



PPP FINANCIAL IMPLICATIONS OF PORT PROJECT

Technical Report

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Instructions

The model can be used in a top down approach beginning in the assumptions section. Following this are key inputs including macroeconomic assumptions, traffic indexes, cost indexes, interest rates, and exchange rates. The user next inputs data for all traffic assumptions which the model calculates based on the units selected. Other inflows such as subsidies and non-operating revenue are calculated following this.

The next section deals with operational outflows and requires inputs for variable costs, fixed costs, non-operating costs, and working capital calculations. Capital expenditures are broken out as new and existing fixed assets along with calculations for intangibles and other long-term assets.

The financial engineering section has inputs for commercial construction loans, export credit, revolving credit, existing debt, and new debt financing. Other sections within financial engineering include dividends, equity, tax, and trustee account calculations.

Finally fully functional financial statements are outputted for the company with key ratios and scenario analysis following. Multiple sensitivities can then be tested with the data results shown throughout the summary and return & metrics sections.

[x] refers to the index numbers used to reference a particular cell (see Index in the Appendix). For Example, [24] refers to the Inflation Adjustment for each period of the active model. This is not the row number; it is strictly an index number.

Some of the explanations contain a “sample formula”. This is only to be used as a guide to follow along when reading the “translation” of the formula from Excel code to plain English. The specific cells that are referenced in the formula may have been adjusted since the creation of this report and therefore may be different from what is present in the current version of the model.

Formulas in the model after index [23] containing “IF [16] Period To is blank” will have the clause disregarded in the explanations to avoid redundancy. Formulas contain this so the model will only run up until the final period stated in the initial inputs.

*Several words and operators are used interchangeably throughout the report. For example, multiply = *, divide = /, plus = + and subtract = –.*

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Part 1: Model Scope, Names, Dates and Timings

Model Assumptions

Assumptions

The cells here require the user's input and are located in the top left corner of Part One. There is also a section to the right of the Assumptions column that is 6 rows by 5 columns and contains words such as "Text", "Ratio", "Train", etc. These are used later in the model to construct headings and other inputs that use these common words.

[1] Name of Entity

- Enter the name of the port entity that will be used throughout the model

[2] Operational Benchmark

- Enter the name of the operational benchmark that will be used throughout the model

[3] Type of Model

- Dropdown menu with options "Port", "Highway", "Passenger", "Infrastructure", and "Freight" that is used to designate the type of model that will be run

[4] No. Quarters

- Enter the number of quarters that the model will be set to run

[5] Compounding Frequency

- Dropdown menu containing "1", "2", "4" or "12"
- Used to calculate how often compounding will be used in the model

[6] Model Starting Date

- Enter the date that the model will be set to start

[7] Type of Model (Number)

- Outputs a number based on [3] Type of Model
- =IF(D13=K20,1,IF(D13=K21,2,IF(D13=K22,3,4)))

- i. IF [3] Type of Model is = "Highway"
- ii. Then [7] is = 1
- iii. Otherwise IF [3] Type of Model is = "Passenger"
- iv. Then [7] is = 2
- v. IF [3] Type of Model is = "Infrastructure"
- vi. Then [7] is = 3
- 1 = "Highway", 2 = "Passenger" and 3 = "Infrastructure"

[8] End of Month?

- Formula checks if the date indicated in [3] Model Starting Date is the end of a month, which is then used in the calculation for [6] Model Ending Date and [12] Period From
- =IF(DAY(D12)>=28,1,)
 - i. IF the day entered in [6] Model Starting Date is Greater Than or Equal To 28
 - ii. Then [8] is = 1
 - iii. Otherwise [8] is = 0

[9] Model Ending Date

- This cell finds the end date by taking the start date (+ 1 if the model started at the end of the month) and adding the total number of months in the model divided by the compound frequency. EDATE returns the result as a date for when the model will end
- =IF(D16="", "", EDATE(D16+1, D14*12/D15)-A16-1)
 - i. IF [6] Model Starting Date is empty
 - ii. Then [9] is empty
 - iii. Otherwise take the end date of ([6] Model Starting Date + [8] End of Month? and [4] No. Quarters * 12 (months per year) / [5] Compounding Frequency) - 1

[10] Units

- Enter the name of the units that will be used throughout the model

[11] Name Of Home Currency

- Enter the name of the main currency that will be used throughout the model

[12] Name Of Foreign Currency 1

- Enter the name of the first foreign currency used by the company, if any

[13] Name Of Foreign Currency 2

- Enter the name of the second foreign currency used by the company, if any

Periods

Periods

[14] Periods:

- Number to reference the current period the model is in, which is equal to the previous value plus 1 with the first column starting at 0

[15] Period From:

- This row is used to determine the start date for the each period in the model

- First period:
- =IF(D16="", "", D16)
 - i. IF [6] Model Starting Date is blank
 - ii. Then [15] is left blank
 - iii. Otherwise [15] is = [6] Model Starting Date
- The formula first checks If [6] Model Starting Date has a value, if it does the first cell in the row inputs the starting date
- Later periods:
- =IF(OR(\$D\$16="", J30=""), "", IF((EDATE(J30, 12/\$D\$15) - \$I\$3-1) >= \$D\$17, "", (EDATE(J30, 12/\$D\$15) - \$I\$3)))
 - i. IF [6] Model Starting Date OR preceding [15] is blank
 - ii. Then current cell [15] is blank
 - iii. Otherwise IF the end date of (the preceding [15] and 12 / [5] Compounding Frequency) – [8] End of Month? – 1 is Greater Than or Equal to [9] Model Ending Date
 - iv. Then the current cell in [15] is blank
 - v. Otherwise the current cell is equal to the end date of (the preceding [15] + 12 / [5] Compounding Frequency) – [8] End of Month?
- Formula first checks if [6] Model Starting Date or the preceding cell has a value. It then checks if the preceding date plus (12 months divided by the compound frequency) is greater than [9] Model Ending Date which if true makes the cell blank. Otherwise it takes the proceeding date and adds (12 months divided by the compounding frequency) in order to get the next period starting date

[16] Period To:

- This row is used to determine the end date for each period in the model
- First period is equal to the first value of [15] Period From
- Later periods:
- =IF(J30="", "", EDATE(I31, 12/\$D\$15))
 - i. IF current [15] Periods From is blank
 - ii. Then current [16] Periods To is left blank
 - iii. Otherwise take the end date of (preceding [16] Periods To and 12 / [5] Compounding Frequency)
- Formula first checks if the [15] Period From date has a value. If yes, take the preceding [16] Period To and add 12 months divided by the [5] Compounding Frequency

[17] No. Days

- Row counts the number of days in each period between [15] Period From and [16] Period To
- =IF(J30="", "", J31-J30+1)
 - i. IF [15] Periods From is blank
 - ii. Then [17] is left blank
 - iii. Otherwise [16] Period To – [15] Period From + 1
- This formula subtracts the date in [16] Period To with the date in [15] Period From and adds 1 to get the number of days for that period in the model

[18] Model Period Starts Here:

- Row outputs a true or false value based on whether or not the model starts in that column
- =IF(I\$31="", "", AND(\$D\$16>=J\$30, \$D\$16<=J\$31))
 - i. IF [16] Period To is blank
 - ii. Then [18] is blank
 - iii. Otherwise IF [6] Model Starting Date is Greater Than or Equal To [15] Period From AND [6] Model Starting Date is Less Than or Equal to [16] Period To
 - iv. Then [18] is = True
 - v. Otherwise [18] is = False

[19] Model Period Started:

- Row outputs a true or false value based on whether the periods of the model have started
- First period:
 - =IF(I\$31="", "", AND(\$D\$16>=I\$30, \$D\$16<=I\$31))
 - i. IF [16] Period To is blank
 - ii. Then [19] is blank
 - iii. Otherwise IF [6] Model Starting Date is Greater Than or Equal To [15] Period From AND [6] Model Starting Date is Less Than or Equal to [16] Period To
 - iv. Then [19] is = True
 - v. Otherwise [19] is = False
- Later periods:
 - =IF(J31="", "", OR(I34, J33))
 - i. IF [16] Period To is blank
 - ii. Then [19] is blank
 - iii. Otherwise IF preceding [19] OR [18] Model Period Starts Here is = True
 - iv. Then [19] is = True
 - v. Otherwise [19] is = False

[20] Model Period Ends Here:

- Row outputs a true or false value based on whether or not the periods of the model end in that column
- =IF(J\$31="", "", AND(\$D\$17>=J\$30, \$D\$17<=J\$31))
 - i. IF [16] Period To is blank
 - ii. Then [20] is blank
 - iii. Otherwise IF [9] Model Ending Date is Greater Than or Equal To [15] Period From AND [9] Model Ending Date is Less Than or Equal to [16] Period To
 - iv. Then [20] is = True
 - v. Otherwise [20] is = False

[21] Model Period Ended:

- Row outputs a true or false value based on whether the periods of the model have ended
- First period:
 - =IF(I\$31="", "", AND(\$D\$17>=I\$30, \$D\$17<=I\$31))
 - i. IF [16] Period To is blank

- ii. Then [21] is blank
- iii. Otherwise IF [9] Model Ending Date is Greater Than or Equal To [15] Period From AND [9] Model Ending Date is Less Than or Equal to [16] Period To
- iv. Then [21] is = True
- v. Otherwise [21] is = False
- Later periods:
- =IF(J31="", "", OR(I36,I35))
 - i. IF [16] Period To is blank
 - ii. Then [21] is blank
 - iii. Otherwise IF preceding [21] Model Periods Ended OR [20] Model Period Ends Here is = True
 - iv. Then [21] is = True
 - v. Otherwise [21] is = False

[22] Active Integrated Model Period:

- Row outputs a "1" or "0" based on whether the current period is part of the active integrated model
- =IF(J31="", "", IF(AND(J34=TRUE,J36=FALSE),1,0))
 - i. IF [16] Period To is blank
 - ii. Then [22] is blank
 - iii. Otherwise IF [19] Model Period Started is = True AND [21] Model Period Ended is = False
 - iv. Then [22] is = 1
 - v. Otherwise [22] is = 0

Part 2: Macro-Economic Assumptions

Inflation Index

Inflation

[23] Annual Inflation Index %

- Calculates the inflation rate for every period in the model
- First cell in the row is an input for the opening rate of inflation
- Later periods:
- =IF(J\$31="", "", (1+\$I47)^(1/\$D\$15)-1+J48)
 - i. IF [16] Period To is blank
 - ii. Then [23] is left blank
 - iii. Otherwise [23] is = (1 + the preceding inflation in [23]) ^ (1/[5] Compounding Frequency) – 1 + [24] Inflation Adjustment
- This formula first checks if [16] Period To is blank; if true then [23] Inflation Index is blank, otherwise take the starting inflation to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [24] Inflation Adjustment

[24] Inflation Adjustment

- Manual input for the percentage increase or decrease in inflation each period

[25] Inflation End Period

- Takes an initial input for inflation at the end of the period and increments it by 1 + the percentage change in inflation each period
- $=I49*(1+J47)$
 - Preceding cell in [25] Inflation End Period * (1 + [23] Annual Inflation Index %)

[26] Inflation Mid Period

- Takes an initial input for inflation at the end of the period and increments it by 1 + the percentage change in inflation each period divided by 2 to get the mid-year inflation increment
- $=(I49+J49)/2$
 - (Preceding cell in [25] Inflation End Period + current [25] Inflation End Period) / 2

[27] Inflation Index

- Takes the values from [26] Inflation Mid Period and divides by 100 to get the percentage for [24] Inflation Mid Period
- $=I50/100$
 - [26] Inflation Mid Period / 100

[28] Inflation Per Period

- Calculates the incremental percentage of inflation each period
- $=(J52/I52)-1$
 - (Preceding [27] Inflation Index – current [27] Inflation Index) – 1

Traffic Index

Note: To avoid redundancy NT Domestic Traffic Index, ET Transshipment Traffic Index, and ET Domestic Traffic Index have been excluded as formulas are the same as NT Transshipment Traffic Index below

NT Transshipment Traffic Index**[29] NT Transshipment Traffic Index %**

- Calculates the traffic index rate for every period in the model
- First cell in the row is an input for the opening traffic index
- Later periods:
- $=IF(J333=0,0,(1+\$I63)^(1/\$D\$15)-1+J64)$
 - IF [16] Period To is blank
 - Then [29] is = 0
 - Otherwise [29] is = (1 + the preceding index in [29]) ^ (1/[5] Compounding Frequency) – 1 + [30] Inflation Adjustment

- This formula first checks if [16] Period To is blank; if true then [29] Traffic Index is blank, otherwise take the starting index to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [30] Inflation Adjustment

[30] Inflation Adjustment

- Manual input for the percentage increase or decrease in inflation each period

[31] NT Transshipment Traffic Index End Period

- Takes an initial input for the traffic index at the end of the period and increments it by 1 + the percentage change in the traffic index % each period
- $=I65*(1+J63)$
 - i. Preceding cell in [31] Traffic Index End Period * (1 + [29] Traffic Index %)

[32] NT Transshipment Traffic Index Mid Period

- Takes an initial input for the traffic at the end of the period and increments it by 1 + the percentage change in the traffic index % each period divided by 2 to get the mid-year index increment
- $=(I65+J65)/2$
 - i. (Preceding cell in [31] Traffic Index End Period + current [31] Traffic Index End Period) / 2

[33] NT Transshipment Traffic Index

- Takes the values from [32] Traffic Index Mid Period and divides by 100 to get the percentage for [32] Traffic Index Mid Period
- $=I66/100$
 - i. [32] Traffic Index Mid Period / 100

[34] Period Index Adjustment

- Calculates the incremental percentage of traffic index % each period
- $=J68/I68-1$
 - i. (Preceding [33] Traffic Index – current [33] Traffic Index) – 1

Labour Index

Note: To avoid redundancy ET Domestic Labour Variable Cost Index, NT Expatriates Fixed Labour Costs Index, NT Local Fixed Labour Cost Index, ET Expatriates Fixed Labour Cost Index, and ET Local Fixed Labour Cost Index have been excluded as formulas are the same as Salaries and NT Labour Variable Cost Index below

Salaries Index

[35] Salaries Index %

- Calculates the salaries index rate for every period in the model
- First cell in the row is an input for the opening salaries index
- Later periods:
- $=(1+\$I113)^(1/(\$D\$15)-1+J114)$

- i. $(1 + \text{the preceding index in [35]}) ^ { (1/[5] \text{ Compounding Frequency}) } - 1 + [36] \text{ Inflation Adjustment}$
- Take the starting index to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [36] Inflation Adjustment
- [36] Inflation Adjustment**
 - Manual input for the percentage increase or decrease in inflation each period
- [37] Salaries Index End Period**
 - Takes an initial input for the salaries index at the end of the period and increments it by 1 + the percentage change in the salaries index % each period
 - $=I115*(1+J113)$
 - i. $\text{Preceding cell in [37] Salaries Index End Period} * (1 + [35] \text{ Salaries Index \% })$
- [38] Salaries Index Mid Period**
 - Takes an initial input for the salaries at the end of the period and increments it by 1 + the percentage change in the salaries index % each period divided by 2 to get the mid-year index increment
 - $= (I115+J115)/2$
 - i. $(\text{Preceding cell in [37] Salaries Index End Period} + \text{current [37] Salaries Index End Period}) / 2$
- [39] Salaries Index**
 - Takes the values from [38] Salaries Index Mid Period and divides by 100 to get the percentage for [38] Salaries Index Mid Period
 - $=I116/100$
 - i. $[38] \text{ Salaries Index Mid Period} / 100$
- [40] Period Index Adjustment**
 - Calculates the incremental percentage of salaries index % each period
 - $=J118/I118-1$
 - i. $(\text{Preceding [39] Salaries Index} - \text{current [39] Salaries Index}) - 1$

NT Labour Variable Cost Index

- [41] NT Labour Variable Cost Index %**
 - Calculates the labour variable cost index rate for every period in the model
 - First cell in the row is an input for the opening variable labour cost index
 - Later periods:
 - $= (1 + \$I125) ^ { (1/ \$D\$15) } - 1 + J126$
 - i. $(1 + \text{the preceding index in [41]}) ^ { (1/[5] \text{ Compounding Frequency}) } - 1 + [42] \text{ Inflation Adjustment}$
 - Take the starting index to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [42] Inflation Adjustment
- [42] Inflation Adjustment**
 - Manual input for the percentage increase or decrease in inflation each period

[43] NT Labour Variable Cost Index End Period

- Takes an initial input for the labour variable cost index at the end of the period and increments it by 1 + the percentage change in the labour variable cost index % each period
- $=I127*(1+J125)$
 - i. Preceding cell in [43] Labour Variable Cost Index End Period * (1 + [41] Labour Variable Cost Index %)

[44] NT Labour Variable Cost Index Mid Period

- Takes an initial input for the labour variable cost at the end of the period and increments it by 1 + the percentage change in the labour variable cost index % each period divided by 2 to get the mid-year index increment
- $=(I127+J127)/2$
 - i. (Preceding cell in [43] Labour Variable Cost Index End Period + current [43] Labour Variable Cost Index End Period) / 2

[45] NT Labour Variable Cost Index

- Takes the values from [44] Labour Variable Cost Index Mid Period and divides by 100 to get the percentage for [44] Labour Variable Cost Index Mid Period
- $=J128/100$
 - i. [44] Labour Variable Cost Index Mid Period / 100

[46] Period Index Adjustment

- Calculates the incremental percentage of Labour Variable Cost index % each period
- $=J130/I130-1$
 - i. (Preceding [45] Labour Variable Cost Index – current [45] Labour Variable Cost Index) – 1

Other Indexes

Note: To avoid redundancy Administration and Other Index, Non-Operating Index, and Renewal Index have been excluded as formulas are the same as Construction Index below

Construction Index

[47] Construction Index %

- Calculates the construction index rate for every period in the model
- First cell in the row is an input for the opening construction index
- Later periods:
- $=(1+\$I199)^(1/(\$D\$15)-1+J200)$
 - i. $(1 + \text{the preceding index in [47]}) ^ (1/[5] \text{ Compounding Frequency}) - 1 + [48] \text{ Inflation Adjustment}$
- Take the starting index to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [48] Inflation Adjustment

[48] Inflation Adjustment

- Manual input for the percentage increase or decrease in inflation each period

[49] Construction Index End Period

- Takes an initial input for the construction index at the end of the period and increments it by 1 + the percentage change in the construction index % each period
- $=I201*(1+J199)$
 - i. Preceding cell in [49] Construction Index End Period * (1 + [47] Construction Index %)

[50] Construction Index Mid Period

- Takes an initial input for the construction index at the end of the period and increments it by 1 + the percentage change in the construction index % each period divided by 2 to get the mid-year index increment
- $=(I201+J201)/2$
 - i. (Preceding cell in [49] Construction Index End Period + current [49] Construction Index End Period) / 2

[51] Construction Index

- Takes the values from [50] Construction Index Mid Period and divides by 100 to get the percentage for [50] Construction Index Mid Period
- $=I202/100$
 - i. [50] Construction Index Mid Period / 100

[52] Period Index Adjustment

- Calculates the incremental percentage of Construction index % each period
- $=J204/I204-1$
 - i. (Preceding [51] Construction Index – current [51] Construction Index) – 1

Interest Rates

Interest Rates

[53] CNY Rate

- Calculates the CNY interest rate for every period in the model
- First cell in the row is an input for the opening CNY Rate
- Later periods:
- $=(1+\$H250)^(1/(\$D\$15)-1+I251)$
 - i. $(1 + \text{the preceding index in [53]}) ^ (1/[5] \text{ Compounding Frequency}) - 1 + [54] \text{ Change in CNY Rate}$
- Take the starting rate to the exponent of (1 divided by the [5] Compounding Frequency minus 1) and add [54] Change in CNY Rate

[54] Change in CNY Rate

- Manual input for the change in the CNY Rate each period

Exchange Rates

Exchange Rates

[55] EUR\CNY

- Calculates the EUR\CNY exchange rate for every period in the model
- First cell in the row is an input for the opening EUR/CNY Rate
- Later periods:
 - i. $\text{Preceding [55] EUR\CNY exchange rate} * (1 + \text{[56] Change in EUR\CNY exchange rate})$

[56] Change in EUR\CNY

- Manual input for the change in the EUR\CNY exchange rate for each period

Part 3: Traffic Calculations

Traffic Name Assumptions

Traffic

[57] Traffic Name 1

- Manual input for the name of the first form of traffic

[58] Traffic Flow 1 Measured In

- Manual input for the units in which the first form of traffic is measured

Traffic Flow 1 Assumptions: NT Transshipment Traffic

Note: To avoid redundancy NT Domestic Traffic Assumptions, ET Transshipment Traffic Assumptions, and ET Domestic Traffic Assumptions have been excluded as formulas are the same as NT Transshipment Traffic Assumptions below

NT Transshipment Traffic Assumptions

[59] Data in Containers

- Drop down menu with options for what units the data is in. Different units can be added as needed by the user

[60] Containers to Containers Conversion

- Row allows conversion from initial units that data is in to other units as need by the user

[61] Raw Data in

- Drop down menu with options “Annual”, “Semi-Annual”, “Quarterly”, and “Monthly”. Used by [62] Raw Data Multiplier to ensure data entered has consistent time periods with the model

[62] Raw Data Multiplier

- [61] Raw Data In divided by the [5] Compound Frequency in the cell below to make sure the data entered is consistent with the length of time periods within the model

[63] Traffic Calculated Manual or By Model?

