



USER MANUAL

CASE BUILDER MODEL

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1. Introduction

1.1. General information

FinRobot is an automatic assembler of financial Models in Microsoft Excel. It allows you to set online parameters for your project and download a financial Model with working formulae and input fields in Microsoft Excel.

When ordering your Model online, sensitive financial data about your business does not need to be inputted, if you prefer not to. Your Model will be delivered with dummy financial data, which can be replaced with your own inputs off-line as needed.

Your Model can be further modified off-line. Unlike the black box solutions, the code and type of formulae are intentionally simple and transparent.

Currently, FinRobot provides six customisable templates or models called 'Base Model', 'Case Builder Model', 'TopLine Model', 'Manufacturing', 'Quick IRR Model' and 'Quick RE Development Model'. This Manual describes the functionality of the 'Case Builder' Model. To read more about our other Models please refer to their respective manuals (available on-line and as a download in pdf).

The Model's accounting principles are neutral to the specificity of national or global accounting standards such as GAAP or IFRS. If you wish to make sure that a particular standard relevant to your business is coded correctly, please seek advice from professional accountants in your country.

Initial understanding of the Model's layout and templates can be achieved by viewing screenshots of the Model from the Models' section of our site. Note that yellow fields are data input fields which can be re-populated with data off-line without any risk of unintentionally altering the functionality or structure of the Model.

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The Institute of Chartered Accountants in England and Wales (ICAEW) has recognised FinRobot's Case Builder Model as being compliant with [ICAEW's Twenty Principles for good spreadsheet practice](#). The purpose of these Principles is to help reduce the amount of time wasted, and the number of errors caused, by businesses

(including accountancy practices) as a consequence of the way they and their employees use spreadsheets.

Attention

In compliance with Principle 20 of the Principles, all worksheets of the Model **are locked** except for designated **data input fields**. If you need to change working areas of the Model you can unlock any tab by going to the Review menu at the top of Excel and clicking on 'unprotect sheet' button. Default password is **finrobot**, but you may wish to substitute a password of your own choice in place of the default. We recommend the Model is locked again after any planned changes to avoid accidental overwrites by end users.

Please ensure you make a back-up after downloading your Model.

* Users should be aware that the Case Builder Model does not cover all aspects of good spreadsheet practice and therefore should ensure that they follow the best practice appropriate to their specific circumstances when relying upon spreadsheets.

1.2. Software requirements

The Model has been successfully tested for Microsoft Office Excel 2007-2010. If your installation of Microsoft Office is different, you may wish to use free Microsoft Office converters. However, we do not guarantee that the Model will retain all of its

functionality and graphical representations if opened in a different version of Microsoft Office. We recently tested our Models for Excel 2013 and found no immediate compatibility issues.

Attention

Case Builder Model is equipped with a small macros code in order to populate the Case Analysis report. The macro is used to cycle through all Cases present in the Model. To use this functionality of the Model your Excel settings should allow for macro content with a file extension of .xlsm. If for security reasons you choose to disable macro Case Analysis report would not work.

1.3. Case Builder Model functionality

Case Builder Model allows users to build, analyse and compare up to five forecast scenarios, or operating cases, for a business or a project. The Model allows toggling between cases to run an active case through full set of financial statements. New feature specific to Case Builder Model generates consolidated report for all cases at a push of a button. Functionality of the Case Builder Model can be outlined as follows:

- Select between two and five operating scenarios, or cases, with individual cost drivers driven by revenue percentage or by growth rate, as desired, toggle between cases to produce financial statements for an active case;
- Analyse and compare all cases with the help of Case Analysis report tab which shows operating and valuation metrics for all cases present in the Model (requires macro enabled in Excel settings);
- Choose your own calendar start and stop dates and periodicity: monthly, quarterly or annually;
- Populate your own opening balance sheet data with functionality to change it later in Excel;
- Choose up to five debt elements in the capital structure with individual rates and amortisation profiles;
- Populate data for of up to five elements of your CapEx program, with individual depreciation schedules;
- Generate three forms of financial statements – balance sheet, P&L and cash flow, and calculate tax liability and loss carry forwards;
- Calculate NPV and IRR for your business or project for each operating case with ability to generate consolidated report for all cases;
- Rename key elements of your P&L and balance sheet to suit your business environment with functionality to make later changes in Excel.

The Case Builder Model provides additional flexibilities and built-in functionality. Please read more below.

2. Inputting data when assembling the Model online

Once you are a registered and logged-in user, you can click the Assemble button with the description box for the Case Builder Model on the Models' page of the site.

Data input is completed in 4 stages, or Steps. Inputs such as labels for line items, financial and operational assumptions can be changed later off-line. However,

structural parameters of the Model cannot be easily altered once the Model is purchased.

Hence, there are no default settings for structural parameters. The user needs to consider the options provided and to decide what configuration is desired. Structural options are entered at Step 1 and, partially, at Steps 3. Please read more below.

When assembling a model - to proceed to the next Step click 'Next'. 'Save' button remembers all entered data. After saving you can leave the assembly Steps and continue later by clicking 'Continue' button at the top of the User Account page.



When inside the assembler, you can always go one Step further by clicking 'Next' or return to previous Step by clicking 'Back'. If you wish to globally restore default dummy values for assembled Model navigate 'Back' to Step 1 and click 'Restore Default' button. 'Reset' button restores default values locally for any current Step. You can always refer to on-line version of the Manual for more details by pressing 'Help' button.

2.1. Step 1. Setting the Case Builder Model's structure

Step 1 configures key settings and parameters of the Model. Note that your choices of language, timeline, number of cases, fixed asset classes and debt elements are structural and cannot be easily altered once the Model is purchased. The following table summarise the choices available to users at Step 1 of the Model's online assembly:

| Input field | Comment |
|----------------------------------|---|
| Select your language | Current available in English or Russian. Note that switching Model's language would completely reset your language environment including entry forms and commentary fields. |
| What is the step interval? | Step interval can be set to year, quarter or month. By definition, the combination of the number of periods and periods' step would set the timeline for your Model. |
| What is the start date? | The Model assembler would only allow a first date of any month to be the Model's start date. Non-conforming day of the month entry will automatically revert to the first day of the month chosen by user. Note that, if your start data is not January 1st then your reporting periods and annual summaries would not fall on calendar quarter and year ends. |
| How many periods do you require? | Can be set to any integer value between 3 and 60. By definition, the combination of the number of periods and periods' step would set the timeline for your |

