries

2 Foreign Direct Investment

A Developments in the euro area countries external account 2014-20

B Foreign direct investment measurement challenges

C Measures for Quality Improvement

3 Banknotes held by non-residents

Observing MNE's

Example MNE country list of subsidiaries In published annual report

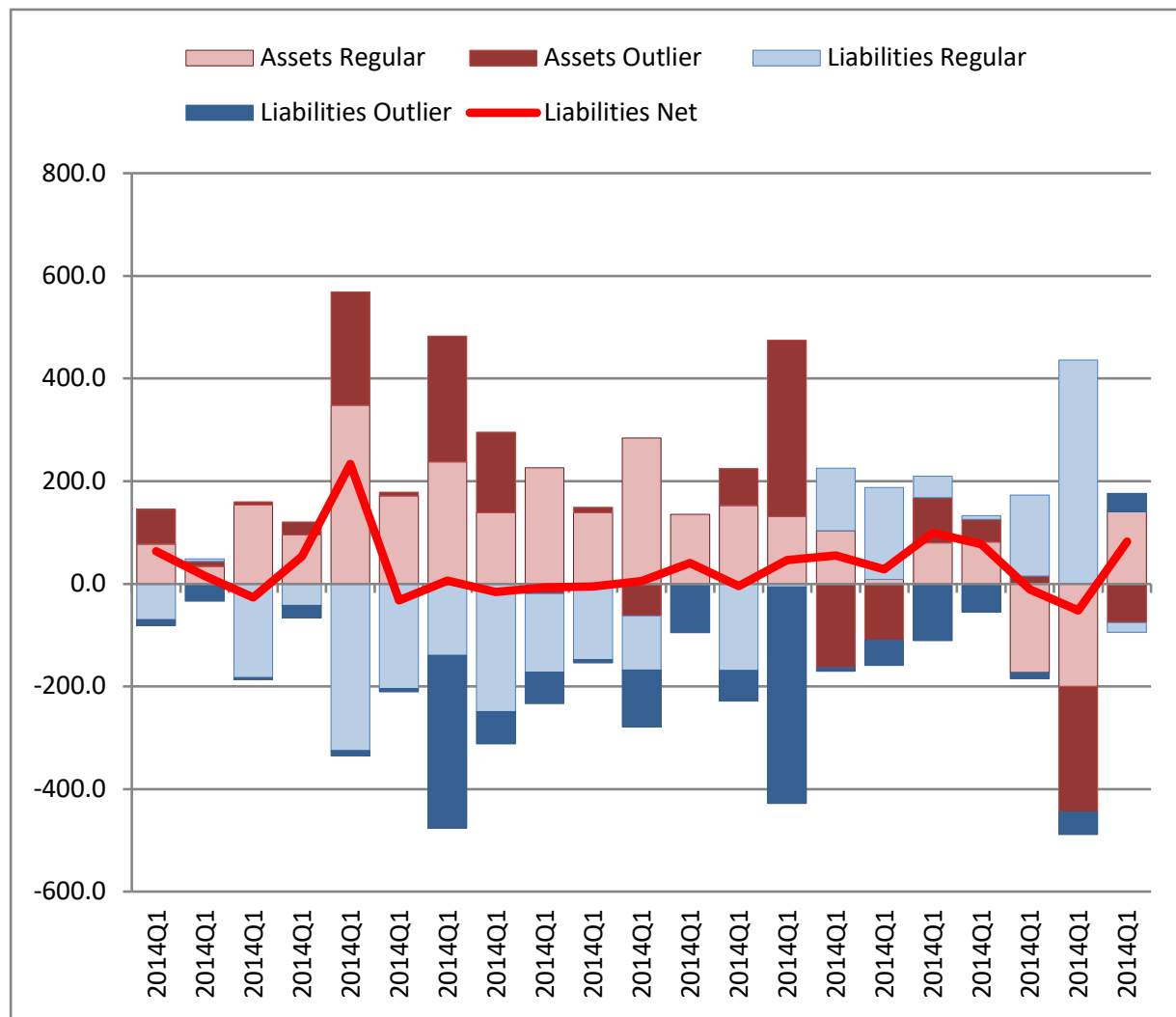
Country Grouping / metric	Associates	Joint Ventures	Subsidiary	Not Material	Grand Total
EA Conduit					
Count of Company name			40		40
Sum of Net income (€ million)			8,486		8,486
Sum of Equity capital			97,816		97,816
EA Asset					
Count of Company name		1	66	16	83
Sum of Net income (€ million)		1	4,595	0	4,595
Sum of Equity capital		-7	74,436	30	74,459
EA Liability					
Count of Company name			8	5	13
Sum of Net income (€ million)			11	0	11
Sum of Equity capital			80	3	82
EA Balanced					
Count of Company name			11		11
Sum of Net income (€ million)			807		807
Sum of Equity capital			10,808		10,808
Other EU					
Number of entities			17	1	18
Income reported (EUR million)			64	0	64
Equity capital reported			551	0	551
CH&GB					
Number of entities		1	12	8	21
Income reported (EUR million)		0	-95	0	-95
Equity capital reported		108	2,915	1	3,024
Sub total					
Number of entities	0	2	154	30	186
Income reported (EUR million)	0	1	13,868	0	13,869
Equity capital reported	0	101	186,606	33	186,741

