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**IMPACT ASSESSMENT**

*Accompanying the document*

**Proposal for a Council Directive**

**on a common system of financial transaction tax and amending Directive 2008/7/EC**

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## ANNEX 12

### LEGAL AND ECONOMIC INCIDENCE

A necessary preliminary step in defining the impacts of a tax is the analysis of its incidence. While the legal incidence is on those who have the legal obligation to pay the tax, the concept of economic incidence refers to the person/groups who bear the economic burden of the tax. It is therefore informative on the changes in the distribution of welfare arising from the tax and, as such, plays a central role in the economic analysis of taxation.

In the case of the FAT and the balance sheet tax, the legal incidence is on the financial sector, with the precise institutional scope depending on the design of the tax instruments (see the description of the policy options in Chapter 5). The legal incidence of the FTT is less clear-cut, as it requires linking the taxable event to the liable entities. To this purpose, one would have to look at the trading activity of the different market participants in the markets for the relevant financial products. Only limited information is available on this.

Data on the turnover in the global **foreign exchange** market broken down by counterparty is available from the BIS<sup>1</sup>. The split is among "reporting dealers", "other financial institutions" and "non-financial customers"<sup>2</sup>. According to the December 2010 Triennial Central Bank Survey, in April 2010 almost half of the turnover in the foreign exchange market is accounted for by "other financial institutions", a category that includes non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks. Also, the share of "reporting dealers" (mainly large commercial and investment banks) is three times as large as that of "non-financial customers", who account for roughly 13% of average daily turnover (see Table 12.1). Excluding the market for currency swaps – which accounts for a mere 1% of the global foreign exchange turnover – the participation of non financial customers ranges from 10% in the FX swaps market (44% of total turnover) to 23% in the outright forward

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<sup>1</sup> BIS (2010), Triennial Central Bank Survey – Report on global foreign exchange market activity in 2010, December 2010.

<sup>2</sup> "Reporting dealers" are defined as those financial institutions that actively participate in local and global foreign exchange and derivatives markets. These are mainly large commercial and investment banks and securities houses that (1) participate in the interdealer market and/or (2) have active business with large customers, such as large corporate firms, governments and other non-reporting financial institutions. In other words, reporting dealers are institutions that are actively buying and selling currency and OTC derivatives both for their own account and/or to meet customer demand. In practice, reporting dealers are often those institutions that actively or regularly deal through electronic platforms, such as EBS or Reuters dealing facilities. The category of reporting dealers also includes the branches and subsidiaries of institutions operating in multiple locations that have sales desks, but not necessarily trading desks, which conduct active business with large customers. "Other financial institutions" are defined as those financial institutions that are not classified as reporting dealers. Thus, they mainly cover all other financial institutions, such as smaller commercial banks, investment banks and securities houses, and in addition mutual funds, pension funds, hedge funds, currency funds, money market funds, building societies, leasing companies, insurance companies, financial subsidiaries of corporate firms and central banks. "Non-financial customers" are defined as any counterparty other than those described above, i.e. mainly non-financial end users, such as corporations and governments. See BIS (2010).

market (12% of the total). As Table 12.2 shows, the market is increasingly concentrated in the banking industry in most of the top 13 global FX centres (covering 90% of global turnover). Daily average turnover in the global **OTC interest rate market** is equally split between the two categories of financial institutions, accounting together almost 90% of total activity. The share of non-financial customers is the lowest (6%) in the FRAs market (which overall accounts for 29% of total turnover). It doubles in the market for swaps (overall 61% of turnover), while reaching 14% for options and other products. All in all, the data show that at least 11-13% of turnover is attributable to counterparties other than financial institutions.

