USER MANUAL

QUICK REAL ESTATE DEVELOPMENT MODEL

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Contents

1. Introduction

1.1. General information about FinRobot

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

An initial understanding of the Model's layout and templates can be achieved by viewing screenshots (previews) 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. Please ensure you make a back-up after downloading your Model.

1.2. Software requirements

Our Models have been successfully tested for Microsoft Office Excel 2007-2013. 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.

1.3. Quick RE Development Model functionality

Quick Real Estate (RE) Development Model performs back-of-the-envelope funding and returns calculation for a new real estate development. By entering few parameters on-line you can download an Excel model which based on your inputs spreads cash flows and calculates peak funding / break-even and expected returns for a new real estate project.

It is free and you can re-run your inputs off-line as many times as you like. To gain access to more functionality including debt leverage and taxes calculations (as described below) you may consider purchasing full version for a modest fee.

Our Quick RE Development Model allows you to -

- Choose your own calendar start and stop dates for the project (monthly, quarterly or annually)
- Input total footage of your project, acquisition (land), planning and construction costs required (the model will spread cash costs over user determined timeline)

- Assume gross to net footage area and sale value for completed property; the model will automatically spread sale proceeds over user determined timeline
- Assume amount of debt financing available (LTV) to fund acquisition, planning and construction phases (full version only), the model will automatically calculate drawdown and repayment schedules
- Perform IRR, required funding, break-even and payback calculations
- Compare pre- and post- tax cash flows and returns (paid version only)
- Differentiate inflation factors for individual revenue and cost items (full version only), the model will automatically adjust key real terms input variable for user defined inflation factors for each forecast period

Additional inputs can be manipulated in both free and purchased versions of the Model in Excel as shown in Preview. Note that yellow fields represent inputs easily changeable in the purchased Excel file, without you needing to know how to code in Excel. For further details regarding functionality of Free vs. Full versions please read more below.

2. Inputting data when assembling the Model online

Once you are a registered and logged-in user, you can click 'Assemble' button within the description box for the Quick RE Development Model on the Models/Tools page of the site. Alternatively you can select Quick RE Development Model by launching assembler from your User Account page.

The online assembly of the Quick RE Development Model is completed in two input screens, or Steps.

- The first Step - as described below - deals with the structural parameters of the Model. Most of these cannot be easily altered once the Model is purchased. See section 2.1 of the Manual for details.

- The second Step - as described below - allows entry of business assumptions. This data can be changed later off-line. See section 2.2 of the Manual for details.

Unlike Models from our Main Library, Quick RE Development Model has a free version you can gain immediate access to at the end of the assembly stage. Click 'Request Free Model' button to action the process. The Model is free, does not have a trial period and does not require any purchase or user payment data.

When assembling a model - proceed to next Step by clicking on 'Next' or return to previous Step by clicking 'Back'. '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.

If you wish to globally restore default dummy values for any Model navigate 'Back' to Step 1 and click 'Restore Default' button. You can always refer to on-line version of the Manual for more details by pressing the 'Help' button.

2.1. Step 1. Setting the Model's structure

Step 1 configures key settings and parameters of the Model. Note that your choices of language, periodicity and timeline are structural and cannot be changed once the Model is

purchased. The following table summarise the choices available to users at Step 1 of the online assembly:

Input field	Comment
Model's Language is	Current available in English or Russian. Note that switching Model's language would completely reset your language environment on our site.
Start Date (Land/Rights Acquisition) is	The Model assumes that any RE project starts when the land and related rights are acquired and there are no cash outlays prior to that event. Note that the assembler would only allow a first date of any month to be the Model's start date.
Model's Step is	Period Step can be set to year, quarter or month. The benefit of selecting month or quarter vs. year is that you get a more accurate read on your peak funding requirements and cost of funding, if debt leverage is present (paid version only).
Number of Periods is	Can be set to any integer value between 3 and 60. By definition, user selected combination of the number of periods and the Model's step would set the timeline for your Model.
Project Gross Area, [sq.ft] is	Input of total gross area to be constructed. Note it is your choice to measure in sq.ft, m2 or any other metric. The legend will automatically react to change in 'Project Area is Measured in' field to the right.
Model's Currency is Customise Currency	You can select currency from the pull down list or type in your own currency into 'Customise Currency' field.
Currency Units are in	You can choose to scale your model in thousands or millions depending on the overall size of your project
Project Area is Measured in	Input your metric for the Project's Gross Area. Note that your choice is not restricted and can be sq.ft, m2 or any other metric of your choice. The legend for Gross Area will update automatically.
Net to Gross Area Ratio is	The Ratio is used to calculate how much constructed space you can actually sell compared to area you have to build. Default value is set to 80% but should depend on actual architectural parameters of your project.

