Modzelewski (Moz) has been active in the field of finance since 1982, when he joined Salomon Brothers (now a part of Citicorp). In his 5 year tenure there, he created various mathematical models for valuing fixed income securities, developed the conceptual framework for "option adjusted spread," which has become a standard analytical metric for complex fixed income securities, and codified the rules for "Liar's Poker."

In 1988, Moz and a colleague left Salomon and established a fixed income arbitrage business. Their flagship hedge fund, Parsec Trading Corp., has been extremely successful since its formation in 1990. Their keen interest in incentive structures led to Parsec being the only major hedge fund where the managers receive a share of both profits and losses.

At the end of 2002, Moz established his own trading and investment firm, Maple Engine L.L.C., a private multi-strategy investment and trading fund focusing on speculative trading and venture investment. He also serves on the Boards of the Reason Foundation (an educational and public policy research organization in Los Angeles) and the Institute for Justice (a public interest law firm in Washington, D.C.).