Country Grouping / metric	Associates	Joint Ventures	Subsidiary	Not Material	Grand Total
Americas					
Number of entities	3	6	121	0	139
Income reported (EUR million)	-2	-68	-1,054	0	-1,124
Equity capital reported	109	203	103,774	0	104,086
Asia					
Number of entities	1	3	26		30
Income reported (EUR million)	3	3	587		593
Equity capital reported	31	67	3,274		3,373
Offshore					
Number of entities				1	1
Income reported (EUR million)					
Equity capital reported					
Other					
Count of Company name	1		117	6	124
Sum of Net income (€ million)	0		597	0	597
Sum of Equity capital	2		5,312	5	5,318
Total					
Number of entities	5	11	419	45	480
Income reported (EUR million)	1	-64	13,998	0	13,936
Equity capital reported	142	371	298,966	38	299,517

Questions

- Decision making centre(s)?
- Centre of economic interest?
- Economic ownership?
- Intangible assets?
- Profit shifting?

The role of outlying bilateral transactions data



Outlying and regular observations from individual bilateral series euro area countries

- Aggregated by summation (e.g. some netting out)
- Liabilities presented as negative assets

Presumption:

- Outlying transactions mostly due to financial restructuring by MNE's

Intra euro area asymmetries

Asymmetries in Positions

18Q4
Billion EUR

18Q4 Positions	Asset	Balanced	Liability	Conduit	Total
Asset	48	40	-31	217	274
Balanced	-23	-4	-13	-32	-72
Liability	15	7	-5	6	23
Conduit	106	33	-20	432	550
Total	146	75	-69	623	775

Asymmetries in Transactions

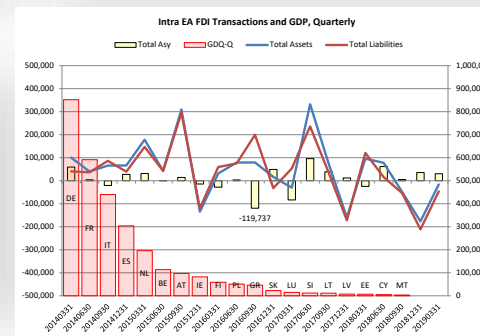
18Q4
Billion EUR

18Q4 Transactions	Asset	Balanced	Liability	Conduit	Total
Asset	2	0	-1	15	16
Balanced	-8	0	-1	0	-9
Liability	-1	0	0	1	-1
Conduit	-33	5	-5	62	28
Total	-40	5	-7	78	35

18Q4 % of Position	Assets	Balanced	Liabilities	Conduit	Total
Assets	7	-3	-1	1	2
Balanced	-2	-10	-2	-1	-2
Liabilities	-1	-1	0	0	-1
Conduit	-1	-1	-4	-6	-4
Total	1	-2	-3	-4	-2

Large bilateral asymmetries within EA, mostly between conduit countries

Large, irregular asymmetries in quarterly transactions



2015-2019 : Irregular patterns, large when compared with quarterly GDP of EA countries

Resulting large asymmetries

Overview

1 Preliminaries

2 Foreign Direct Investment

A Developments in the euro area countries external account 2014-20

B Foreign direct investment measurement challenges

C Measures for Quality Improvement

3 Banknotes held by non-residents

Exchanging data for mirror analysis and resolution

Improvements to the FDI network

Key tool to enable compilers to:

- Reconcile bilateral individual transactions
- Raise awareness of transactions if not yet covered
- Complete information in a timely manner;

