20 Myths about Long–Short

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Popular conceptions of long–short investing are distorted by a number of myths, many of which appear to result from viewing long–short from a conventional investment perspective. Long–short portfolios differ fundamentally from long-only portfolios in construction, in the measurement of their risk and return, and in their implementation costs. Furthermore, long–short portfolios allow greater flexibility in security selection, asset allocation, and overall plan structure.

Most institutional investors focus on the management of long portfolios and, in that context, the selection of "winning" securities. The short sale of securities has generally been confined to *alternative* investing, including hedge funds and dedicated shorts, where the focus is on identifying "losing" securities. Combining long and short holdings of approximately equal value and systematic risk into a single portfolio in an institutional setting dates only to the late 1980s.

Although the mechanics and merits of long–short portfolio construction have since become the subject of lively debate, the procedure still seems to elude the intuitive grasp of many investors.[1] Perhaps confusion arises because investors tend to view long–short through the lens of long-only or short-only management. Just as the wrong pair of glasses will distort one's vision of the world, using a long-only or short-only perspective has resulted in some misperceptions about the implementation and goals of long–short investing.

Long–short investing is fundamentally different from conventional investing in some important aspects. Conventional investment perspectives on portfolio construction, risk and return, implementation costs, performance measurement, asset class allocation, and plan structure can thus result in a distorted image when applied to long–short strategies. Readjusting those perspectives dispels some of the more common myths surrounding long–short investing.

Myth 1. A 100 percent short position against longs does not make as much sense as selling short only those stocks with negative expected returns. Provided expected security returns are symmetrically distributed around the underlying market return, there will be as many unattractive securities for short sale as attractive undervalued securities for purchase. Balancing equal dollar amounts and equal market sensitivities, long and short takes full advantage of this spread of returns. At the same time, it neutralizes underlying market return and risk (which can be added back, if desired, by purchasing stock index futures). The securities return on the basic long–short portfolio is reflective solely of the manager's skill at stock selection. In effect, long–short construction separates the security selection return from the underlying equity asset class return.

Myth 2. A long–short portfolio consists of two portfolios—one long and one short. Although a long–short portfolio may be considered two portfolios from an accounting perspective, the proper construction process for a long–short portfolio requires integrated optimization of long and short positions together. Integrated optimization allows the portfolio the flexibility to use offsetting positions on long and short sides to enhance portfolio return and control risk. Selection of the securities to be held long is determined simultaneously with the selection of securities to be sold short. The result from an investment perspective is a single long–short portfolio. Neither the long nor the short position can be considered a separate portfolio because neither would be held in the absence of the other.

Myth 3. Long–short investing has no inherent advantage over long-only investing except to the extent that the correlation between the excess returns on the long and the short positions is less than 1. A long-only portfolio manager can purchase securities on margin to obtain the financial leverage effects of a long–short strategy and can sell short stock index futures to establish return neutrality to underlying market movements. Furthermore, long-only and long–short managers both have the freedom to select names from the same universe of securities. The

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long-only portfolio, however, can control risk relative to the underlying index only by converging toward the weightings of the names in the index; underlying index weights are constraining. The long–short portfolio is emancipated from underlying index weights; sensitivity to the underlying index is neutralized via the offsetting long and short positions. Furthermore, the long-only portfolio's ability to underweight a security is limited by the security's weight in the index. With shorting, the long–short portfolio can underweight a security by as much as investment insight (and risk considerations) dictates. Lessening of constraints affords the long–short portfolio greater leeway in the pursuit of return and control of risk, which is the real advantage long–short offers over long-only investing. The diversification benefit of a less-than 1 correlation between long and short excess returns will be the sole benefit provided only when the long–short portfolio is constructed suboptimally as two index-constrained portfolios—one long and one short, each optimized to have the same index-relative residual risk and return as the long-only portfolio.[2] In this restrictive case, long–short investing offers no flexibility benefits over long-only.

