

Capacity in 130/30 Equity Strategies

Abstract

Assets invested in 130/30 equity strategies have increased substantially in recent years. Could stock borrowing costs associated with 130/30 strategies rise to the point that they constrain capacity in those strategies? Based on a sensitivity analysis linking the investment case for 130/30 strategies to the cost of borrow, this paper contends that 130/30 equity strategies are unlikely to run up against meaningful capacity limits.

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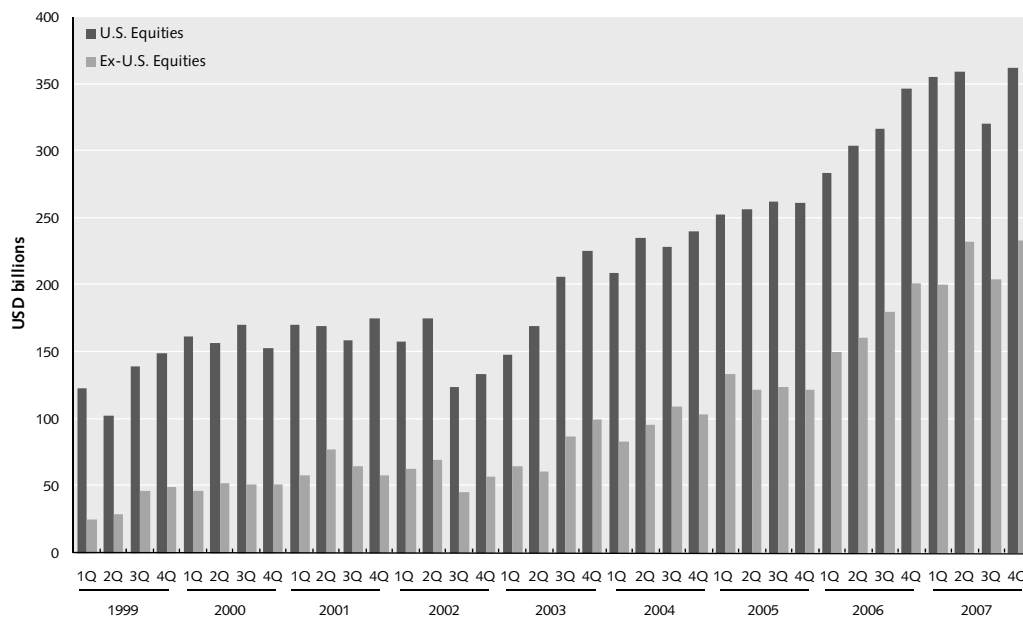
1. Introduction

As soon as talk about “130/30” equity strategies turned into material levels of investment, concerns were voiced about the impact such strategies could have on the amount of stock available for lending. As more money enters 130/30 strategies, could stock borrowing costs increase to the point that those strategies run up against capacity constraints? Based on a sensitivity analysis linking the investment case for 130/30 strategies to the cost of borrow, this paper argues that the availability of stock borrow is unlikely to limit capacity in 130/30 strategies in a meaningful way.

2. Stock Borrowing Costs and Asset Growth

Data on the supply and demand of stock lending, both in the United States and globally, are compiled on a quarterly basis by the Risk Management Association. Figure 1 shows the total amount of stock available for lending on a quarterly basis in recent years, both for U.S. equities and ex-U.S. equities.

