UNC
KENAN-FLAGLER
BUSINESS SCHOOL

Model Selection with Transaction Costs

Andrew Detzel, Robert Novy-Marx, and Mihail Velikov

Discussant: **Andrei S. Gonçalves**

MFA 2020

Outline

The Maximum SR^2 Test

- The GRS test:

$$SR^2(R, f) - SR^2(f) = \alpha' \Sigma^{-1} \alpha$$

- If R includes all assets, then $SR^2(R, f) = SR^2_{max}$ and
- The highest $SR^2(f)$ provides the lowest GRS statistic
- Barillas and Shanken (2017, RFS)'s Insight:

  To compare models, we just need to compare $SR^2(f)$
- This paper's insight:

  Trading costs matter a lot when comparing $SR^2(f)$

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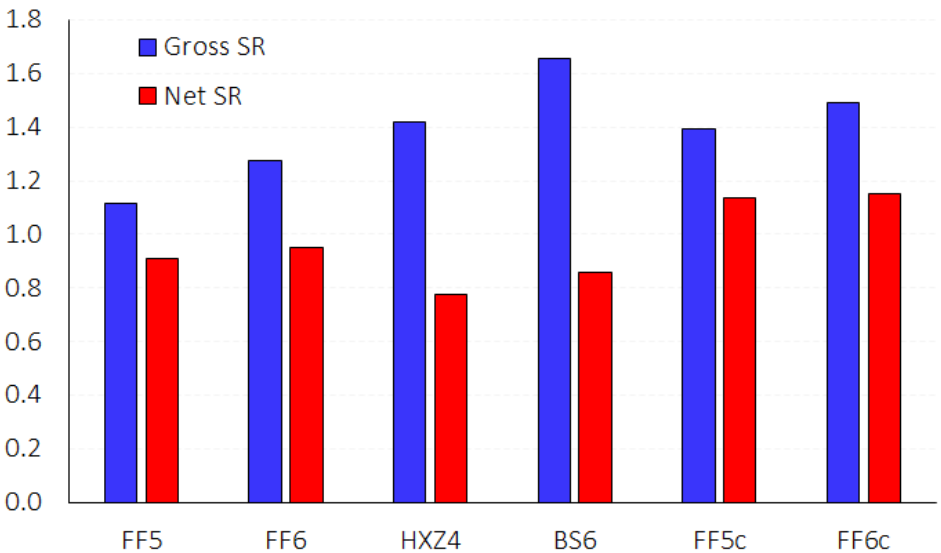
Core Results: Original Factors

Gross SR → Net SR



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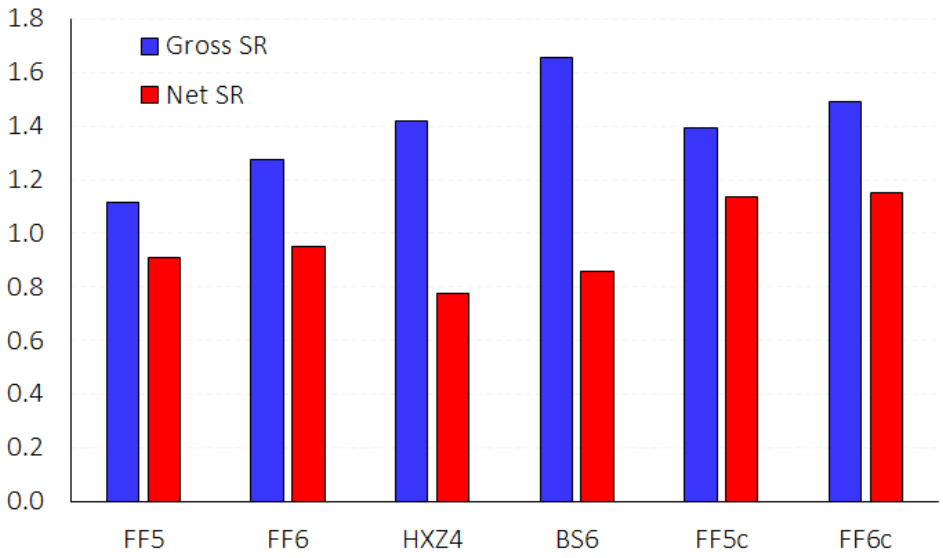
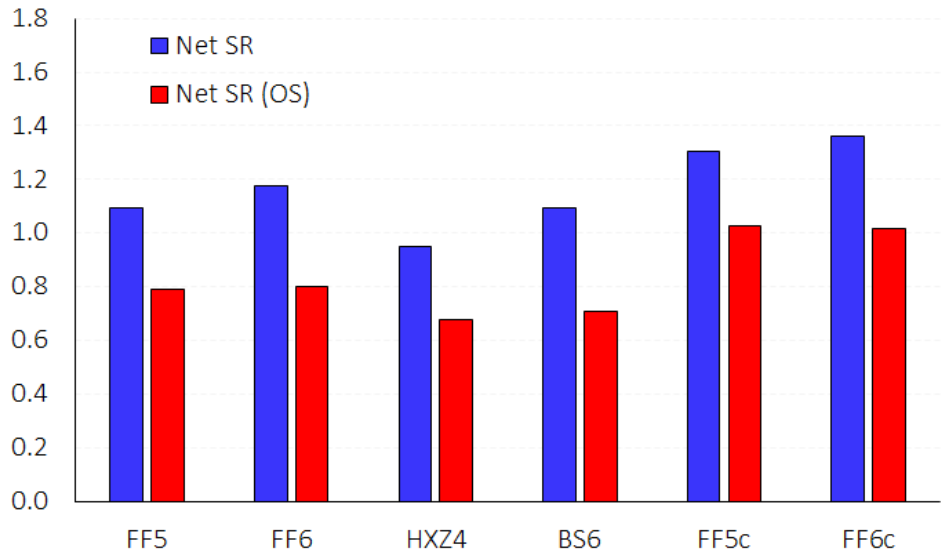
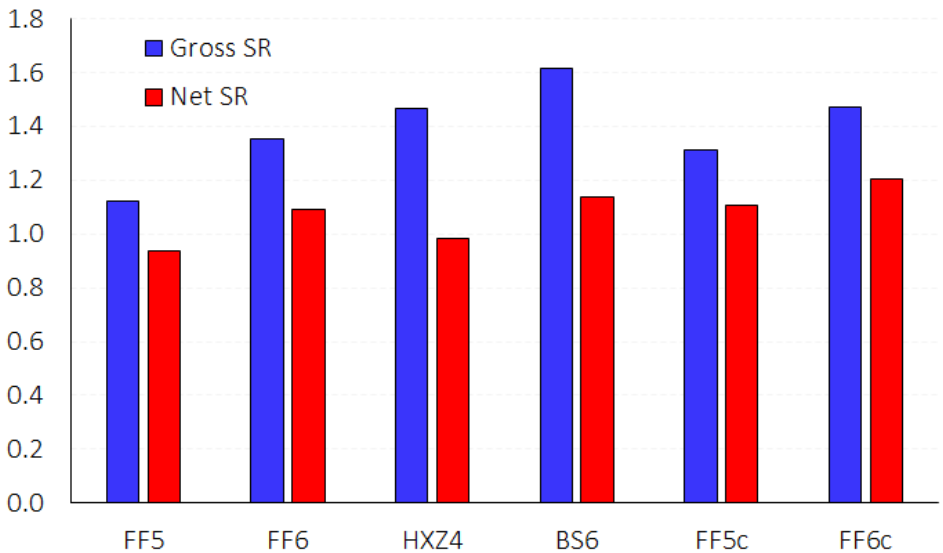