- Drop down menu with options “Manual” and “Model”. Used to determine if the traffic data will be entered manually or calculated by the model

[64] If by Model Linear, Logarithmic or Exponential?

- Drop down menu with options “Linear”, “Logarithmic”, “Exponential”, and “Index”. Used in later calculations for how the model traffic values will be calculated

[65] Start Period

- Manual input for the period in which the traffic calculations will start

[66] Coefficient A

- Manual input for the coefficient A that is used in further traffic calculations. The row also shows the formula that was used for the coefficient based on the inputs in [63] Traffic Calculated Manual or By Model and [64] If By Model, Linear, Logarithmic or Exponential?

[67] Name of Traffic Flow 1

- Manual input for the name of the traffic flow 1

[68] Full-Container Annual Traffic Volume

- Manual input for the annual traffic volume if set to manual in [63] Traffic Calculated Manual or By Model

[69] Traffic Calculation Periods

- Row calculates the periods that the annual traffic volume calculations are set to begin
- =IF(\$J306>J\$30,0,IF(\$J306=J\$30,1,I333+1))
 - IF [65] Start Period is Greater Than [14] Periods
 - Then [69] is = 0
 - Otherwise IF [65] Start Period is = to [14] Periods
 - Then [69] is = 1
 - Otherwise [69] is = the preceding [69] plus 1
- Formula first checks whether the traffic calculations are set to begin based on the beginning period input in [65] Period Start, if true then it increments the start date by 1 each period

[70] Full-Container Annual Traffic Volume

- Model calculated annual traffic volume
- First period:
 - =H335/\$J\$302
 - Manual input for semi-annual coefficient B / [62] Raw Data Multiplier
- Later periods:
 - =IF(\$C335="",0,IF(\$K\$304=2,J322,IF(J\$333=0,0,IF(\$K\$305=1,(\$J\$308*J\$333+\$I335),IF(\$K\$305=2,(\$I335*LOG((J\$333-1)+\$J\$308)),IF(\$K\$305=3,(EXP(\$J\$308*J\$333)*\$I335),\$I335*J\$68))))))
 - IF the name of the traffic flow is blank, then [69] is = 0
 - Otherwise IF [63] Traffic Calculated Manual or By Model? Is = 2, then [70] is = the manual entry in [68] Full-Container Annual Traffic Volume
 - Otherwise IF [69] Traffic Calculation Periods is = 0, then [70] is = 0
 - Otherwise IF [64] If by Model Linear, Logarithmic, or Exponential is = “Linear”
 - Then [70] is = [66] Coefficient A * [69] Traffic Calculation Periods + Preceding [70]
 - Otherwise IF [64] If by Model Linear, Logarithmic, or Exponential is = “Logarithmic”

- vii. Then [70] is = preceding [70] * the logarithm of (69] Traffic Calculation Periods – 1) + [66] Coefficient A
- viii. Otherwise IF [64] If by Model Linear, Logarithmic, or Exponential is = “Exponential”
- ix. Then [70] is = the exponent of ([66] Coefficient A * [69] Traffic Periods Calculation) * preceding [70]
- x. Otherwise [70] is = preceding [70] * [33] NT Transshipment Traffic Index
- Formula calculates the growth in [70] each period based on what the model traffic growth was set to in [64] If by Model Linear, Logarithmic, or Exponential multiplied by the [69] Traffic Calculation Periods

Traffic Flow 1 Calculation: NT Transshipment Traffic

Note: To avoid redundancy NT Domestic Traffic Calculation, ET Transshipment Traffic Calculation, and ET Domestic Traffic Calculation have been excluded as formulas are the same as NT Transshipment Traffic Calculation below

NT Transshipment Traffic Calculation

[71] NT Transshipment Traffic Calculation Multiplier Enabled? (Yes=1, No=2)

- Checks if the NT transshipment traffic multiplier is enabled within the sensitivity analysis. If it is on, this cell returns 1, enabling the multiplier, otherwise this cell returns 2, disabling the multiplier
- =IF(OR(\$D\$3076="No",\$D\$3072="No"),2,1)
 - i. IF [698] Scenario Analysis On? OR Column 2 of [669] Traffic Multiplier are = “No”
 - ii. Then [71] is = 2
 - iii. Otherwise [71] is = 1

[72] NT Transshipment Traffic Calculation Multiplier

- Outputs the correct multiplier to use if the traffic multiplier is set to run in scenario analysis
- =IF(F526=2,G527,\$D\$3078)
 - i. IF [71] NT Transshipment Traffic Calculation Multiplier Enabled? Is = 2
 - ii. Then [72] is = 1
 - iii. Otherwise [72] is = Column 4 of [669] Traffic Multiplier

[73] Annual Traffic Volume of Full-Container

- Row calculates the annual traffic volume in full container units multiplied by the traffic multiplier if enabled
- =IF(\$K\$295=1,J335*\$F\$527,J335*J\$297*\$F\$527)
 - i. IF [59] Data In is = “Containers”
 - ii. Then [73] is = [70] Full Container Annual Traffic Volume * [72] Traffic Calculation Multiplier
 - iii. Otherwise [73] is = [70] Full Container Annual Traffic Volume * [60] Conversion * [72] Traffic Calculation Multiplier

[74] Total

- Total of all container annual traffic volume

[75] Annual Traffic Volume of Full-Container

- Row calculates the annual traffic volume in the second unit from [59] Data In converted to the second unit multiplied by the traffic multiplier if enabled
- =IF(\$K\$295=2,J335*\$F\$527,J335*J\$298*\$F\$527)
 - i. IF [59] Data In is = 2
 - ii. Then [75] is = [70] Annual Traffic Volume * [72] Traffic Calculation Multiplier
 - iii. Otherwise [75] is = [70] Annual Traffic Volume * [60] Conversion * [72] Traffic Calculation Multiplier

[76] Total

- Total of all [59] Data In second unit annual traffic volume

[77] Annual Traffic Volume of Full-Container

- Row calculates the annual traffic volume in the third unit from [59] Data In converted to the third unit multiplied by the traffic multiplier if enabled
- =IF(\$K\$295=1,J335*\$F\$527,J335*J\$299*\$F\$527)
 - i. IF [59] Data In is = 3
 - ii. Then [77] is = [70] Annual Traffic Volume * [72] Traffic Calculation Multiplier
 - iii. Otherwise [77] is = [70] Annual Traffic Volume * [60] Conversion * [72] Traffic Calculation Multiplier

[78] Total

- Total of all [59] Data In third unit annual traffic volume

Part 4: Revenues

Public Subsidy Assumptions

Operational Subsidy

[79] Is Public Subsidy Available?

- Drop down menu with “TRUE” and “FALSE” used to input whether a public operating subsidy is available

[80] Subsidy in First Year

- Manual input for the first year that the public operating subsidy is available

[81] Model Calculate or Manual?

- Drop down menu with “Model” and “Manual” used to input whether the operating subsidy will be manually inputted or calculated by the model

[82] If Calculate, Grow Subsidy by Inflation?

- Drop down menu with “TRUE” and “FALSE” used to input whether the operating subsidy will grow by inflation

[83] If Yes What Proportion Of Inflation?

- Manual input for the percentage proportion the operating subsidy will grow by inflation

[84] Enter Additional Annual Change

- Manual input for any additional percent change in the operating subsidy for each period of the model

[85] Manual Input

- Manual input for amount of the operating subsidy each period

Capital Subsidy

[86] Is Public Subsidy Available?

- Drop down menu with “TRUE” and “FALSE” used to input whether a public capital subsidy is available

[87] Subsidy in First Year

- Manual input for the first year that the public capital subsidy is available

[88] Amortization in First Year

- Manual input for the amount of capital subsidy amortization in the first year

[89] Model Calculate or Manual?

- Drop down menu with “Model” and “Manual” used to input whether the capital subsidy will be manually inputted or calculated by the model

[90] If Calculate, Grow Subsidy by Inflation?

- Drop down menu with “TRUE” and “FALSE” used to input whether the capital subsidy will grow by inflation

[91] If Yes What Proportion of Inflation?

- Manual input for the percentage proportion the capital subsidy will grow by inflation

[92] Enter Additional Annual Change

- Manual input for any additional percent change in the capital subsidy for each period of the model

[93] Manual Input

- Manual input for amount of the capital subsidy each period

Public Subsidy Calculations

Public Subsidy Calculations

[94] Operational Subsidy

- Row calculates the initial and future operational subsidy period based on the inputs selected in Operational Subsidy
- First period:
- =IF(K711=0,0,IF(K713=0,J717,J712)))
 - IF [79] Public Subsidy Available? is = 0
 - Then [94] is = 0

- iii. Otherwise IF [81] Model Calculate or Manual? is = 0
- iv. Then [94] = [85] Manual Input
- v. Otherwise [94] is = [80] Subsidy in First Year
- Later periods:
- =IF(\$H\$457=0,0,IF(\$H\$459=0,J\$463,IF(\$H\$460=0,I480*(1+J462),I480*(1+J462)*(1+(J\$40))))))
 - i. IF [79] Public Subsidy Available? is = 0
 - ii. Then [94] is = 0
 - iii. Otherwise IF [81] Model Calculate or Manual? is = 0
 - iv. Then [94] is = [85] Manual Input
 - v. Otherwise IF [82] Grow Subsidy by Inflation? = 0
 - vi. Then [94] is = preceding [94] * (1 + [84] Additional Change)
 - vii. Otherwise [94] is = preceding [94] * (1 + [23] Annual Inflation Index %) * (1 + [84] Additional Change)
- Formula first checks if a subsidy is available and whether it is a manual or model calculated input. Finally it checks if the subsidy will grow by inflation and then based on those parameters calculates the subsidy each period

[95] Capital Subsidy

- Row calculates the initial and future capital subsidy period based on the inputs selected in Capital Subsidy
- First period:
- =IF(K723=0,0,IF(K726=0,J730,J724)))
 - i. IF [86] Public Subsidy Available? is = 0
 - ii. Then [95] is = 0
 - iii. Otherwise IF [89] Model Calculate or Manual? is = 0
 - iv. Then [95] = [93] Manual Input
 - v. Otherwise [95] is = [87] Subsidy in First Year
- Later periods:
- =IF(\$H\$457=0,0,IF(\$H\$459=0,J\$463,IF(\$H\$460=0,I480*(1+J462),I480*(1+J462)*(1+(J\$40))))))
 - i. IF [86] Public Subsidy Available? is = 0
 - ii. Then [95] is = 0
 - iii. Otherwise IF [89] Model Calculate or Manual? is = 0
 - iv. Then [95] is = [93] Manual Input
 - v. Otherwise IF [90] Grow Subsidy by Inflation? = 0
 - vi. Then [95] is = preceding [95] * (1 + [92] Additional Change)
 - vii. Otherwise [95] is = preceding [95] * (1 + [23] Annual Inflation Index %) * (1 + [92] Additional Change)
- Formula first checks if a capital subsidy is available and whether it is a manual or model calculated input. Finally it checks if the subsidy will grow by inflation and then based on those parameters calculates the subsidy each period

[96] Amortization of Capital Subsidy

- Amortization of the capital subsidy which is equal to [88] Amortization in First Year for each period of the model

[97] Total Subsidy (Including Amortization)

- Total amount of subsidies in each year of the model which is equal to sum of [94] Operational Subsidy, [95] Capital Subsidy, and [96] Amortization of Capital Subsidy

Traffic Flow 1 Revenue: NT Transshipment Traffic

Note: To avoid redundancy NT Domestic Traffic Revenue, ET Transshipment Traffic Revenue, and ET Domestic Traffic Revenue have been excluded as formulas are the same as NT Transshipment Traffic Revenue below

NT Transshipment Traffic Revenue

[98] Revenue Measured In?

- Drop down menu used to manually input what units the revenue is measured in

[99] Grow Tariff by Inflation in Forecast Period?

- Drop down menu with "TRUE" and "FALSE" used to input whether the tariffs will grow by inflation

[100] Discount for Transshipment Traffic

- Manual input for the percentage discounts on transshipment traffic

[101] Full-Container Revenue

- Manual input for revenue during the model which includes columns for Revenue per Container, Proportion of Inflation %, and Additional Change in Revenue

[102] NT Transshipment Traffic Revenue Unit Revenue Multiplier Enabled (Yes=1, No=0)

- Formula used to calculate whether a traffic unit multiplier is enabled
- =IF(OR(H3076="No",D3072="No"),0,1)
 - IF [698] Scenario Analysis On? is = "No" OR Column 2 of [699] Revenue Multiplier is = "No"
 - Then [102] is = 0
 - Otherwise [102] is = 1

[103] NT Transshipment Traffic Revenue Unit Revenue Multiplier From Scenario Analysis

- Formula used to output the revenue multiplier from scenario analysis if it is set to be run
- =IF(G767=0,H768,H3078)
 - IF [102] Revenue Unit Multiplier Enabled = 0
 - Then [103] is = 1
 - Otherwise [103] is = Column 4 of [699] Revenue Multiplier

[104] NT Transshipment Traffic Revenue Unit Revenue Growth Rate Enabled (Yes=1, No=0)

- Formula used to calculate whether a traffic revenue growth rate is enabled
- =IF(OR(H3076="No",D3072="No"),0,1)

- i. IF [698] Scenario Analysis On? is = "No" OR Column 2 of [699] Revenue Unit Growth is = "No"
- ii. Then [104] is = 0
- iii. Otherwise [104] is = 1

[105] NT Transshipment Traffic Revenue Unit Revenue Growth Rate From Scenario Analysis

- Formula used to output the revenue growth rate from scenario analysis if it is set to be run
- =IF(G767=0,H768,H3078)
 - i. IF [104] Revenue Unit Multiplier Enabled = 0
 - ii. Then [105] is = 1
 - iii. Otherwise [105] is = Column 4 of [699] Revenue Unit Growth

[106] Full-Container Per-Unit Revenue

- Row used to calculate the per unit container revenue
- First period:
 - =E754*\$G\$768
 - i. [101] Full Container Revenue * [103] Revenue Unit Multiplier
- Later periods:
 - =IF(\$K\$750=0,J773*(1+\$G\$770)*(1+K754),J773*(1+\$G\$770)*(1+K754)*(J\$54-(J\$54-1)*(1-\$G754)))
 - i. IF [99] Grow Tariff by Inflation = 0
 - ii. Then preceding [106] * (1 + [105] Unit Revenue Growth Rate) * (1 + [101] Additional Change in Revenue Column
 - iii. Otherwise preceding [106] * (1 + [105] Unit Revenue Growth Rate * (1 + [101] Additional Change in Revenue Column * ([27] Inflation Index – ([27] Inflation Index – 1) * (1 – [101] Proportion of Inflation Column)
- Formula first check whether or not the tariff will grow by inflation, then calculates the unit revenue as [105] Unit Growth Rate multiplied by [101] Additional Change in Revenue multiplied by inflation if applicable

[107] NT Transshipment Traffic Average Unit Revenue

- Average of all the unit revenue for the NT Transshipment Traffic section

[108] Full-Container Revenue

- Row calculates the full revenue amount for the section in millions depending on the units designated
- =J773/\$L\$19*IF(\$K\$749=1,J530,IF(\$K\$749=2,J542,J554))
 - i. [106] Per Unit Revenue / 1000000 *
 - ii. IF [98] Revenue Measured In? is = 1
 - iii. Then [73] Annual Traffic Volume Containers
 - iv. Otherwise IF [98] Revenue Measured In? is = 2
 - v. Then [75] Annual Traffic Volume of the second unit
 - vi. Otherwise [77] Annual Traffic Volume of the third unit

[109] Total NT Transshipment Traffic Revenue

- Total of all the revenue for NT Transshipment Traffic section

Other Operating Revenue

Other Operating Revenue

[110] Annual Amount

- Initial Input for the annual amount of other operating revenue which is then converted to millions
- $=J\$966+K967$
 - i. Preceding [110] + [111] Change in Other Operating Revenue

[111] Change in Other Operating Revenue

- Manual input for the change in other operating revenue each period

Non-Operating Revenue

Non-Operating Revenue

[112] Grow Non-Operating Revenue by Inflation In Forecast Period?

- Drop down menu with “TRUE” and “FALSE” used to input whether the non-operating revenue will grow by inflation

[113] Name of Non-Operating Revenue 1

- Manual input for the name of the first non-operating revenue

[114] Total Revenue in First Year

- Manual input for the total of non-operating revenue 1 in the first period

[115] Total Quantity in First Year

- Manual input for the total quantity driver of non-operating revenue 1 in the first period

[116] Quantity (Physical Revenue Driver)

- Row calculates the quantity index used to calculate the non-operating revenue in each period of the model
- $= (J979 / \$D\$15) * (1 + J981)$
 - i. ([115] Total Quantity in First Year / [5] Compounding Frequency) * (1 + [117] Change in Quantity)

[117] Change in Quantity

- Manual input for the change in quantity of the physical revenue driver for each period of the model

[118] Variability with Inflation

- Manual input for the proportion that the non-operating revenue will vary by inflation

[119] Annual Unit Revenue

- Row calculates the annual unit revenue of non-operating revenue 1
- First period:
- $= (J980 / J978) * (1 + J985)$

- i. $([116] \text{ Quantity} / [114] \text{ Total Revenue in First Year}) * [120] \text{ Additional Change}$
- Later periods:
- $=IF(\$K\$975=0,J984*(1+K985),J984*(1+K985)*(1+\$J\$983*K\$55))$
 - i. IF [112] Grow Non-Operating Revenue by Inflation is = 0
 - ii. Then preceding [119] * (1 + [120] Additional Change)
 - iii. Otherwise preceding [119] * (1 + [120] Additional Change) * (1 + [118] Variability with Inflation * [28] Inflation per Period)

[120] Additional Annual Change

- Manual input for the additional annual percent change in non-operating revenue 1 for each period of the model

[121] Total Non-Operating

- Total of all the non-operating revenue for each period of the model

Part 5: Operating Expenditures (OPEX)

Variable Cost Assumptions

Variable Cost Assumptions

[122] Grow Variable Operating Costs by Inflation?

- Drop down menu with “TRUE” and “FALSE” used to input whether the variable operating costs will grow by inflation

[123] Name of Variable Cost Category 1

- Manual input for the name of the first category of variable costs

[124] Name of Category 1 Variable Cost 1

- Manual input for the first sub category of variable cost category 1

Variable Fuel Cost Assumptions

Variable Fuel Cost

[125] Fuel Variable Cost

- Cell used for the name of the first variable cost

[126] Cost Driven by NT Transshipment Traffic?

- Drop down menu to input whether the cost is driven by NT transshipment traffic

[127] Cost Driven by NT Domestic Traffic?

- Drop down menu to input whether the cost is driven by NT domestic traffic

[128] Cost Driven by ET Transshipment Traffic?

- Drop down menu to input whether the cost is driven by ET transshipment Traffic

[129] Cost Driven by ET Domestic Traffic?

- Drop down menu to input whether the cost is driven by ET domestic traffic

[130] NT Transshipment Traffic Cost Driver Measured In?

- Drop down menu to input the units that the NT transshipment traffic cost driver is measured in

[131] NT Domestic Traffic Cost Driver Measured In?

- Drop down menu to input the units that the NT domestic traffic cost driver is measured in

[132] ET Transshipment Traffic Cost Driver Measured In?

- Drop down menu to input the units that ET transshipment traffic cost driver is measured in

[133] ET Domestic Traffic Cost Driver Measured In?

- Dropdown menu to input the units the ET domestic traffic cost driver is measured in

[134] Unit Scaled by Multiple?

- Drop down menu with "TRUE" and "FALSE" used to input whether the units will be scaled by a multiple

[135] Expense Currency?

