



## Agribusiness Deal Room at the AGRF 2021 Financial Modelling Webinar

## August 2021





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- 3 Financial Modelling
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- Valuation Methodologies

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## Upskilling webinars are instrumental in helping enterprises prepare for investor conversations and grow their businesses



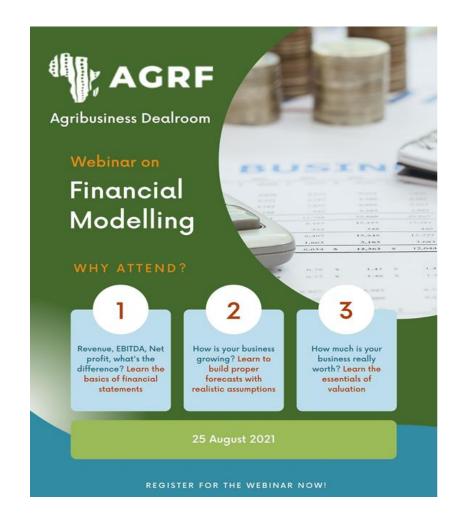
The team will conduct up to three webinars to upskill SMEs focusing on the following topics\*:

Understanding financial statements, forecasting, and building valuation models

Overview of term sheets and key clauses

Investment readiness including coverage of key documents such as pitch deck and investment memorandum

\*These are proposed sessions and are to be confirmed







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## Investors commonly examine three financial statements to understand a company's performance and financial health



Financial statements are one of the **first things investors look for** when considering an investment in a company. Financial statements reflect a company's performance and financial health

#### There are three financial statements:

Income Statement	Balance Sheet	Cash Flow Statement (CFS)
<ul> <li>Focuses on a company's revenue and expenses during a particular period</li> <li>The profit or loss is determined by taking all revenues and subtracting all expenses from both operating and non-operating activities</li> </ul>	<ul> <li>Provides an overview of assets, liabilities, and stockholders' equity at a specific point in time</li> </ul>	<ul> <li>Measures how well a company generates cash to pay its debt obligations, fund its operating expenses, funds its investments and returns capital to investors (dividends)</li> </ul>

When assessing a company, investors look at all three statements to understand its financial viability and their return expectations



## The income statement presents the revenue and expenses a company generates over a period of time



- The income statement presents a company's **sales** over a period of time (usually a fiscal year or quarter). It also presents the **expenses** incurred to generate these sales
- The purpose of the income statement is to match sales with their associated expenses. Thus, the income statement is the easiest and most direct measure of a **company's profit**
- For management, by looking at the I/S, management can make decisions such as expanding to new geographies, accelerating sales, increasing production capacity, increased utilization or outright sale of assets, or shutting down a department or product line
- **Investors** will be looking at operating efficiency and key ratios used for analyzing the income statement including gross margin, operating margin (EBIT margin), and net margin
- Credit investors (lender) may find limited use of income statements as they are more concerned about a company's future cash flows

Why the I/S is not enough on its own?

The income statement alone will not tell you whether a company generates enough cash to stay afloat or whether it is solvent. You therefore require the balance sheet to inform whether the company can meet its future liabilities, and the cash flow statement to ensure it is generating sufficient cash to fund its operations and growth

#### Sample income statement (FY16)

Line Item	Example items	Value (US\$)
Revenue/Sales	Sale of e.g. packaged raisins	500,000
Cost of Goods Sold (COGS)	Raw fruits, packaging materials, shipping costs, plant costs (depreciation, utilities, labour)	(380,000)
Gross profit/income	Revenue – COGS	120,000
Operating Expenses	Office lease, payroll of non- production staff including mgmt., meals and travel, marketing and advertising expenses, legal expenses, product development costs, depreciation of non-core assets	(80,000)
EBITDA	Gross profit – Opex (excl depreciation)	40,000
Depreciation and amortization	From wear and tear of fixed and intangible assets	(10,000)
EBIT	All incomes and expenses (operating and non-operating) excl. interest and taxes	30,000
Interest		(12,000)
EBT/PBT		18,000
Taxes		(5,000)
Net income/profit		13,000

