Legality and the Spread of Voluntary Investor Protection

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Abstract

We examine the spread of Undertakings for Collective Investment in Transferable Securities (UCITS) funds around the world and consider whether such mutual funds, which adopt higher standards of voluntary investor protection, expand their operations to other countries with higher or lower investor protection regimes. The data indicate equity funds spread to countries with better anti-director rights and bond funds spread to countries with better creditor rights; however, either type of spread is uncorrelated with and unexplained by enforcement standards. The data therefore indicate that the loss of insider managerial benefits from UCITS constraints is smaller in countries where legal standards are higher, and this mechanism is a primary determinant of the spread of voluntary protection mechanisms among mutual funds. This central finding holds over a wide range of robustness checks.

Keywords: Mutual funds; disclosure; international distribution; law and finance

JEL Classification: G23, G15, G18, K22

"Although SEC regulations provide guidance on mandatory disclosures, voluntary reporting mechanisms are rapidly becoming best practice."

— Nicola Skibola, "Navigating the Voluntary Sustainability Reporting Maze,"

Business Insider, February 23, 2011

1. Introduction

Voluntary standards in financial reporting, corporate governance, corporate social responsibility, and other areas of accounting, economics, finance, and law have been spreading at an increasing rate in recent years. Investors expect firms and funds to take extra care to follow best practices, and best practices are increasingly voluntary standards that go above and beyond those required by law. Recent regulatory reforms such as the Dodd–Frank Act encourage and incentivize voluntary reporting that goes above the minimum standards required by law. Studies on the topic show, among other things, that the voluntary adoption of international standards helps access foreign investors and thereby reduces home biases in mutual fund investments (Covrig et al., 2007) and enables corporations to obtain loans at preferential terms (Kim et al., 2010).

A fundamental question raised by the rapid spread of voluntary standards is where exactly do these standards spread? In particular, do voluntary standards spread to countries with good legal systems such that the standard is a complement to the higher minimum standard set by law? Or do voluntary standards spread to countries with poor legal systems such that the standard is a substitute for the absence of sufficient legal protections?

The question regarding where voluntary standards are more likely to be adopted is important for a variety of reasons, particularly two of them. First, there is a vast literature in accounting, law, economics, finance and law that ranks countries based on various indices of legal standards around the world (spurred on by seminal work such as that of La Porta et al., 1998). If voluntary standards in governance are positively correlated with legal standards, then we would expect the importance of legal standards in stimulating better governance and economic efficient outcomes to be understated. Conversely, if voluntary standards in governance are negatively correlated with legal standards, then the importance of international differences in legal standards would diminish as voluntary standards become more widely adopted. Second, by understanding how voluntary standards spread, policymakers can better design mechanisms to encourage the spread of standards and investors can make better decisions to take advantage of the adoption of standards.

This paper examines the context of the voluntary standards of the Undertakings for Collective Investment in Transferable Securities (UCITS) on international distributions of European investment funds. In brief, the UCITS are a set of standards that a fund manager can voluntarily take on if a fund wants to become a UCITS fund. The standards cover issues pertaining to a fund's risk management: limits on the proportion of listed equity and debt securities, home country securities, non-listed securities, the exclusion of certain asset classes such as real estate, and so on. The UCITS structure is popular; for example, Cumming et al. (2010) show that in 2001–2009 58.9% of 22,634 mutual funds in Europe were UCITS funds. The institutional details of the UCITS are detailed in Section 2.

This paper examines the spread of cross-border UCITS funds across Europe and other parts of the world, particularly across Asia. We consider 1344 bond funds and 2784 equity funds from various

countries in Europe, initiated during 2001–2007 and distributed over 2001–2010, and consider whether funds are more likely to expand operations to other countries with higher or lower investor protection regimes. Using UCITS regulations for testing the voluntary adoption of investor protection mechanisms has several advantages. First, in contrast to corporate regulations, UCITS regulation covers a uniform industry, namely, the mutual fund industry. This facilitates comparison, since the players (fund promoters) belong to the same industry. Second, UCITS regulations are Europe-wide and their adoption offers clear and uniform benefits to fund promoters. Funds structured as UCITS funds can be distributed more easily cross-border within the European Union (EU), and at times even beyond. Fund promoters are free to choose domestic legal structures for their funds and still distribute internationally, but with more requirements.

The data indicate that UCITS funds are much more likely to spread to stronger legal regimes. This finding holds for both bond funds and equity funds, and for stronger creditor rights and anti-director rights regimes. In particular, on average, a UCITS bond fund spreads to countries with creditor rights that are 0.5 higher than in the country of origin. Since average creditor rights in a fund's country of domiciliation are 1.4, UCITS funds spread to new countries with creditor rights that are 36% stronger. Similarly, UCITS equity funds spread to new countries with anti-director rights that are 0.2 stronger than in the country of origin. Since the average anti-director rights in a fund's country of domiciliation are 3.9, UCITS funds spread to new countries with anti-director rights that are 5% stronger. These effects are both economically significant and statistically robust.

To complement this analysis, we examine whether cross-border UCITS funds are distributed in counties with a wider range of legal regimes. We measure range by the difference between the highest

and lowest legal indices in the set of countries in which the fund is notified. Our analysis confirms that UCITS funds have a larger range than non-UCITS funds; however, the wider range observed is largely attributable to the fact that UCITS funds are more likely to be notified in countries with the highest legal standards. In other words, there is no difference between UCITS and non-UCITS funds in terms of the lowest-standard countries, but there is in terms of the countries with the highest legal standards, and this holds for internationally distributed equity as well as bond funds. This finding is consistent with the hypothesis that voluntary legal mechanisms are more likely to be chosen in countries with better legal environments.

Overall, the data indicate that voluntary investor protection is more likely to spread to countries with higher legal standards. In other words, voluntary investor protection mechanisms are not a substitute for poor laws in a country; rather, better legal conditions stimulate the voluntary adoption of investor protection mechanisms to protect investors over and above a country's minimum requirement. There are two possible explanations for this finding: (1) Fund managers operating in countries with weak legal standards lose a greater proportion of insider benefits by not adopting stringent provisions of the UCITS, and/or (2) the UCITS are more easily enforced in countries with better laws. We do not find evidence to support UCITS spreading to countries with any systematic difference in enforcement relative to the fund manager's home country, but we do find support for the importance of legal quality on substantive matters pertaining to creditor and anti-director rights. Therefore, we can infer that UCITS fund managers expand to stronger legal environments relative to non-UCITS funds, since the comparative reduction in insider benefits is greater for a UCITS fund in a country with weak legal standards.

Our evidence is related to a large body of work on voluntary standards. For example, recent evidence indicates that the market rewards or values more highly firms that voluntarily adopt corporate governance standards beyond what is minimally acceptable in a country (Chhaochharia and Laeven, 2009). Similarly, there is evidence that corporate governance standards affect the voluntary disclosure of strategic, non-financial, and financial information (see, e.g., Eng and Mak, 2003). More generally, there is evidence that country-level legal standards facilitate better corporate governance (La Porta et al., 1998, 2000). Martynova and Renneboog (2008) show that spillovers of corporate governance standards generate synergy values in cross-border mergers and acquisitions when target firms are located in countries with poor governance practices. However, prior work has not considered whether a voluntary set of standards for governance is more or less likely to spread to countries with better legal environments. We believe it is worth knowing whether voluntary standards that firms or funds can opt in one country and take to other parts of the world are complements of or substitutes for country-level legal protections.

