

Measuring Limits to Arbitrage in Fixed-Income Markets

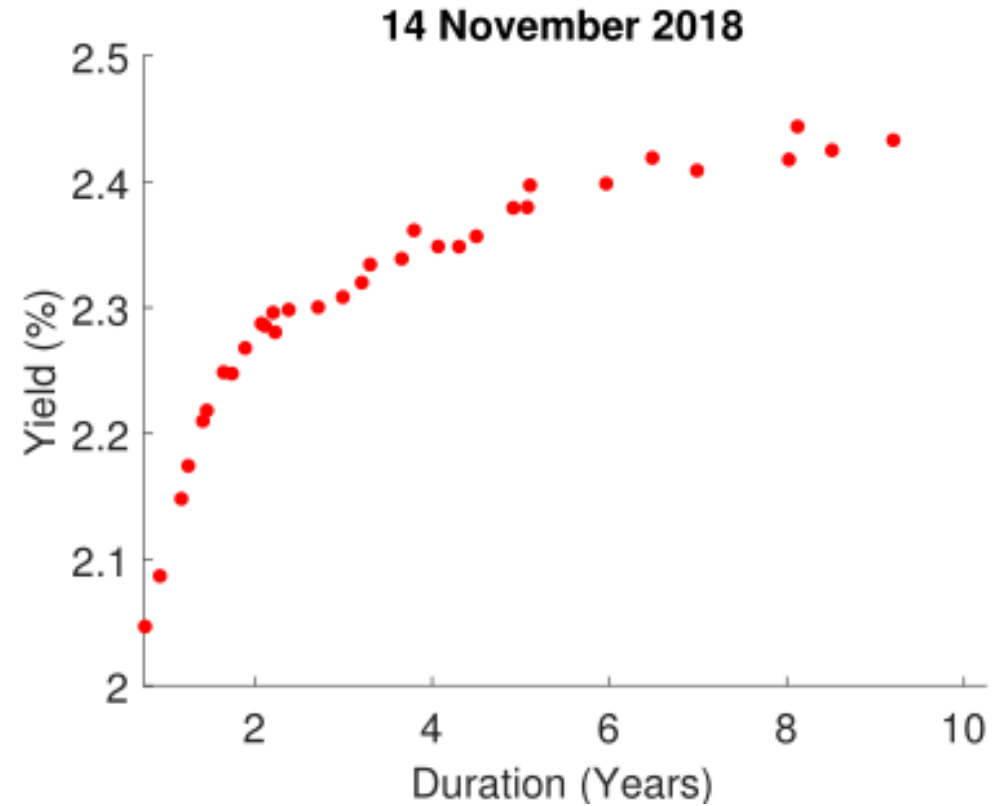
2018 TMX Canadian Annual Derivatives Conference

The views expressed are those of the authors and not of the Bank of Canada.

