Potential and Risks of a Financial Transaction Tax

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List of Acronyms

AIG	American International Group
CDO	Collateralized Debt Obligations
CFTC	Commodity Futures Trading Commission
CLS	Continuous Linked Settlement
CPSS	Committee on Payments and Settlements
CTT	Currency Transaction Tax
FAT	Financial Activities Tax
FCR	Financial Crisis Responsibility Fee
FSC	Financial Stability Contribution
FTT	Financial Transactions Tax
G-20	Group of 20
IMF	International Monetary Fund
OECD	Organization for Economic Co-operation and Development
RTGS	Real Time Gross Settlement
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UNFCC	United Nations Framework Convention on Climate Change

Executive Summary

In the continuing debate on financial reform, transaction taxes are intensively discussed. Especially comprehensive taxes levied on all financial transactions at a low rate have recently been considered. This paper concludes that the implementation of a financial transaction tax (FTT) of 0.01 percent, levied on all transactions including the trading of shares, bonds, currencies and derivatives, is both advisable and feasible. The application of the transaction tax would have two effects: First, it would reduce the size of the financial sector and eliminate some undesired and socially futile activity. Second, the application of the financial transaction tax would generate revenue of about 250 billion dollars, assuming the tax would be applied globally and the reduction of trading activity would be high.

It is often argued that financial transaction taxes can only be implemented globally or not at all. In order to avoid the relocation of financial transactions to non-taxing territories (which may be tax havens or other OECD-countries), this paper suggests that a currency transaction tax, also known as the Tobin tax, should be applied at a rate of one percent by likeminded countries, if a global consensus on the implementation of FTT cannot be achieved. The rationale for the second layer of taxation is not the stabilization of exchange rates, but rather the creation of a mild restriction on capital flows in case the achievement of a global consensus on financial transaction taxes will not be possible.

1. Introduction: Why taxing the financial sector is appropriate

The financial crisis that is hitting the global economy since 2007 has resulted in renewed interest in taxes specifically targeted at the financial sector. Considering statements by political leaders before 2007, this is somewhat surprising. For many years, policy makers particularly in OECD-countries were stubbornly rejecting any calls for the introduction of specific taxes for the financial sector. A range of reasons is responsible for this change.

First and foremost, policy makers have experienced the dark side of financial globalization, i.e. the negative effects of a financial sector that is interested in quick profits, but does not consider the effects of its deeds for the wider society. Not surprisingly, conservative policy makers appear particularly let down by the financial sector, since they previously expressed greater confidence in self-regulating capacity of financial markets against the beliefs of left-leaning politicians. This confidence no longer exists, and thus there is a much broader support for measures that both penalize the financial sector and help to prevent the occurrence of severe financial crises. The perception that unregulated and lightly-taxed financial intermediaries are to blame for socially useless excesses is growing.

Second, OECD-countries are facing a rapid deterioration of their fiscal position in the current decade (Deutsche Bank 2010). Both in the US and the European Union, policy makers were creating bailout packages that helped to avoid a collapse of the international financial system; needless to say that the recent financial crisis would have resulted in greater deficits even without the gigantic bailout packages. One of the most recent bailout packages was devised for Greece in April of 2010 with an implementation period of two years (2010-2012). Whether or not this program will be successful, finance ministers in OECD countries are becoming desperate for new sources of income, and taxes on financial transactions are one viable option under consideration.

Third, the financial industry has demonstrated that without re-regulation, it is clearly spiraling out of control. In 2007, the volume of transactions in financial markets reached almost 74 times the level of global GDP. A mere 17 years earlier, in 1990, this relation was significantly lower, at 15 times the global GDP (Schulmeister 2009c, p. 8). In essence, excessive trading activity can be observed in financial markets, primarily for speculative purposes (Schulmeister 2009a, p. 3). Taxation is one way of re-injecting sanity into the operation of financial markets.

Fourth, policy makers and civil society supporters of innovative taxation hope to reap a so-called double dividend, i.e. raising both revenue and eliminating undesired forms of financial activity.

In this paper, I will analyze the options available to societies in OECD-countries. In essence, I will argue that tax measures that reduce the attractiveness of certain activities of the financial sector are both socially desirable and technically feasible. Specifically, I suggest the implementation of a two-level tax. Preference is given to a global tax on all kinds of financial transactions. In case a global consensus cannot be achieved, a tax on cross-border transactions, initially proposed by James Tobin in 1972, should also be introduced. However, my reasoning differs from Tobin's approach. Whilst his aim was to reduce exchange rate fluctuations, I advocate the use of taxation to decrease the efficacy of cross-border transactions in general, i.e. without paying particular attention to exchange rate fluctuations.
The paper will first of all look at the three main types of taxes that specifically address the financial sector. Subsequently, both the positive and the negative effects of the introduction of a financial transaction tax will be analyzed. In chapter 4, the revue potential is examined, and then I will scrutinize the risks and the potential collateral damage an FTT may cause.

2. Types of Taxes on Financial Transactions

In the first months of 2010, a range of options for taxing the financial sector were discussed. Whilst the emphasis of this report lies on the utility and plausibility of financial transaction taxes, the different types of taxes ought to be analyzed in order to understand the diverging approaches as well as the potential advantages and disadvantages of each type.

2.1. Stability Fees and Bank Levies

In OECD-countries, the introduction of levies on the activities of banks is intensively discussed. Sweden has been pioneering this taxation. The Swedish model of a "Stability Fee" does not tax transactions, but instead institutions' liabilities. The fee is set at 0.036 percent of liabilities and is levied on all banks that are active in Sweden, including subsidiaries of foreign banks. The revenue does not flow into the general budget, but into a specially created fund which shall be used in future crises. Until the introduction of a risk-adjusted fee – planned for 2011 – the levy is reduced by half. Even at that level the Swedish government expects revenue to total 250 million euros in 2009 alone. The aim is not a permanent reduction of activities of the financial sector. Instead, the Swedish government plans to stop collecting the tax once the fund has reached a level of 2.5 percent of GDP (EU 2010, p. 17).

A different approach is taken by the Obama Administration, which has proposed a "Financial Crisis Responsibility Fee" (FCR). In contrast to the Swedish model, the American fee is supposed to generate revenue for the budget, primarily to retrieve funds used for the rescue operations in 2007 and 2008 (IMF 2010, p. 6). Whilst in Sweden the fee has to be paid by all institutions, in the States it will only be collected from larger financial intermediaries, thus underlining the risk that these players constitute for the stability of the financial system. The fee shall be collected from banks with more than 50 billion dollars of consolidated assets and the envisaged rate is 0.15 percent of the institutions' liabilities. As in Sweden, the fee shall not be collected indefinitely, but only for a period of about ten years (EU 2010, p. 17f).

If levied EU-wide, the Swedish fee would generate revenues of about 11 billion euros, and the more substantial American fee would result in about 50 billion dollars in revenue (2009 data) in the EU-27 (EU 2010, p. 18). In the US, the FCR fee is expected to result in an income stream of 9 billion dollars annually.

Of course, these fees are not very useful for the aim of downsizing and stabilizing the financial sector in the long run. In essence, they are taxing profits, but do not provide incentives for the reduction of risky behavior. Instead, they offer an incentive for smaller, risk inclined financial players like hedge funds to continue their activities. In extreme cases, bank levies may encourage market participants to engage in even riskier behavior because of the provision of an institutionalized bailout mechanism.

