We consider the problem of maximizing the expected utility from consumption or terminal wealth in a market where logarithmic securities prices follow a Lévy process. More specifically, we give explicit solutions for power, logarithmic and exponential utility in terms of the Lévy-Khintchine triplet. In the first two cases, a constant fraction of current wealth should be invested in each of the securities, as is well-known for related discrete-time models and for Brownian motion. The situation is different for exponential utility.