Executive Summary

Recently, there has been growing interest in several new equity long-short strategies – called “130/30” strategies – that offer full exposure to the market with a moderate amount of leverage. By allowing a limited number of short positions, 130/30 strategies can more effectively exploit negative stock views, and can better hedge positive stock views, compared with long-only portfolios.

This paper aims to help investment professionals assess the pros and cons of 130/30 strategies, determine whether and how these new strategies fit within an investor’s overall equity portfolio, and evaluate their performance.

Specifically, the paper attempts to answer several key questions:

- How do 130/30 strategies work?
- How much shorting is appropriate?
- What are the risks associated with shorting?
- Why are 130/30 strategies attracting so much attention now?
- What is the capacity of 130/30 strategies?
- What types of investors are likely to find 130/30 strategies appealing?

The paper’s main conclusion is that 130/30 strategies, which offer higher expected alpha with full exposure to the market, are ideal for investors who wish to increase the expected return on their conventional equity allocation using a well-diversified portfolio.
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Introduction

The new equity long-short strategies – called “130/30” strategies – short a small number of stocks, and use the proceeds of the shorts, along with the initial investment, to purchase stocks long. Although leveraged, these strategies’ net market exposure – the value of the longs less the value of the shorts – closely approximates the initial investment. For example, a strategy that allows 30 percent short positions would hold about $130 of stock long and $30 of stock short for each $100 invested (Exhibit 1).

Exhibit 1: Example equity long-short strategy with 30 percent short positions

These new strategies have much in common with more conventional long-only strategies. In particular, 130/30 portfolios hold positions that differ from the benchmark (they take active bets), and they target a beta of 1.0 to the benchmark (they have full market exposure). However, by relaxing the no-shorting constraint and holding a limited number of short positions, 130/30 portfolios can have larger active weights – underweights and overweights – relative to their benchmark. Regardless of the amount of shorting they employ (20 to 40 percent is popular), long-short managers can more fully capture their negative views, and better hedge their positive views, compared with long-only managers. As a result, investors in 130/30 strategies can target higher levels of risk – and return – without experiencing the usual decline in predicted information ratios that occurs for long-only portfolios.

130/30 strategies have attracted considerable interest within the investment community. They have also triggered a number of important questions. Some of the questions investors, consultants, and portfolio managers are asking about these new strategies include the following:

- How do 130/30 strategies work? Why does relaxing the no-shorting constraint lead to improved portfolio efficiency (and hence higher alpha)?
- How much shorting is appropriate? Some funds short as little as 20 percent, whereas others short as much as 40 percent (or more). Is there an ideal amount of leverage?

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1 The active weights, which represent a manager’s investment views, make up the active portfolio. The benchmark portfolio, which reflects a client’s strategic asset allocation, helps to define the scope of a particular mandate. From a manager’s perspective, the benchmark serves as a neutral starting point when constructing the managed portfolio (the combination of the benchmark and active portfolios), and the return on the benchmark can be used to evaluate the realized performance of the managed portfolio.
• What are the risks associated with shorting? How can these risks be managed?
• Why are 130/30 strategies attracting so much attention now? After all, shorting has been a common part of equity investing for many years. What explains the current interest in relaxing the no-shorting constraint for long-only portfolios?
• What is the capacity of 130/30 strategies? As hedge funds continue growing, will there be enough stock available to short?
• What types of investors are likely to find 130/30 strategies appealing?

How Do 130/30 Strategies Work?

Any active equity strategy – be it long-only, long-short, or market-neutral – generates alpha by underweighting unattractive stocks relative to a benchmark, and overweighting attractive stocks. Of course, determining which stocks to underweight, and which to overweight, is an extremely challenging task. Companies, and the markets in which they compete, are complex and constantly evolving, and mispricings, when they occur, are often small and hard to identify. Nonetheless, capital markets are rarely, if ever, in perfect equilibrium, and profitable trading opportunities exist for those with superior investment insight. Yet possessing superior investment insight is not, by itself, enough to be a successful investor. Building efficient portfolios – and thereby capturing that investment insight – is also essential.

A common impediment to building efficient portfolios is constraints, especially restrictions on shorting. A constraint on shorting limits the size of an underweight to a stock’s weight in the benchmark, which can interfere with a manager’s ability to exploit both negative and positive views.

