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Financial exchange mergers: European and North American experiences

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Abstract

The last decade has seen a wave of mergers and acquisitions in the financial exchange industry, as incumbent exchanges have sought to achieve economies of scale and of scope by joining up with incumbents or by buying newcomers. Cross-border merger proposals have been numerous, but not all of these proposals have been successful, as evidenced by the European Competition Commissioner's move to block a proposed transatlantic merger between Germany's Deutsche Borse and NYSE-Euronext. This policy paper looks at two recent, high-profile merger proposals that failed: DB's blocked acquisition of NYX, and the London Stock Exchange's failed takeover of Canada's TMX Inc. The paper establishes that it is insufficient to simply say that "politics" has gotten in the way in the exchange industry. Concerns about autonomy and control (TMX-London) and concerns about market structure (NYX-DB) are very different and ought to be analyzed as such. European officials' concerns about market structure and competition need also be considered in the context of the ongoing integration of European capital markets. At the same time, and despite the differences between these two cases, they both feature officials and stakeholders grappling with the complex incentive structures and trade-offs operating in the exchange industry, as well as significant uncertainty about the regulatory impacts of mergers. The paper identifies the common challenges facing regulators and stakeholders across the two cases analyzed here, and suggests a forward research agenda.

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Introduction

The last decade has seen dramatic moves in the stock exchange industry, especially in Europe and in the transatlantic market. Significant changes in technology, the competitive landscape, client demands, and regulation have led large incumbent exchanges like the New York Stock Exchange (NYSE), NASDAQ, Deutsche-Börse (DB), and the London Stock Exchange (LSX) to embark on a wave of cross-border mergers and acquisitions (M&A). This follows a previous wave of consolidations in Europe like the Euronext and OMX mergers. Some large-scale mergers have been successful, such as NYSE's with Euronext and the NASDAQ-OMX combination, but a number of them have failed. This includes two recent attempts by European firms to take control of North American exchanges: the unsuccessful merger of LSX with Toronto's TMX, and the blocked merger of NYSE-Euronext (NYX) with DB. As these two cases demonstrate, some politically-controversial proposals ultimately fail due to dynamics in the marketplace (TMX-LSX), but others die because of direct official intervention in the market for corporate control of financial exchanges (NYX-DB). This leads to large and important questions. Who are the major players in exchange merger politics and what are their interests? What are the key regulatory issues at stake in exchange governance, and how are those issues affected by merger proposals? How do exchange mergers relate to the ongoing integration of European capital markets—do they complement or inhibit those processes? What are the major trade-offs facing regulators and private actors, and how are those trade-offs navigated in different markets, such as in Europe and in Canada?

It is not surprising that politicians and regulators should have an interest in the ownership and governance of the financial exchanges under their jurisdiction: they are critical pieces of financial architecture that, among other things, shape the distribution of capital and risk in the economy, contribute to social security systems, and provide employment. In Europe, continental and transatlantic mergers have coincided with a deepening of European capital market integration, particularly under the EU's Markets in Financial Instruments Directive (MiFID), leading to particularly complex questions about the industry's market structure and user mobility under the "passport" model. Because of these kinds of localized regulatory issues, the political concerns about exchange mergers have not been identical across all cases. This policy paper looks at the two failed cases noted above—TMX-LSX and NYX-DB—and demonstrates that they represent quite different sets of political concerns and calculations. These failed proposals may broadly lend credence to the view that "Globalisation is being put on hold . . . There will be no more mega M&A in this space", as the CEO of NYX told the Financial Times earlier this year (Jenkins and Grant 2012). Yet it is worth understanding with more precision exactly WHY political actors are putting globalization on hold. What is at stake in these "mega" proposals and why have they fallen apart?

This paper begins with a discussion of the M&A trend, and explains why cross-border mergers make sense for exchanges. It then argues that the political dynamics in play can be distilled into two categories: concerns about losing sovereign control, and concerns about market structure impacts. These are discussed theoretically and then elaborated through the two case studies: TMX-LSX (loss of control) and NYX-DB (market structure). It concludes by drawing parallels between the two cases, and briefly elaborating a research agenda.

Explaining cross-border M&A

Why are exchange operators seeking to merge their operations with exchange firms in other countries? Several factors contribute to and explain this trend.

Beginning in the mid-1990s most exchanges demutualized to become for-profit and publicly-traded firms. This was a result of changing interests and incentives on the part of exchanges' financial firm owner-membership, which among other things was eager to see more innovation, efficiency, and liberalization in the exchange industry (Aggarwal 2002; Fleckner 2006; *The Economist* 2008; Ramos 2010). Exchanges thus moved to a for-profit structure so that they could more effectively raise capital and execute innovative business strategies. As exchange users have pushed for ever more competition in the industry, exchanges have subsequently had to respond to increasing competition from upstart electronic trading systems (including Alternative Trading Systems /ATS or Electronic Communication Systems /ECN) and so-called 'dark pools' of liquidity, which operate as less transparent off-exchange matching networks frequently operated by large investment banks (Chesini 2010). These low-cost alternatives offered buy-side firms an alternative venue for trading exchange-listed equities, and because they did not have the administrative and enforcement burdens facing the incumbent and self-regulated exchanges they could pass along those cost savings to their users, sometimes even offering rebates to high-volume "liquidity makers" (Pan 2007; Chesini 2010). This has translated into two trends: the incumbent exchanges have experienced a shrinking share of trading volume in their listed equities, and listing itself has been shrinking as an overall source of revenue for those exchanges (Lee 2011, 35-37). Incumbent exchanges have responded by becoming for-profit firms, raising capital to continue to upgrade their technological capacity, and getting into the ATS business by buying upstart competitors and thereby diversifying their product and service ranges (*The Economist* 2005).

