



EUROPEAN COMMISSION

Brussels, 28.9.2011
SEC(2011) 1102 final

Vol. 1

COMMISSION STAFF WORKING PAPER

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Council Directive

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

{COM(2011) 594 final}
{SEC(2011) 1103 final}

Instruments for the Taxation of the Financial Sector

This report commits only the Commission's services involved in its preparation

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1. INTRODUCTION

This Impact Assessment (IA) analyzes different tax measures which share the objective to raise revenue from the activities of the financial sector so as to ensure the sector contributes further to the consolidation of European public finances. At the same time, some of the instruments are seen to generate a double dividend and create – next to revenues – positive behavioural incentives in order to reduce the probability of future financial crises. Section (2) describes the procedural steps taken in the framework of this IA and briefly summarizes the results of public consultations. Section (3) summarizes the state of play of the political debate and defines the problems which should be solved with the tax measures under scrutiny. Section (4) presents the resulting objectives and the baseline scenario which assumes that no action in the field of tax policy is taken. Section (5) describes the policy options under consideration. The impacts of each policy option are assessed in section (6) and evaluated in section (7).

Box (1). Definitions of the financial sector

The financial sector can be defined in several ways. In the public debate the focus is usually on (large) banks. However, the financial sector is much more widely defined in the European Sectoral Accounts where it includes financial intermediation, insurance and auxiliary financial services. This Eurostat-Definition of the financial sector is used for the discussion of the Financial Activities Tax (FAT).

In the case of a Financial Transactions Tax (FTT) or one of its subsets the definition is wider since all market participants which conduct certain financial transactions (including retail investors and professional traders as well as in theory non-financial companies and households) are taxed.

In the case of bank levies (see Annex 2 for a detailed description of the concept) the definition is narrow and focuses on credit institutions. Bank levies are briefly discussed in this document in the context of the cumulative effect of taxation and regulation. Bank levies which have been implemented recently in Member States are either used to finance some national resolution scheme or to finance the general budget.

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

An Inter-service Steering Group on Financial Sector Taxation was set up in December 2010 comprising the following Directorate-Generals: TAXUD (Lead), BUDG, ECFIN, EMPL, LS, MARKT and SG. The Steering Group met on 6 January, 18 February, 6 May and 9 June 2011. Comments raised by other services during the last meeting of the Steering Group have all been integrated into the version which was sent for evaluation by the Impact Assessment Board (IAB).

The Impact Assessment was presented to IAB on 13 July. The IAB accepted the Impact Assessment subject to the revision of the report following the Board's suggestions. In its opinion, the IAB proposed the following improvements to the document. Firstly, the IAB suggested that the report should better integrate the most relevant results of the analysis of expected impacts contained in the annexes into the main text, including greater transparency on the modelling assumptions and on the robustness of modelling results. In response, the report was adapted accordingly. Results and assumptions of models and estimates have been added to the main text in sections 7.8.4 and in explanatory footnotes.

Secondly, the IAB noted that the baseline scenario should be strengthened by better taking account of current Member State actions and problems resulting from non-harmonised and

possibly overlapping regulations. In addition, the Board asked for a more detailed analysis of subsidiarity. To implement the suggestion, additional explanations covering these aspects have been added in section 3.1 and 3.2.

Thirdly, the report should give a clearer overview of the expected impacts of the two main options on the real economy as well as the EU financial sector, including on growth and competitiveness. Following this proposal, the main text has been modified to give a clearer view about the potential effects in particular in sections 7.8.

2.1. External consultation and expertise

2.1.1. External studies

The Commission has launched in total three studies in the context of this IA. One study has been contracted to PricewaterhouseCoopers (PwC). This study analyses four areas of the tax system in order to identify potential legal provisions which might lead to tax advantages or disadvantages for the financial sector. The taxes considered are the Corporate Income Tax (CIT), the Personal Income Tax (PIT), the Value-added Tax (VAT) and the tax treatment of financial products. The details of the study are presented in Annex 3.

A study on the reaction of profits and transactions to tax increases was commissioned to Copenhagen Economics. The study reviews the existing empirical literature with regards to the tax elasticities of profits, remuneration and transaction volumes in different markets. The details of the study are presented in Annex 9.

The third study on remuneration in the financial sector was commissioned to the 'Chair of Applied Economics: Innovation and Internationalization' at the ETH Zürich. The study provides an assessment of the extent of managerial pay around the world. It uses a novel database on managerial wages and other forms of compensation to compare managerial remuneration across different sectors with a special emphasis on the financial sector versus other sectors, and it does so by comparing different countries with each other for the years 2002 to 2007. The detailed study can be found in Annex 4.

2.1.2. Public consultation

The public consultation¹, launched on 22 February 2011 and closed on 19 April 2011, aimed at receiving stakeholders' feedback on this topic and in particular:

- (a) to test assumptions and collect evidence as regards the definition of the problems;
- (b) to assess the impacts of the set of policy options; and
- (c) to consult on more detailed aspects of the feasibility and design of the policy options.

2.1.3. Submissions by stakeholders group

Table (1). Feedback from stakeholder groups

Registered financial organisations	45
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¹

http://ec.europa.eu/taxation_customs/common/consultations/tax/2011_02_financial_sector_taxation_en.htm

Registered non-financial organisations	45
Non-registered financial organisations	22
Non-registered non-financial organisations	63
Public authorities	17
Citizens	
Individual submissions	21
Petitions	3411²
Total individual submissions	213
Total submissions (including petitions)	3624

The public consultation generated considerable interest. More than 200 individual replies as well as a large number of petitions were received. All individual responses to this public consultation have been published³. A detailed analysis of the responses is included in Annex 1. The feedback was divided into six stakeholder groups listed below with the corresponding number of inputs⁴. Table (1) gives an overview of the stakeholders.

2.1.4. Positions of stakeholders in general

Common points

In general, opinions of the respondents to the public consultation mentioned above are strongly polarised depending on the groups and subgroups to which they belong. Nevertheless, it must be pointed out that there is a general agreement among the vast majority of respondents that patchwork measures introduced by Member States pose a problem, which is most often linked to possible distortions in the functioning of the internal market (including relocation and double taxation) and the level playing field in the EU. Another point of agreement amongst respondents is that improper risk management, improper incentive schemes, extensive deregulation and lax supervision were amongst the reasons for the financial crisis.

Financial organisations, business and consultancies

Registered financial organisations, non-registered financial organisations and the business, accounting/consulting and real estate subgroups generally oppose any additional tax burden on the financial sector or financial markets in general.

NGOs and trade unions

NGOs and trade unions (registered and non-registered) appear strongly in favour of a broad-based financial transactions tax (FTT) levied at EU level (with some submissions accepting it at Eurozone level). NGOs are by and large neutral vis-à-vis a financial activities tax (FAT) as long as it does not “crowd-out” the FTT implementation. Some trade unions are against an FAT, mainly because they view it as a tax on labour.

Authorities

² There are claims that many more such e-mails have been sent.

³ http://circa.europa.eu/Public/irc/taxud/consultation_taxation/library

⁴ A large number of contributions were not filed in the correct dedicated email and had to be assigned to the respective stakeholder group at the processing stage under certain assumptions. Stakeholder subgroups are detailed in Annex 1.

Public authorities, Central Banks and one Member State are clearly against both FTT and FAT. Two other Member States would accept a FTT globally, while one of them would accept it at EU level in the form of a currency transaction tax (CTT). The fourth Member State also opposes an EU-wide solution, and shows a slight preference towards a rent-taxing FAT for the global level. Local authorities (mostly representatives in the Committee of Regions) accept a broad-based FTT at EU level.

Citizens

Citizens' individual submissions and the very large number of petitions are generally in favour of a broad-based FTT.

2.1.5. Consultations with stakeholders and Member States

2.1.5.1. Focused consultation workshop

On 4 May 2011 a focused consultation workshop with representatives of the relevant associations of financial market operators⁵ took place in DG TAXUD's premises. The agenda of the workshops included a preliminary summary by TAXUD of the results of the public consultation, a round-table on industry's assessment of expected administrative costs related to FTT and FAT and a number of technical issues, including those covered by the public consultation questionnaire. The arguments raised by the representatives were following closely their individual contributions to the public consultation outlined above. A summary of the discussions at the focused consultation workshop is included in Annex 1.

2.1.5.2. Consultations with Member States

In addition, the potential instruments for an additional taxation of the financial sector were twice on the agenda of the Tax Policy Group chaired by Commissioner Šemeta. These discussions took place in October 2010 and in January 2011 and showed diversity in the opinions of Member States on this issue. In addition, Member States and the Commission discussed the issue of financial sector taxation in the Council High Level Working Party on 8 December 2010 and on 28 April 2011.

2.1.5.3. Consultations with academia and practitioners

The Brussels Tax Forum⁶ of 28-29 March 2011 was dedicated to "Taxation of the Financial Sector". The audience and the speakers and panellists included a large number of academics, tax practitioners, policy-makers and other stakeholders. The main topics discussed were the responsibility of the financial sector in the crisis and the public support for the financial sector, the under/over taxation of the financial sector, the interactions with initiatives in the area of financial regulation, and the options for taxing the financial sector – FTT and FAT. A summary of the discussions is included in Annex 1.

⁵ European Association of Cooperative Banks, European Savings Bank Group, European Banking Federation, European Association of Public Banks, Association of International Life Offices, Comité Européen des Assurances, Association of European Cooperative and Mutual Insurers, Association Internationale des Sociétés d'Assurance Mutuelle, European Fund and Asset Management Association, Alternative Investment Management Association, The European Forum of Securities Association, European Central Securities Depositories Association, International Capital Market Association, Federation of European Securities Exchanges.

⁶ http://ec.europa.eu/taxation_customs/taxation/gen_info/tax_conferences/tax_forum/index_en.htm

On 11 May, the Commission held a by-invitation workshop with academics from different fields in its premises as to get technical inputs on some of the issues raised in the impact assessment, among which the presentations of the General Equilibrium Models and the SYMBOL model, the risks of relocation, the clarification of some technical concepts and the interactions between taxation and regulation.

2.1.5.4. Consultation with social partners

1. Liaison forum

On 7 March 2011 the issue of the taxation of the financial sector and the upcoming impact assessment was presented by DG TAXUD at the Liaison forum.

Trade union representatives expressed some concern that the burden of FAT would fall on labour and hence employment in the sector. TAXUD clarified that the tax base of any form of FAT is much broader than just wages (i.e. profit besides remuneration), that (marginal) employment decisions would in principle not be impacted by the tax since the addition-method FAT base is insensitive to labour costs (as since the base is the sum of profit and remunerations and remunerations is a deductible cost on the profit part, any change in labour costs is matched by an equivalent change in the profit part of the base). The rent taxing and risk taxing versions of FAT would fall on excessive remuneration only.

2. Meeting with UNI-Europa

On 3 May 2011, TAXUD participated in a meeting with trade union representatives, on which the same concerns about the impact of a FAT on employment in the sector were voiced.

3. POLICY CONTEXT, PROBLEM DEFINITION AND EU RIGHT TO ACT

The debate on new taxes targeted to the financial sector or the activities in financial markets has gained momentum after the recent financial and economic crisis. The discussion currently focuses on two policy goals. Firstly, the generation of additional tax revenue. Secondly, the use of taxes as a tool to improve the functioning of financial markets in general. In order to frame the debate, it is useful to briefly recall the roots of the crisis. It allows better identifying the regulatory aspects at stake and the political motivation to raise taxes on the financial sector.

Ample liquidity and low interest rates have been major underlying factors behind the crisis. Financial innovation – including the development of structured products - amplified and accelerated the consequences of excess liquidity and rapid credit expansion.⁷ In an environment of plentiful liquidity, historically low interest rates and low returns, investors actively sought opportunities for higher yields. Risk became largely mispriced. Thus, an increased number of innovative and complex instruments were designed to offer such high yields, often combined with an increased leverage. In particular, financial institutions securitized their loans into mortgage- or asset-backed securities, subsequently turned into collateralised obligations, generating a dramatic expansion of leverage within the financial

⁷ More detailed analyses of the roots of the crisis can be found in BIS (2010a), FSA (2009), Hemmelgarn, Nicodeme and Zangari (2011) and Hemmelgarn and Nicodème (2010) as well as in the de Larosièrre Report (2009).

system as a whole.⁸ Financial institutions engaged in very high leverage ratio of beyond 30 – sometimes as high as 60 – making them exceedingly vulnerable to even a modest fall in asset values. When the assets value fell rapidly, the resulting losses could not be absorbed by common equity, leading to serious solvency and liquidity problems and thereby putting the ailing institution, its counterparties and eventually the whole financial system at risk.

Failures in risk assessment and management were aggravated by the fact that remuneration and incentive schemes within the financial institutions contributed to excessive risk-taking by rewarding short-term expansion of the volume of (risky) traders rather than the long-term profitability of investment.⁹ These pressures were not contained by regulatory or supervisory policy or practise and regulation was not effective in mitigating these risks. For instance, capital requirements were particularly light on proprietary trading transactions while (as events showed later) the risks involved in these transactions proved to be much higher than the internal models had expected.

During the crisis, many governments – both at global level and within the EU – realized that, in contrast to many other sectors of the economy, allowing individual banks and other systemic financial institutions to fail may have been detrimental to the whole economy. There was no simple way for a (systemically important) bank to continue to provide essential banking functions whilst in insolvency, and in the case of a failure of a large bank, those functions could not be simply shut down without significant systemic damage. The actions that governments were forced to take to deal with banking institutions in distress – capital injections, guarantees and loans – have stabilised the financial system. However, they also propped up failing institutions and supported creditors at huge costs to public finances.¹⁰

Although taxes have not been among the primary causes for the crisis, they may have aggravated it, insofar as they have had the potential to exacerbate behaviours that may have contributed to the crisis. Tax rules encouraging excessive debt, complex financial transactions, poorly designed incentive compensation for corporate managers and highly leveraged home-ownership all may have contributed to the crisis.¹¹

In October 2009, the European Council agreed that a coordinated strategy for exiting stimulus policies was needed for when the recovery was secured and invited the Commission to examine innovative financing at a global level. This first analysis provided by the Commission Services (European Commission, 2010d) suggested that some instruments, notably levies on financial companies based on balance sheet items, could bring a “*significant “double dividend” of both raising revenues and improving market efficiency and stability.*”

In March 2010, the European Parliament adopted a resolution calling the Commission to carry out an assessment on a Financial Transactions Tax (FTT). The Parliament also recommended the use of innovative finance instruments in the context of a report on the impact of the financial and economic crisis on developing countries.

In parallel, an international debate started at the G-20 level where leaders asked the IMF to: “*...prepare a report for our next meeting [June 2010] with regard to the range of options countries have adopted or are considering as to how the financial sector could make a fair and substantial contribution toward paying for any burden associated with government*

⁸ See de Larosière Report (2009).

⁹ Idem.

¹⁰ See section 3.1.1 for detailed figures.

¹¹ See Shaviro (2011) and Ceriani et al. (2011).

interventions to repair the banking system.” The IMF (2010a) report proposes two possible forms of contribution from the financial sector, serving distinct purposes (a) a “*Financial Stability Contribution*” (FSC) linked to a credible and effective resolution mechanism and, if additional revenues are needed for consolidation purposes, (b) a “*Financial Activities Tax*” (FAT) levied on the sum of the profits and remuneration of financial institutions. The IMF did not propose the FTT as a tax instrument arguing that there are important drawbacks when seen as a corrective tool to improve financial market performance and would not “*appear well suited to the specific purposes set out in the mandate from G-20 leaders.*” The argumentation of the IMF was based on its strict mandate of finding instruments that make the financial sector pay for public interventions. In this context, the IMF considered that the measures shall (i) ensure that the financial sector meets the direct fiscal cost of any future support; (ii) make failures less likely and less damaging, most importantly by facilitating an effective resolution scheme; (iii) be reasonably easy to implement, including in the degree of international coordination required; (iv) enable, to the extent desired, an additional fiscal contribution from the financial sector to recognize that the costs to countries of crises exceed the fiscal cost of direct support; and (v) address existing tax distortions at odds with financial stability concerns and ensure a reasonable overall burden of regulation and taxation. The IMF concluded that the FTT does not appear well-suited for the purposes of the G20 because: (a) It is not the best way to finance a resolution mechanism as the volume of financial transactions is a poor proxy for the benefits conveyed by a resolution fund to specific institutions or for the costs of intervention from public sector; (b) A FTT does not focus on the core sources of instability (size of institutions, interconnectivity, and substitutability, which give rise to systemic risk); (c) The FTT has a cumulative and cascading effect which may largely fall on final consumers rather than financial institutions; (d) a FTT taxes transactions between businesses. The argument that a FTT would cause little distortions because it would be levied at a very low rate on a very broad base is not persuasive. By distorting business decisions, a FTT reduces total output because it cascades into all prices at each stage of the production. In total, it raises less revenue than if applied to the final stage only (this is similar to the reason why VAT is superior to a sales tax); and (e) It is vulnerable to avoidance by engineering. A consequence of cascading would be avoidance by integration, leading to larger financial institutions. Finally, the IMF (2010a, page 18) also states that its corrective attribute have significant drawbacks: (i) it is far from clear what an ideal ratio of 'productive' to 'non-productive' financial activities would be, (ii) it is difficult to distinguish 'desirable' and 'undesirable' transactions or to assess their importance and higher transaction costs do not necessarily prevent bubbles, as seen in the housing market, (iii) both in theory and in practice, an FTT does not necessarily reduce volatility; (iv) an FTT would increase the cost of capital for all firms issuing tax securities;

After an initial examination, the European Commission (2010e, 2010f) put forward a twofold approach in October 2010. The Commission supported further exploration and development of a Financial Transactions Tax (FTT) at the global level and wanted to promote an agreement with the most relevant partners. At EU-level, the Commission saw potential in a Financial Activities Tax (FAT). In the light of these conclusions, the Commission announced in its October 2010 communication to “*launch a comprehensive impact assessment, which will further examine each of these options, in order to be in a position to make appropriate proposals on policy actions by summer 2011.*” The present document is the result of this additional analysis.

