Hedge Fund Industry Structure and Regulatory Alternatives

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Growth in the hedge fund industry has been a topic of much discussion in the recent press. The recent Hedge Fund Roundtable held at the SEC suggests regulators are concerned about a host of hedge fund industry issues. In this paper, we define hedge funds and classify the hedge fund industry in order to understand the impacts of possible alternative regulatory approaches. We discuss current hedge fund regulations and characterize regulatory approaches that are consistent with current investment company regulation. Finally we discuss an approach to the regulator's problem that addresses a number of issues associated with extending current regulations to hedge funds.

Introduction

The focus of this paper is to examine the consequences of different regulatory alternatives available to financial regulators. A starting point is to consider the consequences of imposing regulations similar to the current registered investment company regulatory framework on the hedge fund industry. Since the emphasis of the paper is on the economic consequences of hedge fund regulations, my focus on individual approaches and the underlying legal structure is necessarily broad. I characterize the current provisions hedge funds satisfy in general terms in order to establish the impact of these limitations on subsequent hedge fund manager decisions. This will allow me to examine the secondary impacts of regulatory approaches and to compare the consequences of each alternative in a general framework.

Recent market downturns have focused considerable attention on the hedge fund industry. Hedge funds have long been characterized as a source of positive absolute returns regardless of the long term market trends. Hedge funds have generated these returns by using complex strategies to generate investor value.

The industry has been the focus of the financial press and a topic of interest to financial regulators. As the press and regulators turn their attention to issues in other investment management industries (mutual funds and investment advisers), the hedge fund industry is likely to be the target of more inquiries.

Hedge Fund Industry Structure

Defining Hedge Funds.

There is no strict regulatory definition for hedge funds. In this document, the term "hedge fund" is used to describe pooled investment vehicles that are not widely available to the public with assets that are managed by a professional asset management firm, which I refer to as the "hedge fund manager". Two distinguishing features of hedge funds is that their offerings are not public and they are not registered as investment companies under the Investment Company Act. In this paper, my definition of hedge funds does not include registered investment companies, commodity pools, private equity, venture capital, or real estate funds.[1]

Hedge fund manager compensation is structured to allow the manager to participate in the performance of the fund. Hedge fund manager compensation is typically a function of a management fee, fund profits, and assets under management. In addition, the hedge fund manager generally has a substantial investment interest in the fund. This compensation structure is meant to align the hedge fund manager's incentives with investor incentives. Having wealth in the fund ensures the hedge fund manager has the incentive to maximize the fund's long run performance. Hedge funds typically also employ other services to perform administrative functions for the fund.

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[1] I follow the general hedge fund definition included in the *2003 Sound Practices for Hedge Fund Managers,* Managed Funds Association. The MFA definition of hedge funds is: "A privately offered, pooled investment vehicle available to the public and the assets of which are managed by a professional asset management firm…" In addition, our definition excludes registered investment companies in order to maintain the distinction between privately and publicly offered investment vehicles. We also exclude commodity pools from our definition as they are regulated by the CFTC. Note, however, our general recommendations would also apply to hedge funds that also satisfy the definition of commodity pools.

Hedge fund securities are denominated in shares or limited partnership interests and are not available to the public. Hedge fund investors must satisfy eligibility conditions based on their wealth and level of investment sophistication. Because there is no secondary market, hedge funds repurchase their securities from investors on a periodic basis subject to specific limitations determined by the hedge fund manager.

Domestic and Offshore Hedge Funds

One feature of the hedge fund industry with important implications to several regulatory approaches is a number of well developed offshore hedge fund industries exist alongside the domestic (U.S.) hedge fund industry. Hedge fund managers of domestic funds often operate related (and occasionally affiliated) offshore funds. In fact, the master-feeder fund structure provides for the management of multiple pools of assets in order to take advantage of different tax jurisdictions. Domestic funds are often organized as limited partnerships to ensure favorable tax treatment for investors who are subject to U.S. income taxation.

Several countries have mature offshore hedge fund industries: the Cayman Islands, British Virgin Islands, the Bahamas, Panama the Netherlands Antilles and Bermuda. Offshore hedge funds tend to have larger investments by fewer investors than domestic funds. Offshore hedge funds also attract investment from federal income tax exempt institutional investors who may be subject to taxation if invested in domestic limited partnership hedge funds.[2] Offshore fund investment strategies, like domestic fund strategies, is not limited to foreign or domestic securities.