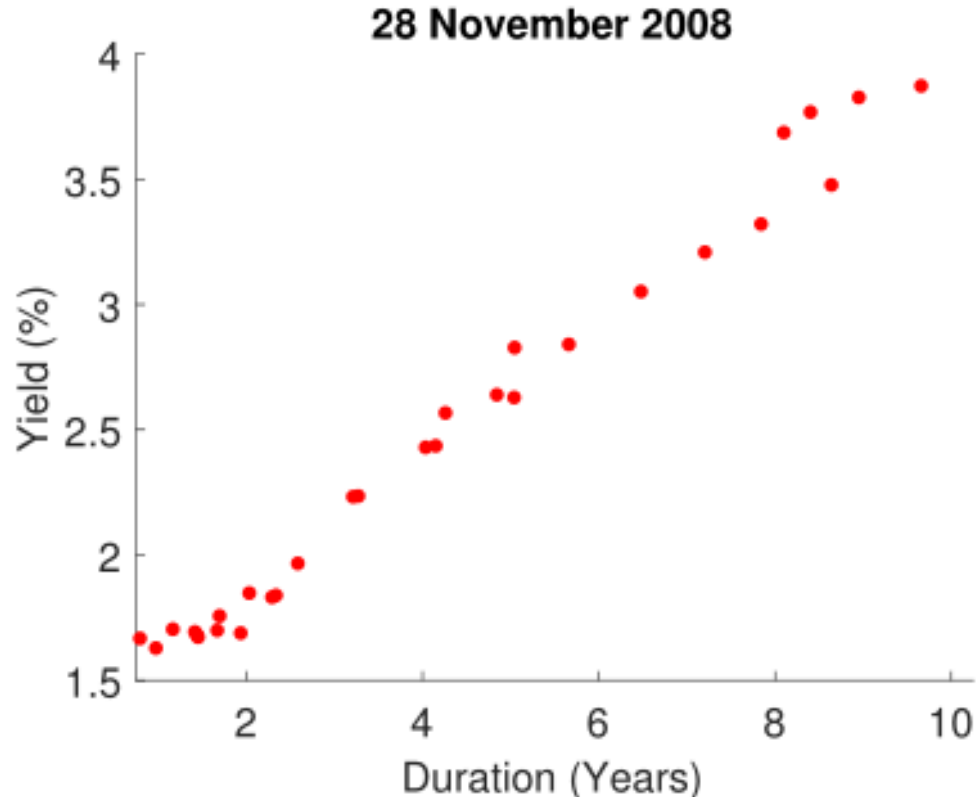


Jean-Sébastien Fontaine and Guillaume Nolin
Bank of Canada
28 Novembre 2018

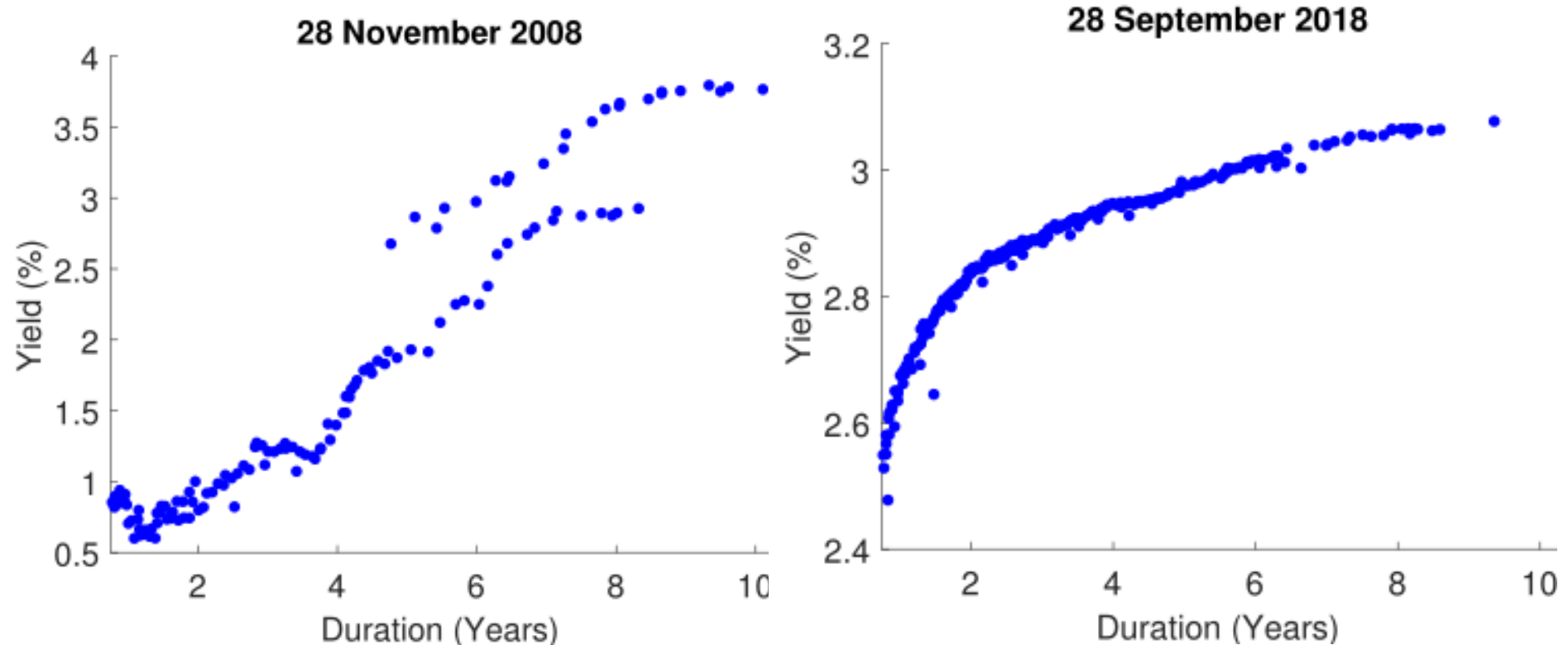
The Canadian yield curve is usually pretty smooth...



