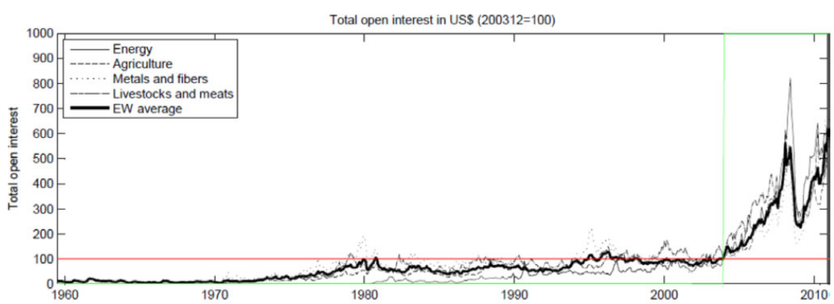
Commodity Index Investing

Jonathan Brogaard

Emerging Markets Conference, 2020

Change in the commodities market

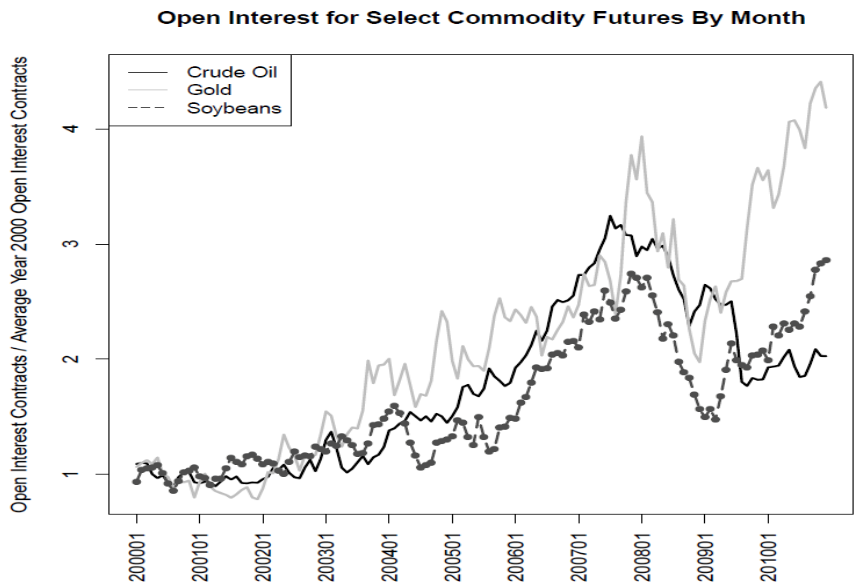


Source: Figure 1 from Boons, De Roon, and Szymanowska (2014)

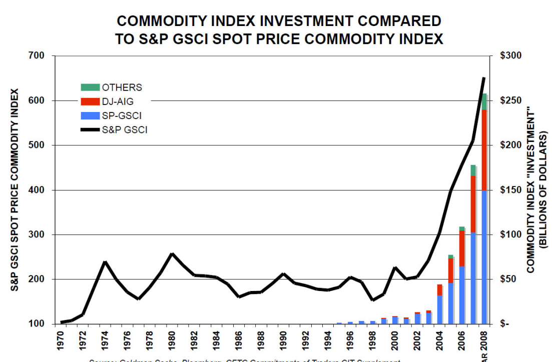
Financialization = large increase in capital invested in commodity futures markets

Extant literature agrees financialization occurs around 2004

Change in the commodities market



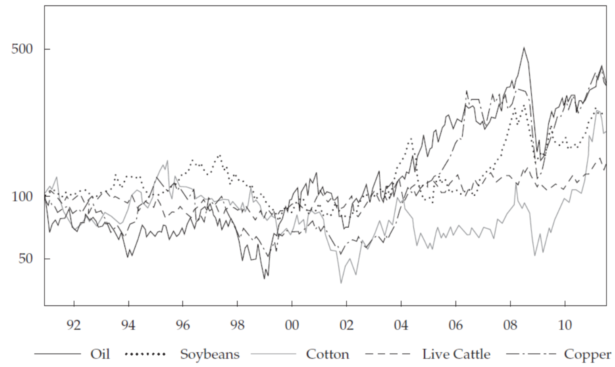
Change in the commodities market



Source: Masters (2008)

Financialization driven by the rise of commodity index investing (Tang & Xiong (2012))