Our paper is also related to a narrow but growing body of international evidence on mutual fund distribution and the UCITS in particular. Heinemann (2002) discusses the benefits of UCITS III over UCITS I for international fund distribution, but does not examine barriers to international notification and/or test for the effects of such barriers. Cumming et al. (2010) examine the scope of notification of UCITS funds but, unlike in our current work, they do not test whether legal standards are related to voluntary corporate governance standards. Jayaraman et al. (2002) and Ding (2006) document the benefits of mutual fund mergers, but do so in a US context, where international distribution cannot be addressed. Frank et al. (2004) examine disclosure regulations and active fund performance in relation to copycat funds (see also Alexander et al., 2007; Kacperczyk et al., 2008). Romero-Avila (2007) and Cumming et al.

(2011) examine the effect of regulatory harmonization on the growth of the banking industry and stock market development in Europe, respectively, but do not examine the mutual fund industry. Froot et al. (2001) and Bergstresser and Poterba (2002) examine portfolio flows of international investors and fund flows. Cumming and Dai (2009) examine the impact of regulation on the flow–performance relation between institutional investors and hedge fund managers, but do not consider mutual funds or retail investors. Khorana and Servaes (1999) examine the initiation of mutual funds in the US, indicating that larger promoters (fund families) enjoy economies of scale and scope. Extending this analysis, Khorana et al. (2005, 2009) examine the sizes and fees of the mutual fund industry around the world (see also Chordia, 1996), but do not examine the effect of the UCITS on international distributions.

Our analysis complements these studies by showing that the voluntary adoption of UCITS standards is highly positively correlated with country-level legal protections. To the best of our knowledge, our paper is the first to examine the relation between the adoption of voluntary standards and country-level legal protections in any context. We hope this type of analysis will be extended to other contexts in future work. There are benefits to working with fund management companies, since activity is relatively uniform across the countries where funds are distributed. Industrial companies, by contrast, can have production facilities in some countries, product development and research activities in others, and sales support facilities in a third group of countries.

This paper is organized as follows. Section 2 provides information on the European investment fund market and its regulatory environment and summarizes our testable hypotheses. Section 3 describes the data. Summary statistics on the European investment fund industry are provided in

Section 4. Multivariate empirical analyses of the relation between voluntary standards and country-level legal protections are provided in Section 5. Concluding remarks follow in Section 6.

2. Regulatory Environment

The main purpose of the UCTIS regulations is to facilitate cross-border distribution and ultimately create a single market for investment funds through uniform disclosure and investor protection. The EU aims to achieve this objective by simplifying the cross-border distribution of funds that follow certain regulations that help protect retail investors.

Under the UCITS, a fund domiciled in an EU country only needs to go through a simplified registration process with the national regulator of another EU country (so-called notification procedure) to obtain the right to sell units of the funds (i.e., distribute) there. The money collected can then be invested in securities based on the fund's specific investment strategy (e.g., worldwide, although the money comes from a selected number of EU countries only).

The first set of EU rules, UCITS I, was adopted in 1985 to allow open-ended funds that invest in transferable securities to be subject to harmonized regulations throughout Europe. However, Member States created obstacles to UCITS I that limited the ability of a fund to distribute cross-border. UCITS II was an ambitious attempt at curtailing such problems, but too ambitious to secure agreement from the Member States and therefore never implemented. In 2001, UCITS III was introduced, which brought about regulatory changes to facilitate cross-border distributions within the EU. By 2005, approximately €5 trillion were invested in collective investments throughout Europe, of which approximately 70% were UCITS funds.

UCITS III comprised two directives[1]: a Management Directive and a Product Directive. The Management Directive enabled a simplified and more cost-efficient prospectus. The Product Directive enabled a wider range of financial instruments and permitted UCITS money funds, derivative funds, index-tracking funds, and funds of funds. UCITS III, however, was not without barriers to integration, as highlighted by the changes introduced in the January 2009 UCITS IV Directive approved for implementation in 2011 (Ferguson, 2009; Anderberg and Brescia, 2009). UCITS IV differs from UCITS III by enabling more cost-effective notification procedures, key investor information, and introducing frameworks for fund mergers.

UCITS rules apply to funds marketed to retail investors, and a number of its important provisions ensure investor protection. The competent authorities of home Member States carry out the supervision of fund management companies. For example, the authorities in a home Member State supervise each fund and require that each fund management company (UCITS III, Article 5f)

> (a) has sound administrative and accounting procedures, control and safeguard arrangements for electronic data processing and adequate internal control mechanisms including, in particular, rules for personal transactions by its employees or for the holding or management of investments in financial instruments in order to invest own funds and ensuring, inter alia, that each transaction involving the fund may be reconstructed according to its origin, the parties to it, its nature, and the time and place at which it was effected and that the assets of the unit trusts/common funds or of the investment companies managed by the management company are invested according to the fund rules or the instruments of incorporation and the legal provisions in force;

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[1] A directive is a set of guidelines decided at the European level by all EU Member States. Each Member State has a certain time to implement the directives into local law. The European Commission verifies the conformity of the local law to the directives implemented *ex post*.

(b) is structured and organised in such a way as to minimise the risk of UCITS' or clients' interests being prejudiced by conflicts of interest between the company and its clients, between one of its clients and another, between one of its clients and a UCITS or between two UCITS.

A variety of other strict UCITS rules protect investors. For instance, the UCITS has strict rules on the delegation of fund management responsibilities, and delegation to a third party does not limit the liability of the fund management company that delegates. Fund management companies likewise cannot invest in other funds or the investment companies it manages, unless there is prior general approval from the clients. Under the UCITS, compensation scheme structures are communicated to clients. Risk management practices apply to the whole portfolio, including instruments such as over-the-counter (OTC) derivative instruments, and must be communicated to the competent authorities supervising the fund, including but not limited to the types of derivative instruments, the underlying risks, the quantitative limits, and the methods chosen to estimate the risks associated with transactions in derivative instruments regarding each managed UCITS. Global exposure relating to derivative instruments does not exceed the total net value of the portfolio. A UCITS fund cannot deviate from their objectives set out in its articles of incorporation or prospectus.

UCITS funds have strict position limits, which include (UCITS III, Article 22) no more than 5% of assets in transferable securities or money market instruments issued by the same body (albeit there are exceptions when this can be raised to 10%, or even 35%, if the assets are guaranteed by the Member State). A UCITS fund cannot invest more than 20% of its assets in deposits made with the same body. The total value of transferable securities and money market instruments held by the UCITS, where at least 5% of assets are invested in the issuing bodies, must not exceed 40% of the value of its assets. A UCITS fund may not combine investments in transferable securities or money market instruments issued

by deposits made with and/or exposures arising from OTC derivative transactions undertaken with a single body in excess of 20% of its assets.

Member States can raise the 5% limit to a maximum of 25% in the case of certain bonds when these are issued by a credit institution that has its registered office in a Member State and is subject by law to special public supervision designed to protect bondholders. In particular, sums deriving from the issue of these bonds must be invested in conformity with the asset laws that, during the whole period of validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the issuer's failure, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest. When a UCITS fund invests more than 5% of its assets in bonds issued by one issuer, the total value of these investments may not exceed 80% of the value of the assets of the UCITS (UCITS III, Article 22).