**Table 12.1**  
**Global foreign exchange market turnover by instrument and counterparty<sup>1</sup>**

Daily averages in April, in billions of US dollars and percentages

Instrument/counterparty	1998		2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
<b>Spot</b>	<b>568</b>	<b>37</b>	<b>386</b>	<b>31</b>	<b>631</b>	<b>33</b>	<b>1,005</b>	<b>30</b>	<b>1,490</b>	<b>37</b>
with reporting dealers	347	61	216	56	310	49	426	42	518	35
with other financial institutions	121	21	111	29	213	34	394	39	755	51
with non-financial customers	99	18	58	15	108	17	184	18	217	15
<b>Outright forwards</b>	<b>128</b>	<b>8</b>	<b>130</b>	<b>11</b>	<b>209</b>	<b>11</b>	<b>362</b>	<b>11</b>	<b>475</b>	<b>12</b>
with reporting dealers	49	38	52	40	73	35	96	27	113	24
with other financial institutions	34	27	41	31	80	38	159	44	254	54
with non-financial customers	44	35	37	29	56	27	107	30	108	23
<b>Foreign exchange swaps</b>	<b>734</b>	<b>48</b>	<b>656</b>	<b>53</b>	<b>954</b>	<b>49</b>	<b>1,714</b>	<b>52</b>	<b>1,765</b>	<b>44</b>
with reporting dealers	511	70	419	64	573	60	796	46	837	47
with other financial institutions	124	17	177	27	293	31	682	40	758	43
with non-financial customers	98	13	60	9	89	9	236	14	170	10
<b>Currency swaps</b>	<b>10</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>21</b>	<b>1</b>	<b>31</b>	<b>1</b>	<b>43</b>	<b>1</b>
with reporting dealers	5	55	4	53	12	58	12	39	20	47
with other financial institutions	2	23	2	21	5	23	13	41	19	45
with non-financial customers	2	22	2	25	3	14	6	20	4	8
<b>FX options and other products<sup>2</sup></b>	<b>87</b>	<b>6</b>	<b>60</b>	<b>5</b>	<b>119</b>	<b>6</b>	<b>212</b>	<b>6</b>	<b>207</b>	<b>5</b>
with reporting dealers	48	55	28	47	49	41	62	29	60	29
with other financial institutions	18	20	15	26	44	37	91	43	113	55
with non-financial customers	21	24	16	27	21	18	59	28	33	16
<b>Total</b>	<b>1,527</b>	<b>100</b>	<b>1,239</b>	<b>100</b>	<b>1,934</b>	<b>100</b>	<b>3,324</b>	<b>100</b>	<b>3,981</b>	<b>100</b>
with reporting dealers	961	63	719	58	1,018	53	1,392	42	1,548	39
with other financial institutions	299	20	346	28	634	33	1,339	40	1,900	48
with non-financial customers	266	17	174	14	276	14	593	18	533	13
Local	698	46	525	42	743	38	1,274	38	1,395	35
Cross-border	828	54	713	58	1,185	61	2,051	62	2,586	65

<sup>1</sup> Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). Due to incomplete reporting, components do not always add up to totals. <sup>2</sup>The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible.

Source: BIS: Triennial Central Bank Survey – Report on global foreign exchange market activity in 2010

**Table 12.2**  
**Concentration in the banking industry**  
Number of banks accounting for 75% of foreign exchange turnover (\*)

Country	1998	2001	2004	2007	2010
<i>EU countries</i>					
Denmark	3	3	2	2	3
Sweden	3	3	3	3	3
France	7	6	6	4	4
Germany	9	5	4	5	5
United Kingdom	24	17	16	12	9
<i>Non-EU countries</i>					
Switzerland	7	6	5	3	2
Canada	6	5	4	6	5
Australia	9	10	8	8	7
United States	20	13	11	10	7
Japan	19	17	11	9	8
Singapore	23	18	11	11	10
Hong Kong SAR	26	14	11	12	14
Korea	21	14	12	12	16

(\*) Spot transactions, outright forwards and FX swaps.