Change in the commodities market

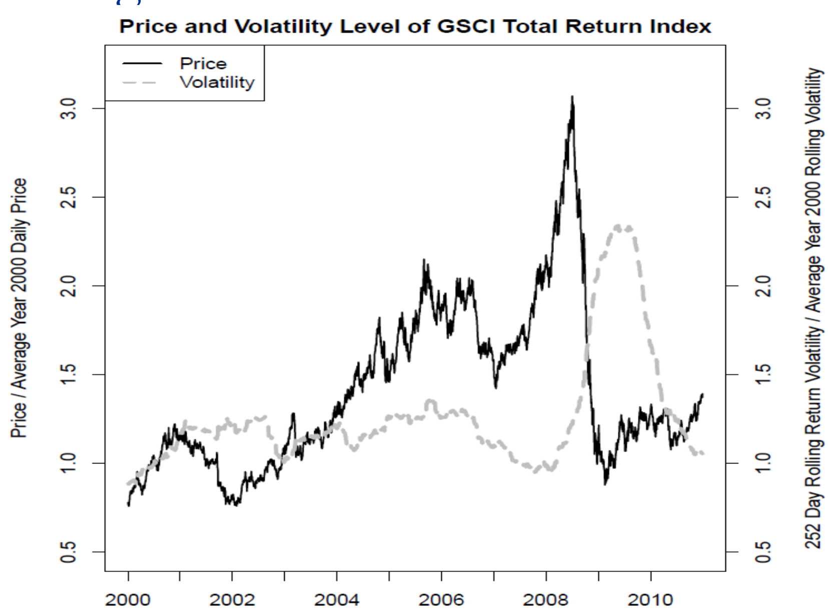


Source: Tang and Xiong (2012)

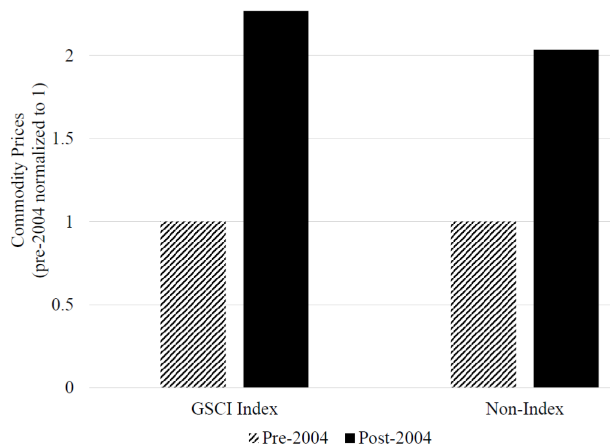
Whether financialization impacts price level is debated

But literature finds financialization increases price volatility (Henderson, Pearson, and Wang (2015))

Change in the commodities market



Index v. non-index prices



Index v. non-index information efficiency

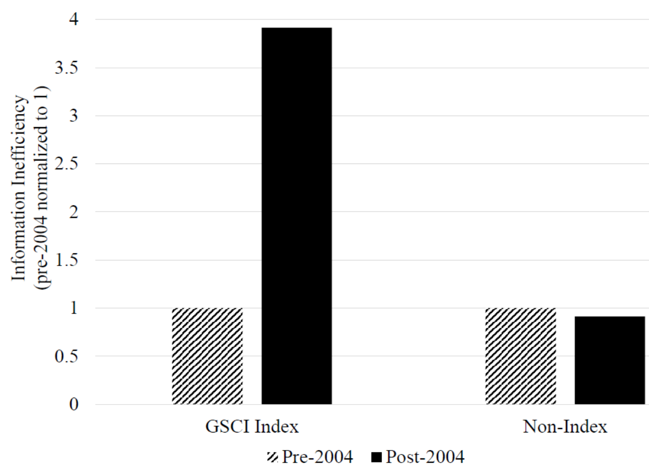
A market is efficient if it quickly incorporates information, that is if it follows a random walk

Variant of Hou and Moskowitz (2005), measure market efficiency by comparing the R^2 of a return model with lagged returns before and after financialization:

$$r_{i,t} = \alpha_i + \sum_{j=1}^{4} \Gamma_j r_{i,t-j} + \varepsilon_{i,t}$$

Higher R2 ➔ Less efficient

Index v. non-index information efficiency



What we do

Use financialization as a shock to index investing

Examine difference-in-difference regressions
- Before vs. after financialization
- Index commodity sensitive firms vs. non-index commodity sensitive firms

For commodity sensitive firms we find:
- Higher level of COGS REV; lower level of OPA

Disentangle channel and argue information feedback channel partly responsible.

Intuition

1. Index investing adds noise to the signal in market prices.

2. Firms rely on market prices to make production decisions

3. With less precise market price signals firms incorrectly infer that aggregate demand increased

4. They over-produce, leading to an increase in costs and revenues, a decrease in profits, and more volatile performance

Welfare implications

Our results show passive trading in commodities hurts some firms

However, there is evidence that increased passive trading also has benefits

- e.g., Boons, de Roon, and Szymanowska (2014) show financialization led to increased diversification for investors

Welfare conclusions require some caveats

Conclusion

We examine impact of index investing

We find passive trading generates negative externalities

Index investing leads to worse production decisions and more volatile performance:

Consistent with theory, index investing impacts firms via feedback effects

Commodity Index Investing

Jonathan Brogaard

Emerging Markets Conference, 2020