2.2. Step 2. Inputting investment costs and sales assumptions

Step 2 requires entry of business and operating assumptions for your project. Both free and purchased versions of the Model allow changing any of these inputs off-line. Please refer to section 3 of the Manual for more details.

Note that Step 2 field legends react to your choice of inputs from Step 1. For example, if you configured the Model to be Quarterly, USD and in thousands, legends for Step 2 would incorporate your choices as shown in the table below (legends dependent on Step 1 are shown in [square brackets]).

At this Step you can:

Input field	Comment
Acquisition Costs [USD Thousands]	Book total costs of acquiring land and related rights to develop the project. Note it is assumed that the cash outflow for this project occurs at the start of your forecast period (e.g. on the first day of the first month, quarter or year as per selected Step of the Model)
Planning and Consents [USD] per [sq.ft]	Input cost of planning and consents (permissions) per unit of gross project area. The entry form would automatically calculate total cost for this item based on Gross Area size booked at Step 1.
Planning and Consents, Start [Month] Planning and Consents, End [Month]	Sets the length of time required to complete planning and consenting phase of the project. Note that the model assumes that this phase immediately follows land acquisition and work on this phase always commences in period 2 of the Model
Construction Costs [USD] per [sq.ft]	Input construction costs per unit of gross project area. The entry form would automatically calculate total cost of construction for the whole of the project based on Gross Area size booked at Step 1.
Construction, Start [Month] Construction, End [Month]	Sets the length of time required to complete construction phase of the project. Note that the model assumes that you can not start construction prior to finishing planning phase. Hence, start period for construction would be automatically picked up based on end period for planning
Sales [USD] per [sq.ft]	Input assumptions for expected proceeds from sales of new property per unit of net project area (gross times the ratio of net to gross). The entry form would automatically calculate total expected proceeds based on Gross Area size and the Ratio booked at Step 1.
Sales, Start [Month] Sales, End [Month]	Sets the length of time required to sell off new real estate and wind down the project. Note that the model assumes that you can not complete any sales prior to construction phase. Hence, start period for sales would be automatically picked up based on end period for construction Please pay attention to the fact that end of sales can not go beyond the overall time line of the Model. If you attempt to

	assume sales end period which is not on your Model timeline determined at Step 1 the entry form would automatically replace your input with the last period of the Model

With completion of Step 2 you are done customising your Model. You can proceed to requesting a free version or to purchasing options as described in section 2.3 of the Manual.

2.3. Requesting free model and purchasing options

At the bottom of the screen for Step 2 you can click on 'Request Free Model' button. The free model would be assembled and appear in your User Account available for download. You will receive a notification via email that your model is ready. Note that you can always convert any of your free or demo models stored in the User Account to full purchased versions by clicking on 'Buy Model' button next to its free/demo listing.

Alternatively, you can opt to purchase full version of the Model. In this case click on 'Proceed to Buy Options' and the next screen will take you to the payment options. Upon payment confirmation the full version would be assembled and appear in your User Account available for download. You will receive a notification via email that your model is ready. You can always download a copy of your model from your User Account archive.

3. Working with the Excel file of the Model

Paid for version of the Quick RE Development Model provides additional functionality and analysis which are not available in a free version – please read below for further details. The free version will have these disabled and marked with blue shaded background.

Both free and purchased versions allow changes to certain non-structural variables and assumptions entered during on-line assembly stage as described below. Such input areas are marked with yelled background in the Excel file of the Model. You can re-populate these with your own data without any risk of altering the structural layout of the Model.

3.1. Input Assumptions and Return Analysis' box

In this area of the Model you can change business assumptions related to your project. The Model will take care of the rest and will run your data through formulae and into the output fields and graphs. An example of the Input Assumptions and Analysis' box is provided below.

Full version:

Input Assumptions and Returns Analysis

Key Structural Parameters:			Costs & Sales Assumptions	Real GBP mln	GBP per sq.m	Start Month	End Month	Price Index, % pa
Start Date = Land / Rights Acquisition Date		01/07/14	Acquisition Costs	80.0	533.3	1	1	
Model's Step is		Month	Planning & Consent Costs	7.5	50.0	2	3	3.0%
Currency is		GBP	Construction Costs	180.0	1 200.0	4	12	3.0%
Currency measured in	mln	1 000 000	Sales	336.0	2 800.0	13	19	3.0%
Area is measured in		sq.m	Funding & Returns:					Nominal GBP mln
Project Gross Area is		150 000	Corporate Tax Rate, %	30%			Equity Funding Required, GBP mln	108.6
Project Net Area is		120 000	Debt Loan-to-Value Ratio, %	60%			Debt Funding Provided, GBP mln	173.7
Net to Gross Ratio is		80%	Debt Rate, % per annum	12%			Equity Return, % per annum	39.6%
			Break-even achieved in 14 Months				Payback achieved in 19 Months	