IS Net SR → OS Net SR



Core Results: Cost-mitigated Factors

Gross SR → Net SR



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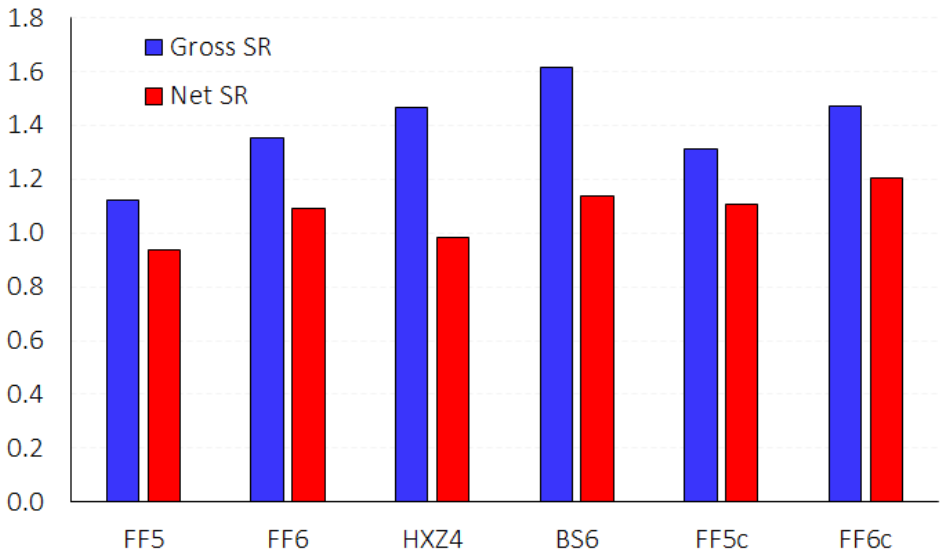

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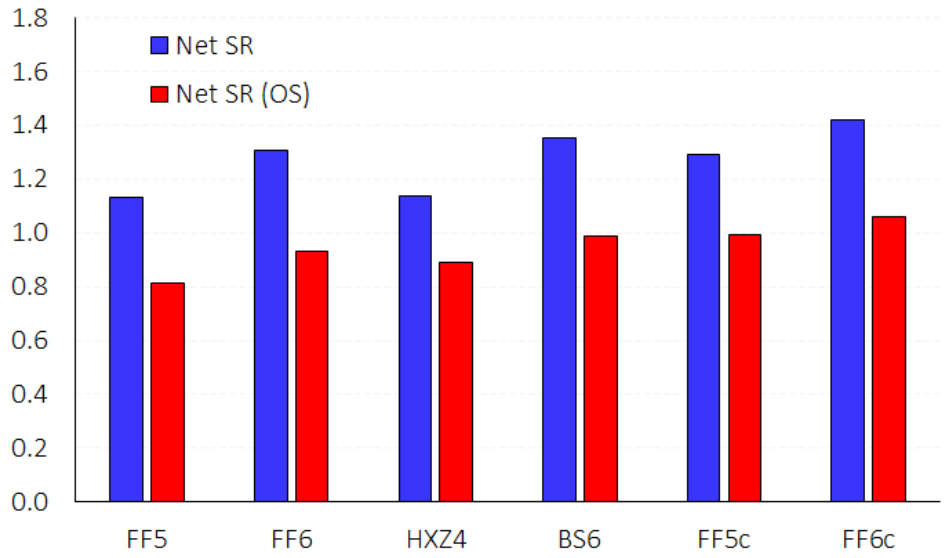
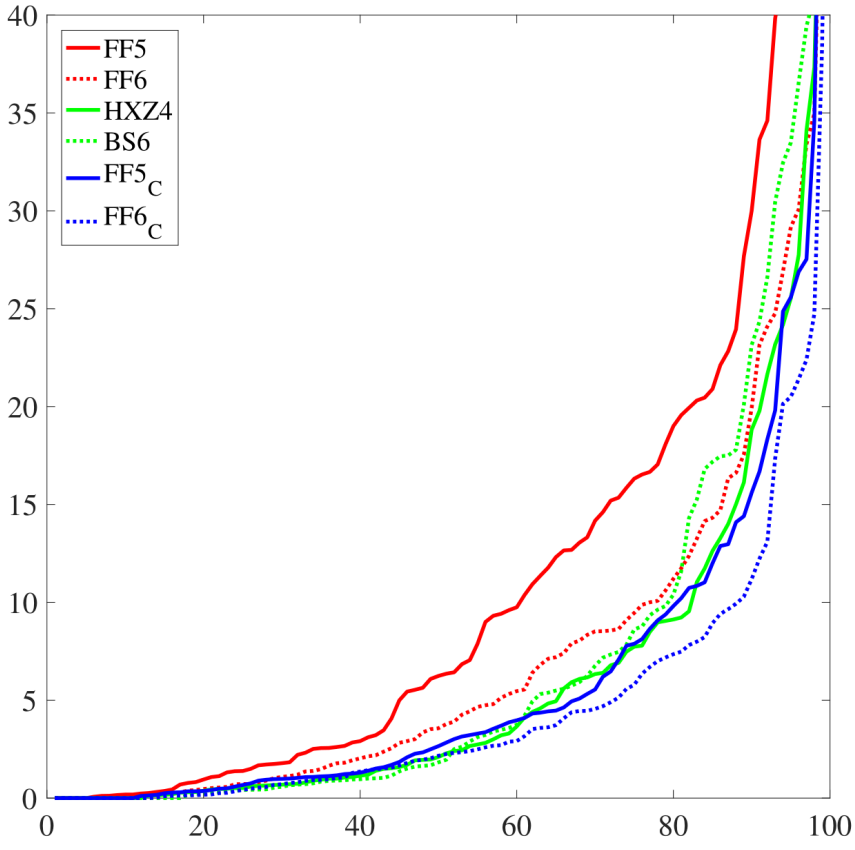
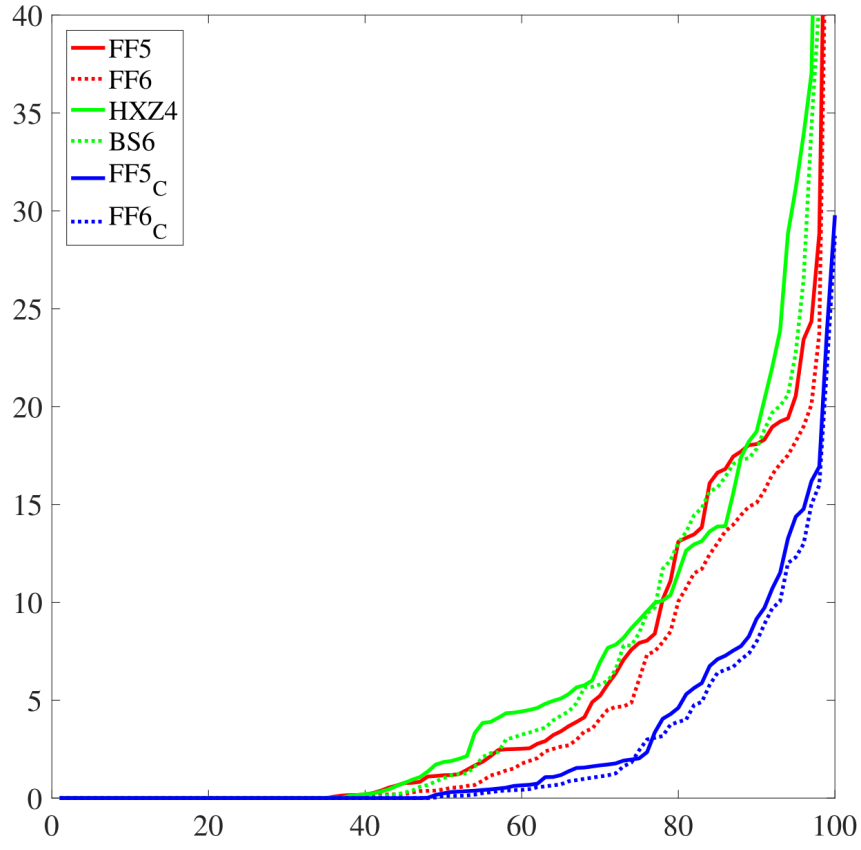


