

## Attachment 6

## European Central Bank Monetary Intermediation Cost

ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Euro Money Stock<sup>1</sup>

## Assumptions

a-ECB Bank Reserve Requirement (RR) 2.0%

Intermediation Cost European Central Bank (Est.)								Monetary Intermediation Cost European Central Bank (Using M1)			
(N)	Year	(A) Money Stock M1 <sup>1</sup>	(B) = (A <sub>N</sub> ) - (A <sub>N-1</sub> ) € Increase Prior Year	(C) = (B) x (1-RR <sup>a</sup> ) Money Stock Change Intermediation Cost	(D) Actual (Net) Budget <sup>2</sup>	(E <sub>N</sub> ) = (C <sub>N</sub> ) + (D <sub>N</sub> ) Total Annual Intermediation Cost	(F) GDP(17) <sup>3</sup>	(G) = (F <sub>N</sub> - F <sub>N-1</sub> )/F <sub>N-1</sub> GDP(17) <sup>3</sup> (% Growth)	(H <sub>N</sub> ) = (E <sub>N</sub> ) / (F <sub>N</sub> ) Intermediation (% GDP Cost)	(I) Inflation % HICP (Annual) <sup>4</sup>	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r <sub>i</sub> )
#	(End 12/31)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(%)	(%)	(%)	(%)
0	1998	€ 1,785.4					€ 6,169.49				
1	1999 <sup>a</sup>	€ 1,972.0	€ 186.6	€ 182.87	€ 0.13	€ 183.00	€ 6,447.85	4.512%	2.838%	1.178%	1.674%
2	2000	€ 2,084.6	€ 112.6	€ 110.35	€ 0.18	€ 110.53	€ 6,783.55	5.206%	1.629%	2.191%	3.577%
3	2001	€ 2,279.0	€ 194.4	€ 190.51	€ 0.30	€ 190.82	€ 7,084.67	4.439%	2.693%	2.423%	1.746%
4	2002 <sup>b</sup>	€ 2,499.4	€ 220.4	€ 215.99	€ 0.27	€ 216.26	€ 7,330.76	3.474%	2.950%	2.257%	0.523%
5	2003	€ 2,727.1	€ 227.7	€ 223.15	€ 0.31	€ 223.46	€ 7,546.90	2.948%	2.961%	2.133%	-0.013%
6	2004	€ 2,948.9	€ 221.8	€ 217.36	€ 0.37	€ 217.74	€ 7,860.38	4.154%	2.770%	2.182%	1.384%
7	2005	€ 3,482.1	€ 533.2	€ 522.54	€ 0.34	€ 522.88	€ 8,145.51	3.627%	6.419%	2.176%	-2.792%
8	2006	€ 3,758.6	€ 276.5	€ 270.97	€ 0.36	€ 271.33	€ 8,565.09	5.151%	3.168%	2.200%	1.983%
9	2007	€ 3,901.3	€ 142.7	€ 139.85	€ 0.38	€ 140.23	€ 9,030.42	5.433%	1.553%	2.143%	3.880%
10	2008	€ 4,035.7	€ 134.4	€ 131.71	€ 0.38	€ 132.09	€ 9,244.49	2.371%	1.429%	3.295%	0.942%
11	2009	€ 4,556.2	€ 520.5	€ 510.09	€ 0.39	€ 510.48	€ 8,923.51	-3.472%	5.721%	0.297%	-9.193%
12	2010	€ 4,750.8	€ 194.6	€ 190.71	€ 0.41	€ 191.11	€ 9,180.96	2.885%	2.082%	1.618%	0.803%
13	2011	€ 4,856.5	€ 105.7	€ 103.59	€ 0.44	€ 104.02	€ 9,425.32	2.662%	1.104%	2.721%	1.558%
TOTALS		€ 4,856.5	€ 3,071.1	€ 3,009.68	€ 4.27	€ 3,013.94	€ 105,569.4	3.31%	2.86%	2.06%	0.41%
a-First electronic Euro use January 1, 1999				€ 231.51	- Averages -		€ 231.84	Count(Years)		13	13
b-First circulation Euro use January 1, 2002.					Max		€ 522.88	Average Annual Compound Growth			
					Min		€ 104.02				

## European Central Bank (ECB) Intermediation Cost Estimate

Intermediation cost percentage estimated as [Money Stock (M1) increase x (1 - Reserve Requirement) + ECB net operating cost] divided by [GDP(Euro 17)].

## Notes

- 1-M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)
- 2-ECB net operating costs estimated from Attachment 5 as: 1) Staff + 2) Administrative + 3) Depreciation. (Banknote costs not included as assumed needed with or without ECB intermediation.)

## SOURCES:

- 1-Money Stock (M1) from eurostat European Commission at [https://stats.ecb.europa.eu/stats/download/bsi\\_ma\\_historical/bsi\\_ma\\_historical.zip](https://stats.ecb.europa.eu/stats/download/bsi_ma_historical/bsi_ma_historical.zip)
- 2-ECB operations data from Publications Annual Reports Profit and Loss Statements at <http://www.ecb.int/pub/annual/html/index.en.html>
- 3-GDP (Euro 17) from eurostat, Gross domestic product at market prices (tec00001) Update 9/22/2012 at <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1>
- 4-Inflation HICP (Annual) from eurostat European Commission [prc\_hicp\_aind] data set at <http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database>