PERPETUAL WARRANT PARADOX

Sorin R. Straja, Ph.D., FRM Montgomery Investment Technology, Inc. 200 Federal Street Camden, NJ 08103 Phone: (610) 688-8111 <u>sorin.straja@fintools.com</u> <u>www.fintools.com</u>

The theoretical value of a perpetual warrant for a non-dividend paying stock is equal to the value of the stock itself (Samuelson, 1965; Merton, 1990). This result may appear strange, because the usual fair market price of a warrant is less than the fair market price of the common stock. Moreover, the common stock may be viewed as a perpetual warrant on itself with the exercise price equal to zero. This instrument is expected to be more expensive than a perpetual warrant on the same stock but with the exercise prize greater than zero.

To solve this paradox, it should be recognized that the theoretical value is computed for a perpetual warrant on a stock that will NEVER pay dividends. The usual market case is for a warrant on a stock that now, and maybe for a long time-period, is not paying dividends, but that can pay a dividend at some time in the future. The fact that the market does not completely exclude the possibility of a dividend should result in a smaller warrant price than the theoretically computed value. Moreover, because the stock price is expected to grow indefinitely above the exercise price, this exercise price will be insignificant as compared with the stock price. Therefore, the perpetual warrant for a non-dividend paying stock should be equal to the value of the stock itself.

REFERENCES

Merton, R. C. Continuous-time finance. Cambridge, MA: Basil Blackwell; 1990.

Samuelson, P. A. Rational theory of warrant pricing. *Industrial Management Review* **6** (Spring): 13-31; 1965.