Distribution of $\%\Delta SR(M,A) = SR^2(M,A)/SR^2(M) - 1$



Panel A: Gross



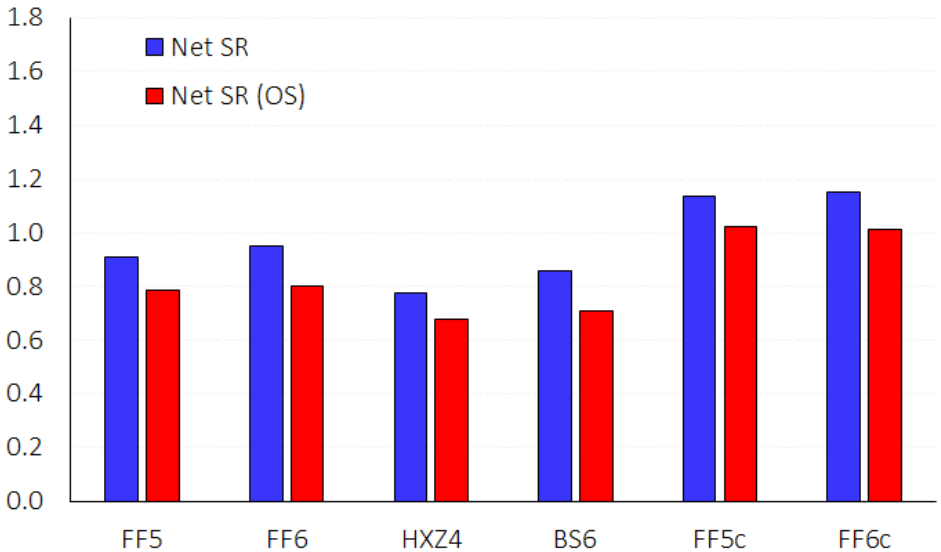
Panel B: Net

Outline

1) Use Kan, Wang, and Zheng (2019) OS Procedure

IS SR $\rightarrow$ OS SR

(this paper)



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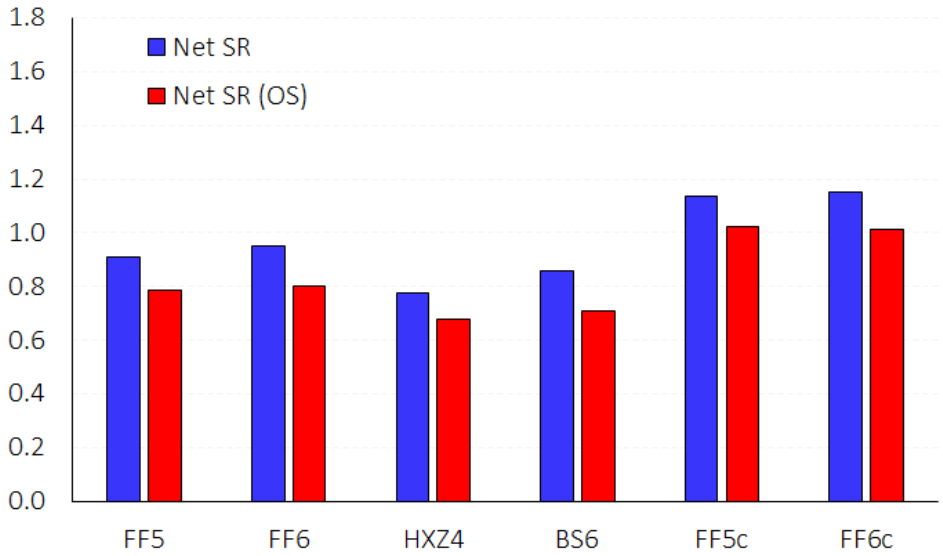

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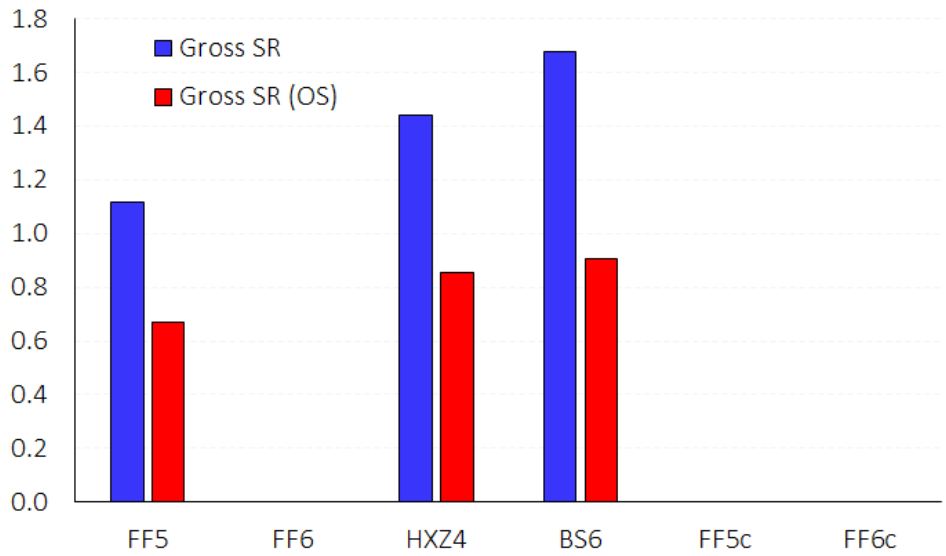
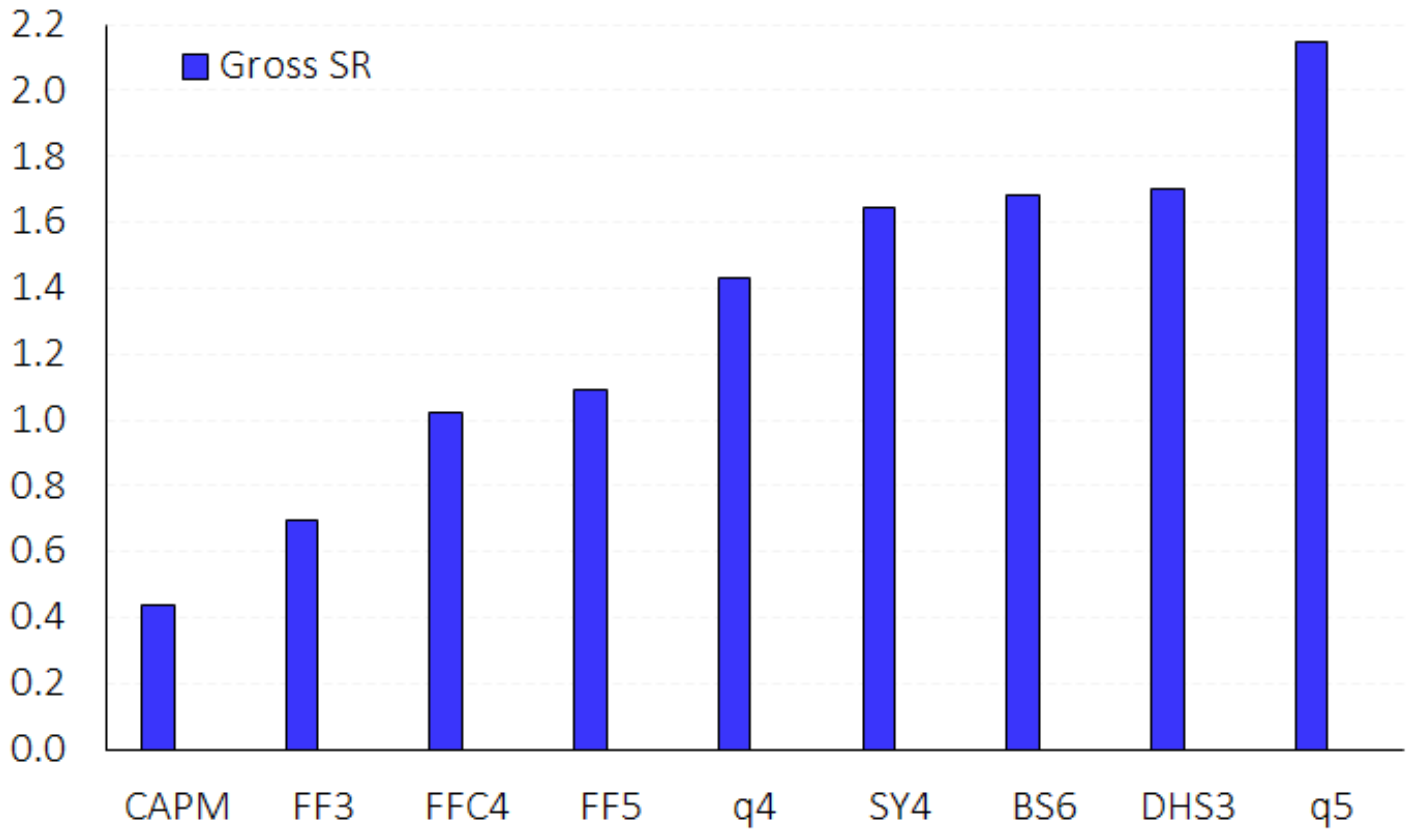