| | |
|---|--|
| | <p>Model.</p> <p>Please note that when selecting monthly or quarterly periods you are not restricted to make the total match to full number of years. For example, your project can forecast out for 38 months, or equivalent to 3 years and 2 months. In such a case, the annual summary would only pick up two months in the fourth year of your forecast. The annual DCF and IRR tab would not compute properly unless adjusted accordingly – please refer to section 3.12 of the Manual.</p> <p>If your project is very short-term, e.g. less than 2 years, additional consideration should be given to IRR calculations as described in section 3.12 of the Manual.</p> |
| How many Cases in the model? | Can range from 2 to 5. Each case has independent revenue, direct costs and overheads assumptions. Please see details for Step 3 below. |
| How many Fixed Assets Items in the model? | Can be any integer value between 1 and 5. This is a structural input and cannot be reversed once the Model is purchased. For each class of the Fixed Assets you can create its own amortisation profile as described in Step 7 below. Once you download the Model you can populate data for your forecast investment program. This information is not available for input at the assembly stage on-line. |
| How many Debt Instruments Items in the model? | Allowed range is between 1 and 5. Please note that the first debt element is always present and is an automatic cash sweep, or an overdraft facility. This balances your cash flows irrespective of whether your project or business is cash-generative or cash-consuming in any forecast period. All additional debt elements have manual repayment schedules. You can populate these in accordance with your debt terms once the Model is purchased. |

2.2. Step 2. Customising labels for COGS and Overhead items, setting tax rate and currency

This Step has no structural inputs and can be skipped during on-line assembly except for selecting your currency option.

Select your currency option as described below and skip the rest of this Step if you are happy to receive the Model with default labels and values. You can replace any of these off-line when the Model is purchased.

The following table summarise the choices available to users at Step 2 of the Model's online assembly:

| Input field | Comment |
|-------------|---------|
|-------------|---------|

| | |
|--|--|
| Labels for Cost of Goods Sold Items | By default, you are offered four COGS items. Please also note that you cannot have variations in labels for different Cases. |
| Labels for Overhead Items | By default, you are offered four Overhead items. |
| Your Corporate Tax Rate | Sets the income (corporate) tax rate. The default (dummy) value is 20%. |
| Currency, select from list Customise currency | Sets the Model's currency. The Model does not conform to any currency coding standard so you can input any name or currency code as needed by typing a text value or a symbol of your choice. For example, your currency can be GBP or £. Alternatively, select most common currency codes from the pull down menu provided. |
| Currency unit | Sets scales for monetary units. Default value is in thousands, or 000s. If you wish to change to millions or any other scale, you would have to make sure the revenue line in the Model is computing properly – e.g. if your revenues are expressed in millions then your sales volume is assumed to be in millions too. |

2.3. Step 3. Populating revenue and costs assumptions

Step 3 has a combination of structural and non-structural elements. The structural elements refer to your choice of fixed vs. variable drivers for cost elements (see detailed description below). The assumptions for your sales forecasts and the values assigned to selected drivers are not structural and can be modified off-line.

Step 3 is broken into the number of sub-steps equivalent to the number of Cases chosen at Step 1. Hence, if you only chose two Cases, only two sub-steps will appear. If you select more, then you should expect to as many sub-steps as chosen at Step 1.

The following step-by-step guide is referring to one Case only as each product input screen is identical to the others. Note that Step 3 field legends react to your choice of inputs from previous Steps. For example, if you configured the Model to be in USD and in 000's, legends for Step 3 would incorporate your choices as shown in the table below (legends dependent on previous Steps are shown in [square brackets]).

At this Step you can (repeated for each Case):

| Input field | Comment |
|------------------------|---|
| Default Value > [Base] | Name your case for easy of reference. Note that you can re-label cases off-line in the purchased copy of the Model. |
| Revenue Assumptions | Captures forecasts for physical sales volume and |

| | |
|--|---|
| <p><i>For First Forecast Period</i></p> <p>Volume, ['000s]</p> <p>Average Price, [USD]</p> <p>Revenue, ['000s USD]</p> <p><i>For [N] Next Forecast Periods</i></p> <p>Volume Growth, % per annum</p> <p>Price Growth, % per annum</p> | <p>product pricing assumptions. Note that data for the first forecast period is entered in absolute terms is the base level for driving subsequent periods by growth rates.</p> <p>If you do not wish to have independent drivers for volume and pricing, then set the volume of sales and its growth factor to 1 and 0 respectively. Your pricing and revenue lines will then show identical data for all forecast periods.</p> |
| <p>Cost of Goods Sold Assumptions</p> <p>[Raw Materials] * 4 elements</p> <p><i>For First Forecast Period</i></p> <p>['000s USD]</p> <p><i>For [N] Next Forecast Periods</i></p> <p>Fixed / Variable Driver</p> <p>Input, %</p> <p>Overhead Assumptions</p> <p>[Administration] * 4 elements</p> <p><i>For First Forecast Period</i></p> <p>['000s USD]</p> <p><i>For [N] Next Forecast Periods</i></p> <p>Fixed / Variable Driver</p> <p>Input, %</p> | <p>Captures forecasts for cost of goods sold and overhead assumptions. Note that data for the first forecast period is entered in absolute terms as the base level for driving subsequent periods by growth or margin rates.</p> <p>The fixed/variable driver input requires user to identify the type of driver for each cost element: fixed cost element will forecast out at growth rates set by user; variable cost element is modelled as a percentage of revenue (e.g. margin driven). This choice is structural and cannot be reversed once the Model is purchased.</p> <p>By default, all COGS elements are preset to be variable costs, while all overhead elements are fixed costs. You can change fixed-variable assumption on item-by-item basis irrespective whether such item belongs to COGS or Overheads category.</p> <p>However, fixed-variable settings for the first Case is universal for all Cases. It is not possible to have Raw Materials as a fixed cost for [Base] Case and then as a variable for [Optimistic] Case. The choice is driven by the logic of your business and not by an operating Case.</p> |

2.4. Step 4. Populating opening balance sheet positions and related assumptions

This Step has no structural inputs and can be skipped during on-line assembly if you are happy to have the downloaded Model populated with dummy numbers.

You can replace dummies off-line once the purchased Model is downloaded. If you choose to insert your assumptions, note that such data or similar financial information on your business or project is stored on our servers for seventy-two hours only. Beyond this timeframe, the data in the archived Model reverts to dummy numbers.