The European Council on 28 and 29 October 2010 considered that the Commission should pursue its assessment taking into account the cumulative impact of regulatory and taxation measures on the financial sector, the need to avoid double taxation and to maintain a level

playing field as well as the role that levies should play in a credible crisis management framework. At the European Council meeting on 11 March 2011 the heads of state or government of the Euro area agreed that *“the introduction of a financial transaction tax should be explored and developed further at the Euro area, EU and international levels.”* At the European Council meeting on 24 and 25 March 2011 the heads of state and government concluded that *“as agreed by the European Council in June 2010, the introduction of a global financial transaction tax should be explored and developed further. The European Council notes the intention of the Commission to make a report on taxation of the financial sector by autumn 2011 at the latest.”* The debate was also part of the EU Budget Review of October 2010 which states that *“The Commission considers that the following non-exclusive list of financing means could be possible candidates for own resources to gradually displace national contributions, leaving a lesser burden on national treasuries: - EU taxation of the financial sector.”*

On 8 March 2011 the European Parliament adopted a resolution on “Innovative financing at global and European level” which contains the following statements: *(The EP) “stresses that an FAT is mainly a revenue-oriented tax tool that targets the financial sector, making it possible to tax economic rents and profits from excessive risk-taking, and as such could provide a solution to the current VAT exemption of the financial sector”, “Favours the introduction of a tax on financial transactions, ...; considers that the introduction of a tax on financial transactions ought to be as broadly based as possible and that the EU should promote the introduction of an FTT at global level; failing that, the EU should implement an FTT at European level as a first step.”* The resolution also *“calls on the Commission and the Council to assess the potential of different financial transaction tax options to contribute to the EU budget.”*

On 29th June 2011, the European Commission put forward a proposal for the Multiannual Financial Framework 2014-2020. In this context, the European Commission proposes new own resources to decrease national contributions and thus contribute to budgetary consolidation efforts in the Member States; to create a link between EU policy objectives and the EU financing; and to make the system more transparent and fairer. This proposal includes a Financial Transactions Tax at the EU-level. The rationale is that it *‘would give extra room for manoeuvre to national governments and contribute to general budgetary consolidation efforts. Such taxation exists at national level in some Member States, but action at EU level could prove more effective and efficient, and it could play a role in reducing the existing fragmentation of the Internal Market.’*¹²

In parallel to the debate on new taxes, a comprehensive regulatory reform is still ongoing in order to improve the stability of the financial system. These reforms comprise tighter rules on capital requirements, better incentives in compensation systems, an increase in the use of central clearing platforms (CCP), better supervision and regulation and market transparency among others. All these elements (see Annex 2) shall be included in the analysis as to assess the cumulative impact of potential tax measures with upcoming regulatory changes.

¹²

Multiannual Financial Framework (MFF): Questions and answers. MEMO/11/468.

3.1. Problem definition

3.1.1. Costs of the crisis

The fact that allowing banks and other systemic financial institutions to fail may become detrimental to the economy, forced many Member States to quickly implement a number of ad-hoc measures to avoid the collapse of the financial system and to alleviate the economic consequences of the crisis on the nonfinancial sector. The crisis response took the form of specific measures aimed at banks and measures to stimulate the economy so as to offset the short-term negative demand effects of plummeting business and consumer confidence. In the European Union, Member States individually committed to recapitalization of their financial institutions, guarantees on bank liabilities, relief of impaired assets and liquidity and bank funding support for a total representing about EUR 4.6 trillion (39% of EU-27 GDP in 2009), while the amount actually used in 2008 and 2009 is around EUR 2.3 trillion.¹³

Moreover, the economic crisis that was triggered by the financial crisis aggravated further the stance of public finances in Member States, partly due to rescue packages for the financial sector and the bursting of real-estate bubbles. Consequently, EU-27 average public deficits increased from 0.9% of GDP in 2007 to 6.4% in 2010 and public debt jumped from below 60% of GDP in 2007 to above 80% for the years to come (European Commission, 2011 Spring Economic Forecast). Budgetary commitments in this range are not sustainable from a fiscal point of view, and impose heavy burden on the present and future generations.¹⁴ There is an urgent need to improve the quality of public finances on a lasting basis, both on the expenditure and revenue sides. Higher tax revenues as well as higher user fees and charges would have to be considered in this context, including higher taxes on the financial sector.

3.1.2. VAT exemption of financial services

The EU's common value added tax system has generally exempted mainstream financial services including insurances and investment funds. Article 135(1) of the VAT Directive provides an exemption from VAT for most financial and insurance services.¹⁵

To some extent, the Directive reflects an uncertain approach in that it also allows EU Member States the option of taxing financial services. The difficulty is, however, to technically define the price for specific financial operations. Around two-thirds of all financial services are margin based which makes the implementation of the invoice-credit VAT system very difficult in this respect.¹⁶ In practice however this difficulty seems to be surmountable – for instance in Germany when the granting of loans is subject to VAT under the option to tax, an acceptable methodology seems to have been found to tax these margin-based operations.¹⁷

¹³ See European Commission State Aid Scoreboard – Autumn 2010 update (Chapter 3): <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2010:1462:FIN:EN:PDF>

¹⁴ The IMF (2010b) has projected that the cost of government debt in advanced G-20 economies will rise by almost 40 percentage points between 2008 and 2015

¹⁵ Commission proposals for a Directive COM(2007)747 and a Regulation COM(2007)746 as regards the VAT treatment of insurance and financial services aim at modernising and simplifying the current complex VAT rules for financial and insurance services and securing a level playing field in the pan-EU market for these services as far as VAT is concerned. See also Annex 17.

¹⁶ The problem of VAT on financial services is described in more detail in Kerrigan (2008) as well as in Mirrlees et al. (2010), chapter 8.

¹⁷ Another theoretical possibility would be the application of a transaction-based VAT as presented by Poddar and English (1997), known as the “Truncated Cash-Flow Method with Tax Calculation

The extent to which applying VAT to the financial sector (and its clients) would raise additional tax revenues and – consequently – the extent to which the exemption constitutes a tax advantage for the financial sector is an unsettled empirical question. Whereas the exemption means that the financial sector does not charge VAT on most of its output, it cannot deduct the VAT charged on its inputs. This is known as the 'irrecoverable VAT problem'. While estimates by Genser and Winker (1997) for Germany (7 billion DM for 1994), Huizinga (2002) for the EU-15 (12 billion EUR for 1998 or 0.15% of GDP) and the UK Treasury (2011) for the UK (£ 9.05 billion or about 0.6% of GDP)¹⁸ suggest that there might be a sizeable tax advantage (measured as VAT not collected), arguments are also put forward that claim that irrecoverable VAT is the largest tax burden for the sector.

Annex 5 presents a new estimate of the magnitude of the problem. The calculations are based on European Sector Accounts on the consumption of financial services by sectors. Note however, that the data are restricted to financial intermediation. Other tax exempt financial services are not covered. The results of the estimation are presented in table (2). The data are used to estimate the potential advantage from VAT exemption by applying methodologies proposed by Huizinga (2002) and de la Feria and Lockwood (2010). Three estimations are presented below. The difference between them is the data basis for the calculation of the irrecoverable VAT which in case of a VAT application would be fully deductible.

Table (2). VAT exemption of the financial sector: Potential tax advantage

Year	Estimation (1)		Estimation (2)		Estimation (3)	
	bn. EUR	% of GDP	bn. EUR	% of GDP	bn. EUR	% of GDP
2000	13.7	0.15	16.3	0.18	14.2	0.15
2001	14.1	0.15	16.9	0.18	14.9	0.16
2002	15.2	0.15	19.0	0.19	17.2	0.17
2003	17.2	0.17	20.5	0.20	19.1	0.19
2004	18.3	0.17	21.7	0.20	20.1	0.19
2005	17.6	0.16	21.5	0.19	20.0	0.18
2006	14.4	0.12	21.9	0.19	20.2	0.17
2007	13.7	0.11	23.0	0.19	21.5	0.17
2008	14.1	0.11	22.6	0.18	21.0	0.17
2009*	18.1	0.15	25.3	0.21	23.6	0.20

*Note that no data is available for the UK for 2009 in estimations 2 and 3. Therefore, the 2008 value for the UK has been used to calculate EU figures for 2009. See Annex 5 for details.

The most reliable data is the one from estimation (1) where the intermediate consumption of the financial intermediation can be directly measured using the Input-Output tables. The data suggest that the VAT exemption leads to an advantage in the range of 0.11% and 0.17% of GDP. This is in line with the results of Huizinga (2002) of around 0.15% of GDP mentioned above. It should be stressed that all these estimates are very rough approximations and should be interpreted with caution. However, they indicate that the argument that the VAT exemption of financial services might be an advantage for the financial sector has some merits. The results do not change significantly when other estimates for the irrecoverable VAT based on sector account data are used.

Account". Such alternative approaches have been considered in European Commission (1996) and Ernst and Young (1996).

¹⁸ http://www.hmrc.gov.uk/stats/tax_expenditures/table1-5.pdf . UK GDP is estimated at £ 1,453 billion (table A2 in <http://www.statistics.gov.uk/pdffdir/oie0511.pdf>)

Note that all three estimates do not take into account the behavioural response due to price changes when applying VAT to financial services. The inclusion of the financial sector in the VAT would indeed lead to price changes, but such changes should be seen as the correction of an existing distortion rather than as a new distortion. The reason is that next to the question of whether VAT on financial services would raise revenues, there is an economic distortion arising from the current VAT exemption. While services provided to households are too cheap, services to businesses are more expensive. This leads to a misallocation of the consumption of financial services.

In summary, the VAT exemption for a large share of financial services is an important issue. It possibly results in a preferential treatment of the financial sector compared with other sectors of the economy as well as in distortions of prices.

3.1.3. Market failure and systemic risks in the financial sector

As explained above, the crisis resulted from the complex interaction of market failures, global financial and monetary imbalances, inappropriate regulation, weak supervision and poor macro-prudential oversight. As a reaction to these deficiencies, numerous regulatory reforms have already been implemented or are currently under consideration (see also the baseline scenario, table 4 and Annex 2). Financial sector taxes could be part of the toolbox for regulatory reform and flank some regulatory goals, notably reducing leverage or short-term speculation while also generating tax revenue.

Taxation as a tool to internalize externalities or to correct certain incentives is not linked to the generation of revenue – even though many assume that taxes could indeed generate a 'double dividend' by raising revenue and creating positive behavioural incentives. The basic idea is that taxes could improve financial sector stability and the functioning of the market. For example, trading activity in financial markets is often criticised as leading to inefficiencies, excessive liquidity and asset price bubbles. The revision of the Directive on the Markets of Financial Instruments (MIFID) regulates new trading technologies and address related risks of disorderly trading. In addition, a tax on financial transactions would make high frequency trading less profitable.

(1) Undesirable market behaviour due to implicit guarantees (systemic risks)

The fact that the financial sector differs in many respects from other sectors has put it in a position to benefit from incentives which might be harmful for the economy as a whole. Notably, allowing banks and other systemic financial institutions to fail may become detrimental to the economy, forcing governments to bail-out systemically relevant institutes. The existence of an (implicit or explicit) safety net combined with banking regulation may be an incentive for such institutions to engage in higher risk taking, since the profits from these activities can be privatised while losses will be socialised. It should be noted that this mechanism is not necessarily limited to the financial sector but can also occur in other industries with create negative externalities to the rest of the economy. It should also be noted that some losses have also been borne by shareholders of banks¹⁹.

¹⁹ In Annex 14, we use the SYMBOL model to assess the probability and magnitude of systemic losses deriving from banks' defaults as well as individual contributions of banks to systemic risk under both scenarios of contagion of bank losses and no contagion. Adrian and Brunnermeier (2010) define systemic risk as CoVaR, the value at risk (VaR) of the financial system conditional on institutions being under distress. With this measure, the contribution of an individual institution to systemic risk is the

In summary, the underlying driver is that implicit state guarantees for financial sector institutions are not considered when risks are mispriced in markets which could create the problem incentives to engage in risky investments. Profits can be privatized while losses are socialized. The initiatives discussed in this report will not address this problem.

(2) Automated trading (high frequency trading)

While the empirical economic literature is still rather inconclusive on effects from this trading form in terms of increased volatility or price deviations,²⁰ regulators as well as policy makers point to the risks that this algorithmic or automated trading may trigger.²¹

This potential specific risk will be addressed in the Revision of the Directive on the Markets of Financial Instruments (MIFID). The policy option chosen there is part of the baseline scenario in this Impact Assessment which is part of the baseline scenario.

Automated trading (and more generally short-term speculation) is seen by some as source of volatility and asset price bubbles due to self-enforcing trends.²²

(3) Distortions of debt-equity choice: Leverage

The tax deductibility of interest payments in most corporate income tax systems coupled with no such measure for equity financing creates at least two types of tax distortions. First, it may influence financing decisions and lead to too-high leverage. Second, this distortion in financing exacerbates opportunities to shift and decrease reported profit via debt-shifting or the use of hybrid instruments. These problems are well-known (see Annex 18).

In the context of the crisis, the debt-equity distortions did not create the financial crisis but it leaned in the wrong direction and may have aggravated it.²³ High leverage could lead to liquidity constraints, especially in times when banks tend to restrict their credit supply.

It shall be stressed that the problem of tax induced leverage can be tackled by removing the preferential treatment of debt in the current CIT system of most Member States. Several immediate solutions are discussed in Annex 18.

In summary, the different tax treatment of debt and equity could distort financing decisions and increase leverage and incentives to engage in risky investments.

(4) Excessive executive compensation schemes encourage risk-taking

difference between CoVaR conditional on the institution being under distress and the CoVaR in the median state of the institution. They show that leverage (alongside relative size and maturity mismatch) exerts an effect on systemic risk.

²⁰ Chaboud, A., B. Chiquoine, E. Hjalmarsson und C. Vega (2009) analyse the effects of this trading form in the context of FX markets. Some recent research has pointed to the fact that high-frequency trading may create information rents for traders using these tools (Biais and Woolley, 2011) and could increase volatility (Dichev, Huang and Zhou, 2011). See The Economist (2011) for a discussion.

²¹ For example the ECB pointed to potential issues in a reply to a public consultation. The document can be accessed online at:

<http://www.ecb.int/pub/pdf/other/ecpublicconsultationreviewmifideurosystemcontribution201102en.pdf>

²² See Schulmeister (2011).

²³ See Shaviro (2011), Shackelford, Shaviro and Slemrod (2011), IMF (2010a), (2010b) and Hemmelgarn and Nicodème (2010) for a discussion.

Since the 1980s and notably over the last two decades there is a tendency for companies to develop specific executive compensation schemes, such as bonus payments and notably stock option plans. The strong increase in executive compensation over the last two decades in the economy as a whole can be largely attributed to the latter instrument.

Excessive remuneration schemes, keyed to short-term returns and business volume, might be an incentive to increase leverage and to engage in risky investment, as profits will be privatised while losses remain in the company or will be socialised via a bail-out through the state. Therefore, managers might favour short-term risky investment to increase their remuneration.²⁴

Furthermore, in several countries stock option schemes benefit from favourable tax treatment such as deductibility from the corporate income tax combined with exemption from personal income tax or social security contribution²⁵. Such favourable tax treatment may have led managers to prefer to receive their remuneration in the form of stock options instead of traditional wages and to focus on short-term measures to increase the value of their stocks. This may have increased corporate short-term risk-taking and contributed to speculative bubbles. Reducing the potential payouts via taxation, notably with a FAT, might reduce these incentives.