A fund requires many players for its day-to-day operation, which can hamper the identification of the different liabilities in the case of conflict. An administrator has to calculate the fund's net asset value and act as a registrar or transfer agent, the entity that deals with shareholders or unitholders who come into and out of the fund. Shareholders and unitholders rely on the trustee to represent and protect their interests, while the custodian is responsible for holding the assets. Such a fund can also be called a depositary.[2] The terms *depositary, custodian, trustee,* and *administrator* are often used interchangeably to describe the middle- and back-office functions of a collective investment scheme. This confusion regarding terminology reflects, in part, the different legal structure that a UCITS-

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[2] See http://www.indexuniverse.eu/europe/opinion-and-analysis/7590-back-office-the-new-black.html?Itemid=126.

compliant collective investment scheme can follow. UCITS regulations comprise one of three different structures: the law of contract (as common funds), trust law (as trusts), and a corporate form (as in investment companies). The functions of depositary and trustee are essentially the same. The custodianship of fund assets and fund administration are supposed to be performed by separate entities but are very often done by the same institution using different subsidiaries. For example, ABN AMRO Target Click Fund (USD) 2010, a Luxemburg-domiciled fund, is administered by ABN AMRO Luxembourg Management SA, fund management company, and the custodian is ABN AMRO Bank (Luxembourg) SA. Another example is provided in the Appendix, including information on international notification.

3. Testable Hypotheses

It is possible that there are conflict-of-law provisions in the key investor information document that sets out the details of in terms how investors can sue the fund in the event of a dispute. However, the interpretation of conflict-of-law clauses is not always perfectly transparent,[3] and there have been recent calls for greater transparency.[4] One must determine the *lex situs* of assets held by counterparties. It is possible there is non-compliance with the laws of the jurisdiction in which the securities are held, possibly with complex sub-custodial arrangements. Under the "look-through" approach, courts look at the location of the actual security certificates. Under the "place of relevant intermediary" approach, courts look to the chain of intermediaries for either the jurisdiction of incorporation of the issuer of securities, the location of the security register, or the location of the actual security certificates.

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[3] Dillon Eustace Financial Service Group, 2004, Hedge Funds and Alternative Investment in Ireland, mimeo.

[4] http://www.efinancialnews.com/story/2009-10-26/custodians-call-for-clarity-on-ucits-rules

Under a UCITS, management groups need to establish a fully functional management company in each country where a fund is domiciled. Management groups must satisfy costly local substance requirements.[5] In the event of a dispute, investors sue the depositories (custodians) in the country in which they reside,[6] even if management is to blame.[7] UCITS does not allow escaping responsibilities through a complex network of players. Under UCITS regulations, the competent authorities responsible for authorization and supervision must be public authorities or bodies appointed by public authorities responsible for the control and supervision of UCITS funds. The competent authorities of the Member State in which the UCITS is domiciled are responsible for checking, supervising, and imposing sanctions if the provisions are infringed. The authorities in other Member States become involved when a UCITS markets its units on their territory; if this is the case, they too can apply sanctions.[8] As a result, the laws of the countries in which a UCITS fund is notified are important to both the fund investors and the fund management company.

In view of the interactions between national laws outlined above, there are two competing predictions respecting the use of UCITS in different countries with various levels of state legal protections. On the one hand, we expect UCITS to make up for low-quality investor protection and act as a substitute for a country's weak regulations. This "legal substitute" hypothesis implies that the marginal benefit to investors of investing in a UCITS fund in a country with weak anti-director rights (for

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[5] See European Commission, November 16, 2006, White Paper on Enhancing the Single Market Framework for Investment Funds, http://ec.europa.eu/internal_market/investment/asset_management_en.htm.

[6] PWC, February 2011, UCITS V. The Depository's Role and Manager's Remuneration, PriceWaterhouseCoopers.

[7] Ibid.

[8] See http://europa.eu/legislation_summaries/other/l24036a_en.htm (as accessed March 14, 2011).

equity funds) or weak creditor rights (for bond funds) is greater than in funds structured under domestic legal rules.

On the other hand, one can conjecture that the voluntary standards a fund manager agrees to by taking on the UCITS structure are more easily adhered to in countries with stronger legal standards. This "legal complement" hypothesis implies that the marginal costs to fund managers are lower for establishing and distributing a UCITS fund in a country with strong anti-director rights (for equity funds) or strong creditor rights (for bond funds). The legal complement hypothesis is related to the institutional approach (North, 1990; Aoki, 2001), which posits that institutions need to be complementary to reach their full potential. Broadly defined, institutions includes regulations (Aoki, 2001), and a same set of rules can have different outcomes, depending on the existence or absence of complementary institutions.

There are two possible explanations for legal complements. First, fund managers operating in countries with weak legal standards lose a greater proportion of insider benefits by not adopting the stringent provisions of the UCITS.[9] Conversely, fund managers lose fewer insider benefits by adopting the UCITS structure in countries with more stringent regulations, since many of the constraints attached to the UCITS structure may already be included in these countries' securities regulations. At times national regulations may be even more stringent than those under UCITS, so that the costs of UCITS adoption are close to zero. Second, UCITS regulations are more easily enforced in countries with better laws. That is, UCITS funds are tailored to maximize retail investor protection, but this framework needs

[9] Relatedly, for example, Renders and Gaeremynck (2007) find evidence that insiders with more to lose were less likely to be early adopters of the 2007 IFRS standards.

to be related to real means to implement this protection. The issue of how to sue fraudulent fund managers or custodians is critical. Therefore the legal system of the country of domicile as well as that of the country where the fund is distributed matter.

For equity funds, there is a close link between UCITS provisions and anti-director rights. Anti-director rights (La Porta et al., 1998; Spamann, 2010) focus on the ability of the voting mechanism to guard against interference by corporate insiders. As explained above, a UCITS fund may not acquire any shares carrying voting rights that would have an effect on a user's independence. Under the legal substitute hypothesis, investors in UCITS funds are afforded greater protection, and hence a UCITS is more likely to be adopted in countries with a weaker legal regime because it makes up for the weaker legal regime in which the fund operates. Under the alternative, the legal complement hypothesis, a strong anti-director rights regime already favors minority shareholders and protects UCITS fund investments that are required to be minority investments. Moreover, under the legal complement hypothesis, the UCITS limit the scope of insider opportunistic behaviors of fund managers in countries with weak anti-director rights, and the costs of adopting the UCITS structure are higher in countries with weak legal regimes, since fund managers give up relatively more insider benefits.

For bond funds, there is a close link between UCITS provisions and creditor rights. UCITS funds have strict lending and borrowing requirements and specific leverage restrictions,[10] and creditor rights pertain to a debtholder's ability to recover claims. Under the legal substitute hypothesis, UCITS bond funds are more likely to be adopted in countries with legal regimes with weaker creditor rights since

[10]See, e.g., the requirements detailed here: http://ey.mobi/Publication/vwLUAssets/ucits-and-new-alternative-ucits-jan11/$FILE/UCITS%20and%20New%20Alternative%20UCITS%20January%202011.pdf

fund managers cannot exceed the maximum allowable UCITS leverage, which thereby makes UCITS funds less risky than non-UCITS funds. In contrast, under the legal complement hypothesis, UCITS bond funds are more likely to be adopted in countries with legal regimes with stronger creditor rights since fund managers are constrained in their ability to shift risks, given the fund's leverage restrictions. In a country with weak creditor rights, non-UCITS fund managers can pursue the excessively risky strategies of higher-leveraged returns, which maximizes their upside potential rewards at the expense of the fund's investors.