The IMF, following the directive of the last G-20 Summit in Pittsburgh, has suggested two different taxes. The first is a "Financial Activities Tax" (FAT), which would be levied on the sum of profits and remuneration of financial institutions. The tax base would be "profits above a 'normal' level and high remuneration" (IMF 2010, p. 20). The second proposed tax is a "Financial Stability Contribution" (FSC), essentially a tax on banks and other financial institutions similar to the above described Swedish and American proposals. Whilst it is surprising that the IMF pushes for the taxation of the financial sector, at closer inspection both proposals, despite their impressive acronyms, fail to convince. FAT in particular is a fluid concept that requires further elaboration of its definition before becoming operational. To start with, it is unclear what "normal" levels of profit and remuneration are. In theory, one could envisage a tax regime that would punish high profits and salaries. In practice, this approach will not work unless countries return to very strict restrictions on cross-border capital flows, which is very unlikely at the moment. If, say, the US would decide to tax Goldman Sachs and its staff heavily, Goldman could quickly move to Singapore, where the government is already actively seeking to expand investment banking in the small island state. More than any other instrument, a financial activities tax requires global application.

Like the Swedish and American versions, the FSC fails to address the most problematic areas of financial activity and essentially is a tax to recuperate previous government expenditure. Neither of these proposals would enhance the financial sector's stability nor reduce the likeliness of future crises.

2.2. Currency Transaction Taxes (CTT)

The idea that taxation may contribute to the stabilization of financial markets was first suggested by John Maynard Keynes in 1936. In his "General Theory", Keynes argued that a transaction tax could strengthen the weight of long-term fundamentals in the pricing of shares.

Without such a tax, stock markets are, Keynes argued, too heavily influenced by news, rather than economic fundamentals (Eichengreen/Tobin/Wyplosz 1995, p. 165).

In 1972, after the collapse of the Bretton Woods regime - a system of fixed exchange rates and restricted capital flows - James Tobin, an American economist, suggested a small tax on cross-border financial transactions. Tobin's aim was neither to generate revenues nor did he intend to enforce the financial sector to behave more prudently. Rather, Tobin was dissatisfied with the volatility of exchange rates in the aftermath of the regime of Bretton Woods: "Clearly, flexible rates have not been the panacea which their more extravagant advocates had hoped; international monetary problems have not disappeared from headlines or from the agenda of anxieties of central banks and governments" (Tobin 1978, p. 153).

Tobin argued that the choice of exchange rate regimes is not the key problem, but instead the "international mobility of private financial capital" (Tobin 1978, p. 153). Although Tobin's original thoughts were presented more than 30 years ago, they still remain relevant within the contemporary economic context. He suggested: "Specifically, the mobility of financial capital limits viable differences among national interest rates and thus severely restricts the ability of central banks and governments to pursue monetary and fiscal policies appropriate to their internal economies. Likewise speculation on exchange rates … have serious and frequently painful real internal economic consequences. Domestic policies are relatively powerless to escape them or offset them" (Tobin 1978, p. 154).

Tobin's proposal, later named the 'Tobin Tax', was to levy a one percent tax on "all spot transactions of one currency into another" (Tobin 1978, p. 155). Tobin argued that the tax would mostly harm short-term transactions and would only have modest effects on long-term transactions, whether they are foreign direct or portfolio investment.

Tobin was skeptical with regards to the ability of markets to send the right price signals. He was not convinced that "the price signals these unanchored markets give are signals that will guide economies to their true comparative advantage, capital to its efficient international allocation, and governments to correct macroeconomic models. That is why I think we should throw some sand into the well-greased wheels" (Tobin 1978, p. 158).

It is important to note that Tobin's idea was not, as some of his critics have argued, exclusively aimed at the stabilization of exchange rates. It is also important to remember that Tobin had a globally applied tax in mind, and he also envisioned tax proceeds to flow directly to IMF and the World Bank. (Tobin 1978, p. 159). Whilst Tobin envisaged global application of the tax, he suggested that regional groups, for example the European Union, should be free not to levy the tax for transactions within their region.[1]

Today, currency transaction taxes could play a useful role in reducing transactions between national financial markets. So called global imbalances have, in the eyes of many observers, contributed to the current crisis. Capital imports to the USA, Iceland, Spain, Hungary, the United Kingdom and Greece, to name a few cases, have contributed to sustaining asset price inflations, i.e. bubbles, and have delayed adjustment (Brender/Pisani 2010).

In this context, it is important to consider the effects of global capital flows on the emergence of the current and previous crises. Essentially, the import of capital permits deficit countries to continue implementing economic policies that are not sustainable. Countries borrowing from abroad to finance consumption – again the above named group – have been engaging in a consumption binge that could not last. Of course, the picture is different for economies that borrow abroad to finance investment. But in the recent years, this has been the exception rather than the norm.

Consider, for a moment, the effects of a bubble in American real estate without foreign capital. The US economy would have had to finance the bubble from domestic savings. Since US savings have been very low, either the bubble would not have emerged at all or it would have been much smaller. Respectively effects of the bursting bubble would have been limited to the USA.

As indicated by the world's current account imbalance, the level of transactions has increased sharply in the decade preceding the sub prime crash.[2] From 1970 to 1997, the year of the Asian financial crisis, the global current account imbalance fluctuated moderately around one

[1] Of course, Tobin's proposal was made before the introduction of the euro.

[2] The world current-account imbalance is the half-sum of the absolute values and deficits of the 181 countries in the IMF's database (Brender/Pisani 2010, p. 23).

percent of global GDP. Subsequently, the imbalances tripled to about three percent of global GDP in 2007 (Brender/Pisani 2010, p. 24). Both current account deficits (USA and other importers of capital) and surpluses (China, Japan, Germany and other exporters of capital) rose dramatically. Whilst capital flows have not been the root cause of the crisis, they have contributed significantly to real estate price hikes in American, Spanish and other markets, and subsequently have spread the crisis globally.

Globalized finance has resulted in very serious side-effects that are not welfare enhancing. It creates an unwanted and dangerous interconnectedness of national financial sectors with hazardous implications. In contrast to international trade, the welfare effects of international finance are limited to a very small minority of participants in financial markets.[3] In contrast to foreign direct investment and, potentially, long-term credit flows, short-term flows do not help the world's poor. Against this background, a reduction of capital flows, in particular of short-term speculative money, is justified and appropriate.

But even if a consensus would emerge on the lack of utility of cross-border capital flows, reducing them would be difficult. In particular, applying conventional restrictions through administrative measures is difficult. The experience with restrictions on capital shows that it is easier to control inflows rather than outflows. Once capital has left an economy, authorities have no means to control it. Although, application of currency transaction tax is not as cumbersome as practicing more conventional restrictions on capital flows, it still faces substantial obstacles. One problem is the duality of currency markets: ones that apply CTT and ones that don't. The question is whether, say, the exchange rate of euros vis-á-vis the dollar traded in the market applying the CTT would differ from the exchange rate outside this market. In theory, there might be differences up to the margin the tax rate creates, but no larger than that.

Implementation of CTTs is also the subject of a prominent debate. Many observers and policy makers have suggested that applying a broad tax on financial transactions will only be possible if the tax is applied globally (see, for example, Honohan/Yoder 2010, p. 4). Of

[3] Whilst the effects of international trade continue to be debated intensely, empirical evidence strongly suggests that hundreds of millions of poor people have escaped their precarious existence because of international trade. For a discussion of the utility of international trade see the report of the Warwick Commission on the future of international trade, pp. 13ff (Warwick Commission 2007).

course, the migration of funds to a different jurisdiction, either an offshore-centre or an untaxed financial market in another industrialized economy, is a possibility. Thus, there is a strong case for the imposition of a restriction on capital flows, combined with an FTT.

The taxation of capital flows would serve two purposes. First, it would provide an incentive for surplus economies (China, Germany, Japan, Saudi-Arabia, Russia) to reduce their surpluses, which have played a role in the current crisis. Second, the taxation of cross-border capital flows would permit the creation of financial zones that implement an FTT.