Myth 4. The performance of a long–short portfolio can be measured as the excess return of the longs and the excess return of the shorts relative to an underlying market index. Within the context of integrated optimization, long and short "alphas" are meaningless (as is their correlation) because neither the long nor the short position is determined with regard to the weightings in any particular index. Rather, the constituent securities of an integrated optimization represent a single portfolio, one that is not constrained by underlying index weights. The performance of this integrated long–short portfolio can be measured as the weighted return on the constituent securities—those held long and those sold short—or, in shorthand, as the spread between the long and short returns.

Myth 5. A long–short portfolio has no underlying index. A long–short portfolio is constructed to be "neutral" to some selected market index. That index defines the securities' market sensitivities, without which market neutrality cannot be measured. An underlying index is thus necessary for long–short construction. As noted above, however, the index weights are not constraining.

Myth 6. Constraints on underweighting do not have a material effect on long-only portfolio results. A security with a median market capitalization has a weighting of approximately 0.01 percent of the market's capitalization. The maximum active underweight of that security in a long-only portfolio is 0.01 percent, achieved by not holding any shares of the security. Placing a similar limit on the maximum active overweight would be equivalent to saying the long-only manager could hold, at most, a 0.02 percent position in the stock (a 0.01 percent overweighting) no matter how appetizing its expected return. Long–short portfolios have no such constraints on underweighting.

Myth 7. A long–short portfolio's advantage over the residual risk–return provided by a long-only portfolio relies on the existence of larger inefficiencies on the short side of the market. If short selling is restricted, there are reasons to believe that shorting stocks can offer more opportunity than buying stocks. An advantage may arise because restrictions on short selling do not permit investor pessimism to be fully represented in prices; pessimism thus cannot counterbalance investor optimism. If so, the shorts in a long–short portfolio may offer additional advantages beyond those related to the flexibility inherent in the long–short structure. Greater inefficiency on the short side, however, is not a necessary condition for long–short investing to offer benefits compared with the residual risk–return offered by long-only investing; these benefits stem from the enhanced flexibility of long–short investing.

Myth 8. Long–short is a separate asset class and should be treated as such in any asset allocation analysis. Long–short is a portfolio construction technique. The resultant portfolio will belong to a conventional asset class. The long–short manager or client, however, enjoys some flexibility in deciding which asset class, because the long–short spread—the return from security selection—can be "transported" to various asset classes. When the long–short portfolio takes a market-neutral form, the long–short spread comes on top of a cash return (the interest received on the proceeds from the short sales). In this case, portfolio performance is appropriately measured as the manager's ability to enhance (at the cost of added risk) the cash return. Alternatively, the long–short manager can offer, or the client initiate, a position in stock index futures combined with a market-neutral portfolio. This equitized portfolio will offer the long–short spread from security selection on top of the equity market return from the futures position. In this case, portfolio performance is properly measured relative to the equity index underlying the futures. Any asset allocation analyses should thus treat a market-neutral long–short portfolio as cash and an equitized long–short portfolio as equity.

Myth 9. Overall market movements have no effect on long–short portfolios. Although long–short construction eliminates the portfolio's exposure to market risk and return, market price movements will likely affect the values of long and short posi-

tions and may require trading activity. Consider, as an example, a $100 initial investment in a market-neutral long–short portfolio. The manager buys $90 worth of securities and sells short an equivalent amount; the proceeds of the short sales are posted with the securities' lenders. The manager seeks to retain in cash 10 percent of the capital ($10 at the outset, in this case) as a liquidity buffer to meet marks to market on the short positions. Now, assume the market rises and both longs and shorts rise 5 percent. The long positions are now worth $94.50, and the short positions are also worth $94.50. The overall portfolio has gained $4.50 on the longs and lost $4.50 on the shorts, so its net capital is still $100; it is still well above Regulation T minimum margin requirements. An additional $4.50, however, must be posted with the lenders of the securities sold short to collateralize fully the increased value of their shares. Paying $4.50 out of the liquidity buffer reduces it to $5.50. To restore the liquidity buffer to 10 percent of the $100 capital, the manager will need to sell $4.50 worth of long positions (and cover an equal amount of short positions). Thus, overall market movements may have implications for the implementation of long–short portfolios.