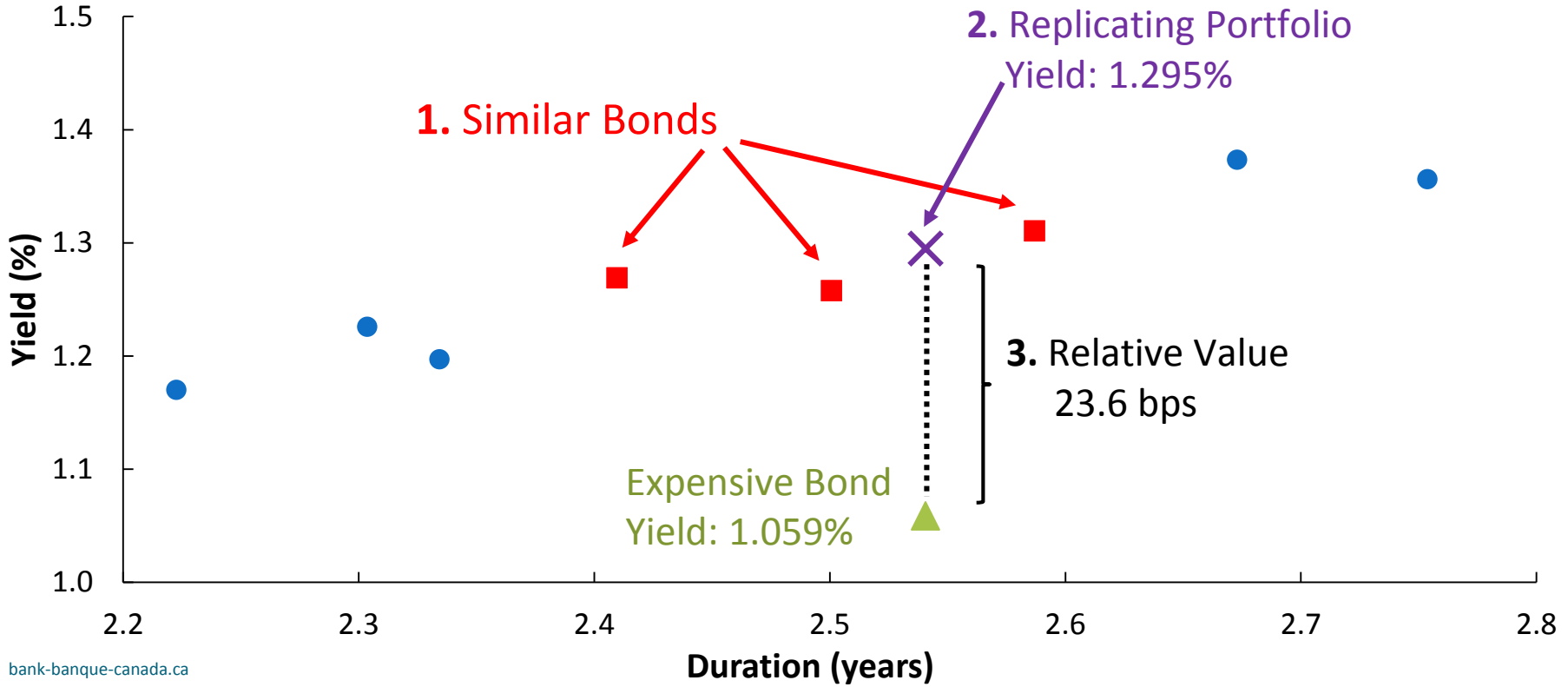
... except when it isn't!



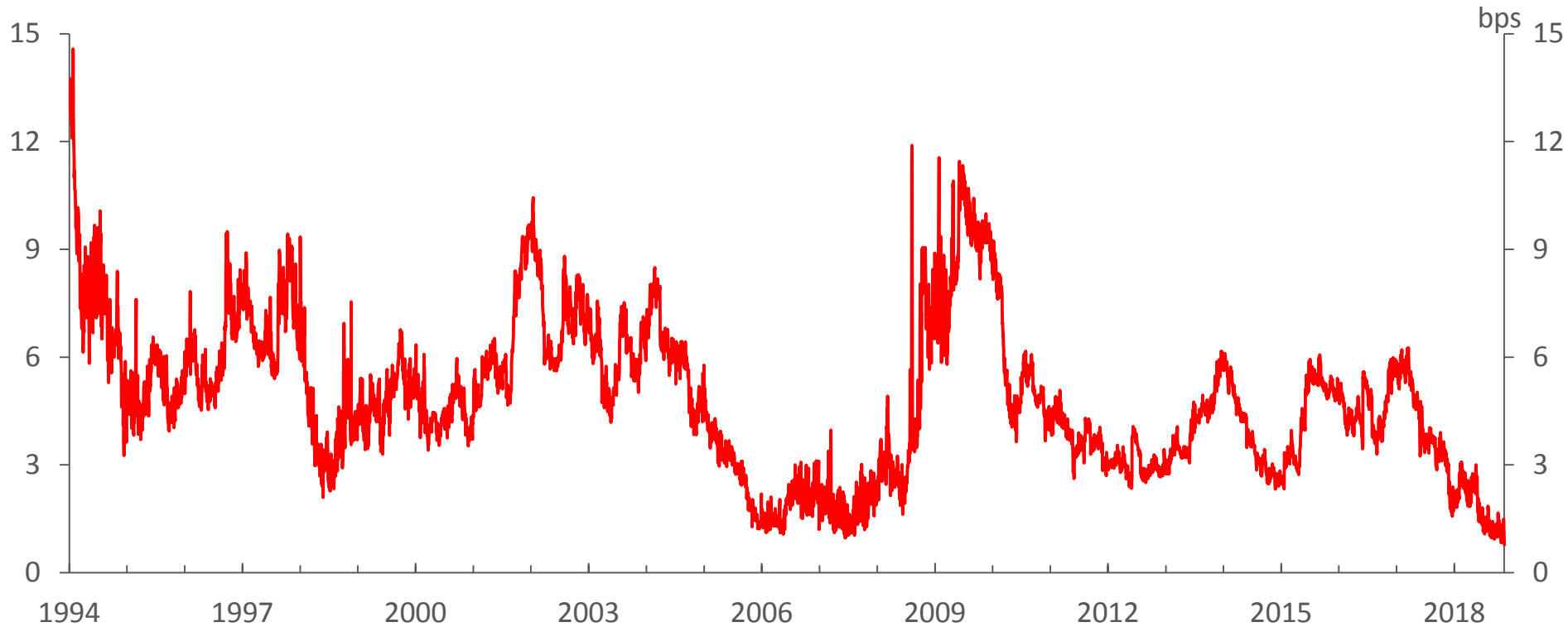
We observe this everywhere: U.S. Treasury bonds