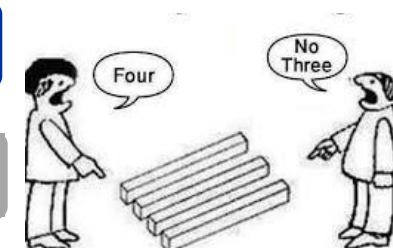
Voluntary exercise for EU compilers

Focus on resolving asymmetries in transactions as soon as possible

Large impact from a relatively small number of individual transactions

- Prioritisation of large transactions (>10Bn EUR)
- Methodological Hotmail from ECB/Eurostat
- Closer monitoring on status of large transactions (>10Bn EUR)

Yearly exercise to reconcile FDI positions



Understanding the problem

Synthetic Indicators Asymmetries in transactions in FDI

	Date	Conduit Countries				Asset Countries				Others				Liability Countries						
		BE	IE	LU	NL	DE	IT	FI	FR	AT	CY	ES	GR	EE	LT	LV	MT	PT	SI	SK
Internal Geographical Quality	2014Q1	0.41	0.61	0.61	0.50	0.39	0.65	#N/A	0.52	0.60	0.90	0.37	#N/A	0.62	0.58	0.56	0.95	0.44	0.60	#N/A
	2014Q2	0.49	0.68	0.55	0.50	0.45	0.58	#N/A	0.66	0.58	0.73	0.63	#N/A	0.60	0.51	0.47	0.74	0.84	0.53	#N/A
	2014Q3	0.55	0.38	0.58	0.74	0.57	0.68	#N/A	0.49	0.69	0.85	0.31	#N/A	0.65	0.52	0.44	#N/A	0.94	0.63	#N/A
	2014Q4	0.42	0.58	0.68	0.33	0.37	0.91	#N/A	0.56	0.49	0.71	0.72	#N/A	0.75	0.55	0.55	#N/A	0.71	0.55	#N/A
External Geographical Quality	2018Q1	0.64	0.56	0.43	0.30	0.52	0.72	0.52	0.51	0.54	0.99	0.77	#N/A	0.63	0.63	0.50	0.72	0.59	0.63	#N/A
	2018Q2	0.44	0.62	0.78	0.30	0.21	0.62	0.60	0.33	0.56	0.97	0.35	#N/A	0.65	0.61	0.82	0.71	0.64	0.57	#N/A
	2018Q3	0.49	0.76	0.31	0.27	0.54	0.53	0.84	0.40	0.44	0.94	0.46	#N/A	0.47	0.80	0.70	0.82	0.62	0.65	#N/A
	2018Q4	0.48	0.81	0.32	0.49	0.51	0.24	0.68	0.19	0.94	0.98	0.38	#N/A	0.96	0.61	0.73	0.98	0.88	0.65	#N/A
Relevance Indicator	2014Q1	0.21	0.17	0.49	0.45	0.17	0.11	#N/A	0.21	0.05	0.02	0.06	#N/A	0.00	0.00	0.00	0.02	0.03	0.00	#N/A
	2014Q2	0.24	0.18	0.40	0.38	0.17	0.11	#N/A	0.27	0.05	0.02	0.07	#N/A	0.00	0.00	0.00	0.03	0.08	0.00	#N/A
	2014Q3	0.17	0.15	0.48	0.59	0.20	0.07	#N/A	0.13	0.06	0.04	0.07	#N/A	0.00	0.00	0.00	#N/A	0.03	0.00	#N/A
	2014Q4	0.14	0.30	0.45	0.33	0.14	0.18	#N/A	0.15	0.05	0.03	0.12	#N/A	0.00	0.01	0.00	#N/A	0.09	0.00	#N/A
Relevance Indicator	2018Q1	0.18	0.56	0.31	0.28	0.26	0.10	0.03	0.12	0.02	0.02	0.08	#N/A	0.00	0.00	0.00	0.01	0.02	0.00	#N/A
	2018Q2	0.14	0.53	0.52	0.28	0.17	0.06	0.04	0.09	0.03	0.03	0.06	#N/A	0.00	0.00	0.01	0.02	0.01	0.00	#N/A
	2018Q3	0.25	0.22	0.44	0.39	0.20	0.11	0.05	0.09	0.05	0.04	0.11	#N/A	0.00	0.00	0.01	0.02	0.02	0.00	#N/A
	2018Q4	0.11	0.49	0.40	0.58	0.13	0.03	0.04	0.06	0.03	0.03	0.04	#N/A	0.01	0.00	0.00	0.02	0.02	0.00	#N/A

ICGQ (Internal Country Geographical Quality Indicator)

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

XCGQ (External Country Geographical Quality Indicator)