Our empirical analyses assess the relative importance of the marginal benefits to investors versus the marginal costs to fund managers by ascertaining whether the data indicate that fund managers spread voluntary provisions of UCITS funds to countries with weak or strong legal conditions, and consider substantive matters of law for anti-director and creditor rights, as well as matters of enforcement.

3. Data

Our analysis builds on data provided by Lipper, a Thomson Reuters company specialized in collecting worldwide information on mutual funds. The full sample includes all bond and equity funds launched during 2002–2007 domiciled in Austria, Belgium, the Czech Republic, Denmark, France, Germany, Finland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. Although not a Member State, Switzerland is included in our sample because their local regulations tend to transpose the UCITS orientations. These EU countries are covered in our database and are definitely the most important countries of domiciliation in Europe. The full sample includes UCITS as well as non-UCITS funds. To avoid

a sample selection bias, we also include funds that have already been merged or liquidated. However, we intentionally exclude funds launched prior to 2002, because of the major changes in regulation that occurred in 2001. We further exclude funds launched after 2007, since fund promoters require some time to reach their desired scope of notifications. Our sample was extracted in September 2009.

The database includes, among other things, information on the year of launch, the year of closure (if inactive in the meantime), the country of domiciliation, the list of countries where the fund has been notified, fund type, and the geographical focus of the investment. It is important to note that this database gives us a picture of the situation as of August 31, 2009. The historical development of funds is therefore not available, such as the exact date of each notification. All the variables are defined in Table 1.

[Table 1 about Here]

A note is warranted on the construction of our dependent variables. The objective is to capture the overall quality of the legal environment in which the funds are notified (distributed). To measure legal standards for bond funds, we use creditor rights indices for the different countries of notification. We then construct the average creditor rights indices of the countries in which each considered fund is notified *while excluding the country of domiciliation*. This provides a measure of the average legal standard for bond investments in the countries of notification. We further construct this measure by weighting each country by its population (with data obtained from the World Bank), which controls for the fact that some countries are particularly small and thus offer little scope of distribution compared to larger countries (such as France and Germany). We also construct a similar measure by weighting by

gross domestic product (GDP), with information from the World Bank's database.[11] For equity funds, we proceed similarly but using Spamann's (2010) anti-director rights indices *while again excluding the country of domiciliation*.

4. Summary Statistics

Table 2 shows summary statistics for our variables: First, it shows that average creditor rights are relatively similar, regardless of whether these are weighted or not, and whether by population or GDP. The same is true for anti-director rights. Interestingly however, creditor rights in the country of domiciliation (which is excluded from the calculation of the dependent variables) are remarkably lower, namely, 1.422. For anti-director rights, the difference is less pronounced but still negative (with a sample average of 3.916 in the countries of domiciliation). Second, a large proportion of cross-border investment funds in Europe are structured as UCITS: 88.2% of bond funds and 92.5% of equity funds distributed cross-border are UCITS. Third, these bond (equity) funds are notified, on average, in 6.7 (7.0) countries, and about 34–35% are notified in at least one country outside Europe, most often in Asia-Pacific. Table 3, Panel A, provides more details are provided on the specific countries. Finally, it is worthwhile mentioning that 56% of bond funds and 48% of equity funds are managed by one of the top 50 promoters. This finding indicates that while some fund promoters may be quite large, the market is highly competitive, given the large number of players active in the European market.

[Table 2 about Here]

[11] In unreported analysis, we also constructed measures weighted by the countries' industry of investment funds, using data available from the European Financial Management Association (EFMA).The correlation between these different weighted measures turns out to be extremely high.

Table 3 presents summary statistics on the countries of notification (Panel A) and the domiciliation (Panel B) of European cross-border funds. The European countries with the greatest offering of cross-border bond investment funds are (by order of importance) Luxembourg, Germany, and Austria. For cross-border equity funds, the ranking is the same among the top three. Obviously, the ranking is likely to change if national funds (i.e., those notified only in the country of domiciliation) are taken into account (see Cumming et al., 2010, for related statistics). In terms of notifications outside Europe, the three countries most represented are Singapore (23.1% and 24.6% of all cross-border bond and equity funds, respectively), Hong Kong (9.8% and 13.6% of all cross-border bond and equity funds, respectively), and Chile (8.6% and 9.7% of all the cross-border bond and equity funds, respectively).

The domiciliation of investment funds in Europe is highly clustered, with Luxembourg and Ireland comprising the bulk of domiciliations. It is interesting to note that some relatively small countries have a large fraction of available investments funds notified in their country. For instance, Austria has only about 8 million inhabitants but 47.8% of all bond funds and 46.3% of all equity funds are notified there (see Panel A of Table 3). This finding is even more remarkable because Austria is home to only a small fraction of European cross-border investment funds; only 6.03% of all bond funds and 2.30% of all equity funds are domiciled in there (see Panel B of Table 3).

[Table 3 (Panels A and B) about Here]

Table 4 shows pairwise correlations between our main variables: Panel A shows the correlation matrix for bond funds, and Panel B that for equity funds. First, Table 4 confirms the strong correlation

between our dependent variables, regardless of weighting or not the countries considered for variable construction. Correlations range between 90.6% and 99.2% for bond funds and 90.5% and 99.6% for equity funds. Second, correlations between legal quality in the country of domiciliation and the average legal quality in the countries of notification (which, by construction, exclude the legal quality of the country of domiciliation) are generally weak in terms of magnitude.

[Table 4 (Panels A and B) about Here]

5. Multivariate Analysis

This section presents regression results for 1344 UCITS cross-border bond funds and 2784 UCITS cross-border equity funds over the considered period. Section 5.1 describes the regression methods and key variables. Section 5.2 analyzes the quality of the legal standards of the countries in which the funds are distributed. Section 5.3 presents regressions for notifications based outside of Europe. Other robustness checks are discussed in Section 5.4.

5.1 Regression Methods

Our regressions analyze the dependent variables for alternative measures of legal standards in the countries in which the UCITS funds were distributed. For bond funds we focus on indices of creditor rights. For equity funds we focus on indices of shareholder rights. Each of the legal indices in the dependent variable is constructed in two ways: (1) as the average legal index values weighted by the population of the country of notification and (2) as the average legal index values weighted by GDP. The simple average legal index values of the countries of notification where the funds were distributed was

also considered, but the results were similar (except in cases explicitly noted otherwise; see below) and hence are not reported but available on request.

To assess the robustness of our dependent variable measures, we construct and explicitly test alternative dependent variables based on the difference in legal indices between the notification countries and the country of domiciliation. Furthermore, we consider subsets of the data based on region and explicitly show results for notifications outside of Europe.

The main explanatory variable used to test our central hypotheses in Section 2 is the dummy variable for UCITS fund structure. A positive coefficient for the UCITS variable supports the legal complement hypothesis, or the idea that voluntarily assumed investor protection standards are more likely to spread to countries with stronger legal systems due to the lower marginal costs to fund managers. Conversely, a negative coefficient for the UCITS variable supports the legal substitute hypothesis, or the idea that voluntarily assumed investor protection standards are more likely to spread to countries with weaker legal systems due to the greater marginal benefits to investors.

Our empirical analyses control for a number of other factors that can affect the choice of notification jurisdiction. We control for the overall scope of notifications, such characteristics of the fund as its age, whether or not the fund belongs to a top 50 ranked promoter, fund status (merged, liquidated, or still active), fund promoter type, and the legal conditions in the country of domiciliation. All the specifications include dummies for vintage year and countries of domiciliation. Standard errors are clustered by vintage year. We discuss other controls and robustness checks below, alongside the results and discussion in Sections 5.2–5.5.