2) Add Other Factor Models to the Tests



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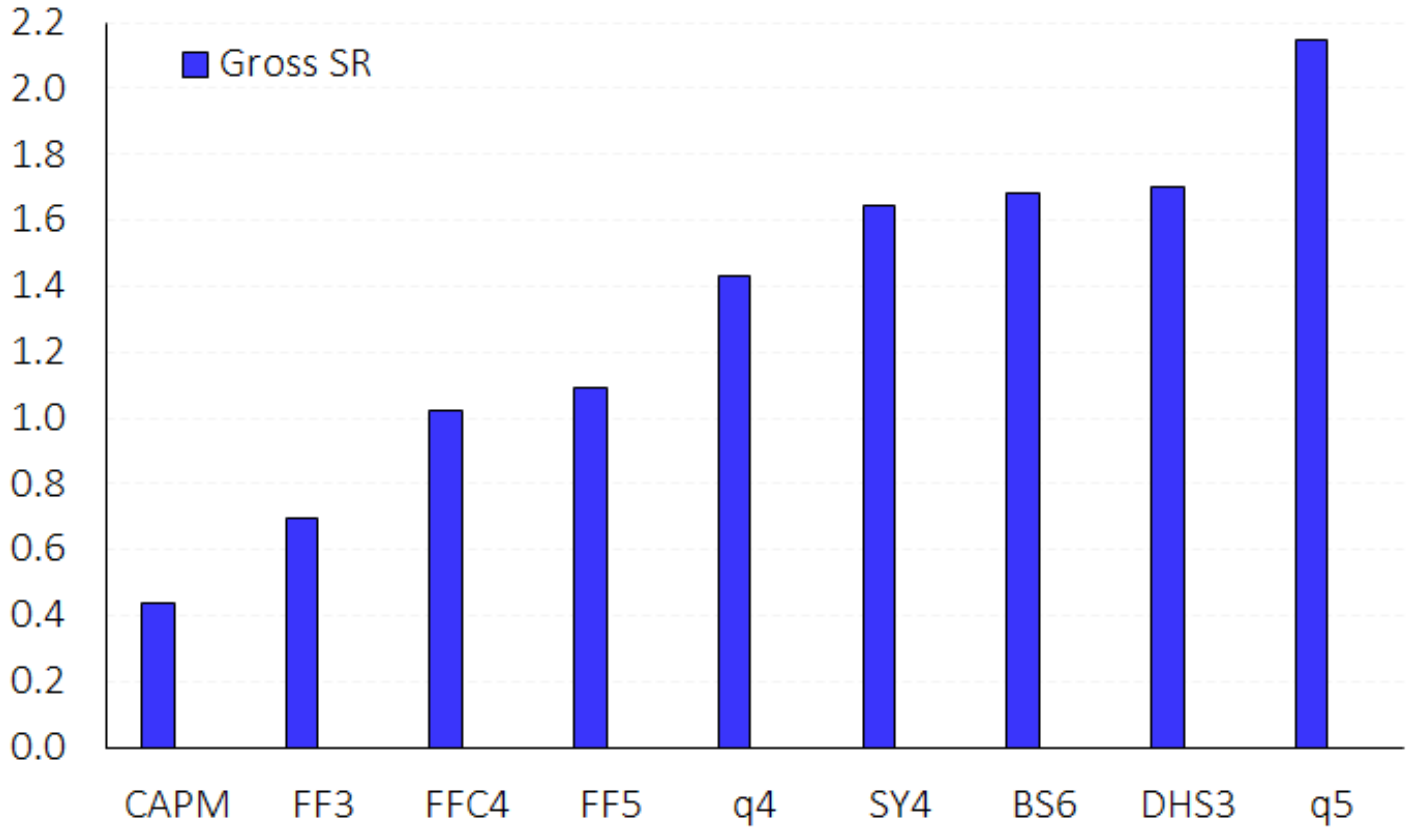