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

RELV (Relevance indicator)

$$R_i = \frac{\sum_c |A_{i,c} - L_{c,i}| + \sum_c |L_{i,c} - A_{c,i}|}{\sum_i \sum_c |A_{i,c} - L_{c,i}|}$$

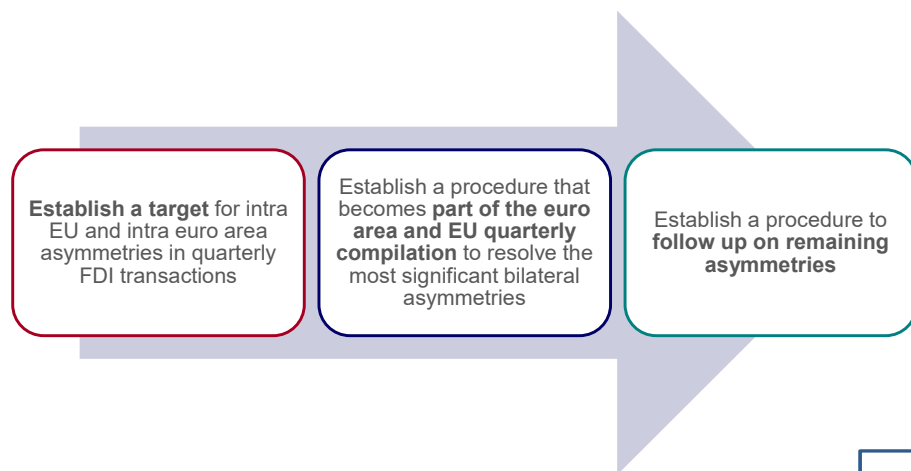
Provides quality assessment of geographically broken down data

Requires full coverage bilateral data

- ECB Monitoring geographical quality operational since 2015.
- Increasing coverage bilateral data
- Part of annual quality reporting
- Role of conduit countries in transactions asymmetries: highly relevant

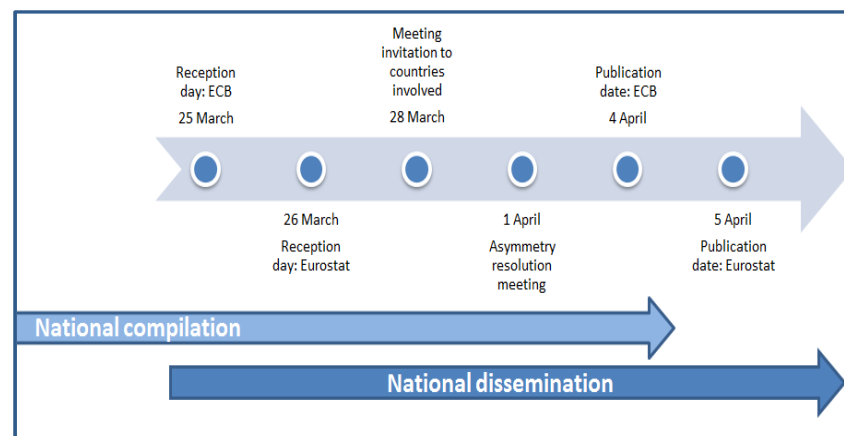
Paper : [Assessing the quality of the geographical dimension in macro-economic statistics through mirror data](#)

Resolving asymmetries in FDI transactions



Asymmetry resolution

- Metadata exchange
- Ex-ante data sharing through network
- Diagnostics
- Targets
- Feedback



Conclusions

- **Challenges in observation**

- Global Identifiers, global registers and data sharing are essential;
- Observe intra MNE transactions (real and financial) consistently between countries will remain a challenge;
- Developing a single coherent view on any MNE's operations and financing is a complete challenge as regards statistical co-ordination

- **Challenges in representation (going back to the preliminaries)**

- Some of the alternative realities may address specific user demands in making external account developments more understandable;
- However : Coordination problem between compiling agencies in different countries (Asymmetries) will not disappear, e.g. statistical challenges will remain;

Overview

1 Preliminaries

2 Foreign Direct Investment

A Developments in the euro area countries external account 2014-20

B Foreign direct investment measurement challenges

C Measures for Quality Improvement

3 Banknotes held by non-residents

Illicit activities

- Eurostat and IMF work related to the current account
 - [Eurostat report on illicit activities](#)
 - [IMF BOPCOM TF](#)
- Financial account
 - Financial instruments cannot be distinguished as regards whether they are a payment for illegal activities, or whether they are part of laundering schemes
 - Bank notes are more prone for use in the context of illicit activities.
 - Due to their full anonymity
 - A specific challenge for the monetary union is the estimation of banknotes in circulation / euro banknotes held by non-residents
 - For transaction purposes
 - As a store of value
- Reduction of large denomination bank note issuance : [no more 500 EUR banknotes since January 2019](#)