Of course, the debate on the utility and disadvantages of restrictions on capital flows is extremely comprehensive. I will refrain from discussing both the theoretical and empirical arguments in favor of restrictions on capital flows, but it is noteworthy to consider the changing position of the International Monetary Fund on this issue. For decades the IMF has criticized both restrictions on outflows (capital leaving an economy) and on inflows (foreign capital being imported). However in February of 2010 the IMF presented a different position. In a remarkable volte-face, the IMF is now in favor of restrictions on capital flows under certain conditions (Ostry et al. 2010).[4]

Evidently, traditional capital controls are administratively cumbersome. They require monitoring and the approval of certain transactions, whilst others would continue to be unrestricted. Note, however, that the post-war regime of Bretton Woods depended on capitals controls. In addition, that era was one of the periods with the highest growth rates in the global economy. Needless to say that this might be a coincidence and does not have to be a causality. Still, the concern that conventional restrictions on capital controls would be burdensome is plausible.

Given the difficulties that result from the imposition of administrative restrictions on capital flows, there is a new and different use of James Tobin's old proposal. Whilst Tobin's prime, though not exclusive, concern was the stabilization of exchange rates, the Tobin tax of the 21st century could be used as a market-compatible instrument that both creates an incentive for

[4] Harvard economist Dani Rodrik, a long-time advocate of the use of restrictions on capital flows, suggested the IMF's embracing of capital controls signals the end of an era in finance. The IMF's acceptance that "taxes and other restrictions on capital inflows can be legitimate part of policymakers' toolkit" is appreciated by him (Rodrik 2010).

surplus countries to reduce the export of capital and permits the creation of zones that levy an FTT.

To achieve this goal, the CTT would have to be levied at a considerable level, i.e. one percent of any transaction. This would be a robust, but not insurmountable, restriction on capital flows.[5] Because currency trading is done on exchanges, it would be relatively straightforward to collect and would reduce capital flows dramatically. Of course, short-term flows, what "The Economist" calls hot money, would shrink to small levels. For long-term investments, both foreign direct and portfolio investment, the effects would be negligible.

The effects on trade would be measurable, but again not dramatic. A one percent tax on currency transaction would probably be akin to the effects of a rise of transportation costs due to oil price increases.[6] Thus, a CTT would have a positive ecological side-effect on global trade. Like an increase of transportation costs, it would raise the competitiveness of domestic production vis-à-vis the rest of the world.[7]

In addition, it would make borrowing abroad more expensive compared to domestic borrowing. Historically, three quarters of financial crises have been preceded by high current account deficits, i.e. capital inflows. All he recent cases – Iceland, Hungary, the Baltic States, the United States, Spain, the United Kingdom, Portugal and of course Greece – have been characterized by large to very large current account deficits in the years before the crisis.[8] A significant tax on inflows would provide an incentive for capital importing countries to raise their domestic level of saving.

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[5] Nissanke has argued that too high rates would reduce risk-reducing liquidity and would deter international trade transactions and long-term investment (Nissanke 2003, p. 6). Whilst the liquidity reduction argument carries some plausibility, the perceived negative effect on long-term investment is not convincing.

[6] Due to time constraints, a detailed comparison between the effects of a rise in transportation costs and a one percent CTT could not be calculated in detail. A rough estimate is that the tax would have an effect similar to oil price increase of 10 dollars per barrel. Of course, the effects of such a tax would vary dramatically between products. In general, complex production networks that produce in a range of currency areas would be affected most, whilst some trade, e.g. within the eurozone, would not be affected at all.

[7] Some authors have criticised the trade-distorting effects of a tax rate of one percent (see, for example, Honohan/Yoder 2010, p. 10).

[8] An unusual exception is Australia, which is also importing a lot of capital but is unique since it had one of the lowest levels of government debt (15 percent of GDP, the lowest level in the OECD after Luxembourg) before the current crisis.

Critics will argue that the taxation of capital flows would have devastating effects if the rate is set at a level of one percent. However, it should be noted that Brazil has been applying a tax on capital inflows of *two percent* since 20 October 2009. The tax measure, contained in Decree 6,983, addresses only portfolio investment, i.e. excludes foreign direct investment and is not levied on capital outflows, which are more difficult to monitor. But the Brazilian case demonstrates that a relatively robust tax aimed at capital inflows can be applied in practice, not just in theory.[9]

Of course, some observers could argue that Brazil's experience is unique. But the experience of China, probably the most successful economy of the last three decades, shows that capital controls can contribute to greater welfare of an economy. Furthermore, those governments which are vigorously opposing restrictions on capital flows today, e.g. the United States and Great Britain, were implementing restrictions on capital for two decades in the 1950s and 1960s, and these were phases with above average economic growth.

The debate on the Tobin Tax after the last major crisis, the Asian crisis of 1997/98, was quite intensive, yet without effect. Interestingly, over time the tax rates suggested became smaller and smaller. Nissanke, for example, suggested a CTT of only 0.01 to 0.02 percent. At the higher level, she expected revenue of about 30-35 billion dollars annually, and at the lower CTT of 0.01 percent about 17-19 billion dollars (Nissanke 2003, p. 84)

On balance, a tax on currency transactions will bring about a welcome change and reduce cross-border capital flows. The advantages of a CTT have even been acknowledged by the former German President, Horst Köhler. He has been suggesting that taxes on international financial transactions are the best way for generating revenue that could be used to foot the bill for the financial crisis (Köhler 2010, p. 4). By means of explicitly supporting a tax on currency transactions, Mr. Köhler endorsed the general concept of the taxation of financial transactions.

2.3. Financial Transactions Taxes (FTT)

Whilst currency transaction taxes are aimed at a specific transaction, i.e. between different currencies, the broader and more contemporary concept of financial transaction taxes does not discriminate between the various types of financial activities. Instead, an FTT would be levied

[9] The Economist Intelligence Unit, Views Wire 21 October 2009.

on all transactions, including buying and selling of equities, bonds and derivatives (EU 2010, p. 21; Richter 2008, p. 43).

In a staff paper prepared for the G-20 Finance Ministers, the IMF has been cautiously optimistic about the prospects for an FTT. In particular, the IMF argued that with regards to administrative practicability, an FTT should not be dismissed. Many G-20 countries already tax some financial transactions; Argentina, for example, taxes payments out of and into current accounts (Girokonten). Others tax specific types of transactions, for example the United Kingdom's stamp duty on the trading of locally-registered shares. The IMF suggests that "collecting taxes on a wide range of exchange-traded securities (and, possibly, derivatives) could be straightforward and cheap if withheld through central clearing mechanisms" (IMF 2010, p. 16).

On the other hand, the IMF is critical about the attainability of certain goals laid out in a proposed mandate by G20 Finance Ministers. The IMF argues that an FTT

- would not be the best way to finance a resolution mechanism
- is not focused on core sources of financial instability, namely institution size, interconnectedness, and substitutability
- Will result in additional burden for consumers of financial services, i.e. businesses and individuals (IMF 2010, p. 16).

It is necessary to underline that the IMF tried to be fair in its assessment, but the Fund nevertheless draws unpersuasive conclusions. IMF's assessment of the financial sector was undertaken according to specific instructions, which may have resulted in a somewhat biased analysis. I will look at the IMF's arguments in turn.

The first argument is that a broad financial tax is not the optimum resolution mechanism. Of course, this reflects the mandate of the G-20. As a general point, the G-20 continues to perceive the global financial crisis not as an inevitable event, but rather as an accident that will not be repeated. Thus, the G-20 fails to acknowledge that financial crises are an integral part of capitalism, and that no matter how smart policy makers hope to be, crises will re-occur.

By contrast, Charles Kindleberger and other have been discussing that financial crises are happening time and again. His book on “Panics, manias and crashes” describes the tendency of financial capitalism to oscillate between euphoria and panic (Kindleberger 1978). More recently, Carmen Reinhardt and Kenneth Rogoff have published their seminal book on eight centuries of financial crises, aptly named “This time is different” (Reinhardt and Rogoff 2009). Thus, the expectation of more crises in the future is not an exotic position in the academic debate. Therefore, whilst a “resolution mechanism” is needed in the medium term, it has to be augmented by a precautionary measure, which an FTT is.