Source: BIS: Triennial Central Bank Survey – Report on global foreign exchange market activity in 2010

**Table 12.3**  
**Global OTC interest rate market turnover by instrument, counterparty<sup>1</sup>**  
Daily averages in April, in billions of US dollars and percentages

Instrument/counterparty	1998		2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
<b>FRAs</b>	<b>74</b>	<b>28</b>	<b>129</b>	<b>26</b>	<b>233</b>	<b>23</b>	<b>258</b>	<b>15</b>	<b>601</b>	<b>29</b>
with reporting dealers	46	61	88	68	112	48	143	55	296	49
with other financial institutions	21	29	37	28	113	48	89	34	267	44
with non-financial customers	7	10	5	4	8	3	27	10	37	6
<b>Swaps</b>	<b>155</b>	<b>58</b>	<b>331</b>	<b>68</b>	<b>621</b>	<b>61</b>	<b>1,210</b>	<b>72</b>	<b>1,275</b>	<b>61</b>
with reporting dealers	87	56	219	66	325	52	552	46	537	42
with other financial institutions	56	36	98	30	241	39	574	47	585	46
with non-financial customers	11	7	14	4	55	9	85	7	154	12
<b>Options and other products<sup>2</sup></b>	<b>36</b>	<b>14</b>	<b>29</b>	<b>6</b>	<b>171</b>	<b>17</b>	<b>217</b>	<b>13</b>	<b>208</b>	<b>10</b>
with reporting dealers	17	46	16	55	57	34	106	49	87	42
with other financial institutions	12	32	7	26	96	56	85	39	90	43
with non-financial customers	8	21	5	18	16	9	24	11	30	14
<b>Total</b>	<b>265</b>	<b>100</b>	<b>489</b>	<b>100</b>	<b>1,025</b>	<b>100</b>	<b>1,686</b>	<b>100</b>	<b>2,083</b>	<b>100</b>
with reporting dealers	150	56	323	66	494	48	800	47	920	44
with other financial institutions	89	34	142	29	450	44	747	44	942	45
with non-financial customers	27	10	25	5	79	8	136	8	221	11
Local	133	50	207	42	414	40	564	33	762	37
Cross-border	132	50	282	58	609	59	1,120	66	1,321	63

<sup>1</sup> Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). Due to incomplete reporting, components do not always add up to totals. <sup>2</sup> The category "other interest rate products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible.

Source: BIS: Triennial Central Bank Survey – Report on global foreign exchange market activity in 2010

As long as taxes induce behavioural reactions and thus changes in relative prices, the ultimate burden will differ from the legal incidence. Given the implications in terms of distribution of welfare within the society, understanding economic tax incidence is crucial, particularly when taxes aim at generating contributions from certain income groups or industries, like is the case in the ongoing debate on a financial sector making a "fair and substantial" contribution to repay the cost of the crisis. The extent to which taxes on the financial sector are likely to be partly of fully rolled over to consumers depends on the price elasticity of demand and supply, and on the general competitive conditions in the relevant markets where the taxpayer

operates. Moreover, the pass through will be influenced by how widespread the adoption of the tax is. All in all, although the economic incidence of the tax instruments under analysis remains uncertain *ex ante*, part of the tax burden is likely to fall on final consumers of financial services. The extent of the pass through will most likely differ not only across the different types of taxes, but also across the possible variants of the same tax instrument.

As far as the FTT is concerned, a large part of the burden would fall on direct and indirect owners of traded financial instruments. Moreover, in case the tax is levied on secondary markets, each transaction will be subject to it. This implies cascading effects which might have non-transparent consequences, and make incidence more complex. Also, if business transactions are non exempt, the tax will be cascading through the production process and affect the price of non-financial products. All in all, as recognised by Shackelford, Shaviro and Slemrod (2011) among others, the FTT is likely to turn out not effective "*at retrospectively targeting those who caused, or profited from, the recent financial crisis*".