[2] These investors are typically pension funds, charitable trusts, and university endowments.

Offshore funds may contract with a hedge fund manager who employs a subadviser who may be a U.S. entity. In addition, offshore funds typically employ fund administrators who are responsible for the operational administration of the fund.[3]

It is important to note that the linkages between offshore funds and domestic advisers and service providers imply the cost of migration for domestic funds is relatively low. Although the purview of this paper is limited to domestic funds, the existence of well developed offshore hedge fund industries generates implications that may restrict the choices available to federal regulators. Regulators are interested in the likelihood of fund migration when imposing regulation on hedge funds.

Because domestic hedge funds can migrate offshore easily, hedge fund regulation that constrains fund management could make migration to offshore jurisdictions a profitable alternative for domestic hedge funds. Domestic hedge fund migration is not costless, but if federal regulations constrain hedge fund managers enough to make offshore migration feasible, domestic funds could escape to other jurisdictions relatively easily.[4] Because hedge fund advisers and subadvisers likely have experience with both domestic and offshore funds, migration costs are likely to be low.

If domestic hedge funds migrate offshore to avoid the constraints of regulation, oversight is reduced for the industry and eliminated altogether for the migrating hedge funds. At best, domestic funds that do not migrate are able to profitably operate under the new regulatory regime. At worse, if new regulations are sufficiently constraining,

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[3] The administrator may be responsible for calculating net asset value, fund records maintenance, investor transactions processing, fund accounting and other services related to routine fund operations.

[4] Because of the nature of the industry, the most substantial costs entail moving the fund operations and the expense of incorporation in another jurisdiction. The cost of offshore investment is low for affluent investors. All things other things equal, managers would be able to pursue strategies in offshore jurisdictions that would be restricted domestically.

domestic funds will migrate to jurisdictions without similar constraints. Because affluent investors are not limited from investing in domestic funds, they will not benefit from the protections of domestic regulation to the extent that they choose to invest offshore. In effect, the imposition of overly constraining regulation on the domestic hedge fund industry could encourage those funds most in need of oversight, from the regulators perspective, to migrate to more lax jurisdictions without substantially reducing their investor base.[5] This point will be expanded below.

Classifying Hedge Funds

The difficulty faced when defining hedge funds is accompanied by the difficulty of properly categorizing hedge funds in the context of other portfolio management vehicles. To address this difficulty I examine different methods of classification which will be useful when I discuss the impact of different regulatory approaches on the hedge fund industry.

Ineichen (2003) suggests three ways hedge funds may be categorized. First, hedge funds can be classified as an alternative asset class separate from other portfolio management vehicles. Hedge fund securities exhibit financial characteristics that differ sufficiently from other assets (like stocks and bonds) to be classified as separate asset class. Viewing hedge funds in this way suggests that investors may use hedge funds as an additional asset class to be included in their portfolio for diversification. In particular, classifying hedge funds as alternative asset classes provides a means for considering the utility different types of investors can derive from the inclusion of hedge funds in their

[5]Note that favorable taxation may be one reason (among several) affluent investors find offshore hedge fund investment attractive.

portfolios. This point will be important when I consider regulatory structures that distinguish among types of investors.

Second, Ineichen (2003) suggests that hedge funds can be classified as asset management firms executing alternative strategies within a traditional asset class. The range of portfolio strategies used to generate absolute returns may be viewed as a class of alternative investment styles using standard assets. The investment objectives for these asset management firms differ from traditional asset management. Hedge funds pursue different risk/return objectives (generating absolute returns) relative to other asset management firms (investment companies), but do so primarily using the same asset classes.[6] Categorizing hedge funds this way permits us to examine potential hedge fund regulations as extensions to the regulatory framework that already exists for investment companies and investment advisers. The Securities and Exchange Commission has presided over a regulatory framework that has provided an environment for unprecedented growth in mutual funds and investment advisory services. As the hedge fund industry grows and attracts wider classes of investors, especially institutions, mutual fund regulation may be the template for hedge fund regulations. I will examine this point more fully below.