5.2 Regression Results

Table 5 presents regressions for the 1342 bond and 2777 equity funds separately, since creditor rights are more directly applicable to bond funds and anti-director rights are more applicable to equity funds. We present regressions for the GDP- and population-weighted legal indices where notifications occurred and show alternative specifications with different explanatory variables.[12] Eight specifications in total are presented in Table 5 to show robustness.

[Table 5 about Here]

Table 5 indicates that UCITS funds are much more likely to spread to legal regimes with stronger investor protection. This finding holds for both bond funds and equity funds and for stronger creditor rights and anti-director rights regimes. In particular, on average, a UCITS bond fund spreads to countries with approximately 0.5 higher creditor rights; since the average creditor rights index in the country of domiciliation of the fund is 1.4 (see Table 2), UCITS funds spread to new countries with creditor rights that are 36% stronger. Similarly, UCITS equity funds spread to new countries with 0.2 stronger anti-director rights; since the average anti-director rights of a fund's country of domiciliation is 3.9 (see Table 2), UCITS funds spread to new countries with anti-director rights that are 5% stronger. The data therefore provide very strong and robust support for the legal complement hypothesis and do not support the legal substitute hypothesis.

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[12] Alternatively, we considered dependent variables measured net of the legal index value in the country of origin (i.e., the value of the legal index in the country of domiciliation is subtracted). The results are qualitatively very similar and are thus not reported explicitly.

We ran further tests to determine whether the observed patterns in Table 5 are due to greater enforcement in countries with better laws or due to the fact that the loss of a manager's insider benefits from adopting UCITS constraints is greater in countries with lower legal standards. That is, the choice to set up a fund under UCITS instead of any national structure may be related to the quality of enforcement in the countries where the fund is distributed. Indeed, retail investors in countries where funds are notified may prefer to invest in foreign UCITS funds as a way to invest in funds supervised by foreign public securities regulators with greater enforcement standards. To investigate this issue, we used, among other things, legal indices of law enforcement from La Porta et al. (1998, 2006) and Jackson and Roe (2009) for judicial efficiency and resource-based measures of enforcement. Our analysis (not explicitly reported for reasons of conciseness but available on request) showed no systematic effect of UCITS funds compared to other fund structures in relation to these various measures of enforcement on equity and bond funds. Sub-indices showed no consistent pattern either.

In sum, although we do not find support for UCITS standards spreading to countries with any systematic difference in enforcement relative to the fund manager's home country, Table 5 nevertheless shows strong support for the importance of legal quality on substantive matters pertaining to creditor and anti-director rights. Therefore, enforcement is not the main determinant driving legal complementarity. Rather, UCITS fund managers expand to stronger legal environments relative to non-UCITS funds since fund managers operating in countries with weak legal standards lose a greater proportion of insider benefits if they adopt stringent UCITS provisions.

Many of the control variables are insignificant, which highlights the relative importance of the effect of UCITS voluntary standards on choice of law. For instance, other variables that do not significantly affect the average legal environment of notifications include promoter size, fund age, and whether or not the promoter is a commercial bank. Perhaps One puzzling result is the effect of the scope of distribution (the variable Nbr. Notifications), since the effect is negative for bond funds and positive for equity funds. One explanation for this result is that there are great legal complexities associated with bond covenants and contracts, thereby making it relatively more attractive to spread bond funds to lower-quality creditor rights legal regimes in the event of legal disputes.

One way to provide further insight into this puzzling result is to consider instead the spread of legal regimes within the notifications of each fund. We therefore measure the difference between the highest and lowest legal regimes in which each fund is notified. This provides complementary insight into our research question, next to the (weighted) average legal index. The results are shown in Table 6 and reveals that UCITS funds tend to have a wider range of legal regimes. In unreported results, we investigated the lowest and highest legal regimes separately to see whether the spread is primarily driven by the highest or lowest legal regime or both. It turns out that the increased spreads for UCITS funds are due to the highest legal regimes, and very little to notifications in low legal regimes. This additional finding is consistent with the legal complement hypothesis, in that voluntary investor protection mechanisms are more likely to be associated with countries with higher legal standards. Conversely, they are unlikely to encourage UCITS funds to distribute their fund units in countries with poor investor protection as a way to substitute for a poor legal environment.

[Table 6 about Here]

5.3 Effect of Notifications Outside of Europe

As discussed in Section 4, European UCITS funds are increasingly notified outside Europe, particularly in the Asia-Pacific. Important countries are notably Chile, Hong Kong, Japan, South Korea, Macau, Singapore, and Taiwan, where UCITS funds are increasingly notified because of their international recognition. According to a large volume of practitioner reports and marketing materials, this trend is largely attributable to the high investor protection standards offered by the UCITS. This is why increasing numbers of national regulators allow UCITS funds to distribute their fund units to domestic retail investors. Our sample offers the opportunity to test the impact on such notification patterns, since we have information on the full spectrum of notifications worldwide.

[Table 7 about Here]

Table 7 shows that for equity funds, notifications outside Europe likewise drive a substantial part of the increased legal environment in the countries of notification. This effect is primarily attributable to notifications in the Asia-Pacific. The economic significance is similar to that in Table 5, but slightly greater for the notifications outside Europe shown in Table 7, and the statistical significance is similar, with all regressions showing significance at the 5% level. In addition, the control variables show similar patterns as in Table 5.

5.4 Other Robustness Checks

We carried out a number of other robustness checks to confirm the robustness of our tests in Tables 5 to 7. These extra tests are not explicitly reported but available on request. For example, we

considered subsets of common versus civil law countries, countries with similar languages, country exclusions, different measures of legal indices, subsets of different years, and other control variables. For all of our specifications, the data point to the legal complement hypothesis for the context of voluntary legal protections offered by the UCITS and country-level legal standards.

6. Concluding Remarks and Future Research

This paper is the first to consider whether voluntary legal standards are complements or substitutes with country-level required legal standards. Our empirical context is the case of the UCITS. We review the specific UCITS context and conjecture that the voluntary adoption of legal standards can be either complementary to country-level legal protections or substitutes for the absence of a country's poor legal protections. The legal substitute hypothesis predicts that voluntary standards meet investor interests and demand for better legal systems not offered at the required country level. The legal complement legal hypothesis conjectures that fund managers seek to minimize costs associated with maintaining the level of voluntarily adopted legal standards. Legal complements may be attributable to either ease of enforcement or the fact that fund managers give up relatively more insider benefits in countries with poor legal standards by voluntarily adopting higher standards above the minimum required by law.

Based on a complete sample of 1342 bond funds and 2777 of equity funds established between 2001 and 2007 and cross-border notifications during 2001–2010, the data support the legal complement hypothesis and not the legal substitute hypothesis. That is, the data indicate voluntary investor protection is more likely to spread to countries with higher legal standards. The evidence herein is both economically significant and statistically robust. Voluntary investor protection mechanisms are not a

substitute for a country's poor laws; rather, better legal conditions stimulate the voluntary adoption of investor protection mechanisms to protect investors over and above a country's minimum legal requirements. Our robustness analyses show that this central finding is not attributable to enforcement-related matters. Rather, UCITS funds spread to countries with stronger anti-director rights (for equity funds) and stronger creditor rights (for bond funds) since the costs of doing so are lower as a UCITS fund in terms of giving up insider benefits. This finding is an important one, since it indicates how and where voluntary investor protection mechanisms spread around the world to better inform policymakers and investors. Further, it sheds light on the pronounced role of legal conditions for corporate governance in the spirit of La Porta et al. (1998, 2000) and suggests that better country-level corporate governance and legal standards encourage the further voluntary adoption of standards that exceed those at the country level.

