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Original Articles

The Behavior of Operating Earnings in the Norwegian Salmon Farming Industry

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Abstract

It is well known that salmon aquaculture is a cyclical industry with substantial price volatility. However, limited attention has been given to the economic performance of the firms in the industry or their valuation. In this article we look closer at earnings before interest and tax (EBIT) in the Norwegian salmon farming industry. This is among the most common accounting measures of firm performance, and it is also used extensively in firm valuations. We find that the components of earnings have different time series behavior. Our empirical analysis shows that earnings from the Norwegian salmon farming industry can be characterized as a random walk. However, earnings/kg of fish sold is a more predictable variable and is mean reverting with clear cycles.

Keywords:

cycles | earnings | EBIT | salmon

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Notes

Dahl and Oglend (2014) provide a more general overview of seafood price volatility.

Forward contracts for salmon was introduced by Direct Hedge in 1999, while FishPool introduced futures contracts in 2006 (Solibakke, 2012; Oglend, 2013).

Tyholdt (2014) provides an interesting twist in investigating the impact of biophysical factors on growth.

This is important issues also for other species (Smith et al., 2014).

Applying a Phillips–Perron test led to the same conclusion. For EBIT, the test statistic was −3.011 (constant and trend, two lags). With a critical value at the 5% level of −3.596, we can not reject a unit root. The test statistic for EBIT/kg is −3.286 (constant and two lags); with a critical value at the five percent level being −2.997, we reject a unit root.

A unit root test was performed on the fishmeal price series. Based on Akaike Information Criterion, no constant, and no trend were used. Two lags were included in the estimation. With a test statistic of -2.61 and the critical value at the 5% being -1.96, we conclude that this series is non-stationary.

It is worthwhile to note that there are other stationary relationships, such as the relative prices between different size classes (Asche & Guttormsen, 2001).

Guttormsen (2008) provides a good exposition of harvesting functions in salmon aquaculture.

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