Third, hedge funds can be classified as financial services companies. Ineichen (2003) suggests that the benefit of classifying hedge funds this way is to characterize hedge fund risk the same way risk is characterized for financial services companies (ie. banks). Financial risks can be grouped into three general categories: market risk, credit risk, and operational risk. Evaluating the market risk and the credit risk of a hedge fund

[6]Another advantage to categorizing hedge funds as alternative asset management firms is that we can view their talent pool as an extension of the portfolio management industry. This will be relevant when we discuss the importance of the linkages between hedge funds and other portfolio management vehicles.

portfolio is a basic function of the hedge fund manager. As long as investors are aware of the approximate levels of market and credit risk in the portfolio (as a function of the investment style), it is the manager's job to evaluate how closely the fund's assets match that risk profile. In fact, because market and credit risk differ among asset holdings, the hedge fund manager can control both types of risk by diversifying holdings. Investors choose hedge funds that satisfy their demand for market and credit risk. Managing operational risk, however, is substantially more complicated from the investor's perspective.

Operational risk refers to the fund specific risk of a particular hedge fund's business operations. Operational risk can be decomposed into several categories: money transfer risk, valuation risk, systems risk, clearance risk, regulatory risk, human factor risk, etc. Because of the idiosyncratic nature of operational risk, and its variability across the hedge fund industry, operational risk can not be adequately measured by standard risk measures, but is appropriately evaluated only through fundamental bottoms-up analysis and due diligence. One way regulators can reduce the average industry level of operational risk is by introducing specified standards for acceptable levels of the operational risk components.

The difficulty of measuring (and thus verifying) operational risk components complicates the ability of regulators to enforce any operational standards established. This problem has been partially addressed by fund of hedge funds (FOHF). By performing due diligence on the hedge funds they invest in, FOHF indirectly establish operating risk standards for their constituent hedge fund investments. Subsequent growth

of FOHF is likely to encourage hedge funds to adapt operational risk standards that will qualify them for this source of investment funds.

Fund of hedge funds (FOHF) are hedge funds that make investments in other hedge funds. FOHF provide a vehicle for investors to invest indirectly in hedge funds that have satisfied the FOHF investment criteria and match the desired investment profiles. FOHF provide a relatively inexpensive mechanism for investors to incorporate diversification into their hedge fund.

Managers of FOHF receive performance fees with a compensation structure that resembles the compensation of standard hedge fund managers. FOHF investors pay performance fees to both the FOHF manager and to the hedge fund managers of the underlying funds. The popularity of these investment mechanisms, given that investors pay multiple layers of fees, and the sophistication of their investors (pension funds and other institutional investors) suggests that the additional performance fees are compensated for by additional due diligence and hedge fund diversification inherent in the FOHF structure. The growth in these types of funds suggests that though institutional investors demand exposure to hedge fund risks in their portfolios, they choose a more expensive investment vehicle in order to benefit from the additional due diligence and the benefits of diversification across hedge funds. Because FOHF have specified operational standards for the funds they invest in, the FOHF distributes the benefits of due diligence to investors.[7]

[7]The discussion of FOHF fees is meant to introduce the monitoring role inherent in the selection of investments by FOHF. Because of the variability of investment objectives, comparing the magnitude of FOHF performance fees relative to the performance fees of the underlying hedge funds is problematic. Depending on the objective of the FOHF, different fee levels for the underlying hedge funds may be appropriate. The point of this discussion, however, is to suggest that investors place a positive value on the due diligence function of FOHF because of the prevalence of flat fees. If the diversification function of FOHF were valued exclusively, then a performance fee structure for FOHF would more closely align

Hedge Fund Styles

Investment styles typically pursued by hedge funds fall into one or more of several categories: long/short equity, event-driven, global macro, convertible arbitrage, equity market-neutral, fixed income arbitrage, emerging markets, managed futures, and short selling. Because of variation in investment objectives and the fact that managers often allow for substantial flexibility in investment style in the offering documents, regulations based solely on restrictions to hedge fund investment styles would be difficult (if not impossible) to implement. For example, investment companies are restricted from changing their investment style without adequate disclosure to investors. Because hedge fund offering documents are sufficiently broad, constraining style drift in a consistent manner for the hedge fund industry would be very difficult. At worst, such regulation may encourage funds to be even more in their style description in the offering memorandum.

A related point should be emphasized here. Although hedge funds may be broadly classified according to investment styles, hedge fund manager objectives are typically to generate a specified risk/return profile under any market condition. As market conditions vary, therefore, hedge fund managers may vary their investment style according to their expertise in order to attain their investment objective. Regulating the disclosure of styles does not mitigate this type of style drift because hedge fund investment styles are necessarily broad in order to achieve their investment objectives

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FOHF manager incentives with her investors. The existence of both types of fees for FOHF suggests that investors value both FOHF services.

under a variety of market conditions.[8] The subsequent disclosure under such a regime would likely be very broad and thus less informative to investors.