Second, the IMF suggests that an FTT does not target those areas which were at the core of the current crisis. Again, the Fund assumes that there is a chance for tailor-making instruments that will prevent a repetition of financial crises. In fact, the IMF argues like those generals who always win the last battle, by claiming that the next financial crises will differ from the current one. Thus, tailored instruments might be useful for avoiding an exact copy of the current crisis, but not crises as such. In fact, one argument in support of an FTT considers its broad base. FTTs do not attempt to single out specific instruments, but tend to target the inflated financial sector and aim at reducing the overall size of the financial industry.

Whilst a broad-based transaction tax could be useful to reduce the size of the financial sector and eliminate some undesirable short-term trading, specific taxes, namely CTTs could be applied to address other defined goals. Currency transaction taxes would reduce the potentially risky interconnectedness of both market participants and national economies if applied at a sufficiently high level. More precisely, a Tobin tax of between 0.5 and one percent would discourage capital flows and would thus reduce interconnectedness (see the detailed discussion in 2.2.).

Third, the argument that an FTT would hit businesses and consumers is the least convincing argument. The proposed levels of taxation will hit those who trade financial products on a massive scale, and these are neither businesses outside the financial sector nor consumers. A company that finances investment with long-term borrowing will not be affected in any measurable way, nor will an FTT hit a company that merely issues bonds. Of course, in recent years some large firms have created significant financial services divisions. Some of them have in fact become active players in financial markets and have become providers of

derivatives. To be precise: These companies are no longer hedging their activities in the real economy, but instead they occasionally gamble. Of course, such players would be affected by the introduction of an FTT and the banning of over-the-counter derivative trading.[10]

Consumers will also be hardly affected by an FTT. Most citizens do not actively participate in financial markets as frequent investors. Conventional financial transactions – paying the rent, electricity and shopping – will result in a very small tax burden. Consider, for example, a household that transfers 2000 euros per month through its bank account and pays a lot with bank transfers. The monthly tax burden of a 0.01 percent FTT for that household would be a mere twenty cents.

In addition, the calculation for ordinary citizens, who have to pay for the excesses of the financial sector, does look different. Non-taxation and light-touch regulation of the financial sector has resulted in a higher than necessary tax burden for most citizens, who did not benefit from bonuses and extravagant salaries, but had to foot the bill for bailouts. On balance, a financial sector that is comprehensively taxed, and thus downsized, is much more attractive to ordinary citizens than an unregulated and too lightly taxed financial sector that frequently produces high costs for bailouts. Consider, for example, the cost of direct support to the financial system, which is estimated to be as high as 2.7 percent of annual GDP for the G-20 countries (IMF 2010, p. 2).

3. Effects of Financial Transaction Taxes

It is only justified that the debate on the effects of transactions taxes considers both the potential positive as well as the negative effects of the application of such new instruments. From a theoretical perspective, a tax on financial transactions will move relative prices in the direction of a socially more efficient outcome (Honohan/Yoder 2010, p. 6). The tax will alter the behavior of market participants, simply because some trading will no longer generate sufficient profits.

[10] Take, for example, the German energy provider EON, which has been opposing proposals for regulating derivatives trading. EON has claimed that, if the proposals would be implemented, it would have to provide a credit line as large as 7.5 billion euro, and has demanded to be granted an exemption. However, the argument does not convince. Collateral would have to be provided by those that might have to pay in case market conditions change, i.e. the insurer of a risk has to "document" sufficient funds. It is hard to see why the real economy and its companies would be affected negatively (Financial Times, 7 October 2009, p. 14; Financial Times, 8 October 2009, p. 10).

3.1. The positive effects of FTT

A major advantage of an FTT is its broad coverage. It does not single out certain transactions and institutions, but instead is applied to all transactions (Schulmeister 200a, p. 2). In contrast to the currently discussed bank levies and stability fees, a financial transaction tax will also affect hedge funds and so-called private equity.[11]

One of the key arguments in favor of an FTT is that is would shrink the size of the inflated financial sector. It would dampen the so-called technical trading in particular (Schulmeister 2009a, p. 12). Shrinking the financial sector has been proposed by a number of observers. For example, the Warwick Commission on International Financial Reform has suggested that "right-sizing finance" is a major ingredient of a reform process that will reduce the probability of future severe crises (Warwick Commission 2009, p. 33ff).[12] Lord Adair Turner, Chairman of the Financial Services Authority in the United Kingdom, argues that the Commission's insistence on right-sizing finance is "particularly useful" (Warwick Commission 2009, p. vii). Turner had previously suggested that some forms of computerized trading represent "minimal social value".[13] Even George Soros, no doubt one of the most seasoned investors, has suggested that some derivatives have "no social benefit" (Soros 2010).

If applied, FTTs will also contribute to discrimination of derivatives' trading over spot transactions. Spot transactions tend to have a longer time horizon than derivatives, and will not be as heavily affected by an FTT as some derivatives. An FTT would specifically hamper short-term, non-fundamental transactions (Schulmeister 2009a, p. 12).

Of course, critics of an FTT argue that it is difficult to determine the appropriate size of a financial sector (IMF 2010, p. 17). However, the right size of the financial sector is not determined by any relative figure of size, e.g. how large the sector is relative to GDP. The

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[11] The President of the German Association of Thrifts (Sparkassen- und Giroverband), Heinrich Haasis, has supported the introduction of an FTT precisely because it does not discriminate certain institutions (Handelsblatt, 4 May 2010, p. 35).

[12] Of course, as discussed below, it will be impossible to avoid crises completely. The aim is to prevent crises of the magnitude that we are experiencing since 2007.

[13] The London Evening Standard, 18 March 2010, available at http://www.thisislondon.co.uk/standard-business/article-23816520-fsa-chief-attacks-bank-trading-with-minimal-social-value.do. In September 2009, Turner caused quite a bit of stir when, in an interview with Prospect Magazine, he advocated the use of a transaction tax and considered it "a nice, sensible revenue source for funding global public goods" (Prospect Magazine, 27 August 2009).

main measure is functional: Is the financial sector serving the needs of an economy or is it primarily gambling and has no meaningful contribution for the advancement of a society? Thus, we do not have to know whether the financial sector has reached a certain size. We have to consider whether the current system is appropriate, and it clearly is not. Consider, for example, the assessment of Horst Köhler, the former German President, who suggested that "financial capitalism is … primarily operating with bets and debt. It raises its returns without respect for the welfare of nations" (Köhler 2010, p. 2, author's translation). Köhler emphasizes the service function that financial markets should have for the society (ibid, p. 3). All things considered, the future of finance has to be different. The sector has to shrink significantly, and the broad instruments of an FTT appear appropriate to contribute towards this aim. Of course, neither an FTT nor any other instrument will do the job on its own. Further regulatory measures, such as requiring banks to hold more capital or a ban on certain instruments, are of course necessary.[14]

Critics of an FTT, e.g. the IMF, suggest that other measures aimed at discouraging short-term transactions, such as regulation or targeted taxes, would be better suited to reduce these unwarranted trades (IMF 2010, p. 17). But it is naïve to assume that regulation, could outsmart the innovative, and sometimes criminal, players in financial markets. Targeted taxes lag behind new instruments that are specifically devised to avoid regulation and taxation.

Meanwhile, some economists suggest that shrinking the financial sector does not require taxation, but would also be achieved if fundamental principles of capitalist economies were applied. In other words: Rescuing many banks and other financial intermediaries has created the expectation that risk taking will ultimately be rewarded: Should problems arise, the taxpayer will come to the rescue. Thus, remembering the principle that higher risk sometimes results in losses is of course vital.[15] Observing this principle will be useful, but will not be yielding changes of behavior prior to its application in the next financial crisis.