Further research could examine the substitutability versus complementary of voluntary standards and legal systems in other empirical contexts. While unique features of the UCITS regime may be driving our results herein, we have no reason to believe this is the case at this stage. Nevertheless, additional research in other financial contexts would provide more empirical support and theoretical insights. In addition, research in other contexts such as environmental or other non-financial contexts would be fruitful. This type of research would better inform investors and policymakers alike.

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TABLE 1: Definition of Variables

This table provides a definition of all the variables used in the analysis. Sources are in parentheses.

Variable	Definition
<u>Distribution Characteristics of the Fund:</u>	
Average Creditor Rights	Average of creditor rights index of the countries of notification of the fund; the measure is calculated as the unweighted average, as well as weighted by population and GDP (source: La Porta et al., 1998; World Bank).
Average Anti-Director Rights	Average of anti-director rights index of the countries of notification of the fund; the measure is calculated as the unweighted average, as well as weighted by population and GDP (source: Spamann, 2008; World Bank).
Creditor Rights at Domicile	Level of creditor rights index of the country where the fund is domiciled (source: La Porta et al., 1998).
Anti-Director Rights at Domicile	Level of anti-director rights index of the country where the fund is domiciled (source: Spamann, 2008).
Notified outside Europe	Dummy variable equal to one if the fund is notified in at least one country outside Europe, and zero otherwise (source: Lipper).
Notified in Asia-Pacific	Dummy variable equal to one if the fund is notified in at least one country in the Asia-Pacific region, and zero otherwise (source: Lipper).
Notified in the Americas	Dummy variable equal to one if the fund is notified in at least one country in the Americas (North, Central, or South America), and zero otherwise (source: Lipper).
Nbr. Notifications	Number of countries in which the fund is notified as of September 2009 (source: Lipper).
<u>Other Fund Characteristics:</u>	
Fund Age (years)	Age of the fund (in years) as of September 2009, calculated since year of launch (vintage year) (source: Lipper).
UCITS Fund	Dummy variable equal to one if the fund is a UCITS fund, and zero otherwise (source: Lipper).
Domiciliation Dummies	Dummy variables for the different countries of domiciliation, i.e., Austria, Belgium, Czech Republic, Denmark, France, Germany, Finland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom (source: Lipper).
Current Status: Merged	Dummy variable equal to one if the fund has merged, and zero otherwise (source: Lipper).
Current Status: Liquidated	Dummy variable equal to one if the fund has been liquidated, and zero otherwise (source: Lipper).
<u>Fund Promoter Characteristics:</u>	
Top-50 Promoter Fund	Dummy variable equal to one if the fund is from one of the 50 largest fund promoters (based on number of funds launched in the European Union), and zero otherwise (source: Lipper).
Commercial Bank Promoter	Dummy variable equal to one if the parent promoter is a commercial bank, and zero otherwise (e.g., an investment company or an insurance company) (source: own information collection).
Non-European Promoter	Dummy variable equal to one if the parent promoter is located outside Europe (source: own information collection).

TABLE 2: Summary Statistics

All the variables are defined in Table 1. For the two variables Commercial Bank Promoter and Non-European Promoter, we only have information for the 150 largest promoters, and thus the number of observations is 982 for bond funds and 1802 for equity funds.

Variables	Bond Funds		Equity Funds		p-Value: Bond vs. Equity
	Mean	Std. Dev.	Mean	Std. Dev.	
Dependent Variables:					
Average Creditors Rights (unweighted)	2.307	0.629			- -
Average Creditors Rights (population weighted)	2.401	0.691			- -
Average Creditors Rights (GDP weighted)	2.419	0.697			- -
Average Anti-Director Rights (unweighted)			4.154	0.469	- -
Average Anti-Director Rights (population weighted)			4.346	0.506	- -
Average Anti-Director Rights (GDP weighted)			4.323	0.499	- -
Fund and Promoter Characteristics:					
UCITS Fund (dummy)	0.882	0.322	0.925	0.264	0.000
Nbr. Notifications	6.714	5.743	7.024	5.804	0.106
Promoter is a Commercial Bank (dummy)	0.467	0.499	0.507	0.500	0.018
Non-European Promoter (dummy)	0.164	0.370	0.171	0.377	0.543
Fund is Notified outside Europe (dummy)	0.341	0.474	0.349	0.477	0.580
Fund is Notified in Asia-Pacific (dummy)	0.282	0.450	0.302	0.459	0.174
Fund is Notified in the Americas (dummy)	0.101	0.302	0.111	0.315	0.317
Creditor Rights at Domicile	1.422	0.650			- -
Anti-Director Rights at Domicile			3.9159	0.4234	- -
Fund Age (in years)	4.633	1.684	4.3031	1.7998	0.000
Top-50 Promoter fund (dummy)	0.560	0.497	0.4767	0.4995	0.000
Status: Merged (dummy)	0.084	0.278	0.0769	0.2664	0.428
Status: Liquidated (dummy)	0.210	0.407	0.1846	0.3881	0.059
Nbr. Observations	1344		2784		

TABLE 3: PANEL A - Statistics on the Notification of Cross-Border Funds

This table presents summary statistics for the countries where funds are notified. Reported mean values represent the percentages of the total sample of bond funds (based on a sample of 1344 observations) and equity funds (based on a sample of 2784 observations). The first two columns give the creditor rights index (La Porta et al., 1998) and anti-director rights index (Spamann, 2008) of the considered country of notification. Only countries with values greater than 1% are reported below. Countries appearing in our sample in less than 1% of the cases are not reported explicitly in this table.

Variables	Creditor Rights	Anti-Director Rights	Bond Funds		Equity Funds		p-Value: Bond vs. Equity
			Mean	Std. Dev.	Mean	Std. Dev.	
Percentage Notified in given Country:							
Austria	3	4	47.8%	50.0%	46.3%	49.9%	0.341
Belgium	2	2	20.7%	40.5%	22.7%	41.9%	0.132
Chile	2	5	8.6%	28.0%	9.7%	29.6%	0.214
Czech Republic	3	3.75	8.4%	27.8%	6.5%	24.7%	0.032
Denmark	3	4	9.4%	29.2%	11.1%	31.4%	0.089
Estonia	1.3	3.75	1.6%	12.7%	2.5%	15.5%	0.064
Finland	1	4	20.3%	40.2%	22.7%	41.9%	0.074
France	0	5	37.4%	48.4%	45.5%	49.8%	0.000
Germany	3	4	65.6%	47.5%	64.3%	47.9%	0.415
Greece	1	3	3.8%	19.1%	3.6%	18.7%	0.791
Hong Kong	4	4	9.8%	29.8%	13.6%	34.3%	0.000
Hungary	2.2	4.5	2.8%	16.6%	2.0%	14.0%	0.120
Iceland	1.75	4	1.0%	10.2%	0.6%	7.8%	0.170
Ireland	1	4	24.0%	42.7%	24.7%	43.2%	0.615
Italy	2	4	40.9%	49.2%	41.7%	49.3%	0.618
Japan	2	5	2.0%	14.0%	1.7%	12.9%	0.480
Latvia	3	4.5	2.3%	15.0%	3.1%	17.4%	0.120
Lithuania	2	4.5	1.9%	13.5%	2.4%	15.3%	0.244
Luxembourg	1.3	3.75	75.6%	43.0%	70.5%	45.6%	0.000
Macau	2.2	4.5	3.5%	18.4%	5.1%	22.0%	0.014
The Netherlands	3	4	40.0%	49.0%	41.5%	49.3%	0.348
Poland	1	4.5	4.4%	20.5%	5.6%	23.0%	0.087
Portugal	1	4	17.0%	37.5%	17.3%	37.9%	0.758
Singapore	3	4	23.1%	42.1%	24.6%	43.1%	0.286
Slovakia	2	4.5	4.0%	19.6%	2.8%	16.5%	0.050
South Korea	3	4.06	2.3%	15.0%	1.9%	13.7%	0.406
Spain	2	6	36.8%	48.2%	37.4%	48.4%	0.675
Sweden	1	4	24.3%	42.9%	31.2%	46.3%	0.000
Switzerland	1	3	41.9%	49.4%	44.4%	49.7%	0.133
Taiwan	2	5	5.1%	22.1%	5.7%	23.1%	0.467
United Kingdom	4	5	40.0%	49.0%	44.0%	49.6%	0.016
Nbr. Observations			1344		2784		