Myth 10. A market crash is the worst-case scenario. As the example above illustrates, market rallies can pose mechanical problems for long–short managers because of the effects of marks to market on portfolio cash positions (and, in extreme and unlikely circumstances, the potential for margin violations). A market crash, however, although it will likely result in a substantial loss on the long positions, will also likely result in a substantial gain on the short positions. Furthermore, marks to market on the shorts will be in the account's favor. Consider, for example, the effects on our $90/$90/$10 portfolio of a crash such as occurred on Black Monday 1987, when the market fell by about 20 percent. Assuming the longs and shorts move in line, the value of the long positions will decline from $90 to $72, for a loss of $18, and the value of the short positions will also decline from $90 to $72 (but for a gain of $18). The securities' lenders are now overcollateralized and will transfer $18 to the long–short account, increasing the liquidity buffer to $28. A crash, in effect, creates liquidity for a long–short portfolio!

Myth 11. Long–short portfolios are infinitely riskier than long-only portfolios because losses on short positions are unlimited. Whereas the risk to a long investment in a security is limited because the price of the security can go to zero but not below, the risk of a short position is theoretically unlimited because there is no bound on a rise in the security's price. The risk of a precipitous rise, or gap-up, in a security's price is a consideration, but it is one that is tempered in the context of a portfolio diversified across many securities. The prices of all the securities sold short are unlikely to rise dramatically at the same time with no offsetting increases in the prices of the securities held long. Furthermore, the trading imperatives of long–short management, which call for keeping dollar amounts of aggregate longs and aggregate shorts roughly equalized on an ongoing basis, will tend to limit short-side losses because shorts are covered as their prices rise; if a gap-up in the price of an individual security does not afford the opportunity to cover, the overall portfolio will still be protected as long as it is well diversified. So, the risk represented by the theoretically unbounded losses on short positions is considerably mitigated in practice.

Myth 12. Long–short portfolios must have more active risk than long-only portfolios because they take "more extreme" positions. Because it is not constrained by index weights, a long–short portfolio may be able to take larger positions in securities with higher (and lower) expected returns compared with a long-only portfolio, which is constrained by index weights. The benefits of long–short construction, however, do not depend upon the manager's taking such positions. Integrated optimization will ensure that long–short selections are made with a view to maximizing expected return at the risk level at which the client feels most comfortable. Given the added flexibility a long–short portfolio affords in the implementation of investment insights, it should be able to improve upon the excess return of a long-only portfolio based on the same set of insights, whatever the risk level chosen.

Myth 13. Long–short risk must be greater than long-only residual risk because of the use of leverage. Leverage does increase risk, but leverage is not a necessary part of long–short construction. The amount of leverage in a long–short portfolio is within the investor's control. The initial investment does not have to be leveraged by as much as two-to-one, as Federal Reserve Regulation T permits. Given an initial $100, for example, $50 can be invested long and $50 sold short; the amount at risk in securities is then identical to that of a $100 long-only investment, but the long–short portfolio retains the flexibility advantages of long–short construction. Furthermore, a long-only portfolio can also engage in leverage and to the same extent as a long–short portfolio. In this regard, however, long–short has a definite advantage over long-only because purchasing stock on margin gives rise to a tax liability for tax-exempt investors.

Myth 14. Long–short portfolios generate tax liabilities for tax-exempt investors. A January 1995 Internal Revenue Service ruling has laid to rest concerns about the tax status of profits from short positions. It holds that borrowing stock to initiate short sales does not constitute debt financing. Any profit that results from closing a short position thus does not give rise to unrelated business taxable income.

Myth 15. Long–short trading activity is much higher than long-only. The difference in levels of trading activity is largely a reflection of the long–short strategy's leverage, but the client can control the degree of leverage. Again, the client could choose to invest only half of a $100 initial investment, going long $50 and selling short $50, so securities trading is roughly equivalent to trading in a $100 long-only equity portfolio. Although changes in market levels can induce trading activity in long–short, as discussed above, an equitized long–short implementation mitigates additional trading, because the daily marks to market on the futures can offset the marks to market on the shorts. For instance, in the example above, with a 5 percent market increase, a $100 stock futures position would have produced a $5 profit. In this case, no trading would be required, because the $5 profit on the futures position would more than offset the $4.50 of additional collateral that must be posted with the securities' lenders. Adding the remaining $0.50 to the liquidity buffer increases it to $10.50, or 10 percent of the new portfolio capital value of $105.