The following table summarise the choices available to users at Step 4 of the assembly:

| Input field | Comment |
|------------------------|---|
| 'Clear Balance' button | If your project or business is a green field and has no |

| | |
|--|---|
| | <p>prior history then the opening balance sheet can be set to zero. The Clear Balance button on the right hand side of the input form will null all balance sheet items with one click.</p> |
| <p>Long Term Assets</p> <p>Gross PP&E</p> <p>Accumulated Depreciation</p> <p>Net Fixed Assets</p> <p>Financial Investments</p> <p>Deferred Tax Assets</p> <p>[Other Long Term Assets]</p> <p>Current Assets</p> <p>Cash</p> <p>[Debtors]</p> <p>[Inventory]</p> <p>[Other CA]</p> <p>Current Liabilities</p> <p>[Creditors]</p> <p>[Short Term Revolver]</p> <p>[Other CL]</p> <p>Long Term Liabilities</p> <p>[Bank Debt Tranche A – D]</p> <p>[Other Long Term Liabilities]</p> <p>Equity & Reserves</p> | <p>Allows populating data for your opening balance sheet items. The balance sheet structure is fixed (except for number of debt elements selected at Step 1) and cannot be changed.</p> <p>Note that Step 4 field legends react to your choice of inputs from previous Steps. For example, if you configured your Model to have two debt facilities and custom named them, Step 4 would incorporate your choices (legends dependent on previous Steps are shown in [square brackets]).</p> <p>If your historic balance sheet has more items than what is provided for by the assembler, we suggest you analytically aggregate these to match the number of items allowed in the Model.</p> <p>This step also allows for entry of interest rates assumptions for cash/debt items and days turnover ratios for calculating the working capital requirements. These are not structural changes and can be changed later off-line.</p> <p>To change interest rates assumptions directly in the Model go to the opening balance sheet tab. Working capital drivers can be found in the working capital tab of the Model.</p> |
| <p>Check</p> | <p>You cannot proceed to the next input step if the total assets and liabilities values do not match. The check field at the bottom of the input screen would indicate if there is an input error.</p> |

You are done customising your Model.

2.5. Requesting demo and purchasing options

After completing Step 4 you can click 'Next' and select 'Request Demo' button. The demo version of the Model would be assembled and appear in your User Account available for download. You will receive a notification via email that your demo is ready. Requesting a demo is free.

The demo version would not have any live formulae or links. Otherwise all formats, settings and labels would be exactly as profiled by you during the on-line assembly stage.

Please note that the input form does not allow for entry of your CapEx program. It should not be a cause of concern that the demo version does not show any investments going forward throughout the forecast periods.

CapEx program and depreciation rates can be populated off-line when working with the Excel file of the purchased Model. Most labels for line items, currency, units and more can also be changed with ease. Please refer to following section of the Manual for details.

Please study the demo to ensure that all the structural and labelling elements come out as desired. If something is not right at this stage, you can assemble a new model with revised input parameters.

Alternatively, you can proceed to Buy options and get a fully functioning Model delivered to your User Account. You can always convert any of your demos stored in the User Account to a live working Model by clicking on Buy option next to the demo Model you wish to purchase.

3. Working with the Excel file of the Model

Case Builder Model is designed for building, analysing and comparing of up to five forecast scenarios, or operating Cases, for a business or a project. The Model allows toggling between Cases to run an active Case through full set of financial statements. You can control which Case is being run (is active) in the Model by toggling inputs on Navigation tab or DCF tab as described below.

Note that headers for all tabs would indicate what the active Case is. The feature helps to avoid mistakes as well as assists in exporting data for reporting and presenting purposes. Note that although it is only possible to run one Case at a time, Case Analysis report helps to combine outputs from all Cases present in the Model. Please see below for details.

Please note that in the Excel file of the Model, fields marked with yellow background are **data input fields**. You can re-populate these with your own data without any risk of altering the structural layout of the Model. However, please be careful when making changes to the calendar and the periodicity of the Model. Please refer to the Model's calendar in section 3.3.2 below.

Attention

In compliance with Principle 20 of [ICAEW's Twenty Principles for good spreadsheet practice](#), all worksheets of the Model **are locked** except for designated **data input fields**. If you need to change working areas of the Model you can unlock any tab by going to the Review menu at the top of Excel and clicking on 'unprotect sheet' button. Default password is **finrobot**, but you may wish to substitute a password of your own choice in place of the default. We recommend the Model is locked again after any planned changes to avoid accidental overwrites by end users. Please ensure you make a back-up after downloading your Model.

3.1. 'Navigation' tab

'Navigation' tab allows for clickable navigation between all tabs in the Excel file of the Model. By clicking on the block with any tab's name, you will be instantly 'jumped' to the respective tab.

You can also control from 'Navigation' tab where the active Case selector is. You can switch Cases on 'Navigation' tab itself as shown on the diagram below, or, alternatively, activate the switch on 'DCF' tab. The latter option is helpful when conducting valuation analysis.

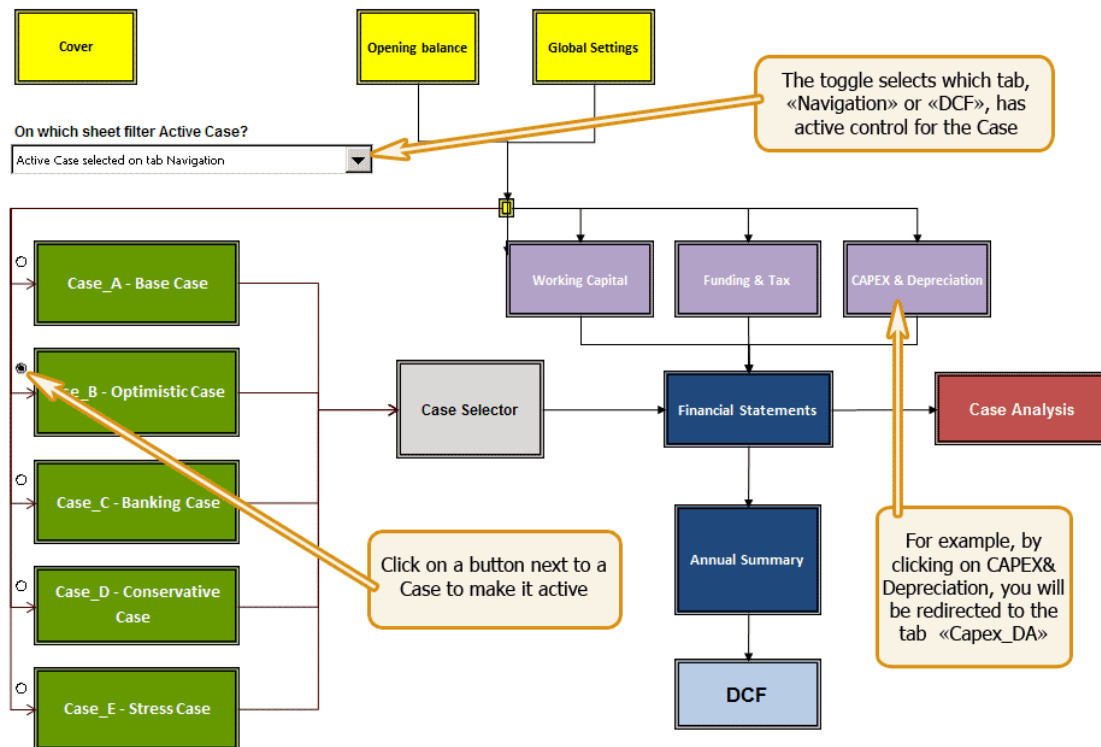


Figure 3.1. Navigation tab of the Model

Navigation hyperlink is located in the upper left corner of each tab. Clicking it will return you to 'Navigation' tab.