In addition, since hedge funds are privately offered and repurchased, hedge fund managers have the flexibility to pursue investments that are highly illiquid and thus difficult to value. Portfolio strategies based on illiquid holdings do not fit neatly into established investment management styles.[9] In down markets, illiquid investments may be an important source of hedge fund returns. When markets are up, hedge funds are more likely to achieve their objectives using traditional asset classes.

Current Hedge Fund Regulation

Hedge funds are currently subject to a variety of regulations. They must satisfy certain provisions directly or indirectly under the Investment Company Act, the Securities Act of 1933, the Securities Exchange Act, the rules promulgated by the National Association of Securities Dealers (NASD), and/or rules promulgated under the Employment Retirement Securities Act (ERISA), certain regulations promulgated by the Department of the Treasury and certain state laws. The restrictions embodied by this substantial list are not particularly constraining to hedge fund management and provide the conditions hedge

[8] See Brown and Goetzmann (2001) for a study of the stylistic differences of hedge funds and whether these differences explain differences in performance.

[9] Hedge funds typically have lockups. A lockup prevents investors from withdrawing their investment for a pre-specified period of time. In addition, hedge fund managers may allocate a portion of particular investments to side-pocket accounts to finance investments in illiquid assets. If an investor wants to withdraw her investment and the hedge fund manager has invested illiquid assets using side-pocket accounts, the manager may redeem the value of the investment with the exception of the value of the side pocket. These restrictions are typically explained in the hedge fund's offering memorandum.

funds must satisfy in order to qualify for exemption from more rigorous regulation. In this section, I briefly review the current hedge fund regulatory structure.[10]

Hedge Fund Regulation Based On The Investment Company Act Of 1940

Hedge funds typically have substantial investments that would, under certain conditions, classify them as investment companies under the Investment Company Act of 1940. Because of this, hedge funds rely on two statutory exclusions from the investment company definition: Section 3(c)(1) and Section 3(c)(7).

Section 3(c)(1)

Congress passed Section (3)(c)(1) in order to shield privately placed companies owned by a limited number of investors from the provisions of the Investment Company Act of 1940. An issuer whose outstanding issues are beneficially owned by less than 100 investors and which is not making and does not propose to make a public offering of its securities is excluded from the definition of an investment company.[11]

There are provisions to this rule regarding how corporate investors are counted in under the rule. The key feature of this rule is it restricts the number of investors in a hedge fund and it restricts hedge funds from making public offerings. Generally hedge funds only offer securities to "accredited investors" and do not engage in general solicitations or advertising.

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[10] This paper is an economic study of the associated costs and benefits introduced by various regulatory alternatives. This section is not meant to be a comprehensive legal analysis of current hedge fund regulation. The author is an economist—not a lawyer. For a more thorough overview of key legal issues see Roth (1995).

[11] See *Investment Trusts and Investment Companies: Hearings on S. 3580 before a Subcomm. of the Senate Comm. on Banking and Currency*, 76th Congress, 3rd Sess. 179 (1940).

Section 3(c)(7)

Congress also provided an exclusion from the investment company definition for funds with outstanding securities owned exclusively by investors who were "qualified purchasers" at the time of acquisition and which is not and does not at the time of acquisition propose to make a public offering of its securities.[12]

Section (3)(c)(7) does not have a limit on number of investors, but it does limit investors by their type.

Hedge Fund Regulation Based On the Securities Act of 1933

The Securities Act establishes the legal framework for the process of offering and selling securities, including hedge fund securities, in the United States. The policy goal underlying the Securities act is to "protect investors by promoting full disclosure of information thought necessary to informed investment decisions."

Section 5 of the Securities act mandates the registration of public securities offerings with the SEC and the delivery of the prospectus and relevant issuer and security information. Because hedge funds are structured to be private offerings, they are exempt from Section 5 of the rule.

Some FOHF offer their interests publicly and are structured to satisfy the rule. Those companies that satisfy Section 5 are structured to offer their securities publicly and are subject to regulation as investment companies under the Investment Company Act.

Hedge funds typically satisfy several legal requirements other than Section 5 under the Securities Act:

[12] Section 2(a)(51) of the Investment Company Act defines a "qualified investor" as any natural person who owns at least $5 million in investments, or acting on it's own account or the accounts of other qualified purchasers, owns and invests on a discretionary basis at least $25 million in investments.