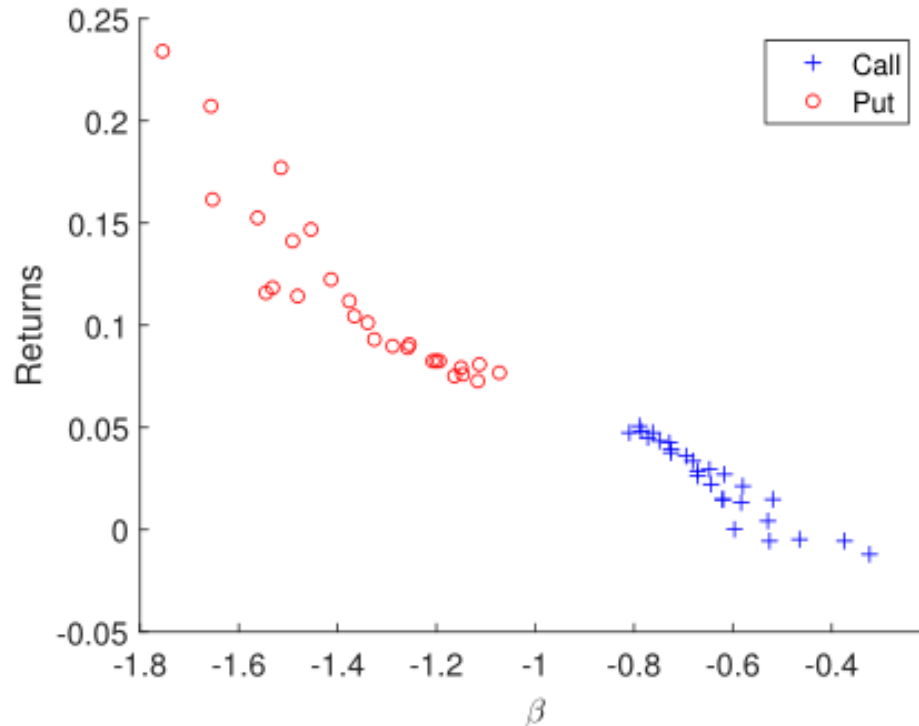
We have a new way to measure bond price deviations



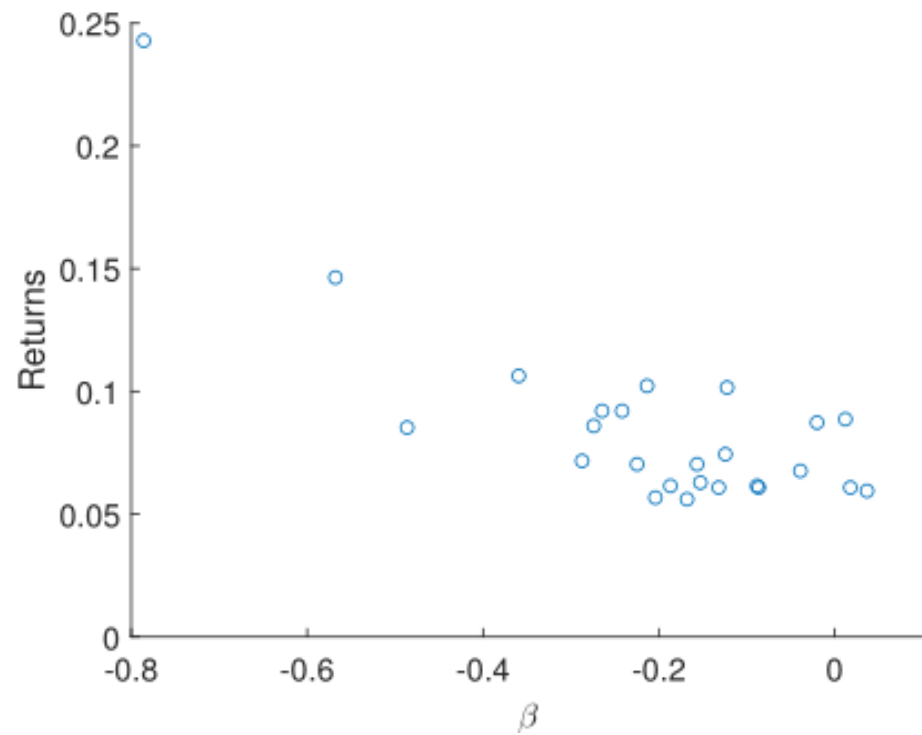
We create an index from the individual bond measures