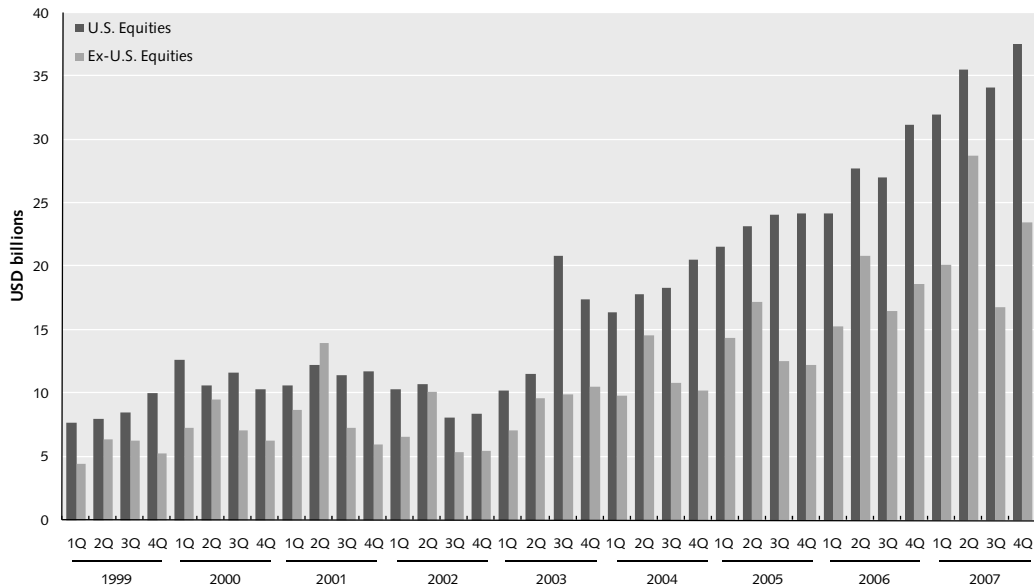
Figure 1: U.S. and Ex-U.S. Equities Available for Loan, 1999–2007



Source: Risk Management Association (1999–2007)

Figure 2 shows the amounts of stock borrowed over the same period. The data in Figure 1 and Figure 2 indicate that supply has expanded in line with both market appreciation and increased demand for stock lending during the 1999–2007 period.

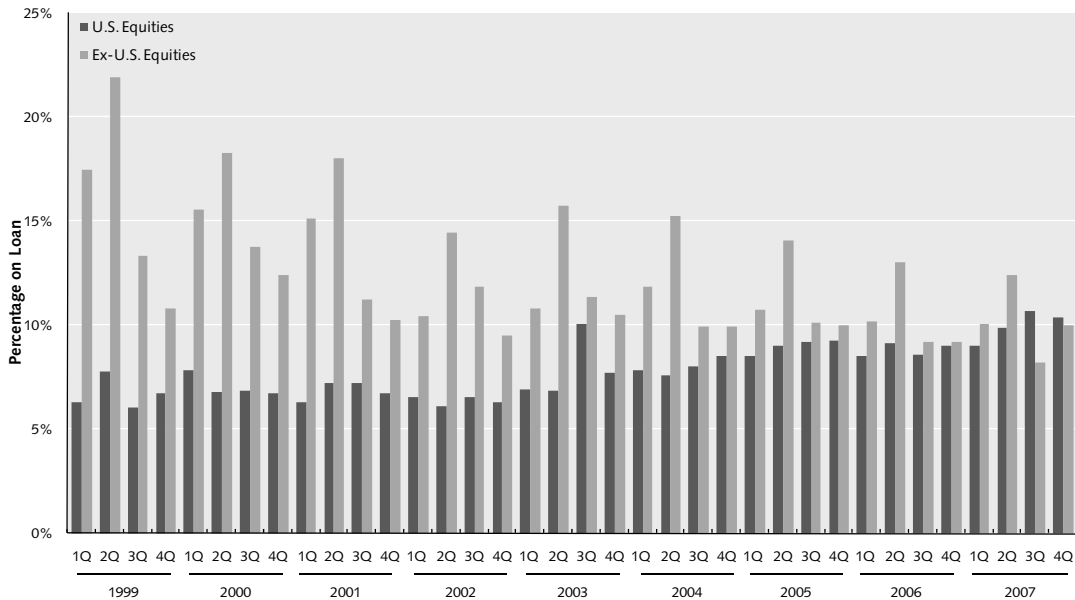
Figure 2: Actual Amounts of U.S. and Ex-U.S. Equities Borrowed, 1999–2007



Source: Risk Management Association (1999–2007)

Figure 3 shows the proportion of stock available for lending that was actually borrowed. Note that as supply and demand increased significantly from 2004 through 2007, the overall percentage of stock available for lending that was actually borrowed remained relatively constant.