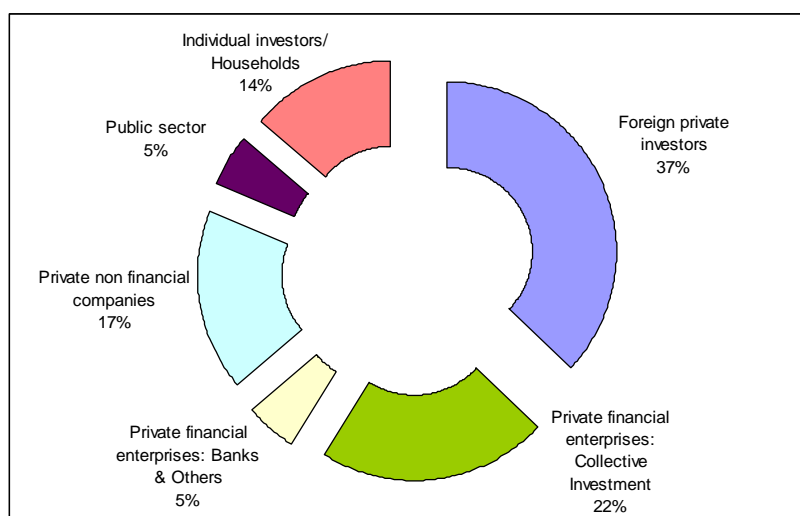
As a rough indication, the ownership structure for traded shares in Europe is depicted in Figure 12.1<sup>3</sup>. Overall, 63% of market capitalisation is accounted for by domestic investors. Among them, the lion's share is played by collective investment institutions (22% of the total), comprising pension funds, insurance companies, mutual funds and collective financial investment companies. Taking into account the share owned by banks and other financial enterprises, such as bond issuing mortgage companies, the ownership share of domestic private financial enterprises amounts to 27% of total market capitalisation. Private non financial companies and organisations (including foundations and trusts) own 17% of the market value of listed shares in Europe, while the aggregate share owned by households and individual investors is in the range of 14%<sup>4</sup>.

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<sup>3</sup> The data are for 2007 and account for 90% of market capitalization in the countries covered. The breakdown by type of owners is only available for domestic investors. See FESE – Share ownership structure in Europe in 2007.

<sup>4</sup> There are significant differences across national markets, particularly between the UK and the other exchanges. The participation of private financial enterprises tops at 44.4% of the national market capitalisation in the UK, while it is in the 19-27% range for most countries in continental Europe. The lowest shares for financial companies are recorded in the smallest markets in Central and Eastern Europe. The participation of private non-financial companies is in the range of 40% in Germany and Bulgaria, while it is only 2.7% in the UK. Lower dispersion across national markets is shown by the ownership shares of households and individual investors, ranging from 2% in the Slovak Republic to 26.6% in Italy.

**Figure 12.1** Share ownership structure of the European listed companies (end of 2007)



Source: FESE – Share Ownership Structure in Europe 2007.

The economic burden of the FAT might also be partly shifted to the users of financial services and products. Again, the precise design of the tax has non trivial consequences on the likelihood of the pass-through. As discussed in IMF (2010), the incentives to shift the FAT are lower in case the tax falls on pure rents. As a consequence, the extent to which the different variants of the FAT are passed on to final consumers may hinge upon the effectiveness of the rent-taxing and of the risk-taxing version of the FAT (Options 2B and 2C, respectively) at (identifying and) targeting excessive returns, particularly to the labour factor.

In the absence of robust empirical results on the incidence of the FAT, available evidence on the ability to shift the corporate income tax might provide useful indications on the economic incidence of potential new taxes imposed on the financial sector. The literature reviewed in Annex 9 shows that pre-tax profits in the banking sector are positively associated with the statutory CIT rate. This is considered an indication that the tax is shifted: in fact, banks are able to shift at least 90 percent of their corporate income tax burden to their customers. Interestingly, tax shifting takes place through the traditional lending activity instead of the provision of fee-generating services: while net interest income is positively associated with the CIT rate, non-interest income correlates negatively with the tax rate<sup>5</sup>. In addition, disentangling the overall effect on the interest margin shows that the impact concerns borrowers almost exclusively. All in all, the evidence suggests that, due to the presence of non-linearities in the effect of taxes, for low levels of the CIT rate higher taxes are likely to be translated into increased lending rates.