- Drop down menu with "CNY", "EUR", and "USD" used to input the currency the expense is in

[136] Variable Fuel Cost

- $$=(IF(\$K1049=1,J\$540,IF(\$K1049=2,J\$552,J\$564))*\$K1044)+(IF(\$K1050=1,J\$586,IF(\$K1050=2,J\$598,J\$610))*\$K1045)+(IF(\$K1051=1,J\$632,IF(\$K1051=2,J\$644,J\$656))*\$K1046)+(IF(\$K1052=1,J\$678,IF(\$K1052=2,J\$690,J\$702))*\$K1047)$$
 - (IF [130] NT Transshipment Cost Driver is = 1, then [74] Total NT Transshipment Container Traffic, Otherwise IF [130] NT Transshipment Cost Driver is = 2, [74] Total NT Transshipment Traffic of the third unit, Otherwise [78] Total NT Transshipment traffic in the third unit) * [126] Cost Driven by NT Transshipment Traffic +
 - (IF [131] NT Domestic Cost Driver is = 1, then [74] Total NT Domestic Container Traffic, Otherwise IF [131] NT Domestic Cost Driver is = 2, [74] Total NT Domestic Traffic of the third unit, Otherwise [78] Total NT Domestic traffic in the third unit) * [127] Cost Driven by NT domestic Traffic +
 - (IF [132] ET Transshipment Cost Driver is = 1, then [74] Total ET Transshipment Container Traffic, Otherwise IF [132] ET Transshipment Cost Driver is = 2, [74] Total ET Transshipment Traffic of the third unit, Otherwise [78] Total ET Transshipment traffic in the third unit) * [128] Cost Driven by ET Transshipment Traffic +
 - (IF [133] ET Domestic Cost Driver is = 1, then [74] Total ET Domestic Container Traffic, Otherwise IF [133] ET Domestic Cost Driver is = 2, [74] Total ET Domestic Traffic of the third unit, Otherwise [78] Total ET Domestic traffic in the third unit) * [129] Cost Driven by ET domestic Traffic
- Formula calculates the variable fuel traffic cost based on the cost driver multiplied by the traffic volume for each of the types of shipments if they are set to be included

[137] Manual Override

- Manual override for the fuel variable cost which will override [136] Variable Fuel Cost

[138] Variable Fuel Cost Driver

- Row used to show either the [136] Variable Fuel Cost or [137] Manual Override
- $$=IF(OR(J1058="",J1058=0),J1057,J1058)$$
 - IF [137] Manual Override is = "" OR 0

- ii. Then [138] is = [136] Variable Fuel Cost
- iii. Otherwise [138] is = [137] Manual Override

[139] Exchange Rate

- Row used to show the exchange rate that will be used
- =IF(\$K1055=1,1,IF(\$K1055=2,I\$265,I\$268))
 - i. IF [135] Expense Currency is = 1
 - ii. Then [139] is = 1
 - iii. Otherwise IF [135] Expense Currency is = 2
 - iv. Then [139] is = [56] EUR/CNY
 - v. Otherwise [139] is = [56] USD/CNY

[140] Variability of Cost To Cost Driver

- Manual input for the percentage that the actual cost will vary with the cost driver

[141] Variability with Inflation

- Manual input for the proportion that the cost will vary with inflation

[142] Initial Unit Cost

- Manual input for the initial cost per unit

[143] Per Fuel Variable Cost

- Row calculates the per unit cost of fuel
- First period [143] is equal to [142] Initial Unit Cost
- Later periods:
 - =IF(\$K\$1020=0,J1065*(1+K1066),J1065*(1+K1066)*(J\$54-(J\$54-1)*(1-J\$1063)))
 - i. IF [122] Grow Operating Cost by Inflation is = 0
 - ii. Then [143] is = preceding [143] * (1 + [144] Annual Additional Change)
 - iii. Otherwise [143] is = preceding [143] * (1 + [144] Annual Additional Change) * ([27] Inflation Index – ([27] Inflation Index – 1) * (1 + [141] Variability with Inflation))

[144] Annual Additional Change

- Manual input for the percent annual additional change of fuel unit cost

Total Variable Operating Costs

Total Variable Operating Costs

[145] Fuel Variable Cost

- Total fuel variable cost for each period of the model
- =J1065*J1060*J1059*(1-J1061)/(1+((L\$19-1)*\$K1054))
 - i. [143] Per Fuel Variable Cost * [139] Exchange Rate * [138] Fuel Variable Cost Driver * (1 – [140] Variability of Cost to Cost Driver) / (1 + ((1000000 – 1) * [134] Unit Scaled by Multiple))
- Formula calculates the fuel cost by multiplying the cost per unit and the cost driver which is then scaled to the correct units

[146] Total Fuel Operating Expense

- Sum of all the variable expenses under the fuel operating expense category

[147] Total Variable Operating Cost

- Sum of all the variable expenses under every category

Fixed Cost Assumptions

Fixed Cost Assumptions

[148] Grow Fixed Costs By Inflation?

- Drop down menu with “TRUE” and “FALSE” used to input whether the fixed costs will grow by inflation

[149] Name Of Fixed Cost Category 1

- Manual input for the name of the first category of fixed costs

[150] Name Of Category 1 Fixed Cost 1

- Manual input for the first sub category of fixed cost category 1

Fixed Maintenance Costs

Fixed Maintenance Costs

[151] Infrastructure Fixed Maintenance Costs

- Cell used for the name of the first fixed cost

[152] Cost Multiplied By Scalar?

- Drop down menu to input whether the fixed cost will be multiplied by a scalar that converts the data entered to the correct units used by the model

[153] Cost Grown By Manufacturing Index?

- Drop down menu to input whether the fixed cost will grow by the manufacturing index

[154] Expense Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the fixed cost is denominated in

[155] Exchange Rate

- Row used to show the exchange rate that will be used
- =IF(\$K1055=1,1,IF(\$K1055=2,I\$265,I\$268))
 - IF [154] Expense Currency is = 1
 - Then [139] is = 1
 - Otherwise IF [154] Expense Currency is = 2
 - Then [155] is = [56] EUR/CNY
 - Otherwise [155] is = [56] USD/CNY

[156] Raw Data In

- Drop down menu with “Annual”, “Semi-Annual”, “Quarterly”, and “Monthly” that is used to select the time period that the data is in

[157] Raw Data Multiplier

- Multiplier that is used to convert the data entered to the same time period units as the model uses by dividing [157] Raw Data In by [5] Compounding Frequency

[158] Total Cost in Year 1

- Manual input for the total fixed cost in year one of the first fixed cost

[159] Total Quantity (Physical Cost Driver) Year 1

- Manual input for the total quantity of the fixed cost physical cost driver in the first year

[160] Quantity (Physical Cost Driver)

- Row calculates the physical cost driver of the first fixed cost each period
- First period:
 - =J1337/\$J1334
 - i. [159] Total Quantity in Year 1 / [157] Raw Data Multiplier
- Later periods:
 - =J1338*(1+K1339)
 - i. Preceding [160] * (1 + [161] Change in Quantity)

[161] Enter Change in Quantity

- Manual input for the percent change in the fixed cost physical revenue driver for each period of the model

[162] Enter Variability of Cost To Cost Driver

- Manual input for the percentage that the actual cost will vary with the cost driver

[163] Variability With Inflation

- Manual input for the proportion that the cost will vary with inflation

[164] Initial Cost Per Cost Driver Manual Override

- Manual override for the first period cost to cost driver

[165] Annual Unit Cost

- Row calculates the annual unit fixed cost for each period of the model
- =IF(OR(J1343=0,J1343=""),J1336/J1338,J1343)
 - i. IF [164] Initial Cost per Cost Driver Manual Override is = 0 OR ""
 - ii. Then [165] is = [158] Total Cost in Year 1 / [160] Quantity
- Later periods:
- =J1344*(1+K1345)*(1+(\$K\$1299*\$J1342*(J\$54-1)))*(1+(K1328*(J\$204-1)))
 - i. Preceding [165] * (1 + [166] Additional Change) * (1 + [148] Grow Fixed Costs by Inflation * [163] Variability with Inflation * ([27] Inflation Index – 1))) * (1 + ([153] Cost Grown by Manufacturing Index * ([51] Construction Index – 1)))
- Formula calculates the unit cost as the initial unit cost multiplied by additional changes, inflation, and the manufacturing index

[166] Additional Annual Change

- Manual input for additional annual percent change in the fixed unit cost for each period of the model

Total Fixed Operating Costs

Total Fixed Operating Costs

[167] Infrastructures Fixed Maintenance Costs

- Total Infrastructure and Fixed Maintenance costs for each period of the model
- $=J1344*J1338*J1331*(1-J1340)/(1+(\$K1327*(\$L\$19-1)))$
 - i. $[165] \text{ Annual Unit Cost} * [160] \text{ Quantity} * [155] \text{ Exchange Rate} * (1 - [140] \text{ Variability of Cost to Cost Driver}) / (1 + [152] \text{ Cost Multiplied by Scalar} * (1000000 - 1))$
- Formula calculates the fuel cost by multiplying the cost per unit and the cost driver which is then scaled to the correct units

[168] Total Fixed Maintenance Costs

- Sum of all the fixed expenses under the fixed maintenance category

[169] Total

- Sum of all the fixed expenses under every category

Non-Operating Costs

Non-Operating Costs

[170] Grow Non-Operating Costs by Inflation?

- Drop down menu used to input whether the non-operating costs will grow by inflation

[171] Name Of Non-Operating Costs Expense 1

- Manual input for the name of the first non-operating expense

[172] Cost Multiplied by Scalar?

- Drop down menu to input whether the first non-operating cost will be multiplied by the scalar that converts the data entered to the correct units used by the model

[173] Cost Grown by Non-Operating Index?

- Drop down menu used to input whether the first non-operating cost will grow by the non-operating index

[174] Expense Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the non-operating cost is denominated in

[175] Exchange Rate

- Row used to show the exchange rate that will be used
- $=IF(\$K1656=1,1,IF(\$K1656=2,I\$265,I\$268))$
 - i. IF [174] Expense Currency is = 1
 - ii. Then [175] is = 1
 - iii. Otherwise IF [174] Expense Currency is = 2
 - iv. Then [175] is = [56] EUR/CNY
 - v. Otherwise [175] is = [56] USD/CNY

[176] Total Cost in Year 1

- Manual input for the total non-operating cost in year 1

[177] Quantity (Physical Cost Driver)

- Row used to calculate the physical cost driver of the first non-operating expense in each period of the model
- First period is a manual input
- Later periods:
- $=J1660*(1+K1661)$
 - Preceding [177] * (1 + [178] Change in Quantity)

[178] Enter Change in Quantity

- Manual input for the change in the physical revenue driver for each period of the model

[179] Enter Variability of Cost To Cost Driver

- Manual input for the percentage that the actual cost will vary with the cost driver

[180] Variability with Inflation

- Manual input for the proportion that the cost will vary with inflation

[181] Initial Cost Per Cost Driver Manual Override

- Manual override for the first period cost to cost driver

[182] Annual Unit Cost

- Row calculates the annual unit non-operating cost for each period of the model
- $=IF(OR(J1343=0,J1343=""),J1336/J1338,J1343)$
 - IF [181] Initial Cost per Cost Driver Manual Override is = 0 OR ""
 - Then [182] is = [176] Total Cost in Year 1 / [177] Quantity
- Later periods:
- $=J1344*(1+K1345)*(1+(\$K\$1299*\$J1342*(J\$54-1)))*(1+(K1328*(J\$204-1)))$
 - Preceding [182] * (1 + [183] Additional Change) * (1 + [170] Grow Non-Operating Costs by Inflation * [180] Variability with Inflation * ([27] Inflation Index – 1))) * (1 + ([173] Cost Grown by Administration Index * ([51] Non-Operating Index – 1)))
- Formula calculates the unit cost as the initial unit cost multiplied by additional changes, inflation, and the manufacturing index

[183] Additional Annual Change

- Manual input for additional annual percent change in the non-operating unit cost for each period of the model

[184] Total

- Total of all non-operating costs which is equal to the sum of all the operating expenses

Working Capital Assumptions

Working Capital Assumptions

[185] Accounts Receivable Start Value

- Manual input for the starting value of accounts receivable

[186] Days In Accounts Receivable

- Row calculates the days in accounts receivable for each period of the model
- First period:
 - $=IF(J1719=0,0,J1719*365/(J2894))$
 - i. IF [185] Accounts Receivable Start Value is = 0
 - ii. Then [186] is = 0
 - iii. Otherwise [186] is = [185] Accounts Receivable Start Value * 365(days) / [595] Total Revenues
- Later periods:
 - $=J1720+K1721$
 - i. Preceding [186] + [187] Change in Accounts Receivable

[187] Change In Accounts Receivable

- Manual input for the change in days of accounts receivable for each period of the model

[188] Inventory Start Value

- Manual input for the starting value of inventory

[189] Days in Inventory

- Row calculates the days in inventory for each period of the model
- First period:
 - $=IF(J1723=0,0,J1723*365/(J2898+J2904))$
 - i. IF [188] Inventory Start Value is = 0
 - ii. Then [189] is = 0
 - iii. Otherwise [189] is = [188] Inventory Start Value * 365(days) / ([596] Fuel Operating Expenses + [600] Fixed Maintenance Costs)
- Later periods:
 - $=J1724+K1725$
 - i. Preceding [189] + [190] Change in Inventory

[190] Change in Inventory

- Manual input for the change in days of inventory for each period of the model

[191] Other Receivables Start Value

- Manual input for the starting value of other receivables

[192] Days in Other Receivables

- Row calculates the days in other receivables for each period of the model
- First period:
 - $=IF(OR(J1727=0,(J966+J1011)=0),0,J1727*365/(J966+J1011))$
 - i. IF [191] Other Receivables Start Value OR [110] Annual Amount of Non-Operating Revenue + [121] Total Non-Operating Revenue is = 0
 - ii. Then [192] is = 0
 - iii. Otherwise [192] is = [191] Others Receivables Start Value * 365(days) / ([110] Annual Amount of Non-Operating Revenue + [121] Total Non-Operating Revenue)
- Later periods:
 - $=J1728+K1729$

- i. Preceding [192] + [193] Change in Other Receivables

[193] Change in Other Receivables

- Manual input for the change in days of other receivables for each period of the model

[194] Accounts Payable Start Value

- Manual input for the starting value of accounts payable

[195] Days in Accounts Payable

- Row calculates the days in accounts payable for each period of the model
- First period:
 - =IF(\$J\$1731=0,0,\$J\$1731*365/J2909)
 - i. IF [194] Accounts Payable Start Value is = 0
 - ii. Then [195] is = 0
 - iii. Otherwise [195] is = [194] Accounts Payable Start Value * 365(days) / [604] Gross Operating Surplus
- Later periods:
 - =J1732+K1733
 - i. Preceding [195] + [196] Change in Accounts Payable

[196] Change in Accounts Payables

- Manual input for the change in days of accounts payable for each period of the model

[197] Other Payables Start Value

- Manual input for the starting value of other payables

[198] Days in Other Payables

- Row calculates the days in other payables for each period of the model
- First period:
 - =IF(J1735=0,0,J1735*365/J1712)
 - i. IF [197] Other Payables Start Value is = 0
 - ii. Then [198] is = 0
 - iii. Otherwise [198] is = [197] Other Payables Start Value * 365(days) / [184] Total Non-Operating Costs
- Later periods:
 - =J1732+K1733
 - i. Preceding [198] + [199] Change in Other Payable

[199] Change in Other Payables

- Manual input for the change in days of other payables for each period of the model

Working Capital Calculations

Working Capital Calculations

[200] Circle Breaker 1

- Circle breaker 1 is used to break the circularity that is associated with cash
- The circular calculation is as follows:

- i. [202] Cash and Cash Equivalents is dependent on the Balance Sheet [614] Cash and Cash Equivalents
- ii. [614] is dependent on [569] Ending Cash Balance under Cash Calculations
- iii. [569] is dependent on [565] Net Cash Before Revolver
- iv. [565] is dependent on [661] Proceeds from loans
- v. [661] is dependent on [368] Principal Received
- vi. [646] is dependent of [358] Principal Received
- vii. [358] is dependent on [334] Drawdown Amounts
- viii. [334] is dependent on [327] Total Needs of Construction Financing
- ix. [327] is dependent on [320] Change in Working Capital
- x. [320] is dependent on [210] Change in Working Capital
- xi. [210] is dependent on [202] Cash and Cash Equivalents
- The underlined indexes represent the circular dependency of Cash and Cash Equivalents which can be broken by enabling the circle breaker

[201] Include Cash in Working Capital?

- Secondary option to the circle breaker on whether to include cash in the working capital calculations which will trigger the circularity
- =IF(H1745=0,0,IF(G1747=I1747,1,0))
 - i. IF [200] Circle Breaker 1 is = 0 (FALSE)
 - ii. Then [201] is = 0
 - iii. Otherwise IF drop down menu of [201] is = "TRUE"
 - iv. Then [201] is = 1
 - v. Otherwise [201] is = 0

[202] Cash and Cash Equivalent

- Cash and cash equivalents for each period of the model which is equal to [614] Cash and Cash Equivalents
- =IF(\$H1747=0,0,J2936)
 - i. IF [201] Include Cash in Working Capital is = 0 then [202] is = 0
 - ii. Otherwise [202] is = [614] Cash and Cash Equivalents

[203] Accounts Receivable

- Accounts receivable for each period of the model which is equal to [185] Accounts Receivable Start Value in the first period
- Later periods:
- =IF((K2894)>0,K1720/365*(K2894),0)
 - i. IF [595] Total Revenues is Greater Than 0
 - ii. Then [203] is =[186] Days in Accounts Receivable / 365(days) * [595] Total Revenues
 - iii. Otherwise [203] is = 0

[204] Inventory

- Inventory for each period of the model which is equal to [188] Inventory Start Value in the first period
- Later periods:

- $=IF((K2898+K2904)>0,K1724/365*((K2898+K2904)),0)$
 - IF [596] Fuel Operating Expenses + [600] Fixed Maintenance Costs is Greater Than 0
 - Then [204] is $= [189] \text{ Days in Inventory} / 365(\text{days}) * ([596] \text{ Fuel Operating Expenses} + [600] \text{ Fixed Maintenance Costs})$
 - Otherwise [204] is = 0

[205] Other Receivables

- Other receivables for each period of the model which is equal to [191] Other Receivables Start Value in the first period
- Later periods:
- $=IF((K966+K1011)>0,K1728/365*(K966+K1011),0)$
 - IF [110] Annual Amount of Other Operating Revenue + [121] Total Non-Operating Revenue is Greater Than 0
 - Then [205] is $= [192] \text{ Days in Other Receivables} / 365(\text{days}) * ([110] \text{ Annual Amount of Other Operating Expenses} + [121] \text{ Total Non-Operating Revenue})$
 - Otherwise [205] is = 0

[206] Current Assets

- Total current assets for each period of the model which is equal to the sum of [202], [203], [204], and [205]

[207] Account Payable

- Accounts payable for each period of the model which is equal to [194] Accounts Payable Start Value in the first period
- Later periods:
- $=IF((K2909)>0,K1732/365*(K2909),0)$
 - IF [604] Gross Operating Surplus is Greater Than 0
 - Then [207] is $= [195] \text{ Days in Accounts Payable} / 365(\text{days}) * [604] \text{ Gross Operating Surplus}$
 - Otherwise [207] is = 0

[208] Other Payables

- Other payables for each period of the model which is equal to [197] Other Payables Start Value in the first period
- Later periods:
- $=IF(K1641>0,K1736/365*K1712,0)$
 - IF [184] Total Non-Operating Costs is Greater Than 0
 - Then [208] is $= [198] \text{ Days in Other Payables} / 365(\text{days}) * [184] \text{ Total Non-Operating Costs}$
 - Otherwise [208] is = 0

[209] Current Liabilities

- Total current liabilities for each period of the model which is equal to the sum of [207] and [208]

[210] Change In Working Capital (Use Of Cash)

- Row calculates the use of cash for each period of the model by calculating the change in working capital

- =J1753-J1757-I1759
 - i. [206] Current Assets – [209] Current Liabilities – preceding [210]

[211] Cash Ratio

- Row calculates the cash ratio for each period of the model as [202] Cash and Cash Equivalents / [209] Current Liabilities

[212] Current Ratio

- Row calculates the current ratio for each period of the model as [206] Current Assets / [209] Current Liabilities

Part 6: Capital Expenditures (CAPEX)

New Fixed Asset Assumptions

New Fixed Asset Assumptions

[213] Grow Fixed Asset Assumptions by Inflation?