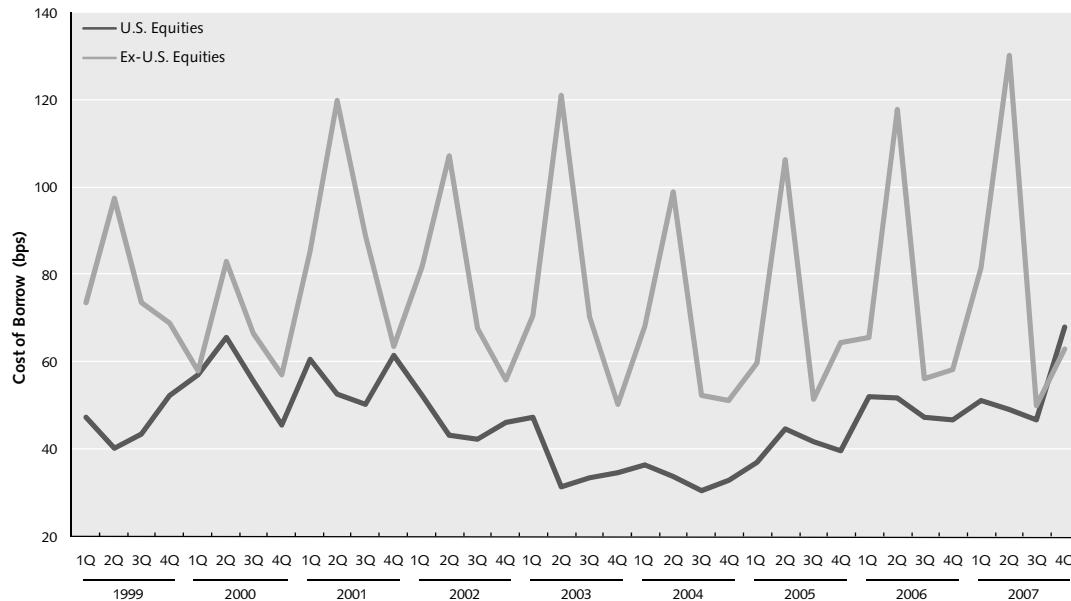
Figure 3: Percentage of Available U.S. and Ex-U.S. Equities on Loan, 1999–2007



Source: Risk Management Association (1999–2007)

Figure 4 shows the cost of borrowing stock over the 1999–2007 period. It bears pointing out that the cost to borrow U.S. equities was actually lower during the 2003–2004 period than in the first few years of the sample (although there has been some increase since the end of 2004), indicating that increased supply and demand for a time actually put downward pressure on borrowing costs.

Figure 4: Cost of Borrow for U.S. and Ex-U.S. Equities, 1999–2007



Source: Risk Management Association (1999–2007)

Estimates of current assets invested in 130/30 strategies are much less precise. Cooper (2007) estimates that total assets managed by U.S. managers in 130/30 strategies as of September 2007 were \$53 billion, up from \$30 billion in March 2007. This includes U.S., international, and global strategies. While this is a heady growth rate, it is from a very small base. The estimated 130/30 equity universe size implies that if all U.S. managers of 130/30 strategies imposed a 30% limit on the amount of shorting in the portfolio, the amount of borrow currently consumed by them would be approximately \$16 billion. This represents less than 0.3% of the available supply of borrowable stock as of the end of 2007.

Given this analysis and holding other factors constant, it seems unlikely that even at current growth rates the assets invested in 130/30 strategies would put significant upward pressure on the cost of borrow or, for that matter, exhaust the supply of borrowable stock in the foreseeable future.