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[14] Examples of instruments that ought to be banned because they do not provide anything meaningful apart from gambling are naked credit-default swaps (bets on events without owning the underlying assets), naked short-selling (the selling of an asset that is not owned by the sellers), or derivative products that are constructed using other derivatives, for example so-called squared collateralised debt obligations (CDO^2).

[15] See, for example, William Buiter's response to Adair Turner, the Financial Times, 2 September 2009, available at http://blogs.ft.com/maverecon/2009/09/forget-tobin-tax-there-is-a-better-way-to-curb-finance/.

Considering the costs of an FTT, raising it would be relatively cheap. Data from the United Kingdom, where a stamp duty is collected on transactions of shares of British companies, suggest that the collection cost is about 0.2 percent of the revenue raised. This is significantly lower than the cost for collecting income tax in the UK (1.24 percent) or corporate tax (0.76 percent) (EU 2010, p. 25).

It is often argued that the complexity of financial markets makes the collection of taxes more difficult. Technical innovation, critics argue, enables market participants to hide from the taxman. At closer inspection, the argument does not stand scrutiny. Technically, the introduction of computerized trading has made tax collection easier, not more difficult. Both the introduction of "Real Time Gross Settlement" (RTGS), which is organized at the national level, and the "Continuous Linked Settlement" (CLS) Bank, which removes settlement risk from transactions, have made the task of tax collection much simpler.[16] In addition, the Society for Worldwide Interbank Financial Telecommunication, better known as SWIFT, can provide the necessary documentation to tax authorities (EU 2010, p. 26; Nissanke 2003, p. 10f).

3.2. The negative effects of FTT

A key criticism of all kinds of taxes on financial transactions is that it will reduce liquidity in markets. The argument is that financial markets can only be efficient if they are liquid. In plain English: Markets will always find the right price of any asset if allowed to find its equilibrium. Taxes distort, neoclassical economists argue, the ability of markets to find an equilibrium.

Of course, after the big financial crash the question has to be asked whether mainstream economists and their theories should not be considered intellectually toxic. Paul Krugman has suggested that "much of the past 30 years of macroeconomics was useless at best, and positively harmful at worst" (quoted in The Economist, 16 June 2009). William Buiter, another respected economist, argued that "macroeconomics training at American British universities were a costly waste of time" (The Economist, 16 June 2009).

[16] See the website of CLS bank at http://www.cls-group.com/About/Pages/default.aspx.

The key theory that has underpinned the training of two generations of mainstream economists has been the "efficient market hypothesis", successfully pushed to prominence by Eugene Fama from the University of Chicago. In essence, Fama and his followers argue that the price of a financial asset reflects all available information that is relevant to its value. Bubbles, by definition, do not occur, because markets are efficiently processing all available information. And in order for them to process information properly, they need to be liquid. Given the monopolistic organization of many departments of economics, dissenting views were scarce.[17] Robert Shiller, a prominent advocate of behavioral finance, denounced the efficient market hypothesis as the greatest error in the history of economic thinking.[18]

For the purpose of assessing the applicability of an FTT, the discussion on the efficient market hypothesis is crucial. The damage that neoclassical economists consider to be the result of the reduction of liquidity is essentially based on the idea that there cannot be excess liquidity, only too little. If the efficient market hypothesis would hold, then the reduction of liquidity due to an FTT would be a problem.

Of course, more and more economists question the wisdom of this neoclassical approach. Richard Thaler, professor of economics and behavioral finance at the Chicago Business School, suggest the following: ".if we include the earlier bubble in Japanese real estate, we have now had three enormous price distortions in recent history. They led to misallocations of resources measured in the trillions and, in the latest bubble, a global credit meltdown. If asset prices could be relied upon to be always 'right', then these bubbles would not occur. But they have, so what are we to do?" Thaler 2009).
Given the empirical evidence we have seen in recent years, both the efficient market hypothesis and its call for ample liquidity in financial markets are not convincing. The concept is structurally flawed, and the objections of neoclassical economists regarding the introduction of a financial transaction tax thus do not convince.

Another often cited effect of transaction taxes is that it would hurt businesses outside the financial sector because it would result in higher costs of investments and higher costs for risk

[17] One more recent dissenting school is behavioral finance, which acknowledges that markets are driven by psychological and trend factors as much as by fundamentals.

[18] Quoted in Süddeutsche Zeitung, 20./21. March 2010, p. 38).

management (for example EU 2010, p. 24). At close inspection, this assessment is not persuasive. First, the financing of investment will not be affected significantly by an FTT. Regardless of whether a company is financing its investment with a conventional bank loan (small and medium-sized companies) or emits a bond (larger firms), the effect of taxes that tax so-called noise trading rather than long-term investment will be marginal. The longer the time horizon of a financial transaction, the lower the effect of a transaction tax. The investment in, say, a steel factory, with an operating life of several decades, will not be affected by a small transaction tax.

Even higher tax rates may not have big, lasting effects on real investment, i.e. investment in factories or infrastructure. When discussing the effects of the tax he proposed, James Tobin suggested that even at the high rate of 1 percent – the rate he proposed in 1978 for cross-border transactions – an investment abroad would only need a two percent advantage in marginal efficiency over domestic investment (Tobin 1978, p. 155). For long term projects, say projects that will be operational for more than five years, even a one-off two percent tax is of course not a significant obstacle. At a low rate, the effects of the taxation of transactions on the viability of real investment would be negligible.

However, a transaction tax would have a very heavy impact on derivative markets. Take, for example, interest rate swaps, which enable borrowers to lock-in a certain, current interest rate even if the original contract foresees a floating, adjustable coupon. These interest rate swaps now constitute two-thirds of all over-the-counter turnover in interest related derivatives (Honohan/Yoder 2010, p. 21). The political question is whether drying up this market would have severe repercussions for the real economy, and the straightforward answer is no. The use of derivatives would probably make the financing of investment a little dearer, because locking in a (low) interest rate will be more expensive, but the use of derivatives does not increase the level of capital available for lending and their abandonment would not shrink it.

Of course, advocates of the financial sector will argue that taxing the Transactions will reduce employment opportunities, profits and the availability of capital for investment. In this regard, however, the financial sector speaks for itself, not society. The sector has interests, some of them legitimate, but on balance the interest of Wall Street cannot and should not determine the design and application of a tax on financial transactions. Reduced employment and profit

opportunities in the financial sector are an intended and useful side-effect of financial transaction taxes.

3.3. Preconditions for successful implementation

While the technical side of the implementation, i.e. the tax collection, appears to be a relatively undemanding und cost-efficient process, the issue of tax avoidance is a bit more challenging. This can happen in two distinct ways. First, trades can be relocated to jurisdictions that do not apply an FTT. As discussed above, this effect can either be ignored or can be addressed with a relatively high CTT, as suggested in section 2.2. The second risk is that the creativity of market participants will lead to the creation of synthetic products that are not even traded on exchanges and thus not monitored. Of course, over-the-counter derivatives are the key problem here. Essentially, these are unrecorded and un-monitored derivative transactions between two parties. Given the risks and costs that the financial sector has imposed on societies, a ban on over-the-counter derivatives is both plausible and appropriate.[19]

This ban on over-the-counter transactions is not only warranted because it is a precondition for the implementation of an FTT. These instruments are extremely opaque and led – inter alia – to the collapse of American International Group (AIG), which had to be rescued with 180 billion dollars of taxpayers' money. AIG had developed a two trillion dollar derivatives book, which was not covered by sufficient financial resources.[20] AIG had written an awful lot of insurance on credit default (credit default swaps), was not expecting the markets to crash, and when the crisis hit, AIG was unable to pay. They had insured without having set aside sufficient funds. There cannot be a repetition of the AIG case, and the tool is to force derivative trading into regular exchanges.