- Drop down menu to input whether the new fixed asset assumptions will grow by inflation

[214] Name of New Fixed Asset 1

- Manual input for the name of the first new fixed asset

[215] Cost Multiplied by Scalar?

- Drop down menu used to input for whether the new fixed asset cost will be multiplied by the scalar that converts the data entered into the correct units used by the model

[216] Cost Grown by Construction Index?

- Drop down menu used to input whether the fixed cost will be multiplied by the construction index

[217] Expense Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the new fixed asset cost is denominated in

[218] Exchange Rate

- Row shows the exchange rate that will be used
- =IF(\$K1656=1,1,IF(\$K1656=2,I\$265,I\$268))
 - i. IF [217] Expense Currency is = 1
 - ii. Then [218] is = 1
 - iii. Otherwise IF [217] Expense Currency is = 2
 - iv. Then [218] is = [56] EUR/CNY
 - v. Otherwise [218] is = [56] USD/CNY

[219] Starting Infrastructure Gross Value

- Manual input for the starting gross value of the first new fixed asset cost

[220] Starting Accumulated Amortization

- Manual input for the starting value of the accumulated amortization of the first new fixed asset

[221] Capital Expenditures

- Manual input for the capital expenditures on the first new fixed asset for each period of the model

[222] Sale of Asset

- Manual input for the sale of the first new fixed asset for each period of the model

[223] Useful Life

- Row used to calculate the useful life of the first new fixed asset which is equal to a manual input for the first period
- Later periods:
- $=J1789+K1790$
 - i. Preceding [223] + [224] Manual Change to Useful Life

[224] Manual Change to Useful Life

- Manual input for the change in the useful life of the first new fixed asset for each period of the model

[225] Manual Override for Depreciation

- Manual input for depreciation which will override the depreciation calculation for the first new fixed asset

[226] Variability with Inflation

- Manual input for the proportion that the first new fixed asset will vary with the rate of inflation

[227] Infrastructure Total Index

- Annual index for the first fixed asset cost which is equal to a manual input for the first period
- Later periods:
- $=J1795*(1+K1796)*(1+(\$K\$1772*\$J1794*(J\$54-1)))*(1+(K1777*(J\$204-1)))$
 - i. Preceding [227] * (1 + [228] Additional Annual Index Change) * (1 + ([213] Grow Fixed Asset Assumption by Inflation * [226] Variability with Inflation * ([27] Inflation Index – 1))) * (1 + ([216] Cost Grown by Construction Index * ([51] Construction Index – 1)))
- Formula calculates the first new fixed asset index which is used to calculate the cost for each period of the model

[228] Additional Annual Index Change

- Manual input for the annual change of the first new fixed asset total index during each period of the model

Existing Fixed Asset Assumptions

Existing Fixed Asset Assumptions

[229] Grow Fixed Asset Assumptions by Inflation?

- Drop down menu to input whether the new existing asset assumptions will grow by inflation

[230] Name of Existing Fixed Asset 1

- Manual input for the name of the first existing fixed asset

[231] Cost Multiplied by Scalar?

- Drop down menu used to input for whether the existing fixed asset cost will be multiplied by the scalar that converts the data entered into the correct units used by the model

[232] Cost Grown by Construction Index?

- Drop down menu used to input whether the existing fixed cost will be multiplied by the construction index

[233] Expense Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the existing fixed asset cost is denominated in

[234] Exchange Rate

- Row used to show the exchange rate that will be used
- $=IF(\$K1886=1,1,IF(\$K1886=2,I\$265,I\$268))$
 - IF [233] Expense Currency is = 1
 - Then [234] is = 1
 - Otherwise IF [233] Expense Currency is = 2
 - Then [234] is = [56] EUR/CNY
 - Otherwise [234] is = [56] USD/CNY

[235] Starting Civil Engineering Rehabilitation Gross Value

- Manual input for the starting gross value of the first existing fixed asset cost

[236] Starting Accumulated Amortization

- Manual input for the starting value of the accumulated amortization of the first existing fixed asset

[237] Capital Expenditures

- Manual input for the capital expenditures on the first existing fixed asset for each period of the model

[238] Sale of Asset

- Manual input for the capital expenditures on the first existing fixed asset for each period of the model

[239] Useful Life

- Row used to calculate the useful life of the first existing fixed asset which is equal to a manual input for the first period
- Later periods:
- $=J1896+K1897$
 - Preceding [239] + [240] Manual Change to Useful Life

[240] Manual Change to Useful Life

- Manual input for the change in the useful life of the first existing fixed asset for each period of the model

[241] Manual Override for Depreciation

- Manual input for depreciation which will override the depreciation calculation for the first existing fixed asset

[242] Variability with Inflation

- Manual input for the proportion that the first existing fixed asset will vary with the rate of inflation

[243] Civil Engineering Rehabilitation Total Index

- Annual index for the first existing fixed asset cost which is equal to a manual input for the first period
- Later periods:
- $=J1902*(1+K1903)*(1+(\$K\$1879*\$J1901*(J\$54-1)))*(1+(K1884*(J\$204-1)))$
 - Preceding [243] * (1 + [244] Additional Annual Index Change) * (1 + ([229] Grow Fixed Asset Assumption by Inflation * [242] Variability with Inflation * ([27] Inflation Index – 1))) * (1 + ([232] Cost Grown by Construction Index * ([51] Construction Index – 1)))
- Formula calculates the first existing fixed asset index which is used to calculate the cost for each period of the model

[244] Additional Annual Index Change

- Manual input for the annual change of the first new fixed asset total index during each period of the model

New Fixed Asset Calculations

New Fixed Asset Calculations

[245] Include Interest & Fees of Construction Debt in Depreciation?

- Drop down menu used as an input for whether interest and fees on construction debt will be included in depreciation

[246] CAPEX Multiplier Enabled (Yes=1, No=0)

- Formula calculates whether a CAPEX multiplier is enabled within the scenario analysis
- $=IF(OR(\$D\$3072="No",\$P\$3076="No"),0,1)$
 - IF [698] Scenario Analysis On? OR Column 2 of [699] CAPEX Multiplier is = "No"
 - Then [246] is = 0
 - Otherwise [246] is = 1

[247] CAPEX Multiplier from Scenario Analysis

- Formula outputs the multiplier to be used from scenario analysis if it is set to run
- $=IF(G1939=0,H1940,P3078)$
 - IF [246] CAPEX Multiplier Enabled is = 0
 - Then [247] is = 1
 - Otherwise [247] is = Column 4 of [699] CAPEX Multiplier

[248] Starting Value of New Assets

- Starting value of the new assets which is equal to the preceding [219] Starting Infrastructure Gross Value in the first period and the preceding [251] Gross Value in subsequent periods

[249] Add CAPEX

- Row calculates the amount of CAPEX for the first new asset during each period of the model
- $=J1785*J1780*J1795*\$G\$1940/(1+(\$K\$1776*(\$L\$19-1)))$

- i. $[221] \text{ Capital Expenditures} * [218] \text{ Exchange Rate} * [227] \text{ Infrastructure Total Index} * [247] \text{ CAPEX Multiplier} / (1 + ([215] \text{ Cost Multiplied by Scalar} * (1000000-1)))$
- Formula calculates the value of capital expenditures multiplied by the exchange rate, infrastructure index and multiplier which is then converted to the correct units by the scalar

[250] Less Sale of Assets

- Row calculates the total sales amount for the first new asset during each period of the model
- $=J1786*J1780*J1795/(1+(\$K\$1776*(\$L\$19-1)))$
 - i. $[222] \text{ Sale of Asset} * [218] \text{ Exchange Rate} * [227] \text{ Infrastructure Total Index} / (1 + ([215] \text{ Cost Multiplied by Scalar} * (1000000-1)))$
- Formula calculates the value of asset sales multiplied by the exchange rate and infrastructure index which is then converted to the correct units by the scalar

[251] Interest & Fees on Fixed Asset Debt

- Row calculates the total interest and fees on the fixed asset debt
- $=IF(\$K\$1936=0,0,(I2167)*(SUM(\$J1944:J1944)/(SUM(\$J1944:J1944)+SUM(\$J1956:J1956)+SUM(\$J1968:J1968)+SUM(\$J1980:J1980))))$
 - i. IF [245] Include Interest and Fees is = 0, then [251] is = 0
 - ii. Otherwise [251] is = preceding [317] Interest and Fees on Commercial Construction Financing * (the SUM of infrastructure [249] Add CAPEX) / (the SUM of infrastructure [249] Add CAPEX) + (the SUM of buildings and superstructures [249] Add CAPEX) + (the SUM of surfacing [249] Add CAPEX) + (the SUM of equipment [249] Add CAPEX
- Formula calculates the fees and interest on infrastructure as the fees and interest on commercial construction debt multiplied by the ratio of the sum of infrastructure CAPEX to the sum of all other new fixed asset CAPEX amounts

[252] Gross Value

- Ending gross value of the first new asset which is equal to [248] Starting Value of New Assets + [249] Add CAPEX – [250] Less Sale of Assets + [251] Interest and Fees on Fixed Asset Debt

[253] Less Depreciation of New Assets

- Row calculates the depreciation amount for each period of the model
- First period [253] is = [220] Starting Accumulated Amortization
- Later periods:
- $=IF(OR(J1791="",J1791=0),IF(J1789=0,0,MIN((J1947-I1949),J1947/J1789/\$D15/(1+(\$K\$1776*(\$L\$19-1))))),MIN((J1947-I1949),J1791/(1+(\$K\$1776*(\$L\$19-1))))$
 - i. IF [225] Manual Override for Depreciation is = "" OR 0
 - ii. Then IF [223] Useful Life is = 0
 - iii. Then [253] is = 0
 - iv. Otherwise [253] is = the Minimum of ((([252] Gross Value – preceding [253]) and ([252] Gross Value / [223] Useful Life / [5] Compounding Frequency / (1 + ([215] Cost Multiplied by Scalar * (1000000 - 1))
 - v. Otherwise [253] is = the Minimum of ((([252] Gross Value – preceding [253]) and ([225] Manual Override for Depreciation / (1 + ([215] Cost Multiplied by Scalar * (1000000 - 1))

- Formula calculated the value of depreciation as the gross value – preceding value divided by the useful life if there is no manual depreciation override

[254] Accumulated Depreciation of New Assets

- Sum of all the current and preceding [253] Less Depreciation of New Assets to show the accumulated amount

[255] Ending Net Asset Value

- Row calculated the net asset value for each period of the model
- =J1947-J1950
 - i. [252] Gross Value – [254] Accumulated Depreciation of New Assets

Total of New Fixed Asset Calculations

[256] Total CAPEX

- Total CAPEX of new assets for each period of the model which is equal to the sum of [249] Add CAPEX for each new asset in the model

[257] Total Sale

- Total sales of new assets for each period of the model which is equal to the sum of [250] Less Sale of Assets for each new asset in the model

[258] Total Interest & Fees on Fixed Asset Debt

- Total interest and fees on fixed asset debt for new assets during each period of the model which is equal to the sum of [251] Interest and Fees on Fixed Asset Debt for each new asset in the model

[259] Total Gross Value

- Total gross value of new assets for each period of the model which is equal to the sum of [252] Gross Value for each new asset in the model

[260] Total Depreciation

- Total depreciation of new assets for each period of the model which is equal to the sum of [253] Less Depreciation of New Assets for each new asset in the model

[261] Total Accumulated Depreciation

- Total accumulated depreciation of new assets for each period of the model which is equal to the sum of [254] Accumulated Depreciation of New Assets for each new asset in the model

[262] Total Net Asset Value

- Total net value of new assets for each period of the model which is equal to the sum of [255] Ending New Asset Value for each new asset in the model

Existing Fixed Asset Calculations

Existing Fixed Asset Calculations

[263] Starting Value of Existing Assets

- Starting value of the new assets which is equal to the preceding [219] Starting Infrastructure Gross Value in the first period and the preceding [252] Gross Value in subsequent periods

[264] Add CAPEX

- Row calculates the amount of CAPEX for the first new asset during each period of the model
- $=J1887*J1892*J1902*\$G\$1940/(1+(\$K\$1883*(\$L\$19-1)))$
 - [237] Capital Expenditures * [234] Exchange Rate * [243] Civil Engineering Rehabilitation Total Index * [247] CAPEX Multiplier / (1 + ([231] Cost Multiplied by Scalar * (1000000-1)))
- Formula calculates the value of capital expenditures multiplied by the exchange rate, infrastructure index and multiplier which is then converted to the correct units by the scalar

[265] Less Sale of Assets

- Row calculates the total sales amount for the first new asset during each period of the model
- $=J1893*J1887*J1902/(1+(\$K\$1883*(\$L\$19-1)))$
 - [238] Sale of Asset * [234] Exchange Rate * [243] Civil Engineering Rehabilitation Total Index / (1 + ([231] Cost Multiplied by Scalar * (1000000-1)))
- Formula calculates the value of asset sales multiplied by the exchange rate and infrastructure index which is then converted to the correct units by the scalar

[266] Gross Value

- Ending gross value of the first new asset which is equal to [263] Starting Value of New Assets + [264] Add CAPEX – [265] Less Sale of Assets

[267] Less Depreciation of Existing Assets

- Row calculates the depreciation amount for each period of the model
- First period [267] is = [236] Starting Accumulated Amortization
- Later periods:
- $=IF(J1896=0,0,MIN((J2010-I2012),J2010/J1896/\$D15/(1+(\$K\$1883*(\$L\$19-1))))),MIN((J2010-I2012),J1898/(1+(\$K\$1883*(\$L\$19-1))))$
 - IF [241] Manual Override for Depreciation is = "" OR 0
 - Then IF [239] Useful Life is = 0
 - Then [267] is = 0
 - Otherwise [267] is = the Minimum of (([266] Gross Value – preceding [267]) and ([266] Gross Value / [239] Useful Life / [5] Compounding Frequency / (1 + ([231] Cost Multiplied by Scalar * (1000000 - 1)))
 - Otherwise [267] is = the Minimum of (([266] Gross Value – preceding [267]) and ([241] Manual Override for Depreciation / (1 + ([231] Cost Multiplied by Scalar * (1000000 - 1)))
- Formula calculated the value of depreciation as the gross value – preceding value divided by the useful life if there is no manual depreciation override

[268] Accumulated Depreciation of Existing Assets

- Sum of all the current and preceding [267] Less Depreciation of Existing Assets to show the accumulated amount

[269] Ending Net Asset Value

- Row calculated the net asset value for each period of the model

- =J2010-J2013
 - i. [266] Gross Value – [268] Accumulated Depreciation of New Assets

Total of Existing Fixed Asset Calculations

[270] Total CAPEX

- Total CAPEX of existing assets for each period of the model which is equal to the sum of [264] Add CAPEX for each existing asset in the model

[271] Total Sale

- Total sales of existing assets for each period of the model which is equal to the sum of [265] Less Sale of Assets for each existing asset in the model

[272] Total Gross Value

- Total gross value of existing assets for each period of the model which is equal to the sum of [266] Gross Value for each existing asset in the model

[273] Total Depreciation

- Total depreciation of existing assets for each period of the model which is equal to the sum of [267] Less Depreciation of Existing Assets for each new asset in the model

[274] Total Accumulated Depreciation

- Total accumulated depreciation of existing assets for each period of the model which is equal to the sum of [268] Accumulated Depreciation of Existing Assets for each new asset in the model

[275] Total Net Asset Value

- Total net value of Existing assets for each period of the model which is equal to the sum of [269] Ending Existing Asset Value for each new asset in the model

Allowance for Renewal

Allowance for Renewal

[276] Total Depreciation

- Total depreciation of both new and existing assets which is equal to [273] Total Depreciation + [260] Total Depreciation

[277] Renewal Index Multiple

- Index multiple for the change in the amount of renewal that will be multiplied by total depreciation to get the total allowance for renewal each period. [277] is equal to the current Renewal Index [51] minus the first period Renewal Index [51]

[278] Allowance for Renewal

- Total allowance for renewal during each period of the model which is equal to [276] Total Depreciation * [277] Renewal Index Multiple

Intangible Asset Assumptions

Intangible Asset Assumptions

[279] Grow Intangible Asset Assumptions by Inflation?

- Drop down menu to input whether the intangible asset assumptions will grow by inflation

[280] Name of Intangible Asset 1

- Manual input for the name of the first intangible asset

[281] Cost Multiplied by Scalar?

- Drop down menu used to input for whether the intangible asset cost will be multiplied by the scalar that converts the data entered into the correct units used by the model

[282] Cost Grown by Construction Index?

- Drop down menu used to input whether the intangible asset cost will be multiplied by the construction index

[283] Expense Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the intangible asset cost is denominated in

[284] Exchange Rate

- Row used to show the exchange rate that will be used
- $=IF(\$K2059=1,1,IF(\$K2059=2,I\$265,I\$268))$
 - i. IF [283] Expense Currency is = 1
 - ii. Then [284] is = 1
 - iii. Otherwise IF [283] Expense Currency is = 2
 - iv. Then [284] is = [56] EUR/CNY
 - v. Otherwise [284] is = [56] USD/CNY

[285] Starting Technical Studies Gross Value

- Manual input for the starting gross value of the technical studies

[286] Starting Accumulated Amortization Of Intangibles

- Manual input for the starting value of the accumulated amortization of the intangible asset

[287] Intangible Expenses Capitalized

- Manual input for the amount of the intangible expense that is capitalized during each period of the model

[288] Sale of Asset

- Manual input for the sale of the intangible asset during each period of the model

[289] Useful Life

- Row used to calculate the useful life of the intangible asset during each period of the model
- First period is a manual input
- Later periods:
- $=J2069+K2070$
 - i. Preceding [289] Useful life + [290] Manual Change to Useful Life

[290] Manual Change to Useful Life

- Manual input for the unit change in the useful life of the intangible asset for each period of the model

[291] Manual Override for Amortization

- Manual input for depreciation that will override the model calculations of amortization

[292] Variability with Inflation

- Manual input for the proportion that the intangible asset assumptions will vary by inflation

[293] Technical Studies Total Index

- Annual index for the first intangible asset cost which is equal to a manual input for the first period
- Later periods:
- $$=J2075*(1+K2076)*(1+(\$K\$2052*\$J2074*(J\$54-1)))*(1+(K2057*(J\$204-1)))$$
 - i.
$$\text{Preceding [293]} * (1 + [\text{294}] \text{ Additional Annual Index Change}) * (1 + ([\text{279}] \text{ Grow intangible Asset Assumption by Inflation} * [\text{292}] \text{ Variability with Inflation} * ([\text{27}] \text{ Inflation Index} - 1))) * (1 + ([\text{282}] \text{ Cost Grown by Construction Index} * ([\text{51}] \text{ Construction Index} - 1)))$$
- Formula calculates the first existing intangible asset index which is used to calculate the cost for each period of the model

[294] Additional Annual Index Change

- Manual input for the annual change of the intangible asset total index during each period of the model

Intangible Asset Calculations

Intangible Asset Calculations

[295] Starting Value of Intangible Assets

- Starting value of the intangible assets which is equal to the preceding [285] Starting Technical Studies Gross Value in the first period and the preceding [298] Gross Value in subsequent periods

[296] Intangible Expenses Capitalized

- Row calculates the amount of the intangible asset that is capitalized during each period of the model
- $$=J2075*J2065*J2060/(1+(\$K\$2056*(\$L\$19-1)))$$
 - i.
$$[\text{293}] \text{ Technical Studies Total Index} * [\text{287}] \text{ Intangible Expenses Capitalized} * [\text{284}] \text{ Exchange Rate} / (1 + ([\text{281}] \text{ Cost Multiplied By Scalar} * (1000000-1)))$$
- Formula calculates the expense capitalized based on the index multiplied by intangibles capitalized multiplied by the exchange rate which is then converted to the correct units based on the scalar

[297] Less Sale of Assets

- Row calculates the total sales amount for the first intangible asset during each period of the model

- $=J2075*J2066*J2060/(1+(\$K\$2056*(\$L\$19-1)))$
 - i. [293] Technical Studies Total Index * [288] Sale of Asset * [284] Exchange Rate / (1 + ([281] Cost Multiplied by Scalar * (1000000-1)))
- Formula calculates the value of intangible asset sales multiplied by the exchange rate and infrastructure index which is then converted to the correct units by the scalar

[298] Gross Value

- Ending gross value of the first intangible asset which is equal to [295] Starting Value of Intangible Assets + [296] Intangible Expense Capitalized – [297] Less Sale of Assets

