In this talk we present an extension of the classical price impact model of Almgren and Chriss to incorporate the uncertainty of order fills. The extended model can be recast as alternatives to uncertain impact models, stochastic liquidity models, and an approximation of models for liquidation with limit orders. Optimal strategies are determined by maximizing the expected final P&L and various P&L-risk tradeoffs including utility maximization. Closed form expressions for optimal strategies are obtained in linear cases. The results suggest a type of adaptive volume weighted average price (VWAP) and adaptive Almgren-Chriss strategies. Possible generalizations to transient impact models are also discussed. (Received January 07, 2015)