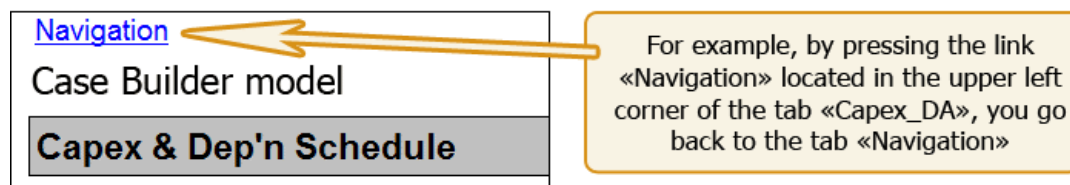


Figure 3.2. Upper left corner of the tab Capex_DA' with 'Navigation' hyperlink

NB: To make hyperlinks work cell A1 of all tabs has a hidden marker containing tab's name. Although cell A1 in each tab appears empty, it is essential for the Model's navigation to work properly. Do not remove this cell.

3.2. 'Cover' tab

There are three fields at the centre of the tab. When the Model is opened for the first time the fields show the following:

| | |
|--|---|
| Model for Financial Robot Version: Case Builder model Date: 06 Jan 2014 | Upon the first view the FinRobot's preset attributes of the Model are shown by default: Project and Model name and the current date |
|--|---|

Figure 3.3. Centre of 'Cover' tab with default values

You can change the above references on the cover page by going to the tab called 'General Settings' ('Global'). At the top of 'Global' tab you can assign your own labels for the cover page, including the project name, version or date. The latter, unless manually overridden, will always show the current date whenever the file is re-opened.

| | |
|---|--|
| Model for My Project Version: Case Builder model Date: 06 Jan 2014 | Example of manually adjusted labels for the Cover tab modification are shown |
|---|--|

Figure 3.4. Centre of 'Cover' tab showing new project name

3.3. 'Global' tab

In addition to Cover settings (as per above), 'Global' tab contains general data inputs required by all other tabs of the Model to function properly.

If you populated all fields when assembling the Model on-line there is nothing in the Global tab that requires your immediate attention. However, if you left the on-line form with dummy or default values, 'Global' tab would be a good place to start populating the Model with your own data as follows:

| Input Area | Comment |
|----------------------------|---|
| Project & Model attributes | Your project or business name, model version and date (as illustrated immediately above) in section 3.2 'Cover' tab |
| Calendar | <p>The next block of cells deals with the calendar and periodicity of the Model. Whilst you can easily change the Model's start date we generally do not recommend changing its periodicity. If, however, it is absolutely necessary, please consider that:</p> <ul style="list-style-type: none"> Any changes to the Model's periodicity should match with the period counters in lines 14 to 16 (counters of months, quarters, years) and cell G17 (number of periods). If not done properly, some or all period dependent functions and calculations including interest charges, amortisation schedules and annual summaries may not perform as expected and should be checked for errors. |

Attention

Resetting the Model's periodicity is for advanced users only. FinRobot does not guarantee the Model will respond to change and work correctly.

| | | | | | |
|--------------------------|---------------|-----------|-----------|-----------|-----------|
| Period Start Date | Date_BoP | | 01 Jan 14 | 01 Apr 14 | 01 Jul 14 |
| Period End Date | Date_EoP | 31 Dec 13 | 31 Mar 14 | 30 Jun 14 | 30 Sep 14 |
| Month Counter | Month_Count | | 12.0 | 24.0 | 36.0 |
| Quarter Counter | Quarter_Count | | 4.0 | 8.0 | 12.0 |
| Year Counter | Year_Count | | 1.0 | 2.0 | 3.0 |
| Number of Periods Flag | Nperiod | 4.0 | | | |
| Time step duration, Days | step_d | 91.3 | | | |
| Time step name | step_name | Quarters | | | |
| Income Tax | CT | 20.0% | | | |
| Currency | FX | USD | | | |
| Currency Unit | X | 000s | | | |

Figure 3.5. Inputs for the Model's calendar and periodicity

Income tax field is located immediately below the calendar items.

| Input Area | Comment |
|------------|--|
| Income Tax | Default value for Corporate or Income tax rate is 20% unless changed during the assembly stage |

All remaining editable areas of 'Global' tab - as described below - are labels for various line items used elsewhere in the Model. Unless changed during the assembly stage these will show default values. You can replace any default label with something more suitable for your business. Your inputs will be picked up throughout the Model automatically

| COGS Items | |
|--------------------|------------------|
| Name or Name Range | Assign Value |
| COGS1 | Raw Materials |
| COGS2 | Personnel |
| COGS3 | Fuel & Utilities |
| COGS4 | Leases |

Figure 3.6. Relabeling COGS items

| Input Area | Comment |
|--|---|
| Currency | Type in your own currency code in the field provided. The field is pure text and is not restricted to any currency code. For example, you may opt for GBP or £ |
| Currency Unit | Currency unit or scale is set to 000s by default. The field is pure text label, so if you wish to scale your Model in millions, etc. your volume and pricing per unit assumptions should be scaled accordingly |
| Cost of Goods Sold Items Central Cost Items | Shows labels for your Cost of Goods Sold and Central Cost (Overhead) items. These labels are picked up by Cases' tabs of the Model. |
| Capex & Dep'n Items | Shows labels for your fixed assets picked up by CapEx and Depreciation tab of the Model |
| Working Capital Items | The next input area shows labels for current assets and liabilities picked up by the Working Capital and Financials' tabs. Please note that there are logical limitations for renaming working capital items. First three items are driven by days' ratios, whilst the last two are extras for booking manual adjustments such as one-offs and non-recurring items (for details please see the section on 'Working Capital' tab below). |
| Debt & Long Term Balance Sheet Items | Contains labels for your debt financing and long term balance sheet positions picked up by Funding and Financials' tabs. The total number of debt items shown would depend on the choice made during the on-line assembly. |
| Cases | The last input area allows re-labelling Cases. If a Case name is changed in this area the Model would automatically update names for Cases in all headers and reports throughout the Model. Your version of the Model would show as many entry fields as the number of Cases selected during on-line assembly stage. |

3.4. 'Opening balance' sheet tab

If you entered financial data for your opening balance sheet positions during the online assembly stage, then it will be present in the purchased Model and can be changed in this tab as required. If your project or business is a greenfield, then your opening balance sheet positions could be set to zero. Rates for your opening and forecast debt financing are inputted in this tab alongside respective balance sheet position.