In summary, excessive remuneration schemes and incentive compensation for managers could lead to higher engagement in risky investments.

(5) Complex products and counterparty risk

Large amounts of complex derivatives are viewed as being one reason for the crisis. They enable companies to place leverage, hedge and speculate cheaply, while hindering investor and supervisory oversight of risks involved and created webs of counterparty risk that ended up transmitting credit problems across the world economy.

Derivatives permit taxpayers to increase the degree of separation between the economic fundamentals of their positions and the tax systems interpretation of what they are doing.²⁶ Derivatives create three main types of problems for the tax system. The first is the asymmetry in the treatment of counterparties, as in the case where a periodic time-value return can be deducted on one side without being included on the other. The second is the inconsistency in the treatment of a given economic arrangement (e.g. total return swap leads to economically owing a particular stock without being treated as the owner for tax purposes). The third is the imbalance in the treatment of gains and losses, as in the case where one can immediately realise the loss whereas a gain would be deferred indefinitely or taxed at less than the ordinary income rate (a technique known as straddle).

The excessive use of complex products can create uncertainty and information asymmetries in markets. The initiatives discussed in this report will not address this problem.

(6) Economic rents

²⁴ See Ceriani et al. (2011) and OECD (2009).

²⁵ See Annex 3 and OECD (2006).

²⁶ See for example Shaviro (2011), p.16.

The debate on a “fair and substantial” contribution of the financial sector to the revenue cannot be disconnected from the issue of profitability of the sector. There is some evidence that the financial sector has been more profitable than the non-financial sector over the last two decades²⁷. This is not as such problematic if this above-normal profit is related to high productivity. However, the high profitability of the sector could also result from the existence of an (implicit or explicit) safety net, combined with banking regulation or the VAT exemption. The special regulatory framework under which some parts of the financial sector operate might allow the creation of economic rents which are not reduced over time by competitive pressures. In this case the financial sector could indeed make a more substantial contribution to government finances by the introduction of new taxes which are directed at economic rents and/ or which take into account the VAT exemption of most financial services.²⁸

The data used in this IA on individual companies active in the financial sector suggests however that profitability is very heterogeneous within the sector and depends on the segment of activity as well as on the size of the company measured as total assets but in a non-linear manner. This heterogeneity within the financial sector can also be found when analysing the structure of executive compensation of the financial sector. Annex 4 shows empirically that there is a significant earnings premium in the financial sector which amounts for the overall sample available (including both EU and Non-EU countries) to about 40% after conditioning out observable director-specific and firm-specific characteristics. Yet, there is considerable heterogeneity of earnings across different types of businesses within the financial sector. In fact, one should expect that compensation levels differ sharply between more conservative commercial banks and riskier investment companies. Using the conservative commercial banking remuneration as a reference point, the study in Annex 4 shows that individuals in the real estate sector, the insurance sector and the set of other financial business earn significantly higher compensation compared to commercial banking. This holds for the whole sample as well as for the EU-subsample.

For the US, Philippon and Reshef (2009) identify the existence of economic rents in the financial sector which can explain 30 percent to 50 percent of the wage differential. The authors use detailed data on wages in the US financial sector between 1930 and 2006 to provide evidence that these reached excessively high levels especially around 1930 and between 1995 and 2006. Their results suggest that on the one hand, complex corporate activities such as Initial Public Offerings (IPO) or credit risk have a positive effect on the demand for skilled workers whereas on the other hand, stricter regulation has a negative effect on the demand for skilled workers.

3.1.4. *Internal Market aspects*

Sweden introduced a 50 basis points tax on the purchase or sale of equity securities in January 1984. A round trip transaction (purchase and sale) resulted therefore in a 100 basis points tax. The tax applied to all equity security trades in Sweden using local brokerage services as well as to stock options. The fact that only local brokerage services were taxed is in the literature

²⁷ See Devereux et al. (2004) and Lepetit (2010) p. 19.

²⁸ In addition to this, recent empirical work by Arcand et al. (2011) poses the question whether the size of the financial sector might be too big and whether there is therefore too much finance measured in terms of credit to the private sector in terms of GDP. The study confirms the positive effect of additional finance at intermediate levels of finance, but finds that the marginal effect of financial development on output growth becomes negative when credit to private sector surpasses 110% of GDP.

seen as the main design problem of the Swedish system. In July 1986, the tax rate was increased to 100 basis points. In 1987, the tax base was extended and half the normal rate was also applied to transactions between dealers. In January 1989, a tax on fixed-income securities was introduced. The tax rate was 0.2 basis points for a security with a maturity of 90 days or less. On a bond with a maturity of five years or more, the tax was three basis points. Only 15 months later, on 15 April 1990, the tax on fixed-income securities was abolished. In January 1991 the rates on the remaining taxes were cut by half and by the end of the year, they were also abolished completely.

There are different reasons for the abolition of the tax. First of all, the revenues from the taxes were disappointing due to ample possibilities for tax avoidance. The revenues from the tax on fixed-income securities were expected to amount to 1,500 million Swedish kroner per year, but the average was only around 50 million a year. Furthermore, since trading volumes fell, the capital gains tax became less and less applicable and revenue declined. The increase in revenue from equity transaction taxes was almost entirely offset by this reduction in capital gains taxes. The net budget effect was accordingly close to zero. An additional reason for the decline in revenue from capital gains taxes was the decline in share prices that accompanied the introduction of the transaction tax. These declines were in line with the net present value of tax payments on future trades. Investors discounted the future payments and prices for equity decreased driving up capital costs accordingly.

Next to the low revenue generated from the tax, relocation became a serious problem in Sweden. 60% of the trading volume of the eleven most actively traded Swedish share classes moved to the UK after the announcement in 1986 that the tax rate would double. 30% of all Swedish equity trading moved offshore. By 1990, more than 50% of all Swedish trading had moved to London. Foreign investors reacted to the tax by moving their trading offshore while domestic investors reacted by reducing the number of their equity trades.

The Swedish example shows that the financial sector has a very high mobility which makes it difficult for Member States to act unilaterally. Furthermore, the sensitivity with regard to the slightest changes in the tax rate indicates that not only the tax base is of importance but also the applied rates. Uncoordinated national measures might therefore lead to the problem of relocation and distortion of competition. When the tax base covers a wide range of financial products an international coordination is highly advisable.

The Internal Market and revenue raising are linked because the implementation of national (and to some extent also EU-wide taxes) raises questions of co-ordination in order to guarantee that additional frictions in the functioning of the market and tax arbitrage are minimized and that the competitiveness of the EU as a whole compared to other global players is preserved or ideally even improved. The introduction of country specific systems of new taxes could lead to distortions and result in double charging of financial institutions that are active cross-border in the internal market. A specific example of potential double taxation is described in section 5.2.6.

3.1.5. Baseline scenario

The baseline scenario describes the state of the world without introducing new tax measures on the financial sector. In the framework of this IA the baseline scenario has a special weight. The reason is that many of the problems defined in section 3.1.3 are addressed by regulatory reforms. Table (4) in section 5.1 gives an overview of the objectives and the connection with regulatory reforms.

3.1.5.1. Current Taxation of the Financial Sector

In order to gain a comprehensive overview of existing tax regimes applied to the financial sector, four different tax areas have been analyzed.²⁹ The studies looked at the statutory differences in tax provisions between the financial sector and the other sectors. They cover the situation in 2011 in Corporate Income Taxation (CIT), VAT and labour taxation, as well as the tax treatment of main financial instruments. Their results are presented in Annex 3. Broadly speaking, the study does not find any significant differences in the tax treatment of the financial sector compared to other sectors, with the main exception of VAT for which the financial sector is granted exemption as discussed in detail above.

In labour taxation, there are no differences in the treatment of personal income of workers employed in the financial sector. One difference though (albeit temporary for some Member States) is that several Member States have introduced bonus taxes on the financial sector. This would lead to over-taxation in personal income tax. Another point is that in a limited number of countries stock options and bonuses benefit from a favourable tax treatment. This treatment is however available for all sectors. It may be the case that the financial sector has a pay structure more prone to these pay schemes leading to a lower effective tax burden. This was however outside the scope of the study and the correspondents of PwC did not have the view that this was the case. However, the study on executive compensation in the financial sector in Annex 4 finds evidence that the financial sector relies more heavily on variable compensation compared to other sectors. The share of salary in total compensation is around 10% in the financial sector while around 14% in the industrial sector and 13% in the consumption goods sector and 11% in other sectors.

In CIT, two main differences between financial and non-financial corporations concern the treatment of bad and doubtful loans and the non-application of thin cap rules to the financial sector. In the case of bad and doubtful loans, the differential treatment may provide a cash-flow (liquidity) advantage, but not a tax advantage. These differences in treatment can however be explained by the structure of the business in the financial sector for which interest received and paid constitute part of the business and not just the financing of activities. In the Member States in which there are these differences, they are explicitly made to take this situation into account.

The taxation of financial instruments does not seem to lead to specific tax advantages in most countries reviewed, even if in many countries the treatment for accounting and/or tax purposes of financial instruments held by financial institutions differs from its treatment when held by non-financial institutions. However, there is no evidence that this results in an advantage for the financial sector.

3.1.5.2. Recent Unilateral Actions by Member States

Rationale for implementation

The public debate on financial sector taxation has also considered levies on financial institutions, which are designed as a charge on financial institutions to cover the net fiscal cost of direct public support to financial institutions and help reduce excessive risk-taking. Those are often seen as linked to an effective resolution mechanism, which should however avoid

²⁹ Additional information and data on the current taxation of the financial sector was presented in the Commission Staff Working Document SEC(2010) 1166/3.

aggravating the issue of moral hazard, i.e. that it should not give a wrong signal that the receipts would be used to support failing institutions.

National measures

Ten Member States have so far introduced country specific systems of (bank) levies whose characteristics (base, rate and scope) differ considerably. In terms of the use of revenues, in some Member States those do not form part of a resolution mechanism, but contribute to the general budget instead.

Risks of double taxation and spill-over effects

As already outlined in Section 3.3, the financial sector is characterised by higher mobility of the tax base. National measures have attempted to address this issue by broadening the geographical scope of their measures to encompass even situations that would not normally be subject to corporate income taxes. That approach greatly increases the risk of double (and multiple) taxation and spill-over effects.

Where the home Member States would charge the tax on banks' branches situated abroad and the host Member States would charge the same branches and subsidiaries, there is a significant risk of double charging. This issue is aggravated if a Member State decides to also make subject to the charge the whole banking group, including subsidiaries situated abroad. The latter may potentially lead to multiple taxation in situations involving more than two Member States, e.g. for a branch of a lower-tier subsidiary in a home Member State group. Unfortunately, it appears that double taxation/charging issues with regard to such balance sheet taxes cannot be solved by the double tax treaties concluded among Member States in their current form.

3.1.5.3. Reform of the regulatory framework after the crisis

The following regulatory changes should be considered as constituting the baseline scenario from a regulatory perspective. The reforms address a number of problems identified above: reduce risk taking (proposals 1-10), risk surveillance (proposal 2), the definition and creation of proper capital ratios (proposals 1 to 7), misaligned incentives in remuneration schemes (proposal 1), a harmonisation of deposit guarantee schemes and the covering cost of future crisis (proposals 8 and 9), and dealing with Automated Trading (proposal 10). The relevant proposals are (see Annex 2 for a description of the measures):

- (1) The definition of capital under CRD III and CRD IV
- (2) The revision to the counterparty credit risk under CRD III and CRD IV
- (3) The treatment of the trading book under CRD III and CRD IV
- (4) The changes related to securitizations under CRD III and CRD IV
- (5) The liquidity ratio under CRD IV
- (6) The capital conservation buffer under CRD IV
- (7) A calibration of the higher minimum capital ratios, under CRD IV

- (8) A harmonised DGS
- (9) The setting up of bank resolution fund
- (10) Regulatory measures for High Frequency Trading (Algorithmic or Automated trading)

3.1.5.4. Problems taken up by the current baseline scenario

With the implementation of the regulatory reform package targeting the financial sector, several of the risks and problematic developments identified in the previous sections will be - at least partially - addressed. This mainly holds for the market failures described in section 3.1.3, except perhaps the risk of short-sighted profit-seeking behaviour by some actors in the financial sector.

Other issues are not addressed by these measures, such as the under-taxation of the financial sector, and the absence of a fair and substantial contribution of the financial sector towards paying any burden associated with the present crisis.

3.2. EU right to act and justification

3.2.1. EU right to act

In general, action at EU level is necessary in this field due to the high integration of the financial sector within the EU. The financial sector, driven by the developments in information technology, is characterised by high mobility and relatively high independence of the financial activities from the physical placement of the economic operators, high substitutability of financial products and financial product "innovation". The outlined characteristics call for harmonised measures in order to retain the level playing field at EU level. As more fully explained below in Section 5 when defining the different taxes analysed, a substantial degree of harmonisation is considered as essential in order to minimise distortions of the Internal market upon introduction of a FTT or a FAT. The following subsections address in more detail the conditions of the possible legal bases, as well as the issues of subsidiarity and proportionality.

3.2.2. Legal Base

Harmonisation rules in the area concerned would be based on Article 113 or on Article 115 of the Treaty on the Functioning of the European Union (TFEU).

Box (2). Articles TFEU

Article 113 TFEU

The Council shall, acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament and the Economic and Social Committee, adopt provisions for the harmonisation of legislation concerning turnover taxes, excise duties and other forms of indirect taxation to the extent that such harmonisation is necessary to ensure the establishment and the functioning of the internal market and to avoid distortion of competition.

Article 115 TFEU

Without prejudice to Article 114, the Council shall, acting unanimously in accordance with a special

legislative procedure and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the internal market.

Both Articles entitle the EU to adopt legal provisions for the approximation of Member States' legislation, even if under slightly different conditions. Article 113 TFEU constitutes the legal basis for the adoption of legal provisions only if these govern turnover taxes, excise duties or any other indirect tax. As an FTT would be in the nature of an indirect tax, Article 113 TFEU would provide the relevant legal basis.

Article 115 TFEU is more general in nature. It entitles the EU to adopt directives for the approximation of Member States' laws governing various fields, but not those covered by the more specific rule contained in Article 113 on indirect taxation. Since an FAT would ultimately be akin to a direct tax, Article 115 TFEU would constitute the appropriate legal basis for its harmonisation.

Most often, "harmonisation" or "approximation" concerns existing national legislation. However, it is settled case-law of the Court of Justice that it can be used as a legal basis if the aim is to prevent the emergence of future obstacles to trade resulting from multifarious development of national laws. The emergence of such obstacles must be likely and the measure in question must be designed to prevent them³⁰.

Therefore, under any of the aforementioned legal basis, the main rationale for EU action in the field of financial sector taxation is that the functioning of the Internal Market would be hampered by the operation of uncoordinated national legislation. And indeed, such uncoordinated legislation regarding taxes on the financial sector could fragment the EU financial market, distort competition and increase the risks of relocation of the financial activities within the EU.

The European Council stated in its conclusions of its meeting on 17 June 2010 that "the EU should lead efforts (...) for introducing systems for levies and taxes on financial institutions". At least 10 Member States have introduced or, are analysing the possibility of introducing, bank levies on financial institutions.

Therefore, to an extent, tax obstacles have already been created, namely by the existing legislation of ten Member States. Moreover, other Member States are (unilaterally) considering the imposition new taxes upon the financial sector. Member States wishing to impose new taxes on financial institutions attempt to learn from the experience of those countries that already apply similar types of taxes but, as more fully explained in Annex 8, these experiences vary significantly, and it is unlikely that, without a certain degree of coordination, the different Member States concerned follow a unique model.

Non-coordinated action, planned and implemented by each Member State on its own would aggravate the current situation. It would further contribute to distorting the internal market for financial services, as the cost associated to them would vary across Member States. It would also increase the risk that the financial sector becomes subject to double taxation, which would in turn hinder the exercise of the fundamental freedoms protected by the TFEU³¹. The double taxation provoked by the non-coordinated introduction of bank levies by two or more

³⁰ Judgment of 08.06.2010 in Case C-58/08, Vodafone Ltd., paragraph 33 with further references.

³¹ See also the example for double taxation under 5.2.6.