3. Sensitivity Analysis

Calculating the sensitivity of the investment case for 130/30 strategies to the cost of borrow further supports the proposition that borrowing costs are unlikely to be a material impediment to 130/30 investing. A reasonable way of doing this is to identify the break-even cost differential between a long-only portfolio and a 130/30 portfolio run at similar levels of tracking error. This entails identifying the point at which the additional return benefits to 130/30 investing attributable to manager skill are completely offset by the additional costs of implementing short positions in a 130/30 portfolio.

The generalized form of the fundamental law of active management states that the expected return on a strategy can be approximated by:

$$E(R_A) \approx TC * IC \sqrt{N} \sigma_A \quad (1)$$

where $E(R_A)$ is expected active return, TC is the transfer coefficient, IC is the information coefficient, σ_A is the tracking error of the portfolio, and N is the breadth of the opportunity set. TC is measured as the correlation between the risk-adjusted active weights and the risk-adjusted forecasts. So, for given levels of tracking error and borrowing costs, the improvement in expected return is given by:

$$\delta E(R_A) \approx (TC_n - TC_l) * IC \sqrt{N} \sigma_A - S * B \quad (2)$$

where TC_n is the transfer coefficient for the net-long portfolio, TC_l is the transfer coefficient for the long-only portfolio, S is the amount of shorting, and B is the average cost of shorting.

The appropriate values to use in this equation will vary from manager to manager and across different benchmarks. For a given set of values, the break-even borrow fee—the cost of borrow at which the plan sponsor would be indifferent between a long-only and a 130/30 portfolio at similar levels of tracking error—can be calculated. For example, using numbers from Foley (2006), the average difference in TC for a portfolio tracking the Russell 1000® Index* and targeting a tracking error of 3% with an assumed IC of 0.03 is roughly 0.25. Plugging these values into Equation (2) and rearranging implies that the break-even point associated with the additional fees and cost of borrow for the 130/30 portfolio is approximately 71 basis points. Data compiled by the Risk Management Association (1999–2007) indicate that the average cost of borrow at the end of 2007 was approximately 65 basis points, so that the net impact on a 130/30 portfolio would be 19.5 basis points (30% of 65 basis points). Leaping from heroic assumption to heroic assumption in this manner suggests that approximately 27% of the excess return benefit associated with 130/30 investing is eaten up by borrowing costs. Moreover, this relationship is expected to hold across different tracking error levels, since experience indicates that for 130/30 portfolios TC remains more or less constant until tracking error reaches approximately 500 basis points. (By contrast, in long-only portfolios TC tends to decay very quickly above 300 basis points.)

In sum, when taking into account the supply of and demand for stock lending, recent price history, and the potential of portfolios using 130/30 strategies to add value over comparable long-only portfolios, it seems unlikely that borrowing costs will rise to levels that would materially erode the benefits of 130/30 investing. The sensitivity analysis indicates that the bulk of the value added by 130/30 strategies remains even after factoring in the additional costs of this investment approach relative to similarly constructed long-only strategies.

4. Conclusion

Investment in 130/30 equity strategies is relatively recent but growing rapidly. The analysis presented in this paper suggests that, given the amount of stock available for borrow relative to the assets currently invested in 130/30 strategies, continued asset growth should not meaningfully reduce capacity in those strategies or alter the cost-benefit analysis that applies to 130/30 investing.

5. Note

* The Russell 1000[®] Index is a trademark/service mark of the Frank Russell Company. Russell[®] is a trademark of the Frank Russell Company. The Frank Russell Company is the source and copyright owner of the Russell 1000 Index.

6. References

[1] Cooper, Jay (2007). "130/30 Assets Surge 77%." *Pensions & Investments*. Vol. 35, No. 22 (October 29), p. 1.

[2] Foley, Tony (2006). "Relaxing the Long-Only Constraint in U.S. Equity Strategies." *Journal of Investing*. Vol. 15, No. 3 (Fall), pp. 79–89.

[3] Risk Management Association (1999–2007). "Securities Lending Quarterly Aggregate Composite." Available at <http://www.rmahq.org>.

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