The labels for the balance sheet items present in this tab are sourced from 'Global' tab and will react to any changes made to 'Global' tab as per above.

If balance sheet structure for your business is more detailed or itemised than what is provided for in the Model, we advise you to group similar line items.

If the total amounts of assets and liabilities match, then the check field at the bottom of the tab will be green and show 'OK'. If there is an input error, the check field will be red and show the amount of discrepancy between the total assets and the total liabilities.

! Attention

There is one more 'OK'/'Error' check field at the top of 'Opening balance' sheet tab. 'OK' status indicates that all forecast balance sheets in the financial statements of the Model are balancing properly for all forecast periods. This integrated all-period balance sheet check is reproduced in all tabs of the Model to alert users if a new input makes balance sheets 'going off'.

3.5. 'Case A' – 'Case E' tabs for operating assumptions

The number of tabs providing calculations for product revenues and costs matches the number of Cases selected during the on-line assembly stage. The tabs are marked with letters from 'A' to 'E'. For example, if only two Cases were selected at the stage of online assembly, then only 'Case A' and 'Case B' tabs will be present in the Model. You can name cases as desired (see 'Global' tab for details).

All Case tabs are identical structurally. However, note that COGS and Central Costs (Overhead) drivers differ between fixed and variable depending on the choice made during the assembly stage. Unless user specific data was submitted on-line the tabs will be populated with dummy numbers.

| Input Area | Comment |
|-----------------------|--|
| Revenue assumptions | Shows volume of sales (in units) and average prices for each product line for the first forecast period followed by computed volumes and prices based on growth drivers for all subsequent forecast periods. The Revenue line is computed automatically. Please, make ensure that the scale of your units and currency matches what is required. E.g. 000s of units and price per 000s units will result in revenues expressed in millions. |
| COGS Central Costs | Input absolute amount for each COGS and Central Costs element for the first forecast period (base) followed by computed costs driven by growth rate or margin (% of revenues) assumption depending on choice made during the online assembly of the Model. Please refer to section 2 of the Manual for further consideration |

! Attention

Note that when the downloaded Model is opened for the first time, growth and margin drivers are set flat over time but can be changed to any desired trajectory for each driver. For example, annual revenue growth may decelerate whilst costs as % of revenue may demonstrate improvements.

As detailed in Section 2 of the Manual, the Model takes in growth rates expressed in annual terms. If your Model is quarterly or monthly, the Model will calendarise growth rates accordingly. For example, input of 10% annual growth rate in a quarterly model will compute as 2.5% for quarter-on-quarter calculations. There is no need for manual adjustments.

Finally, it is not required to drive revenues by both volume and pricing assumptions, you can set sales volume to 1 and assign 0% growth rate to the volume factor going forward. The price line will then equal revenue line.

[Navigation](#)
Case Model

| Base Case - Operating Assumptions | | Projected Fiscal Period Ending | | |
|--|-------------|--------------------------------|----------|----------|
| (USD in 000s, except otherwise stated) | | Mar-14 | Jun-14 | Sep-14 |
| Volume | 000s | 800.0 | 832.0 | 865.3 |
| Annual Growth Rate | % per annum | | 4.0% | 4.0% |
| Average Price | USD | 55.0 | 56.7 | 58.3 |
| Annual Growth Rate | % per annum | | 3.0% | 3.0% |
| Revenue | USD 000s | 44 000.0 | 47 132.8 | 50 488.7 |
| Annual Growth Rate | % per annum | | 7.1% | 7.1% |

Enter sales volume for the first forecast period in thousand units

Enter revenue growth rates for all subsequent forecast periods in % per annum

Enter average price for each product line for the first forecast period

Enter price growth rate for all subsequent forecast periods in % per annum

Figure 3.7. Inputs for sales volume and average product pricing

| Base Case - Operating Assumptions | | Projected Fiscal Period Ending | | | |
|--|----------|--------------------------------|----------|----------|--------|
| (USD in 000s, except otherwise stated) | | Mar-14 | Jun-14 | Sep-14 | Dec-14 |
| COGS | | | | | |
| Raw Materials | USD 000s | 18 000.0 | 18 853.1 | 20 195.5 | 21 633 |
| Raw Materials / Revenue | % | 40.9% | 40.0% | 40.0% | 40 |

Enter total cost of raw materials in the 1st period, thousand USD

Enter raw materials assumption as % of revenues for all subsequent forecast periods

Figure 3.8. Example of inputs for variable cost elements

| Base Case - Operating Assumptions | | Projected Fiscal Period Ending | | | |
|--|----------|--------------------------------|--------|---------|--------|
| (USD in 000s, except otherwise stated) | | Mar-14 | Jun-14 | Sep-14 | Dec-14 |
| Leases | USD 000s | 1 000.0 | 942.7 | 1 009.8 | 1 081 |
| Annual Growth Rate | % | | 2.0% | 2.0% | 2 |

Enter total costs of Leases in the 1st period, thousand USD

Enter Leases assumption as annual growth rate for all subsequent forecast periods

Figure 3.9. Example of Inputs for fixed cost elements

3.6. 'Case Selector' tab

'Case Selector' tab acts as a data bridge between operating Cases and the rest of the Model. Data for active (selected) Case flows through this tab and is picked up by the Model's financials and supporting schedules. The tab is designed to enhance integrity of the Model and no data entry is required.

The master control switch allows assigning active switch to either 'Navigation' or 'DCF' tabs for Case selection. The control box located in the top left of the tab shows the current status of case selection such as which tab - 'Navigation' or 'DCF' - has an active Case switch, which Case is selected on each of these two tabs, and, finally, what is the active Case being run through the Model.