A portfolio managed relative to the S&P 500 Index illustrates the challenge. The 251 smallest stocks each have an index weight of less than 10 basis points (0.10 percent). Whereas these stocks make up just over half the index by number, they represent only 13.3 percent of the index by weight. An investment manager with a negative view on one of these stocks can underweight the stock by at most 10 basis points in a long-only portfolio. But if short positions are allowed, this same manager can underweight the stock by a much larger amount. Poor relative performance in one of these stocks can add significantly to a portfolio’s return. For example, suppose a stock with a benchmark weight of 10 basis points underperforms the benchmark by 20 percent. For a long-only portfolio, the stock’s contribution to the portfolio’s active return is at most 2 basis points (–0.0010 x –0.20 = +0.0002). For the 130/30 strategy, the underweight can be much larger, say 100 basis points. In this case, the stock’s contribution to the portfolio’s performance is 20 basis points, at least ten times larger than for the long-only portfolio (–0.0100 x –0.20 = +0.0020).

2 In this paper, long-short describes strategies that take both long and short positions, but have positive net exposure to the market (beta > 0); market-neutral describes strategies that take approximately equal long and short positions, and hence target zero net exposure to the market (beta = 0).
The no-shorting constraint also makes risk management more difficult by eliminating many attractive hedging opportunities. For example, if a manager finds higher alphas among the smaller stocks in the benchmark, it would be simple to invest in these stocks and hedge any size bias by simultaneously shorting the less attractive smaller stocks in the benchmark. With a no-shorting constraint, however, this size exposure is nearly impossible to hedge, forcing the manager to accept size risk or forego alpha opportunities.

The impact of the no-shorting constraint is illustrated graphically in Exhibit 2, which shows predicted alpha as a function of target tracking error for two hypothetical strategies, one long-only and the other 130/30. For both strategies, predicted alpha goes up as target risk goes up: Taking larger active weights leads to higher target tracking error and higher predicted alpha. Absent any constraints or transaction costs, the increase in active weights – and the corresponding increase in predicted alpha – would be proportional to the increase in risk (e.g., double the risk, double the active weights, and double the alpha). However, with a constraint on shorting, the relation between target risk, active weights, and predicted alpha is no longer proportional. Consequently, additional increases in risk lead to progressively smaller and smaller improvements in predicted alpha. Eventually, the improvement in predicted alpha is so small relative to the increase in target tracking error that a further boost in risk does not make sense (the dashed portion of the long-only curve in Exhibit 2). By relaxing the no-shorting constraint, the concave relation between risk and alpha is much less pronounced, and predicted alpha remains attractive even at higher levels of risk.

### Exhibit 2 – Alpha vs. tracking error for long-only and 130/30 strategies

<table>
<thead>
<tr>
<th>Tracking Error</th>
<th>Long-only Strategy</th>
<th>130/30 Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td></td>
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</table>

Source: Goldman Sachs Asset Management

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3 Clarke, de Silva, and Thorley [2000] develop a formal framework for evaluating the impact of constraints. They extend the Fundamental Law of Active Management of Grinold [1989] by introducing an additional parameter, the Transfer Coefficient, which measures how efficiently investment views are mapped into active weights. McDermott [2005] discusses the role of constraints, and provides evidence on the impact of constraints on portfolio efficiency.
**How Much Shorting is Appropriate?**

Relaxing the no-shorting constraint can improve a portfolio’s information ratio. But how much should the constraint be relaxed? In theory – and provided the information ratio is the primary consideration – the ideal policy would be to remove the no-shorting constraint entirely. After all, constraints can only lower – or at best leave unchanged – a portfolio’s expected alpha. This is because constraints, if binding, narrow the set of feasible positions and thereby exclude some desirable trades from the final portfolio.

Eliminating the no-shorting constraint completely, however, may not be realistic. Investor demand for equity strategies that allow unrestricted (or extensive) shorting is still limited, as is the number of portfolio managers who have expertise and experience shorting stocks. Given the added complexity of managing short positions, many investors classify equity long-short strategies as alternative investments. Although the allocation of capital to alternative investments has grown significantly over the past several years, it is still relatively small compared to conventional long-only portfolios. Hence, loosening, rather than eliminating, the no-shorting constraint may be a better approach.

