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Agenda

Advancing economics in business

Introducing competition between stock exchanges: the costs and benefits

Over the past two decades, the competitive structures of stock markets across the world have undergone considerable change, and in many markets new trading platforms compete with national stock exchanges. With reference to Brazil as a topical case study, we tackle the question: what are the costs and benefits of introducing competition to a stock market?

The disappearance of technical barriers and the liberalisation of securities markets have dismantled the monopoly of national stock exchanges. New trading platforms have entered, first in the most established financial markets—the USA, UK and Continental Europe—and then in the expanding financial centres of Canada, Australia and Japan. The wave of entry has not yet finished; various trading platforms have recently announced plans to launch in other financial centres such as Brazil and Korea, but so far this entry has not occurred.

Competition is not a goal in itself but a means to an end—in large financial centres such as the USA and the UK, competition between trading platforms became the norm several years ago, the aim being to reduce the costs of trading and improve service offerings. At the same time, international precedent suggests that there are potential costs of having more than one trading platform (and clearing house), such as the additional regulatory costs of supervision and monitoring, the costs to brokers associated with connecting to additional infrastructure providers, and investments in new IT infrastructure.

Using Brazil as a case study, and drawing on a recent Oxera report,[1] this article outlines key factors to consider when assessing the costs and benefits of increasing competition to a stock market in which it is currently limited.

Setting the scene—competition in international stock exchanges

Financial centres can be grouped into three broad categories: i) those that are well established as large financial centres, such as the USA and the UK; ii) those that have emerged more recently as large financial centres, such as Australia, Hong Kong and Canada; and iii) smaller financial centres, some of which could be on the cusp of dynamic growth, such as India, Mexico and South Africa.

A common trend observed internationally is that, as a financial market grows, regulation is generally relaxed and the incumbent national stock exchange is exposed to competition. Often such regulatory changes come after pressure from users and/or potential new entrants that have identified the scale of the market as sufficiently large for multiple trading platforms to compete efficiently.

The scale of the Brazilian market has grown rapidly over the past ten years and is now similar to the scale of markets at the point at which competition has been introduced, such as Australia. In 2011 the total value of trading on Bovespa, the national stock exchange in Brazil, was US$926 billion, more than a nine-fold increase since 2004, and larger than the value of trading on the Australian Stock Exchange (ASX) in 2009 (US$771 billion), when entry received regulatory approval.[2] Indeed, several trading platforms have announced plans to enter the Brazilian market: earlier this month, Americas Trading Group, with the financial and technical support of NYSE Technologies, joined BATS Global Markets and Direct Edge as the third trading platform with public plans to launch an alternative equities trading venue to Bovespa in 2013.[3]

Monetary benefit—trading for less

One of the main benefits of increased competition is a reduction in trading and post-trading fees. In the case of Brazil, the Oxera study undertook detailed analysis of the prices charged by Bovespa in order to estimate the potential scope for trading and post-trading fee reductions from the introduction of competition, drawing comparisons with 17 other trading platforms with different competitive market structures from across

Table 1 Sample of international financial centres used in benchmarking exercise

Financial centre	Vertically integrated?	Size (value of trades in 2010, US$ billion)
USA	No	17,795
Europe, Chi-X	No	2,135
UK, London Stock Exchange	No	1,754
Germany	Yes	1,632
Hong Kong	Yes	1,496
Canada	No	1,366
Spain	Yes	1,361
Italy	Yes	1,124
Australia, ASX	Yes	1,062
Brazil	Yes	867
India	Yes	799
South Africa	Yes	340
Singapore	Yes	288
Mexico	Yes	119
Poland	Partly	69
Australia, Chi-X	No	around 10
Argentina	Yes	4

Note: Highlighting indicates financial centres where the main stock exchange faces significant competitive pressure.
Source: Based on Table 4.3 in Oxera (2012), op. cit.

Europe, Asia, the USA and Latin America.[4] Table 1 above lists the financial centres, highlighting those where there is significant competitive pressure on the main stock exchange, and summarising other potentially relevant characteristics, such as the size of the market and the degree of vertical integration between the exchange and the post-trading infrastructure providers—ie, the clearing house and the central securities depositary (CSD).