Member States provides a good illustration of this problem. Where home Member States would charge the tax on banks' branches situated abroad and host Member States would charge the same branches, there is a significant risk of double charging, which cannot be solved by the double tax treaties concluded among Member States in their current form. The potential cost of non harmonisation for the financial institutions could be significant. Bilateral agreements would only lead to imperfect solutions as long as there is no fully fledged network of such agreements between all Member States concerned. The creation of such a network, if it were achieved at all, would take considerable time. The introduction of a FTT on the basis of the residence principle in one Member State A, and on the basis of the source principle in another Member State B would lead to exactly the same situation of double charging. A certain financial transaction undertaken by a resident of State A would be subject to State A's FTT; and it would also be subject to FTT in State B if the taxable event is situated there.

Furthermore, a non-coordinated introduction of taxes on the financial sector is also likely to favour situations where taxation in one or more Member States coexists with non-taxation in other Member States. Such a situation would distort the proper functioning of the market since it would increase the incentives for relocation of the financial activities within the EU. Under the example above, there is a high risk that financial transactions are driven out of Member State B in order to avoid the tax, as the Swedish experience with its financial transactions tax shows.³²

Consequently, harmonisation at EU-level in this field is essential in order to avoid that distortions hamper the proper functioning of the internal market in a field in which Member States have acted or appear determined to act: the financial sector.

For the reasons already given, the need for harmonisation extends, among other things, to the issue of tax rates. It must be avoided that important differences in this area lead to appreciable tax arbitrage or other damaging effects.

3.2.3. *Subsidiarity*

EU action in the field of financial sector taxation would respect the subsidiarity principle, because the internal market objectives pursued cannot be achieved by the Member States acting unilaterally, but can only be achieved at Union level. Unilateral action by Member States creates the internal market problem described above, it does not solve it. Reference is made to the explanations given in the previous subsection. By way of further illustration, it is useful again to refer to the example of Sweden (explained in more detail in section 3.1.4. and Annex 8), which clearly shows the limits of a unilateral introduction of such a measure given the high mobility of the sector. Sixty per cent of the trading volume of the eleven most actively traded Swedish share classes moved to the UK after the announcement in 1986 that the tax rate would double; 30% of all Swedish equity trading moved offshore. Five years after the introduction of the tax, more than 50% of all Swedish trading had moved to London. Foreign investors reacted to the tax by moving their trading offshore while domestic investors reacted by reducing the number of their equity trades.

³² By the same token, the intended budgetary effects in the Member States applying the tax would be undermined.

3.2.4. *Proportionality*

The options set out in detail in section 5, while differing in focus, are all in keeping with the principle of proportionality, since they do not go beyond what is necessary to achieve the objectives pursued.

Notably, in order for the internal market to function properly, it is necessary to harmonise the tax base and to fix a minimum tax rate. In this latter regard, it is worth noting that Member States would remain free to set higher than the minimum rates fixed at Union level, should they consider this to be appropriate.

Section 5 explains in more detail the focus of the various options and how each of them achieves its more specific objectives.

The options envisaged are also proportionate as regards the issue of administrative costs, which indeed are reduced to a minimum. A harmonised FTT would be based on the transactions registered in the trading books and thus on data readily available. Equally, a harmonised rent- or risk-taxing FAT would be based on adjusted profit and loss accounts set up by all financial institutions and used, also, as a starting point for corporate income taxation.

4. OBJECTIVES

4.1. Raising revenue and adequate contribution from the financial sector to tax revenues

Raising revenue is a natural goal for any new tax and one important driver in the debate of financial sector taxation. There are many different political motives for generating additional revenue from the financial sector, partly based on the problems set out above: consolidating public finances, collecting a 'fair' contribution from the financial sector in order to cover the cost of recent and future crises, balancing any potential advantages from the VAT exemption of the financial sector, taxing economic rents and, more generally, collecting new funds for budget consolidation or other general budget purposes.

In the case of financial sector taxation the general view is that an EU-wide tax approach might be necessary or at least preferable. One reason for this demand for full ex-ante coordination is that policy makers as well as the public and academic world argue that the high mobility of the activities of the sector under consideration might lead to strong relocation and substitution effects which could cast doubt on the effectiveness of purely national tax measures as revenue tools. Whether this is indeed the case for all instruments under consideration is part of the subsequent analysis. In addition, because such revenues would be raised from coordinated international taxes, their possible use for financing global public goods or international policies could more easily be agreed upon.

The general objective of raising revenue from the financial sector can be broken down into more specific policy objectives that the introduction of taxes on the financial sector could pursue, as follows:

(1) Identify new revenue sources

The recent crisis as well as the high degree of debt in some Member States partly due to the economic downturn following the financial crisis has led governments to search for new

sources of tax revenue in order to meet their budgetary needs. In fact, there are numerous ways to increase tax revenue. New taxes could be one way but raising current taxes or reforming and improving them to generate additional revenues by closing loopholes, improving international co-ordination and reducing compliance costs would be other options. Improving existing tax policies, e.g. removing the debt-equity bias in CIT and policies directed at improving economic growth are very important means to increase the taxable bases and boost revenue. However, these potential policies will not be part of the policy options discussed here³³.

It is to be noted that new revenue sources that would be generated across the EU could also be taken into account in decisions on the sourcing of new own resources for the EU (see in particular point 7.6.4). *(2) Recover costs of the recent financial crisis from the financial sector*

This objective is backward-looking and based on the idea that it is fair that the financial sector contributes to the cost of the crisis as it contributed to its occurrence and size. In contrast to other sectors of the economy, allowing banks and other systemic financial institutions to fail might – because of the size and the interconnectivity amongst the institutions – have negative consequences for the economy as a whole. There is no simple way for a bank to continue to provide essential banking functions whilst in insolvency, and in the case of a failure of a large bank, those functions could not be simply shut down without significant systemic damage ('too-big-to-fail'). Therefore, in an internationally coordinated effort, governments were forced to stabilise the financial system by substantial financing support. This led to the problem that a large part of the profits made before the crisis were privatized while the losses during the crisis were borne mainly by the general public and therefore socialized. Collecting a contribution from the financial sector to mitigate the costs incurred during the last crisis is thus an argument for raising revenue from the sector. However, it should be noted at this stage already that there are serious difficulties to design a tax that ensures that the economic incidence of the tax (the real economic burden) falls only on those banks that caused the crisis. Some of these banks may not exist any longer. *In fine*, the taxes are borne by individuals (bank stakeholders), including their clients, shareholders and/or employees. It is also a fact that if designed as an ex-post contribution, the tax fails to target financial companies that went bankrupt. Furthermore, many financial institutions have survived the crisis without direct public support. This latter argument should however be balanced by the fact that the absence of a need for public support to some banks may simply be due to the fact that public support to other specific financial institutions was enough to ensure that those banks were holding protected assets. Because of strong interdependencies in the sector, public support to financial institutions 'in the first line' also spilled over to the other financial institutions.

(3) Cover the costs of potential future financial crises

A related argument relies on the unavoidability of future crises despite the fact that regulatory efforts will reduce this risk. From this forward-looking perspective tax revenues raised from the financial sector are needed to ensure that the costs of future crisis are not or not entirely borne again by the taxpayers. For this reason, some countries have formed resolution funds and have imposed a certain contribution on banks to finance them (bank levies).

³³ See e.g. European Commission (2010g) for such a discussion.

However, it could be justified that the financial sector contributes to the public budget with further taxes, in order to cover future crises costs that go beyond the national or EU³⁴ resolution mechanisms thereby avoiding that all taxpayers have to pay for them.³⁵ This argument is based on the debatable assumption the financial sector bears the main responsibility for financial crises.

(4) Compensate for VAT exemption of financial services

There are convincing arguments that the VAT exemption of the financial sector constitutes a tax advantage. To the extent that the financial sector's size might be inflated as a consequence of the implicit state guarantees and the VAT exemption (estimated above at about 0.15% of GDP), a properly designed additional charge would reduce the tax advantage of the financial sector.

Policy instruments directed at the financial sector should address this issue. Ideally, the VAT exemption under the current tax system should be revisited by amending the actual Directive in order to allow for a more general taxation. Such a proposal is not part of the current initiative discussed in this report.

4.2. Limiting undesirable market behaviour and thereby stabilizing markets

To complement the extensive financial sector reforms underway, taxes ideally should contribute to enhancing the efficiency and stability of financial markets, reducing their volatility, internalizing potential negative externalities as well as the harmful effects of excessive risk-taking. This objectives might however be competing with raising revenue. For instance, a study commissioned by the European Parliament (von Weizsäcker and Darvas, 2010) shows that a financial transaction tax could have some beneficial effects if the tax rate is very low. However, the study concludes that other taxes would be more promising as a tool for raising revenue.

Four specific objectives can be distinguished in this respect:

(1) Reduce incentives for excessive risk-taking and short-sighted profit-seeking

Incentives to engage in excessively high-risk investment stimulated either by implicit state guarantees, excessive remuneration schemes or complex financial transactions could be reduced by measures explicitly taxing risk-taking. Via this way, systemic risk could be internalised to some extent.

Furthermore, if financial instruments or trading strategies are designed in a way that they reward long-term strategies and sustained investment at the expense of pure short-term profit-seeking investment, e.g. through automated high-speed trading taxation might be a corrective tool in this respect.

(2) Address specific risks posed by automated trading

³⁴ See Annex 2 with regard to the initiative to set up a bank resolution fund.

³⁵ The question how potential revenue could be spent is not part of this impact assessment.

Automated Trading in financial markets could be counter-measured by a tax-induced increase in transaction costs, so that these costs would significantly erode the marginal profit from individual transactions carried out such high-frequency trading.

(3) Reduce leverage – debt-equity ratio

The distortion of financing decisions and the increase of leverage caused by the different tax treatment of debt and equity could be corrected by taxes which curb the difference that the current corporate tax systems actually contain. This could be a debt/ equity neutral tax system or measures which provide incentives to finance via equity. A well-designed tax base that reduces the leverage distortion could make companies less vulnerable to a short-term reduction in credit available on the capital market.

(4) Reduce tax-induced economic distortions

Furthermore, while above objectives relate to possible improvements of suboptimal economic behaviour or economic structures, an additional overarching objective with regard to new tax instruments is to avoid distortions of efficient current behaviour of market structures. For example a shift from one form of financial activity to another one purely for tax reasons might very well be undesirable as just raising tax-induce economic distortions. Annex 16 discusses the efficiency aspects in more detail.

However, tax measures must also be put into a broader context of current efforts on regulatory reform of the financial sector, in particular with likely higher capital requirements. The cumulative impact of such measures must be borne in mind (especially if they are not carefully coordinated and phased in), so that a viable EU financial sector, able to properly and efficiently finance the real economy, is not put at risk.

4.3. Internal Market aspects (avoid double taxation and distortion of competition)

EU Member States are starting to put in place national tax instruments to respond to some of these challenges. It is important that such developments take place in a coordinated framework. If not, different national systems levied on diverging tax bases could create incentives for tax arbitrage and result in allocation distortions between financial markets in the EU (or to relocation of business outside the EU). The emergence of uncoordinated national solutions could also lead to double or non-taxation and fragmentation of the financial sector, hampering the proper functioning of the Internal Market.

Table (3). Overview of problems and related objectives

General Problems	Specific problems	General objectives	Specific objectives
Costs of the crisis (Fiscal consolidation issues) Tax advantage for the financial sector	Substantial public financial support and other budgetary effects of the financial crisis led to need for budget consolidation VAT-exemption of financial services	Raising revenue Adequate (fair and substantial) contribution from the financial sector	(1) Identifying new revenue sources
			(2) Recover costs of the recent financial crisis
			(3) Cover the budgetary costs of potential future financial crises
			(4) Compensate for VAT exemption of financial services
Market failure and systemic risks in the financial sector	(1) Undesirable market behaviour due to implicit guarantees (moral hazard)	Reducing undesirable market behaviour and thereby stabilizing	Reduce incentives for excessive risk-taking incentives

	(2) Not properly managed and supervised automated trading	markets	Address specific risks posed by automated trading
	(3) Distortions of debt-equity choice: Leverage (4) Excessive executive compensation schemes encourage risk-taking		Reduce leverage – debt-to-equity ratio
	(5) Complex products and counterparty risk	Ensuring the functioning of the Internal Market by a coordination of the measures to be introduced	Avoid distortions within the EU, ensure efficiency of the measures and safeguard relative competitive position within the EU
	(6) Economic rents		Avoid double taxation

5. POLICY OPTIONS

The lines that follow contain alternative policy instruments that can be used to tackle the problems described above under Chapter 3.

Some policy options, such as tighter regulation of the financial sector only or increasing taxes not narrowly related to the financial sector and its activities (such as higher personal income tax rates or an increase in the minimum rate of VAT) have been discarded at an early stage. Either they are already under preparation under other policy initiatives and therefore already included in the baseline scenario, or they do not contribute to the core objective of the policy initiative, i.e. raising revenues from the financial sector and its activities.

Also, bringing an end to the VAT exemption will not be analysed in this Impact Assessment, as this options will be analysed in the context of the general reform of the European VAT regime that is presently under preparation. A Green Paper on this subject had been published by the Commission in December 2010³⁶, and the corresponding public consultation has come to an end just before summer 2011.

Thus two policy instruments are retained for further analysis. These two different taxes on the financial sector are a Financial Transactions Tax (FTT) and a Financial Activities Tax (FAT). The objective is to outline in this chapter the basic elements of those policy instruments, more concretely, the scope of application of the tax, the taxpayer, the taxable base, the tax rate and the available methods to avoid double taxation and relocation. For most of these elements, several technical alternatives are considered.

5.1. Baseline (no tax policy change)

The baseline scenario has been presented in section 3. Table (4) summarizes the links between the policies taken in the baseline scenario (no action on tax measures). The baseline scenario addresses the risk related objectives with a number of different policies. All regulatory measures listed in section 3 and described in detail in Annex 2 are directed at decreasing the individual as well as the systemic risk in the financial sector by increasing capitalization and capital buffers for both the financial institutions and the financial system as a whole. The

³⁶ COM(2010)695 of 1.12.2010: Green paper on the future of VAT: towards a simpler, more robust and efficient VAT system.

main areas not addressed in the baseline scenario are the VAT exemption of the financial sector as well as the recovery of the costs of the recent financial crisis.

Table (4). Objectives and policies taken in baseline scenario

General objectives	Specific objectives	Policies in Baseline Scenario
Raising revenue	(1) Identify new revenue sources	Not addressed
	(2) Recover costs of the recent financial crisis	Not addressed
Adequate (fair and substantial) contribution from the financial sector	(3) Cover the budgetary costs of potential future financial crises	EU Crisis management and resolution fund, Harmonised DGS
	(4) Compensate for VAT exemption of financial services	Not addressed
Reducing undesirable market behaviour and thereby stabilizing markets	Reduce incentives for excessive risk-taking	CRD III and IV, remuneration reform etc.
	Address specific risk posed by automated trading	MIFID review
	Reduce leverage – debt to equity ratio	CRD III and IV, Bank levy
Ensuring the functioning of the Internal Market by a coordination of the measures to be introduced	Avoid distortions within the EU, ensure efficiency of the measures and safeguard relative competitive position within the EU	Creation of European Supervisory Authority, common resolution framework, DGS rules etc
	Avoid double taxation	Not addressed, relevant in the field of resolution financing (bank levy)

Given the overlap of objectives it is necessary to clarify whether taxation and regulation could be combined in order to reach the objectives in table (4) or if the cumulative effect of two instruments for one goal might be detrimental in some cases. When regulation is already existent and set at a level considered socially optimal, there is a strong case for implementing a resolution fund as a complement to the new regulatory framework as it reinforces the likelihood that the capital ratio set out by regulation is sufficient to internalize the social marginal damages of a crisis. There is also a strong case to finance this resolution fund with a corrective (Pigouvian) tax (e.g. bank levy) or another tax (e.g. FAT) as, in the worst case, they do not alter the behaviour from the social optimum and – in the best case – they reinforce the benefits of a resolution fund. In this respect, the option that is the most likely to reinforce the benefits of a resolution fund is a bank levy.

5.2. Policy option 1: Financial Transaction Tax

The FTT can best be defined as a “group of taxes”, these taxes share a common root, i.e. the taxing of trading in financial instruments such as shares and bonds and of trading in derivatives thereof. But they may nevertheless differ considerably, depending on the products and markets covered. What they have in common is that on individual transactions (typically the selling and buying of a financial instrument (or of a derivative thereof) a tax is levied as a percentage point of the value of the transaction. In contradiction to the perception of the general public, an FTT is typically not levied on each financial transaction (such as paying bills or transferring money) per se, but only on transaction with well-identified financial products.

