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Cross-listing in the European ETP market

Stefano Alderighi
World Federation of Exchanges; Department of Economics, University of Essex

Abstract

The European ETP market is the second largest in the world and presents a unique structure, characterised by high levels of cross-listings across multiple jurisdictions. This paper estimates the extent of cross-listing in the European ETP market, finding that roughly 88% of the instruments listed in Europe are cross-listed on more than one exchange, accounting for 98% of the total market capitalisation. This result calls for further investigation of the European ETP market structure, in particular on the topics of price formation and fragmentation/best execution.

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Contact: Stefano Alderighi - salderighi@world-exchanges.org.
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1. Introduction

Passive investing, broadly understood as investment strategies that track the performance of other assets (typically equity indices: Sushko and Turner, 2018), has grown tremendously in importance over the past twenty years, putting the leading role of active asset management under increasing scrutiny (Anadu et al., 2018). Exchange-traded products (ETPs), and in particular Exchange-traded funds (ETFs), have had a key role in fostering the recent growth of passive investment (Anadu et al., 2018; Lipkin et al., 2018; Mackintosh, 2017; Sushko & Turner, 2018).[1,2] ETPs are appealing to traders because they provide the same diversification opportunities as mutual funds (Sushko & Turner, 2018), with the added benefit that they can be traded intraday just like regular stocks (Ivanov, 2017). The combination of accessibility and typically low management fees has contributed greatly to the growth of ETFs assets worldwide (Mackintosh, 2017; Thomadakis, 2018), which amounted to over 4.7 trillion USD as of end of 2018 (ICI, 2019).

In face of the importance of the ETP market, the consequences of (high levels of) passive trading on financial markets are yet to be well understood. Research has found that high levels of passive investing can alter the process of price formation and lead to higher correlation in the returns of individual securities (Sushko & Turner, 2018), thus potentially downsizing the benefits of diversification. In addition, existing evidence points towards a positive correlation between passive investment and market volatility (Anadu et al., 2018; Ben-David et al., 2018), thus raising concern that passive investing could lead to higher financial instability (Pagano et al., 2019). As such, estimating the size and understanding the structure of the ETP market for different exchanges/jurisdictions is of paramount importance to steer an evidence-based dialogue with policy makers and regulators.

This note focuses on the structure of the European ETP market. The reason is twofold. To start with, Europe is the second biggest ETP market worldwide (the first being the United States), accounting for over 900 billion USD assets under management (AUM) invested in ETPs (source: ETFgi). Secondly, this market presents a unique structure worth further investigation, as in Europe most ETPs are cross listed on several different exchanges, but (unlike the US stock market) without a clear indication of primary/secondary listings. Therefore, attributing AUM to individual exchanges in Europe is not possible. This note contributes to the literature by providing an estimate of the extent of cross-listing in the European region and by providing hints for future research based on these results. We find that roughly 88% of the ETPs listed in Europe are cross listed on more than one exchange, accounting for 98% of the ETP AUM in the region. To the best of our knowledge the academic community is relatively unaware of the extent of this phenomenon, which leads to high levels of fragmentation and could trigger further research on the topics of price discovery and best execution.

The rest of the note is as follows. Section 2 defines ETPs and describes the methodology used to calculate ETP market capitalisation. Section 3 describes the data. Section 4 provides an

[1] Exchange traded products are a wide set of securities that includes ETFs, as well as exchange traded commodities (ETCs), which "track the performance of an underlying commodity, commodity future or commodity index" (Deutsche Börse Xetra Website), and exchange traded notes (ETNs), "exchange-traded debt securities that track the performance of underlying reference indices" (Deutsche Börse Xetra Website). Taxonomies can however differ between jurisdictions.

[2] See https://www.bloomberg.com/professional/blog/end-era-passive-equity-funds-surpass-active-epic-shift/.

estimate of ETP market capitalisation in Europe. Section 5 provides hints for future academic research and concludes.