Exchange firms have also engaged in cross-border M&A as a response to these market pressures, which are coming from both the demand and supply sides. On the demand side, exchange operators must meet the consumer preferences of mobile and discriminating users—both investors and listing firms—meaning that they must offer a

broad suite of services, including data services and high-performance technology, in order to stay competitive. Prospective clients can and do select exchanges for their technological advantages (like low "latency" or execution time, and co-location for high-frequency algorithmic traders), the availability of vertically-integrated in-house clearing and settlement infrastructure, or the regulatory environment in which an exchange is located.

On the supply side, those clients have options. First, there are increasing numbers of liquid markets globally where prospective exchange clients can do business. The US and UK no longer hold an effective monopoly over deep, liquid, secure, and attractive capital markets (Deutsche Bank 2008, 5; Brummer 2012, 49-51). And second, as mentioned, there are increasing numbers of alternative and electronic exchange venues populating those capital markets. This is the result of regulations in the US (Regulation NMS) and the EU (MiFID) that have encouraged competition in the exchange industry by licensing alternative venues and then requiring 'best execution' by price (as in the US) or some other set of calculations (as in the EU, where 'best execution' may be based on the provision of anonymity, price, and services demanded by the client) (Gadinis 2008). Incumbent jurisdictions, like the US and UK, and their incumbent exchanges, like NYSE or the LSE, are facing a brave new world of competition both within and beyond their borders.

Mergers are a partial solution to these combined demand and supply side pressures in that they may help exchange firms realize both economies of scale and economies of scope. Economies of scale can be in the form of revenue synergies: a bigger firm can decrease the relative per-unit costs of maintaining trading infrastructure, upgrading technological systems, or subsidizing its enforcement, service-provision, and administrative systems. Potential synergies in trading technology and infrastructure are frequently cited as part of merger proposals, and merged exchanges have downsized their operations through staff layoffs (Enderlein 2011, 48-9). The best merger candidate for a particular exchange to realize these synergies is frequently an overseas exchange (Miller and Pagano 2007).

Mergers also generate economies of scope by allowing incumbent exchanges to diversify into new product ranges without investing in their development. This is especially important because equities trading now represents less than half of total revenues for many firms, and mergers may allow a firm to diversify into technology and systems development, derivatives trading, post-trading clearing and settlement, and other products (Lee 2011, 35-37). This is particularly the case if an exchange in one jurisdiction is prohibited by regulations or market forces from entering into a particular market segment, an impediment it can get around by buying a firm with operations in that segment in another jurisdiction. More broadly, regulatory differences and market forces

across jurisdictions can lead to revenue opportunities in one jurisdiction that are unavailable in another (Valiante 2011, 2).

In sum, cross-border mergers can help exchanges cut costs while boosting their revenues from diverse sources—although the track record from exchange mergers is mixed on this measure (*The Economist* 2011). In contributing to the firms' bottom line, global industry consolidation is a logical response to a competitive market environment.

Regulatory and political issues resulting from cross-border exchange M&A

Exchange firms are responding to market competition and globalization in the same way as firms in any number of industries (i.e., by shedding costs and seeking efficiency, product, and revenue synergies through M&A). But it is also the case that these exchanges are qualitatively different than firms in many other industries. They are not simply for-profit firms: they are also critical components of national and global financial systems, strategic assets with knock-on effects on employment and financial industry clustering, and institutions whose operations have substantial implications for the allocation of risk and capital in the economy. It is therefore not surprising that these mergers have attracted commentary and concern from public officials, observers, and industry-level actors. But while "politics" is sometimes blamed for getting in the way of M&A in the industry, it is not always the case that those politics are carefully unpacked and scrutinized. The next section looks at two failed M&A cases and explores the different political dynamics that they unleashed.

TMX-LSX: Control, Sovereignty, and Autonomy

The effect of these mergers on domestic systems of regulatory oversight has been a source of concern, and it is an issue marked by considerable uncertainty about causes and consequences. At one level, there remain vestiges of an 'economic patriotism' mindset, wherein stock exchanges, like airlines and telecoms, are viewed as necessary components of statehood and require ownership protection. In this sense, the nationality of exchange ownership may continue to matter to some actors in a largely symbolic manner (Callaghan and Lagneau-Ymonet 2012; Woll and Clift 2012).

But concerns about control can also be more fine-grained, and may reflect more than a set of symbolic and nationalist preferences over ownership in the interests of maintaining national prestige. Rather, such concerns reflect uncertainty about the impacts of merged trading infrastructures in a world where regulatory agencies across jurisdictions a) abide by different philosophies, b) have come to accept different levels of

risk, c) are differently attuned to the distributional implications of capital market dynamics (or seek to manage those distributions differently), or d) have variable monitoring and enforcement capacities. As a result of these differences, the prospect of sharing or pooling authority over a cross-border exchange firm can present acute regulatory and business dilemmas: whose standards and philosophies end up reflected in the oversight of the merged exchange? What is the business plan for the merged firm, and how will the entity be regulated—as separate exchanges or as a single listing and trading platform? The use of memoranda of understanding (MOUs) to clarify and commit to certain divisions of power and jurisdiction around the merged firm has sometimes been a part of those arrangements (SEC 2007).