The main reasons for the introduction of financial transaction taxes (FTT) are raising revenue from the financial sector, establishing a new source for financing public budgets and - to a lesser extent - curbing undesired "speculative" or much leveraged trading, while maintaining the competitiveness of the EU financial industry. Generally, all version of FTT are levied at a comparatively low rate on financial transactions, typically each time a financial instrument is issued and/or exchanged.

There are numerous options in designing a FTT, which address the abovementioned policy goals and concerns. Those are described in greater detail in chapter 7 and Annex 7.

5.3. Policy Option 2: Financial Activities Tax

The FAT can also best be defined as a “group of taxes”; these taxes share a certain common root but may nevertheless differ considerably. In essence, the FAT would be levied on the sum of profit and remuneration of financial institutions, since one common rationale behind all the forms of FAT is the fact that would a rent occur, it will go either to shareholder in terms of higher profit (dividends or capital gains) or to workers (via higher remuneration). However, as more fully explained below, a FAT can take several possible forms depending on how profit and remunerations are defined and which objectives are pursued with the introduction of the tax.

There are numerous options in designing a FAT, which address the abovementioned policy goals and concerns. Those are described in greater detail in Annex 7.

5.4. Other policy options

Some of the objectives can also be reached by employing or modifying existing policies. One example is the VAT exemption where a natural starting point is the modification of the existing VAT system to deal with the exemption. Another example is the problem of the debt equity choice, which is best addressed in current Corporate Income Tax (CIT) systems. Furthermore, the baseline scenario contains a number of regulatory policy initiatives directed at the general issues of systemic risk and misaligned incentives in the financial sector. These options have been discarded and are not analysed here, as explained in the beginning of this chapter.

6. COMPARING FTT AND FAT

Looking at the objectives to be achieved, each of the general policy options, FTT and FAT, is compared against three criteria: effectiveness, efficiency and policy coherence. Effectiveness refers to the capacity of reaching the objectives defined in Chapter 4. For example, one objective is the capacity of raising revenue. In this context the important question of potential relocation will be taken into account. Efficiency refers to the costs that the policy options entail for reaching the defined objectives, such as e.g. an increase in the cost of capital. In a broader sense, the efficiency criterion takes into account potential negative economic impacts of the policy options. Finally, policy coherence refers to how well each options serves EU general policy objectives, with specific regard to the financial sector, those underlying the recent initiatives put in place to improve financial stability through enhanced supervision and

regulation. This includes an analysis of the cumulative effects resulting from regulatory measures and the policy options.³⁷

On the basis of the assessment of impacts and associated risks preferred options for both FTT and FAT are identified.

6.1. Raising revenue and adequate contribution from the financial sector to tax revenues

6.1.1. Identifying new revenue sources

Both tax instruments – FTT and FAT – could be new revenue sources as they are able to generate significant amounts of tax revenue for public budgets.

For the FTT, the estimates presented here rely on data from the BIS and FESE. The main difference between the figures and other recent estimates published elsewhere is the assumption about the reaction of derivatives markets to taxation. We draw two scenarios. In scenario (1) it is assumed that derivative trading will largely disappear (a decrease of 90% in turnover). In scenario (2) it is assumed that the derivatives trading is reduced by 70% which is in line with figures presented by Schulmeister (2011) for a tax rate of 0.05%.

For the FAT, we also have two scenarios. The first one assumes that rents only are affected, triggering no relation effects. In the second scenario, we assume a relocation of subsidiaries of non-EU foreign financial companies by 40% and a relocation of foreign EU subsidiaries by 5%. On top of this, we assume a fall of 35% in the reported profit of remaining banks.

Relocation here reflects both the move of activities elsewhere outside of the taxing jurisdiction and the disappearance of some types of activities. Such disappearance could be seen as positive if the activities targeted are considered as harmful.

The revenue estimates are reported in detail in Annex 11.³⁸ These assumptions on elasticities and decrease in volumes of transactions are based on the results of the review of the empirical economic literature as shown in annex 9. It shall be stressed however that they are subject to uncertainties and caveats. The estimates shall therefore be treated with due caution.

In particular, taking into account the reduction in the derivatives component of the base – which might be substantial but is highly uncertain ex ante – and other market reactions, the potential revenues from a broad-base FTT could range between EUR 16.4 billion and slightly over EUR 400 billion in 2010 (or 0.13% and 3.5% of the EU-27 GDP for 2010) depending on the hypotheses chosen for the tax rates, and the magnitude of the evasion and relocation effects (see tables 11a and 11b in Annex 11). The baseline estimates with a tax rate of 0.01% and an elasticity of 1.5 generates between EUR 17.9 billion (or 0.15% of GDP) and EUR 36.2 billion (0.30% of GDP) depending on the reaction assumed for derivatives trading. The smallest contribution is expected from an FTT on the issuing and trading with equity and bonds, which would generate EUR 1.8 billion (0.01% GDP). An FTT on currency transactions (spot and derivatives) would generate EUR 8.5 billion (0.07% GDP) in scenario 1 and EUR 11.8 billion (0.10% GDP) in scenario 2.

³⁷ The detailed analysis of various economic aspects of the two taxes is presented in the various annexes.
³⁸ See also section 6.3.1. for a discussion on these relocation risks.

The addition-method FAT, the Rent-Taxing FAT and the Risk-Taxing FAT at a rate of 5% for EU-27 are respectively EUR 30.3 billion, EUR 18.9 billion and EUR 13.6 billion under the scenario that the taxes do not trigger relocation. This corresponds respectively to 0.26%, 0.16% and 0.12% of EU-27 GDP for 2009. Once relocation possibilities are taken into account, potential revenues could drop to EUR 24.6 billion, EUR 12.4 billion and EUR 9.3 billion respectively.

While both instruments can be seen as effective instruments to raise revenues, one should note again that the uncertainty about the real revenue potential is large given the number of unknown variables and assumptions in the estimations. In fact, empirically the reaction to tax increases seems to be stronger for transactions than for FDI and profits in the financial sector, pointing to potential higher risks of erosion of the tax base of the FTT compared to the FAT (see Section 6.3). It is also very important to note that the impact of lower GDP (triggered by any of the above taxes) on revenue collection from other taxes is not accounted for.

The deterioration of the tax base following relocation and product substitution might have effects that go well beyond the revenue shortfall, such as, for instance, the misallocation of financial funds in case some efficiency-enhancing market segments and/or products might disappear. This could have far reaching potential impact on the financing of investment projects. A more direct way to assess the efficiency of the policy options is to look at the direct costs of administering the taxes. The costs of collecting the FTT might vary substantially depending on the exact design of the tax, but is typically estimated to be rather low as compared to the collection costs for other taxes. They are, nevertheless relatively high if the tax residence principle is adopted for all transactions. If only the trading by the financial sector is targeted, the tax residence principle could however be a cost-effective option since it would use the books of banks directly. Administration of the FAT also raises some issues linked to the scope of application in an international setting, although they look less severe given the similarity with the CIT.

The analysis of macroeconomic impacts (and the relocation issues mentioned above) suggests that the economic distortions related to raising revenue could be lower with a FAT compared to an FTT. Model simulations indicate that the short-term effect of a 5% FAT on GDP could be limited to around 0.10% while the long-term effect is simulated to reach about half a per cent (deviation of GDP from its long-run baseline), against annual tax revenues of around 0.2% of GDP. On the other hand, a stylised transaction tax on securities (STT), where it is assumed that all investment in the economy are financed with the help of securities (shares and bonds) at 0.1% is simulated to cause output losses (i.e. deviation of GDP from its long-run baseline level) of up to 1.76% in the long run, while yielding annual revenues of less than 0.1% of GDP.

With regards to the economic incidence and the equity aspects of the taxes, the FTT would likely be progressive and its ability to burden the sector depends on its design. The incidence of the FAT will largely depend on its design but, given the available empirical evidence for the CIT, there is reason to assume that the tax burden will partly be shifted via higher interest rates spreads.

6.1.2. Recover costs of the recent financial crisis

As already pointed out, this objective raises the question whether one can reasonably assume that the budgetary cost of the recent crisis can be recovered fully ex-post. It seems difficult to argue along this line in cases where banks involved in the crisis have been nationalized or

restructured. However, one might argue that the financial sector as a whole benefited from the financial aids granted and that a tax on all financial institutions could be justified.

The economic incidence the two taxes is difficult to determine, although like for every other (sector-specific) tax or cost increase, the taxed persons will try to pass the higher tax onto their clients, independent of the legal incidence of the tax. For the FTT, the legal incidence will fall on financial institutions when applying the tax residence principle and taxing only transactions of the financial companies. The economic incidence is less clear. While it will also fall on the users of financial services, it could affect the financial sector that carries out a large share of financial transactions. In fact, in foreign exchange markets and in over the counter (OTC) interest derivatives trades of the non-financial sector were respectively only 13% and 11% of the total in April 2010.³⁹ The FAT faces similar problems since its burden could partly be shifted by banks to the final consumer through higher interest rate spreads. However, since the FAT falls on profits and remuneration it is more closely linked to the activity of financial institutions.

The efficiency of the two instruments in achieving this objective needs to be assessed against the costs that these options entail, already discussed above.

6.1.3. Cover the costs of potential future financial crises

To cover the potential costs of future crisis due to banking sector resolution the Commission plans to adopt proposals in the framework an EU crisis resolution framework. In addition, a number of Member States have already introduced bank levies, which serve the purpose of either financing resolution or the general budget in order to make the banking sector contribute to the costs of potential future crisis beforehand. In fact, the so-called polluter-pays-principle might serve as a justification for the financial sector to contribute further to the government budget with a view to covering the costs of future crises that go beyond the resolution mechanisms. Such costs would otherwise have to be borne by all taxpayers.

The considerations above on the effectiveness of the policy options in targeting the financial sector apply also to the present objective. The risk of the banks' loans portfolios can generate losses that would not be absorbed by banks' provisions and by the instruments envisaged under the Capital Requirements Directive Proposal (CRD IV) that adopts Basel III rules, the proposed strengthening of the Deposit Guarantee Schemes, and the EU crisis management and banks resolution framework that includes resolution funds.

6.2. Compensate for VAT exemption of Financial Services

The transaction taxes as discussed in this paper are not really effective to compensate for the VAT exemption for mainly two reasons. The major part of the exemption is due to the margin based business of the banks when receiving deposits and granting credit. The transaction proposals discussed here explicitly exempt depositing and loans from the tax base. For this reason the FTT would not capture the value-added sufficiently. There is no connection to the EU-VAT system, which aims at a neutral and non-cascading taxation and to the value added of the services involved in the trading or creation of products.

³⁹ See Annex 12.

The FAT and namely the addition-method FAT could be more effective in addressing the VAT exemption in the sense that the tax base has similarities to the VAT base. However, the integration of VAT and FAT is complicated and poses a number of unresolved problems.

The ideal solution to address the VAT problem remains to fix the issue within the current VAT system. This issue will be discussed in the context of the Green Paper on VAT.

6.3. Correcting undesirable market behaviour and thereby stabilizing financial markets

6.3.1. Reduce incentives for excessive risk-taking

To the extent that short-term trading would create systemic risks the FTT might be an appropriate tool to reduce this type of trading, as it would increase the costs of frequent short-term transactions much more than those for long-term investment transactions.

The only FAT version that in theory addresses risk-taking is the risk-taxing FAT. The addition-method and the rent-taxing FAT do not tackle this issue. However, the FAT is an indirect measure to tackle risk-taking since it assumes a direct link between high profit and high risks. The taxation of risk-taking is essentially mimicked by taxing the result of the risk taking (high profits) while not allowing deduction of losses.⁴⁰

Therefore, regulatory measures more closely linked to the sources of systemic risk might be more appropriate to deal with excessive risk taking. The preference for regulatory measures to address this specific objective is reinforced once one takes into account the direct and indirect costs (discussed above) that would be generated by the tax instruments.

6.3.2. Address specific risks posed by automated trading

The FTT, de facto increasing the costs of transactions in financial markets, could be used as a measure to reduce Automated Trading, and notably its subset of High-Frequency-Trading, which could be interpreted as using informational rents. The effects of additional transaction costs might be particularly strong on some market segments characterised by very narrow spreads.

The FAT targets directly (some measures of) profits and remuneration of financial intermediaries – including profit made by automated and high-speed trading –, but it does not have a direct impact on the trading behaviour in financial markets.

6.3.3. Reduce leverage

Neither the FTT nor the FAT address the distortions of financing decisions and the incentives to excessive leverage created by the different treatment of debt and equity under the current corporate tax systems. This could be done by a debt/ equity neutral tax system or measures which provide incentives to finance via equity.

⁴⁰ Further analysis of the connection between FAT and systemic risk is made in annex 14 using the SYMBOL Model. It shows that FAT1 is well correlated with individual contributions of banks to systemic risks. This is because it is well correlated to size, a characteristic considered to be linked to risk.

In principle, two alternative corporate tax systems exist that might eliminate the distortion between debt and equity by treating both sources of finance in the same way: an Allowance for Corporate Equity (ACE) or a Comprehensive Business Income Tax (CBIT). The ACE would grant a deduction for return on equity (new or total equity) as it is the case for interest paid and would hence reduce or abolish the tax advantage of debt. The CBIT system would achieve the same result by denying interest deductibility at the corporate income tax. The two alternative systems exert opposite effects on the tax base, hence they are not equivalent in terms of potential generated revenues, *ceteris paribus* (see Annex 18).

With specific regard to banking intermediaries, the revision of the Capital Requirements Directive (CRD IV) envisages measures to discourage leverage. Such provisions are to be preferred to the policy options under analysis in terms of effectiveness and efficiency. As a part of the new EU regulatory framework for financial services, they are also consistent with the more general EU policy objectives of improving financial stability.

In some cases – e.g. contracts for differences – derivatives are highly leveraged. In such case, a FTT based on the market value would have a taxable base which is much lower than the underlying. The design of a FTT shall address this problem.

6.3.4. Taxing economic rents - Introduce measures to tax value added in the financial sector?

The FTT does not tax economic rents as such but rather the transactions in financial markets that could generate some rents. If these transactions are the main source of revenue for financial institutions, the FTT could implicitly decrease rents. This would especially hold for rents generated by high-frequency trading and frequent narrow-margin short term transactions. However, the current literature suggests that the larger part of profits is generated in other fields of activity namely credit intermediation (which would be tax free under an FTT as considered here) and fees. Systemically relevant institutions might also generate certain gains via lower funding costs because an implicit bailout could be factored into the rate at which investors lend to financial institutions (see for example Ueda and Weder di Mauro (2010) for a calculation of the value of the subsidy expressed as funding cost advantage to be 10 to 50 basis points). In this case the FTT would have limited merits as a tax on economic rents.

The rent-taxing FAT is specifically designed to tax economic rents by allowing a deduction of returns, which correspond to normal market return realized in other sectors. While this is an efficient approach to tax economic rents, the effectiveness will depend on the applicability of the notion of normal returns to the tax base, and the economic tax incidence.

6.4. Ensuring the functioning of the Internal Market

6.4.1. Avoid distortions within the EU and safeguard competitiveness of the EU

In order to ensure the functioning of the Internal Market and to minimize economic distortions within the EU, tax instruments should be introduced ideally when a high degree of coordination or harmonisation of the tax bases as well as rates can be reached. Notably for the case of an FTT with its internationally highly mobile tax base, a first step could be the creation of an international classification of financial instruments traded and to be taxed in order to create common ground for identical definitions of the scope and the base for a transaction tax. Since the FAT is largely based on national accounting data and to some extent

on existing national tax base definitions, its implementation could be envisaged also nationally. In this case coordination of national measures is advisable since profit shifting and relocation of subsidiaries could otherwise occur. Furthermore the possible introduction of such taxes must be decided bearing in mind the ongoing change in the regulatory framework of the financial sector that will lead to additional costs, in particular in the banking sector.

6.4.2. *Avoid double taxation*

FTT and FAT should be introduced in a coordinated way to avoid double taxation or non-taxation by the application of different taxation principles (residence, source or issuance principle).

6.5. **Cumulative effects**

The consequences of a possible introduction of any type of FAT or FTT is to be analysed in the light of the cumulative impact of such measure with the various regulatory measures currently envisaged under BASEL III (in particular the new capital and liquidity requirements), the introduction of harmonised Deposit Guarantee Schemes rules as well as a possible bank levy to finance resolution funds. While the size of the effects of regulatory changes depends on assumptions about the direct pass-through of higher capital requirements into the cost of capital, a general conclusion is that for both FAT and FTT, the impact on most economic variables of interest simply adds to the effects of regulation (and possibly a bank levy).