Changes in the index explain option returns

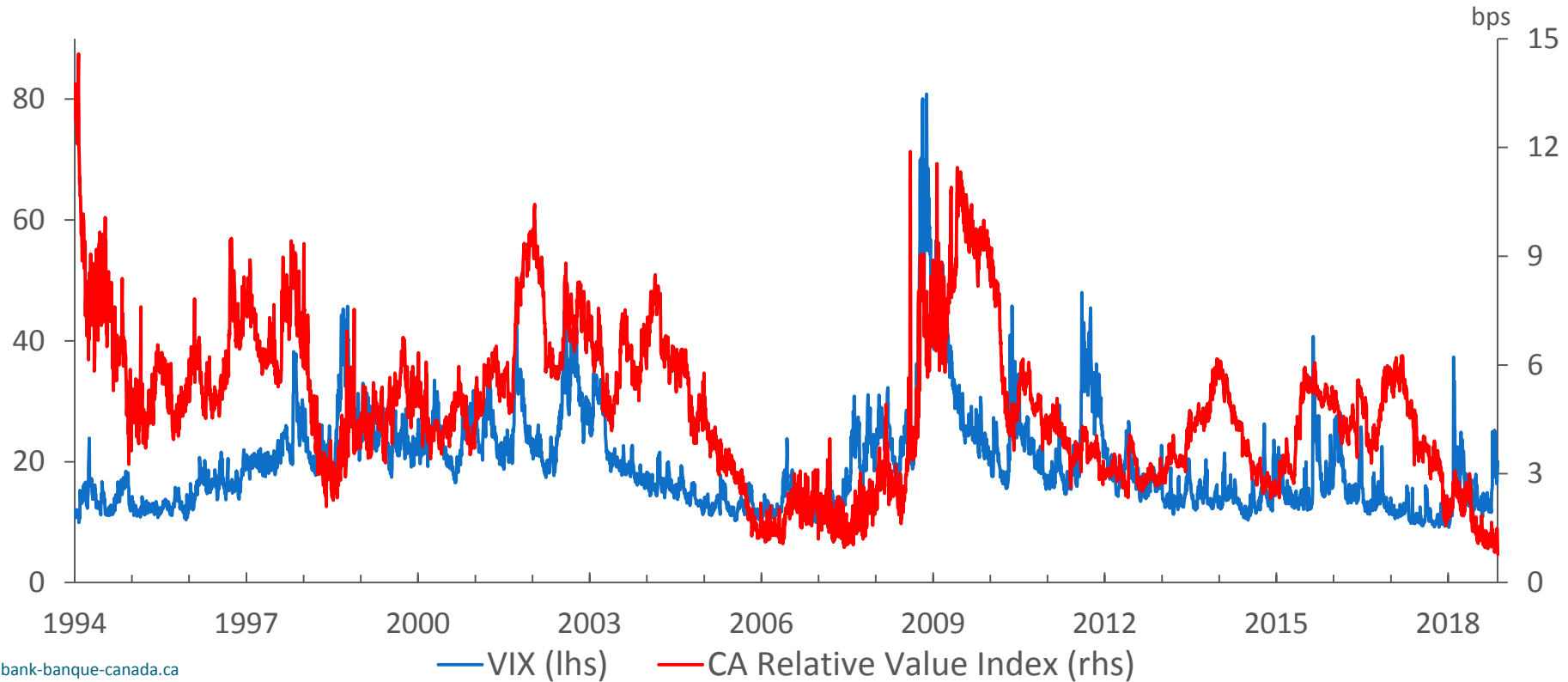


This works for other assets: corporate bonds

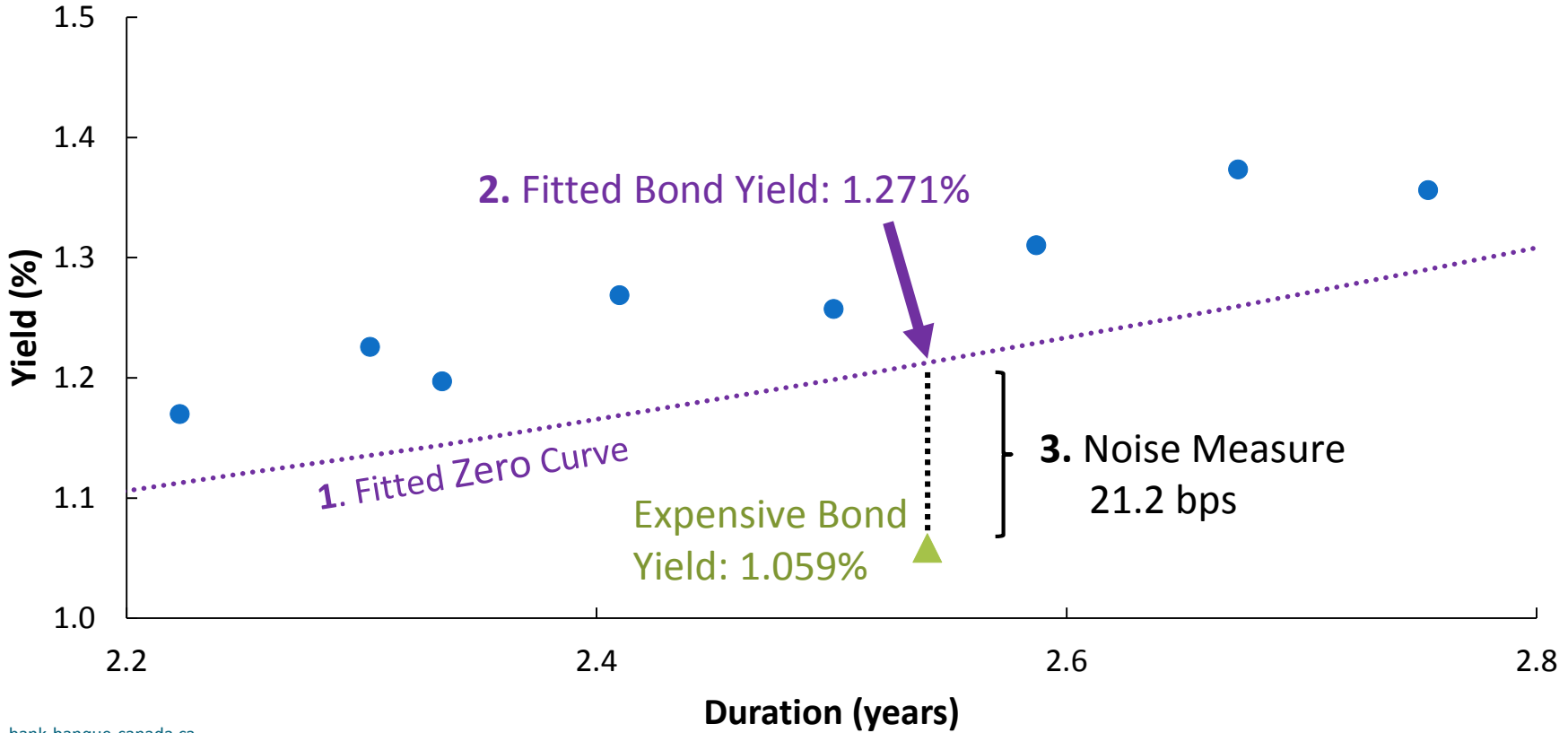