Still, even with proposals to maintain separate trading platforms and protect pre-merger regulatory arrangements, mergers have generated uncertainty and risk in the minds of at least some public officials and industry actors. Several scenarios and mechanisms that could erode control and autonomy have been envisioned:

- <u>Changed regulatory authority</u>: even where merger proposals are accompanied by promises to maintain status quo regulatory arrangements by keeping listing platforms separate, they may raise concerns about the long-term stability of those arrangements and the emergence of new pressures to harmonize (Shipp 2007; Clausen and Sorensen 2009). Will the merged firm and its users continue to push for deeper integration (Maiden 2006; Karmel 2007; Pan 2007)? Will one regulatory agency dominate regulatory dialogues around the merged firm? Will one regulator take over some key competencies?

- <u>Changed corporate control</u>: what are the governance arrangements of the merged firm? Does the national composition of boards of directors and executives adequately and equally reflect the interests of all markets/jurisdictions? Who is making decisions?

- <u>Future transactions</u>: what if the merged firm combines with another firm down the road? Even protections or shared regulatory competencies could be diluted in such an event: the firm's 'centre of gravity' could be in flux, and could move further away from any given financial centre, out of the reach of its firms and regulators.

- The impact of fiduciary crises: the merged exchange group may face shareholder pressure to maximize profits via corporate restructuring, or exogenous shocks could cause a crisis for the firm's fiscal position. Who would make decisions about where costs could be reduced, and where business could be salvaged? What would the impact of these decisions be on a financial centre's primacy and prosperity?

- Changed investor behaviour: to the extent that financial industries are clusters in which highly-specialized activities and firms build up around exchanges as institutions, a merged exchange with a broader investor base could threaten specific assets and particular ways of doing things (Fioretos 2011). For instance, would industry and policy actors in a financial centre with a particular specialization (such as Toronto's excellence in small- and mid-cap resource extraction firms) be helped or harmed by the integration of that centre with foreign regulatory and investor cultures?

- Changed 'marketplace for regulations': mergers may increase the pressure upon officials to adjust their regulations so that they are competitive relative to other jurisdictions. Mergers do this by reducing the transaction costs facing users who seek to operate in multiple regulatory environments, thereby making it easier for users to select their ideal mix of regulatory stringency (which reduces capital costs) and regulatory leniency (which reduces compliance costs) (Romano 1998; Brummer 2008). This mobility on the supply side lessens regulators' capacity to make autonomous calculations about priorities and goals by weakening their regulatory monopoly: it forces them to internalize the costs of their regulations to stay competitive with other jurisdictions, rather than pushing those costs on to users.

As this discussion suggests, there are concerns about the control and management of exchanges that go beyond the statutory allocation of regulatory authority across jurisdictions, although officials have clearly been concerned about that key competency. These mergers also raise questions about the autonomy of national authorities and major industry players: i.e., the ability of those actors to shape their financial centre's regulatory mix and area of specialization as they deem appropriate. As noted, exchanges in different jurisdictions specialize in different things: they may sell derivatives at a particular end of the yield curve, focus on a particular industry, and so on (Valiante 2011). In this sense, concern about autonomy and control is not just the province of public officials, but also of the major firms who use the exchange. Such firms have adapted to a particular

regulatory and business environment by building specific competencies and assets, and stand to lose from any drastic changes to that environment (Fioretos 2011). At the heart of these concerns lies a trade-off: do the possible efficiency gains, liquidity benefits, and financial centre 'branding' opportunities that mergers promise outweigh the risk that existing ways of doing things will be altered, and future decisions about exchange governance will be made offshore (Enderlein 2011)?

Case analysis: TSX-LSX

On Feb 9, 2011, the TMX Group Inc. and the LSX Group PLC announced a 'merger of equals' between the two publically-listed exchange services firms. The deal was to be undertaken via a share swap, with no cash or debt transactions. The result of the merger would have seen the LSX's shareholders hold 55% of the shares in the new merged entity (a holding company called LSX Group) while TMX shareholders would hold the remaining 45%. While this led to a debate about whether the proposal represented a 'merger' or a 'takeover', the 55/45 split raised more immediate fears of a potential leakage of management power to London and the LSX Group, and of regulatory oversight to London and the Financial Services Authority. The deal underwent high-profile political scrutiny and media commentary. The merger did not go through: a group of large Canadian financial interests banded together under the name Maple Group Acquisition Corporation and made an alternative and more lucrative offer that was approved by TMX shareholders (who voted down the LSX offer). It was then approved by provincial securities regulators, after making a commitment to a series of undertakings relating to fee and governance structures.

Maple's successful counter-offer meant that the interest and statutory authority of politicians to block the deal was not tested. Neither Ottawa's "net benefit" test nor the review power of the provincial securities regulators with oversight over TMX's exchange assets was invoked. Although this proposal fell apart in the open market it remains highly instructive, not least because of the high-profile opposition to the LSX bid that emerged in Ontario. There, finance minister Dwight Duncan of the centrist Liberal government came out publicly against the deal, breaking with his counterparts in Western Canada (politicians in Saskatchewan, Alberta, and British Columbia voiced their support, while Quebec expressed more tepid reservations and the Federal government promised a review). Duncan went so far as to call the TSX a "strategic asset", arguing that "we have to take into account not just the shareholders of the TSX and the LSE, but we have to take into account the shareholders of Canada, the people of this country" in considering the long-term implications of the merger (CBC News 2011). Duncan focused on the loss of control over that asset: in his words, "No. 1, control will rest offshore; No. 2, once you sell an asset like this, it's pretty darn difficult to get it back" (Howlett 2011). Given that

these comments could have easily strained relations between Ontario and other Canadian provinces, that they preceded the private sector counter-offer on the deal, and that they came only months after the government of Canada blocked BHP's bid for Potash Corp on similar "strategic asset" grounds, it seems unlikely that Duncan spoke on a whim. It is more likely that his comments reflected a deliberate position on the part of the Ontario government, which wanted to voice its concern about the merger's impact on the 300 000 finance jobs in the city of Toronto, and its impact on Ontario's control over that industry.