The analysis found trading fees in Brazil to be higher than in all financial centres where competition has been introduced. However, as shown in Figure 1 overleaf, once the smaller scale of trading in Brazil is taken into account, Bovespa's trading fees are not necessarily out of line—at 0.7 basis points (bp), they are not significantly higher than those of Borsa Italiana (at around 0.6bp), a slightly larger stock exchange.

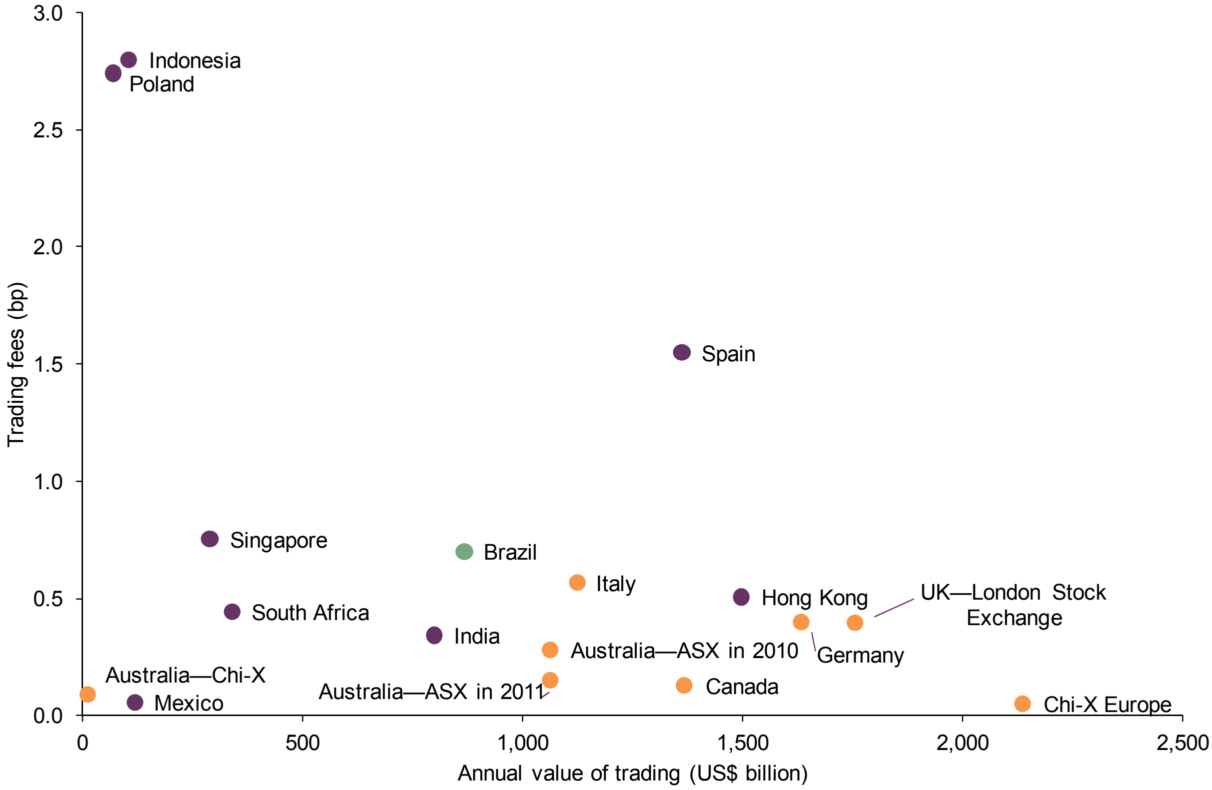
This means that, if the stock market in Brazil continues to grow, economies of scale would be expected to reduce the costs of operating as an exchange. However, entry, or at least the threat of it, may be needed to impose sufficient competitive pressure on Bovespa to pass these cost savings on to investors, and thereby reduce its fees. Despite trading volumes growing to more than 1.5 times the level in 2007, the combined trading and post-trading fee charged by Bovespa has not fallen.

Figure 2 (see page 4) shows that the combined trading and post-trading fees in Brazil are higher than those in many other financial centres, including centres of a comparable size. For example, the cost at Bovespa is double that at ASX in Australia and at the National Stock Exchange of India (two stock markets of similar size to Brazil).