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## There are four key profit metrics on the income statement



1 Gross Profit	2 EBITDA
<ul> <li>Gross profit = Revenue - Cost Of Goods Sold</li> <li>The metric represents an initial check on the fundamentals of the business model</li> <li>Gross profit assesses a company's efficiency at using its labor and supplies in producing goods or services.</li> <li>Is an initial check on the business model</li> </ul>	<ul> <li>Stands for Earnings before Interest Tax and Depreciation and amortization</li> <li>EBITDA = Revenue - COGS - Operating expenses</li> <li>EBITDA = Net income + Interest + Taxes + Depreciation &amp; amortization</li> <li>EBITDA can be used a proxy for operating cashflow</li> <li>EBITDA helps you analyze and compare profitability between</li> </ul>
	companies and industries, as it eliminates the effects of financing, taxation or accounting decisions. This provides a clearer indication of your earnings
3 EBIT	4 Net Income/Profit
<ul> <li>3 EBIT</li> <li>Stands for Earnings Before Interest and Tax</li> <li>EBIT = Revenue - COGS - Opex- Depreciation &amp; amortization or</li> <li>EBIT = Net income + Interest + Taxes</li> </ul>	<ul> <li>4 Net Income/Profit</li> <li>Net profit = Revenue - COGS - Opex- Depreciation &amp; amortization - interest - taxes</li> </ul>







# The balance sheet captures the assets, liabilities, and shareholder equity of a company at a particular point in time



Value (US\$)

30,000

20,300

10,000

300,000

360.300

Value (US\$) 200.000

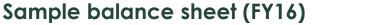
45,400

245,400

- Items in the balance sheet all fall under the categories of assets, liabilities, and shareholder equity. Total assets must always equal total liabilities plus shareholder equity
- Assets are resources which are controlled by the company and are useful for generating an economic benefit
- Liabilities are monetary obligations that the company owes
- Shareholder Equity is the total amount of money invested by shareholders and management
- Balance sheet tells investors about a company's fundamentals: how much debt the company has, how much it needs to collect from customers (and how fast it does so), how much cash and equivalents it possesses and what kinds of funds the company has generated over time

Why the balance sheet is not enough on its own? The balance sheet alone will not tell you whether the company is profitable because it is only a snapshot on a particular date. A company with few liabilities and many valuable assets could be loss making

		•		er (F116)
Assets			Liabilities	
	<b>5</b>	Malaa	Line Item	Example items
Line Item	Example items	Value (US\$)	Current Liabiliti	es
Current Asse	<u>ets</u>		Accounts Payable	Credit line from suppliers
Cash Accounts Receivab	Credit line extended	2,200 20,000	Accrued Expenses	Wages owed to workers
le	to customers		Unearned revenues	Cash received for fruits yet to be delivered
Inventory	Raw fruit; processed fruit etc.	10,000	Non-current Lic	
Prepaid services	Prepaid insurance	3,000	Long-term debt	Loan from e.g. bank
Non-current	assets		Total Liabilities	
PP&E	Land, buildings, processing equipment	570,000	Equity	
	,		Line Item	Example items
	depreciati on		Equity ownership	
Intangibl e Assets	Client list, trade name	500	Retained Earnings	Cumulative net income – dividends
Total Assets		605,700	Total Equity	amachas









### There are three key line items in the balance sheet



#### Assets

- Companies can **own tangible assets** e.g., computers, machinery, money, and land
- Companies can also have **intangible assets** e.g., trademarks, copyrights, or patents
- Assets are split on the balance sheet depending on ease of converting to cash:
- **Current assets:** Cash and other properties owned by the company, which can be converted into cash in one year.
  - Typically includes inventory goods in various stages of manufacture (raw-material to finished product)
- Non-current assets: asset owned by the company that needs over a year to convert to cash or that the company does not plan to convert to cash in next year
  - Typically includes fixed assets e.g., land, buildings, machinery

Note: Current assets are an important indicator of the company's financial status because they are used to cover the short-term commitments of the company's operations. If the company suffers from a decline in its current assets, then it needs to find new means to finance its activities (such as working capital). In general, an increase in the company's current net assets (current assets – current liabilities) means an increase in the company's ability to maintain its growth.