Regressed with market returns: $R^2=0.64$

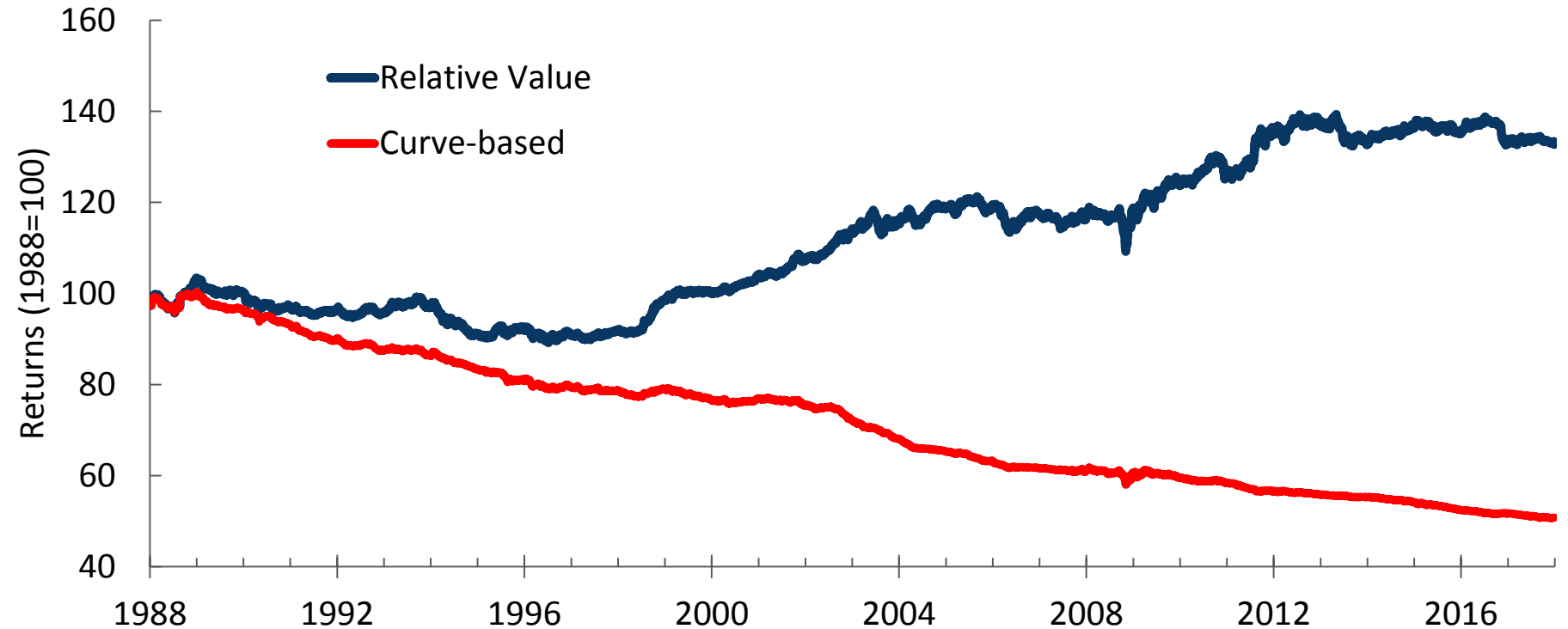
The index is related to other measures of stress



