

**Test on Financial Theory****Problem 1 :**

Consider investing in five assets: a short bond, a long bond, a stock, the market portfolio of all stocks, and gold. The following table lists the returns to the five assets in five different scenarios and the probability of each scenario occurring.

Scenario	Probability	Short Bond (%)	Long Bond (%)	Stock (%)	Market (%)	Gold (%)
Depression	0.1	1	2	-25	-10	15
Recession	0.2	3	4	-5	-5	10
Normal	0.2	3	4	15	10	00
Growth	0.4	3	4	20	15	-5
Boom	0.1	5	6	25	20	-5

Compute the expected return, variance, standard deviation and coefficient of variation of all five assets, and which asset should a risk-averse investor choose? Explain.

**Problem 2:**

The company is expected to pay the following dividends:

- **Year 1:** \$3.50
- **Year 2:** \$4.00
- **Year 3:** \$4.50

The discount rates vary over time:

- **Year 1:** 12%
- **Year 2:** 5.5% (*semi-annual*)
- **Year 3:** undetermined

After Year 3, the company is expected to grow at a constant rate of **6% per year**, with a terminal value of **\$159**.

**Task:** Using the **Gordon Growth Model**, calculate the intrinsic value of the company's stock.