#### Liabilities

- Liabilities refer to a company's obligations to a third party
- Ensuring longevity of the business is based on the managements ability to manage the various liabilities that are part of its business
- Like assets, the company's liabilities are divided in 2 parts:
- **Current liabilities**: Financial obligations of a company that are due in no more than one year in the future
  - The company can liquidate some of its current assets to cover these expenses
- Long-term liability: Financial obligations of a company that are due more than one year in the future e.g., long- term loans. Although these debts must not be paid immediately, investors pay attention to them when evaluating the company

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#### Equity

- Shareholder's equity refers to the money that was invested by shareholders plus any undistributed profits, reinvested in the company by management
- Undistributed profits are also known as **retained earnings**, i.e., net income held, not distributed in dividends





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## The cash flow statement breaks down how much cash a company generates or uses within a given timeframe



- The cash flow statement (CFS) tracks how much actual cash a company generates within a given timeframe
- The CFS is essential because companies need enough cash to perform their daily operations: losing sight of the cash flow statement can lead to bankruptcy
- The cash flow statement is broken down into three different categories depending on sources (and uses) of cash: operating activities, investing activities, and financing activities
- The CFS allows investors to understand how a company's operations are running, where its money is coming from, and how money is being spent. The CFS is important since it helps investors determine whether a company has a solid financial footing.
- The CFS is even more important for creditors. They can use the CFS to determine how much cash is available (referred to as liquidity) for the company to fund its operating expenses and pay its debts.

#### Why the CFS is not enough on its own?

- The cash flow statement will not tell you whether a company is solvent because it could have large long-term liabilities which dwarf its cash generating capabilities.
- It does not reveal whether the company's ongoing operations are actually profitable. Cash flow in any given period could look strong or weak due to timing rather than the underlying strength of the company's business.

1. Operati	ing		2. Investir	ng
Line Item	Example items	Value (US\$)	Line Item	Example items
Net Income	Net income from IS	13,000	CapEx	Purchase of new
Depreciatio n	Depreciation of e.g. plant equipment	4,000	Asset sales	processing machine Sale of office
Accounts Receivable	Increase in AR from last BS	(6,000)	Asset sales	furniture and equipment
Inventory	Decrease in inventory from	9,000	Investing Cash Flow	
	last BS		4. Overall	
Accounts Payable	Decrease in AP from last BS	(5,000)	Line Item	
Operating Cash Flow		15,000	Net increase	e in cash
2 Einene	in a		Cash at beg	inning of year
3. Financ	ing		Cash at end	of year
Line Item	Example items	Value (US\$)		
Payment of long-term debt	Bank loan repayment	(2,000)		
Cash dividends	Pay equity holders	(1,000)		
Financing Cash Flow		(3,000)		

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Sample cash flow statement (FY16)



#### Cash from operating activities

 Cash flow from operating activities (CFO) indicates the amount of money a company brings in from its ongoing, regular business activities, such as manufacturing and selling goods or providing a service to customers. It is the first section depicted on a company's cash flow statement

Cash flow from operating activities = EBIT + Depreciation – Tax paid + changes in working capital\*

#### \*Working capital: Typical components include:

- Receivables: Cash not yet received from customers
- Inventory: Cash that is tied up in goods/stock, work in progress and finished goods not yet sold
- Other current assets: e.g., prepayments
- Payables: Cash owed to suppliers
- Other current liabilities e.g., deferred interest

#### WC = Current Assets - Current Liabilities

Current Assets

Current

Liabilities

#### Cash from investing activities

• Cash flow from investing activities is the cash that has been generated (or spent) on non-current assets that are intended to produce a profit in the future. Types of activities may include capital expenditures, lending money, and sale of investment securities