- *The Private Offering Exemption:* Section 4(2) of the Act exempts from registration and prospectus delivery requirements of Section 5 any "transactions by an issuer not involving any public offering."
- *Rule 506 of Regulation D:* Most hedge funds structure their offerings to satisfy the safe harbor provided by Rule 506 of Regulation D of the Securities Act. Rule 506 establishes a set of requirements that allow the hedge fund to qualify for the Section 4(2) exemption.
- *General Solicitation and Advertising:* Hedge funds may not make offerings and sales under Rule 506 using any form of "general solicitation or general advertising". Hedge funds must carefully target their offerings to persons pre-qualified as eligible investors for the hedge fund.
- *Offerings to "Accredited Investors":* If hedge funds restrict their offering exclusively to "accredited investors," then they may sell securities to an unlimited number of investors, subject to the investor limit in 3(c)(1). If the offering is made only to accredited investors, no specific information is required to be provided to prospective investors.
- *Disclosure:* Under Rule 506, issuers are not required to provide any specific written information to investors if they offer and sell interests only to accredited investors. The presumption is that accredited investors are sophisticated enough and have enough bargaining power to obtain the information they need from the issuer.
- *Resale Restrictions:* Hedge funds must ensure that their investors are not distributing their interests in the fund to the public.

- *Blue Sky Laws:* Hedge funds rely on Rule 506 are not subject to state registration or qualification requirements. Many states require the filing of Form D to report sales of hedge fund interests. Funds that rely on Section 4(2) without satisfying the conditions of Rule 506 must comply with the applicable blue sky registration and qualification requirements.

Hedge Funds and the Securities Exchange Act

Some hedge funds are required to register with the Commission as brokers or dealers. If in the course of business, hedge fund managers satisfy the definition of either brokers or dealers, they are required by the Exchange Act to register with the Commission.[13]

The hedge fund and the adviser, are generally subject to the reporting obligations under 13(d) of the Securities Exchange Act if the fund acquires direct or indirect beneficial ownership of 5 percent or more of a class of 1934 Act Securities.[14] Hedge funds also are subject to the quarterly reporting obligations of Section 13(f) of the Securities Exchange Act. Section 13(f) applies to any "institutional investment manager" that holds 1934 Act securities with an aggregate fair market value in excess of $100 million.

Hedge funds with more than 500 investors are required to register their securities under Section 12(g) of the Securities Exchange Act and comply with the reporting requirements of Section 12 of the Securities Exchange Act if they have assets exceeding

[13] For a discussion of activities that would require broker-dealer registration, see *Registration Requirements for Foreign Broker-Dealers,* Securities Exchange Act Release No. 27017 (July 11, 1989); *Persons Deemed Not to be Brokers*, Securities Exchange Act Release No. 22172, (June 27, 1985).
[14] Ownership of more than 10 percent of the of a class of 1934 Act securities by the fund and/or it's investment adviser also may be subject to certain restrictions and reporting obligations under Section 16 of the Securities Exchange Act.

$1 million and greater than 500 shareholders. Most funds avoid this by simply having fewer than 500 investors.

Other Regulations

Hedge funds may also be subject to regulation by the CFTC if they participate in any commodity futures transactions. Managers who provide financial advice to such funds are subject to registration with the CFTC as Commodity Pool Operators (CPO) or Commodity Trading Adviser (CTA). Recent rules promulgated by the CFTC provide exemption from registration to managers who operate pools that engage in limited commodity futures activities and who restrict the sale of interest to certain qualified individuals.[15]

Hedge funds are also subject to anti-money laundering regulations and position reporting promulgated by the U.S. Treasury. Market participants in Treasury securities markets are required to periodically report large positions. Many hedge funds avoid these reporting requirements by holding positions that do not meet the reporting requirement thresholds.

Hedge funds may be subject to state regulation, as investment advisers, as a result of the National Securities Market Improvement Act in 1996 (NSMIA). States and the Commission share anti-fraud responsibilities.[16]

Investment advisers are subject to the Employee Retirement Income Security Act of 1974 (ERISA), if they exercise discretionary authority over plan assets. If more than 25 percent of the value of any class of hedge fund assets is collectively held by employee

[15] See CFTC Rule 4.13(a)(3)
[16] Hedge fund managers may take advantage of the exemption contained in Section 203(b)(3) of the Investment Advisers Acts. Section 203(b)(3) exempts certain advisers from federal registration.

benefit plans, the assets of the hedge fund are deemed to be ERISA assets. ERISA establishes standards for governing, prohibited transactions, fiduciary obligations and liability for co-fiduciaries. To avoid the ERISA provisions, hedge funds limit the participation of ERISA plans. Some hedge fund advisers view ERISA plans as an attractive source of investment and permit the investment of significant amounts of employee plan assets in the fund.