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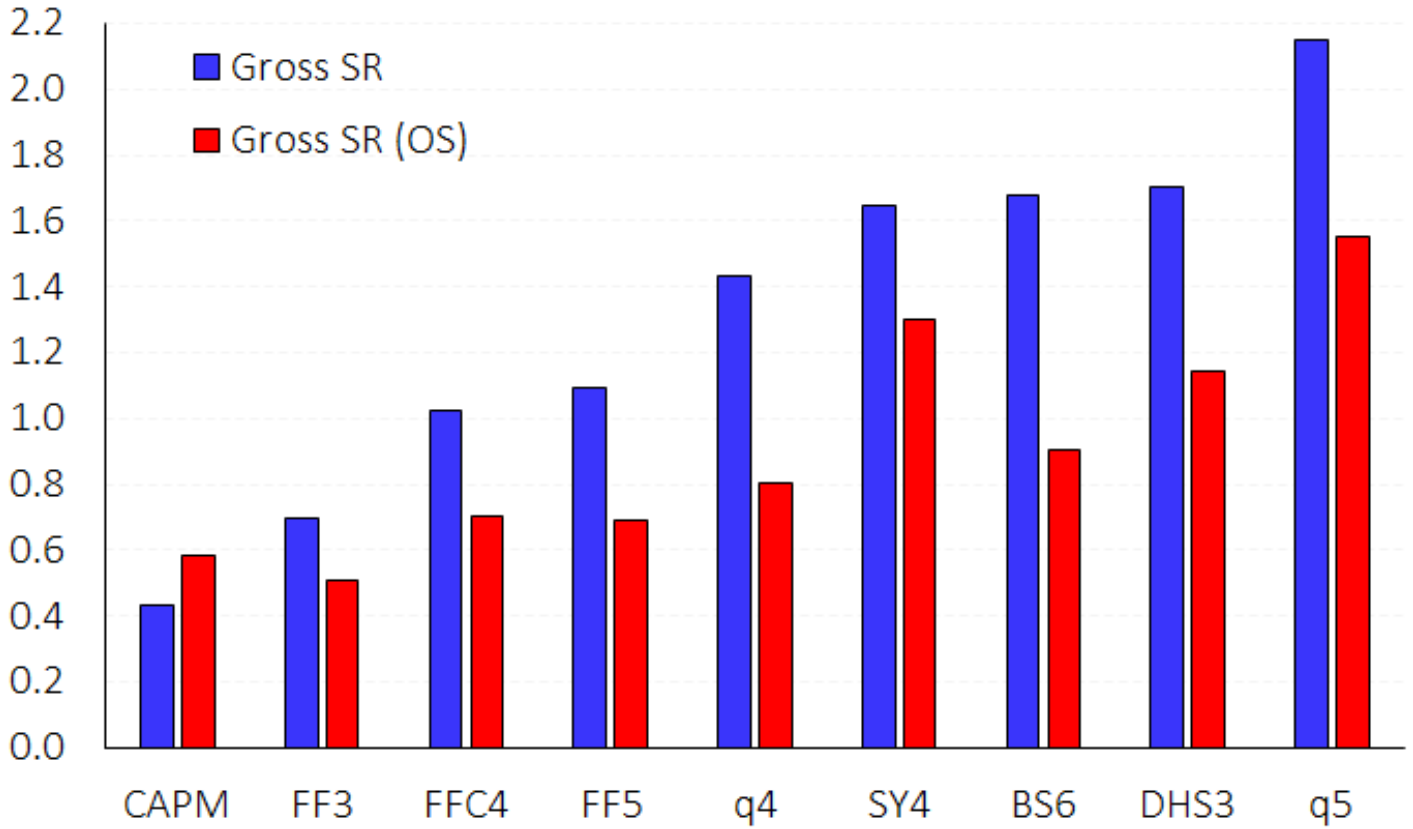

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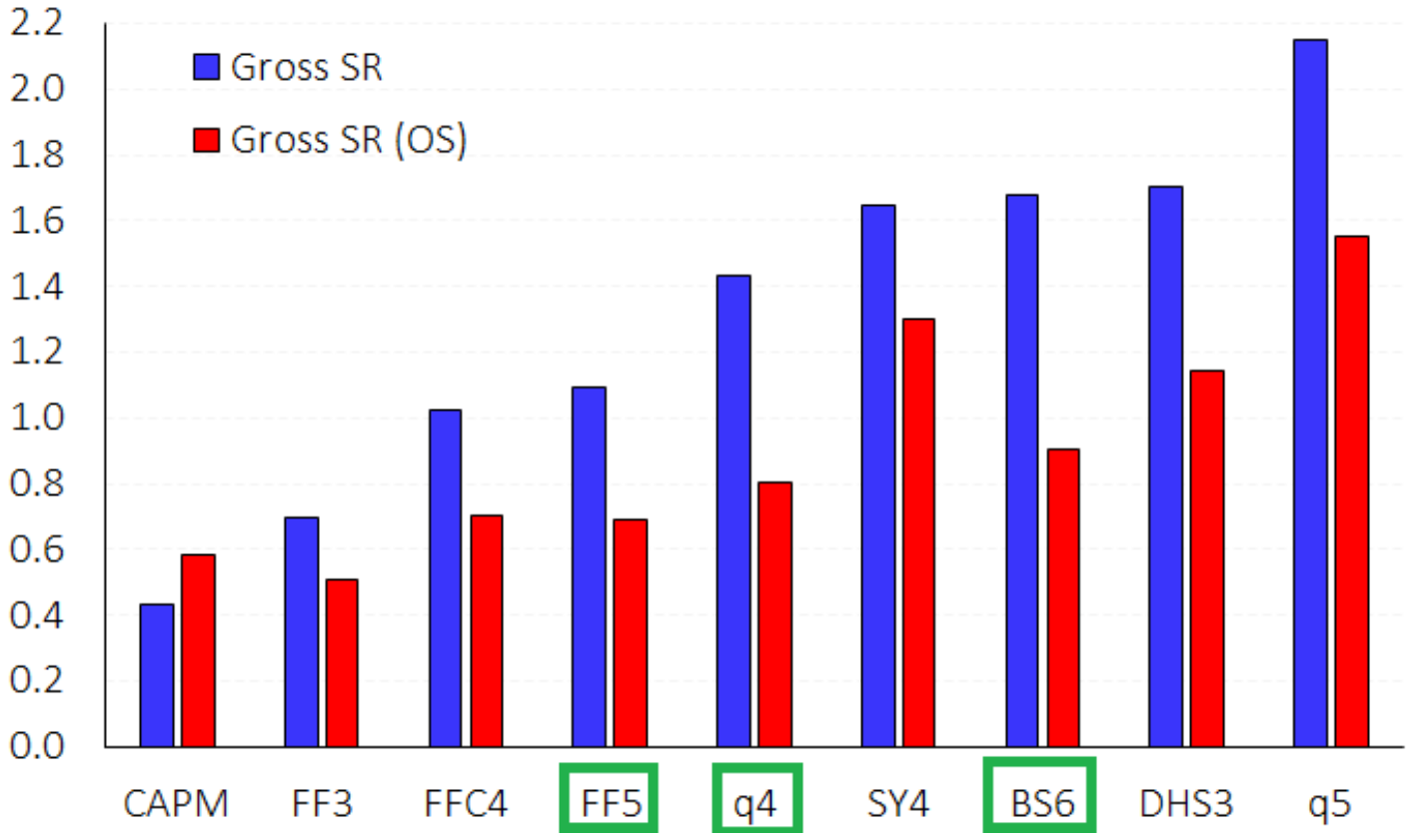