Cash flow from investing activities = Purchase/sale of long terms assets (CAPEX) + Purchase/sale of other businesses (M&A) + Purchase/sale of marketable securities

#### Cash from financing activities

• Cash flow from financing activities (CFF) is **a section of a company's cash flow statement**, which shows the net flows of cash that are used to fund the company. Financing activities include transactions involving debt, equity, and dividends

Cash flow from financing activities = Issue of new capital + Issue of new debt repayment of debt and interest - dividend payments

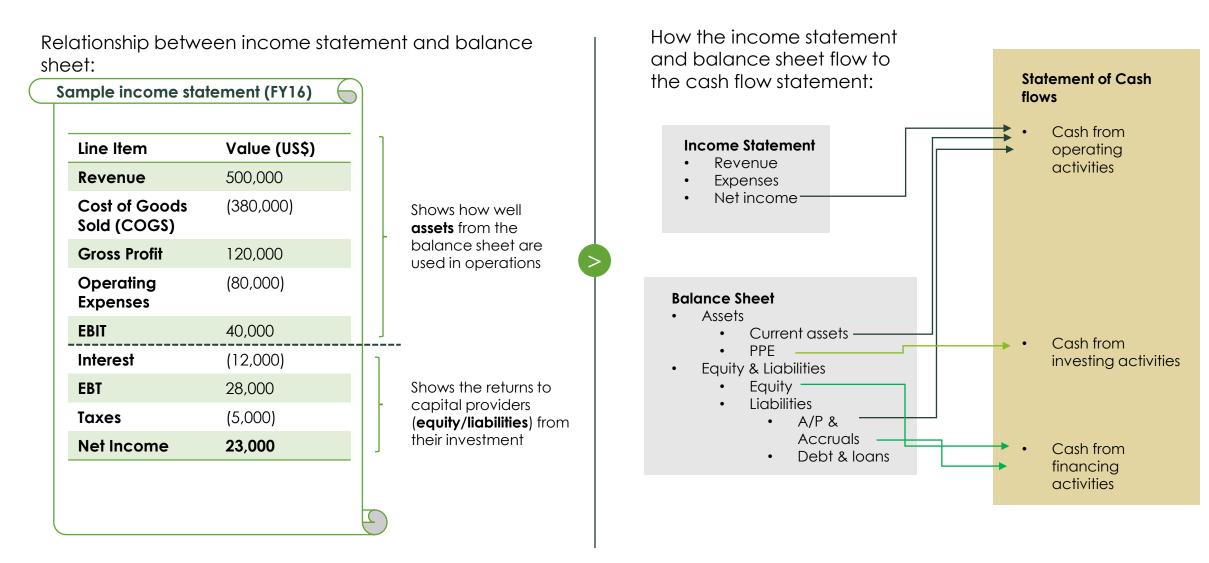






## Each of the three statements are tied and flow into each other







# There are three key groups of ratios that an enterprise should track

## AGRA Growing Africa's Agricult

#### **Profitability ratios**

**Profitability**: A company's ability to generate earnings compared to its expenses

#### Gross Margin (%)

- = (Sales Cost of Sales) / Sales
- The % sales that the company retains after incurring the direct costs associated with producing the goods and services it sells
- Gross Margins should be calculated for each product sold by the company

#### EBITDA Margin (%)

- = EBITDA / Sales
- Company's profitability before deductions that are not part of the operating costs

#### Net Profit Margin (%)

- = Net Profit / Sales
- Bottom line view of how profitable the business is, considering both operational and additional expenses (interest, tax, depreciation/amortization)

#### Return On Equity, ROE (%)

= Net Profit / Shareholder Equity

• ROE calculates how many dollars of profit a company generates with each dollar of shareholders' equity

#### Liquidity ratios

**Liquidity**: A company's ability to pay off its short-term obligations

**Current ratio** (at least 1.0x to ensure solvency)

= Current Assets/Current liabilities

#### Quick ratio

= (Current assets – inventory)/current liabilities

 Refers to the ability of the company to pay for its short-term obligations (i.e., supplier invoices etc.)

