Net Present Value (NPV)

NPV **is the present value of an investment project's net cash flows minus the project's initial cash outflow.**

$$NPV = \frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \ldots + \frac{CF_n}{(1+k)^n} - ICO$$

NPV Acceptance Criterion

The management of *Basket Wonders* has determined that the required rate is 13% for projects of this type.

Should this project be accepted?

No! The NPV is negative. This means that the project is reducing shareholder wealth. [*Reject* as *NPV* < *0*]

NPV Strengths and Weaknesses

Strengths:

- Cash flows assumed to be reinvested at the hurdle rate.
- Accounts for TVM.
- Considers all cash flows.

Weaknesses:

- May not include managerial options embedded in the project. See Chapter 14.

Profitability Index (PI)

PI is the ratio of the present value of a project's future net cash flows to the project's initial cash outflow.

Method #1:

$$PI = \left[\frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \ldots + \frac{CF_n}{(1+k)^n} \right] \div ICO$$

<< OR >>

Method #2:

$$PI = 1 + [\ NPV / ICO\ ]$$

PI Acceptance Criterion

PI = RS.38,572 / RS.40,000

= .9643 *(Method 1)*

Should this project be accepted?

No! The PI is less than 1.00. This means that the project is not profitable. [*Reject* as *PI* < *1.00*]

PI Strengths and Weaknesses

Strengths:

- Same as NPV
- Allows comparison of different scale projects

Weaknesses:

- Same as NPV
- Provides only relative profitability
- Potential Ranking Problems

CONCLUSION AND EVALUATION OF CAPITAL BUDGETING

Evaluation Summary

Basket Wonders Independent Project

Method	Project	Comparison	Decision
PBP	3.3	3.5	**Accept**
IRR	11.47%	13%	**Reject**
NPV	-$1,424	$0	**Reject**
PI	.96	1.00	**Reject**