[299] Less Amortization of Intangible Assets

- Row calculates the amortization amount for each period of the model
- First period [299] is = [286] Starting Accumulated Amortization
- Later periods:
- $=IF(OR(J2071="",J2071=0),IF(J2069=0,0,MIN((J2113-I2115),J2113/D15/J2069/(1+(\$K\$2056*(\$L\$19-1))))),MIN((J2113-I2115),J2071/(1+(\$K\$2056*(\$L\$19-1))))$
 - i. IF [291] Manual Override for Amortization is = "" OR 0
 - ii. Then IF [289] Useful Life is = 0
 - iii. Then [299] is = 0
 - iv. Otherwise [299] is = the Minimum of (([298] Gross Value – preceding [299]) and ([298] Gross Value / [289] Useful Life / [5] Compounding Frequency / (1 + ([281] Cost Multiplied by Scalar * (1000000 - 1)))
 - v. Otherwise [299] is = the Minimum of (([298] Gross Value – preceding [299]) and ([291] Manual Override for Amortization / (1 + ([281] Cost Multiplied by Scalar * (1000000 - 1)))
- Formula calculated the value of amortization as the gross value – preceding value divided by the useful life if there is no manual amortization override

[300] Accumulated Amortization of Intangible Assets

- Sum of all the current and preceding [299] Less Amortization of Intangible Assets to show the accumulated amount

[301] Ending Intangible Asset Value

- Ending value of the first intangible asset for each period of the model which is equal to [298] Gross Value – [300] Accumulated Amortization of Intangible Assets

[302] Total Capitalized Expenses

- Total capitalized expenses of intangible assets for each period of the model which is equal to the sum of [296] Intangible Expenses Capitalized for each intangible asset in the model

[303] Total Sale

- Total sales of intangible assets for each period of the model which is equal to the sum of [297] Less Sale of Assets for each intangible asset in the model

[304] Total Gross Value

- Total gross value of intangible assets for each period of the model which is equal to the sum of [298] Gross Value for each intangible asset in the model

[305] Total Amortization

- Total amortization of intangible assets for each period of the model which is equal to the sum of [299] Less Amortization of Intangible Assets for each intangible asset in the model

[306] Total Accumulated Depreciation

- Total accumulated amortization of intangible assets for each period of the model which is equal to the sum of [300] Accumulated Amortization of Intangible Assets for each intangible asset in the model

[307] Total Intangible Asset Value

- Total value of the intangible assets for each period of the model which is equal to the sum of [301] Ending Intangible Asset Value for each intangible asset in the model

Other Long-Term Assets

Other Long-Term Assets

[308] Other Long-Term Assets

- Row calculates the value of other long term assets for each period of the model
- First period is a manual input
- Later periods:
 - i. $\text{Preceding [308]} + \text{[309] Change in Other Long-Term Assets}$

[309] Change In Other Long-Term Assets

- Manual input for the amount of change in other long-term assets for each period of the model

Part 7: Financial Engineering

Total Needs of Construction Financing

Date End-Period

[310] Circle Breaker 2

- Circle breaker 2 is used to break the circularity that is associated with the interest and fees on the construction loan financing
- The circular calculation is as follows:
 - i. [317] Interest and Fees on Construction Loan Financing is dependent on [373] Commitment Fee
 - ii. [373] is dependent on [334] Drawdown Amounts under Commercial Construction Financing
 - iii. [334] is dependent on [327] Total Needs of Financing
 - iv. [327] is dependent on [318] Asset Purchase Need of Financing
 - v. [318] is dependent on [317] Interest and Fees on Construction Loan Financing

- The underlined indexes represent the circular dependency of Interest and Fees on Construction Loan Financing which can be broken by enabling the circle breaker

[311] Circle Breaker 3

- Circle breaker 3 is used to break the circularity that is associated with the corporation tax to pay
- The circular calculation is as follows:
 - i. [321] Corporate Tax is dependent on [589] Corporate Tax Payment
 - ii. [589] is dependent on [588] Corporate Tax Expense
 - iii. [588] is dependent on [611] EBT
 - iv. [611] is dependent on [610] Net Finance Expenses
 - v. [610] is dependent on [370] Interest Due at the End of the Year under Commercial Construction Loan
 - vi. [370] is dependent on [334] Drawdown Amounts
 - vii. [334] is dependent on [327] Total Needs of Financing
 - viii. [327] is dependent on [321] Corporation Tax to Pay
- The underlined indexes represent the circular dependency of the corporation tax to pay which can be broken by enabling the circle breaker

[312] Include Interest on Commercial Construction Financing in Construction Need

- Secondary option to the circle breaker on whether to include interest on commercial construction in the financing in construction calculations which will trigger the circularity
- =IF(H2157=0,0,IF(J2160=L2160,1,0))
 - i. IF [310] Circle Breaker 2 is = 0 (FALSE)
 - ii. Then [312] is = 0
 - iii. Otherwise IF drop down menu of [312] is = "TRUE"
 - iv. Then [312] is = 1
 - v. Otherwise [312] is = 0

[313] Include Expense to Cash Tax Differences in Construction Need

- Secondary option to the circle breaker on whether to include corporate tax in the financing in construction calculations which will trigger the circularity
- =IF(H2158=0,0,IF(J2161=L2161,1,0))
 - i. IF [311] Circle Breaker 3 is = 0 (FALSE)
 - ii. Then [313] is = 0
 - iii. Otherwise IF drop down menu of [313] is = "TRUE"
 - iv. Then [313] is = 1
 - v. Otherwise [313] is = 0

[314] Year

- Row shows the model unit timeframe the construction financing is outstanding which is incremented by one each period

[315] NT Construction Mask

- Manual input of 1 or 0 used in [316] Construction CAPEX, [317] Interest and Fees on Commercial Construction Financing, [319] Operating Surplus, [320] Change in Working Capital, [321]

Corporate Tax to Pay, [327] Total Needs of Financing, and [362] Undisbursed Capital for whether these values will be calculated each period

[316] Construction CAPEX

- Row shows both the total construction CAPEX used throughout the model along with the amount each period
- First period:
- =SUM(OFFSET(I2166,0,0,1,\$D\$14))
 - i. [316] is = the sum of the row [316] starting at the first CAPEX amount up until the [4] No. of Quarters
- Later periods:
- =IF(OR(J2030="",J1992="",I2164=0),0,(J2030+J1992))
 - i. IF [270] Total CAPEX of existing assets OR [255] Total CAPEX of new assets are = 0
 - ii. Then [316] is = 0
 - iii. Otherwise [316] is = the sum of [270] Total CAPEX of existing assets and [255] Total CAPEX of new assets

[317] Interest & Fees on Commercial Construction Financing

- Row shows both the total interest and fees on commercial construction financing used throughout the model along with the amount each period
- First period:
- =SUM(OFFSET(I2167,0,0,1,\$D\$14))
 - i. [317] is = the sum of the row [317] starting at the first interest and fee amount up until the [4] No. of Quarters
- Later periods:
- =IF(\$K2160=0,0,IF(I2164=0,0,I2255+I2253+I2252))
 - i. IF [312] Include Interest on Commercial Construction Financing is = 0
 - ii. Then [317] is = 0
 - iii. Otherwise IF [315] NT Construction Mask is = 0
 - iv. Then [317] is = 0
 - v. Otherwise [317] is = [370] Interest Due at the End of the Year + [371] Front End Fee + [373] Commitment Fee
- Formula first checks if the interest and fees are set to be included and if yes, sums together the interest and fees calculated under the Commercial Construction Loan Calculations

[318] Asset Purchase Need of Financing

- Row calculates total financing need in the first column as the sum of row [318] based on [4] No. of Quarters and the amount of financing required for the model asset purchases in each subsequent period which is equal to [316] Construction CAPEX + [317] Interest & Fees on Commercial Construction Financing

[319] Operating Surplus

- Row shows both the total operating surplus throughout the model along with the amount each period
- First period:

- =SUM(OFFSET(I2170,0,0,1,\$D\$14))
 - i. [319] is = the sum of the row [319] starting at the first operating surplus up until the [4] No. of Quarters
- Later periods:
- =IF(I2164=0,0,I2164*J2909)
 - i. IF [315] NT Construction Mask is = 0
 - ii. Then [319] is = 0
 - iii. Otherwise [319] is = [315] NT Construction Mask * [604] Gross Operating Surplus

[320] Change in Working Capital

- Row shows both the total change in working capital throughout the model along with the amount each period
- First period:
- =SUM(OFFSET(I2171,0,0,1,\$D\$14))
 - i. [320] is = the sum of the row [320] starting at the first change in working capital up until the [4] No. of Quarters
- Later periods:
- =IF(I2164=0,0,J1759)
 - i. IF [315] NT Construction Mask is = 0
 - ii. Then [320] is = 0
 - iii. Otherwise [320] is = [210] Change in Working Capital

[321] Corporation Tax To Pay N + 1

- Row shows both the total corporation tax to pay throughout the model along with the amount each period
- First period:
- =SUM(OFFSET(I2172,0,0,1,\$D\$14))
 - i. [321] is = the sum of the row [321] starting at the first corporation tax to pay up until the [4] No. of Quarters
- Later periods:
- =IF(\$K2161=0,0,IF(I2164=0,0,J2877))
 - i. IF [313] Include Expense to Cash Tax Differences is = 0
 - ii. Then [321] is = 0
 - iii. Otherwise IF [315] NT Construction Mask is = 0
 - iv. Then [321] is = 0
 - v. Otherwise [321] is = [589] Corporate Tax Payment

[322] Net Operating Cash Surplus

- Row calculates total net operating cash surplus in the first column as the sum of row [322] based on [4] No. of Quarters and the net operating cash surplus in each subsequent period which is equal to [319] Operating Surplus minus [320] Change in Working Capital minus [321] Corporation Tax to Pay

[323] Export Credit Drawings

- Row calculates total export credit drawings in the first column as the sum of row [323] based on [4] No. of Quarters and the export credit drawings in each subsequent period which is equal to [416] Principal Outstanding at the End of the Year

[324] Interests & Fees on Export Credit

- Row calculates total interest and fees on export credit drawings in the first column as the sum of row [324] based on [4] No. of Quarters and the interest and fees on export credit drawings in each subsequent period which is equal to the sum of [417] Interest Due at the End of the Year, [418] Front End Fee, and [420] Commitment Fee

[325] Financing by Export Credit

- Row calculates total amount of financing by export credit in the first column as the sum of row [325] based on [4] No. of Quarters and the financing by export credit in each subsequent period which is equal to the sum of [323] Export Credit Drawings and [324] Interest and Fees on Export Credit

[326] Contribution to Trustee Account

- Row calculates total amount of contribution to the trustee account in the first column as the sum of row [326] based on [4] No. of Quarters and the contribution to the trustee account in each subsequent period which is equal to [552] Installment to Trustee Account minus [553] Withdrawal of Trustee Account

[327] Total Needs of Financing (Construction Period)

- Row shows both the total needs of financing used throughout the model along with the amount each period
- First period:
- =SUM(OFFSET(I2181,0,0,1,\$D\$14))
 - i. [327] is = the sum of the row [327] starting at the first financing need amount up until the [4] No. of Quarters
- Later periods:
- =IF(OR(I2168="",I2173="",I2177="",I2164=0),0,I2168-I2173-I2177+I2179)
 - i. IF [318] Asset Purchase Need of Financing is = "" OR [322] Net Operating Cash Surplus is = "" OR [325] Financing by Export Credit is = "" OR [315] NT Construction Mask is = 0
 - ii. Then [327] is = 0
 - iii. Otherwise [327] is = [318] Asset Purchase Need of Financing - [322] Net Operating Cash Surplus - [325] Financing by Export Credit + [326] Contribution to Trustee Account

[328] Intercalary Interests

- Row calculates total amount of intercalary interests in the first column as the sum of row [328] based on [4] No. of Quarters and the intercalary interests in each subsequent period which is equal to the sum of [324] Interest and Fees on Export Credit and [317] Interest and Fees on Commercial Construction Financing

[329] Equity Injections

- Row calculates total amount of equity injections in the first column as the sum of row [328] based on [4] No. of Quarters and the equity injections in each subsequent period which is equal to [528] Equity Injections

Commercial Construction Loan Assumptions

Commercial Construction Financing

[330] Year

- Row shows the model unit timeframe of the commercial construction financing which is incremented by 1 each period

[331] Debt Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the debt is denominated in

[332] Exchange Rate

- Row used to show the exchange rate that will be used
- =IF(\$H2195=1,1,IF(\$H2195=2,I\$265,I\$268))
 - i. IF [331] Debt Currency is = 1
 - ii. Then [332] is = 1
 - iii. Otherwise IF [331] Debt Currency is = 2
 - iv. Then [332] is = [56] EUR/CNY
 - v. Otherwise [332] is = [56] USD/CNY

[333] Principal Amount in Issue Currency

- Row calculates the principle amount of the commercial construction financing as the sum of all the values in [334] Drawdown amounts up until [4] No. of Quarters

[334] Drawdown Amounts (Annual)

- Row calculates the annual drawdown amounts of the commercial construction loan
- IF(I2181="",0,I2181-I2185)
 - i. IF [327] Total Needs of Financing is = ""
 - ii. Then [334] is = 0
 - iii. Otherwise [334] is = [327] Total Needs of Financing – [329] Equity Injections

[335] Interest Rate Fixed or Variable?

- Drop down menu used as an input on whether the interest rate will be fixed or variable

[336] Interest Rate Used

- Drop down menu with “CNY Rate”, “EUROIBOR”, and “TICR” which is used as an input for what interest rate will be used on commercial construction financing

[337] Spread Over EURIBOR

- Manual input for the spread over the interest rate that will be used for the commercial construction financing

[338] EURIBOR Rate

- Row shows the interest rate percent that will be used based on [336] Interest Rate Used
- =IF(\$H2202=1,I\$250,IF(\$H2202=2,I\$253,I\$256))
 - i. IF [336] Interest Rate Used is = 1
 - ii. Then [338] is = [53] CNY Rate
 - iii. Otherwise IF [336] Interest Rate Used is = 2

- iv. Then [338] is = EURIBOR [53] Rate
- v. Otherwise [338] is = TICR [53] Rate

[339] Interest Rate

- Row calculates what the interest rate percentage that will be used for the commercial construction financing
- $\text{IF}(\$H\$2201=1, \$G\$2203, I2204 + \$G2203)$
 - i. IF [335] Interest Rate Fixed or Variable is = 1
 - ii. Then [339] is = [337] Spread Over EURIBOR
 - iii. Otherwise [339] is = [338] EURIBOR Rate + [337] Spread Over EURIBOR

[340] Term

- Manual input for the term the financing will be outstanding in years

[341] Grace Period

- Manual input for the grace period of the financing in years

[342] Term

- Formula converts the term of the financing to the same time units as the periods of the model by taking [340] Term / [5] Compounding Frequency

[343] Grace Period

- Formula converts the grace period of the financing to the same time units as the periods of the model by taking the [341] Grace Period / [5] Compounding Frequency

[344] Repayment Profile

- Drop down menu with “Bullet”, “Equal Installment”, “Mortgage”, and “Manual” which is used as an input for the way the loan will be repaid

[345] Manual Repayment

- Manual input for the amount of repayment each period if the [344] Repayment Profile is set to manual

[346] Front-End Fee

- Manual input for the percentage front end fee of the commercial construction financing

[347] Commitment Fee

- Manual input for the percentage commitment fee of the commercial construction financing

Commercial Construction Loan Calculations

Commercial Construction Loan Calculations

[348] Repayment Period

- Row shows if the commercial construction loan is currently within the repayment period
- $\text{IF}(I2193 < \$I2210, 0, H2223 + 1)$
 - i. IF [330] Year is Less Than [343] Grace Period
 - ii. Then [348] is = 0
 - iii. Otherwise [348] is = preceding [348] + 1

[349] Interest Operating Mask

- Manual input each period used to specify if the interest will be calculated

[350] Interest Rate

- Interest rate used for each period of the model which is equal to [339] Interest Rate

[351] Principal Outstanding At The Beginning Of The Year

- Row shows the principal outstanding at the beginning of the year which is equal to a manual input for the first period and [359] Principal Outstanding at the End of the Year for subsequent periods

[352] Repayment of Principal

- Formula calculates the repayment of principal for each period of the model
- =IF(\$I\$2198>0,IF(\$H\$2211=1,I2230,IF(\$H\$2211=2,I2231,IF(\$H\$2211=3,IF(I2223=(\$J2087-\$J2088),I2228,I2232),I2212))),0)
 - IF [333] Principal Amount is Greater Than 0
 - Then IF [344] Repayment Profile is = 1 (Bullet)
 - Then [352] is = [353] Bullet Principal
 - Otherwise IF [344] is = 2 (Equal Installment)
 - Then [352] is = [354] Equal Installment Principal
 - Otherwise IF [344] is = 3 (Mortgage)
 - Then IF [348] Repayment Period is = ([340] Term – [341] Grace Period)
 - Then [352] is = [351] Principal Outstand at the Beginning of the Year
 - Otherwise [352] is = [355] Annuity Principal
 - Otherwise [352] is = [345] Manual Repayment
 - Otherwise [352] is = 0
- Formula calculates the amount of repayment each period based on [344] Repayment profile

[353] Bullet Principal

- Row calculates the principal repayment under a bullet repayment scenario
- =IF(\$I\$2198>0,IF(AND(\$H\$2211=1,I2223=(\$I\$2209-\$I\$2210)),I2228,0),0)
 - IF [333] Principal Amount is Issue Currency is Greater Than 0
 - Then IF [344] Repayment Profile is = 1 AND [348] Repayment Period is = [342] Term – [344] Grace Period
 - Then [353] is = [351] Principal Outstanding at Beginning of the Year
 - Otherwise [353] is = 0
- Formula first check if the repayment profile is bullet and if the repayment period is equal to the term minus the grace period at which time the entire loan amount is repaid

[354] Equal Installment Principal

- Row calculates the principal repayments under an equal installment scenario
- =IF(\$I\$2198>0,IF(AND(\$H\$2211=2,I\$2223>0,I\$2223<=(\$I\$2209-\$I\$2210)),I\$2198/(\$I\$2209-\$I\$2210),0),0)
 - IF [333] Principal Amount is Issue Currency is Greater Than 0
 - Then IF [344] Repayment Profile is = 2 AND [348] Repayment Period is Greater Than 0 AND [348] Repayment Period is Less Than or Equal To ([342] Term – [344] Grace Period)

- iii. Then [354] is = [354] Principal Amount in Issue Currency / ([342] Term – [344] Grace Period)
- iv. Otherwise [354] is = 0
- v. Otherwise [354] is = 0
- Formula first check if the repayment profile is equal installment and if the repayment period is less than the term minus the grace period at which time the repayment is in equal instalments over the repayment period

[355] Annuity Principal

- Row calculates the principal repayments under a mortgage scenario
- =IF(\$I\$2198>0,IF(AND(\$H\$2211=3,I2223>0,I2223<=(\$I\$2209-\$I\$2210)),I2228*G2233/SUM(I2232:\$DB2232)-I2234,0),0)
 - i. IF [333] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [344] Repayment Profile is = 3 AND [348] Repayment Period is Greater Than 0 AND [348] Repayment Period is Less Than or Equal To ([342] Term – [344] Grace Period)
 - iii. Then [355] is = [351] Principal Outstanding at Beginning of the Year * [356] Annuity Discount Factor / the Sum of the remaining [356] Annuity Discount Factor – [357] Annuity Interest
 - iv. Otherwise [355] is = 0
 - v. Otherwise [355] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace period. If it is all true then the annuity principal repayment is equal to the initial principle multiplied by the annuity discount factor divided by the sum of the annuity discount row minus the annuity interest

[356] Annuity Discount Factor

- Row calculates the discount factor for mortgage style repayment profile loans. This discount factor is used to calculate the principal due each period for mortgage style loans
- =IF(\$I\$2198>0,IF(AND(\$H\$2211=3,I\$2556<=(\$J\$2428-\$J\$2429)),G2233/(1+I2227),0),0)
 - i. IF [333] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [344] Repayment Profile is = 3 (Mortgage) AND [348] Repayment Period is Less Than or Equal To ([342] Term – [344] Grace Period)
 - iii. Then [356] is = preceding [356] / (1 + [350] Interest Rate)
 - iv. Otherwise [356] is = 0
 - v. Otherwise [356] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace period. If it is all true then the annuity principal repayment is equal to the preceding annuity discount factor divided by 1 plus the interest rate