The cumulative impact of the FAT with regulatory changes on the main macroeconomic variables has been simulated to be -0.83% for GDP and -0.14% for employment in the long-run. At the sector's level, the impact is correspondingly estimated to be 0.12 percentage points for the cost of capital and 0.43 percentage points for the interest rate spread. This is also shown in Annex 10 where each of the instruments is considered (tax rate and regulatory requirement) to reinforce the marginal effect of the other on the cost of credit.

For a stylised STT, with the assumptions described in section 6.1.1 and Annex 15,⁴¹ the cumulative impact with regulatory changes on the main macroeconomic variables has been simulated to be -2.23% for GDP and -0.30% for employment in the long-run for the baseline scenario. At the sector's level, the impact is correspondingly estimated to be 0.17 percentage points for the cost of capital. The cumulative effect cannot be directly integrated in the analysis as its impact depends on to what extent and at which frequency the actors are involved in the trading of the financial assets under the scope of the tax.

6.6. **Conclusions**

The aim of this chapter of the impact assessment was to analyse the consequences of the introduction of additional taxes (FTT and FAT) on the financial sector with regards to the objectives explained in detail in section 4. As each of the policy options achieves the various objectives with a different degree, the choice is essentially a trade-off. The analysis showed that both instruments – FTT and FAT – are in principle technically feasible, provided that the design and conditions of implementation take into account the identified risks and that taxes are introduced in a strict coordination framework at the EU-level.

⁴¹ With the caveat that the two underlying models are different.

Both taxes seem to have the potential for raising significant tax revenues from the financial sector. The FTT, however, is likely to be associated – when adopted in isolation - with a higher risk of delocalisation of transactions, especially with respect to frequent short-term transactions.

Both taxes are also expected to have small effects on GDP and employment, with the negative effects of the FTT probably being slightly higher than those of a FAT. The reason for this negative effect is the increase in the cost of capital, as the taxed persons will try to pass the tax through to their clients, and which then negatively interacts with investment. On the other hand, the FTT is more directly targeted towards reducing short-term trading which can create systemic risks. The FTT might be a better instrument to reduce this type of trading, as it would increase the costs of frequent short-term transactions (for instance automated and high frequency trade) much more than those for long-term investment transactions. The economic benefits of this are difficult to assess but may potentially be large as the recent crisis has revealed.

The distributional implications of a tax on the financial sector, be it a FTT or a FAT are typically progressive, i.e. such taxes fall more on the richer parts of society than on its poorer parts. This holds especially for the FTT on transactions with financial instruments such as bonds and shares and derivatives thereof.

However several elements need be taken into consideration to mitigate the risks of relocation when a FTT would be implemented at EU level. These include the definition of a harmonised tax base that shall be as broad as possible, low rates differentiated by products to promote virtuous behaviours, a monitoring that rely on the implementation of foreseen regulatory changes in the sector, a tax collection based directly on the books of financial institutions, the set-up of anti-avoidance measures, a legal incidence targeted to financial institutions, and a particular attention to the cumulative impact with regulatory reforms.

Essentially, the choice of taxation instrument is a trade off depending on criteria and objectives chosen. Since the final objective of the Commission FTT proposal is to reach a global agreement on taxation of the financial sector, the political and economic value of being a first mover is considered important. In the event of other regions following the European example, the economic benefits of the EU FTT would surely increase as the risks of delocalisation diminish.

Hence, the Commission decision⁴² to put forward a legislative proposal on a FTT must be seen not only on the basis of its isolated economic merits but also in terms of the global context and the potential for influencing international developments, as well as on its aspects of providing a new sources of European revenue, which may be tapped into by Member States as well as by EU's own resources.

7. ANALYSIS OF IMPACTS OF DIFFERENT VARIANTS OF A FTT ACCORDING DESIGN

This chapter looks into key choices to be made, when designing a common system of FTT in the European Union. This namely holds for:

- The products and transactions to be covered

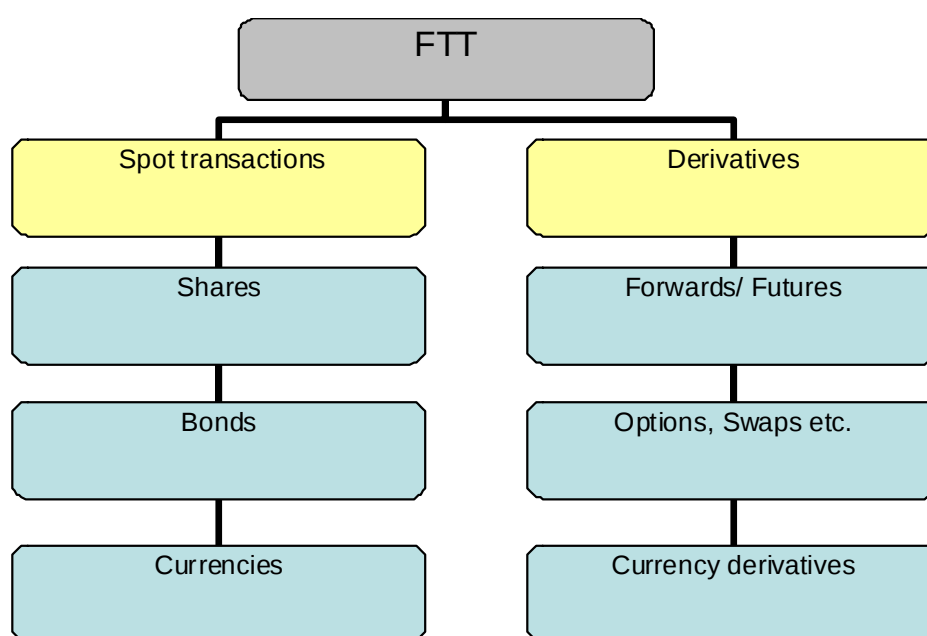
⁴² References to the June Commission communication on MFF

- The definition of the taxable event that triggers taxation
- The regional coverage and the place of taxation
- The taxable base/amount
- The tax rate
- Provisions for avoiding abuse and evasion

7.1. Products and transactions covered

The different types of FTT are most often distinguished based on the products that are subject to the tax. Figure (1) below outlines the different financial products that may be subject to a FTT.

Figure (1) :Products suitable for a FTT



Typically one distinguishes along different dimensions, such as

- primary markets (where e.g. securities are issued) versus secondary markets (where securities are traded),
- spot markets (e.g. for currencies, securities, commodities) versus derivatives markets (e.g. for currencies, securities, commodities, risks, interest rates), or
- trading on regulated exchange markets versus trading "over the counter" (either with clearing houses or without).
- The following policy options distinguish between a tax on (i) currency spot and derivatives transactions, a tax on (ii) securities transaction on primary and on secondary markets, and a tax on (iii) derivatives markets, excluding derivatives on currency exchanges, (i.e. including derivatives markets for all other financial

products, such as derivatives based on securities, commodities, risks, interest rates, including on indices thereof).

All markets covered are both regulated exchange markets and trading "over the counter".

7.1.1. Option 1A: Currency transaction tax (CTT)

The basic idea of the CTT is to levy a tax on currency transactions and related instruments (FX forwards and FX swaps) transactions. The collection would take place centrally at currency exchange systems, namely in Real Time Gross Settlement (RTGS). Therefore, transactions can be settled with immediate finality. 'Gross settlement' means that each transfer is settled individually rather than on a net basis. For transactions which are tracked in such systems, a tax could be levied centrally. Note that this option poses considerable legal issues, which are explained in Annex 7. We can therefore distinguish between spot currency markets and derivative markets for currencies.

7.1.2. Option 1B: Securities transaction tax (STT) without derivatives and currency transactions

The STT without derivative and currency transactions corresponds to the narrow-based transaction tax described in the SWD on financial sector taxation, which would tax only the spot transactions of equities and bonds (on primary and secondary markets). It would be levied on all bonds and stock transactions executed in regulated markets thereby making the technical implementation cheap and easy since these systems are operated with centralized economic systems. This option is similar to the UK stamp duty when combined with the domestic issuance principle. Alternatively, one could exclude primary markets, so as to avoid making such capital-raising more expensive. Then such a securities transaction tax would only be levied on the trading of shares and bonds on secondary markets.

7.1.3. Option 1C: Financial tax on derivatives

Such tax would cover all financial derivatives that are directly (such as options or futures) or indirectly (such as interest or credit default swaps, or options or futures on indices) derived from products traded on regulated exchanges or traded over the counter. This can include financial derivatives for currency transactions securities or commodity based derivatives, risk or interest rates based or all other financial derivatives that are not outright spot transactions and transactions for the raising of capital, such as bonds and shares.

7.1.4. Option 1D: Financial transaction tax

This option would cover all financial transactions as outlined above or a subset thereof. Such subset could e.g. exclude taxing outright spot transactions on currency markets (so as not to come in conflict with Article 63 TFEU) and exclude taxing the raising of capital through the issuing of bonds or shares (so as to somewhat ring-fence the real economy and the public sector against negative direct cost implications):

Pros and cons of the different options

The fact that with the Section C of Annex 1 of the directive on markets in financial instruments (MiFiD) there already exists a well-established classification of financial instruments and products, this definition and the taxonomy is taken as a starting point for defining the scope of the FTT proposal with respect to products to be covered. Going for other

definitions would be relatively cumbersome and might jeopardize the overall policy objective of smart and simple regulation and might also trigger inconsistencies once it comes to applying both MiFiD and the FTT legislation.

Given the overall objective of raising significant revenues and limiting as much as possible the potential for substituting taxed and non-taxed products, all products that define financial markets and financial transactions and that could be close substitutes should form part of the basket of products covered. This would require covering both transactions on regulated markets and over-the counter transactions. It would also require taxing financial instruments such as shares and bonds as well as derivatives thereof. Going for narrower definitions would invite for large-scale tax-avoidance activities. Thus, an FTT covering all securities and all derivatives thereof seems to be the most suitable coverage of taxable products under an FTT.

As regards currency transactions, and while taxing them could generate significant additional revenue, there might be a potential conflict between the objective of raising additional revenue and the objective not to impose restrictions to the free movement of capital. This holds especially for spot currency transactions as there is hardly any international trade in goods and services or direct or financial investment across different currency zones that could take place without exchanging one currency for the other, either immediately or at a later stage. Especially taxing currency transactions involving different EU currencies is typically assumed being in violation of Article 63 TFEU, while taxing currency transactions involving non-EU currencies could potentially be made compatible in case the Council decided to do so in applying Article 64.3 TFEU that enables it. However, activating Article 64.3 would definitely be interpreted by third countries as a protectionist measure, and the benefits of generating additional revenue must be weighed against the drawbacks for globalisation.

In consequence, the most promising option with respect to achieving the objectives for defining the scope of the FTT seems to be to cover the products enumerated in Section C of Annex 1 of MiFiD, including currency derivatives. The verdict on also including currency spot transactions remains open.

7.2. Taxable event

For an FTT, the taxable event could either be based on the accrual principle, i.e. when the transfer of ownership takes place or a contract enters into force, the cash principle, i.e. when the actual payment is taking place, or a hybrid of both concepts.

For some transactions such a distinction could be rather irrelevant as both occur at the same time, especially when transactions are carried out electronically. This is typically the case in financial markets. However, in case one opted for a cash-based approach only, there might be an incentive for deferring payments so as to benefit from substantial cash-flow advantages. The basic concept of defining the transfer of ownership of a financial instrument or the registration of a contract in case of OTC derivatives or the sale and purchase of a product for the taxable event of a transactions tax has the advantage of minimizing this risk. Also in cases where no exchange of instruments takes place, the taxable event would still occur, i.e. when the contract is concluded while the chargeable event is at the point where the legal obligations occur. For derivatives, the taxable event would then typically be the moment when the contract is agreed upon. So, the concept followed is a hybrid of the cash and accrual based principles.

Also, a decision needs to be made in how far all transactions relating to securities should be taxed, i.e. both their issuing and their trading, or whether one wants to exempt the issuing of securities. Two arguments are advocating for not taxing the issuance, a legal one and an economic one. As regards the first, reference must be made to the Capital Raising Directive, which does not allow for additional taxes on the raising of capital through the issuing of shares or bonds. Also from an economic point of view directly taxing the raising of capital might unduly hamper economic growth and the development in the non-financial sector, as it would make the financing of investment more expensive for the non-financial part of the economy. In addition, primary markets are estimated to account for about 3.5% of spot equity transactions and 1.6% of spot bond transactions, hence generating about 0.3 bn extra revenue at a rate of 0.1%. Thus, excluding the issuing of shares and (government and corporate bonds) might be preferable in the overall context.

However, as regards derivatives, and in the light of the large variety of financial instruments, their characteristics and remuneration conditions appear to favour an approach where in the case of derivatives both primary (contracting/issuing) as well as secondary (trading) market financial transactions should be subject to the tax.

7.3. Place of taxation

In order to define the financial transactions that each jurisdiction would be entitled to tax under the FTT, different principles could be used. More particularly, the right to tax could be defined by reference to (a) the tax residence of the parties involved in the financial transaction; (b) the place where the financial transaction is deemed to have taken place; or (c) the place of issuance of the financial instrument being traded. Those approaches have different challenges with regard to tax collection mechanisms, enforcement and revenue distribution. A more detailed explanation of each of these principles and comments on their advantages and disadvantages is provided in Annex 7 and invite for the conclusion that the residence principle is superior, especially when it is about taxing transactions that can often rather easily be globally relocated. In particular, the issuance principle is not very suited to derivatives as it entails high relocation risks.

7.4. Taxpayer

The FTT could be levied either on the parties to a transactions, be they financial institutions or not, or on the financial institutions being party or intervening on behalf of a party. If the FTT was levied on the parties themselves, this would also include non-financial enterprises undertaking financial investment and/or hedging the financial risks linked to their own business, and private households investing in financial products such as shares, bonds or derivatives such as options. Going for this option would not exclude obliging the financial institutions involved to actually withhold the tax and pay it. However, the political dynamics of the signal that the tax once again would not be a tax on the financial sector but one on non-financial companies and private households would have to be addressed. This could be done e.g. by recalling the fact that presently about 85% of all financial transactions foreseen to be taxed would be transactions between parties within the financial sector only. However, in case market dynamics changed, including through the raising of an FTT, the share of non-financial sector transactions might significantly increase.

Alternatively, one could levy the tax on financial institutions only. This would have the advantage of targeting the legal incidence on the financial sector and of avoiding the

problematic of potentially high administrative costs of a FTT on non-financial actors. Defining “financial institutions” in the broadest possible sense would then be a prerequisite for both covering most transactions and for not opening the door for creative circumvention efforts. A starting point for a broad coverage could once again be MiFiD, and section C of Annex 1 thereof. The financial sector would then include banks, credit card companies, insurance companies, consumer finance companies, management fund companies, stock brokerages, investment funds, hedge funds and some government sponsored enterprises, regardless of whether these entities are or not subject to Corporate Income Tax in their respective Member State of residence. In order to catch also intra-group financing and shadow-banking activities, all the enterprises conducting more than a certain threshold of financial activities should become subject to the FTT too.

So as to avoid tax avoidance by switching to non-EU financial institutions the option of also making them liable to pay the tax due in case they were involved in transactions with EU parties could be considered. However, the issue of extraterritoriality and pursuing such an approach would first deserve further analysis, including checking its compatibility with other EU policies. An alternative to this approach would be to require the EU party to a taxable financial transaction to also pay for the non-EU party. While this would lead to an equal tax burden for equal transactions, independent of whether both or only one of the parties was established in the EU, it might put the EU party at a disadvantage as compared to EU competitors engaging with another EU party. However, depending on the market conditions, the EU party having to pay for both legs of the transaction could try to recover the additional tax from its counterparty.

7.5. Taxable base

The definition of the taxable base for spot transactions should not pose serious problems. There is a large amount of national experience and the value of the asset as priced in the transaction could be taken as the taxable amount. The gross transaction volume would be the tax base.

Although some derivatives do have their own value at the moment of contracting, for many other derivatives the only readily available reference value, which could serve as a taxable base is the value of the underlying instrument or asset. Nevertheless, levying the FTT on the notional values has certain disadvantages too: (i) it does not reflect the value of the derivative, its risk profile or its economic substance; (ii) it may be a disproportionate tax base compared to the value of the derivative, especially when the derivative is used for hedging; (iii) it poses specific problems with regard to structured products; (iv) collection by withholding at the taxable event may not be possible due to lack of a monetary flow at the moment of contracting. Those issues are dealt with in more detail in Annex 7. On the other hand, trying to find a proxy for the market value in case of derivatives where no cash payment is agreed at the outset, e.g. with the help of marked-to-market or model-to-market approaches seems to be administratively very cumbersome, and it risks of inviting for arbitrary decisions and a lack of harmonised implementation at the level of tax authorities. Also, often derivatives such as contracts for difference do not really aim at hedging risks. Instead such constructs try to simply minimize the injection of capital as compared to directly investing in the underlying and – through this leverage – generate much higher rates of return (on the capital invested). Only taxing the economic value of such a transaction would put directly investing in the underlying at a significant disadvantage. While this unequal treatment of more or less equal assets underlying a transaction could be avoided by applying different tax rates, simply taking

the same tax base, i.e. the market value of the underlying would avoid defining a multitude of different tax rates so as to accommodate for the creativity of market actors.

