![SSRN](https://www.ssrn.com/)
Download This Paper (Delivery.cfm/SSRN_ID2139920_code303089.pdf?abstractid=1907852&mirid=1)

Open PDF in Browser (Delivery.cfm/SSRN_ID2139920_code303089.pdf?abstractid=1907852&mirid=1&type=2)

⭐ Add Paper to My Library

Share: f 🐦 ✉ 🔗

A Note on Macaulay's Formula for Duration

14 Pages
Posted: 10 Aug 2011
Last revised: 3 Sep 2012

Michael Osborne (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=303089)
University of Sussex Business School

Date Written: August 10, 2011

Abstract

Macaulay duration approximates the yield elasticity of bond price. Since its introduction in 1938 researchers have sought a more accurate formula. This article demonstrates Macaulay's formula gives accurate results if applied appropriately. A bond with maturity n has n solutions for yield, one orthodox and (n-1) unorthodox. Conventional analysis ignores the distinction, which means a shift in yield shifts all yields at once. In contrast, an other-things-being-equal shift in the orthodox yield, holding the unorthodox yields constant, permits the successful application of Macaulay's formula. This finding questions the conventional focus on the orthodox yield alone.

Keywords: bond, complex number, duration, fixed income, Macaulay

JEL Classification: C60, G10, G11, G12

Suggested Citation >

Show Contact Information >

15 References

1. A Aleksandrov , A Kolmogorov , M Lavrent'ev
   Mathematics: its content, methods and meaning
   Journal of Applied Finance , volume 16 , issue 2 , p. 144 - 160 Posted: 1969

2. K Boulding
   Time and investment: a reply
   Economica , volume 3 , issue 13 , p. 440 - 442 Posted: 1936
   Crossref (https://doi.org/10.2307/2549249)

3. R Dorfman
   The meaning of internal rates of return
   Journal of Finance , volume 36 , issue 6 , p. 1011 - 1021 Posted: 1981
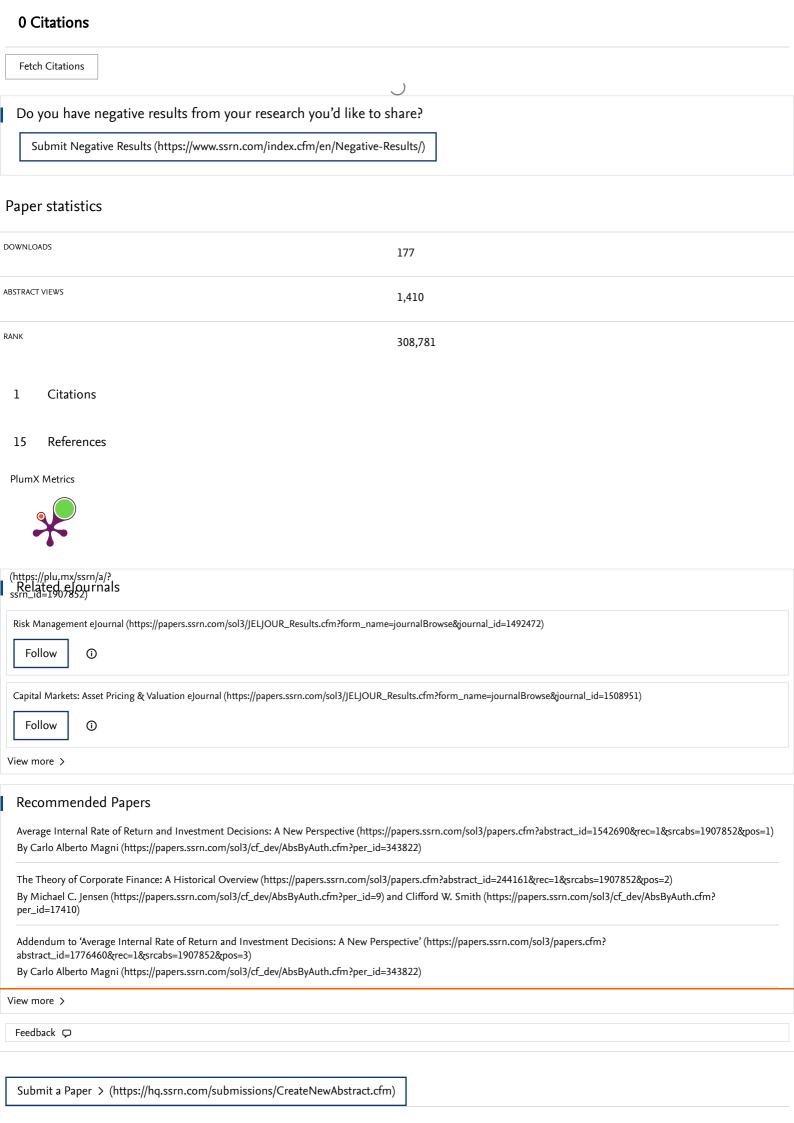   Crossref (https://doi.org/10.1111/j.1540-6261.1981.tb01072.x)

4. G Hazen
   A new perspective on multiple internal rates of return
   The Engineering Economist , volume 48 , issue 1 , p. 31 - 51 Posted: 2003
   Crossref (https://doi.org/10.1080/00137910308965050)

Load more

0 Citations

Fetch Citations

Paper statistics

DOWNLOADS	177
ABSTRACT VIEWS	1,410
RANK	308,781
1	Citations
15	References

PlumX Metrics

(https://plu.mx/ssrn/a/?
ssrn_id=1907852)

Related eJournals

Risk Management eJournal (https://papers.ssrn.com/sol3/JELJOUR_Results.cfm?form_name=journalBrowse&journal_id=1492472)

Follow ⓘ

Capital Markets: Asset Pricing & Valuation eJournal (https://papers.ssrn.com/sol3/JELJOUR_Results.cfm?form_name=journalBrowse&journal_id=1508951)

Follow ⓘ

View more ›

Recommended Papers

Average Internal Rate of Return and Investment Decisions: A New Perspective (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1542690&rec=1&srcabs=1907852&pos=1)
By Carlo Alberto Magni (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=343822)

The Theory of Corporate Finance: A Historical Overview (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=244161&rec=1&srcabs=1907852&pos=2)
By Michael C. Jensen (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=9) and Clifford W. Smith (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=17410)

Addendum to 'Average Internal Rate of Return and Investment Decisions: A New Perspective' (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1776460&rec=1&srcabs=1907852&pos=3)
By Carlo Alberto Magni (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=343822)

View more ›

Feedback 💬

Submit a Paper › (https://hq.ssrn.com/submissions/CreateNewAbstract.cfm)

SSRN Quick Links ⌄

SSRN Rankings ⌄

About SSRN ⌄

f (https://www.facebook.com/SSRNcommunity/)
in (https://www.linkedin.com/company/493409?
trk=tyah&trkInfo=clickedVertical%3Acompany%2CentityType%3AentityHistoryName%2CclickedEntityId%3Acompany_493409%2Cidx%3
🐦 (https://twitter.com/SSRN)

(https://papers.ssrn.com/sol3/updateInformationLog.cfm?process=true)