[357] Annuity Interest

- Row used to calculate the annuity interest each period on loans. This annuity interest is used on the calculation of the annuity principal amount
- $=IF(\$I\$2198>0,IF(\$H\$2211=3,IF(I2223>0,I2228*I2227,0),0))$
 - IF [333] Principal Amount in Issue Currency is Greater Than 0
 - Then IF [344] Repayment Profile is = 3 (Mortgage)
 - Then IF [348] Repayment Period is Greater Than 0
 - Then [357] is = [351] Principal Outstanding at the Beginning of the Year * [350] Interest Rate
 - Otherwise [357] is = 0
 - Otherwise [357] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and if the repayment period is greater than 0. If both these are true the annuity interest is equal to the principal outstanding at the beginning of that period multiplied by the interest rate

[358] Principal Received

- Row used to show the amount and timing of when the principal is received from the loan
- $=IF(\$I2198>0,I2199,0)$
 - IF [333] Principal Amount in Issue Currency is Greater Than 0
 - Then [358] is = [334] Drawdown Amounts
 - Otherwise [358] is = 0

[359] Principal Outstanding at the End of the Year

- Row calculates how much principal is outstanding at the end of each period based on the amount of principle that is repaid and received
- $=I2228-I2229+I2235$
 - [351] Principal Outstanding at Beginning of the Year – [352] Repayment of Principal + [358] Principal Received

[360] Interest Due at the End of the Year

- Row used to calculate the amount of interest that is due at the end of each period. This is based on the type of new loan that was initially entered
- $=IF(\$I\$2198>0,IF(AND(\$H\$2211=3,I2223>0),I2234*I2224/\$D\$15,((I2227*(I2228+I2235)/2)*I2224)/\$D\$15),0)$
 - IF [333] Principal Amount in Issue Currency is Greater Than 0
 - Then IF [344] Repayment Profile is = 3 (Mortgage) AND [348] Repayment Period is Greater Than 0
 - Then [360] is = [357] Annuity Interest * [349] Interest Operating Mask / [5] Compounding Periods
 - Otherwise [360] is = [350] Interest Rate * (([351] Principal Outstanding at Beginning of the Year + [359] Principal Outstanding at End of the Year)/ 2) * [349] Interest Operating Mask / [5] Compounding Frequency
 - Otherwise [360] is = 0

- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and whether the repayment period is greater than zero. If these are true then the interest due is equal to the annuity interest. Otherwise the interest due is equal to the interest rate multiplied by the average principal outstanding

[361] Front-End Fee

- Row calculates the front end fee on new debt
- $\text{IF}(\text{H2239}>0, 0.00000000001, \text{IF}(\text{AND}(\text{I2223}<2, \text{I2236}>0), \$\text{I}\$2214 * \text{I2198}, 0.00000000001))$
 - IF preceding [361] is greater than 0
 - Then [361] is = 0.00000000001
 - Otherwise IF [348] Repayment Period is Less Than 2 AND [359] Principal Outstanding at the End of the Year is Greater Than 0
 - Then [361] is = [333] Principal Amount * [346] Front End Fee
 - Otherwise [361] is = 0.00000000001

[362] Undisbursed Capital

- Row is used to determine how much if any of a new loan remains undisbursed to the company
- $\text{=IF}(\text{I2164}=0, 0, \$\text{I}\$2198 - (\text{I2228} + \text{I2235}))$
 - IF [315] NT Construction Mask is = 0
 - Then [362] Undisbursed Capital is = 0
 - Otherwise [362] is = [333] Principal Amount – ([351] Principal Outstanding at Beginning of the Year + [358] Principal Received)

[363] Commitment Fee

- Row used to calculate the commitment fee for any undisbursed capital each period
- $\text{=IF}(\$ \text{I}\$2198 > 0, \$ \text{I}\$2215 * \text{I2240} / \$ \text{D}\$15, 0)$
 - IF [333] Principal Amount in Issue Currency is Greater Than 0
 - Then [363] is = [347] Commitment Fee * [362] Undisbursed Capital / [5] Compounding Frequency
 - Otherwise [363] is = 0

[364] Total Debt Service

- Total debt service cost for each period of the model
- $\text{=IF}(\$ \text{I}\$2198 > 0, \text{I2229} + \text{I2238} + \text{I2239} + \text{I2241}, 0)$
 - IF [333] Principal Amount in Issue Currency is Greater Than 0
 - Then [364] is = [352] Repayment of Principal + [360] Interest Due + [361] Front End Fee + [363] Commitment Fee

[365] Exchange Rate

- Row shows the exchange rate on the debt which is equal to [332] Exchange Rate

[366] Principal Outstanding at the Beginning of the Year

- Row calculates the principal outstanding at the beginning of the year in the home currency which is equal to [351] Principal Outstanding at the Beginning of the Year * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[367] Repayment of Principal

- Row calculates the repayment of principal in the home currency which is equal to [352] Repayment of Principal * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[368] Principal Received

- Row calculates the principal received in the home currency which is equal to [358] Principal Received * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[369] Principal Outstanding at the End of the Year

- Row calculates the principal outstanding at the end of the year in the home currency which is equal to [359] Principal Outstanding at the End of the Year * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[370] Interest Due at the End of the Year

- Row calculates the Interest Due in the home currency which is equal to [360] Interest Due * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[371] Front-End Fee

- Row calculates the front-end fee in the home currency which is equal to [361] Front End Fee * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[372] Undisbursed Capital

- Row calculates the undisbursed capital in the home currency which is equal to [362] Undisbursed Capital * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[373] Commitment Fee

- Row calculates the commitment fee in the home currency which is equal to [363] Commitment Fee * [365] Exchange Rate if the [333] Principal Amount is greater than 0

[374] Total Debt Service

- Row calculates the total debt service in the home currency which is equal to [364] Total Debt Service * [365] Exchange Rate if the [333] Principal Amount is greater than 0

Export Credit Assumptions

Export Credit Assumptions

[375] Year

- Row shows the model unit timeframe of the export credit financing which is incremented by 1 each period

[376] Debt Currency?

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the currency the debt is denominated in

[377] Exchange Rate

- Row used to show the exchange rate that will be used
- =IF(\$H2195=1,1,IF(\$H2195=2,I\$265,I\$268))
 - IF [376] Debt Currency is = 1
 - Then [377] is = 1
 - Otherwise IF [376] Debt Currency is = 2

- iv. Then [377] is = [56] EUR/CNY
- v. Otherwise [377] is = [56] USD/CNY

[378] Total Exports

- Row calculates the total capital expenditures in the same currency that is used under the Export Credit Assumptions
- $=IF(\$K\$1779=\$J2266,J\$1785,0))+ (IF(\$K\$1804=\$J2266,J\$1810,0))+ (IF(\$K\$1829=\$J2266,J\$1835,0))+ (IF(\$K\$1854=\$J2266,J\$1860,0))+ (IF(\$K\$1886=\$J2266,J\$1892,0))+ (IF(\$K\$1911=\$J2266,J\$1917,0))$
 - i. IF new fixed asset 1 [217] Expense Currency is = [377] Exchange Rate , then new fixed asset 1 [221] Capital Expenditures, Otherwise 0 +
 - ii. IF new fixed asset 2 [217] Expense Currency is = [377] Exchange Rate , then new fixed asset 2 [221] Capital Expenditures, Otherwise 0 +
 - iii. IF new fixed asset 3 [217] Expense Currency is = [377] Exchange Rate , then new fixed asset 3 [221] Capital Expenditures, Otherwise 0 +
 - iv. IF new fixed asset 4 [217] Expense Currency is = [377] Exchange Rate , then new fixed asset 4 [221] Capital Expenditures, Otherwise 0 +
 - v. IF existing fixed asset 1 [233] Expense Currency is = [377] Exchange Rate , then existing fixed asset 1 [237] Capital Expenditures, Otherwise 0 +
 - vi. IF existing fixed asset 2 [233] Expense Currency is = [377] Exchange Rate , then existing fixed asset 2 [237] Capital Expenditures, Otherwise 0 +

[379] Proportion of Export in Export Credit

- Manual input for the proportion of the [378] Total Exports that is export credit

[380] Total Export Credit

- Total export credit used by the port which is equal to the sum of [377] Exchange Rate * [378] Total Exports * [379] Proportion in Export Credit for both currencies used

[381] Home Currency

- Drop down menu with “CNY”, “EUR”, and “USD” used to select the home currency the debt is denominated in

[382] Exchange Rate

- Row used to show the exchange rate that will be used
- $=IF(\$H2195=1,1,IF(\$H2195=2,I\$265,I\$268))$
 - i. IF [381] Debt Currency is = 1
 - ii. Then [382] is = 1
 - iii. Otherwise IF [381] Debt Currency is = 2
 - iv. Then [382] is = [56] EUR/CNY
 - v. Otherwise [382] is = [56] USD/CNY

[383] Principal Amount in Issue Currency

- Row calculates the principle amount of the export credit financing as the sum of all the values in [384] Drawdown amounts up until [4] No. of Quarters

[384] Drawdown Amounts (Annual)

- Row calculates the annual drawdown amounts of export credit which is equal to [380] Total Export Credit

[385] Interest Rate Fixed or Variable?

- Drop down menu used as an input of whether the interest rate is fixed or variable

[386] Interest Rate Used

- Drop down menu with “CNY Rate”, “EUROIBOR”, and “TICR” which is used as an input for what interest rate will be used on export credit

[387] Spread Over EURIBOR 6 Months

- Manual input for the spread over the interest rate that will be used for the export financing

[388] EURIBOR 6 Months Rate

- Row shows the interest rate that will be used based on [386] Interest Rate Used
- =IF(\$J2286=1,I\$250,IF(\$J2286=2,I\$253,I\$256))
 - IF [386] Interest Rate Used is = 1
 - Then [388] is = [53] CNY Rate
 - Otherwise IF [386] Interest Rate Used is = 2
 - Then [388] is = EURIBOR [53] Rate
 - Otherwise [388] is = TICR [53] Rate

[389] Interest Rate

- Row calculates the interest rate percentage that will be used export credit financing
- =IF(\$H\$2201=1,\$G\$2203,I2204+\$G2203)
 - IF [385] Interest Rate Fixed or Variable is = 1
 - Then [389] is = [387] Spread Over EURIBOR
 - Otherwise [389] is = [388] EURIBOR Rate + [387] Spread Over EURIBOR

[390] Term

- Manual input for the term the export financing will be outstanding in years

[391] Grace Period

- Manual input for the grace period of the export financing in years

[392] Repayment Profile

- Drop down menu with “Bullet”, “Equal Installment”, “Mortgage”, and “Manual” which is used as an input for the way the loan will be repaid

[393] Manual Repayment

- Manual input for the amount of repayment each period if the [392] Repayment Profile is set to manual

[394] Front-End Fee

- Manual input for the percentage front-end fee on the export financing

[395] Commitment Fee

- Manual input for the percentage commitment fee on the export financing

Export Credit Calculations

Export Credit Calculations

[396] Repayment Period

- Row shows if the export credit loan is currently within the repayment period
- =IF(I2193<\$I2210,0,H2223+1)
 - i. IF [375] Year is Less Than [391] Grace Period
 - ii. Then [396] is = 0
 - iii. Otherwise [396] is = preceding [396] + 1

[397] Interest Rate

- Interest rate used for each period of the model which is equal to [389] Interest Rate

[398] Principal Outstanding at the Beginning of the Year

- Row shows the principal outstanding at the beginning of the year which is equal to a manual input for the first period and [406] Principal Outstanding at the End of the Year for subsequent periods

[399] Repayment of Principal

- Formula calculates the repayment of principal for each period of the model
- =IF(\$I2282>0,IF(\$J2293=1,I2311,IF(\$J2293=2,I2312,IF(\$J2293=3,IF(I2305=(\$I2291-\$I2292),I2309,I2313),I2294))),0)
 - i. IF [383] Principal Amount is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 1 (Bullet)
 - iii. Then [399] is = [400] Bullet Principal
 - iv. Otherwise IF [392] is = 2 (Equal Installment)
 - v. Then [399] is = [401] Equal Installment Principal
 - vi. Otherwise IF [392] is = 3 (Mortgage)
 - vii. Then IF [396] Repayment Period is = ([390] Term – [391] Grace Period)
 - viii. Then [399] is = [398] Principal Outstand at the Beginning of the Year
 - ix. Otherwise [399] is = [402] Annuity Principal
 - x. Otherwise [399] is = [393] Manual Repayment
 - xi. Otherwise [399] is = 0

[400] Bullet Principal

- Row calculates the principal repayment under a bullet repayment scenario
- =IF(\$I2282>0,IF(AND(\$J2293=1,I2305=(\$I2291-\$I2292)),I2309,0),0)
 - i. IF [383] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 1 AND [396] Repayment Period is = [390] Term – [391] Grace Period
 - iii. Then [400] is = [398] Principal Outstanding at Beginning of the Year
 - iv. Otherwise [400] is = 0
- Formula first check if the repayment profile is bullet and if the repayment period is equal to the term minus the grace period at which time the entire loan amount is repaid

[401] Equal Installment Principal

- Row calculates the principal repayments under an equal installment scenario
- =IF(\$I2282>0,IF(AND(\$J2293=2,I2305>0,I2305<=(\$I2291-\$I2292)),I2282/(\$I2291-\$I2292),0),0)
 - i. IF [383] Principal Amount is Issue Currency is Greater Than 0

- ii. Then IF [392] Repayment Profile is = 2 AND [396] Repayment Period is Greater Than 0 AND [396] Repayment Period is Less Than or Equal To ([390] Term – [391] Grace Period)
- iii. Then [401] is = [383] Principal Amount in Issue Currency / ([390] Term – [391] Grace Period)
- iv. Otherwise [401] is = 0
- v. Otherwise [401] is = 0
- Formula first check if the repayment profile is equal installment and if the repayment period is less than the term minus the grace period at which time the repayment is in equal installments over the repayment period

[402] Annuity Principal

- Row calculates the principal repayments under a mortgage scenario
- =IF(\$I2282>0,IF(AND(\$J2293=3,I2305>0,I2305<=(\$I2291-\$I2292)),I2309*G2314/SUM(I2313:\$DB2313)-I2315,0),0)
 - i. IF [383] Principal Amount in Issue Currency is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 3 AND [396] Repayment Period is Greater Than 0 AND [396] Repayment Period is Less Than or Equal To ([390] Term – [391] Grace Period)
 - iii. Then [402] is = [398] Principal Outstanding at Beginning of the Year * [403] Annuity Discount Factor / the Sum of the remaining [403] Annuity Discount Factor – [404] Annuity Interest
 - iv. Otherwise [402] is = 0
 - v. Otherwise [402] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace period. If it is all true then the annuity principal repayment is equal to the initial principle multiplied by the annuity discount factor divided by the sum of the annuity discount row minus the annuity interest

[403] Annuity Discount Factor

- Row calculates the discount factor for mortgage style repayment profile loans. This discount factor is used to calculate the principal due each period for mortgage style loans
- =IF(\$I2282>0,IF(AND(\$J2293=3,I2305<=(\$I2291-\$I2292)),\$G2314/(1+I2308),0),0)
 - i. IF [383] Principal Amount in Issue Currency is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 3 (Mortgage) AND [396] Repayment Period is Less Than or Equal To ([390] Term – [391] Grace Period)
 - iii. Then [403] is = preceding [403] / (1 + [397] Interest Rate)
 - iv. Otherwise [403] is = 0
 - v. Otherwise [403] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace

period. If it is all true than the annuity principal repayment is equal to the preceding annuity discount factor divided by 1 plus the interest rate

[404] Annuity Interest

- Row used to calculate the annuity interest each period on loans. This annuity interest is used on the calculation of the annuity principal amount
- =IF(\$I2282>0,IF(\$J2293=3,IF(I2305>0,I2309*I2308,0),0),0)
 - i. IF [383] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 3 (Mortgage)
 - iii. Then IF [396] Repayment Period is Greater Than 0
 - iv. Then [404] is = [398] Principal Outstanding at the Beginning of the Year * [397] Interest Rate
 - v. Otherwise [404] is = 0
 - vi. Otherwise [404] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and if the repayment period is greater than 0. If both these are true the annuity interest is equal to the principal outstanding at the beginning of that period multiplied by the interest rate

[405] Principal Received

- Row used to show the amount and timing of when the principal is received from the loan
- =IF(\$I2282>0,I2283,0)
 - i. IF [383] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then [405] is = [384] Drawdown Amounts
 - iii. Otherwise [405] is = 0

[406] Principal Outstanding at the End of the Year

- Row calculates how much principal is outstanding at the end of each period based on the amount of principle that is repaid and received
- =I2309-I2310+I2316
 - i. [398] Principal Outstanding at Beginning of the Year – [399] Repayment of Principal + [405] Principal Received

[407] Interest Due at the End of the Year

- Row used to calculate the amount of interest that is due at the end of each period. This is based on the type of new loan that was initially entered
- =IF(\$I2282>0,IF(AND(\$J2293=3,I2305>0),I2315,(I2308*(I2309+I2317)/2)),0)
 - i. IF [383] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [392] Repayment Profile is = 3 (Mortgage) AND [396] Repayment Period is Greater Than 0
 - iii. Then [407] is = [404] Annuity Interest
 - iv. Otherwise [407] is = [397] Interest Rate * (([398] Principal Outstanding at Beginning of the Year + [406] Principal Outstanding at End of the Year) / 2)
 - v. Otherwise [407] is = 0

- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and whether the repayment period is greater than zero. If these are true then the interest due is equal to the annuity interest. Otherwise the interest due is equal to the interest rate multiplied by the average principal outstanding

[408] Front-End Fee

- Row calculates the front end fee on new debt
- $=IF(\$I2282>0,IF(I2305=J\$30,\$I2282*\$I20501,0),0)$
 - IF [383] Principal Amount is Greater Than 0
 - Then IF [396] Repayment Period is = [14] Periods
 - Then [408] is = [383] Principal Amount * [394] Front End Fee

[409] Undisbursed Capital

- Row is used to determine how much if any of a loan remains undisbursed to the company
- $=IF(\$I2282>0,IF(AND(J\$30<=(\$I2292+1)),\$I2282-I2309-I2316,0),0)$
 - IF [383] Principal Amount is Greater Than 0
 - Then IF [14] Periods is Less Than or Equal To ([391] Grace Period + 1)
 - Then [409] is = [383] Principal Amount – [398] Principal Outstanding at Beginning of the Year – [405] Principal Received
 - Otherwise [409] is = 0
 - Otherwise [409] is = 0

[410] Commitment Fee

- Row used to calculate the commitment fee for any undisbursed capital each period
- $=IF(\$I2282>0,\$I2297*I2321,0)$
 - IF [383] Principal Amount is Issue Currency is Greater Than 0
 - Then [410] is = [395] Commitment Fee * [409] Undisbursed Capital
 - Otherwise [410] is = 0

[411] Total Debt Service

- Total debt service cost for each period of the model
- $=IF(\$I2282>0,I2310+I2319+I2320+I2322,0)$
 - IF [383] Principal Amount is Issue Currency is Greater Than 0
 - Then [411] is = [399] Repayment of Principal + [407] Interest Due + [408] Front End Fee + [410] Commitment Fee

[412] Exchange Rate

- Row shows the exchange rate on the debt which is equal to [382] Exchange Rate

[413] Principal Outstanding at the Beginning of the Year

- Row calculates the principal outstanding at the beginning of the year in the home currency which is equal to [398] Principal Outstanding at the Beginning of the Year * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[414] Repayment of Principal

- Row calculates the repayment of principal in the home currency which is equal to [399] Repayment of Principal * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[415] Principal Received

- Row calculates the principal received in the home currency which is equal to [405] Principal Received * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[416] Principal Outstanding at the End of the Year

- Row calculates the principal outstanding at the end of the year in the home currency which is equal to [406] Principal Outstanding at the End of the Year * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[417] Interest Due at the End of the Year

- Row calculates the Interest Due in the home currency which is equal to [407] Interest Due * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[418] Front-End Fee

- Row calculates the front-end fee in the home currency which is equal to [408] Front End Fee * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[419] Undisbursed Capital

- Row calculates the undisbursed capital in the home currency which is equal to [409] Undisbursed Capital * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[420] Commitment Fee

- Row calculates the commitment fee in the home currency which is equal to [410] Commitment Fee * [412] Exchange Rate if the [383] Principal Amount is greater than 0

[421] Total Debt Service

- Row calculates the total debt service in the home currency which is equal to [411] Total Debt Service * [412] Exchange Rate if the [383] Principal Amount is greater than 0

Revolving Credit Assumptions

Revolving Credit Assumptions

[422] Revolving Credit Activated?