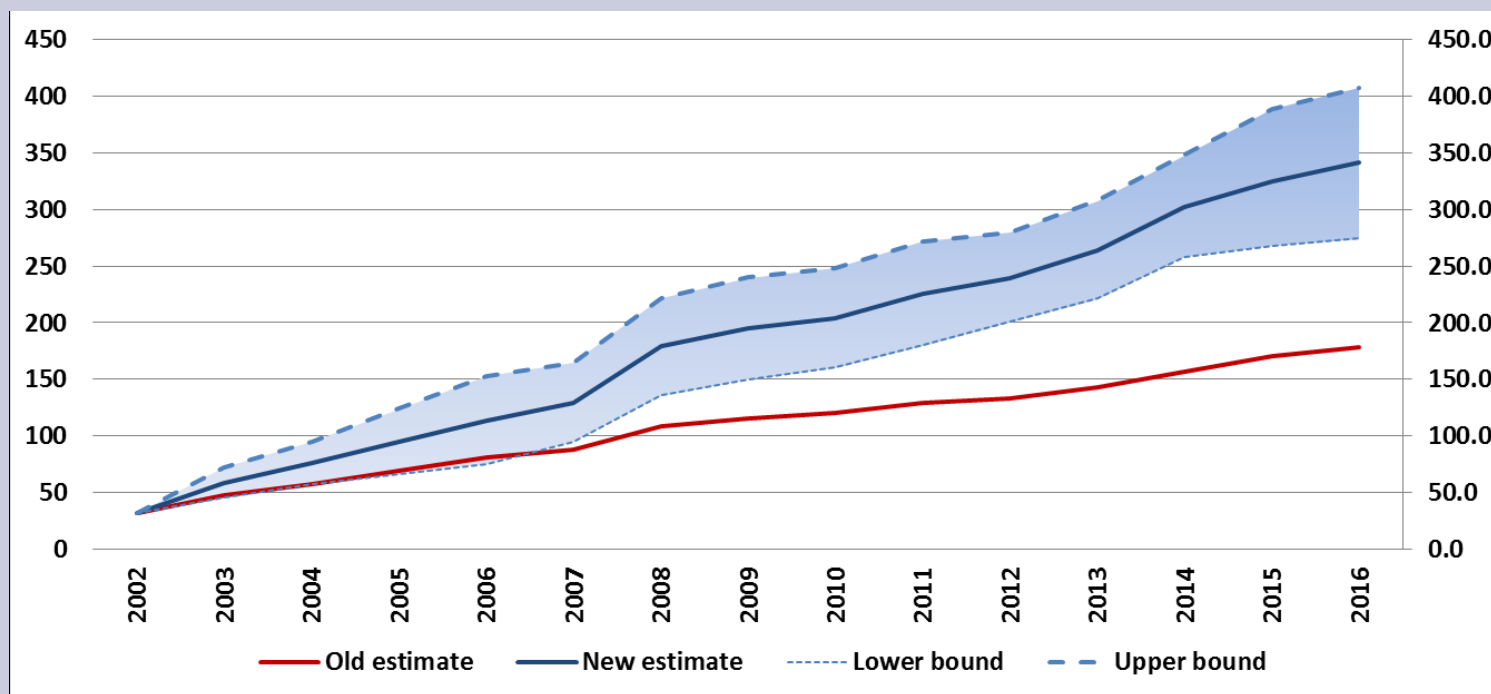
Cross border holdings of euro banknotes

- Non-residents hold euro banknotes
 - For transactions
 - As a store of value
- There are many channels by which euro banknotes travel abroad
- This can be for legal or illegal purposes
 - Banknotes are of course fully anonymous, and can be used for both legal and illegal purposes
- Estimation, not observation.
 - Relies on lower estimate and upper estimate and establishing a mid-point
 - Derives from bank note shipment statistics
 - Lower bound: accumulated shipments of high denomination banknotes (>100 EUR)
 - Upper bound: ratio of coins to banknotes
 - Methodology documented on ECB website:
 - Source : [ECB \(2017\)](#) “Estimation of euro currency in circulation outside the euro area”

Cross border flows of banknotes

Holdings of euro banknotes by non-euro area residents

EUR billion at end of period.



Source : [ECB \(2017\)](#) "Estimation of euro currency in circulation outside the euro area"

Thank you for your kind attention
Any questions?