

國立交通大學 98 學年度第 1 學期

博士班資格考筆試考試試題

土木工程學系 營管組 科目：公共建設投資學

選考學生數：3 考試時間：60min

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1. Recently the Government has adopt a policy to subsidize mortgage interest rate for the first-time buyers. ~~of~~ ^{home} Please discuss the impact of this policy on housing demand, supply, and price, as well as the gross domestic production (GDP).
2. The nominal amounts of cash flows can be valued by :

$$(A) \text{ Present value} = R_0 + \frac{(1+\pi)R_1}{(1+\pi)(1+r)} + \frac{(1+\pi)^2 R_2}{(1+\pi)^2 (1+r)^2} + \dots + \frac{(1+\pi)^n R_n}{(1+\pi)^n (1+r)^n}$$

where R_i denotes time- i net cash flow, π denotes inflation rate, and r denotes discount rate. What if the inflation rates of the cash flow components are different from each other? Can formula (A) be used? When different inflation rates are applied for the cash flow components, how to adjust the discount rate to produce consistent valuation result?

3. How to determine the social discount rate of a public project?
4. How to calculate the certainty equivalent value of an uncertain project?