The ERISA provisions immediately suggest an approach to regulation that is consistent with the current regulatory framework for investment companies and clearly establishes baseline standards of hedge fund fiduciary responsibility. Establishing industry standards is, in my opinion, a vital first step in the regulatory process.

ERISA plan investments in hedge funds provide plan beneficiaries with hedge fund portfolio exposure they likely would not otherwise qualify for. If, as described above, hedge funds are categorized as an alternative asset class, ERISA plan participation in hedge funds is one way to expose small investor retirement portfolios to hedge fund risk while clearly delineating fiduciary responsibilities. Indeed, the current regulatory framework accommodates this type of exposure.

Regulatory Alternatives

Federal regulators may develop regulations for the hedge fund industry using several approaches. On way to determine the impact of a particular regulatory approach is to examine the costs and benefits of extending current portfolio management regulations to the hedge fund industry. Since the focus of my analysis is economic, the regulatory approaches will be described in economic terms: restrictions on the number (or type) of investors, investment management restrictions, disclosure based regulations (requiring

some disclosure of holdings to fund investors), risk management based regulations (requiring specified risk management procedures to be followed), and distributing the cost of hedge fund certification (setting up an organization of institutional investors to that "certifies" the qualifications of the hedge fund administrator and the policies and procedures of the firm).

In the context of other investment vehicles, hedge funds may be classified as an alternative asset class, as asset management firms executing alternative investment strategies, or as financial services companies that have specific risk management profiles. Each method of classifying hedge funds suggests an alternative regulatory approach. In this section, I evaluate the costs and benefits of the four regulatory approaches in the context of each hedge fund classification scheme.

Investor Restrictions

As described above, hedge funds have restrictions on the number of investors in the fund and the wealth of investors who may participate. Recent concern in the press about the retailization of hedge funds suggests that updating accrediting standards for hedge fund investors to reflect appropriate wealth levels is a straightforward (if heavy-handed) way to protect investors.

The primary cost of this approach is it effectively bars those investors who currently invest in hedge funds, but who would not qualify under updated standards. To the extent that hedge funds see this group of investors as a primary source of funds, this approach is likely to be very costly to the industry. Imposing restrictions on this group of investors substantially reduces their investment choices, and to that extent is very costly to them. From the hedge fund manager's perspective, the impact of changing the

accrediting standard depends on the importance of marginally accredited investors as a source of investment fund growth. It's not clear that hedge funds view marginally accredited investors as a substantial source of investment growth. Substantial recent attention has been paid by the press to fact that pension funds and endowments, traditionally institutions that held very conservative portfolios, are beginning to make substantial investments in hedge funds. This group of investors represents a much larger source of investment for the hedge fund industry.

Portfolio Restrictions

A second regulatory approach would entail limiting the range of possible portfolio strategies hedge funds could pursue. Such regulation may limit the assets hedge funds could hold or place restrictions on the types of strategies funds could pursue.

A likely outcome in this regulatory structure is those hedge funds that most closely resemble investment companies, but are able to operate profitably under the imposed portfolio restrictions, could emerge to attract investment. This hybrid investment class may serve as a vehicle for investors who currently invest in mutual funds but are interested in investing to generate absolute returns.

Regulations which restrict portfolio holdings or limit the range of acceptable investment strategies are problematic for several reasons. These types of regulations would not impact the entire industry in the same way. The regulatory structure bridges the gap between investment companies and hedge funds that operate profitably under subsequent regulatory constraints. If the prohibited investment strategies are sufficiently profitable, restricted funds may find it feasible to migrate offshore, outside of the jurisdiction of federal regulation. The extent of the migration of domestic hedge funds

offshore depends on nature of the regulations and the profitability of the excluded strategies.

Substantial hedge fund migration may result from any sufficiently constraining regulations. The challenge facing regulators is to structure restrictions with enough flexibility to ensure that hedge funds can profitably operate domestically. The trade-off between the constraining investment choices available to fund management (thus driving a portion of them offshore) and protecting investors will be decided by the interacting interests of hedge fund investors and hedge fund managers and the goals of hedge fund regulators.