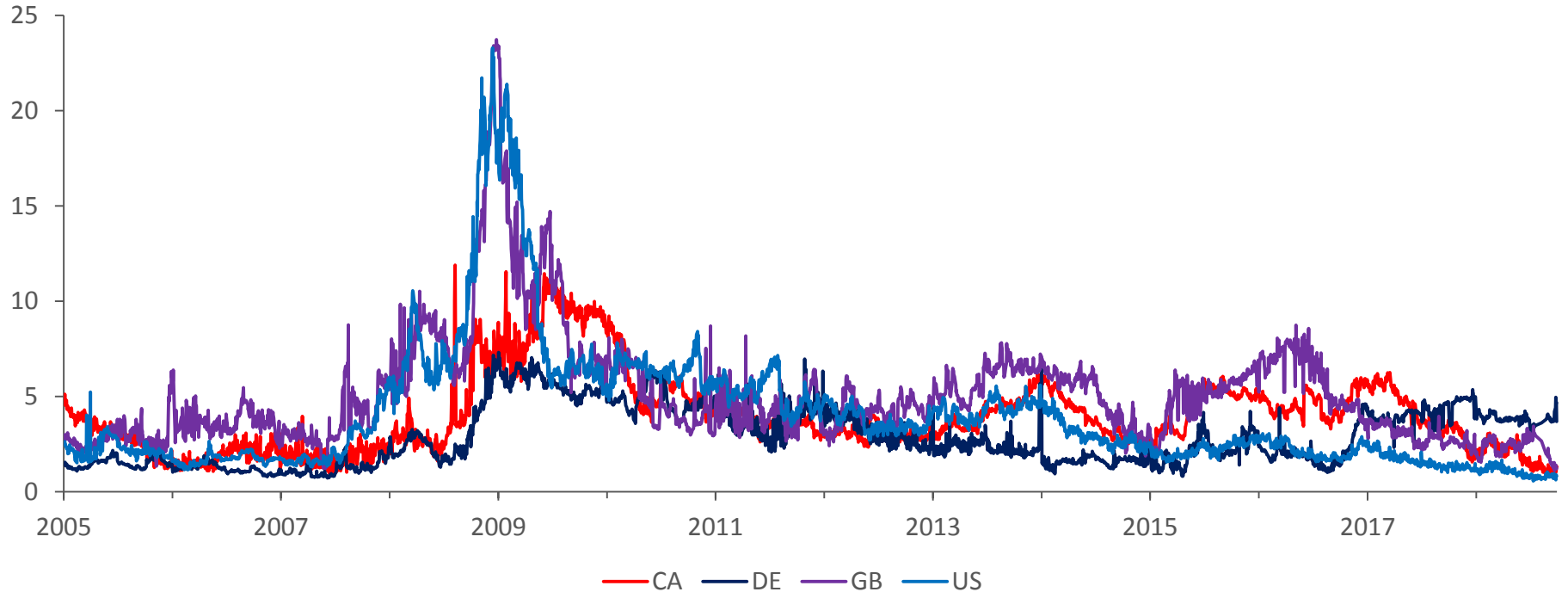
There are other ways to measure bond price deviations...