Fortunately, eliminating the no-shorting constraint may not be necessary. For typical active risk levels, the benefits of relaxing the constraint decline as the amount of shorting goes up, and beyond a certain point, the benefits of additional shorting are small. For instance, the benefit of going from long-only to 120/20 is larger than that of going from 120/20 to 140/40 (Exhibit 3). This means a modest amount of shorting is sufficient to produce an attractive information ratio in many cases. Therefore, the choice facing portfolio managers (and their clients) is to select a level of shorting that is large enough to provide a significant improvement in expected alpha – and is large enough to justify the additional complexity and costs of shorting – but is not so large that the strategy is treated as a hedge fund (i.e., as an alternative investment).4

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4 A clear consensus regarding the point at which an equity long-short strategy becomes a “hedge fund” has not yet developed; for most investors, however, the threshold would be no higher than 150/50. This may be driven, in part, by Reg. T, which restricts gross exposure (150+50=200) to no more than twice the amount of invested capital (100). Although many investors can avoid Reg. T by using an Enhanced Prime Brokerage account, many investors are comfortable that the limitations imposed by Reg. T are appropriate for a conventional equity allocation.
The specific amount of shorting needed to achieve an attractive information ratio depends on several factors. The most important factor for most managers is probably the strategy’s target tracking error. As explained previously, the larger the active weights, the more the no-shorting constraint needs to be relaxed to obtain an efficient portfolio. For instance, suppose a long-only portfolio can deliver an attractive information ratio at a tracking error of 2 percent. Then a strategy that aims for 3.5 percent tracking error might require 120/20, whereas a strategy that aims for 4.5 percent tracking error might require 140/40. The information ratio could be the same for all three strategies, but targeting higher levels of risk and return requires greater amounts of shorting (Exhibit 3).

Another determinant of the appropriate level of shorting is the market risk environment. When equity risk is high, active weights are small, the no-shorting constraint is only partly binding, and the amount of leverage needed to overcome the impact of the no-shorting constraint is small. In contrast, when equity risk is low, as it has been recently, the amount of leverage needed to overcome the impact of the no-shorting constraint is larger.5

A third factor affecting the appropriate amount of leverage is the portfolio manager’s return generating process. A manager who specializes in researching overvalued stocks, for instance, benefits significantly if he or she is allowed to take short positions, whereas a manager who limits in-depth analysis to attractive stocks, and makes little effort to identify unattractive stocks, is unlikely to benefit from a looser constraint on shorting. Likewise, because smaller stocks in a benchmark are harder to underweight than larger stocks, a manager who focuses on smaller stocks derives a larger benefit from shorting compared with a manager who concentrates on larger stocks.

The market risk environment is the same for all managers in a given region; however, a manager’s return generating process is clearly unique, and the target tracking error is likely to vary across managers depending on their investment process and client demand. Therefore, it is not surprising that the amount of shorting also differs across strategies, and while there may be an ideal amount of shorting for any given portfolio manager (and his or her clients) for a specific risk level, there is not a universally optimal amount of shorting that applies to all managers and risk levels.

5 When thinking about the link between risk and the no-shorting constraint, the relevant concept of risk is active risk, not market risk. Active risk, or tracking error, depends on the volatility of individual stocks as well as the correlations between pairs of stocks. A popular measure of correlations is the cross-sectional dispersion in stock returns, where low dispersion corresponds to high correlations. When dispersion is low and correlations are high, then risk is low, active weights are large, and hence the amount of shorting needs to be high.
What Are the Risks Associated with Shorting?

The discussion so far highlights the benefits of relaxing the no-shorting constraint, namely the additional expected alpha that can be achieved with a modest amount of shorting. But is the rationale for shorting really as simple as the previous sections suggest? Does shorting create problems that might outweigh any benefits?

Concerns about shorting are widespread, extending beyond potential investors in 130/30 strategies. Policy makers, in particular, are generally suspicious of short sales, and regulators in numerous countries have enacted a variety of restrictions on their use (Bris et al. [2005]). As a practical matter, however, many concerns about shorting are overblown, while others can be managed with proper policies and procedures. Investors can further reduce the risk of shorting by choosing a fund that offers limited liability rather than a segregated account, for which the investor may be held legally responsible.

One concern that investors sometimes have is that the sale of borrowed shares may disrupt the capital market and hurt the economy. Because stocks sold short produce a relative gain when they underperform the benchmark, short-sellers have an incentive to accentuate – and in some cases exaggerate – negative information about their shorted stocks. Some short-sellers may even go so far as to spread false rumors about their shorted stocks, hoping to trigger a drop in prices. In extreme cases, falling prices may become self-fulfilling as other investors rush to sell shares. This fall in prices can harm investors with long positions, and can hamper these companies’ ability to raise capital and grow their businesses.

However, potential investors in 130/30 strategies should not be overly concerned about the impact of shorting on capital markets and the economy. For one thing, the economic rationale for short sales is compelling. Shorting can improve the efficiency of capital markets by facilitating the flow of negative information into stock prices. Unless they face ownership limitations, investors with a positive opinion about a stock can easily buy shares of the stock, regardless of whether or not they already own the stock. By purchasing shares, their positive views get impounded in the stock’s price, as aggregate demand for the stock increases. However, without the ability to sell short, investors with negative information – unless they already own the stock – cannot easily act on their information, and so their opinions do not get transmitted into prices. With restrictions on shorting, stock prices are set mostly by optimists, which increases the odds that prices will be overvalued. With shorting, prices reflect the views of both optimists and pessimists, and hence prices are more likely to be fairly valued (Miller [1977]).

