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SOME EXTENSIONS OF DYNAMIC ECONOMIC LOT SIZE MODEL WITH BACKLOGGING

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This paper is a generalization of the Wagner and Whitin's model/ "Dynamic Version of the Economic Lot Size Model", Management Science, vol. 5, no. 1, October 1959, pp. 89—96/ which is an original study of the dynamic economic lot size model. An essential feature of the author's model is that it permits backlogging of unsatisfied demand and marginal cost to vary with time.

The main results of this paper consist in three theorems that decrease the computational efforts required to find an optimal policy, a planning horizon theorem and a forward algorithm that combines these theorems. This algorithm provides an optimal policy and a minimum cost g(n) for n periods problem.

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