Discount factors, the four discount factor theorem and its implication.

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Abstract

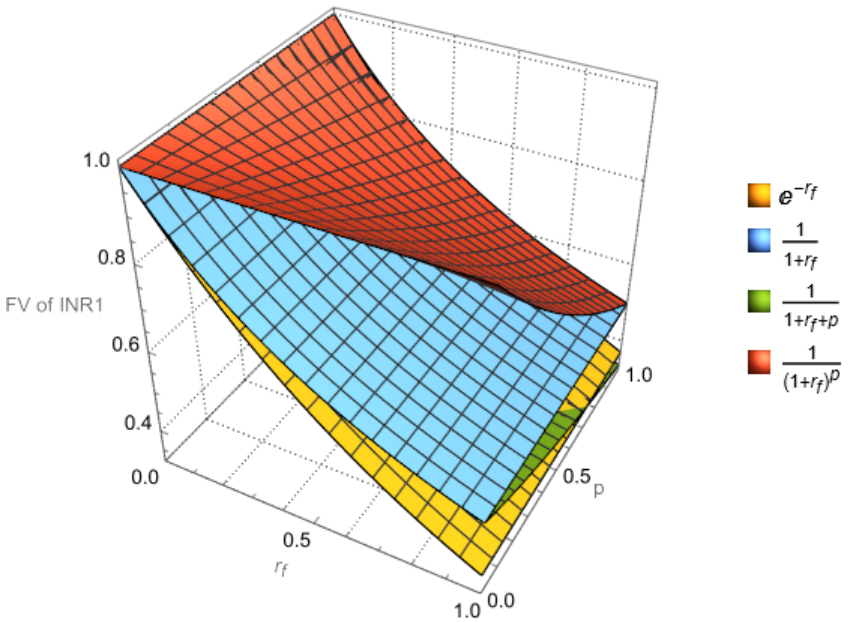
In this paper, I describe discount factors, the four discount factor theorem and its implication.
The paper ends with "The End"

Introduction

Discount factors are an alternative way to think in economics and finance.
In this paper, I describe discount factors, **the four discount factor theorem** and the **implication of the four discount factor theorem**.

Discount factor

A function $\mathbf{D(r_f, p)}$ is called a **discount factor** where r_f is **the risk-free rate** and p is **the risk premium** if and only if
the future value of INR 1 equals the present value of INR 1 times $D(r_f, p)$



The four discount factor theorem

The four discount factor theorem states

$$e^{-r_f} = \frac{1}{1+r_f} = \frac{1}{1+r_f+p} = \frac{1}{(1+r_f)^p} \iff (r_f = 0) \wedge (p = 0)$$

The implication of the four discount factor theorem

The implication of the four discount factor theorem is that **exactly** four discount factors are **sufficient** to obtain a zero risk-free rate and a zero risk premium.

The End