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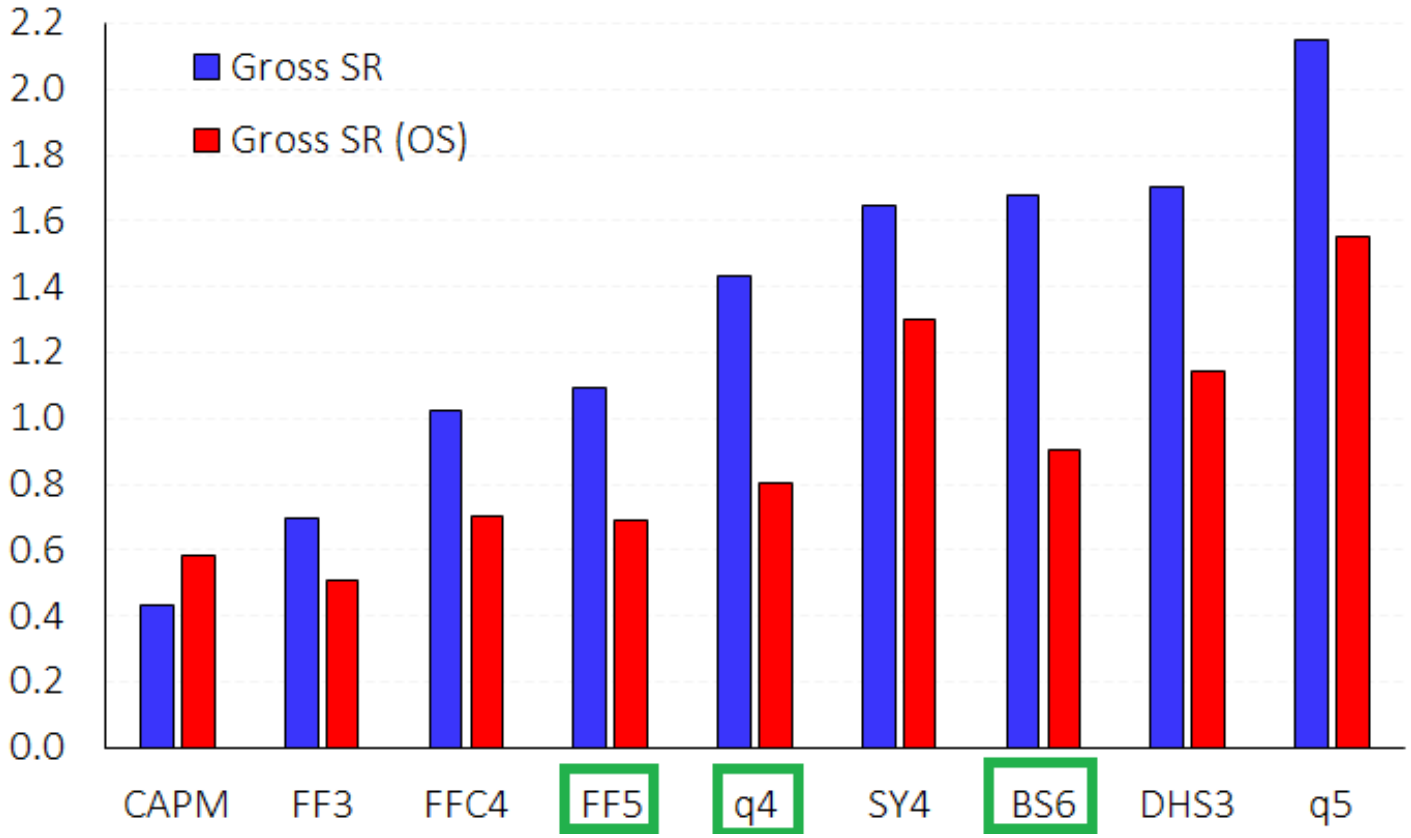

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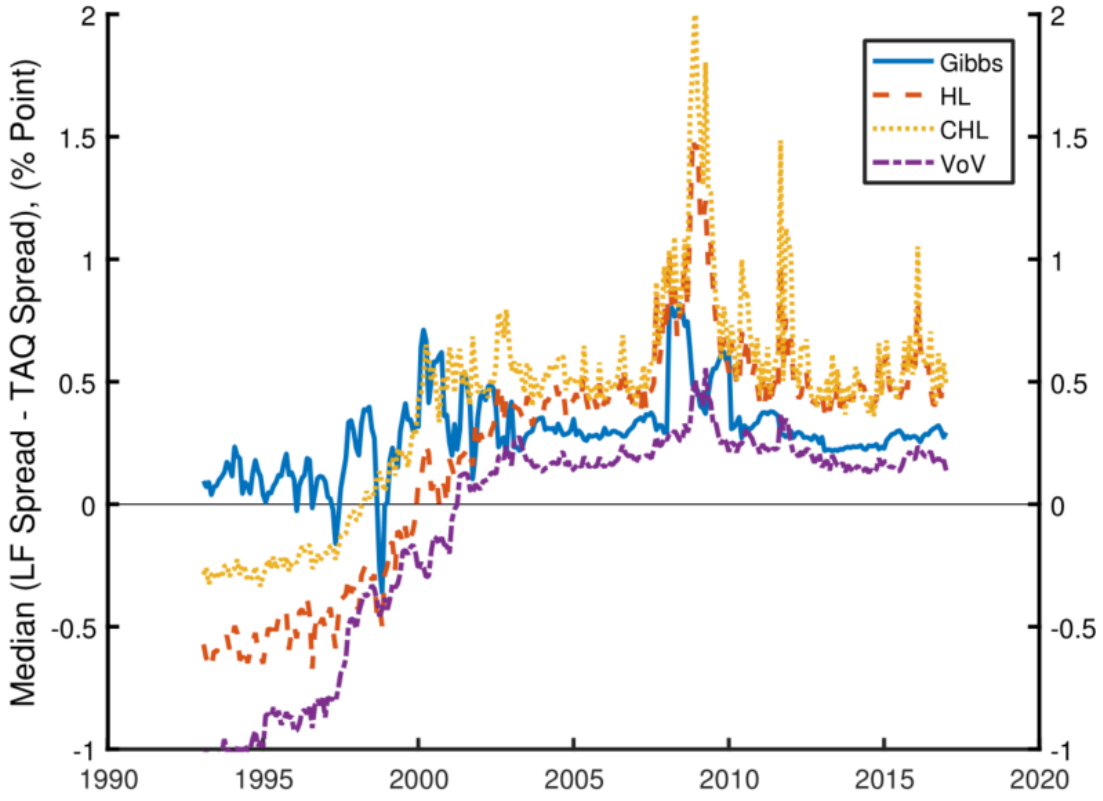
3) Use Chen and Velikov (2020) Trading Cost Measure

Figure 2: The Bias in Low-Frequency Effective Spread Proxies.



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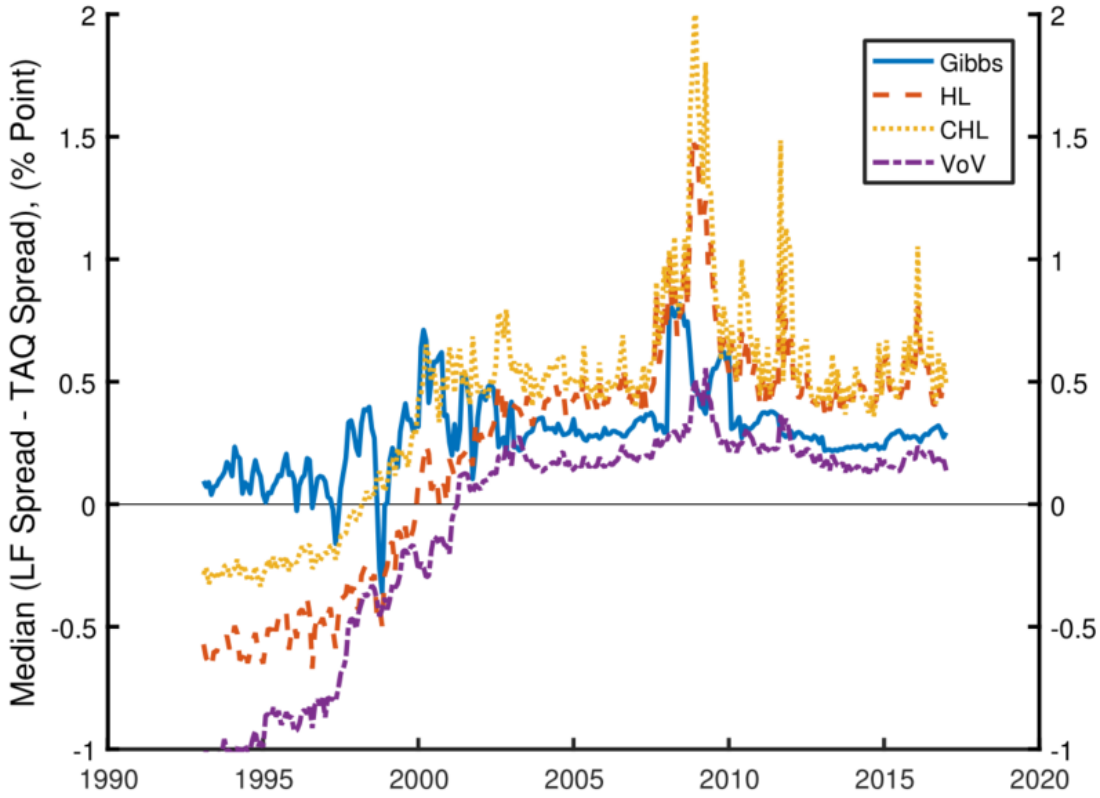

