



## Case study: Joy Global Inc./Komatsu Mining Corp

✉: [sales@cardinalanalytics.co](mailto:sales@cardinalanalytics.co)

### Summary

⇒ Joy Global Inc. (NYSE:JOY) manufactures and maintains heavy plant machinery used in underground and surface mining and was acquired by Komatsu Mining Corp in 2017.

⇒ Standard & Poor's downgraded Joy in April 2016 from "BBB-" to "BB+". Twelve months later Joy was upgraded to 'A-'.

⇒ The Cardinal Analytics "Grade of Membership" (GoM) proprietary risk score provides a continuous scale from 0-1 for issuers. The higher the GoM, the higher the upgrade risk of the issuer.

⇒ GoM could have been used as an early signal for upgrade to investment grade and

benefit from a 20% increase in bond price.

### GoM vs bond prices

Figure one shows the bond price decrease with the downgrade rating in April 2016. It is often the case that once a downgrade to high yield occurs an issuer enters a progressive decline in credit rating.

Upon the downgrade event by Standard& Poor's Joy/Komatsu's GoM for upgrade immediately spikes, indicating an upgrade in the next twelve months is highly likely. Joy/Komatsu's GoM is represented by the green line, its bond price by the gray line, and top decile by the white line <sup>1</sup>

---

<sup>1</sup>defined as the threshold value for issuers having the highest 10% of GoM scores in the entire population

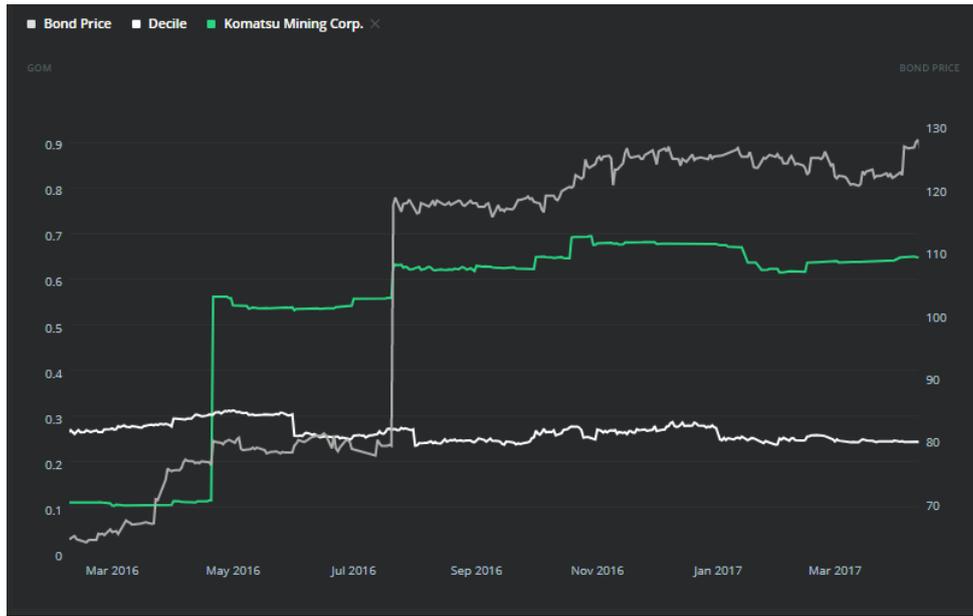


Figure 1: Joy/Komatsu GoM vs. bond price

In the subsequent 9 month period Joy/Komatsu’s bond price recovers from 80 to over 125 -almost a 50% price appreciation.

Within 12 months of the downgrade to high yield Standard & Poor’s upgraded Joy/Komatsu from “BB+” to “A-”: unusual in both the fact the upgrade to investment grade occurred and also by the speed of the reversal of the original downgrade rating. Many issuers see a terminal decline in credit quality once downgraded to high yield.

**Contact us**

The Joy/Komatsu case study illustrates CARI’s GoM risk score providing a strong

signal of upgrade risk before the upgrade event occurs.

To set up a trial of our dashboard or data feed products, contact us on:

☎: 00 44 28 90 68 67 35

✉: [sales@cardinalanalytics.co](mailto:sales@cardinalanalytics.co)

Copyright ©Cardinal Analytics Ltd. 2017. All rights reserved. Cardinal Analytics and its logo are registered trademarks of Cardinal Analytics Ltd. The reader assumes sole responsibility for results obtained from and the use of the documentation by the reader, and for conclusions drawn from such use and the reader acknowledges that Cardinal Analytics Ltd. does not act as an investment advisor and its opinions and analyses should not be regarded as such. All warranties, representations, conditions and all other terms of any kind whatsoever implied by statute or

common law are, to the fullest extent permitted by applicable law, excluded. The documentation is provided to the reader on an “as is” basis.

Cardinal Analytics Ltd. shall not be liable whether in tort (including for [negligence or] breach of statutory duty), contract, misrepresentation, restitution or otherwise for any loss of profits, loss of business, depletion of goodwill and/or similar losses or loss or corruption of data or information, or pure economic loss, or for any special, indirect or consequential loss, costs, damages, charges or expenses however arising from this documentation.