Atlas-type models are constant-parameter models of uncorrelated stocks for equity markets with a stable capital distribution, in which the growth rates and variances depend only on rank. A variation arises when these parameters depend instead on capitalization weight. These models have empirically been found to capture a large part of the structure of actual equity markets, resolving some questions about long-term stability and ergodicity. In particular, while a closed finite market with equal growth rates and bounded variances must be unstable, we will see that stability can occur in a variety of ways, some of which lead to surprising arbitrage opportunities.