This proposal is receiving support from veteran investor George Soros, who supports the registration of derivatives: “It will be the task of regulators to understand derivatives and synthetic securities and refuse to allow their creation … Requiring derivatives and synthetic securities to be registered would be simple and effective” (Soros 2010).

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[19] The European Parliament has demanded the created of a central transaction register for derivatives as well as the banning of certain, high-risk derivatives (Handelsblatt, 16 March 2010, p. 41).

[20] This is 2.000.000.000.000 dollars, in German „zwei Billionen Dollar“.

Of course, many derivatives are already traded on exchanges. The first derivatives (futures) were already invented in the 1860s, when farmers and grain merchants in the USA started to hedge against price volatility of grain. Futures were and are a useful instrument for producers of, say, agricultural products because they can lock-in prices long before harvest. Regulation of futures dates back to the 1930s. Futures are managed by so-called clearing houses, which act as middlemen between the buyer and the seller of a futures contract. The clearing house makes sure both parties comply with their obligations. In particular, they require the provision of collateral in order to make sure that the contract will eventually be honored (Gensler 2010). If credit default swaps were traded on exchanges, AIG would not have failed because the company would have had to provide substantial amounts of collateral. Thus, AIG would have had a much smaller exposure to credit risk, i.e. they could not have gambled without providing sufficient capital.

It is important to remember that the emergence of unregulated derivative trading is a relatively new phenomenon. The first over-the-counter trades were developed in 1981. These trades are both a source of risk for the stability of the financial system and, as discussed above, could be used for tax evasion purposes, thus they should be made illegal. The successful implementation of a financial transactions tax requires the banning of over-the-counter derivative trading.

During the completion of this paper, the United States Congress was moving towards a ban of over-the-counter derivatives. In the bill discussed by the US Senate, OTC derivatives would cease to exist. If the bill will pass, derivatives will have to be traded on exchanges and will be supervised by the Commodity Futures Trading Commission (CFTC), which had been founded in 1974. Whilst organizational details still have to be resolved, the direction is clear: US policy makers are willing to ban OTC derivatives.[21] European policy makers should feel encouraged to follow the American leadership in this area.

[21] The Wall Street Journal, 21 May 2010, available at http://online.wsj.com/article/SB10001424052748703559004575256352143175906.html; Financial Times, 24 May 2010, available at http://www.ft.com/cms/s/0/57a94bec-66ca-11df-aeb1-00144feab49a.html.

4. Revenue Potential of Financial Transaction Taxes

In recent years, the level of financial transactions within and between the major economies has reached surprising levels. In 2007, the countries reporting to the "Committee on Payments and Settlement Systems" (CPSS),[22] registered transactions of about 500 trillion dollar nonblank transactions and about 2500 trillion dollar in interbank payments. Taken together, this represents almost one hundred times the aggregate GDP of the participating countries (Honohan/Yoder 2010, p. 18). One tenth of a percent of that sum would be three trillion dollars, which is 3.000.000.000.000 dollars and 0.01 percent would still result in revenue of 300.000.000.000 dollars; i.e. 300 billion dollars.

Of course, these are unrealistic figures, for they assume that the taxation of transaction would not result in changing economic behavior of market participants. If transactions within the CPSS countries – virtually all major economies – would shrink by 50 percent, revenue from a 0.01 tax would still be as high as 150 billion dollars or roughly twice the annual expenditure of OECD countries for development aid. A reduction of 90 percent of financial transactions would bring revenue down to 30 billion dollars at 0.01 percent and 300 billion at 0.1 percent – still significant amounts of revenue, but far from the occasionally enormous figures suggested in the debate.

Since transaction taxes were not supported by mainstream economists and policy makers in recent years, not many studies of revenue potential of transaction taxes are available. The Austrian Institute of Economic Research has provided a range of studies on financial transaction taxes. In 2006, they estimated that a rate of 0.1 percent applied comprehensively could yield between 0.8 and 2.0 percent of global GDP, i.e. between about 400 and 1,000 billion dollars annually (EU 2010, p. 21). These estimates, however, are based on the notional value of transactions, and derivative trading in particular would cease to exist if taxation were as high as 0.1 percent.

The critics may deem the elimination of derivatives positively, but such action carries with it potential consequences worthy of examination. By excluding derivatives, the volumes and revenue shrinks dramatically: The globally generated revenue at a tax rate of 0.1 percent would be between 0.15 and 0.17 percent in relative and between 70 and 80 billion dollars in

[22] For details see the fact sheet of CPSS, available at http://www.bis.org/about/factcpss.htm.

absolute terms (EU 2010, p. 22). While these sums are much smaller than figures that include derivatives, they nevertheless represent about two thirds of the OECD-countries' annual aid budget.

The IMF has been suggesting that a FTT with a broad tax base (stocks, bonds, derivatives) applied globally would generate as much as 200 billion dollars if the tax rate were one basis point, i.e. one hundredth of a percent (0.01 percent). A Tobin tax of 0.005 percent, levied on spot and derivative transactions in the four major trading currencies (dollar, euro, yen, pound) would still raise between 20 and 40 billion dollars per annum (IMF 2010, p. 15). Schulmeister (2009c) has suggested estimates for revenues from taxes on transactions. In the table below, they are combined with World Bank data on GDP to arrive not just at relative, but also at absolute figures.

Table 1: Relative and absolute revenue from all financial transactions (2007 data; including spot transactions on exchanges, derivative transactions on exchanges, and over-the-counter transactions)

	Germany		United Kingdom		Europe		World	
Tax rate	0.1	0.01	0.1	0.01	0.1	0.01	0.1	0.01
Relative revenue in percent of GDP								
Low reduction of trading	2.397	0.59	13.612	3.542	3.321	0.838	2.412	0.601
High reduction of trading	0.985	0.450	4.853	2.668	1.278	0.635	0.958	0.456
Absolute revenue[a] in billion US dollar								
Low reduction of trading	79.5	19.5	381.5	99.3	551.4	139.1	1329.4	331.3
High reduction of trading	32.6	14.9	136.0	74.8	212.2	105.4	528.0	251.3

a) Calculated using World Bank data for GDP in 2007 (current dollar).

Source of data for first two rows: Schulmeister 2009c, p. 13.

In the table above, two different rates of taxation are considered. The higher rate of 0.1 percent on all trades would of course yield significantly higher revenue. However, we have to consider that the higher the tax rate, the greater the decrease in volume of trading. In other words: taxation will result in the elimination of a number of trading activities, which is a welcome effect. However, in achieving significant revenue results a high tax rate is not the only feasible option. Even when applying the lower rate and assuming a high reduction in financial trades, the annual revenue would be 14.9 billion dollars in Germany, 74.8 billion dollars in the United Kingdom and 105.4 billion dollars in the European Union. Worldwide, this conservative estimate suggests about 250 billion dollars of revenue per annum.

5. Risks and Collateral Damage

Introducing a comprehensive taxation scheme will result in political opposition, but may also have unsolicited side-effects. Both aspects are considered in this section of the paper.

5.1. Opposition by Wall Street

Of course, it would be idealistic to expect the financial sector to agree to the introduction of taxes that what reduce its ability to generate big profits and substantial bonuses for its employees. Especially in the USA, the financial sector has developed extremely close links with Washington, famously described by the American trade economist Jagdish Bhagwati as the "Wall Street Treasury Complex" (Bhagwati 1998). These close links have probably been weakened in the current crisis, but whether Wall Street shows any repentance is subject to debate. In addition, the close personal links continue to exist. Consider, for example, that the current US Finance Minister Timothy Franz Geithner worked for the New York Federal Reserve prior to his appointment as Finance Minister. Like his predecessors Robert Rubin and Henry Paulson, Geithner is part of the tight-knit network of American finance, and despite his rhetoric to the contrary, it is not unlikely that he puts the needs of Wall Street above the needs of Main Street.