Interestingly, concern about the future of this "strategic asset" was not limited to the public sector, as many large Canadian financial institutions backed Duncan's assessment. The large Canadian banks were divided on the merger, with Toronto-Dominion (TD), Canadian Imperial Bank of Commerce (CIBC), National Bank, and the Bank of Nova Scotia (Scotia) opposing the deal (and eventually joining the Maple counter-offer consortium), and Royal Bank of Canada (RBC) and the Bank of Montreal (BMO) supporting it (Simon 2011). This split is in itself interesting, not least because it points to the complexity of the incentive structures pressuring large multifaceted financial institutions. This incentive structure includes many conflicts of interest: RBC and BMO were brought on as advisors for LSE and TMX, and many of the large banks had ownership stakes in the TMX's biggest competitor, Alpha (Ibid.). It could be argued that the support or opposition of the banks for the merger proposal reflected these ulterior calculations. As one careful analyst noted, however, RBC and BMO's support for a merger that they would have otherwise opposed for the sake of an advisor's fee would be surprisingly myopic; and the theory that opposition to the deal was because of the banks' support for the Alpha platform does not survive closer inspection, as Alpha's two biggest supporters, TD and RBC, came down differently on the merger (Erman 2011).

Another hypothesis, then, is that the financial industry's responses were the result of a) stakeholders' careful consideration of the impact of the merger on Toronto's industry model, b) their differential views on the best way forward for that industry, and c) their differential calculations about the impacts of the merger on their existing business platforms. The following financial industry statements about the merger provide some evidence for these hypotheses. These statements came in front of the Government of Ontario's *Select Committee on the proposed transaction of the TMX Group and the London Stock Exchange Group*, which held 5 hearings between the 2nd and 23rd of March, 2011. The concerns voiced in that setting are consistent with the possible control- and autonomy-eroding mechanisms outlined above.

For instance, TD and National Bank co-presented and worried about the merger's impact on Toronto's status as a successful financing centre for small and mid-cap firms in the resource sector, and about control over regulatory decision-making in the future:

> "The TMX Group is a very successful part of a financial system that facilitates investing and access to capital for Canadian and international companies. They are particularly and historically strong at catering to the needs of Canadian companies . . . In addition, the TMX has become the leading resource exchange in the world. Being part of London really adds nothing to this and perhaps reduces our role in the future." Furthermore, "[The TSX] makes the rules and decisions that dictate how stocks get traded in Canada, who gets to list in Canada . . . how much they can finance, how many shares they can issue, whether the board of directors is appropriate—all those rules that are part of the fabric how Canada has developed its financial system . . . In short, rule-making will lose its Canadian focus." (Legislative Assembly of Ontario, 64)

The Toronto Financial Services Alliance's (TFSA) membership was divided on whether Toronto would prosper as a part of a merged entity, but at least some members shared the skeptical TD/National Bank view:

> "Generally, a majority [of our membership] believed that the proposed merger—if its benefits are realized—offers strong potential to strengthen and grow the Toronto region's financial services sector. Clients of the exchange welcomed the possibility of lower fees and improved services if the deal goes through. They also expressed concern that Toronto will be left behind in an era of exchange consolidation. However, others are passionately concerned that this deal is the wrong deal and that it threatens to diminish our role as a global hub." (Ibid., 60-61)

Whatever the outcome, the TFSA was adamant that the TSX and TSX Venture Exchange should "be allowed to stay focused on their traditional strengths in resources and in financing for SMEs" (Ibid., 60-62).

The Investment Industry Association of Canada (IIAC) stated that it supports "global integration and consolidation of markets in principle, as this should, in theory, improve access to and reduce the cost of capital for listed companies. This should also offer the opportunity for lower transaction cost" (Legislative Assembly of Ontario, 50). But uncertainty about the merger's impact on Toronto's model, and control over that model, also led the IIAC to express many concerns: Does the transaction grow Canadian capital markets or detract from them? Does it support or impede capital raising activities? Does it help small issuers and small-caps? Will costs and fees go up as a result of the merger? Will regulatory control be surrendered? IIAC expressed concern that trading and financial activity, with its knock-on effects on industry employment, would shift to London, and that new technological expertise would not be developed in Toronto. It

worried that a market downturn or a non-realization of the anticipated cost synergies could lead to a 'rationalization' to Toronto's detriment (Ibid., 50-53).

Representing the pro-merger side, RBC did not present in support the merger, but BMO did. BMO's presentation argued that the merger would help to "build Toronto's status as a global financial hub" and "raise Canada's profile in the eyes of European and other foreign investors and result in those investors deploying more of their capital in Canada" (Ibid., 79). This could point to BMO's role as a merger advisor, but it seems also to demonstrate an alternative set of calculations about the merger's effect on Toronto.