Of course, these findings are purely indicative of the potential pass-through of the taxes instruments under analysis, given their significantly different characteristics (e.g. the ability of the FAT to tax pure rents compared to the CIT), and the fact that, in contrast to them, the CIT

<sup>5</sup> Huizinga, Voget and Wagner (2011) also find that that international double taxation of dividends – but not of interests – is positively associated with the net interest margin of international banks. The point estimates imply a pass-through to bank customers and capital providers in the range of 90%.

has general application to all industries. In fact, some stylized evidence for the FAT as implemented in Denmark seem to suggest that the tax was not likely to have been passed to bank customers <sup>6</sup>. Nonetheless, in the light of the conclusions reached in the literature review that that "*increased taxation of the financial sector is likely to make lending more costly*" (see Annex 9), a rough quantitative grasp of the customers who might bear the economic burden of the tax can be obtained from Table 12.4, which shows the structure of bank lending in the EU 27. Loans to non-financial corporations (NFCs) account for about one fourth of the value of total outstanding loans. The percentages vary significantly across countries, ranging from less than 15% in Luxembourg and the United Kingdom, to more than 50% in Bulgaria. Loans to households are about 30% of total outstanding loans; about three quarters of the aggregate are destined to housing purchase, while the remaining is roughly equally split between other lending and consumer credit. Overall, the structure of household lending follows similar patterns within homogenous groups of countries: in the NMS in Central and Eastern Europe, excluding Lithuania, loans for consumer credit are well above other lending; in Bulgaria and Romania, they represent the most relevant lending category. The ability to pass-through the tax depends of course on the elasticities on the different market segments. For instance, in the case of NFCs lending, the accessibility of sources of finance alternative to bank credit is crucial, particularly for SMEs. Likewise, the elasticity of demand for household finance might be significantly affected not only by substitution possibilities but also by broader macroeconomic conditions and individual characteristics. This implies that a full assessment of the economic incidence of the taxes needs to take into account also the equity aspects of the distributional impacts. These are discussed in more detail in Annex 13.

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<sup>6</sup> Presentation at the 2011 Brussels Tax Forum. Available at: [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/gen\\_info/conferences/taxforum2011/birch-sorensen\\_ppt.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/conferences/taxforum2011/birch-sorensen_ppt.pdf)

**Table 12.4.**  
**Loans from credit institutions**  
Stocks at December 2010, in millions of euros

	Total	of which:			
		to NFCs	to households		
			for consumer credit	for housing purchase	other lending
AT	580,939	159,095	24,705	80,000	36,351
BE	546,749	111,651	8,762	84,576	16,864
BG	30,995	16,211	4,725	4,453	530
CY	75,090	24,004	3,394	12,035	7,389
CZ	104,602	31,221	8,047	29,412	4,717
DE	4,611,763	893,818	185,551	968,542	269,861
DK	632,398	144,179	15,720	272,178	26,191
EE	15,944	6,519	662	5,971	579
ES	2,275,281	914,876	82,183	665,221	132,072
FI	215,422	58,487	12,563	76,747	14,978
FR	4,021,005	838,816	154,761	775,265	80,778
GR	337,482	117,563	35,058	79,538	18,576
HU	81,157	27,324	14,030	15,662	1,273
IE	604,393	105,045	19,968	99,688	13,366
IT	2,428,928	880,373	62,494	352,267	178,312
LT	19,142	8,426	931	5,983	1,002
LU	430,706	56,189	1,683	18,591	11,410
LV	20,348	8,806	919	6,498	675
MT	15,247	5,278	366	2,684	697
NL	1,209,502	348,829	28,883	361,431	22,821
PL	217,613	53,985	32,779	67,425	21,352
PT	336,955	120,799	15,524	114,560	12,240
RO	66,983	24,553	15,082	6,794	2,091
SE	612,904	190,159	17,658	223,745	39,159
SI	38,978	21,025	2,834	4,844	1,612
SK	37,157	15,138	3,120	10,849	1,620
UK	4,055,686	561,640	149,391	1,170,543	52,266
EU27	23,623,369	5,744,009	901,793	5,515,502	968,782

Source: ECB, MFIs statistics

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