1015-90-28 **Maria Cristina Mariani*** (mmariani@nmsu.edu), Department of Mathematical Sciences, NMSU, P.O. Box 30001, Department 3MB, Las Cruces, NM 88003-8001. *Extreme events in financial markets.*

Over the past two decades, the complexity of international finance has grown enormously with the development of new markets and instruments for transferring risks. This growth in complexity has been accompanied by an expanded role for mathematical models to value derivative securities and to measure their risks. In this work two specific problems in the mathematics of risk management are presented and analyzed:

1. The analysis of asset-price dynamics in models that capture the possibility of sudden, large changes in prices — i.e., "jumps".

2. The development and application of tools from mathematical physics to analyze market dynamics leading to a "crash." (Received December 27, 2005)