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Christoph Frei* (cfrei@ualberta.ca) and **Nicholas Westray**. *VWAP order execution and dynamic trading volume estimation.*

We consider the optimal liquidation of a position of stock (long or short) where trading has a temporary market impact on the price. The aim is to minimize both the mean and variance of the order slippage with respect to a benchmark given by the market VWAP (volume weighted average price). In this setting, we introduce a new model for the relative volume curve which allows simultaneously for accurate data fit, economic justification and mathematical tractability. Under the assumption of complete information (observability of relative trading volume), we give explicit formulae for the optimal trading rate and liquidation trajectory by tackling the resulting optimization problem using a stochastic control approach. We then study how this strategy can be implemented using dynamic trading volume estimation and analyze its performance for the stocks in the DJIA. The talk is based on a recent article (accepted in *Mathematical Finance*) and ongoing work both joint with Nicholas Westray (Deutsche Bank AG). (Received January 17, 2014)