Fixed asset cover (at least 1.0x; ideal >1.5x) =Book or market value of tangible fixed assets/total debt outstanding

#### Solvency ratios

**Solvency**: A company's ability to meet its long-term obligations

#### Interest Coverage Ratio ( > 1.25 ; ideally > 1.50 ) = EBIT / Interest Expenses

 Determines the ability of a company to pay interest expenses on outstanding debt

#### Debt Service Coverage Ratio (DSCR)

(%) ( > 1.25 ; ideally > 1.50 ) = Free Cash Flow / Total Debt Service Free Cash Flow = EBITDA – CAPEX – Tax

 Determines the ability of a company to service its total outstanding debt





Introduction



## **3** Financial Modelling



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# Financial models are important decision making and negotiating tools



#### A financial model is a representation in numbers of a company's operations in the past, present, and the forecasted future

#### Why build a financial model?



Decision Making

- 1. A financial model is a powerful tool to inform management, strategic and budgeting decisions
- 2. Decision makers can estimate the impact of their decision on the company's financial performance



- 1. A financial model allows for sensitivity or scenario analysis, assessing shocks on key variables.
  - These may include movement in variables such as interest rate, exchange rate, inflation, commodity price etc



- Investor negotiation
- 1. Allows the company to reflect the project or transaction accurately to investors
- 2. Serves as a tool to negotiate
- 3. Allows the company to quantify the value (or safety) of a debtors claims against the firms assets





When building a financial model, make sure to capture the following:



1. Clearly define each assumption and group assumptions together



- 2. Apply one formula per row
- 3. Break down calculations into bite size pieces

Computation

4. Do not use hard coding

1. Keep inputs, calculations and outputs separate and ensure that they flow (Ensure that all model tabs flow from left to right, top to bottom)

- 2. Apply purposeful and consistent formatting
- 3. Present key outputs clearly in a concise output sheet

"The best financial models are simple enough for anyone to understand, yet dynamic enough to handle complex situations" ~Tim Vipond









- Sales/revenues are key in determining the profitability of the investment
- It is important to accurately forecast this line item as it is the anchor for several other line item forecasts

The main assumptions affecting sales/revenue forecasts include:



Future prices could be modelled based on:

- Inflation adjustments Prices in local currency can be increased by annual inflation factor
- Price escalation Prices could also be raised based on an escalation factor derived from factors such as historical trends, or other price considerations e.g. brand power

Market / historical price research is needed Potential data sources include: Country central bank database, FAO, World Banks, <u>RATIN</u>



- Forecasting quantities sold would be informed by factors such as
  - Yields of different crop varieties e.g., biennial yields in avocados
  - Market dynamics (market size, market share, customer segmentation etc.)
  - Production capacity depending on the nature of the business and/or product



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High / low season pricing or crop fruiting may cause significant variability in monthly volumes sold hereby affecting the WC requirements and cash flow position of the business



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Costs are broken down into:

#### 1. Cost of goods sold (COGS)

• This refers to the direct costs of producing the goods sold by a company. It includes the cost of the materials and labor directly used to create the good

#### 2. Overhead costs

- Refers to the amount it costs to run the business, including rent, insurance, and utilities.
- These expenses cannot be directly traced to the production of a product or service

### 1. Cost of Goods Sold (COGS)

There are 2 commonly used approaches to modelling costs:

- i. Absolute
- ii. Relative

### Absolute method

- Breakdown **cost categorie**s and focus on the fundamentals of the 2-3 cost items that form 80-90% of cogs (per unit). Non-material costs can be bundled together as other direct costs
- Use historical pricing, inflation factors, currency devaluation dynamics, price escalation factors etc to forecast future costs per unit