Disclosure

Periodic portfolio disclosure is another potential regulatory alternative. Mutual funds currently face substantial disclosure requirements.[17] The principle underlying mutual fund portfolio disclosure is it enable investors to track mutual fund holdings and to monitor the investment decisions of the fund manager. In particular, with periodic disclosure, investors are able to verify that the mutual fund manager does not alter the mutual fund's investment style.

Periodic portfolio disclosure would not be an effective mechanism for regulating hedge funds for several reasons. To understand these reasons more fully, assume hedge funds are classified as an asset class that is distinct from mutual funds. Also note that mutual funds use strategies that are concentrated in long/short positions in liquid securities. Recall that mutual funds provide investors with liquidity because investors have the right of redemption of mutual fund shares on demand. These facts have the

[17] Mutual funds have historically had to disclose their portfolios on a semi-annual basis with some lag. Recent rulemaking has increased the frequency of disclosure to quarters with some lag.

several implications. First, mutual funds portfolios are concentrated in liquid assets and are thus relatively easy to value. This implies it is not difficult for investors to independently evaluate mutual fund manager decisions. Hedge fund portfolio composition information is likely to be substantially more valuable relative to mutual funds. In fact, one could argue that in order to protect the value of portfolio information, hedge fund managers have strong incentives to distort their holdings around reporting periods.[18]

Another implication of this regulatory approach deserves attention. Even if hedge funds comply with increased disclosure requirements, it is not clear what value the information will have to investors in the fund. In the above case, competitor funds who know the composition of a particular hedge fund may be able to front-run the fund or erode fund returns by mimicking the fund portfolio.

In order for disclosure to be an effective regulatory mechanism, investors will have to be able to monitor the impact of manager decisions on the portfolio.Assume that disclosure is only made to hedge fund investors and they do not reveal the information to the fund's competitors. In an environment with predominately long only investment strategies, "snapshots" of portfolio composition are relatively informative. In an environment where investment strategies are dynamic and involve complicated long-short strategies, illiquid holdings, and derivative arbitrage strategies, "snapshot" portfolio composition information is much less informative to investors. This is particularly true if composition information is to be used to monitor the hedge fund manager in some way.

[18] Mutual fund managers also distort portfolios around reporting periods. Empirical evidence of this phenomenon is documented in Carhart, *et al* (2002). Bernhardt *et al* (2003) model the distortions to mutual fund manager incentives.

In addition, because no secondary market exists for hedge fund shares, it is not clear how investors would attach value to hedge fund management if the manager concentrates the portfolio in illiquid assets. This opens up a number of other distortions to manager incentives that are not addressed by this regulatory approach.[19]

Finally if hedge fund managers find that portfolio disclosure erodes a sufficient amount of the value of management, as above, they may simply migrate to jurisdictions without disclosure requirements.

Risk Management

The previous section focused on the direct disclosure of portfolio assets. This section examines the implications of the periodic disclosure of different risk measures of the hedge fund portfolio. Evaluating this approach is easiest if I classify hedge funds as financial services firms as above. In this case, evaluating the risk of a particular hedge fund is simply a matter of measuring and aggregating the multiple types of risk to which the portfolio is exposed.

The first, and most severe, criticism of this regulatory approach is it ignores the difficulty of constructing consistent risk measures. Risk measures are essentially likelihood functions of different risk/return profiles of a hedge fund given a specified set of assumptions. The primary problem with using risk measures as the basis for regulation is the measures tend to be highly sensitive the specification of the underlying risk models. Because of the variety of investment strategies used by hedge funds to obtain their risk/return profile, determining consistent measures of risk across funds is difficult, if not impossible. For example, if a regulation requires that particular risk

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[19] Investors who are expected to monitor the style drift of the hedge fund must have a benchmark style on which to base their assessment.

measures be reported, the relevance of these measures to investors will depend on the fund's strategy. To be specific, using the same risk measures to compare convertible arbitrage hedge funds to long-short equity funds would not be appropriate. In fact, the risk measures may not be the appropriate method for comparing the risk/return profile for convertible arbitrage hedge funds that focus on multiple industries and convertible arbitrage hedge funds that focus on a single industry. In this case, risk measures have be structured to accommodate the different (possibly higher order) correlation structures within each portfolio.