TABLE 3: PANEL B - Statistics on the Domiciliation of Cross-Border Funds

This table presents summary statistics for the countries where funds are domiciled. Reported mean values represent the percentage of the total sample of bond funds (based on a sample of 1344 observations) or equity funds (based on a sample of 2784 observations). The first two columns give the creditor rights index (La Porta et al., 1998) and anti-director rights index (Spamann, 2008) of the considered country of domiciliation.

Variables	Creditor Rights	Anti-Director Rights	Bond Funds		Equity Funds		p-Value: Bond vs. Equity
			Mean	Std. Dev.	Mean	Std. Dev.	
Percentage Domiciled in given Country:							
Austria	3	4	6.03%	23.81%	2.30%	14.99%	0.000
Belgium	2	2	0.52%	7.20%	1.26%	11.14%	0.011
Czech Republic	3	3.75	0.07%	2.73%	0.07%	2.68%	0.977
Denmark	3	4	0.45%	6.67%	0.22%	4.64%	0.253
Finland	1	4	0.52%	7.20%	1.29%	11.30%	0.008
France	0	5	2.16%	14.54%	6.18%	24.08%	0.000
Germany	3	4	2.08%	14.29%	3.38%	18.07%	0.013
Ireland	1	4	19.57%	39.69%	19.86%	39.90%	0.823
Italy	2	4	0.07%	2.73%	0.00%	0.00%	0.317
Latvia	3	4.5	0.07%	2.73%	0.11%	3.28%	0.731
Luxembourg	1.3	3.75	66.15%	47.34%	60.56%	48.88%	0.000
The Netherlands	3	4	0.07%	2.73%	0.07%	2.68%	0.977
Norway	2	4	0.07%	2.73%	0.11%	3.28%	0.731
Poland	1	4.5	0.00%	0.00%	0.00%	0.00%	- -
Slovakia	2	4.5	0.00%	0.00%	0.04%	1.90%	0.317
Slovenia	3	3.75	0.15%	3.86%	0.04%	1.90%	0.310
Spain	2	6	0.00%	0.00%	0.00%	0.00%	- -
Sweden	1	4	0.07%	2.73%	0.93%	9.62%	0.000
Switzerland	1	3	0.22%	4.72%	0.29%	5.35%	0.696
United Kingdom	4	5	1.71%	12.97%	3.30%	17.88%	0.001
Nbr. Observations			1344		2784		

TABLE 4: Correlation Matrix

This table provides pairwise correlations separately for our samples of cross-border bond funds (Panel A) and equity funds (Panels). All the variables are defined in Table 1. Here CR stands for creditor rights and ADR for anti-director rights. The superscript * indicates significance at the 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
PANEL A - BOND FUNDS:															
(1) Average CR (unweighted)	1.000														
(2) Average CR (population weighted)	0.910*	1.000													
(3) Average CR (GDP weighted)	0.906*	0.992*	1.000												
(4) UCITS Fund	0.163*	0.184*	0.184*	1.000											
(5) Nbr. Notifications	-0.179*	-0.156*	-0.131*	0.257*	1.000										
(6) Commercial Bank Promoter	-0.208*	-0.155*	-0.157*	0.001	-0.018	1.000									
(7) Non-European Promoter	0.119*	0.079	0.089*	0.085*	0.291*	-0.415*	1.000								
(8) Notified outside Europe	-0.065	-0.098*	-0.074*	0.048	0.599*	-0.065	0.339*	1.000							
(9) Notified in Asia-Pacific	-0.044	-0.081*	-0.074*	0.054	0.569*	-0.126*	0.374*	0.872*	1.000						
(10) Notified in the Americas	-0.116*	-0.128*	-0.094*	0.092*	0.459*	0.071	0.035	0.467*	0.261*	1.000					
(11) Creditor Rights at Domicile	0.049	0.020	0.017	-0.027	-0.173*	-0.115*	-0.065	-0.192*	-0.184*	-0.054	1.000				
(12) Fund Age (years)	-0.021	-0.022	-0.023	0.030	-0.011	0.052	0.050	0.087*	0.043	0.061	-0.001	1.000			
(13) Top-50 Promoter Fund	-0.054	-0.055	-0.052	0.002	0.086*	0.369*	-0.307*	0.025	0.017	0.044	-0.020	-0.076*	1.000		
(14) Status: Merged	-0.043	-0.036	-0.040	0.052	0.049	0.138*	-0.056	-0.031	-0.017	-0.031	-0.046	0.090*	0.101*	1.000	
(15) Status: Liquidated	0.083*	0.079*	0.079*	-0.028	-0.122*	-0.129*	0.092*	-0.062	-0.051	-0.118*	-0.096*	0.105*	-0.106*	-0.156*	1.000

PANEL B - EQUITY FUNDS:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Average ADR (unweighted)	1.000														
(2) Average ADR (population weighted)	0.905*	1.000													
(3) Average ADR (GDP weighted)	0.916*	0.996*	1.000												
(4) UCITS Fund	0.053*	0.142*	0.137*	1.000											
(5) Nbr. Notifications	0.021	0.229*	0.199*	0.197*	1.000										
(6) Commercial Bank Promoter	-0.003	0.006	0.017	0.008	-0.093*	1.000									
(7) Non-European Promoter	0.122*	0.151*	0.148*	0.032	0.278*	-0.461*	1.000								
(8) Notified outside Europe	0.101*	0.234*	0.213*	0.026	0.591*	-0.110*	0.278*	1.000							
(9) Notified in Asia-Pacific	0.089*	0.220*	0.201*	0.039	0.572*	-0.143*	0.296*	0.898*	1.000						
(10) Notified in the Americas	0.044	0.085*	0.060*	0.049*	0.517*	0.001	0.074*	0.483*	0.309*	1.000					
(11) Creditor Rights at Domicile	-0.021	-0.087*	-0.087*	-0.039	-0.169*	-0.011	0.069*	-0.081*	-0.090*	-0.052*	1.000				
(12) Fund Age (years)	-0.043	-0.061*	-0.061*	-0.085*	-0.034	0.008	-0.0001	0.033	0.025	0.086*	-0.004	1.000			
(13) Top-50 Promoter Fund	0.051*	0.045	0.046	0.037	0.183*	0.375*	-0.276*	0.082*	0.043	0.106*	-0.017	-0.085*	1.000		
(14) Status: Merged	-0.062*	-0.066*	-0.066*	0.026	-0.028	-0.008	-0.080*	-0.059*	-0.061*	-0.012	-0.045	0.107*	0.041	1.000	
(15) Status: Liquidated	0.096*	0.090*	0.088*	-0.114*	-0.145*	-0.083*	0.068*	-0.042	-0.029	-0.148*	-0.037	0.171*	-0.108*	-0.137*	1.000

TABLE 5: Do Voluntary Investor Protection Mechanisms Spread to High or Low Quality Legal Regimes?