2. ETP market capitalisation: definition and methodology

This note uses ETP market capitalisation, a novel indicator of ETP market size recently launched by the World Federation of Exchanges (WFE), to estimate the extent of cross-listing in the European ETP market.[3]

As a starting point, we provide a definition of exchange traded products:

Exchange Traded Product (ETP): A security priced so that its value is derived from other investment instruments including (but not restricted to): commodities, currencies, share prices, bond prices, interest rates and/or indices comprising one or more of these. An ETP is an open-ended instrument (that is, its shares may be created or redeemed after the initial offering), listed and traded on a regulated exchange. ETPs trade and settle like a share and trade intra-day. An ETP can be both passively or actively managed. ETPs do not include warrants and certificates.

This definition is broad, and caters for the inclusion of ETFs, ETCs and ETNs. We herein define ETP market capitalisation:

ETP Market Capitalisation: The ETP market capitalisation of a stock exchange is the total number of shares outstanding of ETPs listed on the exchange/in a jurisdiction, multiplied by their respective NAVs, as of the last trading day of the month.

Formally, for ETP i at time t:

$$ETP\ Market\ Cap_{it} = Number\ of\ outstanding\ shares_{it} \times NAV_{it} \quad (1)$$

Exchange-level ETP market capitalisation at time t is found by summing the market capitalisation of all ETPs listed on an exchange/in a jurisdiction. Formally:

$$Exchange - level\ ETP\ Market\ Cap_t = \sum_{i=1}^{n} ETP\ Market\ Cap_{it} \quad (2)$$

Where n is the number of ETPs listed on an exchange/in a jurisdiction.

3. Data

Stock exchanges are the most important source of our data. Every month European exchanges provide the WFE with a list of all ISINs linked to ETPs listed on their venues. For the purpose of this research, we display June 2019 results. For June 2019 month we received data from the following European exchanges (in alphabetical order):

- Börse Stuttgart
- Cboe Europe
- Deutsche Börse AG
- Euronext

[3] The definitions and methodology outlined in this section are the ones used by the WFE to collect ETP Market Capitalisation from their members. See the WFE definition manual here: https://www.world-exchanges.org/storage/app/media/work/statistics

- London Stock Exchange Group
- Luxembourg Stock Exchange
- SIX Swiss Group

As emerged from conversation with exchange representatives, these venues represent the bulk of ETP trading activity in Europe.[4] After collecting exchanges' data, we proceeded to remove:

- Cross-listing within exchange groups (for example, London Stock Exchange and Borsa Italiana; Euronext venues);
- Double counted instruments within jurisdictions, for example ETPs with the same ISIN but providing different currency exposures;
- Cross-listing between jurisdictions, preserving an indication of where the instruments are listed.

This data cleaning exercise allowed us to compile a set of unique European ISINs with an indication of the exchanges they are listed on. We then obtained information from Thomson Reuters Eikon on closing NAVs and number of outstanding shares for each of these ISINs as of end of June 2019. This allowed us to calculate ETP market capitalisation for the region and (most importantly) to estimate the extent of cross-listing across different exchanges.

4. Results

Table 1 displays our estimation results:

Table 1: Extent of cross-listing in the European ETP market.

Listed on:	Instruments		Market capitalisation	
	Value	Share of total	Value	Share of total
One market only	229	12.11%	13,662,822,617.75	1.68%
Cross-listed	1,662	87.89%	801,956,815,837.93	98.32%
Of which:				
Listed on two exchanges	476	25.17%	111,398,729,247.02	13.66%
Listed on three exchanges	340	17.98%	71,780,719,151.16	8.80%
Listed on four exchanges	286	15.12%	77,095,722,838.25	9.45%
Listed on five exchanges	318	16.82%	224,068,448,644.00	27.47%
Listed on six exchanges	242	12.80%	317,613,195,957.50	38.94%
Total	**1,891**	**100%**	**815,619,638,455.68**	**100%**

Note: Market capitalisation in USD, full numbers. Source: exchanges, Thomson Reuters.

Our merged WFE-Thomson Reuters database contained information on almost 1,900 unique ISINs, for a total market capitalisation amounting to 815.6 billion USD. This estimate is consistent with those provided by ETFgi and BlackRock, as commented below (section 5.a).

[4] According to Thomadakis (2018), Euronext Paris, Deutsche Börse AG and LSE Group accounted for 85% of the (lit) trading activity in Europe in 2017.

