Research Report

Assessing the Financial Transaction Tax in France

THE FINANCIAL TRANSACTION TAX (FTT) IMPLEMENTATION IN FRANCE IN MID 2012 IS CONSIDERED A LANDMARK DEVELOPMENT WITHIN SECURITIES MARKETS REGULATION. HOWEVER, UNTIL TODAY, THE CONTROVERSY ABOUT POSSIBLE DRAWBACKS AND PRACTICAL APPLICABILITY HAS NOT REACHED A CONCLUSION AND CONSEQUENCES FOR MARKET QUALITY ARE YET TO BE THOROUGHLY ASSESSED. IN THIS LIGHT, A RIGOROUS EVALUATION OF THE FTT'S EFFECT ON MARKET QUALITY IS HIGHLY DESIRABLE.

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Introduction

The concept of the financial transaction tax (FTT) has been one of the most controversially discussed topics in financial markets regulation throughout the last four decades. Although theoretical research is considered widespread and advanced, only some empirical studies are available, which not only give a limited view on side-effects but also contradict theoretical literature. For example, Kupiec (1996) shows on the basis of a theoretical model a decrease of volatility after the introduction of an FTT, while Pomeranets and Weaver (2012) empirically observe an increasing (decreasing) effect on volatility after a tax increase (decrease).

In particular, detailed results on the effects on market quality are not only very limited, but are also challenged in their applicability in today's market landscape as market conditions in recent years have changed drastically. In Europe, the ongoing fragmentation process induced by the Markets in Financial Instruments Directive (MiFID) intensified competition among trading venues, fostered new technologies (e.g., high frequency trading, smart order routing) and innovative pricing regimes (e.g., maker-taker pricing), thereby adding even more layers of complexity. In the light of a still ongoing controversy, contradicting research results and the ongoing plans for an FTT in many European countries, research on market quality changes will support politicians, regulators and academics in this debate.

On August 1st, 2012, France introduced an FTT providing a very recent case to draw empirical conclusions on this important matter. Subject to taxation are financial transactions that involve the acquisition of French equity or equity-like securities. The tax rate is 0.2% based on the acquisition value if the respective share was issued by a company registered in France that exhibited a market capitalization larger than 1 billion EUR as of January 1st of the tax year. The French concept is excluding any forms of professional liquidity provision from taxation to protect market making activities and avoid cascading effects on transaction cost levels due to decreased liquidity.

Within the scope of this report, we will analyze changes in liquidity supply and demand on the NYSE Euronext Paris – the most relevant market in terms of volumes – after the introduction of the FTT. In the light of the highly fragmented nature of today's European market landscape, we add another dimension of market quality analysis, i.e., information transmission. Information transmission between dispersed markets is a major characteristic for price coordination, thus ensuring price homogeneity. By investigating prices between the two taxed markets BATS Chi-X and NYSE Euronext Paris, we give a preliminary insight how price dispersion is affected by the FTT.

Dataset & Methodology

We rely on the constituents of the French blue chip index. The CAC 40 represents the 40 biggest stocks in terms of free-float adjusted market capitalization and turnover. Since four of these constituents do not fall into the scope of the FTT, 36 constituents are left to our analysis. We collected market quality as well as order book indicators 40 days before and after the event day (August 1st, 2012), aggregated on a daily basis.

We apply Difference-in-Differences (DiD) regression. Therefore, the development of the stocks exposed to the FTT treatment is benchmarked by comparable stocks not affected by the FTT. We choose the constituents of the German blue chip index DAX 30 as benchmark. Both indices share strong similarities concerning market price levels as well as trading volumes, industry coverage and most important, the European macroeconomic dependency due to the close proximity.

To further improve the robustness of our analysis, we perform the DiD estimation applying a symmetrical range of 40 days before and after the FTT event. Additionally, we cluster for specific stock price and market capitalization (C1, i.e., highest tercile to C3, i.e., lowest tercile) to increase comparability within the subsamples. Being aware that the idiosyncrasies of the control group could bias the results, we additionally present the mere French pre- and post-event analysis (no_contr).