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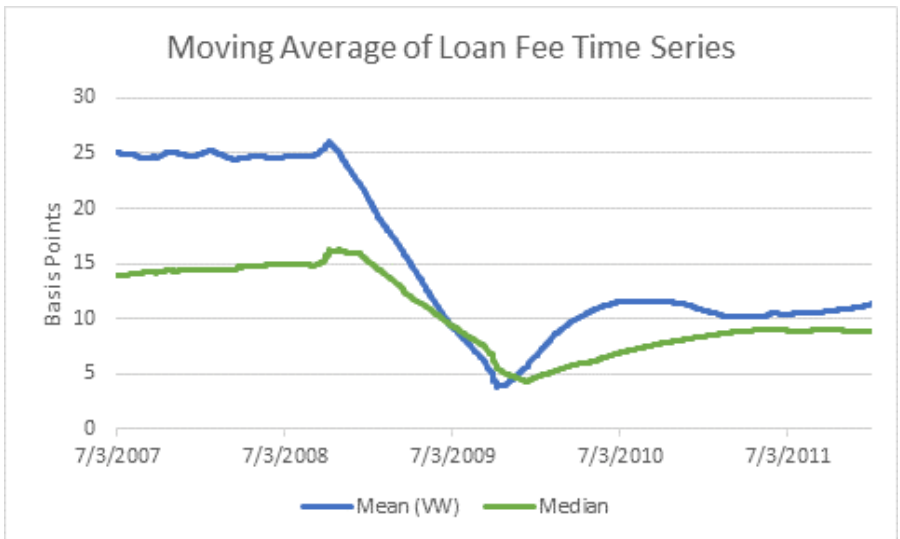

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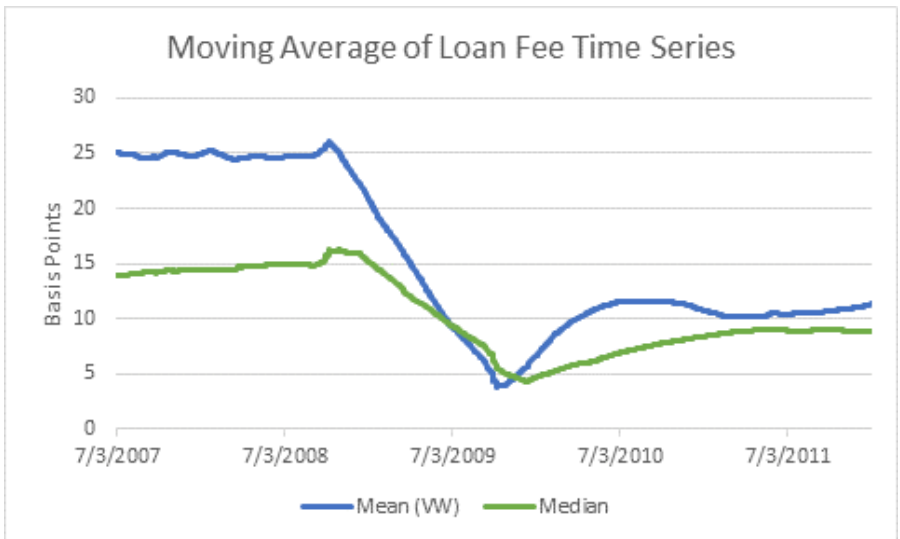

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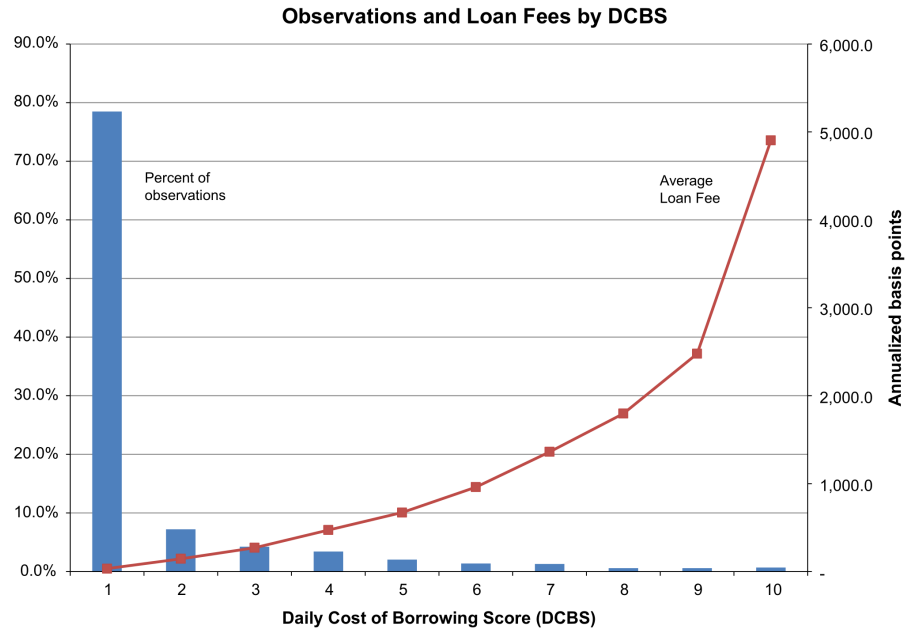

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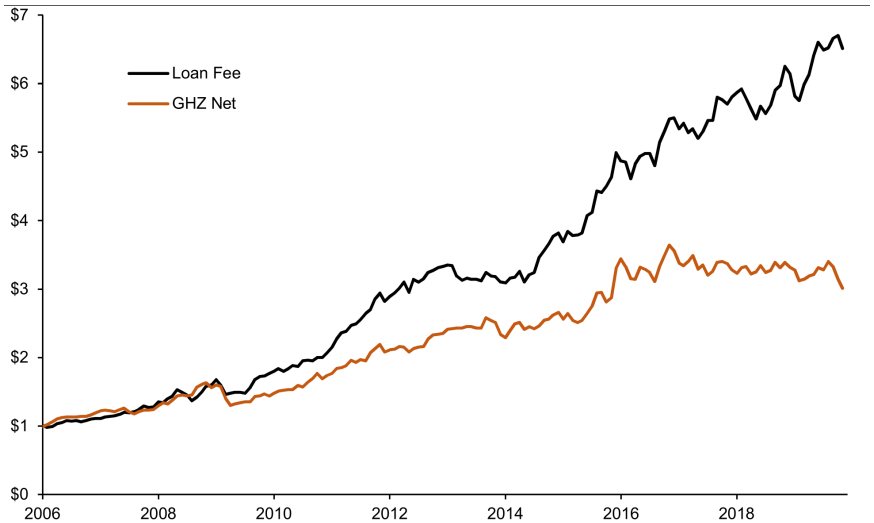
Cumulative Performance