Comparing like with like—taking account of the differences in services

It is often argued that comparing the cost of trading and post-trading across financial centres is like comparing apples with pears, since there are differences in the scope and quality of the services offered. In Brazil, the beneficiary owner rule means that Bovespa holds accounts at the end-investor level, and therefore the security is delivered directly into the end-investor's account rather than the accounts of custodians, as occurs in most other financial centres. To take this

Figure 1 Relationship between the cost of trading and the value of trading—active Brazilian institutional investor



Note: 1. Except for Brazil (coloured green for distinction), colour coding highlights where significant trading took place in 2012 away from the main stock exchange: orange indicates that significant trading took place, purple indicates that it did not. 2. The trading fees presented are those estimated for a relatively active institutional investor in Brazil, using a large broker and custodian—ie, an investor with assets under management of US$30m; value of annual trading of US$120m; average order size of US$100,000; average of four to five stocks traded per day; a broker with 50,000 daily trades; average daily trading value of US$550m; and a custodian with an account of US$43 billion at the national CSD. 3. The value of trading refers to the value of electronic order book (EOB) trading in 2010 on the relevant trading venue. 4. Two financial centres are excluded from the figure: Argentina, because its trading cost (9bp) is much higher than the others; and the USA, because the value of EOB trading on the New York Stock Exchange was much higher than for the others.
Source: World Federation of Exchanges statistics, and Oxera analysis.

impact into account, consider custodian fees. Given that Bovespa settles at the end-investor level, the fees charged by custodians in Brazil would be expected to be lower than in financial centres where the CSD settles at the custodian level and the allocation of securities between clients of the same custodian is the responsibility of that custodian. Considering custodian fees will therefore adjust for the different allocation of services between the CSD and the custodian in Brazil and in other financial centres, as illustrated in Table 2.

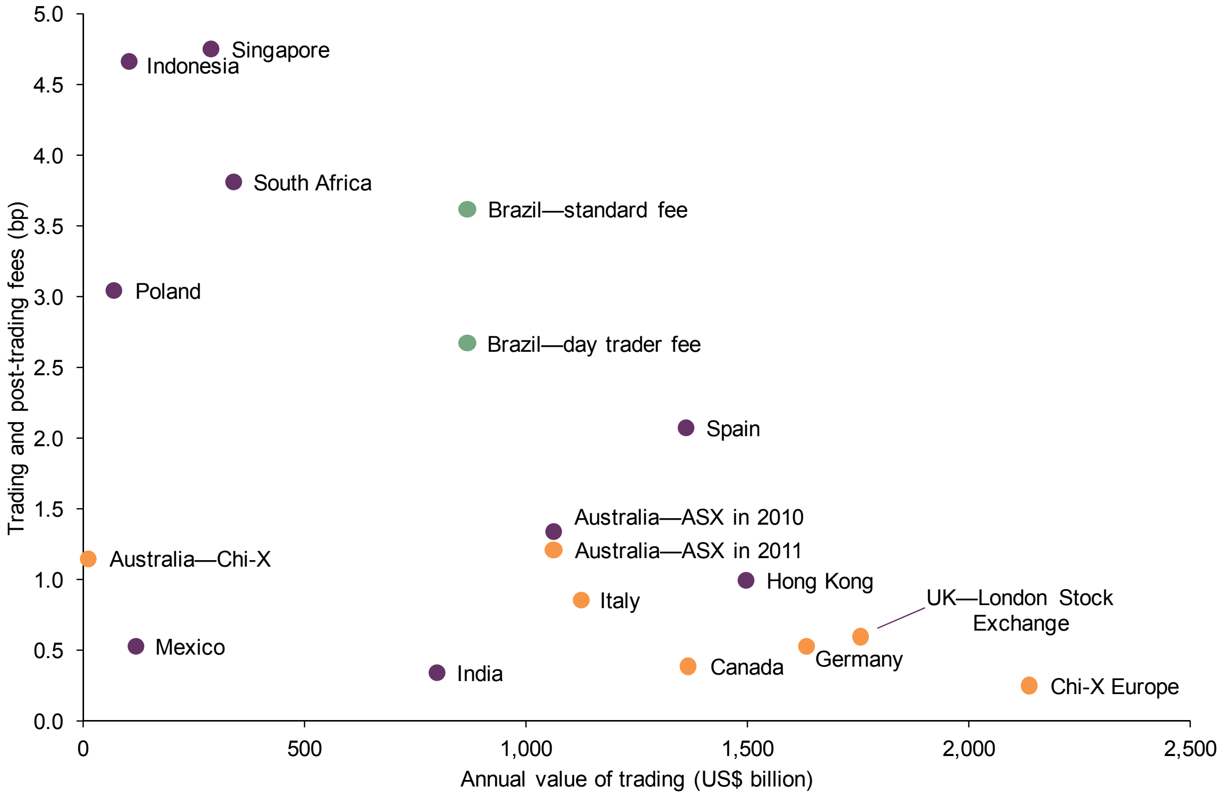
This was the approach taken in the Oxera study. As expected, including custodian fees narrows the difference between the fees charged by Bovespa and those charged elsewhere, although fees in Brazil remain higher. The beneficiary owner system cannot explain the full difference in cost because, as shown in Figure 2 overleaf, trading and post-trading fees in Brazil are considerably higher than in India, where accounts are also held at the end-investor level. Thus, there seems to be scope for a reduction in fees, which will ultimately benefit investors. This could also have a positive impact on the wider economy by reducing the cost of capital for listed companies, and thereby stimulating investment.