	Average Creditor Rights		Average Anti-Director Rights		Average Creditor Rights		Average Anti-Director Rights	
	Population	GDP	Population	GDP	Population	GDP	Population	GDP
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UCITS Fund	**0.472****	**0.461****	**0.186****	**0.186****	**0.772*****	**0.771*****	**0.208*****	**0.216*****
Nbr. Notifications	-0.0235***	-0.0200***	0.0171***	0.0142***	-0.029***	-0.0250***	0.0130***	0.0102**
Fund Age	-0.159*	-0.159*	0.0598	0.0537	-0.153*	-0.148*	0.0315	0.0306
Top-50 Promoter Fund	-0.0361	-0.0352	0.0493	0.0553*	0.00992	0.0000307	0.0327	0.0355
Status: Merged	-0.0353	-0.0442	-0.0736	-0.0740	-0.0178	-0.0288	-0.0423	-0.0412
Status: Liquidated	0.0406	0.0460	0.155***	0.145***	0.124	0.129	0.148***	0.144***
Creditor Rights at Domicile	0.463***	0.466***			0.314**	0.317**		
ADR Index at Domicile			-0.157**	-0.153*			-0.140	-0.149
Non-European Promoter					0.0925	0.0911	0.138**	0.155**
Commercial Bank Promoter					-0.137*	-0.134*	0.0730	0.0827
Domicile dummies included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1342	1342	2777	2777	980	980	1802	1802
Adjusted R-squared	0.183	0.179	0.126	0.114	0.254	0.254	0.115	0.105

Note: All variables are as defined in Table 1. All the specifications include dummies for countries of domiciliation and vintage years. Regressions on creditor rights are for the sample of bond funds only, and regressions on anti-director rights for the sample of equity funds only. To calculate the dependent variables, the country of domiciliation is excluded to avoid endogeneity. Furthermore, we only consider cross-border funds launched during 2002–2007. Standard errors are clustered by vintage years. The superscripts *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 6: Do Voluntary Investor Protection Mechanisms Spread to a Wider Range of Legal Regimes?

Variables	CR (Range) (1)	ADR (Range) (2)	CR (Range) (3)	ADR (Range) (4)
UCITS Fund	**0.414*** **	**0.348*** **	**0.492*** **	**0.318** **
Nbr. Notifications	0.225***	0.218***	0.211***	0.211***
Fund Age	-0.160*	0.124**	-0.243**	0.0931*
Top-50 Promoter Fund	0.176***	0.00596	0.211	-0.0180
Status: Merged	-0.172*	0.0357	-0.154**	0.0950
Status: Liquidated	0.0660	0.0730	0.0577	0.0361
Creditor Rights at Domicile	-0.00169		0.373**	
ADR Index at Domicile		-0.292***		-0.156**
Non-European Promoter			0.0582	-0.368**
Commercial Bank Promoter			0.172	-0.0439
Domicile dummies included?	Yes	Yes	Yes	Yes
Year dummies included?	Yes	Yes	Yes	Yes
Observations	1342	2777	980	1802
Adjusted R-squared	0.698	0.732	0.699	0.745

Note: All variables are as defined in Table 1. The dependent variable is the difference between the highest and lowest legal regimes within the list of notifications of funds. Regressions (1) and (3) are for bond funds and regressions (2) and (4) are for equity funds. Here CR stands for creditor rights, and ADR for anti-director rights. All the specifications include dummies for countries of domiciliation and vintage years. Regressions on creditor rights are for the sample of bond funds only, and regressions on anti-director rights are for the sample of equity funds only. To calculate the dependent variables, the country of domiciliation is excluded to avoid endogeneity. Furthermore, we only consider cross-border funds launched during 2002–2007. Standard errors are clustered by vintage years. The superscripts *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 7: Effect of Notifications Outside Europe

	Average Creditor Rights		Average Anti-Director Rights		Average Creditor Rights		Average Anti-Director Rights	
	Population	GDP	Population	GDP	Population	GDP	Population	GDP
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UCITS Fund	**0.468****	**0.460****	**0.211****	**0.210****	**0.467****	**0.455****	**0.202****	**0.200****
Nbr. Notifications	-0.022***	-0.020***	0.00984***	0.00727**	-0.0200**	-0.0173**	0.0114***	0.00925**
Fund Age	-0.158*	-0.159*	0.0491	0.0436	-0.158*	-0.158*	0.0546	0.0498
Top-50 Promoter Fund	-0.0363	-0.0352	0.0497	0.0557	-0.0364	-0.0356	0.0539	0.0598*
Status: Merged	-0.0377	-0.0446	-0.0599	-0.0610	-0.0449	-0.0504	-0.0633	-0.0646
Status: Liquidated	0.0395	0.0458	0.154***	0.144***	0.0339	0.0421	0.151***	0.140***
Notified outside Europe	-0.0211	-0.00326	0.151**	0.143**				
Creditor Rights at Domicile	0.464***	0.466***			0.461***	0.466***		
ADR Index at Domicile			-0.162**	-0.158*			-0.160**	-0.156*
Notified in Asia-Pacific					-0.0127	-0.0324	0.129**	0.125*
Notified in the Americas					-0.116	-0.0497	-0.00559	-0.0280
Domicile dummies included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1342	1342	2777	2777	1342	1342	2777	2777
Adjusted R-squared	0.182	0.178	0.138	0.126	0.183	0.178	0.134	0.123

Note: All variables are as defined in Table 1. All the specifications include dummies for countries of domiciliation and vintage years. Regressions on creditor rights are for the sample of bond funds only, and regressions on anti-director rights are for the sample of equity funds only. To calculate the dependent variables, the country of domiciliation is excluded to avoid endogeneity. Furthermore, we only consider cross-border funds launched during 2002–2007. Standard errors are clustered by vintage years. The superscripts *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

APPENDIX: The Case of Aberdeen Global – European Equity A

Fund Name: *Aberdeen Global – European Equity A Acc*
Current Status: *Active*
Asset Type: *Equity*
Formal Legal Structure: *LU – SICAV – Part 1 (UCITS)*
Countries Notified for Sale: *Austria, Belgium, Chile, Finland, France, Germany, Hong Kong, Island, Ireland, Italy, Jersey, Luxembourg, Malta, the Netherlands, Singapore, Spain, Sweden, Switzerland, Taiwan, and Great Britain*
Fund Domicile: *Luxembourg*

Administrator: *BNP Paribas Securities Services Luxembourg SA*
Custodian: *BNP Paribas Securities Services Luxembourg SA*
Fund Management Company: *Aberdeen International Fund Managers Ltd*
Fund Management Parent Company: *Aberdeen Asset Management*

Aberdeen Global – European Equity A is a UCITS funds domiciled in Luxembourg and managed by Aberdeen International Fund Managers Ltd., a UK-based management company. The fund is notified for sale in 20 countries, some of which are outside of Europe. Fund units are invested in European stocks.