One of the more interesting features of this case is that within both the public and private sectors important stakeholders (i.e., the provinces and the banks) arrived at differing assessments of the merger's anticipated costs and benefits. It may be that this is simply because those actors had different material interests at stake: for instance, Ontario considers its financial industry to be more critical and/or delicate than does BC or Alberta; or BMO and RBC calculated that they had more to gain from an integrated exchange system than the other banks. RBC executive Barbara Stymiest pointed to such a calculation in her committee testimony, stating that "RBC has the largest and most global capital markets business of all of our competitor banks, and works and trades on all of the existing global platforms and understands the advantages and strengths of a larger global platform" (Ibid., 43). Even so, it is still significant that a considerable number of important stakeholders appeared to believe that Toronto's existing financial system would be negatively affected by a merger. In the view of the Ontario government and four of the major banks, the loss of management and regulatory control was enough of a threat— to themselves and/or to the health of Ontario economy—that it was worth moving against it with the Maple counterbid. Concern about control, autonomy, and the preservation of capacity to direct industry development is, in this case, shared by at least some actors across the public and private sectors.

NYX- DB: Market Structure

Public officials and industry stakeholders have also had to grapple with the impact of mergers on the structure of the exchange market. The most obvious issue here, and one that is equally relevant for M&A activity in any industry, is the impact of a proposed merger on competition. Regulators and justice officials have scrutinized proposals to ascertain whether they result in a price-distorting concentration of ownership in any product market: for the exchange industry, this means not only in trading services, but also in trading technology and data dissemination, derivatives trading, and post-trading clearing and settlement activities. As the recently blocked NYX-DB proposal demonstrates, the pro-merger view that the efficiency and liquidity synergies of a merger

outweigh the impacts on competition has not always triumphed. Moreover, this failed case suggests that the definitions and values used to calculate the competitive effects of a merger are not necessarily isolated from politics.

It should not be surprising, however, that market structure concerns have butted up against politics, because mergers talks have been taking place against the backdrop of a broader debate about the ideal structure of the exchange market. In this sense, antitrust issues are just the tip of the iceberg. The bigger issue has to do with the optimal balance between competition and consolidation in the exchange market. A competitive marketplace encourages innovative service and product development, keeps prices and fees down, and generally produces efficiency gains that can be productively reinvested elsewhere in the economy. In this sense, a competitive marketplace is in the interests of exchange users, who benefit from low fees and innovative services, and of public officials, who can take credit for efficiency gains and industry growth. At the same time, a competitive marketplace is also characterized by the fragmentation of trading activity across many different venues. This has the effect of reducing the liquidity in any particular exchange market and may push bid-ask spreads further apart, thus rendering the crucial price discovery mechanism less efficient. This introduces a significant element of risk into the marketplace; this is especially the case where substantial volumes of trading activity are taking place in anonymous and non-transparent "dark pools", where significant trading volume and prices are only reported to the broader market on a post-trade basis, and therefore do not contribute as clearly to price formation.

These considerations are not simply about technocratic details or efficiency gains, but they are also of considerable political significance (Gadinis 2008). Any particular balance between industry consolidation and fragmentation will carry discrete distributional effects, as do many elements of securities regulation (Cioffi and Hopner 2006; Gourevitch and Shinn 2007; Cioffi 2010). For instance, a fragmented market, i.e., one with a less efficient pricing mechanism and considerable dark-pool volume, will privilege sophisticated institutional investors with the resources to make buy and sell decisions that do not rely solely on public prices. Fragmentation is disadvantageous for retail investors, who lack the resources or information to effectively navigate such a market and may pay unknown premiums on some transactions, and who cannot participate in all venues like dark pools (even institutional investors are likely to pay a premium on dark pool transactions, but calculate that premium to be outweighed by the other advantages of the dark pool route, such as anonymity and the avoidance of liquidity costs and high-frequency gaming). Inefficient pricing and inadequate transparency may also cause risk to accumulate in some prices, venues, and transactions, and managing the impact of that risk could fall to the public sector and ultimately taxpayers. A consolidated exchange marketplace can attenuate some of these effects, but the loss of competition could drive fees higher in a particular product segment. Moreover,

compliance or transaction costs may also increase in a less competitive, more oligopolistic marketplace where regulators and exchanges have fewer incentives to provide efficient governance regulations, because users have fewer choices about where to do business and are therefore less able to exercise an exit option (Romano 1998; Brummer 2008).

While not a comprehensive survey of these dynamics, this discussion should make clear that regulators' market structure decisions are not limited to antitrust, but feature deeper distributional issues that they must navigate as well. Insofar as mergers shape exchange markets, it is unsurprising that these issues play into merger episodes.

Market structure case study: NYX-DB

The blocked merger between DB and NYX would have created an exchange industry giant, the largest in the world with annual revenues of over 5 billion euros and a market capitalization of over 17 billion euros (Valiante 2011, 2). It was approved by American regulators in both the Securities and Exchange Commission (SEC) and Department of Justice, but it did not pass muster with the European Commission's Competition Commissioner Joaquin Almunia, who blocked the deal on 1 Feb 2012 (Cress 2012). Almunia's stated rationale for his decision was that "the merger between Deutsche Börse and NYSE Euronext would have led to a near-monopoly in European financial derivatives worldwide. These markets are at the heart of the financial system and it is crucial for the whole European economy that they remain competitive. We tried to find a solution, but the remedies offered fell far short of resolving the concerns" (European Commission 2012a).

While perhaps an oversimplification, this merger proposal may be seen as generating a trade-off between competition and a consolidation in the transatlantic exchange market. Blocking the merger would preserve a competitive transatlantic market structure, with DB and NYX competing to add value for their customers in equities, on-exchange derivatives trading, and post-trading services, particularly clearing in exchange-traded derivatives (provided in-house by DB with its Clearstream system). Such a market would promote innovation and an efficient fee structure and would thus primarily benefit mobile exchange users seeking the most cost-effective exchange environment.