Myth 16. Long–short management costs are high relative to long-only. If one considers management fees per dollar of securities positions, rather than per dollar of capital, there is not much difference between long–short and long-only fees. Furthermore, management fees per active dollar managed may be lower with long–short than with long-only management. Long-only portfolios contain an often substantial "hidden passive" element. Active long-only positions consist of only those portions of the portfolio that represent overweights or underweights relative to the market or other benchmark index; a large proportion of the portfolio may consist of index weights, which are essentially passive. To the extent that a long-only manager's fee is based on the total investment rather than just the active over- and underweightings, the long-only fee per active dollar managed may be much higher than that of a long–short manager.

Myth 17. The long–short portfolio does not receive use of the cash proceeds from the shares sold short. What may be true for retail investors is not true for institutions. Today, institutional investors, although they do not have use of the cash proceeds from short sales, do receive a large portion of the interest on the cash. Although the prime broker and the securities' lenders extract a payment for securing and providing the shares, the cost is not inordinately large. Incurred as a haircut on the interest, the cost averages 25–30 basis points annually (more for harder-to-borrow shares). To this cost should be added any opportunity costs incurred because shares are not available for borrowing (or shares already shorted are called in by the lender and are not replaceable) or because uptick rules delay or prevent execution of short sales. (Uptick rules can be circumvented by use of principal packages or options, but the former are expensive and the latter are subject to limited availability and offer limited profit potential.) These incremental costs of long–short management can be, and often are, outweighed by the flexibility benefits offered by long–short construction.

Myth 18. Long–short portfolios are not prudent investments. The responsible use of long–short investment strategies is consistent with the prudence and diversification requirements of ERISA. As discussed above, the risks related to security selection and leverage both can be controlled to be consistent with the investor's preferences. Moreover, long–short portfolios offer potential benefits compared with the residual risks and returns available from long-only portfolios.

Myth 19. Shorting is "un-American" and bad for the economy. As Bill Sharpe noted in his 1990 Nobel laureate address, precluding short sales can result in "a diminution in the efficiency with which risk can be allocated in an economy.... More fundamentally, overall welfare may be lower than it would be if the constraints on negative holdings could be reduced or removed."

Myth 20. Long–short investing complicates a plan's structure. Long–short management, with the flexibility it offers to separate security selection from asset allocation, can actually simplify a plan's structure. Sponsors can take advantage of superior security selection skills (the long–short spread) while determining the plan's asset allocation mix independently. They can, for example, establish domestic or foreign equity or bond market exposures via the appropriate futures while deploying some funds in long–short strategies with the objective of achieving active returns from security selection.[3]

NOTES

1. For some of the debate on the subject, see the proceedings of the recent Q Group conference on "Long/Short Strategies" (The Institute for Quantitative Research in Finance, Autumn 1995 Seminar), particularly the presentations by R. Michaud, B. Jacobs, and N. Dadachanji. See also Garcia and Gould (1992) and comments by Jacobs and Levy (1993) and Michaud (1993), together with comments from Arnott and Leinweber (and Michaud's reply) (1994) and from Jacobs and Levy (1995).
2. According to Michaud (1993), the ratio of excess return to residual risk of a long–short portfolio divided by that of a long-only portfolio will equal $\sqrt{2/(1+\rho)}$, where ρ is the correlation coefficient of the long and short excess returns of the long–short portfolio. According to this formula, the ratio of excess return to residual risk of the long–short portfolio improves upon that of the long-only if, and only if, ρ is less than 1. Michaud derives this formula by assuming, explicitly, that the excess returns on the long and short positions of the long–short portfolio are identical, as are their residual risks, and implicitly, that the excess return on and the residual risk of the longs (and shorts) of the long–short portfolio are identical to the excess return on and the residual risk of a long-only portfolio. This implicit assumption permits neither the aggregate long nor the aggregate short positions of the long–short strategy to improve upon the risk–return trade-off of a long-only portfolio.
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