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6 A frequent criticism of shorting is that stocks generally go up over time, so that shorts generate losses, on average. This criticism does not apply to 130/30 strategies, however, because the proceeds from the short sales are reinvested in additional long positions; hence, the net investment in equities remains the same as a long-only portfolio, and the strategy continues to benefit from any market appreciation.
Moreover, the ability of short sellers to drive prices down, or for long investors to push prices up by forcing a short squeeze, is limited. Manipulating security prices is illegal in most major markets, where regulators and exchanges closely monitor trading for evidence of suspicious activity. And for the majority of stocks in the benchmarks used for 130/30 strategies, trading volumes are sufficiently high so that manipulating prices is difficult. Portfolio managers can minimize the chances a stock will experience unusual price volatility, or be recalled by the lender, by only shorting liquid stocks that are inexpensive and easy to borrow, and thereby excluding from the investment universe stocks that are more likely to be shorted by event-driven strategies or subject to rumors.7

A second concern shared by many investors is that short positions could generate unlimited (that is, very large) losses. Because shorting involves the sale of borrowed shares, shorting can generate significant losses if the stock outperforms the benchmark between the date it is sold short and the date the short is covered. For instance, suppose a stock is sold short for $10 and the subsequent return on the benchmark is flat. If the stock goes up to $30, the loss is $20, and if the stock shoots up to $50, the loss is $40. Because there is no limit, in theory, to how high a stock’s price can rise, the potential loss on a short position is unbounded. In particular, a stock may jump in price if it is the target of a short squeeze, in which excessive demand by short sellers attempting to cover their short positions (either to limit their losses or satisfy a recall) causes a temporary run-up in the stock’s price – and permanent losses for short-sellers forced to cover their positions.8

A concern about unlimited losses, however, should not worry potential investors in 130/30 strategies. Perhaps the strongest rationale for allowing short positions in actively managed portfolios is the simple fact that a short position is nothing but a large underweight. This is an important point, because the active risk of a portfolio is a function of the portfolio’s active weights (underweights and overweights relative to the benchmark), and not the magnitudes of its short positions (which depend on the benchmark weights of each stock). Therefore, while a short’s contribution to risk might be significant, it is entirely possible that the contribution is no larger than it would be for a long that is also a large underweight.

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7 The risk of a recall that leads to a loss is fairly low, especially for more liquid stocks. In his study of the US equity lending market, D’Avolio [2002] finds that days on which recalled borrowers might be forced to cover shorts are characterized by unusually high trading volume and intraday volatility; hence, it should be relatively easy for short sellers to cover any short positions. Moreover, stock returns during periods of involuntary or forced short coverings are typically below average, which means short sellers can often repurchase shares at falling prices.

8 Some portfolio managers may be tempted to use stop-loss orders to try to limit the losses on stocks that experience a sudden increase in price. With a stop-loss order, a broker is instructed, in advance, to sell (buy) a stock if the price decreases (increases) to a specified value; if the stock price reaches the specified value – the stop price – then the stop-loss order becomes a market order, and the broker sells (buys) the stock at the prevailing price. However, using stop-loss orders may not be such a good idea. Stop-loss orders give market participants a free option to trade when it is in their (i.e., not the investor’s) best interest to do so. Following a large price change, execution of the stop loss order may or may not in fact be advantageous given the new market conditions. However, with a stop-loss order, the decision to fill the order lies with other market participants who act in their own best interest, and not that of the portfolio manager. Consequently, there is no guarantee a stop-loss order will get executed at the stop price. In particular, execution of the stop-loss order is less (more) likely when execution would have a positive (negative) impact on the portfolio. Because the stop-loss order becomes a market order when the stop price is reached, in a fast moving market with limited liquidity, it is possible the trade will get executed at an unfavorable price.
A simple example helps illustrate the distinction between shorts and underweights. Consider two stocks that are identical in every way except their benchmark weight. In particular, both stocks have the same risk (variances and pairwise covariances) and expected return (alpha). Because the stocks are identical, they are assigned the same active weight, say –3 percent (an underweight). However, suppose the benchmark weight of the first stock is 2 percent, whereas the benchmark weight of the second stock is 4 percent. Then the weights of the two stocks in the managed portfolio are –1 percent (a short position) and +1 percent (a long position). Because the stocks’ active weights are the same (–3 percent), each stock’s contribution to the portfolio’s active risk is also the same. The fact that one stock is short while the other stock is long does not, by itself, affect the portfolio’s active risk.9 (Exhibit 4)