(Loan Fee vs GHZ 102 Anomalies)



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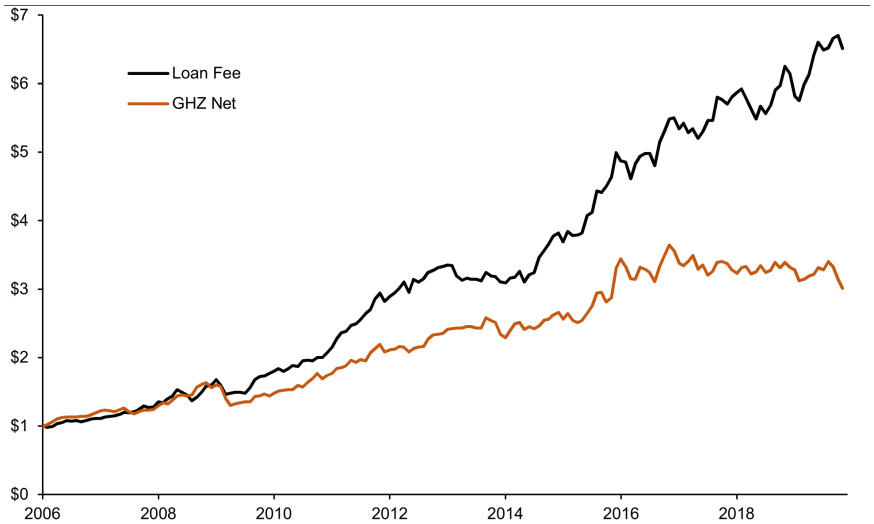
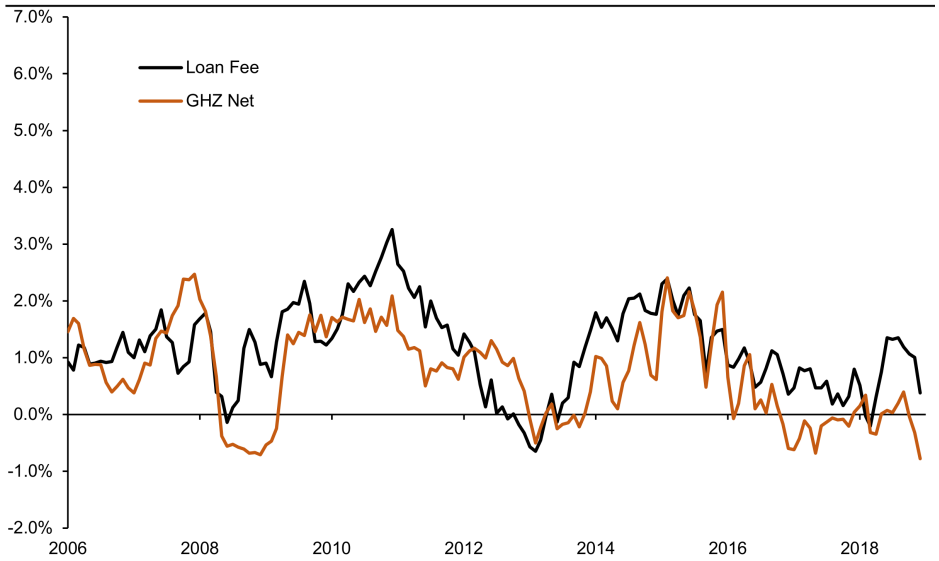


1-Year Average Return (Loan Fee vs GHZ 102 Anomalies)



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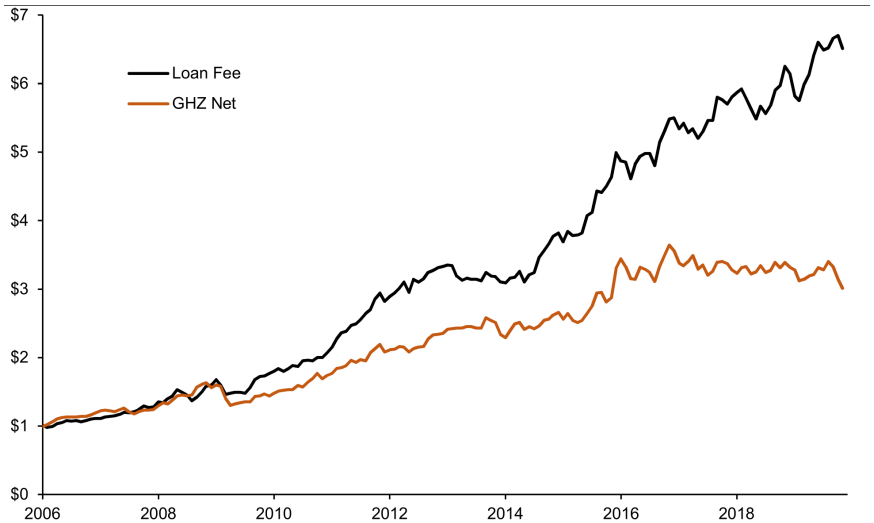

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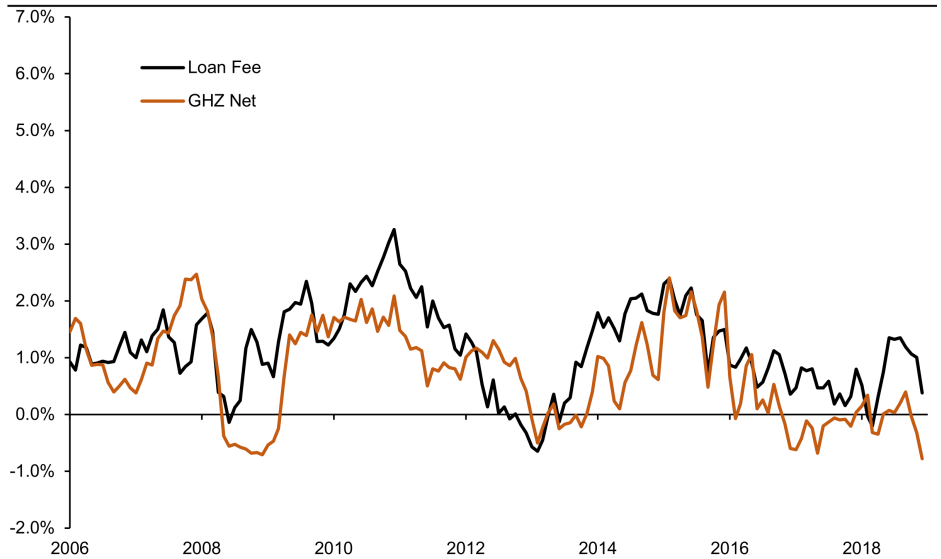

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Other (less important) Comments/Questions

1. Can you add an analysis with Cost-mitigated Factors + Cost Diversification?

2. Why report SR^2 instead of SR?

3. How do you deal with negative factor positions in simulations?

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- The paper is simple and makes a very important point:

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- Perhaps even more important these days given the proliferation of factor models...

- It would be useful to:

- Good luck!

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