### Relative method

- Use historical gross margins to back calculate cost of goods sold (COGS)
- Apply factors such as improvement in cost synergies through bulk discounts, economies of scale, etc. for accurate projections
- You may use gross margin data from comparable companies to sense check your projections







### 2. Overheads

- Similar to COGS absolute approach, overheads can be modelled using historical or relative approach as well, for example:
  - Marketing expense, sales and distribution can be forecasted as a % of revenue
  - Staff costs (forecast new hires, and average salary and then grow these at the inflation rate)
  - o G&A (historical costs, grow at inflation)
- Ensure the following are properly captured in order to model your overheads accurately:
  - Direct Costs of Sales in overhead
    - Any costs directly related to production, processing, and selling of goods should **not** be allocated as overhead.
    - If these costs remain in overhead, they will distort the gross margin result and mislead on the profitability of the products sold
  - Scalability of overheads
    - If the model begins with a start-up phase, it is essential to **size up** the overhead to the meet the growing operations.
  - Currency of overhead Identify the overhead costs that are in local currency vs those that are in hard currency (i.e. USD). This will reflect the impact of local currency movements into the overhead



3 Modelling CAPEX and Depreciation



#### Overview

- The goal of CAPEX and Depreciation modelling is to present in the Financial Statements the following:
  - i. Depreciation P&L/Income statement
  - ii. Capex—— Cash Flow Statement
  - iii. Gross PPE and Accumulated Depreciation —— Balance Sheet
  - iv. Calculate related metrics

### 1. Modelling CAPEX:

The aim is to model **CAPEX** maintaining a **dynamic** model, and **avoiding hard coded** figures

• Inputs should be driven by fundamental figures e.g.



• Break this into number of acres, price per acre, target purchase date etc



- If a substantial line item, break it down into number of vehicles, price per vehicle, target purchase date, etc
- Another approach to modelling CAPEX would be using **historical ratios** e.g., ROA, CAPEX as % of revenue
- A simplistic approach is assuming that capex is **spread out over the year**, but this can lead to an understatement of monthly cash requirements



#### 2. Modelling Depreciation:



- The simplest assumptions is using the straight-line method and fully depreciated (nil disposal value)
- Key inputs are:

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i
Asset costs (gross PPE)
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- Refers to total asset expenditure before depreciation, calculated using historical costs (assets are reported at the original purchase cost)
- Current gross PPE = Previous Period Gross PPE + Period Capex – Period Disposals



- Is an accounting estimate of the number of years an asset is likely to remain in service for the purpose of cost-effective revenue generation
- It is used to calculate % depreciation per period e.g., 5year useful life translates to 20% depreciation per annum



Period Depreciation

- This is the amount of depreciation charged in the income statement
- Period depreciation = (Previous period Gross PPE + Capex current period – fully depreciated assets)\*Asset % depreciation





## Modelling debt and interest



- The goal of debt modelling is to present in the Financial Statements the following:
  - i. Outstanding balance Balance sheet
  - ii. Interest costs ----- Profit or loss/ Income statement
  - iii. Principal drawdown and principal and interest repayment ——— Cash flow statement
- Considerations for debt modelling:

Item	Considerations
Principal	<ul> <li>Number of disbursements</li> <li>Seasonal vs equal repayment</li> <li>Grace periods</li> </ul>
<b>T</b> enor	<ul><li>Start date</li><li>End date</li></ul>
Coupon/interest	<ul> <li>Compounding frequency</li> <li>Interest</li> <li>Grace periods</li> </ul>
Other	<ul> <li>Fees (Arrangements, commitment, legal fees, other)</li> <li>Debt Service Reserve Account (DSRA)</li> <li>Covenants(Gearing, DSCR, etc.)</li> </ul>





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#### Overview

Working capital refers to the operating liquidity available to a business

Working Capital = Current Assets – Current Liabilities

The strength of a company's working capital can be calculated using the current ratio

Current Ratio = Current Assets/Current Liabilities



The higher the ratio, the greater a company's flexibility to expand operations.