Exhibit 4 – Different benchmark weights with identical active weights

A third concern is that shorting is operationally and legally complex. Shorting requires a prime broker, because standard custodians cannot hold short positions.10 Establishing (and, to a lesser extent, maintaining) a prime brokerage relationship is a complicated undertaking.11 In particular, the investor and/or portfolio manager must negotiate a contract with the prime broker (lending rates and fees, collateral, reporting requirements, recalled securities, etc.) and develop any systems needed to effect shorting (obtaining short locates, booking trades, reconciling cash, monitoring lending rates and fees, satisfying compliance policies, etc.). One critical consideration when dealing with a prime broker is credit risk. Excess collateral kept with the prime broker, along with any gains generated on the investor’s positions held by the prime broker, could be lost if the contract is not structured properly and the prime broker becomes insolvent.
Compared with purchasing stock long, shorting is operationally and legally complex. For this reason, potential investors in 130/30 strategies should try to avoid portfolio managers who do not have a track record shorting stocks. Instead, investors should look for managers who have experience and expertise working with prime brokers, and have systems and procedures in place for managing portfolios with short positions. Ideally, managers of 130/30 strategies should have strong relationships with more than one prime broker. Managers who conduct business with multiple prime brokers gain access to a larger pool of shortable stock, and are better positioned to negotiate favorable terms (e.g., lower fees). This way, the complexity of shorting, while it does not go away, can be managed.

**Why Are 130/30 Strategies Attracting So Much Attention Now?**

Seasoned investors who have seen numerous investment fads come and go are wise to approach new ideas with a skeptical eye. As the often repeated (and too often ignored) adage goes, “if it sounds too good to be true, it probably is”. Yet, over the years, finance professionals have, in fact, developed some extremely useful investment products (e.g., derivatives, collateralized instruments, index funds, and ETFs, to name a few). How can one be sure that 130/30 strategies are another good idea, and not just another passing fad?

Even though the benefits of relaxing the no-shorting constraint are clear, some investors worry they might be missing something in their evaluation of the new 130/30 strategies. After all, the benefits of shorting have been recognized for several years (Jacobs and Levy [1993]), and yet the strong interest in relaxing the no-shorting constraint is fairly recent.12 If one cannot explain the sudden popularity of 130/30 strategies, then perhaps these new strategies have serious flaws – flaws that prevented their adoption before, and should prevent their adoption now.

In fact, there are several good reasons why 130/30 strategies have only recently attracted a strong following:

- **Investors want more alpha.** The bursting of the internet bubble, which led to huge losses in many investors’ equity portfolios, has left many pension funds severely underfunded. Since then, market returns have been disappointing, and investors are having trouble earning sufficient returns from passive exposure to the market (beta). Many investors are shifting away from pure beta, to a combination of beta and alpha.

- **Active risk has declined.** Over the past few years, dispersion across stocks has decreased dramatically. For many traditional managers, constructing long-only equity portfolios that deliver returns substantially different from the market’s has become more and more difficult (Mulvihill [2006]). Conventional ways of producing alpha (e.g., traditional stock picking) are not working.

- **Less constrained strategies are becoming the de facto standard of investing.** The tremendous success of market-neutral and equity long-short hedge funds, in particular, has highlighted the benefits of relaxing constraints. Subject to risk targets, hedge funds have wide latitude in what they can do, including selling stock short, trading derivatives, and using leverage. Now that many investors have gotten more comfortable with these

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12 In the past few years, there have been several papers written on the benefits of relaxing the no-shorting constraint, including Jacobs and Levy [2006], McDermott [2005], Clarke et al. [2004], Clarke et al. [2000], and Grinold and Kahn [2000].
less constrained strategies, they are also questioning the role of constraints in other parts of their portfolio. If shorting is good for alternative investments, why isn’t shorting good for conventional equities as well?

It is doubtful any one of these phenomena, by itself, could explain the recent focus on the no-shorting constraint, but occurring together, the strong interest in 130/30 strategies makes sense. While 130/30 strategies may be new, they are a logical extension of long-only investing. Investors should feel confident that 130/30 strategies are indeed a good idea, and not just another passing fad.