3.7. 'Capex&Dep'n Schedule' tab

'Capex & Dep'n (depreciation) Schedule' tab contains all inputs and workings necessary to drive investment and depreciation fed into financials. The tabs' structure and inputs are determined by the on-line assembly stage – please refer to Section 2 of the Manual for details.

When adding or changing assumptions in this tab you should note the following:

| Input Area | Comment |
|------------------------------|--|
| Capex Input | <p>Any class of fixed assets can be renamed or re-labelled in 'Global' tab and the number of classes shown at the top of the tab should match on-line configuration.</p> <p>Input area to change depreciation assumptions for each class.</p> <p>Input area for manual entry of your CapEx programme going forward. Each class of assets may have individual investment profile. The totals will be picked up to calculate funding and cash flows for the business</p> |
| Depreciation – Existing PP&E | <p>The existing fixed assets are considered as one single group of assets with one average input for their remaining life. Gross value and accumulated depreciation amounts are picked up from 'Opening balance' sheet tab</p> |
| Depreciation – New Assets | <p>No additional input or assumptions required. The workings compute depreciation charges for each asset class for each period. The totals are picked for by tax computations and financials</p> |

The key input fields are illustrated below.

Enter expected life for new assets expressed in years

| CAPEX Input | | | | |
|---------------------|--|-----------------------------------|--------------------------|----------------|
| Capex Input | | Depreciation period, Years | | |
| Buildings | | 50.00 | Years | |
| Machines | | 11.00 | Years | |
| Equipment | | 7.00 | Years | |
| Land | | - | Years | |
| Other FA | | 5.00 | Years | |
| Total amount | | | | |
| Depreciation | | | | |
| Existing PP&E | | Gross Amount | Accumulated depreciation | Remaining Life |
| | | USD 000s | USD 000s | Years |
| | | 140 000.0 | (20 000.0) | 3.50 |

Enter the average remaining life for the existing fixed assets

Figure 3.10. Inputs required for computing depreciation charges

| Capex & Dep'n Schedule | | Projected Fiscal Period Ending | | | |
|--|----------|--------------------------------|------------|-----------|-----------|
| (USD in 000s, except otherwise stated) | | Mar-14 | Jun-14 | Sep-14 | Dec-14 |
| CAPEX Input | | | | | |
| Capex Input | | | | | |
| Buildings | USD 000s | - | (10 000.0) | - | - |
| Machines | USD 000s | - | - | (5 000.0) | (4 000.0) |
| Equipment | USD 000s | - | - | (3 000.0) | (2 500.0) |
| Land | USD 000s | (6 000.0) | - | - | - |
| Other FA | USD 000s | - | - | (1 500.0) | (1 500.0) |
| Total amount | USD 000s | (6 000.0) | (10 000.0) | (9 500.0) | (8 000.0) |

Enter your investment program going forward

Figure 3.11. Investment program input schedule

3.8. 'Working Capital' tab

'Working Capital' tab calculates working capital requirements for your business or project. Any data were provided during the on-line assembly stage with respect to working capital items will appear in this tab. Otherwise the tab will be populated with dummy numbers.

Please note that the principles behind working capital computations are as follows:

| Input Area | Comment |
|-----------------------|--|
| Debtors | Driven by % of Revenue expressed in days. Opening value picked up from 'Opening Balance' sheet tab, name can be changed in 'Global' tab |
| Inventory | Driven by % of COGS and is expressed in days. Opening value picked up from 'Opening Balance' sheet tab, name can be changed in 'Global' tab |
| Creditors | Driven by % of Total Costs and is expressed in days. Opening value picked up from 'Opening Balance' sheet tab, name can be changed in 'Global' tab |
| Other CA and Other CL | Other items do not have explicit drivers. These are extras for manual adjustments if needed. For example, if there is a one-off settlement item in the future which needs to be booked into accounts without disrupting regular receivables and payables |

! Attention

The Model default layout assumes that drivers expressed in terms of days do not vary over time. If you operate under a different assumption, override the formula cells to the right of the yellow inputs (as per illustration below).

| Working Capital - Base Case | | Projected Fiscal Year Ending | |
|--|----------|------------------------------|-----------|
| (USD in 000s, except otherwise stated) | | Mar-14 | Jun-14 |
| Revenue | USD 000s | 122 500.0 | 135 936.6 |
| COGS | USD 000s | 103 750.0 | 114 169.6 |
| CC & Overheads | USD 000s | 11 800.0 | 12 422.0 |
| Working Capital | | | |
| Debtors - Days of Revenue | Days | 30.0 | 30.0 |
| Inventory - Days of COGS | Days | 40.0 | 40.0 |
| Creditors - Days of Total Costs | Days | 50.0 | 50.0 |
| Changes in Other CA | USD 000s | - | - |
| Changes in Other CL | USD 000s | - | - |

Enter days turnover ratio for accounts receivable, inventory and accounts payable

Manual entry fields for adjusting other short-term assets/liabilities

Figure 3.12. Inputting working capital assumptions

3.9. 'Funding & Tax' tab

'Funding & Tax' tab contains workings for financing and corporate tax computations. The structure should match the assumptions provided during the on-line assembly stage – please refer to Section 2 of the Manual for details.

Similar to other balance sheet items the opening positions for debt elements and their respective labels are picked up from 'Opening Balance' sheet tab and 'Global' tab respectively.

The interest rates are set and can be changed in 'Opening Balance' sheet tab. Rates are expressed in annual terms and automatically calendarise depending on the chosen periodicity of the Model. There is no need to adjust anything if your model is quarterly or monthly.

By default, any period interest charge for any debt obligation is calculated based on the opening position. If there are large fluctuations due to borrowing and/or repayments this method can skew the computed result from what is actually expected.