Options retained are using (i) the gross transaction value for spot transactions, and (ii) the value of the asset underlying a derivative contract (i.e. notional value). It shall be however noted that rates can be adapted to the base so that revenues generated and the tax burden on a specific transaction could be identical regardless of the chosen definition of the base.

7.6. Tax rate

With regard to the structure of the tax rate, two options are possible: a flat rate and differentiated rates. A flat rate would have the advantage of ease of application, but it will disregard the relatively much higher effective tax burden when the tax base is high (e.g. when the tax base is the notional amount of derivatives). The actual tax rate and whether it would be fixed or differentiated depends on the relative importance of the policy considerations outlined above, namely the revenue potential and curbing undesirable market behaviour.

Most recent proposals assume a low flat statutory tax rate, which ranges between 0.01% and 0.1%. By contrast, some Member States have experience in applying stamp duties on equities amounting to 0.5%, and even 1.5% to address tax avoidance. Note that these duties do in general not include derivatives in its scope. A relatively low level of taxation is likely to be essential to avoid strong negative impacts on markets and to ensure some revenue collection, since the incentives for avoidance increase with the tax rate.

7.7. Conclusions on the design

For an efficient application of any version of an FTT an agreement on the scope of the tax, tax rates as well as on the precise tax bases and other essential features of the tax is highly advisable. Firstly, there are strong economic reasons for a high degree of harmonisation and co-ordination in order to avoid substitution and loopholes. Secondly, there are technical arguments. Some national exchanges have merged in recent years and use the same technical infrastructure, e.g. NYSE Euronext (Amsterdam, Brussels, Lisbon, and Paris), OMX Nordic Exchange (Nordic and Baltic countries and also third countries like Iceland) and most notably EUREX (Germany and Switzerland). These systems are highly integrated and co-ordination of tax administration and enforcement between the countries is advisable. Again, applying the residence principle as outlined above could mitigate these issues. Therefore the preferred option for a harmonised FTT is a tax on the issuance and trading financial transactions by financial institutions and covering shares, bonds and related derivatives – at notional value – with a maximum tax rate of 0.1% for stocks and bonds and 0.01% for related derivatives based on the residence principle. The inclusion of spot currency transactions is subject to its legal feasibility as explained in Annex 7.

For illustrative purposes and in line with the estimates in Annex 11, we operate under the working assumptions⁴³ that spot securities transactions (STT) would be taxed at 0.1% with an elasticity of -1, that transactions of derivatives would be taxed on the notional at 0.01% with a decrease in transactions volume of 70% and an elasticity of 1.5, that transactions of spot currencies would not be taxed, and that transactions between financial institutions represent 85% of total transactions, this document estimates a potential revenue of about EUR 37

⁴³ These assumptions follow the illustrative rates depicted in European Commission. SEC(2011)876final (page 25) and do not pre-empt the rates that would be chosen in a possible proposal.

billion.⁴⁴ Exempting primary securities markets would reduce this amount by EUR 0.4 billion.⁴⁵

Table (5). Illustrative revenue potential per category of products

Segment	Revenue potential (EUR bn)
Equity spot	5.6
bonds spot	10.4
Exchange interest rate derivatives	12.5
Exchange equity-linked derivatives	0.9
OTC Interest rate derivatives	9.2
Currency Swap	4.0
Currency outright forward	1.0

Note: See assumptions hereabove in the text.

The estimates are for the total market. The total is EUR 43.6 billion. 85% of this amount brings the EUR 37 billion mentioned above.

7.8. Impact of FTT

7.8.1. Impact on capital costs

The effects of transaction taxes on the cost of capital (and thus firms' investment behaviour) have been investigated particularly for the case of securities. A general theoretical result is that higher transactions costs, including those imposed by transaction taxes, are associated with lower asset prices (Kupiec, 1996). Investors facing higher costs to acquire a security require a higher return from holding it, and thus will try to bid the price down. If successful, this may increase the cost of capital faced by those firms issuing securities, which in turn could then translate into lower investment at the macroeconomic level. The effects on the security prices and on the cost of capital increase in the tax rate and are dampened with longer holding periods⁴⁶.

Empirical studies of the impact of STTs on financial markets generally confirm the theoretical result that they increase the cost of capital and reduce asset prices, particularly for shares with high turnover rates⁴⁷. By raising transactions costs, STTs would also increase the average holding period of securities, particularly for securities with initially narrow bid-ask spreads. In turn, this would reduce the impact of the tax on securities values and capital costs. As corporate bonds are generally traded less frequently than stocks, a given STT would likely impact corporate borrowing costs less heavily than stocks. This could create incentives to seek financing via credit from either financial institutions or corporate affiliates⁴⁸. The

⁴⁴ 85% of (EUR 16 bn on STT equity and bonds + EUR 9.2 bn on OTC interest rate derivatives + EUR 13.4 bn on exchanges derivatives + EUR 5 billion on currency derivatives).

⁴⁵ If the hypothesis is a relocation of 90% for derivatives, then revenues would be 85% of (EUR 16 bn on STT equity and bonds + EUR 3.1 bn on OTC interest rate derivatives + EUR 4.5 bn on exchanges derivatives + EUR 1.6 billion on currency derivatives), that is EUR 21.4 billion.

⁴⁶ Matheson (2011) calculates that a 10 basis point STT would increase the cost of capital by 0.4 percentage points for an average holding period of 3 months, whereas the effect is reduced to 0.01 pp for a 10-year holding period (see Table 9.1 in Annex 10).

⁴⁷ Umlauf (1993), Hu (1998), Bond, Hawkins and Klemm (2005), Schwert and Seguin (1993), Oxera (2007).

⁴⁸ These affiliates will in turn have to finance this loan via other channels. The FTT could be avoided if those affiliates are located in a country that does not apply the tax.

consequence would be an increase in leverage.⁴⁹ It shall be mentioned however that the FTT would have an indirect effect on the interest rate and the volume of loans so that it softens the relative advantage of bonds.

These effects could be reduced if primary (i.e. issuance) markets are exempted. The actual impact depends then on whether shares and bonds are traded on the secondary market and, in such case, to which extent taxation on the secondary market is priced-in on the primary market.

7.8.2. *Budgetary impacts*

Before presenting some rough revenue estimates, a general remark on the quality of tax revenue estimates for new tax instruments should be made. Estimating revenue changes when reforming existing taxes is already a difficult task since behavioural changes due to tax rate or base changes are often difficult to predict. Estimating revenue for taxes that would be newly introduced and that – at least to a certain extent – have the goal to change market behaviour and structure is not feasible without a high degree of uncertainty. This comprises also the effects on other taxes like CIT, capital gains taxes which revenue could decrease when introducing additional taxes. These effects are not considered here. Moreover, notwithstanding the often substantial projected receipts, the consequences of governments increasing their reliance on this relatively volatile sector for their revenues should be considered carefully.

Note also that in both cases the collection of these revenues comes at a cost in terms of a decrease in GDP decrease, which influences the tax revenue generated by other taxes. See Annex 15 for more details on the GDP effects of tax measures.

For a detailed description of the databases, the methodology, the different scenarios as well as the caveats see Annex 11.⁵⁰

Policy Option 1A: CTT

A currency transaction tax on spot transactions and currency derivatives levied at a tax rate of 0.1% and assuming an elasticity of -1 for spot transactions and -1.5 for derivatives would lead to hypothetical tax revenues of around EUR 21.2 billion (0.17% of GDP) using 2010 figures (scenario 1), of which EUR 18.8 billion would be generated by taxing spot currency transactions. Using the assumption that trade volumes in derivative markets reduce by only 70% the revenue is estimated to be EUR 26 billion (0.21% of GDP). In both scenarios the relocation and evasion of spot market transactions is assumed to be 40%. In the case of a tax rate of 0.01% the revenue estimates are EUR 8.5 billion (0.07% of GDP) in scenario 1 (of which EUR 6.9 billion would be generated by spot currency transactions) and EUR 12 billion

⁴⁹ A priori, SMEs would be put at disadvantage because small and medium size companies may have more difficulties to access credit from financial institutions or affiliates (many SMEs are stand-alone companies) because of information asymmetry on the actual economic situation, of a lack of reputation and a lack of collateral against which to borrow. Beck, T.; Demirgüç-Kunt, A. and Maksimovic, V. (2005).

⁵⁰ Note that the scenarios here are for a broad scope of the FTT. Annex 11 provides more information on smaller scope. In particular, transactions between financial institutions are assumed to represent 85% of the total. Primary market for bonds and equity are assumed to be respectively 1.6% and 3.3% of their secondary market. It also provides data on the gross market value of derivative contracts (around 3 to 3.5%) in comparison with the notional value used for these estimates.

(0.1% of GDP) in scenario 2. It should be noted that this option raises significant legal issues as explained in Annex 7.

Policy Option 1B: STT

Levying a tax on stock and bond transaction in regulated exchanges at a rate of 0.1% would lead to revenues of around EUR 16 billion (0.13% of GDP) assuming that evasion and relocation reduce the tax base by 10% and that the elasticity is -1. It splits in EUR 5.6 billion for stocks and EUR 10.4 billion for bonds. If the tax rate is lowered to 0.01% revenue drops to less than EUR 2 billion (0.01% of GDP)

Policy Option 1C: Financial tax on derivatives

Assuming an elasticity of -1.5 for derivatives, levying a 0.01% tax on derivatives would raise about EUR 24 billion for non-currency derivatives and about EUR 5 billion for currency derivatives, for a total of about EUR 29 billion under scenario 2. Under scenario 1, non-currency derivatives would bring about EUR 8 billion and currency derivatives would bring about EUR 1.5 billion, for a total of about EUR 9.5 billion.

Policy Option 1D: FTT

Option 1C is simply the sum of revenues of option 1B and 1C. Note that the revenue estimates presented here differ from other studies mainly with regard to the assumptions of derivative markets. The reasoning behind the assumptions that these assumptions might be stronger than is widely assumed is set out in Annex 11. Under scenario 1, a 0.1% STT and 0.01% tax on all derivatives would raised combined about EUR 25 billion. Under scenario 2, it would collect about EUR 45 billion.

7.8.3. *Relocation*

The introduction of additional taxes bears the intrinsic risk of agents relocating their activities to reduce the fiscal burden. Relocation might take place by moving the relevant activities to jurisdictions where they are taxed less, or by shifting to products/suppliers outside the scope of taxation within the same jurisdiction. In principle, this might even lead some products/markets to disappear in the medium and longer run. Obviously, the risk of physical relocation of markets/market players and migration to non-taxed products increases the less widespread is the adoption of the taxes and the narrower their scope. Thus, the concrete design of a tax in combination with the transaction costs of relocation will largely impact on the actual extent of relocation. The cases of Sweden and the UK, which both introduced a tax on financial transactions with different relocation effects, provide some evidence for this (see Annex 5 for details).

Improved communications technology and financial innovation makes FTT particularly prone to the risks of relocation, especially in the case of unilateral introduction. Annex 9 reviews the existing evidence on the effects of FTTs on financial transactions. The responsiveness of traded volumes to taxes (and transaction costs in general) varies across products and markets, as it is heavily influenced by available substitution possibilities and the characteristics of the relevant trading platforms. Thus, the design of the tax will be as important as its rate or change in the rate.

Economists often use "elasticities", i.e. by how much does a variable (e.g. demand) change when it is exposed to a change in another variable (e.g. the price) by one percentage point

when they want to predict market reactions to changes in parameters such as taxes, wages or prices. When using tax elasticities, only the percentage change in the tax rate is looked at, while the corresponding change in the price (including taxes) of the product is considered irrelevant. This also holds for so-called "semi-elasticities" that do not measure the tax change in percent but in percentage points instead. Semi elasticities are typically used, when the absolute level of a tax is very low, as using ordinary elasticities in such a case might lead to implausible results.

For instance, estimated elasticities on spot markets are on average 0.9% for equity, and 0.5% for foreign exchange transactions (i.e. an increase in the tax by one percent, e.g. from 0.500% to 0.505%, would decrease the tax base for equity by 0.9% and the tax base for foreign exchange transactions by 0.5%). Transactions on future markets tend to react more strongly to taxes: average estimated elasticities are around 1.1% in the case of equity and 1.7% for foreign exchange transactions. Moreover, long term elasticities seem to be larger than short term elasticities, potentially reflecting the time lags necessary to develop substitution alternatives for the taxed financial instruments. This suggests that the level of revenues obtained in the short run might not be sustained in the longer term. All in all, the analysis concludes that the tax should be levied on products with few substitution alternatives, that the elasticity estimates may be very region-specific and should be extrapolated with caution, that long-run elasticities seem larger than short-run elasticities, that foreign-exchange transactions seem less elastic than equity transactions, that elasticities of futures (on exchange) is larger than elasticity of spot trading. In addition it shows that a tax on interest rate derivatives would target the largest tax base, that high profit margin markets are less elastic than low profit margin markets, that long term trading seem less elastic than short-term trading and that elasticities are expected to change over time.

As the level of financial transaction taxes is often very low, looking at the semi elasticities provides a more precise picture of their effect on the taxable base. According to the findings reviewed in Annex 9 a tax increase of 1 basis point has triggered reductions in traded volumes ranging from 0.5-4% on equity transactions to 28-85% on fixed income securities. The latter figures are derived from the Swedish experience (see Annex 8), which can be considered a paradigmatic example of the staggering market effects of increased transaction costs when avoidance and relocation are easy and cheap.

The risks of relocation, as well as those arising from potential migration towards untaxed substitute products, could be minimised by extending the geographical coverage of the tax and by including a wide range of financial products and markets (exchange and over-the-counter) in its scope. It can also be reduced by linking the FTT with some form of registration. Clearly, coordination in terms of products covered by the tax as well as of applicable tax rates is a prerequisite for lowering the incentives to relocation across jurisdictions. Furthermore, tax rates could be differentiated on the grounds of both products mobility and other characteristics of the relevant exchanges. For instance, transaction costs might have disruptive impacts by hitting disproportionately profitability in those markets where current margins are very thin. The flip side of the coin is of course an increase in the costs of administering the tax and a reduction in potential revenues.

To the extent that financial transactions are more mobile than financial companies, taxing institutions that carry trade on the basis of the residence principle could mitigate relocation risks compared to taxing transactions at source or at the place of issuance. For example, under the residence principle, a financial company located in a country that applies the FTT would

be taxed on its operations irrespective of where these transactions take place (if applied on a worldwide basis).⁵¹

Against this background, it is difficult to make unequivocal conclusions on the exact size of the elasticities and relocation risks (although there are strong risks of relocation). Our revenue simulations consider a relocation of securities markets by 10%, a relocation of spot currencies by 40% and a relocation of derivatives instruments of 70% or 90% (see annex 11 and section 6.1.1). Relocation here reflects both the move of activities elsewhere outside of the taxing jurisdiction and the disappearance of some types of activities. Such disappearance could be seen as positive if the activities targeted are considered as harmful. To the extent that High-Frequency Trading is considered as harmful, one has to bear in mind it is estimated to be about 40% of total transactions.

7.8.4. *Macroeconomic impacts*

The use of Dynamic Stochastic General Equilibrium (DSGE) models is a standard procedure of estimating the macroeconomic effects of policy changes. Their advantage over sector-specific Partial Equilibrium Models is that they fully take into account spill-over effects to other sectors as well as second-round effects triggered by a policy change, including the effects of the recycling into the economy of higher tax revenues generated by a tax-policy "shock". One possible disadvantage is that they typically have less detailed sectoral breakdown of the economy than partial equilibrium models.

In such DSGE-models, simulating the effects of a new tax on a sector is typically made by simulating an increase in the corporate income tax, as such an increase would reduce the (after tax) rate of return of investment and, thus, would have a dampening effect on investment activities. This approach is acceptable when one assumes that the financial sector is similar to other corporate sectors, or that this sector is in any case able to pass through to its clients of the other sectors the higher costs/taxes. It should be noted, that in such models the corporate income tax is assumed to be the economically most distorting tax, as it has strong negative knock-on effects on investment and, consequently, on economic growth.