Free Version (disabled options shown with blue background):

Input Assumptions and Returns Analysis

Key Structural Parameters:			Costs & Sales Assumptions	Real GBP mln	GBP per sq.m	Start Month	End Month	Price Index, % pa
Start Date = Land / Rights Acquisition Date		01/07/14	Acquisition Costs	80.0	533.3	1	1	
Model's Step is		Month	Planning & Consent Costs	7.5	50.0	2	3	
Currency is		GBP	Construction Costs	180.0	1 200.0	4	12	
Currency measured in	mln	1 000 000	Sales	336.0	2 800.0	13	19	
Area is measured in		sq.m	Funding & Returns:					Nominal GBP mln
Project Gross Area is		150 000	Corporate Tax Rate, %				Equity Funding Required, GBP mln	267.6
Project Net Area is		120 000	Debt Loan-to-Value Ratio, %				Debt Funding Provided, GBP mln	
Net to Gross Ratio is		80%	Debt Rate, % per annum				Equity Return, % per annum	30.1%
			Break-even achieved in 14 Months				Payback achieved in 18 Months	

As you can see from the above screenshots, input area labelled 'Key Structural Parameters' holds data from Step 1 of the online assembly whilst 'Costs & Sales Assumptions' area captures data entered during Step 2. Yellow fields denote inputs you can re-populate without any concerns to structural integrity of the Model. Please refer to sections 2.1 and 2.2 of the Manual for description of these input items.

In addition to inputs captured during on-line assembly Full version allows user to apply price index to their investments and sales items. Indexing can be achieved by applying values to column 'Price Index, % pa'. Note that irrespective of your Model's step price index is expressed in annual terms. Once the values are booked the Model will take care of the rest by applying correct inflation adjustment to relevant time periods of your Model.

The last area of the 'Input Assumptions and Return Analysis' box is labelled 'Funding and Return'. Some of it is disabled in the free version of the Model save for -

Input field	Comment
Equity Funding Required	Adds up all input costs for the project funded by equity. As free version of the Model does not have any debt leverage assumption Equity Funding Required amount equals funding requirements for the project as a whole.
Equity Return, % per annum	This is the end result of all calculations done by the model. Similar to Equity Funding Required above equity return and total project return would be the same in free version of the model.
Breakeven in [Months]	Finds a period when cash flow break-even is achieved based on inputted assumptions
Payback in [Month]	Calculates break-even period when cash flow to equity turns positive on cumulative basis

Please refer to the following section of the manual to read more on additional functionality of the paid version of the Model.

3.2. Additional Functionality of the Full Version

With reference to free version full version of the Model provides additional functionality as outlined in the table below:

Input field	Comment
Price Index, % pa	Apply price index or inflation factor to investments and sales assumptions. Note that irrespective of your Model's step price index is expressed in annual terms. Once the values are booked the Model will take care of the rest by applying correct inflation adjustment to relevant time periods and line items of your Model.
Corporate Tax Rate, %	Assumes that sale proceeds net of investment costs and interest charges would be taxed at this rate. To keep your project analysis at pre-tax level keep assign value of zero
Debt Loan-to-Value Ratio, %	By applying an LTV assumption expressed in % of total funding requirements the Model will start drawing on debt facility at set LTV % when funds are required during acquisition, planning and construction phases. Other things equal the higher the LTV ratio is the higher IRR equity providers should expect.
Debt Rate, % per annum	This is the cost of debt facility. Note that if LTV is set to %, then it does not matter what value is assigned to the cost of debt. Rate is expressed in per annum terms irrespective of the Model's step.
Debt Funding Provided	Calculates total funding provided by debt facility. Note that availability of debt would not reduce equity funding required dollar for dollar due to interest charges

The cash flow graph immediately below shows payment profile to equity. Note that if you apply leverage certain projected periods would show zeros during the sales phase. This is because the Model assumes debt repayment to be a priority. Once debt is repaid with interest remaining of proceeds from sales (net of tax charges) are distributed to equity.

3.3. Calculations area

The Model's calculations area is located below the Cash Flow graph. The end of the calculations area is marked with -

>> End of Sheet

Users are not required to alter any of the formulae in this area. However, there are no hidden lines or complicated formulae. If you feel comfortable with the data flow in these rows, you can adjust the logic to better suit your project's environment as you see fit.

Free version of the Model will have paid for functionality disabled but not erased. Such areas are marked with blue background.

Please, do not forget to make a copy of your Model before making any changes to the code.