Attention The Model allows more accurate calculations of interest charges by switching to computing interest charges based on average debt positions. This would require the Model to go circular by turning on the cyclical interest calculation switch. The switch is located in the upper left corner of 'Financials' tab. Note, that if the switch is on, then Excel settings (options) should have iterations (cyclical) options turned on too.

| Funding and Tax Calculations - Base Case | | | | |
|--|-----------------|--------------------------------|------------------|------------------|
| Debt Schedule | | | | |
| (USD in 000s, except otherwise stated) | | Projected Fiscal Period Ending | | |
| | | Mar-14 | Jun-14 | Sep-14 |
| Beginning Cash Balance | USD 000s | 200.0 | - | - |
| Required Minimum Cash Balance | USD 000s | - | - | - |
| Cash From Operations | USD 000s | (3 845.6) | (5 868.4) | (4 232.7) |
| Less: Net Mandatory Debt (Repayment) | USD 000s | - | - | - |
| Less: Dividend Payments | USD 000s | - | - | - |
| Funds Available to Repay Debt | USD 000s | (3 645.6) | (5 868.4) | (4 232.7) |

Enter minimum cash balance for each forecast period as a negative

Figure 3.13. Minimum Cash Balance

Each debt element except for overdraft facility would have its own repayment profile (as shown below):

| Navigation | | Finrobot LIMITED | | | |
|--|----------|------------------|-----------|-----------|-----------|
| Case Builder Model Ok | | | | | |
| Funding and Tax Calculations - Base Case | | | | | |
| Debt Schedule | | | | | |
| (in USD 000s, except otherwise stated) | | Mar-14 | Jun-14 | Sep-14 | Dec-14 |
| Bank Debt Tranche A | | | | | |
| Annual Cost of Facility | 6.0% % | | | | |
| Beginning Balance | USD 000s | 20 000.0 | 19 000.0 | 18 000.0 | |
| Mandatory (Repayment) | USD 000s | | (1 000.0) | (1 000.0) | (1 000.0) |
| Discretionary Borrowings / (Repayment) | USD 000s | | | | |
| Ending Balance | USD 000s | 20 000.0 | 19 000.0 | 18 000.0 | 17 000.0 |
| Cash Interest Expense | USD 000s | | 300.0 | 285.0 | 270.0 |

Manual repayment profile

Figure 3.14. Standard debt profile layout

The tax calculations part of 'Funding & Tax' tab contains workings for your tax liability and cash tax payments. The schedule takes earnings before tax from 'Financials' tab, allows for manual adjustment to reported earnings, and finally provides for any loss carried forward in case there is a taxable loss in any given period, which can be offset against taxable income in the future.

The default assumption is that taxable turnover matches the reported in 'Financial' tab, and no manual adjustments are necessary.

! Attention

FinRobot does not provide tax advice and the Model is not attempting to represent a real tax environment. You should seek advice from a tax specialist if you wish to model a tax environment compliant with tax laws and regulations relevant to your business.

3.10. 'Financials' tab

'Financials' tab contains three standard financial reports, viz. profit and loss, balance sheet and cash flows. The tab does not require user inputs except for Exceptional Items and Equity distributions as described below. All other data are picked up from tabs covered in the earlier section of the Manual.

! Attention

The financial statements are purposefully generic. As our clients are located in various countries and operate under different accounting standards we cannot make the Case Builder Model compliant with particular accounting standard.

Instead, we make reports relatively simple and easy to navigate or adjust if needed. Our experience shows that the majority of our clients are satisfied with our approach, particularly for the purposes of preparing management accounts and/or investment decision analysis.

The Net Exceptional Item allows for manual entry of exceptional items, which are not practical to model, but are known occurrences within the forecast period. For

example, a known gain from disposing of non-core other assets. Note that the Model implicitly assumes that any exceptional loss or gain is a cash item. If your circumstances are such that an exceptional item is non-cash, you need to disconnect the link between extraordinary P&L items and cash flow items and book your P&L item somewhere to a corresponding line of the balance sheet. Such adjustments would require good working knowledge of the Model. Otherwise, there is a risk that the balance sheet would 'go off' and the check flag would indicate red.

The Equity Issue line of the cash flow allows for manual entry of any forecast cash distributions (dividends or buybacks) or capital fundraising (issue). A positive entry means equity is raised. Negative means cash is returned to shareholders. If you wish to use the line for a dividend program, it is possible to link up the cash flow equity line to a % net income from P&L.

3.11. 'Annual Summary' tab

'Annual Summary' tab is designed to automatically aggregate data for monthly and quarterly models into an annual summary. The tab does not require any user input.

Please note that if your monthly or quarterly forecast periods do not accrue to full number of years, the last forecast year in 'Annual Summary' tab will pick up the residual amounts. For example, if the Model's timeline is 38 months long, then year four of the summary will show results from operations for two month only.

The minimum number of years shown in 'Annual Summary' tab is three. Hence, if your project is less than two years you are likely to see 0 in the last column of the summary. Note that for any length of the project the summary would pick up the correct last available projected balance sheet whether it falls on a year end, or not.

3.12. 'DCF Analysis' tab

'DCF Analysis' tab provides valuation metrics with respect to your project or business as outlined in the Model. The outputs are presented in grid form for Firm Value and Equity based on NPV computations and as % IRR on Firm Value basis.

Additional analysis is available with respect to the terminal value for the business as a going concern. You can compare implied perpetuity growth to assumed multiple for terminal value and vice versa.

'DCF Analysis' tab picks up the data from 'Annual Summary' tab. Hence, all financial information is presented on annual basis irrespective of the underlying periodicity of the Model.

! Attention

Please note that if your project is finite and its length does not accrue to full years of forecast, then NPV and IRR may require adjustments as set out in clause 5 below. For projects with duration of less than two years we advise setting Terminal Value to equal zero.

To run and interpret data with the help of 'DCF Analysis' tab please consider the following:

| Input Area | Comment |
|------------------------------|--|
| Terminal Value Exit Multiple | <p>Picks up midpoint of terminal value EBITDA multiple from 'Case Analsys' tab as it is Case specific (refer to next section for details). The model will populate the output grid based on a step of +/-0.5x</p> <p>If your project is finite you may consider assigning zero for the exit EBITDA multiple. This will make sure there is no terminal value to account for going concern value beyond your forecast horizon. Note that any projects with life of less than two years would not have any Terminal Value computed as the minimum forecast length to capture Terminal Value impact is set to three years or more</p> <p>If the number of your forecast periods do not accrue to full years there may be a problem with how the terminal value is computed. The Annual Summary will pick up less than the full year of cash flows and EBITDA for terminal value computations. As a result, terminal value and NPV for the business will come out less than expected. There is a quick fix to correct this by increasing the exit multiple accordingly. For example, if your last annual summary contains only six months of cash flows, adjust your exit multiple by increasing it by 2x</p> |
| WACC | <p>This is the rate at which the cash flows are discounted. You need to insert one central value to the left of the output grid and the Model will populate the grid vertically based on a step of +/-1%</p> <p>Additionally, in case of timeline not matching to full number of years you should consider adjusting the discount rate for the last year of forecasts. To do this, in line 59 (calculation of average annual discount rate) in the column corresponding to the last year of forecasts (incomplete year), the discount factor step up from the preceding year should be changed from 1 to a different number. For example, if the last (incomplete) year contains only 3 months, then the step up in discount factor should be equal to $0.5+(3/12)*0.5 = 0.625$</p> |