A consolidated European and transatlantic market, however, also promised benefits. It could enhance regulator efforts to manage systemic risk, particularly efforts to move the growing over the counter (OTC) derivatives market segment onto regulated markets (Barker and Grant 2012). Enderlein's analysis (2011) of the merger proposal is instructive here: first, a merged exchange firm would have little material incentive to maintain ongoing regulatory differences between the US and EU, as it would draw

revenue from both jurisdictions. What is more, as a dominant force in both equities and derivatives with considerable self-regulatory capacities, the merged firm would be a useful market-based partner in efforts at enhanced transatlantic regulatory cooperation. As Enderlein states, "from a political economy perspective, the merged entity establishes a market-side prerequisite for further regulatory harmonization in the European financial markets; and can give further impetus to aligning regulatory interests of competitiveness and stability across the Atlantic" (2011, 20-21).

Perhaps sensing a preference for exactly this kind of regulatory push with the cooperation of a large market-side actor, NYX and DB executives made a similar set of claims and promises in a public letter to EC President Jose Barroso (although this should certainly be read with cynicism) (Francioni et al. 2012). This letter argued that "approving our combination would create a transparent and regulated transatlantic marketplace with a strong European core that would function as a global standard setter and help to contain regulatory arbitrage . . . [and] would significantly increase the likelihood that the EU's regulatory philosophy would become the global standard" (Ibid.). In contrast, blocking the deal "might very well shift the balance towards countries favouring 'light touch' regulation, which would severely endanger the EC's agenda" (Ibid.). At the very least, this letter suggests that the merging firms' executives understood that cooperation on matters of significance to regulators, such as the OTC derivatives agenda, was going to be a necessary component of their strategy moving forward. It is also worth reiterating that DB is a vertically integrated firm with its own clearing and settlement infrastructure, Clearstream. This, combined with the merged firm's market share in derivatives, would have presented transatlantic regulators with an opportunity to build upon that critical infrastructure without worrying as much about the opportunities for regulatory arbitrage that can accompany a regulatory tightening in only one market.

The technical details of the EC's decision are beyond the scope of this analysis, but some facts are of relevance. For the Competition Commissioner, the critical component of the merger proposal was the derivatives exchanges operated by the merging firms: NYX's Liffe, and DB's Eurex. The EC noted that the merger would lead to a single firm controlling in excess of 90% of the European exchange-traded derivatives market, which would seem to prompt immediate and obvious market structure concerns (Barker, Grant and Wilson 2012).

However, three additional facts are pertinent. First, Liffe and Eurex specialize in derivatives activity at different ends of the yield curve: Liffe specializes in short-term and Eurex in long-term interest rate derivatives. Secondly, off-exchange OTC trades and the US-based Chicago Mercantile Exchange (CME) Group Inc. (which controls 98% of the US exchange traded derivatives market) (Boughy 2011) were not viewed as competitors of the merged firm, a move that met with much disagreement. As stated in *The Economist*,

the decision "jars with [the Commission's] view on the importance of potential competition. If the merger is damaging because Eurex and Liffe are each other's potential competitors, it is hard to see why this argument does not apply to CME Group, another potential competitor" *(The Economist* 2012a). In previous competition decisions the Commission appeared more willing to factor in the capacity of future market entrants to reshape the post-merger environment than was true in this case (Ibid.). Finally, and perhaps most importantly, the EC defined the relevant market for exchange-traded derivatives as European, and calculated the (anti)competitive effects of the merger on that narrow European marketplace (see, for instance: European Commission 2012b, 109-11). This definition met with considerable disagreement. Many analysts rebutted that the marketplace in derivatives is global rather than regional one, and is increasingly globalizing: the anti-competitive effects on European consumers would be attenuated by the existence of the large Chicago-based CME as an alternative and competing marketplace for derivatives. Furthermore, in this view, the existence of off-exchange pools of liquidity and OTC options ought to have been sufficient to guarantee ongoing price-based discrimination. Detractors of the EC's view of potential competition and its European market definition have been at least partially validated by the recent news that CME plans to make a move into the European market, perhaps sensing the sudden vulnerability of Eurex and Liffe now that their parent firms have been blocked from merging (Stafford 2012).

It is important to note that the Commission was not a unified actor in its approach to this case. Some members of the EC wanted to promote a merged NYX-DB as a 'European champion' and counterweight to the CME's dominance in the global derivatives market. This resulted in high-profile divisions that opened up within the EC itself, with Michel Barnier, the French EC Commissioner for the Internal Market, publicly disagreeing with Joaquin Almunia, the Competition Commissioner, about the value and role of a "European champion" in the industry (Barker 2012). The inference available here is that at the highest levels of European financial market policymaking, leading officials came to different conclusions about the relative risks and merits of the merger proposal. At least some members of the EC's college of commissioners, Barnier the most visible among them, were open to the possible anti-competitive effects of the merger in order to enjoy an increased capacity to shape regulations moving forward, and to promote European designs for capital markets.

In choosing to define the relevant market for the antitrust case as European rather than global, the EC surprised many observers and invited skepticism (Grant 2012). To the extent that this definition was elective—and, as many of the EC's detractors have said, inaccurate—it should be scrutinized for a deeper cause or logic. One interpretation is that the EC was more swayed by arguments from the financial industry that the merged firm would distort competition than it was by the counter-argument: that the merged firm's

assets could be deployed in the post-financial crisis efforts to contain systemic risk. This is an untested hypothesis but worth considering in the broader context of this discussion, particularly as it would suggest that regulator efforts at post-financial crisis risk management and regulatory rationalization may be hampered by well-organized rent-seeking interests. At the very least, this case seems to offer evidence of a "market-building" and efficiency-focused mentality at work in the corridors of the EC rather than a "market-shaping" and risk-focused mentality (Quaglia 2010), one favouring the interests of market users over those who may bear the costs of risk.