**What Is the Capacity of 130/30 Strategies?**

In many ways, wondering about the capacity of 130/30 strategies might seem unnecessary, or at least premature. These strategies are still too new to have gathered significant assets: several firms only recently launched their versions of 130/30, and many others are still in the process of doing so. And yet, given the tremendous potential benefits of relaxing the no-shorting constraint, 130/30 strategies are sure to attract substantial amounts of capital, and when they do, capacity could become an issue for many managers.

Concerns about capacity arise because growth in assets, if left unchecked, can have an adverse impact on a strategy’s performance. Growth can hurt performance two ways: directly, by increasing costs (and thereby reducing a portfolio’s realized returns net of costs), and indirectly, by altering the optimal set of active weights (and thereby reducing a portfolio’s expected returns before costs). Selecting an alternative set of weights helps the portfolio avoid some of the higher costs coming from the growth in assets, but doing so produces a “second-best” solution comprising less desirable positions.

In the case of 130/30 strategies, there are two primary costs that can affect capacity: transaction costs and shorting costs. Transaction costs have two components: direct costs, such as commissions and fees, and indirect costs, such as market impact and price drift. Commissions and fees tend to be relatively small, and their cost per share declines as the number of shares traded increases. In contrast, indirect costs can be substantial, and their cost per share grows as the number of shares traded goes up. Therefore, if a portfolio becomes too large, transaction costs can become a significant drag on performance.

Shorting costs comprise stock loan fees and, in the case of dividend-paying stocks, dividend reimbursements. Stock loan fees, which accrue daily, differ across stocks. Stocks that are hard to borrow, either because demand is high or supply is low (or both), have high fees. These stocks, which are referred to as “special”, tend to be smaller, less liquid issues, or stocks experiencing unusual events (e.g., litigation, restructurings, security offerings, etc.). Stocks that are easy to borrow have low fees. These stocks, which are denoted “general collateral”, include most constituents in the major indices.

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13 Of course, growth can also have a positive impact on a strategy’s performance. Growth can create scale that reduces average costs (e.g., by giving a portfolio manager more clout to negotiate better terms from a prime broker). Growth can also generate resources that improve returns (e.g., by funding research). Hence, the net impact of growth on performance is ambiguous, and is likely to vary across strategies and managers.

14 The fee for borrowing stock is sometimes quoted in terms of the rebate rate, which is the interest rate that the lender of the shares pays the borrower for the use of the cash collateral. The stock loan fee is the difference between the prevailing market interest rate and the rebate rate. For instance, a rebate rate of 5 percent and a market rate of 6 percent corresponds to a stock loan fee of 1 percent.
Dividend reimbursements, which depend on each stock’s cash dividends (if any), only occur for stocks that are short on their respective ex-dividend dates. Dividend reimbursements are necessary because there are two owners of a shorted stock, the original owner who loaned the stock to the short-seller, and the third party who purchased the stock from the short-seller. Because the third-party receives the dividend from the issuer, the short-seller must reimburse the original owner for the “lost” dividend.\(^{15}\)

The cost per share of the dividend reimbursement does not vary with the number of shares shorted; therefore, this component of shorting costs has no affect on the capacity of 130/30 strategies. In contrast, the per-share cost of the stock loan fee could rise if the demand to borrow shares goes up. Hence, as 130/30 strategies gather assets, they could face higher fees for shorting stocks, and at some point, these higher fees could have a material impact on performance. For the foreseeable future, however, it is doubtful that excessive demand for shorts, at least at the aggregate level, will be a limiting factor for 130/30 strategies, because the supply of shortable stock is large. Exhibit 5 reports the global supply of lendable stock (left axis) along with the total amount of stock borrowed (right axis) as compiled by the Risk Management Association. The graph shows that the demand to borrow stock has increased over time, especially in the past three years as equity markets recovered following the bursting of the internet bubble. However, the supply of lendable assets has grown along with demand. Over the period shown, only about 10 percent of all lendable stock has been on loan, suggesting the aggregate supply of lendable stock greatly exceeds demand.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Exhibit 5 – Global equities lending market, including the global supply of lendable stock (left axis) and the total amount of stock borrowed (right axis)}
\end{figure}

Sources: Goldman Sachs Asset Management, The Risk Management Association

Unfortunately, estimating the capacity of a manager’s 130/30 strategy is extremely difficult. The asset size at which transaction and shorting costs become significant varies over time depending on market conditions. For instance, capacity is greater when stock-price levels are high, trading volumes are high, and volatilities are low. Yet future market conditions, which are beyond portfolio managers’ control, are uncertain, and hence hard to predict.

