Specialisation: Assumptions

1. Competitive markets

2. Capital (money) and flow (relatively) easily

3. Frictions (e.g. government taxes) are small relative to the power of most good ideas

4. But with increasing incorporation of real world issues (especially in Courses 3 and 4)

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MODULE 1: TIME VALUE OF MONEY

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1.1 TIME VALUE OF MONEY (TVM) (12.12)

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Some Terminology (language of finance)

PV = Present Value ($)

FV = Future Value ($)

n = # of Periods (#)

r = Interest rate (%) > 0 (assumption)

1.2 SIMPLE FUTURE VALUE (FV) (14.47)

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FV = PV \* (1 + r)

for one period (n = 1)

1.3 SIMPLE FV (10:06)

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FV = PV \* (1 + r) ^n

1.4 SIMPLE FV: EXAMPLE (19:54)

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NO NOTES

1.5 SIMPLE PRESENT VALUE (PV) (15:58)

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PV = FV / (1 + r)^n

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MODULE 2: TIME VALUE OF MONEY - APPLICATIONS

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2.1 FV OF ANNUITY: CONCEPT

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A special case of multiple payments: annuities:

C (cash flow) or PMT (payment)

2.2 FV OF ANNUITY: EXAMPLE 1

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MODULE 3: DECISION MAKING

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3.1 DECISION CRITERIA: NPV

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**Properties of a good decision criterion:**

1) makes sense? (benefits exceed costs) [TVM]

2) unit of measurement [$]

3) benchmark [NPV > 0]

4) easy to communicate

5) easy to compare different ideas/projects

6) easy to calculate

7) others?

**Net Present Value (NPV)**

To compute NPV, compute PV of all future cash flows and then sum them.

3.5 DECISION CRITERIA: IRR

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Internal rate of return (IRR) is measured in %/period \*e.g. %/year.

IRR = (FV – PV)/PV == Profit / Investment

IRR has no value on its own; it is a valuable measure when compared against the market interest rate r.

If IRR > r, then internal business will return a profit. If IRR == r, no profit; otherwise, do not invest in business because market performs better (invest in the market instead)