

Letter to the Editor — Revisions to the Lasso Manuscript

Oct 15, 2026 · @Thomas

Dear Editor,

I write to report one revision to my submission to the Journal of Reproducible Statistics, "The Efficient Frontier from a LASSO Solver". The example at scale in Section 8 now runs on simulated data, so every number in the note can be reproduced exactly from the companion code. The revision also adds a competing-interests statement, as the referee recommended.

Changes in this revision

A simulated universe replaces the S&P 500 download. The submitted version drew prices from Yahoo Finance for a snapshot of the S&P 500. The constituent list could be fixed in a committed file, but the prices could not, so the snapshot could not be reproduced exactly. The example now simulates daily returns of 500 stocks over 1,250 days from a seeded five-factor model: a market factor at 1% daily volatility, four style factors at 0.5%, idiosyncratic volatility between 1% and 3%, and expected returns around 5 bp a day. The mean and covariance are estimated from these returns, as before.

The reported numbers follow the new data. Algorithm 1 returns all 116 corners of the frontier. They match the quadratic-programming solutions to $8.6e-13$, with KKT residuals below $4.7e-13$, and the last corner sits at $v = -0.190$. One full path costs about 1.7 QP solves, against about 59 for a 100-point grid.

Two claims are withdrawn. The note no longer states that the cost ratios held on two machines, since only one was measured. It also drops the remark on a $1e-5$ OSQP miss, which does not occur on the simulated data.

Competing interests are now disclosed. I maintain the `cvxcla` package. The new statement says so, and names the note's uses of it: Section 9 points readers to `cvxcla` for portfolios with more constraints, and the companion script checks its corners against it.

The code is simpler. The download script, its lockfile, the constituent file and the `pyarrow` pin are removed. The test of the stocks example now always runs, with no download tolerances. The README, the introduction and the availability section are updated to match; the repository's reproducibility notes keep the S&P 500 history for the record.

I believe these changes make the note fully reproducible without external data, which suits the aims of the journal. I would be glad to answer any further questions from you or the referee.

Yours sincerely,

Thomas Schmelzer