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Worldwide reach of short selling regulations☆

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ABSTRACT

We characterize legality and incidence of short selling in a worldwide, multimarket framework. Home country short selling restrictions curtail home market stock borrowing by 45% and reduce short selling of the country's American Depository Receipts (ADRs) by 68% due to regulatory reach. Also, the 2008 US ban on short selling of financial firms reduced borrowing in foreign locations. These findings are robust to controls for option availability, enforcement, returns, firm size, trading volume, dividends, ADR level, volatility, days-to-cover, and industry sector. Further, we show that investor conduct resulting from adherence to professional standards is a more powerful mechanism of regulatory reach than intergovernment cooperation.

1. Introduction

Short selling has long been a controversial trading strategy. The academic evidence on the value of short selling is mixed, and market regulators' actions suggest a degree of ambivalence toward the practice.[1] On the one hand, regulators often publicly espouse the benefits of short selling in terms of its importance to the efficient processing of information in asset markets.[2] On the other

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[1] Most academic papers argue that short selling is an essential part of the price discovery mechanism (Nilsson, 2008; Boehmer, Jones, and Zhang, 2009; Kolasinski, Reed, and Thornock, in press), but there are exceptions (Shkilko, Van Ness, and Van Ness, 2012). Nonetheless, Diether, Lee, and Werner (2009) find that the practice is pervasive and short selling volume is 24% of NYSE and 31% of Nasdaq trading volume. Edwards and Hanley (2010) find that short selling begins right from the day when a stock is sold in the initial public offering.

[2] For example, the Financial Services Authority (www.fsa.gov.uk/pubs/discussion/dp17_newsletter.pdf), the Nasdaq (http://www.nasdaq.com/quotes/short-interest.aspx), Australian Securities and Investments Commission chairman Greg Medcraft (www.theaustralian.com.au/busi

hand, these same regulators typically react to periods of market turmoil by banning short selling, arguing that the practice exacerbates market volatility and, in the extreme, destabilizes markets. The 2008 financial crisis is no exception, and many regulators either resorted to outright bans on short selling or imposed trading restrictions in an effort to stem the falling market and reduce volatility. Bris, Goetzmann, and Zhu (2007), Charoenrook and Daouk (2009), and Beber and Pagano (2013) all provide evidence on the cross-country and time series variation in short selling regulations.

The complexity of this issue is further exacerbated by the fact that, while the motivation for the bans is often clear, whether or not the bans were in any way successful in achieving these goals is entirely unclear. The limited empirical research suggests that the bans did not reduce volatility (Boulton and Braga-Alves, 2010; Saffi and Sigurdsson, 2011) and could even have increased volatility (Boehmer, Jones, and Zhang, 2009; Charoenrook and Daouk, 2009). Securities and Exchange Commission (SEC) chairman Christopher Cox and commissioner Kathleen Casey expressed the view that 2008 short selling bans created significant disruption and distortions in the market (www.washingtonpost.com/wp-dyn/content/article/2008/12/23/AR2008122302765.html and www.theage.com.au/business/us-regulator-shortselling-ban-was-disruptive-20090303-8ne6.html). Other regulators do not appear to share this view, however, and short selling bans were again imposed in many countries in 2011.

The purpose of our study is to provide further evidence on the effectiveness of short selling restrictions. However, unlike previous research, our paper is the first to investigate how home market restrictions affect short selling in a global multi-market setting. Specifically, we examine the extent to which national regulators are able to effectively enforce short selling restrictions both within and outside their home markets. Our focus is on firms that are cross-listed in the form of an American Depository Receipt (ADR), as they provide an ideal setting for testing our research questions.

In our paper, two competing hypotheses are considered to explain the impact of short selling restrictions on foreign markets—regulatory arbitrage versus *regulatory reach*. The regulatory arbitrage hypothesis suggests that when the home market introduces restrictions, short selling moves to foreign locations. In the current context, this suggests that regulatory arbitrage increases ADR short volume if traders opt to trade in unrestricted regimes, although the existence of taxes or fees on foreign transactions, capital controls, inconvertibility of currencies, and market segmentation does complicate the relation (Foerster and Karolyi, 1999). Empirical support for regulatory arbitrage hypothesis can be found in Blau, Van Ness, and Warr (2012), who construct a feasibility index of short selling based on subjective assessment of survey responses and find evidence of increased shorting in the United States of ADRs from countries in which short selling is arguably not feasible in the domestic market. An important point of distinction between Blau, Van Ness, and Warr (2012) and our paper is that we have invested substantial effort in ensuring that our legality of short selling variable accurately reflects the status of short selling regime in each country over time.[3] Moreover, our comprehensive data sample covers 1,035 ADRs from November 2007 to December 2010 compared with only 352 ADRs sampled over 2005 and 2006 in Blau, Van Ness, and Warr (2012).

The regulatory reach hypothesis suggests that home country restrictions curtail short selling of cross-listed stocks in foreign markets. In the current context, this suggests that foreign country trading restrictions decrease short selling of a stock's ADR in the US market. Regulatory reach can decrease short selling of a country's ADRs in the United States through a variety of mechanisms that we group into two major themes: intergovernment cooperation and investor conduct. Regulatory reach could reflect a country's bilateral investment treaties or membership in groups such as G7, the Organization of Economic and Co-operation and Development (OECD), or the European Union (EU) that facilitate intergovernment cooperation through clearer communication of the regulatory intent to foreign market participants (Lau and McInish, 2002), the court's recognition and enforcement of foreign laws (Keller, 2004), and cooperation among global law enforcement agencies (Block, 2007; Hamilton, 2008). For example, in 2008 the UK's Financial Services Authority (FSA) issued Short Selling (No. 3) Instrument 2008/51, which, according to Avgouleas (2010, p. 17), "had a global reach covering shorting of shares in the list anywhere, e.g., on Frankfurt (Deutsche Borse) or the New York Stock Exchange." Similarly, in its statement concerning short selling, the SEC said that its actions were taken in consultation with regulators of the major developed securities markets around the world with whom it coordinated in monitoring market reactions (http://www.sec.gov/news/press/2008/2008-235.htm).[4] The International

(*footnote continued*)
ness/markets/securities-regulator-will-not-ban-short-selling-says-greg-medcraft/story-e6frg916-1226113803879), and Securities and Exchange Commission commissioner Kathleen Casey (http://www.sec.gov/news/speech/2010/spch022410klc-shortsales.htm) have all stated that short selling is a legitimate investment activity, which plays an important role in supporting efficient markets.

[3] Our effort corrects some erroneous classifications adopted in the prior research. For example, we are claiming that short selling in Spanish ADRs is high because it is legal to short sell in Spain (regulatory reach). Blau, Van Ness, and Warr (2012) conclude that short selling in Spanish ADRs is high because short selling in Spain is not feasible (regulatory arbitrage). The position taken in prior research is incorrect because our stock borrowing data show that it is very feasible to short sell in Spain. This observation is true for several countries where we observe short selling-related borrowing (which has a correlation of 0.9 with short interest according to Data Explorers) occurring even though short selling is classified as infeasible.

[4] Similarly, Rodrigo Buenaventura from the Comisión Nacional del Mercado de Valores commented that one of the reasons short selling was banned in Spain during the 2008 crisis was to avoid attracting the pent-up short selling demand that could not be expressed in other euro markets, which had bans in place ("Short Sales Restrictions—What Are They Good For?," panel discussion at the IX Madrid Finance Workshop (Short Selling), Instituto de Estudios Superiores de la Empresa, Madrid, Spain; November 4, 2010). Also, on October 5 Authority for the Financial