THE FIELDS INSTITUTE

FOR RESEARCH IN MATHEMATICAL SCIENCES

ABSTRACTS 1.2

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Facts About Risk and Return

The risk/return tradeoff is perhaps the single most important issue for both investors and financial scholars. What do we really know about it? It is slippery because hard data are unavoidably from the past while the only interesting risks and returns lie in the future. The relevant tradeoff is between expected returns and prospective risks. Yet, historical data reveal some stylized facts. First, return volatility is strongly related to average performance across broad asset classes. Second, the same relation is much weaker across countries and across individual assets. Third, the probability distributions of asset returns do not conform to standard forms; they too frequently display dramatically large values. Fourth, diversification works beautifully, so if markets are reasonably efficient only non-diversifiable risk should matter (i.e., be associated with extra return compensation or risk premia.) Fifth, non-diversifiable risk is multidimensional. Financial research has made some progress in formulating and testing models of multidimensional risk, but many questions remain unanswered.