



## Case study: Freeport-McMoRan Inc.

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### Summary

⇒ Freeport-McMoRan (NYSE:FCX) is a Phoenix, Arizona based mining company, and in 2015 stated it was the largest copper producer in the world.

⇒ Moody's and S&P downgraded Freeport from investment grade to high yield in January and February 2016, respectively.

⇒ 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 downgrade risk of the issuer.

⇒ As a signal of being downgraded to high yield, the GoM led the bond price by several months.

⇒ GoM could have been used as an early warning signal to avoid a 55% decrease in bond price.

### GoM vs bond prices

It is worth assessing whether GoM values provide an earlier and/or stronger signal of downgrade to high yield than Freeport's bond price. In Figure 1 Freeport'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> The GoM increased from virtually zero to 0.5 by February 2015.

This was a full year ahead of the eventual downgrade to high yield by both Moody's and S&P in January and February 2016,

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

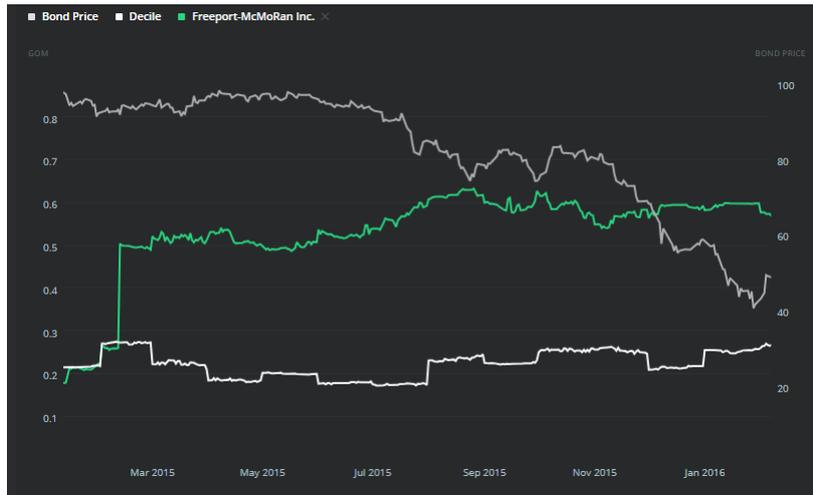


Figure 1: Freeport-McMoRan GoM vs. bond price

respectively. The GoM increases still further, reaching a peak of over 0.6 in August 2015.

However, the price of 3.55% March 2022 notes was still trading at (or at a slight discount) to par during this period, indicating the risk of being downgraded to high yield had not been priced into the bond by the market.

The GoM therefore leads the bond market by several months. In this sense the GoM has a sharper and more timely signal of downgrade to high yield.

As a result of this early warning signal a 55% decrease in bond price could have been averted, and savings for the notes would have totaled over \$900m.

**Contact us**

The Freeport-McMoRan Inc. case study illustrates CARI's GoM risk score providing a strong signal of downgrade to high yield that leads the bond price.

CARI is of value in predicting "fallen angels" before they are downgraded, thus providing value to investors on the short side - but also to investment grade portfolio managers with strict investment mandates.

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

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