However, a second interpretation would point to a different cause of the EC's decision, one that does not give organized financial interests quite the same power (Mugge 2006; Quaglia 2010; Pagliari and Young 2012). In this interpretation regulators expect their efforts to move OTC derivatives transactions onto exchanges to be more successful if those exchanges are simultaneously in competition with one another, because of uncertainty about the final shape of this on-exchange derivatives market. The impacts of new regulations on asset pricing and market fragmentation are not yet clear. In this view, building in the capacity for experimentation and innovation across venues, under a shared regulatory framework, could be a better route to a balanced outcome (i.e., neither too concentrated nor too fragmented) than attempting to concentrate the changes on a single venue (*The Economist* 2012b). In short, offer principles and then let the market decide on best implementation. The EC's competition officials may also have been cynical about the prospects for full and effective cooperation from the merged NYX-DB exchange firm, their executives' promises and highly-publicized letters notwithstanding.

What this analysis discounts, perhaps unfairly, is a third possibility: that the EC simply made the decision on the basis of the merger's competitive impact, based on the best evidence at its disposal. This is a possibility but the manner in which the decision was made, based on a controversial definition of the relevant marketplace and with rifts emanating from inside the EC, would suggest at the very least that debates about more than simply price structure were taking place. The structure of the European exchange market, and the distributional implications of that structure appear to have been on the table. This is consistent with the discussion that preceded this case, and while it is difficult to assert precisely why the EC's decision came down as it did, at least two possibilities—it was pushed by financial interests to keep fees down, or it determined that its regulatory goals would be best served by a fragmented marketplace—have been proposed here. There are likely more. Simply put, pure economic rationality does not seem to have been the only determinant of this decision.

Conclusion

The cases presented point to two broad sets of political calculations at work in the official response to financial exchange mergers: (1) concerns about maintaining regulatory control and autonomy, and (2) concerns about the distributional impacts of changes to market structure. While the two cases discussed resulted in different political conversations, there are common elements worth elaborating.

Trade-offs: In many ways the dichotomy set up here—regulatory autonomy vs. market structure—is an analytical convenience more than an actual hard line distinguishing the cases. It should be noted that in Canada the Maple counter-bid and the LSE's retreat led to a significant debate about the shape of the Canadian exchange market. Canadian banks belonging to the Maple consortium also owned the TSX's main competitor, the Alpha exchange, and sought to incorporate the main Canadian clearing facility CDS (which was then operating on a cost-recovery basis) into the merged corporate entity. As a result, a significant conversation took place about the anti-competitive effects of the Maple proposal and the impacts on cost structure and innovation in the Canadian marketplace (see the proceedings and hearings of the Ontario Securities Commission and of the Quebec *Autorité des marchés financier*s, and the required undertakings they put to the merging parties).

In Europe, the division in viewpoints expressed through the EC point to debates not dissimilar to those taking place in Toronto. Some officials in Europe viewed the merger as an opportunity to reinforce the regulatory trajectory preferred by the incumbent securities market regulator, and to buttress European influence over globalizing capital markets (Posner 2009). It is interesting and worth flagging that, in the European case, the merger was seen as a possible boon to the EC's regulatory agenda; in Canada, the merger was seen as a threat to regulatory autonomy. This is an important difference in opinion that points to the complexity of the issue area (see "multidimensionality", below). The broader point is that the relationship between exchange mergers and regulatory autonomy was present in the European conversation about NYX-DB.

So it appears that *both* sets of political considerations identified—autonomy and market structure—were operating to some extent in each of the "ideal type" cases under scrutiny. This suggests that officials and stakeholders may perceive merger proposals as featuring trade-offs between building competitive markets and shaping those markets (Quaglia 2010). In Toronto, the merger proposal carried the perceived risk of reduced regulatory control, but the counter-proposal carried the perceived risk of reduced competition, innovation, and client satisfaction in the exchange marketplace. In Europe, the merger proposal presented the risk of reduced competition in the marketplace, but blocking the proposal could arguably weaken Europe's regulatory agenda, especially for OTC derivatives, in a marketplace without a clear "European champion" exchange firm.

It requires emphasizing that these trade-offs may have been little more than rhetoric, that is, officials and stakeholders may not have been seeing the same dynamic that I have inferred here, and the trade-offs I have identified may have existed only as strategic communication by some well-positioned actors (see the NYX-DB executives' letter to the EC, above). It is certainly worth asking whose interests are served by such a rhetorical strategy. This can only be tested and answered through interviews with decision-makers who were present as pro or anti-merger positions were being formulated. Should these trade-offs turn out to be real and present in the minds of exchange stakeholders and officials, interesting questions emerge about how they weighed the costs and benefits of various outcomes, and what their risk appetites were with regards to merger consequences.

Uncertainty: in all of these cases, officials responded to market-level forces and confronted uncertainty about the likely impact of the merger on regulatory autonomy, and on pricing and marketplace structure post-merger. Even given a particular set of preferences (i.e., for a globally competitive financial centre, or for risk-mitigating regulatory choices) there was further uncertainty about the appropriate mechanism for achieving those preferences. Should Toronto be allowed merge with London and "go global" to succeed? What is the best way to minimize derivative-based risk and promote European regulatory preferences: through a merged "European champion" or in a more competitive marketplace?