- Drop down menu used as an input of whether the revolving credit line is active

[423] Minimum Cash Balance

- Manual input for the minimum cash balance the company is to have for each period of the model

[424] Starting Revolver Balance

- Manual input for the starting revolver balance in the first period of the model

[425] Maximum Revolver Balance

- Manual input for the maximum available credit available from the revolver

[426] Interest Rate Used

- Drop down menu with “CNY Rate”, “EUROIBOR”, and “TICR” which is used as an input for what interest rate will be used on revolving credit

[427] Spread Over EURIBOR 6 Months

- Manual input for the spread over the interest rate that will be used for the revolving credit

[428] EURIBOR 6 Months Rate

- Row shows the interest rate percent that will be used based on [386] Interest Rate Used
- =IF(\$J2349=1,I\$250,IF(\$J2349=2,I\$253,I\$256))
 - IF [426] Interest Rate Used is = 1
 - Then [428] is = [53] CNY Rate
 - Otherwise IF [426] Interest Rate Used is = 2
 - Then [428] is = EURIBOR [53] Rate
 - Otherwise [428] is = TICR [53] Rate

[429] Interest Rate

- Row calculates what the interest rate percentage that will be used for revolving credit
- =\$J2344*(I2351+\$I2350)
 - [422] Revolving Credit Activated * [427] Spread over EURIBOR + [428] EURIBOR 6 Months Rate

[430] Commitment Fee

- Manual input for the percentage commitment fee on the revolving credit

Revolving Credit Calculations

Revolving Credit Calculations

[431] Opening Revolver Balance

- Row shows the opening balance for the revolver which is equal to [424] Starting Revolver Balance in the first period and [435] Ending Revolver Balance for subsequent periods

[432] Cash Available Before Revolver

- Row calculates the cash that is available before the revolver is drawn for each period of the model
- =IF(J\$2838="",H2362,J\$2838)
 - IF preceding [557] Net Cash Before Revolver is = ""
 - Then [432] is = preceding [432]
 - Otherwise [432] is = [557] Net Cash Before Revolver

[433] Revolver Drawings

- Row calculates the amount of revolver drawings for each period of the model
- =IF(\$J\$2344=0,0,IF(I\$2362<\$I\$2345,\$I\$2345-I\$2362,0))
 - IF Revolver Credit Activated is = 0
 - Then [433] is = 0
 - Otherwise IF [432] Cash Available before Revolver is Less Than [423] Minimum Cash Balance
 - Then [433] is = [423] Minimum Cash Balance - [432] Cash Available before Revolver
 - Otherwise [433] is = 0

[434] Revolver Repayment

- Row calculates the repayment of the revolver for each period of the model

- =IF(I\$2362>\$I\$2345,MIN(I\$2362-\$I\$2345,I2361),0)
 - i. IF [432] Cash Available before Revolver is Greater Than [423] Minimum Cash Balance
 - ii. Then [434] is = the Minimum of ([432] Cash Available before Revolver – [423] Minimum Cash Balance) and [431] Opening Revolver Balance

[435] Ending Revolver Amount

- Row calculates the ending revolver balance for each period of the model
- =I2361+I2363-I2364
 - i. [431] Opening Revolver Balance + [433] Revolver Drawings – [434] Revolver Repayment

[436] Interest Expense

- Row calculates the interest amount each period which is equal to the average of [431] Opening Revolver Balance and [435] Ending Revolver Balance multiplied by [429] Interest Rate

[437] Commitment Fee

- Row calculates the commitment fee for each period of the model
- =(\$I\$2347-I2361)*\$I\$2353
 - i. ([425] Maximum Revolver Amount – [431] Opening Revolver Balance) * [430] Commitment Fee

[438] Total Revolver Finance Fees

- Total revolver fees for each period of the model which is equal to the sum of [436] Interest Expense and [437] Commitment Fee

Existing Debt Financing Assumptions

Existing Debt Financing Assumptions

[439] Debt/Bond Funding Source (Name Of Lender/Capital Markets)

- Manual input for the name of the existing debt 1

[440] Currency

- Drop down menu with “CNY”, “EUR”, and “USD” used as an input for the currency the debt is denominated in

[441] Outstanding Amount at the Beginning of First Year

- Manual input for the amount of existing debt 1 outstanding at the beginning of the first period of the model

[442] Interest Expense in First Year

- Manual input for the amount of interest expense in the first period of the model

[443] Principal Repayments (Annual)

- Manual input for the amount of principal repayments for each period of the model

[444] Use Fixed or Variable Interest Rate?

- Dropdown menu used as an input for whether the existing debt 1 uses a fixed or variable interest rate

[445] If Fixed, Enter Interest Rate

- Manual input for the fixed interest rate that will be used if [444] Use Fixed Or Variable Rate is set to “Fixed”

[446] If Variable, Enter Interest Rate

- Manual input for the margin on the base rate that will be used if [444] Use Fixed Or Variable Rate is set to “Variable”

New Debt Financing Assumptions

New Debt Financing Assumptions

[447] Debt/Bond Funding Source (Name of Lender/Capital Markets)

- Manual input for the name of the first new debt financing

[448] First Disbursement Year

- Manual input for the first disbursement year of the new debt financing

[449] Currency

- Drop down menu with “CNY”, “EUR”, and “USD” used as an input for the currency the debt is denominated in

[450] Principal Amount in Issue Currency

- Manual input for the amount for principal on new debt financing in the issue currency

[451] Drawdown Amounts (Annual)

- Manual input for the drawdown amounts for each period of the model

[452] Used Fixed or Variable Interest Rate?

- Dropdown menu used as an input for whether the new debt 1 uses a fixed or variable interest rate

[453] If Fixed, Enter Interest Rate

- Manual input for the fixed interest rate that will be used if [452] Use Fixed Or Variable Rate is set to “Fixed”

[454] If Variable, Enter Interest Rate

- Manual input for the margin on the base rate that will be used if [452] Use Fixed Or Variable Rate is set to “Variable”

[455] Term

- Manual input for the term of the new debt 1

[456] Grace Period

- Manual input for the grace period of new debt 1

[457] Repayment Profile

- Drop down menu with “Bullet”, “Equal”, and “Mortgage”

[458] Front-End Fee

- Manual input for the percentage front-end fee on the new debt 1

[459] Commitment Fee

- Manual input for the percentage commitment fee on the new debt 1

Existing Debt Financing Calculations

Existing Debt Financing Calculations

[460] Existing Loan From

- Row shows the name of the first existing debt as well time units used in the model incremented by one each period

[461] Interest Rate

- Row calculates the interest rate for each period of the model
- $=IF(\$J2383="Fixed",\$J2385,\$J2386+I\$250)$
 - i. IF [444] Used Fixed or Variable Interest Rate is = "Fixed"
 - ii. Then [461] is = [445] If Fixed, Enter Interest Rate
 - iii. Otherwise [461] is = [446] If Variable, Enter Interest Rate + [53] CNY Rate

[462] Principal Outstanding at the Beginning of the Year

- Row shows the principal outstanding at the beginning of the year which is equal to [441] Outstanding Amount at the Beginning of the First Year for the first period and [464] Principal Outstanding at the End of the Year for subsequent periods

[463] Repayment of Principal

- Row shows the annual repayment of the principal amount for the existing debt which is equal to [443] Principal Repayments for each period of the model

[464] Principal Outstanding at the End of the Year

- Row calculates the principal at the end of the year for each period of the model
- $=I2496-I2497$
 - i. [462] Principal Outstanding at the Beginning of the Year – [463] Repayment of Principal

[465] Interest Due at the End of the Year

- Row calculates the amount of interest due for each period of the model
- First period is equal to [442] Interest Expense in First Year
- Later periods:
 - $=J2495*((J2496+J2498)/2)$
 - i. [461] Interest Rate * (([462] Principal Outstanding at the Beginning of the Year – [464] Principal Outstanding at the End of the Year) / 2

[466] Total Debt Service

- Total debt service cost for each period of the model which is equal to [463] Repayment of Principal + [465] Interest Due

New Debt Financing Calculations

New Debt Financing Calculations

[467] New Loan from 1st Tranche

- Row shows the name of the first new debt financing

[468] Repayment Period

- Row calculates the repayment period for the first new debt financing
- = IF(\$J2422=0,"",IF(I2494<(\$J2419+\$J2429),0,H2556+1)))
 - IF [450] Principal Amount is = 0
 - Then [468] is = ""
 - Otherwise IF [460] Existing Loan From is Less Than ([448] First Disbursement Year + [456] Grace Period)
 - Then [468] is = 0
 - Otherwise [468] is = preceding [468] Repayment Period + 1

[469] Interest Rate

- Row calculates the interest rate for each period of the model
- =IF(\$K2424=1,\$J2426,\$J2427+I\$250)
 - IF [452] Used Fixed or Variable Interest Rate is = 1
 - Then [469] is = [453] If Fixed, Enter Interest Rate
 - Otherwise [469] is = [454] If Variable, Enter Margin on Rate + [53] CNY Rate

[470] Principal Outstanding at the Beginning of the Year

- Row shows the principal outstanding at the beginning of the year which is equal to a manual input for the first period and [478] Principal Outstanding at the End of the Year for subsequent periods

[471] Repayment of Principal

- Formula calculates the repayment of principal for each period of the model
- =IF(\$J\$2422>0,IF(\$K\$2430=1,I2560,IF(\$K\$2430=2,I2561,IF(\$K\$2430=3,IF(I2556=(\$J2428-\$J2429),I2558,I2562),0))),0)
 - IF [450] Principal Amount is Greater Than 0
 - Then IF [457] Repayment Profile is = 1 (Bullet)
 - Then [471] is = [472] Bullet Principal
 - Otherwise IF [457] is = 2 (Equal Installment)
 - Then [471] is = [473] Equal Installment Principal
 - Otherwise IF [457] is = 3 (Mortgage)
 - Then IF [468] Repayment Period is = ([455] Term – [456] Grace Period)
 - Then [471] is = [470] Principal Outstand at the Beginning of the Year
 - Otherwise [471] is = [474] Annuity Principal
 - Otherwise [471] is = 0
 - Otherwise [471] is = 0

[472] Bullet Principal

- Row calculates the principal repayment under a bullet repayment scenario
- =IF(\$J\$2422>0,IF(AND(\$K\$2430=1,I2556=(\$J\$2428-\$J\$2429)), \$J\$2422,0),0)
 - IF [450] Principal Amount is Issue Currency is Greater Than 0
 - Then IF [457] Repayment Profile is = 1 AND [468] Repayment Period is = [455] Term – [456] Grace Period

- iii. Then [472] is = [450] Principal Amount
- iv. Otherwise [472] is = 0
- Formula first check if the repayment profile is bullet and if the repayment period is equal to the term minus the grace period at which time the entire loan amount is repaid

[473] Equal Installment Principal

- Row calculates the principal repayments under an equal installment scenario
- =IF(\$J\$2422>0,IF(AND(\$K\$2430=2,I\$2556>0,I\$2556<=(\$J\$2428-\$J\$2429)), \$J\$2422/(\$J\$2428-\$J\$2429),0),0)
 - i. IF [450] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [457] Repayment Profile is = 2 AND [468] Repayment Period is Greater Than 0 AND [468] Repayment Period is Less Than or Equal To ([455] Term – [456] Grace Period)
 - iii. Then [473] is = [450] Principal Amount in Issue Currency / ([455] Term – [456] Grace Period)
 - iv. Otherwise [473] is = 0
 - v. Otherwise [473] is = 0
- Formula first check if the repayment profile is equal installment and if the repayment period is less than the term minus the grace period at which time the repayment is in equal installments over the repayment period

[474] Annuity Principal

- Row calculates the principal repayments under a mortgage scenario
- =IF(\$J\$2422>0,IF(AND(\$K\$2430=3,I2556>0,I2556<=(\$J\$2428-\$J\$2429)),I2558*G2563/SUM(I2562:\$DB2562)-I2564,0),0)
 - i. IF [450] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [457] Repayment Profile is = 3 AND [468] Repayment Period is Greater Than 0 AND [468] Repayment Period is Less Than or Equal To ([455] Term – [456] Grace Period)
 - iii. Then [474] is = [470] Principal Outstanding at Beginning of the Year * [475] Annuity Discount Factor / the Sum of the remaining [475] Annuity Discount Factor – [476] Annuity Interest
 - iv. Otherwise [474] is = 0
 - v. Otherwise [474] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace period. If it is all true then the annuity principal repayment is equal to the initial principle multiplied by the annuity discount factor divided by the sum of the annuity discount row minus the annuity interest

[475] Annuity Discount Factor

- Row calculates the discount factor for mortgage style repayment profile loans. This discount factor is used to calculate the principal due each period for mortgage style loans
- =IF(\$J\$2422>0,IF(AND(\$K\$2430=3,I\$2556<=(\$J\$2428-\$J\$2429)), \$G2563/(1+I2557),0),0)
 - i. IF [450] Principal Amount is Issue Currency is Greater Than 0

- ii. Then IF [457] Repayment Profile is = 3 (Mortgage) AND [468] Repayment Period is Less Than or Equal To ([455] Term – [456] Grace Period)
- iii. Then [475] is = preceding [475] / (1 + [469] Interest Rate)
- iv. Otherwise [475] is = 0
- v. Otherwise [475] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style, the repayment period is greater than zero and also less than or equal to the term of the loan minus the grace period. If it is all true then the annuity principal repayment is equal to the preceding annuity discount factor divided by 1 plus the interest rate

[476] Annuity Interest

- Row used to calculate the annuity interest each period on loans. This annuity interest is used on the calculation of the annuity principal amount
- =IF(\$J\$2422>0,IF(\$K\$2430=3,IF(I2556>0,I2558*I2557,0),0),0)
 - i. IF [450] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then IF [457] Repayment Profile is = 3 (Mortgage)
 - iii. Then IF [468] Repayment Period is Greater Than 0
 - iv. Then [476] is = [470] Principal Outstanding at the Beginning of the Year * [469] Interest Rate
 - v. Otherwise [476] is = 0
 - vi. Otherwise [476] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and if the repayment period is greater than 0. If both these are true the annuity interest is equal to the principal outstanding at the beginning of that period multiplied by the interest rate

[477] Principal Received

- Row used to show the amount and timing of when the principal is received from the loan
- =IF(\$J\$2422>0,J\$2423,0)
 - i. IF [450] Principal Amount in Issue Currency is Greater Than 0
 - ii. Then [477] is = [451] Drawdown Amounts
 - iii. Otherwise [477] is = 0

[478] Principal Outstanding at the End of the Year

- Row calculates how much principal is outstanding at the end of each period based on the amount of principle that is repaid and received
- =I2558-I2559+I2565
 - i. [470] Principal Outstanding at Beginning of the Year – [471] Repayment of Principal + [477] Principal Received

[479] Interest Due at the End of the Year

- Row used to calculate the amount of interest that is due at the end of each period. This is based on the type of new loan that was initially entered
- =IF(\$J\$2422>0,IF(AND(\$K\$2430=3,I\$2556>0),I2564,(I2557*(I2558+I2566)/2)),0)

- i. IF [450] Principal Amount is Issue Currency is Greater Than 0
- ii. Then IF [457] Repayment Profile is = 3 (Mortgage) AND [468] Repayment Period is Greater Than 0
- iii. Then [479] is = [476] Annuity Interest
- iv. Otherwise [479] is = [469] Interest Rate * (([470] Principal Outstanding at Beginning of the Year + [478] Principal Outstanding at End of the Year)/ 2)
- v. Otherwise [479] is = 0
- Formula first checks if repayment should be 0 based on whether there is any principal outstanding initially. It then checks if the repayment profile is mortgage style and whether the repayment period is greater than zero. If these are true then the interest due is equal to the annuity interest. Otherwise the interest due is equal to the interest rate multiplied by the average principal outstanding

[480] Front-End Fee

- Row calculates the front end fee on new debt
- =IF(\$J\$2422>0,IF(\$J\$2419=J\$30,\$J\$2422*\$J\$2432,0),0)
 - i. IF [450] Principal Amount is Greater Than 0
 - ii. Then IF [468] Repayment Period is = [14] Periods
 - iii. Then [480] is = [450] Principal Amount * [458] Front End Fee

[481] Undisbursed Capital

- Row is used to determine how much if any of a loan remains undisbursed to the company
- =IF(\$J\$2422>0,IF(AND(J\$30<=(\$J\$2429+\$J\$2419),J\$30>=\$J\$2419),\$J\$2422-I2558-I2565,0),0)
 - i. IF [450] Principal Amount is Greater Than 0
 - ii. Then IF [14] Periods is Less Than or Equal To ([456] Grace Period + [448] First Disbursement Year)
 - iii. Then [481] is = [450] Principal Amount – [470] Principal Outstanding at Beginning of the Year – [477] Principal Received
 - iv. Otherwise [481] is = 0
 - v. Otherwise [481] is = 0

[482] Commitment Fee

- Row used to calculate the commitment fee for any undisbursed capital each period
- =IF(\$J\$2422>0,\$J\$2433*I2570,0)
 - i. IF [450] Principal Amount in Issue Currency is Greater Than 0
 - ii. Then [482] is = [459] Commitment Fee * [481] Undisbursed Capital
 - iii. Otherwise [482] is = 0

[483] Total Debt Service

- Total debt service cost for each period of the model
- =IF(\$J\$2422>0,I2559+I2568+I2569+I2571,0)
 - i. IF [450] Principal Amount is Issue Currency is Greater Than 0
 - ii. Then [483] is = [471] Repayment of Principal + [479] Interest Due + [480] Front End Fee + [482] Commitment Fee

[484] Exchange Rate

- Row calculates the exchange rate on the first new debt financing for each period of the model
- =IF(AND(I33="",J33=""),"",IF(J\$33="",H2575,IF(\$J\$2420=\$D\$24,I\$268,IF(\$J\$2420=\$D\$23,I\$265,1))))
 - i. IF current AND subsequent [16] Period To is = ""
 - ii. Then [484] is = ""
 - iii. Otherwise if subsequent [16] Period To is = ""
 - iv. Then [484] is = preceding [484]
 - v. Otherwise IF [449] Currency is = [13] Foreign Currency 2
 - vi. Then [484] is = USD/CNY [55]
 - vii. Otherwise IF [449] Currency is = [12] Foreign Currency 1
 - viii. Then [484] is = [55] EUR/CNY
 - ix. Otherwise [484] is = 1

[485] Total Drawings

- Total drawings of new debt financing which is equal to the sum of [477] Principal Received multiplied by the exchange rate for each new debt amount

[486] Net Financing Fees

- Total net financing fees for new and existing debt financing which is equal to the sum of [479] Interest Due at the End of the Year, [480] Front End Fee, and [482] Commitment Fee multiplied by the exchange rate for each new debt amount + the sum of [465] Interest Due at the End of the Year multiplied by the exchange rate for each existing debt amount

[487] Total Repayment

- Total repayment of new debt financing which is equal to the sum of [477] Principal Received multiplied by the exchange rate for each new debt amount + the sum of [466] Total Debt Service multiplied by the exchange rate for each exiting debt amount

Other Long-Term Liabilities

Other Long-Term Liabilities

[488] Annual Amount

- Amount of other long-term liabilities for each period of the model which is equal to a manual input for the first period and preceding [488] plus [489] Change in Other Long-Term Liabilities for subsequent periods

[489] Change In Other Long-Term Liabilities

- Manual input for the change amount change in other long-term liabilities for each period of the model

Dividends

Dividend Assumptions

[490] Circle Breaker 4

- Circle breaker 4 is used to break the circularity that is associated with [515] Annual Dividend
- The circular calculation is as follows:
 - i. [515] Annual Dividend is dependent on [509] Total Cash Available for Dividends
 - ii. [509] is dependent on [508] Opening Cash Balance
 - iii. [508] is dependent on [564] Opening Cash Balance
 - iv. [564] is dependent on [569] Ending Cash Balance
 - v. [569] is dependent on [565] Net Change in Cash Before Revolving Credit
 - vi. [565] is dependent on [668] Dividends Paid
 - vii. [668] is dependent on [515] Annual Dividend
- The underlined indexes represent the circular dependency of dividends which can be broken by enabling the circle breaker

[491] Issue Dividend?

- Drop down menu used as an input of whether to issue dividends in the model

[492] Dividend Manually or By Model?

- Drop down menu used as an input of whether dividends will be manually entered or calculated by the model

[493] Dividend Controls be DSCR?