Table 2 Allocation of settlement services between the CSD and custodian

	Settlement to custodian client omnibus account[1]	Settlement to end-investor account
Brazil and India	CSD	CSD
Most other financial centres	CSD	Custodian

Note: [1] An account opened in the name of an account provider, such as the custodian, but where the securities credited to the account belong to several of the account provider's clients.

Figure 2 Relationship between the cost of trading and post-trading and the value of trading—active Brazilian institutional investor



Notes: See Figure 1. In this analysis, the post-trading costs reflect the fees charged by the national clearing house and CSD within each financial centre considered.
Source: World Federation of Exchanges statistics, and Oxera analysis.

Costs of increasing competition

By splitting liquidity across more than one trading venue, competition can result in a fragmentation of price information. Market participants can be left to consolidate the information themselves—indeed, this was what occurred initially in the USA, Europe and Canada—but the significance of data fees charged by some trading venues, coupled with the non-standardisation of data formats and identifiers between different venues, can make this an inefficient and relatively expensive process for some traders.

If price information is not consolidated centrally, price formation may become inefficient, and there may be increased discrepancy in prices between venues. As a result, some investors may trade at less advantageous prices because they have incomplete information, and the cost of investing may increase. For this reason, regulators have been taking a more active role in encouraging the development of a consolidated market data 'tape' (the core data relating to each individual trade). For example, in Europe, the latest draft of MiFID II contains provisions to establish a consolidated data tape containing all markets, including multilateral trading facilities, and requiring such a tape to be made available at a reasonable cost. The industry has raised some concerns about whether this can be achieved, and regulators currently deciding whether to introduce competition into their national stock markets appear to be considering more closely the idea of mandating a consolidated tape.

Multiple trading platforms can also result in some incremental costs to the financial system. For example, brokers choosing to connect to the new platform will incur additional connection costs, and some brokers may choose to invest in new IT infrastructure to fully accommodate the new trading venue into their (order routing) systems. Regulators may also incur incremental costs when supervising multiple trading platforms—for example, additional resources may be required to ensure that rules are applied consistently across all marketplaces. However, as a large component of such costs will be passed on to end-investors, these need to be taken into account when assessing the overall net benefits from increasing competition.

The box overleaf considers the significance of the incremental costs to regulators and brokers from accommodating multiple trading platforms, drawing on international experience.

Significance of the incremental costs to regulators and brokers

Regulators' costs

Although, from an internal perspective, the regulator may have some significant adjustments to make to accommodate competition, the associated costs do not appear to be substantial—the Australian Securities and Investments Commission (ASIC) estimated the ongoing annual incremental cost to be A$6.5m,[1] which is less than 0.1bp of the value of trading in Australia. Introducing competition may also result in a transfer of activities from the incumbent stock exchange's self-regulatory department to the independent national regulator, which, while requiring careful planning, does not result in incremental costs to the system.

