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Financial secrecy, tax havens, and liquidity: evidence from non-US stocks

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Abstract

We investigate the relation between a country's level of financial secrecy and market liquidity for non-US stocks listed on the New York Stock Exchange (NYSE). Our results indicate that non-US stocks from countries with lower levels of financial secrecy have higher market liquidity, as well as a lower probability of information-based trading. Deeper analysis into components of financial secrecy, including a jurisdiction's activity as a tax haven, lends insight into significant drivers of these effects. Our findings suggest that reducing financial secrecy can enhance market liquidity, ultimately benefiting investors and contributing to the overall stability and efficiency of financial markets.

Keywords: market liquidity, bid-ask spreads, information-based trading, financial secrecy, tax havens

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1. INTRODUCTION

The benefits to globalisation of investment opportunities, particularly with equity, have been widely documented, both for the investor and for the companies that avail themselves of capital (Mittoo, 1992; Doidge, Karolyi & Stulz, 2004). For the investor, foreign investment provides the opportunity for portfolio diversification, achieving returns from multiple vehicles that are not perfectly correlated with each other. For the company, equity issuance enables access to a larger base of shareholders and a lower cost of capital. Standard market measures, such as valuation and liquidity, are improved by the increased visibility. But just how much are these measures improved?

2. LITERATURE REVIEW AND HYPOTHESES

2.1 Global investment and reduced barriers

As previously noted in the Introduction, the advantages for companies in listing across borders are numerous (Stulz, 1999; Doidge et al., 2004). Looking at the US markets alone, this can be observed in the increased number of listings of non-US stocks on US exchanges, as long charted by the Bank of New York Mellon. For example, in December 2000, there were approximately 330 non-US stocks listed on the NYSE. As of 2020, the number of non-US stocks listed on the NYSE had risen by nearly two-thirds, to 542. Some of this has simply been due to the globalisation of capital markets, which has made it easier for companies to access international investors. Another factor has been the growing interest in emerging markets, particularly in Asia and Latin America, where many companies are seeking to tap into the liquidity and expertise of US investors.

For domestic US investors, non-US stocks are becoming an increasingly popular way to gain exposure to international markets, particularly in regions where direct investment may be more difficult or risky. Non-US stocks in the form of American Depository Re

$$Quoted\ Share\ Depth_{i,t} = (Ask\ Depth_{i,t} + Bid\ Depth_{i,t});$$

where Ask $Depth_{i,t}$ is the ask depth for stock *i* at time *t*, and Bid $Depth_{i,t}$ is the bid depth for stock *i* at time *t*. Ask depth and bid depth indicate the number of limit orders to sell and buy, respectively, a security. As such, the quoted depth of a stock measures the degree to which a large number of trades would affect its market price.

We use the market quality index (MQI) proposed by Bollen and Whaley (2004) to measure the overall effect of the ratings on market liquidity. This measure captures the tradeoff between quoted spread and market depth and is a direct measure of liquidity. The MQI is defined as the ratio of the quoted depth to the quoted spread:

$$Market\ Quality\ Index_{i,t} = (0.5)Quoted\ Depth_{i,t} / Quoted\ Spread_{i,t}.$$

The price impact of trades measures the extent of information-based trading, and we calculate it using the following:

$$Price\ Impact_{i,t} = 100\ D_{i,t}(M_{i,t+5} \quad M_{i,t});$$

where $M_{i,t}$ and $M_{i,t+5}$ are the quote midpoints for stock *i* at time *t* and *t+5* minutes, respectively. The price impact of trades measures the extent to which a trade alters the share price. If a trade carries no new information on the value of the share, its price impact should be zero on average. If a trade is information motivated, the price will tend to rise if initiated by a buyer and fall if initiated by a seller. The mean value of the price impact during each interval is calculated by weighing each trade equally.

The realised spread for each trade measures the market maker

effects of the liquidity or information asymmetry variables. (Firm fixed effects are typically used when there is substantial variation within firms over time, and when the effects of interest are estimated by comparing changes within firms over time.) As a robustness check, the standard errors are clustered by year to account for any correlation or heterogeneity within each specific year. As can be seen in the Table, FSS loads at less than 1% statistical significance levels in each 3( )55(ea)-2(cn7t4(i)-4.ɛ))(ca)8(l)-4((i)-4( )-7(l)-4(

4.2 Supplemental analysis

According to the TJN, the increasing number of tax havens have a negative impact on

Regarding Anti-Avoidance, one of its indicators is Controlled Foreign Company (CFC) rules. They garner much attention in international tax discussions; one can surmise that they would cause scepticism regarding investments. In fact, they have been a common topic of study since the TCJA (e.g., Clausing, 2020). Regarding Double Tax Treaties, these also attract a lot of attention and would be salient to investors. For example, Beer and Loeprick (2018) focus on Sub-Saharan Africa and assert that investors are not attracted to areas that engage in treaty shopping, an activity that would have resulted in a high score within this category, consistent with our regression analysis.

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that has been less studied, but it highlights a promising line of inquiry in the years to come as more observations become available.

