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*Modeling the Financial Stock Market with Functional Differential Equations.* Preliminary report.

Technical analysis is popular in the financial stock market. Moving averages are commonly used in the technical analysis. Let  $x(t)$  be the price of a stock. Based on the simple moving averages, we propose and study the following functional differential equations:

$$x'(t) = x(t) - x(t - 1)$$
$$x'(t) = k \left( x(t) - \frac{1}{\alpha} \int_{t-\alpha}^t x(s) ds \right),$$

where  $k$  and  $\alpha > 0$  are constants. (Received February 23, 2017)