Brokers' costs

The additional connectivity and IT investment costs that brokers may incur to connect to multiple trading platforms are likely to vary between brokers. They will depend on whether the broker decides to connect directly to the new trading venue or indirectly via a third-party provider, thereby sharing the costs with the provider's other clients. Only 44 out of 401 brokers connecting to the London Stock Exchange connect directly to BATS Chi-X.[2]

The additional IT investment costs will depend on the existing capabilities of the broker's IT infrastructure and the functionality that the broker wants to achieve. Smart Order Routing (SOR) systems have become more important since the fragmentation of financial markets, and assist in capturing liquidity for a broker's client and consolidating market data across exchanges, giving a clearer view of the market. Orders are routed to the venue where the 'best execution' is expected to be achieved, and liquidity-seeking algorithms are designed to help address challenges such as thin markets. Brokers that already have SOR systems (ie, most of those that compete in larger financial markets or across multiple national markets) will incur only incremental costs associated with leveraging the existing systems to another trading venue. However, those without such a system may consider one necessary to continue to provide a competitive offering in a market with multiple trading venues.

Note: [1] This is the average of the estimated annual cost reported for FY14 and FY15 in Australian Government Department of the Treasury (2011), 'Proposed Financial Market Supervision Cost Recovery Model', Consultation Paper, August, p. 17. [2] Data available on London Stock Exchange and BATS Chi-X Europe's websites.
Source: Oxera (2012), op. cit.

In Brazil, many brokers are not looking forward to the prospect of more competition: absorbing any additional costs would be challenging to the many brokers who are already finding it difficult to keep their heads above water—there are 100 brokers currently connecting to Bovespa, more than double the number connecting to ASX, a comparable financial market in terms of size. In addition, the brokers are unlikely to share the benefits from any reductions in trading and post-trading fees offered by Bovespa or a new entrant, as they may have done in other financial centres. This is because—unlike other financial centres where brokers charge clients a bundled commission to recover internal and any external costs (such as fees paid to exchanges, central counterparties—CCP and CSDs incurred as a result of executing client trades), it is industry practice in Brazil for brokers to pass Bovespa's fees on to investors directly and explicitly.

Concluding remarks

The Brazilian case study highlights that the net benefit (or net cost) of increasing competition can change over time. While the benefits (in terms of reduced fees) may not yet outweigh the additional costs to brokers and regulators from introducing competition, the value of the benefits is expected to increase considerably if the Brazilian market continues to grow, and therefore to outweigh the costs significantly.

From a practical perspective, a managed transition to a more competitive market could be achieved by relying on various mechanisms, ranging from a self-imposed price-monitoring and benchmarking effort by the incumbent, to considering options for entry by new trading platforms and laying out the eventual regulatory framework that will be needed to ensure a well-functioning market.

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[1] Oxera (2012), 'What would be the Costs and Benefits of Changing the Competitive Structure of the Market for Trading and Post-trading Services in Brazil?', prepared for Comissão de Valores Mobiliários, June, available at www.oxera.com.
[2] Value of trading is as reported by the World Federation of Exchanges.
[3] NYSE Euronext (2012), 'ATG Announces the Creation of ATS Brasil with NYSE Technologies', press release, November 5th.
[4] To control for differences in the way in which brokers and investors use infrastructure providers, the benchmarking analysis took a 'user-profile' approach and applied four stylised investor profiles to the infrastructure pricing schedules along each trading channel. The user profiles were designed based on Bovespa's trading data to represent four types of investor currently active in the Brazilian market: a retail investor, two institutional investors with different velocities of trading, and a financial institution.
[5] European Commission (2011), 'Proposal for a Directive of the European Parliament and of the Council on markets in financial instruments repealing Directive 2004/39/EC of the European Parliament and of the Council (Recast)', EC 2011/0298. This is one of the seminal pieces of EU legislation underpinning EU financial markets.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Leonardo Mautino: tel +44 (0) 1865 253 000 or email l_mautino@oxera.com

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