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Table 2: Descriptive Statistics

Log(MCap)	0.0074***	0.0052***	-0.0279***	-0.1531***
	(7.99)	(8.02)	(-4.42)	(-5.60)
Constant	0.0477	0.0766**	-0.1868**	-1.6440***
	(0.99)	(2.45)	(-2.98)	(-4.64)
Industry FE	ETQq487.75 473.2			

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Table 4: Regression Analysis for Financial Secrecy and Information Asymmetry

This Table shows the OLS results of the following regression model: Realised $Spread_{i,t}$, Price $Impact_{i,t}$, or $PIN_{i,t} = \beta_0 + \beta_1$ Financial Secrecy $Score_{j,t} + \beta_2$ $Political_{j,t} + \beta_3$ $Log(GDP_{j,t}) + \beta_4$ $(1/Price_{i,t}) + \beta_5$ Return Volatility$_{i,t} + \beta_6$ $Log(Volume_{i,t}) + \beta_7$ $Log(Market\ Cap_{i,t}) + \varepsilon_{i,j,t}$; $Realised\ spread_{i,t}$ is the realised spread of stock i in year t, $Price\ impact_{i,t}$ is the mean price impact of stock i in year t, $PIN_{i,t}$ is the probability of information-based trading of stock i in year t, Financial Secrecy $Score_{i,t}$ is an annual score of a country's financial system, specifically country j in year t, that is published by the Tax Justice Network, $Political_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, $GDP_{i,t}$ is the GDP per capita of country j in year t, Price

Table 6: Regression Analysis for Tax Haven and Spread

This Table shows the OLS results of the following regression model: Quoted Spread$_{i,t}$, or Effective Spread$_{i,t}$, = β_0 + β

Log(MCap)	0.0064**	0.0072**	0.0038*	0.0042**
	(3.06)	(3.27)	(2.69)	(2.88)
Constant	0.2621***	0.1712***	0.1668***	0.1205***
	(6.98)	(7.16)	(7.56)	(8.08)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	923	923	923	923
Adjusted R-squared	0.1393	0.1383	0.1662	0.1639

Table 7: Regression Analysis for Tax Haven and Depth and Market Quality Index

This Table shows the OLS results of the following regression model: $Depth_{i,t}$, or $MQI_{i,t}$, = β_0 + β_1 $CTHI_{j,t}$ or Haven $Score_{j,t}$ + β_2 $Political_{j,t}$ + β_3 $Log(GDP_{j,t})$ + β_4 $(1/Price_{i,t})$ + β_5 Return $Volatility_{i,t}$ + β_6 $Log(Volume_{i,t}$

Log(MCap)	-0.0479**	-0.0518**	-0.2458**	-0.2651**
	(-3.82)	(-3.81)	(-3.85)	(-3.84)
Constant	-0.0678	0.4399	-0.5019	2.0038
	(-0.32)	(1.52)	(-0.49)	(1.41)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	923	923	923	923
Adjusted R-squared	0.2103	0.2126	0.2166	0.2192

Table 8: Regression Results for Spreads Using Tax Haven Category Scores

This Table shows the OLS results of the following regression model: Quoted Spread$_{i,t}$ or Effective Spread$_{i,t}$, = β_0 + β_1 Category Score$_{j,t}$ + β_2 Political$_{j,t}$ + β_3 Log(GDP$_{j,t}$) + β_4 (1/Price$_{i,t}$) + β_5 Return Volatility$_{i,t}$ + β_6 Log(Volume$_{i,t}$) + β_7 Log(Market Cap$_{i,t}$) + $\varepsilon_{i,j,t}$; where Quoted Spread$_{i,t}$ is the time-weighted mean quoted spread of stock i in year t, Effective Spread$_{i,t}$ is the trade-weighted mean effective spread of stock i in year t, Category Score$_{j,t}$ (LACIT is an acronym for the Legal and Accounting Complexity Index of a given country in a specific year (i.e., country j in year t); Loopholes & Gaps refers to specific gaps or weaknesses in a country's tax laws or enforcement mechanisms that can be exploited for tax avoidance or evasion in the same country and year; Transparency measures the level of openness in a country's tax and financial systems for the same country and year; Anti-Avoidance measures indicate a country's commitment to combat tax avoidance using legal and regulatory measures in the same country and year, and Double Tax Treaty Aggressiveness refers to agreements between two countries to prevent double taxation of income earned by individuals or companies operating in both countries for the same country and year), Political$_{j,t}$ is the political rating of country j in year t from the Worldwide Governance Indicators, GDP$_{i,t}$ is the GDP per capita of country j in year t, Price$_{i,t}$ is the mean stock price of stock i in year t, Return Volatility$_{i,t}$ is the standard deviation of daily closing quote-midpoint returns of stock i in year t, Volume$_{i,t}$ is the mean daily dollar trading volume of stock i in year t, Market Cap$_{i,t}$ is the market value of equity of company i in year t, and $\varepsilon_{i,t}$ is the error term. Standard errors are adjusted for both heteroscedasticity using Huber-White estimators and clustering by year, addressing potential correlation or heterogeneity within each specific year. The significance levels of the coefficients are denoted by ***, **, and *, indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variables	Quoted Spread	Quoted Spread	Quoted Spread	Quoted Spread	Quoted Spread	Quoted Spread	Effective Spread	Effective Spread	Effective Spread	Effective Spread	Effective Spread	Effective Spread
LACIT	0.0007***					0.0001	0.0003					

(1.38) (3.25)