As evident from the table, the extent of cross-listing across European exchanges is very high. 87.9% of the instruments we have information on are listed on more than one exchange, accounting for almost all the market capitalisation in the region. More than 75% of the ETP market capitalisation can be attributed to instruments listed on four exchanges or more. This result, not particularly debated in the academic community, is not only important to understand the structure of the European ETP market but opens the ground to interesting and unexplored research questions. We therefore believe that this note could serve as a valuable foundational reference for academic studies investigating further the structure of the European ETP market.

4.1. Comparison with other estimates

We compare our estimates with other sources, to ensure generalisability and comparability.

We firstly compare our figures with those reported by ETFgi, a leading independent research and consulting firm covering the ETP market globally. According to ETFgi "at the end of July 2019, the European ETF/ETP industry had 2,336 ETFs/ETPs … listed on 30 exchanges in 23 countries", and AUM equal to 910.34 billion USD.[5] Our estimates are lower than the ones provided by ETFgi but overall consistent, as our pool of exchanges/countries (seven exchanges in ten countries) comprises the largest markets in the European region, without however being as comprehensive as the one used by ETFgi. We therefore expect our estimate to be overall in the same ballpark of the one provided by ETFgi, although smaller.

We also compare our figures with the ones provided by BlackRock iShares, a leading European ETP issuer (Pagano et al., 2019), on the size of their ETP issuance. According to iShares, as of September 20th, 2019 the size of their UCIT ETF business was 413 billion USD, for a total of 409 ETF UCITs listed across European markets.[6] Our June 2019 figures obtained from Thomson Reuters are comparable: in our database we have information on 371 iShares instruments, for a total market capitalisation of 400 billion USD.

Based on these comparisons, we are confident that our results are a reliable estimate of both the size of the European market and the extent of cross-listing.

5. Conclusions and future research

The main target of this note is to raise the awareness of the academic community on a phenomenon, cross-listing in the European ETP market, that can open the ground to new academic contributions. For example, and as evident from our own data and from issuers' websites, cross-listed ETPs have non-negligible price differences across different venues. This raises the point of whether investors exploit arbitrage opportunities in the European ETP market, whether this leads to relevant information being incorporated in their prices, and on what jurisdictions price formation is more likely to happen. As discussed in Hasbrouck (1995), the presence of the same instrument in different markets is a natural set-up to understand the influence of market characteristics on price discovery (Chen & Choi, 2012; Eun & Sabherwal, 2003; Frijns et al., 2010, 2015, 2018; Pascual et al., 2006). Given the increasing attention the literature is giving to price discovery in relation to exchange traded products (see for example

[5] See ETFgi news: https://etfgi.com/news/press-releases/2019/08/etfgi-reports-assets-invested-etfs-and-etps-listed-europe-reach-all

[6] See iShares product screener: https://www.ishares.com/uk/individual/en/products/etf-investments?switchLocale=y&siteEntryPassthrough=true#!type=all&search=ucit&view=keyFacts

Wallace et al., 2019), we believe that the European case is interesting setting to study price discovery in the ETFs/ETPs market.

As evident from the estimates provided in this note, the European ETP market is very fragmented. This evidence raises concerns as to whether brokers generally act in the best interest of their clients and trade at the smallest available cost (i.e. whether they ensure best execution) or whether they act in their own interest. This topic is widely investigated in the United States. Battalio et al. (2016) for example find that in the US market fees and rebates granted to brokers by trading venues are typically not passed on to individual clients. In addition, clients are less likely to choose a broker based on their ability to provide best execution if they bundle ancillary services (commonly known as 'soft dollars'). In a recent contribution, Anand et al. (2019) study whether US brokers are more likely to route orders through Alternative Trading Systems (ATSs) that they own. While they find that not all brokers systematically route their orders through affiliated ATs, they also find that US brokers that have a high degree of affiliated trading venues have a 'low fill rate'. We believe the case of European ETPs would be ideal to study best execution, given the relevant size of this market, its high levels of fragmentation, and the fact that, following MiFID II, in Europe best execution is a regulatory obligation (WFE, 2019).

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