This uncertainty can have the effect of making stakeholders who have strong preferences over outcomes—say, economic stability or bottom-line profitability—unsure as to how to best pursue those objectives. It can also partially explain the empirical observation that similarly-positioned actors—banks, officials, politicians—came to different conclusions about the appropriate way forward given a merger proposal. The proceedings from the Government of Ontario's *Select Committee on the proposed transaction of the TMX Group and the London Stock Exchange Group* make very clear that many stakeholders were concerned about the impact of the merger, but far from certain about those impacts, many presentations exposed rifts within association memberships and posed unanswered questions about the merger's impact on Toronto.

This suggests that in cases of exchange merger proposals stakeholders may be open to new ideas and to learning from previous episodes, rather than simply reading their preferences off a balance sheet or statutory mandate (Woll 2008). Policy communities can be important in these instances, in which leading public officials and industry actors express their reservations, make causal claims and assess probabilities, and push each other to elaborate particular positions on a matter of policy significance. The inner workings of financial institutions and industry associations, and the back-channel conversations between industry executives and leading public officials are likely to be a critical importance. While many of these processes are not directly observable,

careful research can begin to assess how policy issues marked by uncertainty were settled, and what processes drove actors to which conclusions. The effects of large exogenous events like the financial crisis on these processes of learning should also not be understated: in a post-crisis environment marked by deep uncertainty and considerable risk aversion, exchange mergers seem to have come to a halt. It is plausible that policy actors in many political communities have decided to "hit the brakes" on globalization in order to reassess its impacts. In 2012, where appetites for risk have lessened across the board, uncertainty may have driven actors to reassess the long-term impacts of their integration decisions, rather than jump at the opportunity for growth and change (Helleiner and Pagliari 2011).

Multidimensionality: Most political issue spaces are multidimensional, which can lead to policy instability and difficulties in producing winning coalitions around any particular policy outcome (Shepsle 1979). The exchange industry is a particularly interesting example of a multidimensional issue space in which competing pressures and decision-making processes weigh on stakeholders (Cioffi 2010). This is due to the fact that financial exchanges themselves, the institutions at the centre of this issue space, are complex and multidimensional entities playing multiple roles simultaneously. They are simultaneously for-profit financial service firms, self-regulating institutions, national strategic assets, and critical components of financial infrastructure: the governance and regulation of exchanges is appropriately complicated. As a result, stakeholders have complex preference and incentive structures when it comes to their views about the management and regulation of exchanges. Insofar as mergers can have an impact on that management and regulation, stakeholders are likely to have complex preferences over mergers as well.

In practice, stakeholders can be pulled in different directions on a single issue simultaneously. For instance, a major investment bank may be interested in the lower cross-border transaction costs and cheaper liquidity promised by a merger, but could also want to protect its business lines designed for a particular financial centre specialization (like extractive industry SMEs in Toronto). Regulators will have incentives to promote lower costs—either to satisfy powerful lobbies or to take credit for the subsequent efficiency gains—but will also fear the potential job losses and regulatory leakage that a merger may entail. Such "cross-pressures," as they may be called, are certainly more numerous than the two identified here given the complex nature of exchange infrastructure, but for reasons of space this brief description ought to demonstrate the potential effects of exchange industry multidimensionality on stakeholder preferences.

Indeed, thinking in terms of this multidimensionality can go some way to explaining the curious splits in preferences that were observed above: i.e., between the banks in Canada, and between officials in Canada (across provinces) and in Europe (within the EC). As suggested, the Canadian bank split may have been caused by the

banks' differently calculating the risks or benefits of the London merger proposal, which could be due to uncertainty about the effects of mergers. But the deeper cause may have been that RBC and BMO were assessing the TMX as a for-profit firm and institution that can pass cost savings and liquidity benefits onto its users through a merger; TD and the other anti-merger institutions may conversely have been thinking about the TMX more as an institution and strategic asset with knock-on effects on the competitiveness of Toronto's financial industry, and therefore the competitiveness of Toronto's financial service firms. In Europe, the anti-merger Commissioners (i.e., the majority in the college of commissioners) may have viewed merging exchanges as typical for-profit firms seeking to bulk up on market share, whereas the more pro-merger Commissioners may have viewed the exchange firms more as strategic regulatory partners, and central pieces of Europe's financial architecture that could help them advance their regulatory goals.

At this juncture these are hypotheses and should, as such, be viewed skeptically. Without knowing more about the behind-the-scenes decision-making processes leading to these outcomes it is not possible to assert strongly why stakeholders thought as they did. But the multidimensional nature of exchanges leads to the strong possibility that cross-pressuring incentive structures can explain why the political processes surrounding exchange mergers take the curious shape that they do.

Given this assessment—that the types of political concerns identified here may be found in blocked and successful mergers alike, and that these politics are driven by uncertainty and multi-dimensionality—what remains to be done? Research that investigates the processes leading to exchange merger decisions will be valuable and can answer several key questions:

- Why do stakeholders come to be in favour of or against exchange mergers, and how do their opinions crystallize? What trade-offs do they make? What are their appetites for risk? Who did they talk to and what backroom processes led to key decision points?

- What coalitions have formed around what set of merger outcomes, and who has been winning these political battles?

- When are mergers more or less likely to be successful? What communication strategies, types of combinations, and guarantees to regulators and industry stakeholders are likely to be successful?

The broader goal should be to link up this new knowledge with an assessment of the impact of exchange mergers on financial centres in order to understand whose opinions and perspectives hold more currency in a complex and uncertain policy area (Enderlein 2011, 38-49). And finally, the big question that emerges from this and future analyses is: what are exchanges, and what do we want them to do (*The Economist* 2012c)? The approach to exchange governance and to cross-border exchange mergers that develops will depend in no small part on the answer to this question.

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