Addendum to "A Single-Item Inventory Model for a Nonstationary Demand Process"

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In preparing a review I recently discovered an important reference for a key result in Graves (1999). Wecker (1979) had previously derived the variance for demand over a deterministic lead-time for an IMA (0, 1, 1) demand process. I develop effectively the same result, given as Equation (8) in Graves (1999). I state this as the variance of the inventory random variable for an inventory system that is subject to an IMA (0, 1, 1) demand process, a deterministic replenishment lead-time and an adaptive base-stock control policy given by (7). But given these assumptions, the variance of the inventory is the same as the variance of the demand over the lead-time.

Although the Wecker manuscript has not been published, Eppen and Martin (1988) reference it and use the key result as part of their research.

References

Eppen, Gary D., R. Kipp Martin. 1988. Determining safety stock in the presence of stochastic lead time and demand. *Management Sci.* **34** 1380–1390.

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