... but they don't work well as a trading signal

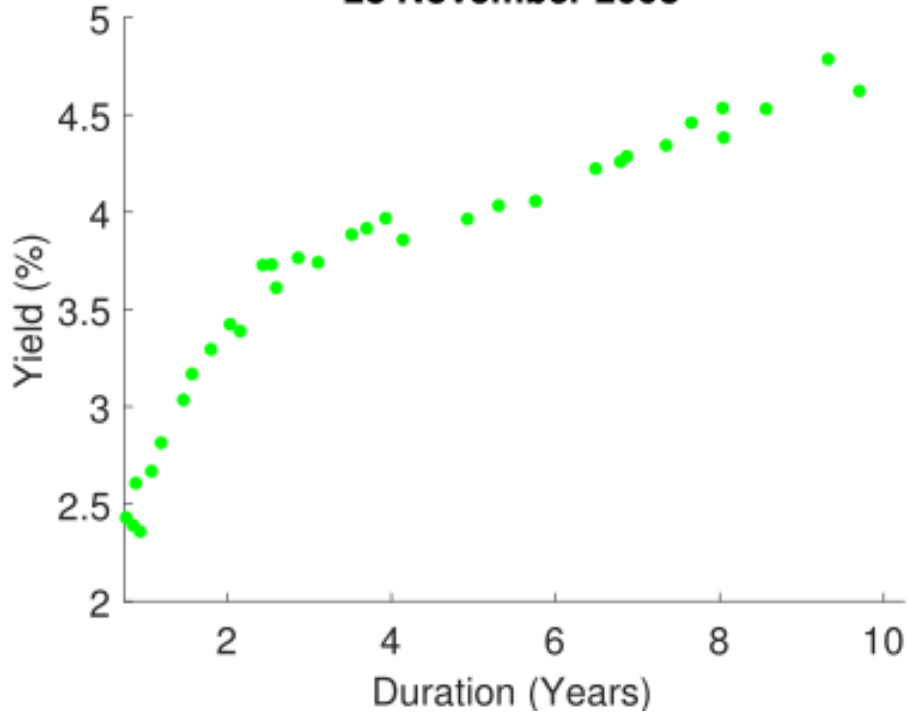


Our indices are available for eight countries on the Bank's website

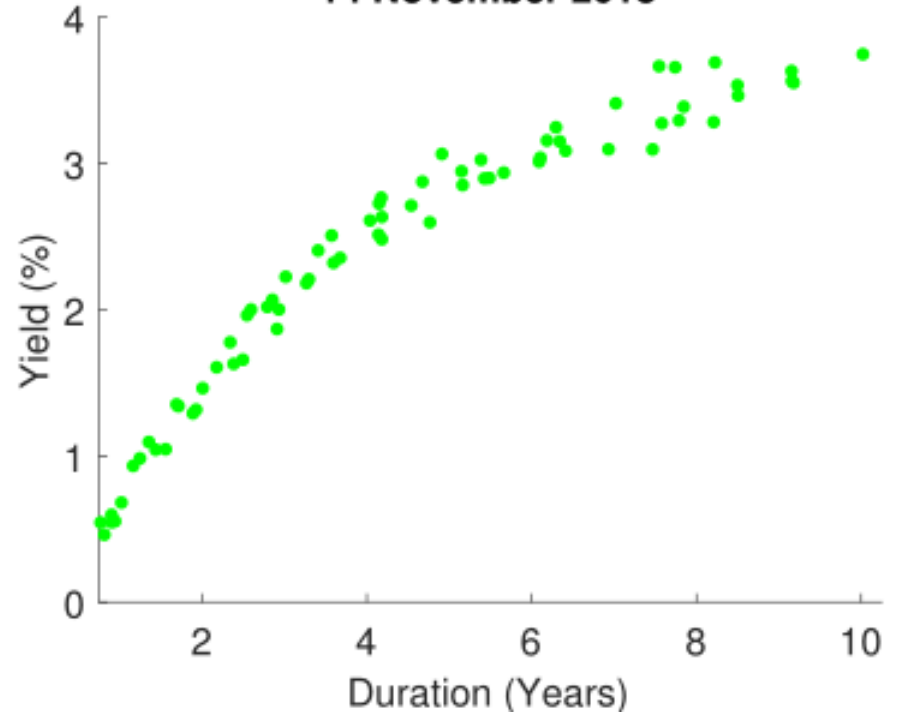


An interesting example: Italy

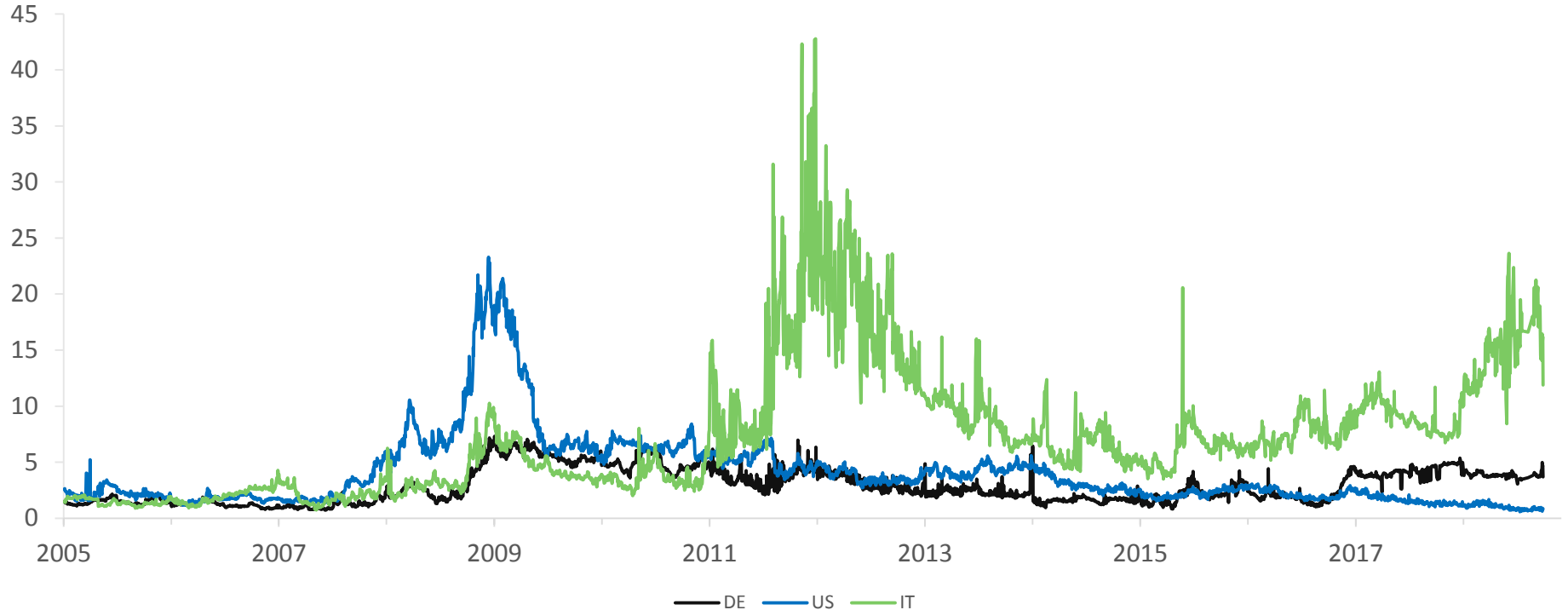
28 November 2008



14 November 2018



The Italian index reflects financial stress in the country



Conclusion

- Relative value: an intuitive and model-free measure of limits to arbitrage in fixed-income markets.
- Priced : explains risk & returns for index options and other assets.
- Outperforms yield curve-based measures as a trading signal.
- Highly correlated with other measures of stress.

International indices are available on the Bank of Canada's website:

<https://www.bankofcanada.ca/2017/10/staff-working-paper-2017-44/>

Thank you