\(^{15}\) Note, an increase in the dividend yield for stocks as a whole should have little or no impact on the performance of 130/30 strategies. Although the cost of dividend reimbursements will go up, so will the income from dividends on the leveraged long positions (the longs that offset the shorts). The net effect is likely to be immaterial.
Estimating capacity is also difficult because capacity is likely to differ across strategies, being a function of the underlying investment process of each portfolio management team. Other things equal, a team with a more unique investment process has higher capacity because it faces less direct competition for shares from other managers. A team’s investment process also affects the desired level of portfolio turnover, the liquidity of the stocks in the buy/sell list, and the characteristics of the least attractive stocks. A process that produces stable alphas and lower turnover, especially for the less liquid stocks, will have relatively high trading capacity. Similarly, a process that produces negative views on easy-to-borrow stocks will have higher shorting capacity than a process that produces negative views on hard-to-borrow stocks. Third, capacity is increasing in the number of stocks in the investment universe. An investment process that generates alpha forecasts for many stocks often results in well diversified portfolios comprising numerous smaller bets. This makes it easier to avoid big positions in stocks that are costly to trade or hard to borrow, because a large investment universe is more likely to contain suitable replacement stocks. Finally, trading capacity will be relatively high for portfolio managers who have developed sophisticated ways to trade, and can therefore execute buys and sells with less market impact. Managers who use algorithms and rely on multiple trading venues, including traditional brokers (both as agents and as principals) and ECNs (Electronic Communication Networks), can lower their transaction costs, and increase their capacity.16

A third reason a manager’s 130/30 capacity is difficult to estimate is that other equity strategies offered by the manager may draw from the same pool of capacity. Frequently, the return, risk, and transaction cost models are similar – if not the same – for all of the equity strategies a team manages, including long-only, market-neutral, and 130/30. For this reason, there may be overlap in the active bets and trades across the various strategies, which means a team’s capacity is, to some extent, fungible across different products. Of course, when aggregating assets across these various products, it is important to adjust for differences in target alpha, because more aggressive strategies take up more capacity. For example, a dollar in a high-alpha hedge fund is likely equivalent to several dollars in a low-alpha enhanced index portfolio. Because capacity is fungible, the capacity of a team’s 130/30 strategies depends on the mix and size of its entire business, and not just the amount of 130/30 assets it manages.

Given that a manager’s 130/30 capacity is difficult to estimate, and given that 130/30 strategies are fairly new, the best approach may be one of careful monitoring. By evaluating, on a regular basis, the impact of transaction costs and shorting costs on both ex ante and ex post performance, managers and their clients can determine when these costs are likely to become a problem. While this may require elaborate databases and systems, monitoring is probably the most effective way to ensure a manager’s 130/30 strategy does not exceed its capacity.

16 With an agency trade, the broker makes a “best effort” to trade a stock on the client’s behalf at the best possible price. With a principal trade, the broker bids on the stock (or, more commonly, a basket of stocks), absorbing the trade(s) into inventory, and then trading over subsequent days. Although brokers incur more risk with a principal trade, principal trading can nonetheless lower transaction costs relative to regular agency methods. Principal trades may be crossed with the broker’s existing inventory positions, or allow the portfolio manager to benefit from the longer trading horizon and superior trading ability of certain intermediaries (due, for instance, to larger order flow).
What Types of Investors Are Likely to Find 130/30 Strategies Appealing?

Even though 130/30 strategies are quite attractive, they may not be ideal for all investors: 130/30 strategies target alpha in a specific range while providing full exposure to the market; they are legally and operationally complex; and because they are new, 130/30 strategies require extra due diligence that may stretch the resources of smaller investors. Moreover, 130/30 strategies have some features in common with other, more established equity products, and hence 130/30 strategies face strong competition for investors’ assets. Nonetheless, while some investors may not find 130/30 strategies appealing, many investors will.

Perhaps the best way to identify potential investors in 130/30 strategies is to compare these strategies with three closely related (and popular) equity products that also target a beta of one to their benchmark: Structured long-only portfolios, concentrated long-only portfolios, and portable alpha strategies consisting of benchmark exposure with a market-neutral overlay. Although these three products share much in common with 130/30 strategies, there are some important differences that help to highlight the advantages of 130/30 strategies. The key differences include the target alpha and tracking error, the use of leverage (shorting), and the use of index futures, as illustrated in Exhibit 6:

- Structured long-only portfolios target relatively low levels of active risk. They employ sophisticated risk management techniques to create well diversified portfolios that minimize uncompensated bets (e.g., style, size, or sector biases). For this reason, structured long-only products have attractive information ratios, but given their low targeted risk, they have low expected alphas. Structured long-only products are relatively simple from a legal and operational standpoint because they do not require a prime broker.