The ideal ratio depends on your industry and particular circumstances. If it is less than 1:1, this usually means a company is struggling to pay its bills. Even when the ratio is higher than 1:1, you may have difficulty, depending on how quickly you can sell inventories and collect accounts receivable.



A ratio of 2:1 usually provides a reasonable level of comfort.



### 5 Modelling Working Capital



- The change in opening / closing balances of each WC element represents the movements in working capital
  - These changes are linked to the **cash flow movements** in working capital discussed earlier How to think about movements in working capital

Payables	Receivables	
<ul> <li>Payables is a current liability</li></ul>	<ul> <li>Receivables is a current asset</li></ul>	<ul> <li>Receivables is a current asset</li></ul>
and is the cash not yet paid	and is the cash not yet received	and is the cash not yet received
to suppliers	from customers	from customers
<ul> <li>An increase in payables</li></ul>	<ul> <li>An increase in receivables</li></ul>	<ul> <li>An increase in inventory results</li></ul>
results in an increase in cash	results in a decrease in cash	in a decrease in cash available
available and vice versa	available and vice versa	and vice versa
<ul> <li>Payables = (payable days/360)*COGS</li> </ul>	<ul> <li>Receivables = (receivable days/360)*credit sale (Revenue may be used as a proxy)</li> </ul>	<ul> <li>Inventory = (inventory days/360)*COGS</li> </ul>

 A simplistic approach to modelling working capital is looking at the historical receivables period, payable period and inventory period and using these to inform forecasts

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## Valuation Methodologies

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# Intrinsic and relative valuation approaches provide a comprehensive perspective to a company's value



- Valuation is the process of determining the current worth of a business, using objective measures, and evaluating all aspects of the business
- There are 2 main valuation methodologies: Intrinsic and Relative valuation
- While intrinsic valuation is derived from the fundamental analysis of the company's cash flow generation potential, relative valuation (comparables) is derived by comparing a company and comparable peers

	Public listed companies (Trading comparables)	Assume you want to buy a car,	
<b>Relative Valuation</b>	Precedent transactions (Transaction comparables)	to decide a fair price to pay, you could compare with the relative value of comparable cars on the	
	Supplemented by research into industry valuation trends in relevant geographies and sectors	market	
2 Intrinsic Valuation	Discounted Cash Flow (DCF)	or you could determine a price based on a cash flow analysis that considers the present value	
ininnsic valuation	Net Present Value (NPV) of Earnings	that considers the present value of all rental income the property can generate	

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## An overview of the different valuation methodologies

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	1 Relative valuation		2 Intrinsic valuation		
	Public listed companies	Precedent transactions	ctions DCF	NPV of Earnings	
	Core approach	Core approach	Core approach	Core approach	
<u>Overview</u>	Use valuation multiples of similar companies that trade publicly	Use valuation multiples from PE transactions in similar regions and industries	Discount projected free cash flows using the cost of capital	Discount projected earnings using the cost of capital	
<u>Benefits</u>	Simple to employ	The quickest way to sense- check a valuation	Directly leverages future expectations Is a reliable tool for investors	Earnings could be seen as a more accurate metric of projected value	
<u>Drawbacks</u>	Firms often operating at a much later stage in more developed markets, trading at higher multiples	Difficult to find sufficient information on comparable transactions, esp. for smaller ticket-size deals	DCF methods are considered difficult to understand and operate. They are especially difficult to calculate for financial services (Agfintech) due to issues with Capex and net working capital)	Many assumptions are hard to predict over long-term. It is heavily reliant on assumptions and estimations of future cash flows	

## Go ye forth and model!

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Discussion

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## Supplementary knowledge resources

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- <u>http://www.privateequityvaluation.com/Valuatio</u> <u>n-Guidelines</u>
- FAST Standard (http://www.fast-standard.org/)
- SMART Principles (http://www.corality.com/smart)



## Q&A Session

Please email dealroom@agra.org if you have any follow up questions