This problem is not mitigated by requiring hedge funds to report a subset of a menu of risk measures. Because risk measures are so dependent on the portfolio's correlation structure, managers would likely choose to report those measures that paint the most positive picture of the portfolio. Unfortunately, these measures are those that are least informative to investors. In other words, this approach does not avoid the gaming issues that arose in the context of portfolio disclosure.

This alternative does not suffer from the problems inherent to regulations that constrain hedge fund managers. A primary criticism to this approach is risk measures may not provide investors with consistent portfolio information, they are not likely to be particularly informative.

Hedge Fund Certification

Effective hedge fund industry regulation must balance several relevant issues. First, constraints that bind hedge fund managers may result in substantial migration of the industry to offshore jurisdictions. Second, individual hedge fund investment strategies are so varied (and complex) that most investors, even sophisticated ones, are not likely to

possess the expertise to consistently monitor hedge fund managers.[20] Third, institutions (including pension funds, university endowments, and others) are beginning to aggressively invest in the hedge fund industry and are a potential source of substantial investment growth in the future. These three considerations suggest another solution to the hedge fund regulator's problem.

The problem of regulating the hedge fund industry can be viewed as a variant of a monitoring problem common in microeconomics. The monitoring problem, in this context, can be stated in the following way: *How does a regulator encourage sophisticated investors to use their market power to require hedge funds to establish and follow minimal standards of operational practice?*

Institutional investor market power is likely to come from being a primary source of future growth for the hedge fund industry. In order for hedge funds to be "certified" for institutional investment, hedge fund managers will have to meet appropriate standards of operational practice. Beneficial hedge fund investors must play an integral part in establishing industry standards. Standards set by the industry (or others) are not likely to be in the best long term interests of hedge fund investors. In addition, investors must have appropriate mechanisms for verifying that the "certification" standards are consistently met.

As discussed above, operational risk is the most difficult fund characteristic for investors to monitor. This solution reduces the operational risk monitoring costs for institutional investors because they can pool the expenses of establishing standards for fund "certification" by creating a "certification body" to enact industry standards. It is

[20] Investors typically employ hedge fund consultants to perform ongoing due diligence on hedge fund managers.

vital that the certification body reflect the interests of institutional investors, and not only the hedge fund industry.

Through the certification body, institutions could establish the minimal operational and qualifications standards hedge funds must satisfy on an ongoing basis in order to qualify for institutional investments. A "certified" hedge fund could then use the "certification" as a signal of the quality of its operations and possibly the qualifications of management. Hedge funds that meet the standards could choose whether or not to obtain certification. As well, investment in certified funds could serve as a signal to pension beneficiaries that their hedge fund exposure meets appropriate operation standards.

For this mechanism to substantively reduce hedge fund operational risk, institutions must limit, at least to some degree, their investments to certified hedge funds. If the certification signal does not attract sufficient investment, institutional or otherwise, hedge funds will have no reason to subject themselves to additional due diligence requirements. In addition, other investors will take the certification process seriously only if institutions do.

The certification signal could serve as a way for institutional investment to generate positive externalities for non-institutional investors. Though institutions may be reluctant to bear the burden of determining certification standard for other investors benefit, doing so would indicate to other market participants and regulators the appropriate levels of operations risk. If the hedge fund industry accepts the uses of the certification as an indication of operational risk, the average level of operational risk is likely to decrease.

There are a number of weaknesses to this approach. One is it does not account for the incentive differences between institutional investors and smaller investors. Institutional investors will establish certification standards that reflect their investment interests. However, because their influence over hedge fund managers is acute because they are a primary source of funds, institutional investors are best suited to establish certification standards and, indirectly, the baseline for industry-wide best practices.

Conclusion

Growth and innovation in the hedge fund industry has directed substantial attention to a sector of the financial industry that enjoys unmatched flexibility. The hedge fund industry is changing from an industry that exercised substantial control over it's sources of funds into an industry that must accommodate investor demands regarding fund operations in order to compete for investment growth. The challenge to regulators is to construct a framework that accommodates fund management flexibility while offering investors appropriate manager monitoring tools.

The growth in institutional investment in hedge funds offers an approach to regulation that balances both management flexibility and generates monitoring externalities that would likely benefit all types hedge fund investors. As the industry provides investors with the appropriate monitoring tools, I expect two occurances. First, increased hedge fund data will lead to substantially more hedge fund research. Second, institutional funds will be a substantial source of investment for the hedge industry. Competition for this new source of investment will have fundamental structural implications for the industry.

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