As an example, using the well-established QUEST-III model of the European Commission, and simulating an increase in the corporate income tax in the order of 0.15% ($\approx$ €18bn) to 0.75% ($\approx$ €90bn) of GDP respectively, results in a (downward) deviation of GDP from its baseline to be around 0.1% to 0.6% after 20 years. In this scenario, fiscal consolidation is supposed to be the primary way of revenue use.⁵²

In its effort to assess the macroeconomic impacts of a financial transaction tax specifically, the Commission services have therefore developed a new dynamic stochastic general equilibrium (DSGE) model for that purpose (see Annex 15). This model is an attempt to simulate the effects of a specific subset of a financial transaction tax, i.e. a tax on securities (STT), and, whereas it has the merit to exist, it still has a number of limitations which should be taken into account when interpreting the results: it is a two-period and closed-economy

⁵¹ There is however still a risk that financial companies open foreign subsidiaries in countries that do not apply the tax and do the trading from these places. The profit made on these transactions could then be repatriated to the parent in the form of dividends.

⁵² For details see European Commission (2010): Autumn 2010 forecast.

model that can not capture relocation effects, neither does it allow for an analysis of the incidence nor of differentiated effects across sectors.⁵³

In contrast to existing models, this new DSGE model offers the novelty to emphasise the macroeconomic effects the tax could have and captures some of the endogenous channels via which the effects of the tax could emerge. Note also that this model does not only look at the cost of levying the tax in terms of GDP but also at the effect on volatility in the economy by assuming that uninformed traders (noise traders) are active in the stock market. These traders do not consider the economic fundamentals in their investment decision and therefore can distort market functioning⁵⁴.

Specifically, the model assumes, *inter alia*, that all private investment is financed by securities and that the financial sector only trades these securities, and that the STT is paid by traders to the government and then transferred to the household sector in form of a lump sum payment. In terms of channels, the STT decreases share prices which leads to higher financing costs for companies. This is the main effect in this model, which impacts then on investment, GDP and other macroeconomic variables, while initially higher consumption of private households triggered by the lump-sum transfers received can not compensate for this.

The model can be calibrated either to raise a defined amount of tax revenues (in which case, the tax rate adjusts to reach the target tax revenue) or it can set a defined tax rate (in which case, the tax revenues will be determined by the model). Different scenarios are presented in Annex 15. Here the focus is on the case of the introduction of 0.1% tax rate on securities transactions.

With a tax rate of 0.1% the model shows drops in GDP (-1.76%) in the long-run. It should be noted that these strong results are related to the fact that the tax is cumulative and cascading which leads to rather strong economic reactions in the model. Within the environment of the model the rate of 0.1% would translate into tax revenues of 0.08% of GDP or about EUR 9.8 billion considering EU-27 2010 GDP.⁵⁵ This revenue is in roughly the same range as the

⁵³ To consider some of these additional elements, Chisari, Estache and Nicodème (2011) develop a Computable General Equilibrium Model to assess the impact of imposing a VAT or tax on intermediate and final sales of the financial sector. Two scenarios of international mobility are proposed and compared: a closed-economy scenario for which capital is immobile internationally, and a scenario of mild capital international mobility. In the closed-economy scenario, the FTT is seen to be mildly progressive and almost all sectors of the economy suffer in about the same way. The international mobility amplifies the effects of the FTT, which almost triple. The fiscal effects are negative in the short-run as capital escapes. The progressivity of the tax is by and large maintained. The impact on the sectors changes depending on their degree of openness. The financial sector is however hit severely in both the short and long-run.

⁵⁴ In the model, this is included by the fact that noise traders deviate from rational expectations based on economic fundamentals via 'noise' shocks. Traders borrow on the risk-free credit market and invest into risky assets.

⁵⁵ A sensitivity analysis is carried out. First, one additional simulation is done as to raise 0.16% of GDP, which corresponds to what some studies have found when applying a 0.1% tax on securities. Given endogenous effects in the DSGE model, the tax rate that is necessary to achieve this fiscal result is 0.2%. In that case, GDP losses increase to -3.43%. Keeping this rate of 0.2%, a sensitivity analysis is carried out by changing the proportion of noise traders from 50% to respectively 25% and 75%. Such change does not affect the outcome of the main economic variables but marginally affects their volatility. The volatility of GDP measured as the ratio of standard deviation to the mean in percentage point goes from 0.03 to 0.02 and 0.07 respectively. Finally, a last sensitivity analysis is done by decreasing the tax rate to 0.01%. The GDP losses are then limited to -0.17% but revenues are decreased to 0.01% of GDP. All results are available in more details in annex 15.

revenue estimates for taxing equity trading only in the years 2005 to 2008 as presented in Annex 11 using BIS data

As this new model makes a series of stylized assumptions, for instance about the functioning of financial markets, the financing of business etc., its numerical results have to be interpreted with some caution; they present tendencies rather than precise values.

Box. Estimating the effects of the mitigating elements

This Impact Assessment Report attempts to assess the macroeconomic impact of a Financial Transactions Tax. For that purpose, the Commission services have developed a dynamic stochastic general equilibrium (DSGE) model to qualitatively assess the consequences of the introduction of a Securities Transaction Tax (STT) in an economy. The model, described in Annex 15 of the Impact Assessment Report, is a first attempt to encompass some of the endogenous channels through which such effects could emerge. It shall be stressed that the current modelling is limited to a tax on securities, therefore excluding the derivatives markets. The baseline scenario shows that a 10 basis points (i.e. 0.1%) tax on securities trading leads to a decrease of GDP in the long run by 1.76%. This effect is mainly triggered by a decrease in investment. In such scenario, the revenue collection is 0.08% of GDP, a figure that is close to the findings in Annex 11 on the revenue potential of FTT.

In its proposal, the European Commission tries to come with a design of the tax that aims at closing as many loopholes as possible. In particular, the tax would be designed as to:

- (a) Mitigate relocation effects by applying the residence principle.
- (b) Exclude primary markets for stocks and bonds as to try to ring-fence the effects of the tax on the financing of companies.
- (c) Target transactions that involve financial institutions and exempting from the tax those that do not involve such institutions.
- (d) There is no doubt that many transactions may not be economically viable under a transaction tax. This is probably the case of High-Frequency Trading.
- (e) Try to ring-fence some sources of financing for companies by excluding them from the proposal (bank lending, retained earnings). In such case, they would not be directly impacted by the tax (although they may be subject to indirect effects).

These features of the tax are not necessarily well taken into account in the modelling of the macroeconomic effects and the impact of this specific design on the macroeconomic effects is therefore of interest. There is no available model to assess these effects and the channels through which they impact macroeconomic variables. The only available approach is therefore to proxy the effects, at the cost of scientific rigour and with the large caveats and uncertainties that such an exercise may carry.

For this purpose, the following elements could be taken into account:

- (a) The relocation aspects are already factored in. This is because the model is a close-economy model that does not allow for relocation of transactions. Hence, the model is already optimistic on these effects.

(b) Primary markets for stocks and bonds are a small fraction of the total amount traded. For the purpose of the impact assessment, the primary market for securities is proxied to be about 2.2% of the total. As a first approximation, excluding primary markets could in the best case decrease the effects of the tax by 2.2%.

(c) Transactions done by financial institutions have been proxied in this impact assessment to represent 85% of all transactions. Therefore, as a first approximation, taxing transactions involving financial institutions only could in the best case decrease the effects of the tax by 15%.

(d) High-frequency trading could be up to 40% of the total on some market segments. Provided we assume that the model would actually include the full effects of a FTT on markets, while the disappearance of high-frequency trading would be at no cost, the 'real' effects could be estimated to be 40% lower.

(e) The sources of financing of companies are generally assumed to be new equity (10%), retained earnings (55%), and debt (35%).⁵⁶ The share of debt securities in total debt of non-financial corporations could be estimated at about 15% (or about 5% of total financing)⁵⁷. Hence, assuming bank debt and retained earnings are ring-fenced, the share of corporate financing that would be directly affected by the FTT is about 15% of the total. If we assume that other sources of financing are affected by about 50%, and that the incentives for increased leverage do not generate additional adverse effects, the total impact would be about 60%.⁵⁸ Hence, in this theoretical scenario, the effects of the tax would be at best 40% lower thanks to ring-fencing.

Under the assumption that all these effects simply cumulate, the negative effect on GDP could be, in the best case scenario, decreased to about -0.53% (instead of -1.76%).

7.8.5. *Risk-taking and behavioural effects*

The aim is to analyse how various types of taxes provide right or wrong risk-taking incentive and produce desirable or undesirable behavioural effects in banks. The more a type of tax proves to be risk-based and therefore follow systemic risk, the more we can exclude that that tax introduces wrong behavioural risk-taking incentives. On the contrary, that tax might contribute to reduce excessive risk-taking.

There is however no available bank-level data on contribution to FTT. The aspects of dealing with risk and behavioural effects of the FTT relates to the possibility of the FTT to curb speculation, noise trading and technical trade, and to decrease markets' volatility. Many studies show that a FTT could aggravate volatility (because of a reduction in the number of transactions), creating more room for speculators. An extensive review of the economic literature overall concludes that the effects of the FTT on volatility is largely inconclusive and depends on market structure⁵⁹.

⁵⁶ Standard assumptions for computing effective tax rates according to the Devereux-Griffith methodology.

⁵⁷ In 2009, loans from credit institutions to non-financial corporations represented EUR 5,786 billion in EU27 (ECB (2010), EU banking structure, September). In December 2009, the total amount outstanding of debt securities issued by corporate non-financial issuers was USD 1,234 billion or EUR 864 billion (at a rate of 0.7) (Table 12C and 12D of From BIS Quarterly Review June 2011, for the 19 EU MS listed).

⁵⁸ $15\% + 50\% \times 85\%$

⁵⁹ See e.g. Hemmelgarn and Nicodème (2010)

The simulations with a dynamic stochastic general equilibrium model presented in section 6.4.1 and Annex 15 show that a FTT impact on volatility would be very marginal. On the other hand, the FTT would serve as a tool to deal with the challenge of short-sighted profit-seeking behaviour. Also, it would help to reduce the rents of the financial sector generated by activities such as high-frequency automated trading.

7.8.6. *Incidence and distributional impacts*

While the formal incidence is either on those who have the legal obligation to pay the tax or (with indirect taxes) those to whom the taxes are destined to by the legislators, e.g. the consumers in the case of VAT, the concept of economic incidence refers to the person or groups who bear the economic burden of the tax. In the case of the FAT, the formal 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 formal incidence of the FTT is typically on the parties engaged in the transactions. More detailed information requires linking the taxable event to the liable entities. To this purpose, one would have to look at the trading activity of the different participants in the markets for the relevant financial products. Information available on this is scarce (see Annex 12), but suggests that non-financial actors directly participate in trading activities to some extent.⁶⁰

As long as taxes induce behavioural reactions and changes in relative prices, the ultimate burden will differ from the formal incidence. Given these distributional implications, 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 the financial sector making a “fair and substantial” contribution to repay the cost of the crisis. In general, the extent to which taxes on the financial sector are likely to be partly of fully rolled over to the clients of financial institutions 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 the clients of financial institutions. 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.⁶¹ Moreover, levying the tax on secondary markets generates cascading effects, which might have non-transparent consequences, and thus make incidence more complex. In fact, if business transactions are non exempt, the tax will be cascading through the production process and affect the price of non-financial products and services. Concerning the distributional impacts, like any taxes on capital income, the short run

⁶⁰ BIS data on global OTC markets for FX and IR products show that around 11-13% of daily average turnover is attributable to counterparties other than financial institutions (see Annex 12). Of course, the extent to which non financial investors are involved in direct trading depends on the characteristics of the products owned and of the markets where they are traded.

⁶¹ Annex 12 reports data on the ownership structure of traded shares in Europe (accounting for 90% of market capitalization in 2007). Among investors classified as domestic by the national exchanges (63% of the total), financial institutions account for 27% of market capitalization (22% are collective investment institutions, comprising pension funds, insurance companies, mutual funds and collective financial investment companies. 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%.

effects of the FTT would likely be progressive, impacting particularly on households in the highest deciles of the income distribution, as these are typically the households that directly invest in taxed products. The evidence described in Annex 13 indeed suggests that these households are more likely to own riskier and more sophisticated financial products, and devote a higher fraction of their total expenditure to this category compared to low-income households.⁶²

7.8.7. *Effects on employment*

The effects of FTT on employment can be twofold: directly on the financial sector and indirectly for the whole economy via the economic effects of the taxes.

The direct impacts on employment are triggered within the banking sector, in case the tax led (i) to delocalisation of activities outside the EU, (ii) to the abandonment of business models (such as high-frequency automated trading) no longer being profitable after tax, or (iii) to falling demand for financial services as a reaction to higher prices for these services in case of a pass through of the tax. This delocalisation risk and risk of abandoning certain activities would mainly hold for the FTT. However, given the extremely low employment intensity of such activities the negative employment effect should be limited, and presumably mainly be located in the investment banking arm of the sector, while the retail-banking arm should not be affected at all.

7.8.8. *Impacts on market structures and competitiveness effects*

Recent research based on experimental economics as well as some theoretical work points to the fact that the effects of a transaction tax depend on the market structure.⁶³ This structure differs between market segments and also between countries. If this structure is heterogeneous, the tax might affect the markets in question very differently. The empirical literature comes thus to different results when evaluating the effects of transaction taxes. While most studies find that trade volume is reduced, the effects on volatility and prices is less clear even though results based on panel data and estimation approaches that better identify transaction cost effects seem to find more often a positive relationship between transactions costs and volatility. For the discussion of the financial transaction tax in Europe one should keep in mind that the effects of the tax might be varying depending on the products traded and the way dealers and brokers interact in the national markets.

The impacts of the taxes on the competitiveness of the real economy (industry and services) depend to a large degree on the design of the tax. In case of the FTT, limiting the taxable products to financial instruments as defined in the directive on markets in financial instruments (MiFID), thus excluding everyday financial transactions (such as the payment of bills or of the salary) and transactions such as loans from banks to enterprises or private households (such as mortgage loans or the provision of consumer credits) goes in the direction of ring-fencing the real economy from the direct effects of levying this tax.

⁶² Note also that concerns have been voiced about a possible undesirable consequence of a FTT that would include currency transactions as small developing countries may use larger currencies as mean of exchange between themselves as this market is more liquid (Yoder, S., 2011, presentation at the Brussels Tax Forum 2011, Brussels).

⁶³ See Hanke et al. (2007) and Pelizzari and Westerhoff (2007). An overview of the literature can be found in McCulloch and Pacillo (2011) and Hemmelgarn and Nicodème (2010).

The implementation, compliance and administrative costs of taxes are typically not trivial, and in the context of e.g. VAT they are frequently the high on the agenda of stakeholders and tax administrations. Typically, these costs positively correlate (i) with the number and routine of actors, (ii) the heterogeneity of the tax base and the taxable events, and, thus, the complexity of the tax legislation and its implementation, (iii) the lack of standardisation and automatisisation of reporting and tracking, and (iv) the expectation value of potential tax fraudsters not to be detected in the absence of checks and balances. The sector and activities to be taxed are characterized by a rather limited number of players, most of them being big companies, an extremely high degree of automatisisation, standardisation and e-commerce in combination with a comprehensive reporting and tracking regime, the implementation, compliance and administrative costs of levying an FTT or an FAT should be rather limited. Indeed, empirical evidence from real cases analysed, such as the British stamp duty and reverse duty tax, or the Belgian or Suisse FTT show that these costs typically are at the bottom end of similar costs for the collection of other taxes.

8. MONITORING AND EVALUATION

The proposed policy intervention will exert effects on a number of variables that should be monitored. At the macroeconomic level, consistent with the general objectives of raising revenue from the financial sector and reducing undesirable market behaviour, evidence should be gathered on the revenue raised and the effects on short-term (automated) trading and its consequences on volatility and price deviations. In case of a unilateral introduction in the EU-27 the potential of relocation should be measured by comparing trade volumes for different product categories in the EU-27 vs. financial centres in third countries that are not operating under an FTT, taking into account any external factors.

At the microeconomic level, the effects of the policy options on financial institution's tax related administrative costs and on their investment and trading behaviour should be assessed. To overcome the well-known difficulties in obtaining reliable estimates of actual and perceived administrative costs, ad hoc surveys should be designed, and particular attention devoted to the representativeness of the selected samples.

The evaluation of the consequences of the application of the legislative measure could take place three years after the entry into force of the legislative measures implementing the Directive. The Commission could then submit to the European Parliament and the Council a report on the technical functioning of the Directive.

The content of such a report would vary according to the scope of the Directive as finally agreed in the Council.

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