But of course the influence of Wall Street is not limited to individuals. Simon Johnson, the former Chief Economist of the International Monetary Fund, has been suggesting that Wall Street has been hijacking the political system of the USA, which he calls a "quiet coup" (Johnson 2009). He suggests that the USA has "the world's most advanced oligarchy" (Johnson 2009, p. 4). In addition, Johnson highlights that the influence of Wall Street has led to a river of deregulatory policies which, at least with the benefit of hindsight, is surprising. Amongst those paradigms enshrined in US economic policy has been the free movement of capital across borders and the insistence that derivatives, including credit-default swaps, require no regulation (Johnson 2009, p. 6). Johnson's arguments are powerful, and it appears far fetched to assume that the crisis has destroyed Wall Street's influence. Thus, it would be naïve to underestimate the influence of the financial sector on policy making, both in the United States and elsewhere. As any taxation of the financial sector will hurt the opportunities for profit making, the supporters of such policies ought to be aware of the opposition they will be facing. Whilst the networks between finance and policy makers are well documented in the USA, there is no reason to believe that the situation in Europe in general and Germany in particular differs sharply from the American case.

5.2. Reducing the Size of the Financial Sector

Critics of an FTT have suggested that the revenue generated will be quite limited because if taxation were to achieve one of its goals - reducing undesirable trading in the financial sector - this would result in far-reaching changes in economic behavior (Honohan/Yoder 2010, p. 4). Of course, this is true. Whilst it is unrealistic to believe that a broad FTT will reduce trading, including in derivatives, to zero, it is equally improbable that trading will continue at the same or even nearly the same level. However, the hierarchy of goals of an FTT should always be remembered. The regulation motive – eliminating socially undesirable transactions – is more important and enjoys greater legitimacy than the revenue motive. If the number of transactions would be reduced by 90 percent, that would be welcome from a regulatory perspective and would contribute to the right-sizing of finance.

As discussed above, shrinking the size of the financial sector is one of the imperatives of the crisis. The Warwick Commission has devoted a chapter of its report on the need to right-size finance (Warwick Commission 2009). Other observers see the need to shrink the financial sector with even greater zeal. Martin Wolf has even asked whether we can "afford our financial system" and has given no as an answer (Wolf 2010). A staunch supporter of market solutions for many years, Wolf has come to the conclusion that "radicalism is the safer option" (Wolf 2010). Martin Wolf illustrates his case by underlining that the size of the financial sector in the United Kingdom, of course an extreme case, has risen from 50 percent of GDP at the end of the 1960s to 550 percent today (bank assets relative to GDP). The sector has grown, but has failed to provide improved services to wider society. Thus, down-sizing finance is not only a matter of justice and fiscal policy, it is probably essential for the survival of capitalism.[23]

5.3. Effects on Citizens in OECD-Countries with Low Income

In addition to the lack of improved services to economies, the financial sector has grown at the expense of poorer sections of societies. As Martin Wolf has suggested, a large part of the activities of the financial sector appears to have been a transfer of wealth from outsiders to

[23] Some older literature is becoming topical again. Consider, for example, Rudolf Hilferding's book "Das Finanzkapital", published in 1910, in which Hilferding suggests that the emergence of financial capitalism will be the last step in the development of capitalism before its collapse (Hilferding 1947).

insiders (Wolf 2010). Of course, citizens with low income are outsiders, and they have had to foot the bill for the gambling activities of some sections of the financial sector.

The introduction of an FTT would therefore probably have a positive effect on citizens with low income. If the need for bailout and other support measures would shrink, either taxation levels could come down or government expenditure could be diverted to more useful policies, e.g. to education or environmental policies.

Furthermore, if the introduction of an FTT would lead to the reduction of gambling activities in the financial sector and would lead to higher investment into the real economy than in fancy financial products, poorer citizens could gain because of improved employment opportunities.

5.4. Effects on Developing Countries

Evaluating the effects of an FTT on developing countries requires some differentiation. With regard to financial markets, we ought to distinguish between three types of developing countries. First, there are the poorest and least developed countries. In the last three decades, these countries have been mostly neglected by financial market players such that they are neither subject to significant capital flows nor susceptible to speculative attacks against their currencies. Many African economies are in that group. The second group consists of emerging economies that are in the process of integration into the global economy to varying degrees, but whose financial markets remain underdeveloped compared to the OECD countries. India, Vietnam and South Africa are examples of this group group. The third, small group consists of economies that are actively trying to promote their financial sectors and thus directly compete with OECD financial markets. Singapore is the most prominent member of that group.

Ramifications of FTTs for the second group of countries are more likely to be positively assured. Economies of the second group have struggled with the effects of unrestricted capital flows as they have simultaneously lessened the grip of financial regulation, and have pursued financial liberalization policies. Consider, for example, that both Mexico and South Korea experienced severe financial crises shortly after they joined the OECD. As observed by Bird and Rajan in 2001, “developing countries may need to phase capital account liberalization

over a number of years allowing themselves time to strengthen their financial institutions and regulatory and supervisory frameworks" (Bird/Rajan 2001, p. 35). Transaction taxes will help to increase the room to maneuver for these countries by means of providing some modest protection against speculation. In any case, it is hard to envisage negative effects of an FTT on this group of economies.

For the third group of developing countries, the move toward taxation of financial transactions could be interpreted as a business opportunity. This group actively bets on tighter regulation in OECD countries. For instance, Singapore encourages hedge funds and other financial intermediaries to shift operations to its shores. In an attempt to become the new Switzerland of the global economy, Singapore is thriving to replace Zurich as the new safe haven for capital emerging from opaque sources.

If Singapore is successful, other developing countries will follow suit, but the triumph of this trend will ultimately depend on the regulatory environment within OECD countries. While most retail banking is not expected to change, some forms of trading activity such as gambling will likely be transferred to emerging financial markets offshore. As discussed in previous sections, provided that the risks associated with such financial activities are contained and do not creep back into the OECD world, there appears to be a price worth paying. In essence, that is a regulatory issue and potentially one for a currency transaction tax. Many developing countries have been negatively affected by financial crises in the past. With the exception of only a handful of more sophisticated financial centers like Singapore, developing countries will benefit from the stabilization effect that accompanies the introduction of an FTT.

5.5. Is Global Implementation Essential?

In many policy-oriented studies on the taxation of the financial sector, there is a tendency to assume the need for simultaneous, global implementation of measures. For example, the European Commission suggests that "global coordination will be essential for most instruments of innovative financing" (EU 2010, p. 5). The reason given is that highly mobile capital will be transferred to other countries: "Where the tax base of an innovative source is

highly mobile, international cooperation is necessary to avoid risks of tax avoidance and evasion by relocation of economic activities or taxes bases …" (EU 2020, p. 14).[24]

Whilst all instruments of fiscal policy would probably be more efficient if implemented at a universal, global level, the assumption that instruments will fail if not implemented jointly does not hold up to scrutiny. This is particularly so for a broad financial transaction tax. If one economy or a group of countries implement a financial transaction tax, market participants cannot avoid this taxation without incurring costs.[25] If, for example, the European Union implements a comprehensive financial transaction tax, banks and other market participants could transfer their transactions to different jurisdictions, such as Singapore. But for a large number of transactions, transferring the entire operation to Singapore is not a viable option. Savers, for example, will tend to be reluctant to transfer their savings to institutions that are not supervised within their own jurisdiction. Opaque transactions, including currency trading, might be relocated to non-taxing territories, but, this on balance does not have detrimental effects. In fact, if gambling is taking place elsewhere, this may in effect contribute to making the taxing territories more resilient.

