

### CashFlow

#### Gross cash flow 1

EBIT

+ depreciation

+ amortization

= EBITDA

- operational taxes (EBIT \* Tx)

= **Gross Cash Flow**

#### Gross cash flow 2

Net Income = Gross Profit — Operating Expenses — Other Business Expenses — Taxes — Interest on Debt + Other Income

+ depreciation

+ amortization

+ (financial expenses \* (1-Tx))

= **Gross Cash Flow**

#### Gross cash flow 3

NOPAT = EBIT \* (1-Tx)

+ depreciation

+ amortization

= **Gross Cash Flow**

#### Free cash flow

Gross Cash Flow

- change in NOWC (KTNO)

- investment in CAPEX

= **Free Cash Flow**

#### Free Cash Flow for shareholder

Free Cash Flow

- (financial expenses \* (1-Tx))

+ change in debt

= **Free Cash Flow for shareholders**

#### Net Free Cash Flow

Free Cash Flow for shareholders

- Dividends

+ Change in capital shares

### CashFlow (cont)

= **Net Free Cash Flow**

### Future/Present Value

Valor presente:

$$V_0 = \frac{V_n}{(1+i)^n}$$

Valor futuro:

$$V_n = V_0(1+i)^n$$

Valor presente cuotas uniformes:

$$V_0 = C_1 \left[ \frac{1 - (1+i)^{-n}}{i} \right]$$

Valor futuro cuotas uniformes:

$$V_n = C_1 \left[ \frac{(1+i)^n - 1}{i} \right]$$

Valor presente cuotas crecientes a tasa g:

$$V_0 = C_1 \left[ \frac{1 - (1+g)^n(1+i)^{-n}}{i-g} \right]$$

Valor futuro cuotas crecientes a tasa g:

$$V_n = C_1 \left[ \frac{(1+i)^n - (1+g)^n}{i-g} \right]$$

Valor presente perpetuidad:

$$V_0 = \frac{C_1}{i-g}$$

### Interest rate conversion

Intereses periódicos:

$$(1 + e.a) = (1 + i_q)^q$$

Intereses vencidos:

$$i_v = \frac{i_a}{1 - i_a}$$

Intereses anticipados:

$$i_a = \frac{i_v}{1 + i_v}$$

Conversión de tasa en dólares:

$$(1 + i_{COP}) = (1 + i_{US}) \times (1 + dev)$$

Conversión de tasa en UVRs:

$$(1 + i_{COP}) = (1 + i_{UVRs}) \times (1 + infl)$$

Conversión de tasa en nominales:

$$(1 + i_{nom}) = (1 + i_{reales}) \times (1 + infl)$$

