

# Financial Lie groups

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In this paper we see the evolution of a capitalized financial event  $e$ , with respect to a capitalization factor  $f$ , as the exponential map of a suitably defined Lie group  $G(f,e)$ , supported by the half-space of capitalized financial events having the same capital sign of  $e$ . The Lie group  $G(f,e)$  depends upon the capitalization factor  $f$  and on the event  $e$  itself. After the extension of the definition of exponential map of a Lie group, we shall eliminate the dependence on the financial event  $e$ , recognizing the presence of essentially one unique financial Lie semigroup, supported by the entire space of capitalized financial events, determined by the capitalization factor  $f$ .

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