Results

Within the investigated CAC 40, our findings indicate that the number of trades within 40 days after the event decreased by an average of 16% after controlling for the development of the German DAX, respective 27% in the mere French pre- and post-event view.

Most interestingly, market liquidity, measured in relative spread (cost of immediacy) and Depth (10) (order book volume denoted in Euro 10 basis points around the midpoint), has decreased sharply after the introduction of

the FTT. Results are robust in the single French evaluation (no_contr), as well as compared to the German DAX (contr - cf. Table 1). Therefore, not only liquidity demand, i.e., number of trades, decreases after the introduction; even more alerting, liquidity supply is deteriorating as traders quit quoting and leave the market.

A fragmented market system, like in Europe, is linked by information transmission between markets through a constantly maintained and renewed price equilibrium as shown by Harris et al. (1995). In order to investigate whether this deterioration is also affecting inter-market information transmission, we apply time-series co-integration methodology as proposed by Engle and Granger (1987). We estimated the quality of price coordination between NYSE Euronext and BATS Chi-X by determining the speed of stock prices adjustment of respective stocks after a disequilibrium situation before and after the FTT. For robustness we apply the same for the DAX 30 constituents traded on Xetra and BATS Chi-X.

We find price coordination between NYSE Euronext Paris and BATS Chi-X significantly decreased. Further, the equilibrium correction mechanism, i.e., the reversion to the long-term price equilibrium, has been weakened persistently, where the benchmark stocks show no effect.

Conclusion

Our results indicate that market participants are not only burdened by the tax itself, but

		Relative Spread		Depth (10)	
		no_contr	contr	no_contr	contr
Market Capitalization Cluster					
Change C1	abs.	0.0001 ***	0.0001 ***	-149,399 ***	-170,867 ***
	rel.	13%	11%	-19%	-22%
Change C2	abs.	0.0001 **	0.0001 *	-98,522 **	-127,968 **
	rel.	14%	7%	-23%	-29%
Change C3	abs.	0.0002 *	0.0002 ***	- 24,657 *	-94,194 ***
	rel.	18%	16%	-10%	-40%
Price Cluster					
Change C1	abs.	0.0001 **	0.0001 **	-187,683 ***	-129,146 ***
	rel.	18%	9%	-28%	-20%
Change C2	abs.	0.0001 ***	0.0001 ***	-94,008 **	-131,405 ***
	rel.	15%	15%	-20%	-28%
Change C3	abs.	0.0001 **	0.0001 *	-41,258 ***	-103,512 ***
	rel.	15%	15%	-13%	-32%

Results per price and market capitalization tercile over the French (no_contr) and the benchmarked (contr) sample within 40 day after the introduction. (*p <0.1; **p <0.05; ***p <0.01)

Table 1: Changes in Market Liquidity after the FTT

additionally by an average 15% (benchmarked 12%) wider relative spread as well as an 18% (benchmarked 28%) thinner order book volume (Haferkorn and Zimmermann, 2013). These results exemplarily indicate the traversing effect on overall transaction costs triggered by a rise in the explicit transaction costs, as argued by Habermeier and Kirilenko (2001). Higher explicit fees will not only affect liquidity demand, but also impede and disperse liquidity supply, additionally amplifying the overall cost of trading. Most interestingly, considering the various exemptions for professional liquid-

ity provision, market liquidity levels could not be maintained by these market participants alone. Considering liquidity demand, number of trades likewise dropped by an average 27% (benchmarked 16%), indicating that German stocks experienced a more shallow decline in number of trades. With the absence of liquidity supply and demand, inter-market information transmission decreases. We observe a dwingling effect on price coordination between taxed markets leading to a situation where price comparability and therefore market integrity is significantly deteriorated.

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