- Concentrated long-only portfolios hold a small number of high-alpha, high-conviction stocks – stocks the portfolio management team knows well, and believes to be substantially undervalued. Consequently, concentrated portfolios are designed to deliver relatively high levels of alpha. However, because these products are purposely undiversified, their uncompensated risk is high, and their expected information ratio is low.17 Like their structured counterparts, concentrated portfolios are legally and operationally simple.

- Portable alpha strategies combine index futures with a market-neutral portfolio. The index futures provide beta (exposure to the benchmark) and the market-neutral portfolio provides alpha (and, if it is truly market-neutral, no beta). The market-neutral portfolio, which comprises both short and long positions, can target high levels of alpha while maintaining good risk control (i.e., diversified positions and minimal exposure to uncompensated sources of risk). Portable alpha strategies are legally and operationally complex because they require a prime broker as well as systems to manage the basis risk between the index futures and the benchmark.

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17 Although the number of stocks is a defining characteristic of concentrated portfolios, the number of stocks is an imprecise measure of a portfolio’s active risk, which depends on the set of active weights (and the distribution of stock returns). The number of names differs for concentrated and diversified portfolios, but the number of active weights is the same (or very similar), which is equal to the number of stocks in the benchmark, plus the number of non-benchmark stocks in the portfolio, less the number of stocks held at benchmark weight.
Exhibit 6: Comparison of various beta-one equity strategies

<table>
<thead>
<tr>
<th></th>
<th>Structured Long-only</th>
<th>Concentrated Long-only</th>
<th>Portable Alpha*</th>
<th>130/30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage / shorting</td>
<td>None</td>
<td>None</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Futures roll</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Target alpha</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Target tracking error</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Target information ratio</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

* Portable Alpha comprising an equity index futures contract plus an equity market-neutral hedge fund.
Source: Goldman Sachs Asset Management

With these three investment vehicles as a backdrop, what types of investors should find 130/30 strategies attractive? Potential investors are likely to fit the following profile:

They want high alpha; therefore, they are not entirely satisfied with structured long-only products. At the same time, they are not prepared to give up risk management and the high information ratio that results from diversified positions; hence, they are not interested in concentrated long-only portfolios. Finally, they want a strategy that can be used as part of their conventional equity allocation. Investors can certainly design portable alpha strategies using well-diversified market-neutral portfolios offering high excess returns, but market-neutral strategies are usually classified as an alternative investment, and not conventional equity.

Even if investors use portable alpha strategies to obtain conventional equity exposure, it is not necessarily efficient to do so. A market-neutral portfolio incurs stock loan fees on all of its underweight positions, because every underweight is a short. In contrast, 130/30 strategies only incur stock loan fees on the portions of the underweights that exceed their respective weights in the benchmark. For instance, for a stock with a benchmark weight of 2 percent and an underweight of 3 percent, the market-neutral portfolio incurs fees on the full 3 percent underweight, whereas the 130/30 strategy only incurs fees on the 1 percent difference between the underweight and the benchmark weight. As this simple example shows, stock loan fees will generally be higher for the portable alpha strategy compared to the 130/30 strategy. (Management fees are likely to be higher as well.)

In summary, 130/30 strategies are ideal for investors who want a portfolio that is well-diversified, has a high expected alpha, targets a beta of one versus the benchmark, and can be used within a conventional equity allocation. Moreover, 130/30 strategies are advantageous for investors who are willing to use a commingled vehicle, or can fund a segregated account of sufficient size to justify the time and expense of establishing a relationship with a prime broker.
Conclusions

Although 130/30 strategies are still relatively new, they are already making a major impact on the development of investment policy. In particular, they have become the topic of much discussion among investors, consultants, and portfolio managers – discussions that are changing the way investment professionals think about the role of constraints. These discussions are also changing the view many professionals have about shorting. With 130/30 strategies, which measure risk relative to a benchmark, short positions are the result of large underweights that allow portfolio managers to more fully express their negative views and to better hedge their positive views. No longer can investors dismiss shorting as a risky strategy that has no place in a conventional equity portfolio.

Of course, deciding to invest in 130/30 strategies is only the first step. Investors must also pick a manager (or group of managers). Managers who produce both negative and positive views on a broad universe of stocks, and who have experience managing long-only and market-neutral portfolios, are well-positioned to manage 130/30 strategies successfully. For these managers, a 130/30 portfolio is a natural extension of their existing equity strategies – long-only, which provide exposure to a benchmark, and market-neutral, which take short positions. Given these similarities, it is no wonder several 130/30 strategies have already been launched. Clearly, many managers believe 130/30 strategies represent the future of equity investing. Increasingly, so do many investors.
References