In addition, requiring a global consensus on financial reform, including new instruments for taxation, is most probably finishing off these initiatives. Even within the G-20, the window of opportunity for reform appears to be closing quickly. So far, the G-20 has been unable to present meaningful joint initiatives. Washington clearly has chosen to implement financial reform unilaterally and does not wait for any G-20 consensus to emerge. Whether this is due to the American electoral cycle – President Obama will stand for re-election in 2012 and will have to show at least some results in financial sector reform until then – or whether this is due to the well-established American preference for unilateral solutions does not really matter.
Furthermore, taken together the European Union is the world's largest financial system. This large group could implement its own financial taxation without risking marginalization. Of course, opponents of taxation have been raising the argument that the introduction of a tax "could distort competition conditions and prevent a level playing field" (EU 2010, p. 14).

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[24] See, for example, Bird/Rajan 2001, p. 34; Frenkel/Langhammer 2002, p. 550; Eicheengreen/Tobin/Wyplosz 1995, p. 165.

[25] Schulmeister (2009a) argues that a gradual implementation on an FTT, i.e. by a group of countries, should be possible.

Again, this argument is not plausible. In practice, all regulatory activity and all taxation is "distorting" competition. In effect, the concept of the desirability of the level playing field has led to the philosophy of "light touch regulation "(Gordon Brown) that was a playing crucial role in the evolution of the crisis. Individual economies that refrained from following the crowd in fact fared better. Spain, for example, did not follow the example of others and continued to ban the emergence of so-called shadow banks and continued to implement a tough regulation of its banking sector.[26]

The Warwick Commission on financial reform has suggested that the creation of a level playing field, a standard prescription of mainstream economists, has in fact been creating the wrong incentives. Whilst the Commission is realizing that demanding an unlevel playing field is heretical, it nevertheless suggests a departure from the paradigm of level playing fields: "We need an unlevel playing field between countries as a result of the policy responses to economic cycles that are often less synchronized than they appear. We need to tilt the playing field with countries to reflect the unlevel capacity of financial institutions for different types of risk and to help risks flow to where they are best matched by risk capacity" (Warwick Commission 209, p. 8). Creating a level-playing field – the policy prescription of the past – has contributed to the biggest financial crisis since the Great Depression. It is justified to depart from this failed paradigm.

Policy makers in Europe and elsewhere will have to evaluate the risks of the implementation of transaction and other taxes against the political risk of non-implementation. If civil society is jointly pushing for a transaction tax, policy makers will probably be reluctant to continue using the international consensus argument. Thus, public support for innovative taxation is crucial for its success.

As discussed in the section on a currency transaction tax, this instrument could be used to provide some form of political leverage. If other financial markets, e.g. the United States or

[26] See, for example, Forbes.com on Spain, published on 13 October 2008, available at http://www.forbes.com/2008/10/13/spanish-banking-bailouts-markets-equity-cx_je_1013markets17.html, and the analysis of the New York Federal Reserve on the shadow banking system (Adrian/Shin 2009). Of course, the Spanish public finances are in dire straits today, but the country's banking system continues to be quite robust, in particular when considering the enormous bubble in real estate that is now deflating itself.

Asian countries, will show reluctance to implement an FTT, the European Union could implement, as discussed, a relatively high CTT. It would encourage other countries to follow.

6. Conclusion

The current crisis has contributed to a further deterioration of the fiscal position of industrialized countries. Greece is only the first example of a problematic trend. Whilst in the past developing countries were the ones to watch, today the risks of financial crises have severely increased for OECD countries. Even if the current European crisis will be contained, and strong doubts persist whether this will be achieved in Greece in particular, the fiscal outlook for virtually all OECD economies is bleak. Consider that the USA's level of gross government debt will rise from 62 percent of GDP in 2007 to 99.5 percent in 2011. The position of the United Kingdom is even worse: From 46.9 percent in 2007 to 94.1 percent in 2011. Japan's gross government will reach the mind-boggling level of 204 percent of GDP in 2011. These unprecedented levels of debt do not even include unfunded claims, i.e. obligations of governments in the future that are not covered by revenue.

In March 2010, Deutsche Bank published a study on debt levels in developed and developing economies in the current decade. Their baseline scenario suggests an average debt level in industrialized countries of 133 percent of GDP by 2020, up from 76 percent in 2007. Of course, average figures blur the picture. The most indebted countries, according to Deutsche Bank, in 2020 will be Japan, with a gross public debt of about 250 percent of GDP, followed by Greece (about 170 percent) and the USA with about 140 percent of GDP. These are very problematic levels of debt. As just observed in the case of Greece, financial markets can demand levels of interest that can quickly turn a risky path into a vicious circle. The bottom line is: As mentioned above, finance ministers will loose any generosity that is left in them, and will turn extremely thrifty.

For developing economies, the picture is much better. Government debt will fall from 42 percent of GDP to 35 percent of GDP in 2020 (Deutsche Bank 2010). The political consequences are clear: Should innovative taxation lead to substantial revenue, finance minister will be very aggressively trying to get their hands on this income stream. The rapidly deteriorating state of public finance in most OECD-countries will lead to an extreme reluctance of finance ministers to permit earmarking. Earmarking these taxes, or part of them,

for global public goods is probably only feasible if there were both a broad coalition of supporters and the revenue would be used for an accepted global public good, e.g. climate policies.

Against this background, it appears unrealistic to expect national finance ministers, who would be in charge of collecting financial transactions taxes, to pass on all revenue from these new taxes to an international organization responsible for implementing climate change measures. As suggested, a 50/50 sharing of revenue appears reasonable. Half of the revenue from an FTT would be flowing to national budgets; the other half could be used for policies to combat climate change.[27]

Estimated revenue from a financial transaction tax is substantial. If levied globally at a rate of 0.1 percent, annual revenue could be as high as 530 billion dollars. Even at a low rate of 0.01 percent, the global revenue is estimated to reach about 250 billion dollars. Implementation exclusively in the European Union would generate about 200 billion dollars annually at 0.1 percent and about 100 billion dollars at 0.01 percent.

Whilst the implementation of an FTT would administratively not be very difficult due to technical innovations, e.g. trading on electronic platforms, there are preconditions that have to be considered. Most important is a ban of so-called over-the-counter trading of derivative products, which could otherwise be used to avoid paying transaction taxes.

The European Union, the world's largest financial market, could and should push for the implementation of a financial transaction tax. Should the introduction of an FTT not be possible at the global level due to the opposition by interest groups in some constituencies, like-minded countries, led by the EU, should consider the introduction of tax-based restrictions on capital flows. For this purpose, a one percent tax on currency trading would be a useful but relatively light restriction. Whilst in principle global application of re-regulation and taxation of the financial sector are superior, the evidence of the reform debate since 2007 demonstrates that it won't happen. In particular the United States is pushing their own,

[27] In previous discussions on an FTT, Richter suggested that the revenue could be made available to international organizations, preferably the IMF or the World Bank (Richter 2008, p. 49f).Initially, James Tobin had suggested that revenue from a *currency transaction tax* should augment the resources of the World Bank, but he subsequently proposed a division of revenue between the World Bank and the IMF (Richter 2008, p. 50).

national reform agenda, and there is no reason why the European Union should continue to be reluctant to implement its own reforms.

On balance, introducing a financial transaction tax would not affect most developing countries negatively. Quite the opposite: Downsizing the financial sector in OECD-countries, which would of course take away some opportunities for gambling and betting, could over time make investing in developing countries more attractive. Similarly, people with a low income within OECD-countries would also be benefiting from a reduction of speculation in financial markets.

Whilst the vast majority of mankind would gain from the introduction of a financial transaction tax, the small but powerful group that benefits from today's light touch regulation of financial markets will fiercely oppose any decrease in their trading and profit-making capacity. Nevertheless, the opportunity for civil society to stand up for two legitimate objectives – downsizing finance and fighting climate change – has probably never been better than today.

7. References

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