Exit Multiple for each Case is sourced from «Case Analysis» tab

| Case Builder Model | | Finrobot LIMITED | | |
|--|-----------|--------------------------------|-------------|-----------|
| DCF Analysis - Base Case | | | | |
| Investments as of | 31 Dec 13 | USD 000s | 1 000.0 | |
| Net Debt as of | 31 Dec 13 | USD 000s | (39 000.0) | |
| Invested Capital | | USD 000s | (119 000.0) | |
| (in USD 000s, except otherwise stated) | | Terminal EBITDA Multiple Range | | |
| | | 5.5x | 6.0x | 6.5x |
| TV | | 314 253.3 | 342 821.8 | 371 390.2 |
| WACC | | Firm Value as of 01 Jan 14 | | |
| | 9.5% | 257 189.2 | 275 336.7 | 293 484.2 |
| | 10.0% | 252 037.0 | 269 775.7 | 287 514.5 |
| | 10.5% | 247 018.5 | 264 359.5 | 281 700.6 |
| WACC | | Implied Perpetuity Growth Rate | | |
| | 9.5% | 3.6% | 4.1% | 4.5% |
| | 10.0% | 4.1% | 4.5% | 4.9% |
| | 10.5% | 4.5% | 5.0% | 5.4% |

Enter your WACC for the business

Figure 3.15. WACC and exit multiple assumptions

| Input Area | Comment |
|---|--|
| Capital Invested | By default, capital invested in the business to date equals to the amount of net operating assets as per the opening balance sheet, and can be adjusted upwards or downwards if the actual capital spent is higher or lower respectively. Note that for new greenfield projects the capital invested amounts may equal zero |
| Valuation Date Balance Sheet Date Investment Date | The Valuation Date is used to value projects at a specific date other than the start of the project. The Balance Sheet date will carry net debt and investments forward to the Valuation Date to make sure Firm Value and Equity Value are computed on the same basis. The Investment Date is used to calculate IRR. It is helpful if you want to analyse returns on investments done in the distant past relative to future cash flows. For greenfield projects the Investment Date is irrelevant |
| Unlevered Tax | 'DCF Analysis' tab contains a separate tax schedule in order to compute unlevered tax charge consistent with application of WACC (as |

| | |
|----------|---|
| Schedule | per MM2 theorem). The unlevered tax schedule provides for manual adjustments to book items disallowed for tax relief purposes |
|----------|---|

Enter your Valuation Date here. For example you would like to assess the value of your business in there month time from the start date of the Model

| | | | | | |
|-------------------|-----------|----------|-------------|--------------------|-----------|
| Investments as of | 31 Dec 13 | USD 000s | 1 000.0 | Valuation Date | 01 Jan 14 |
| Net Debt as of | 31 Dec 13 | USD 000s | (39 000.0) | Balance Sheet Date | 31 Dec 13 |
| Invested Capital | | USD 000s | (119 000.0) | Investment Date | 31 Dec 13 |

Invested Capital amount is needed to calculate IRR for businesses with non-zero opening balance sheets. By default the value equals to the business' net operating assets position

Investment Date is used for the purposes of IRR as it is the attribute for Invested Capital amounts

Figure 3.16. Setting dates and Net Debt and Invested Capital parameters

! Attention

IRR function implies that either there is some invested capital upfront or that first period cash flow is negative, e.g. cash flow series have to start with a negative number. If this is not the case, for example, you project shows positive cash flows for all periods and requires no upfront capital IRR calculation would return an error.

3.13. 'Case Analysis' tab

The last tab of the Model called 'Case Analysis' is designed to generate reports for all operating cases present in the Model with one click of a button. Click 'Generate Report' button located at the top of the tab and a built-in macro would do the rest.

! Attention

To run this tab marco should be enabled in your general Excel settings. Normally, when you open a file with a macro-code inside it, Excel would automatically ask whether you want such content enabled. If for security reasons you wish to disable macro, the code behind Generate Report button would not work.

| | | | |
|---|----------|---------------------------|--------|
| Navigation Case Builder model | | | |
| <div style="border: 1px solid green; background-color: #90EE90; padding: 5px; display: inline-block;">Generate Report</div> | | | |
| Case Analysis | | | |
| KPIs Analysis | | | |
| (in USD 000s, except otherwise stated) | | Projected Fiscal Year End | |
| | | Mar-14 | Jun-14 |
| Pick KPI's row from Financials => | | 44 000 | 49 368 |
| Revenues | | | |
| Base Case | USD 000s | 50 000 | 57 750 |
| Optimistic Case | USD 000s | 45 000 | 51 975 |
| Banking Case | USD 000s | 40 000 | 46 200 |
| Conservative Case | USD 000s | 35 000 | 40 425 |
| Stress Case | USD 000s | 30 000 | 34 650 |

Figure 3.17. Case Analysis report – generating outputs and customizing KPIs

Another customization feature present in ‘Case Analysis’ tab is the possibility to vary exit assumptions across cases (as shown below). The rationale is that different operating assumptions behind each case can imply different risk and growth profile, hence, translating into exit multiples being case specific.

Note that the Model’s active case selector would pick up the right exit multiple assumption depending on the data in the table shown below. When report for all cases is generated it would cycle through this input and match each Case valuation to its exit assumption.

| | | | |
|---|----------------------|---------------------------------------|-------------|
| Navigation Case Builder model | | | |
| <div style="border: 1px solid green; background-color: #90EE90; padding: 5px; display: inline-block;">Generate Report</div> | | | |
| Case Analysis | | | |
| Valuation Dashboard | | | |
| | Exit Multiple | Equity Value | IRR |
| | EBITDA, x | USD 000s | % per annum |
| Base Case | 6.0x | 231 766 | 31.7% |
| Optimistic Case | 6.5x | 334 983 | 42.4% |
| Banking Case | 5.5x | 121 867 | 17.0% |
| Conservative Case | 5.5x | 106 745 | 14.5% |
| Stress Case | 5.0x | 70 030 | 7.9% |
| | | Terminal EBITDA Multiple Ratio | |
| | | 5.5x | 6.0x |
| | | 314 253.3 | 342 821.8 |
| | | Firm Value as of 01 Jun-14 | |
| | | 257 189.2 | 275 336.7 |
| | | 252 037.0 | 269 775.7 |
| | | 247 018.5 | 264 359.5 |
| | | Implied Perpetuity Growth Rate | |
| | | 3.6% | 4.1% |
| | | 4.1% | 4.5% |
| | | 4.5% | 5.0% |

Figure 3.18. Case Analysis report – customising exit assumptions