- Drop down menu used as an input on whether dividends will be controlled by the debt service coverage ratio

[494] Required Debt Service Coverage Ratio Before Dividends Paid

- Manual input for the DSCR required before dividends can be paid

[495] Annual Dividend After DSCR

- Manual input for the percentage amount of annual dividend after the required DSCR has been satisfied

[496] Percentage Of Cash in Dividend

- Manual input of the percentage that dividends are in cash

[497] First Period Taxes Paid

- Manual input for the first period in which taxes will be paid in the model

[498] Select Taxes Payment Frequency

- Drop down menu with “Annual”, “Semi-Annual”, “Quarterly”, and “Monthly” used as an input on the frequency that taxes are paid by the company

[499] Taxes Frequency in Periods

- Formula converts the frequency that the company pays taxes into the time unit frequency of the model
- $=IF(D15/K2715 < 1, 1, D15/K2715)$
 - i. IF [5] Compounding Frequency / [498] Select Taxes Payment Frequency is Less Than 1
 - ii. Then [499] is = 1
 - iii. Otherwise [499] is = [5] Compounding Frequency / [498] Select Taxes Payment Frequency

Dividend Calculation

[500] Periods

- Row shows the period of the dividend calculation which is equal to [14] Periods

[501] Initial Tax Period?

- Row calculates the initial period of tax payment
- =IF(J2722=\$J\$2856,1,0)
 - i. IF [500] Periods is = [575] First Period Taxes Paid
 - ii. Then [501] is = 1
 - iii. Otherwise [501] is = 0

[502] Periods After Initial Payment

- Row calculates the number of periods after the initial tax payment
- =IF(SUM(\$J2723:J\$2723)=0,0,IF(J2723=1,\$J\$2858,I2724+1))
 - i. IF the sum of [501] Initial tax period is = 0
 - ii. Then [502] is = 0
 - iii. Otherwise IF [501] Initial Tax Period is = 1
 - iv. Then [502] is = [577] Taxes Frequency in Periods
 - v. Otherwise [502] is = preceding [502] + 1

[503] Taxes Paid

- Row calculates each period in which taxes are paid which is signified by a 1
- =IF(J2724=0,0,IF(J2724=1,1,IF(MOD(J2724,\$J\$2858)=0,1,0)))
 - i. IF [502] Periods after Initial Payment is = 0
 - ii. Then [503] is = 0
 - iii. Otherwise IF [502] Periods after Initial Payment is = 1
 - iv. Then [503] is = 1
 - v. Otherwise IF the remainder of [502] Periods after Initial Payment / [577] Taxes Frequency in Periods is =0
 - vi. Then [503] is = 1
 - vii. Otherwise [503] is = 0

[504] Operating Cash Flow

- Row shows the operating cash flow which is equal to [653] Net Cash Flow from Operating Activities for each period of the model

[505] Investing Cash Flow

- Row shows the investing cash flow which is equal to [657] Net Cash Flow from Investing Activities for each period of the model

[506] Finance Cash Flow Before Dividends

- Row shows the investing cash flow which is equal to [666] Net Cash Flow from Financing Activities for each period of the model

[507] Cash Flow Available For Dividends

- Total cash flow available to pay dividends which is equal to the sum of [504] to [506]

[508] Opening Cash Balance

- Row shows the opening cash balance which is equal to [564] Opening Cash Balance for each period of the model

[509] Total Cash Available For Dividends

- Row calculates the total cash available to pay dividends which is equal to the sum of [507] Cash Flow Available for Dividends and [508] Opening Cash Balance for each period of the model

[510] Cash Balance

- Row shows the cash balance which is equal to the Balance Sheet [614] Cash and Cash Equivalents for each period of the model

[511] Retained Earnings

- Row shows the retained earnings which is equal to the Balance Sheet [641] Retained Earnings for each period of the model

[512] Actual DSCR

- Row shows the actual debt service coverage ratio which is equal to [711] DSCR for each period of the model

[513] Required DSCR

- Row shows the required debt service coverage ratio which is equal to [494] Required Debt Service Coverage Ratio Before Dividends for each period of the model

[514] Manual Dividend Payment

- Manual input for a dividend payment during each period of the model

[515] Annual Dividend

- Row calculates the annual dividend for each period of the model
- =IF(\$J2707=0,0,IF(J2725=0,0,IF(\$J2708=0,J2741,IF(\$J2709=0,\$I2712*J2733,IF(J2738<J2739,0,MIN(J2736,J2733*\$I2712))))))
 - IF [491] Issue Dividend is = 0, then [515] is = 0
 - Otherwise IF [503] Taxes Paid is = 0, then [515] is = 0
 - Otherwise IF [492] Dividend Manually or by Model is = 0, then [515] is = [514] Manual Dividend Payment
 - Otherwise IF [493] Dividend Controls be DSCR is = 0, then [515] is = [496] Percentage of Cash in Dividend * [509] Total Cash Available for Dividends
 - Otherwise IF [512] Actual DSCR is Less Than [513] Required DSCR, then [515] is = 0
 - Otherwise [515] is = the Minimum of [511] Retained Earnings and ([509] Total Cash Available for Dividends * [496] Percentage of Cash in Dividend
- Formula first checks whether a dividend will be paid based on if they are set to be paid and if taxes are paid in that period. It then calculates the amount based on either a manual or model calculated value and distributes the dividend based on the DSCR if set to control the dividend

Equity

Equity

[516] Circle Breaker 5

- Circle breaker 5 is used to break the circularity that is associated with the Equity Injections
- The circular calculation is as follows:
 - i. [528] Equity Injections is dependent on [327] Total Needs of Financing
 - ii. [327] is dependent on [326] Contribution to Trustee Account
 - iii. [326] is dependent on [552] Installment to Trustee Account
 - iv. [552] is dependent on [548] Debt Service
 - v. [548] is dependent on [374] Total Debt Service
 - vi. [374] is dependent on [333] Principal Amount
 - vii. [333] is dependent on [334] Drawdown Amounts
 - viii. [334] is dependent on [528] Equity Injections
- The underlined indexes represent the circular dependency of Equity Injections which can be broken by enabling the circle breaker

[517] Equity Injections Enabled?

- Secondary option to the circle breaker on whether to include equity injection calculations which will trigger the circularity
- =IF(H2750=0,0,IF(J2752=L2752,1,0))
 - i. IF [516] Circle Breaker 5 is = 0 (FALSE)
 - ii. Then [517] is = 0
 - iii. Otherwise IF drop down menu of [517] is = "TRUE"
 - iv. Then [517] is = 1
 - v. Otherwise [517] is = 0

[518] Equity Funding Source

- Manual input for the name and percentage stake of the equity funding source

[519] Beginning Paid-In Capital in First Year

- Manual input for the starting paid in capital

[520] Equity Injections by Model or Manually?

- Drop down menu used as input for whether the equity injections will be calculated by the model or entered manually

[521] Equity As % of Long-Term Debt + Paid-In-Capital

- Manual input for the equity as a percentage of the long-term debt and paid in capital

[522] Additional Equity Injections

- Manual input for any additional equity injections during each period of the model

[523] Ending Retained Earnings in First Year

- Manual input for the ending retained earnings balance at the end of the first year

[524] Total Equity

- Total equity for the first period which is equal to the sum of [519] Beginning Paid in Capital in First Year + [523] Ending Retained Earnings in First Year

[525] Opening Balance in Other Equity

- Manual input for the opening balance of other equity

[526] Change in Other Equity

- Manual input for the amount change in outer equity for each period of the model

Equity Calculations

[527] Opening Paid-In Capital

- Row shows the opening amount of paid-in capital for each period of the model which is equal to [519] Beginning Paid In Capital in the first period and [529] Ending Paid-In Capital for subsequent periods

[528] Equity Injections

- Row calculates the equity injections for each period of the model
- =IF(\$K\$2752=0,0,I2181*\$J\$2757+J2758)
 - i. IF [517] Equity Injections Enabled is = 0
 - ii. [528] is = 0
 - iii. Otherwise [327] Total Needs of Financing * [521] Equity as % + [522] Additional Equity Injections

[529] Ending Paid-In Capital

- Ending paid-in capital for each period of the model which is equal to the sum of [527] Opening Paid-In Capital and [528] Equity Injections

[530] Opening Capital Subsidy

- Opening capital subsidy for each period of the model which is equal to [532] Ending Capital Subsidy for each period of the model

[531] Change In Capital Subsidy Less Amortization

- Row calculates the change in capital subsidy less amortization which is equal to [95] Capital Subsidy minus [96] Amortization of Capital Subsidy

[532] Ending Capital Subsidy

- Ending capital subsidy which is equal to [87] Subsidy in First Year for the first period and the sum of [530] Opening Capital Subsidy and [531] Change in Capital Subsidy Less Amortization for subsequent periods

[533] Other Equity Opening Balance

- Other equity opening balance for each period of the model which is equal to [525] Opening Balance in Other Equity for the first period and [535] Ending Other Equity for subsequent periods

[534] Change In Other Equity

- Change in other equity which is equal to [526] Change in Other Equity for each period of the model

[535] Ending Other Equity

- Ending other equity which is equal to the sum of [533] Other Equity Opening Balance and [534] Change in Other Equity

[536] Retained Earnings Opening Balance

- Retained earnings opening balance which is equal to the [538] Retained Earnings Closing Balance for each period of the model

[537] Change In Retained Earnings

- Row calculates the change in retained earnings for each period of the model which is equal to [613] Net Income minus [668] Dividends Paid for each period of the model

[538] Retained Earnings Closing Balance

- Ending Retained Earnings which is equal to [523] Ending Retained Earnings in First Year for the first period and the sum of [536] Retained Earnings Opening Balance and [537] Change in Retained Earnings for subsequent periods

Trustee Account for Debt Service

Trustee Account Assumptions

[539] Circle Breaker 6

- Circle breaker 6 is used to break the circularity that is associated with the trustee account
- The circular calculation is as follows:
 - i. [552] Installment of Trustee Account is dependent on [548] Debt Service
 - ii. [548] is dependent on [374] Total Debt Service
 - iii. [374] is dependent on [333] Principal Amount
 - iv. [333] is dependent on [334] Drawdown Amounts
 - v. [334] is dependent on [327] Total Needs of Financing
 - vi. [327] is dependent on [326] Contribution to Trustee Account
 - vii. [326] is dependent on [552] Installment of Trustee Account
- The underlined indexes represent the circular dependency of the trustee account which can be broken by enabling the circle breaker

[540] Loans Payable Active?

- Drop down menu used as an input of whether loans payable will be active within the model

[541] Trustee Account Active?

- Secondary option to the circle breaker on whether to include trustee account calculations which will trigger the circularity
- =IF(H2791=0,0,IF(I2794=K2794,1,0))
 - i. IF [539] Circle Breaker 6 is = 0 (FALSE)
 - ii. Then [541] is = 0
 - iii. Otherwise IF drop down menu of [541] is = "TRUE"
 - iv. Then [541] is = 1
 - v. Otherwise [541] is = 0

[542] Trustee Account Interest Rate Fixed or Variable?

- Drop down menu used as an input of whether the interest rate on the trustee account is fixed or variable

[543] Index Used by Trustee Account

- Drop down menu with "CNY Rate", "EURIBOR", and "TICR" that is used as an input for the index that the trustee account interest rate will be based off

[544] Fixed Interest Rate

- Manual input for the fixed or variable interest rate that will be used depending of the selection in [542] Trustee Account Interest Rate Fixed or Variable

[545] EURIBOR 6 Months Index

- Row shows the interest rate percent that will be used based on [543] Index Used
- =IF(\$J2796=1,I\$250,IF(\$J2796=2,I\$253,I\$256))
 - i. IF [543] Index Used is = 1
 - ii. Then [545] is = [53] CNY Rate
 - iii. Otherwise IF [543] Index Used is = 2
 - iv. Then [545] is = EURIBOR [53] Rate
 - v. Otherwise [545] is = TICR [53] Rate

[546] Interest Rate

- Row used to calculate the interest rate that will be used for the trustee account
- =IF(\$J2795=1,\$I2797,\$I2797+\$I2798)
 - i. IF [542] Trustee Account Interest Rate Fixed or Variable is = 1
 - ii. Then [546] is = [544] Fixed Interest Rate
 - iii. Otherwise [546] is = [544] Spread over EURIBOR + [545] EURIBOR 6 Moth Index

[547] Starting Trustee Account Balance

- Manual input for the starting value of the trustee account

Trustee Account Calculations

[548] Debt Service

- Debt service cost for each period of the model
- =I2684+I2651+I2618+I2585+I2548+I2529+I2510+I2337+I2256
 - i. Sum of all the [483] Total Debt Service multiplied by the exchange rate for each new debt in New Debt Financing Calculations + the sum of all the [484] Total Debt Service multiplied by the exchange rate for each existing debt in Existing Debt Financing Calculations + [421] Total Debt service under Export Credit Calculations + [374] Total Debt Service under Commercial Construction Loan Calculations

[549] Cash Flow Available Before Trustee Account And Revolver

- Row calculates the total cash available before the trustee account and revolver for each period of the model
- =J2995+J3001-J3006+J3007+J3009+J3010+J3011-J3016
 - i. [653] Net Cash from Operating Activities + [657] Net Cash from Investing Activities – [660] Repayment of Loan + [661] Proceeds of Loan + [663] Capital Subsidy + [664] Change in Other Long-Term Liabilities + [665] Change in Paid-In Capital – [668] Dividends Paid

[550] Short-Term Debt Payable

- Row calculates the amount of short term debt payable for each period of the model
- =IF(J2806="", "", J2806*\$J2793)
 - i. IF subsequent [548] Debt Service Cost is = ""

- ii. Then [550] is = ""
- iii. Otherwise [550] is = subsequent [548] Debt Service Cost * [540] Loan Payables Active?

[551] Beginning Trustee Account Balance

- Beginning trustee account balance which is equal to [547] Starting Account Balance in the first period and [554] Ending Trustee Account Balance for subsequent periods

[552] Installment to Trustee Account

- Row calculates the installment to the trustee account each period
- =IF(\$J\$2794=0,0,IF(I\$2812<J\$2806,J\$2806-I\$2812,0))
 - i. IF [541] Trustee Account Active? Is =0
 - ii. Then [552] is = 0
 - iii. Otherwise IF [551] Beginning Trustee Account Balance is Less Than [548] Debt Service Cost
 - iv. Then [552] is = [548] Debt Service Cost – [551] Beginning Trustee Account Balance

[553] Withdrawal of Trustee Account

- Row calculates the withdrawal from the trustee account each period
- =IF(\$J\$2794=0,0,IF(I\$2812>J\$2806,I\$2812-J\$2806,0))
 - i. IF [541] Trustee Account Active? Is =0
 - ii. Then [553] is = 0
 - iii. Otherwise IF [551] Beginning Trustee Account Balance is Greater Than [548] Debt Service Cost
 - iv. Then [553] is = [551] Beginning Trustee Account Balance [548] – [548] Debt Service Cost

[554] Ending Trustee Account Balance

- Row calculates the ending trustee account balance for each period of the model
- =I2812+I2813-I2814
 - i. [551] Beginning Trustee Account Balance + [552] Installment to Trustee Account – [553] Withdrawal from Trustee Account

[555] Interest on Trustee Account

- Row calculates the interest rate on the trustee account which is equal to [551] Beginning Trustee Account Balance multiplied by [546] interest rate for each period of the model

Cash Calculations

Cash Calculations

[556] Cash At End of Year 1

- Manual input for the cash in year 1

[557] Operating Cash Flow Year 1

- Manual input for the operating cash flow in year 1

[558] Circle Breaker 7

- Circle breaker 7 is used to break the circularity that is associated with the net change in cash before revolver

- The circular calculation is as follows:
 - i. [565] Net Change in Cash Before Revolving Credit is Dependent on [662] Interest and Fees during Construction Period
 - ii. [662] is dependent on [438] Total Revolver Finance Fees
 - iii. [438] is dependent on [436] Interest Expense
 - iv. [436] is dependent on [435] Ending Revolver Amount
 - v. [435] is dependent on [434] Revolver Repayment
 - vi. [434] is dependent on [432] Cash Available Before Revolver
 - vii. [432] is dependent on [566] Net Change in Cash Before Revolver
 - viii. [566] is dependent on [565] Net Change in Cash Before Revolving Credit
- The underlined indexes represent the circular dependency of the net change in cash before revolver which can be broken by enabling the circle breaker

[559] Net Change in Cash before Revolver?

- Secondary option to the circle breaker on whether to include the net change in cash before the revolver which will trigger the circularity
- =IF(H2828=0,0,IF(I2830=K2830,1,0))
 - i. IF [558] Circle Breaker 7 is = 0 (FALSE)
 - ii. Then [559] is = 0
 - iii. Otherwise IF drop down menu of [559] is = "TRUE"
 - iv. Then [559] is = 1
 - v. Otherwise [559] is = 0

[560] Interest Rate Used

- Drop down menu with "CNY Rate", "EURIBOR", and "TICR" used as an input for the interest rate that will be used on cash balances

[561] Spread Over EURIBOR 6 Months

- Manual input for the percentage spread over the interest rate that will be used for the cash balances

[562] EURIBOR 6 Months Rate

- Row shows the interest rate used based on [560] Interest Rate Used
- =IF(\$J2831=1,I\$250,IF(\$J2831=2,I\$253,I\$256)))
 - i. IF [560] Interest Rate Used is = 1
 - ii. Then [562] is = [53] CNY Rate
 - iii. Otherwise IF [560] Interest Rate Used is = 2
 - iv. Then [562] is = EURIBOR [53] Rate
 - v. Otherwise [562] is = TICR [53] Rate

[563] Interest Rate

- Interest used to calculate the interest on cash balance amount
- =\$J2830*(\$I2832+I2833)
 - i. [559] Interest on Cash Balances * ([562] EURIBOR 6 Months Rate + [561] Spread Over EURIBOR 6 Month)

[564] Opening Cash Balance

- Row shows the opening cash balance for each period of the model which is equal to [556] Cash at End of Year 1 for the first period and [569] Ending Cash Balance in subsequent periods

[565] Net Change in Cash Before Revolving Credit

- Row shows the change in cash before revolving credit for each period of the model
- First period is equal to [557] Operating Cash Flow Year 1
- $=K2995+K3001+K3004-K3006+K3007+K3009+K3010+K3011-K3016-K3008$
 - i. [653] Net Cash From Operating activities + [657] Net Cash From Investing Activities + [658] Contribution to Trustee Account – [660] Repayment of Loan + [661] Proceeds from Loans + [663] Capital Subsidy + [664] Change in Other Long-Term Liabilities + [665] Change in Paid-In Capital – [668] Dividends Paid – [662] Interest and Fees during Construction Period

[566] Net Cash Before Revolver

- Row calculates the net cash before revolver which is equal to the sum of [564] Opening Cash Balance and [565] Net Change in Cash before Revolving Credit

[567] Revolving Credit Drawings

- Row shows the revolver credit drawings which is equal to [433] Revolver Drawings for each period of the model

[568] Revolving Credit Repayment

- Row shows the revolver credit repayments which is equal to [434] Revolver Repayments for each period of the model

[569] Ending Cash Balance

- Ending cash balance for each period of the model
- $=J2838+J2840-J2841$
 - i. [566] Net Cash Before Revolver + [567] Revolving Credit Drawings – [568] Revolving Credit Repayments

[570] Interest Amount on Cash Balances (Included in Operating Cash)

- Row calculates the interest amount on cash balances for each period of the model
- $=IF(\$J2830=0,0,(J2842+J2838)/2*J2834)$
 - i. IF [559] Interest on Cash Balances? Is = 0
 - ii. Then [570] is = 0
 - iii. Otherwise [570] is = (569] Ending Cash Balance + [566] Net Cash Before Revolver) / 2 * [563] Interest Rate

Corporate Tax

Corporate Tax Calculation

[571] Initial Corporate Tax Rate

- Manual input for the initial corporate tax rate to be used in the corporate tax calculation

[572] Initial Tax Loss Carry Forward

- Manual input for the amount of initial tax loss carry forwards

[573] Tax Payment Period

- Drop down menu used as an input on whether the tax payment period will begin in the current or next period

[574] Tax Loss Carry Forward Activated

- Drop down menu used as an input on whether the model will use the tax loss carry forwards in the model

[575] First Period Taxes Paid

- Manual input for the first period in which taxes will be paid within the model

[576] Select Taxes Payment Frequency

- Drop down menu with “Annual,” “Semi-Annual,” “Quarterly,” and “Monthly” used as an input of how often taxes will be paid within the model

[577] Taxes Frequency in Periods

- Formula shows the number associated with the frequency of taxes
- $=IF(D15/K2857<1,1,D15/K2857)$
 - i. IF [5] Compounding Frequency / [576] Taxes Payment Frequency is Less Than 1
 - ii. Then [577] is = 1
 - iii. Otherwise [577] is = [5] Compounding Frequency / [576] Taxes Payment Frequency

Corporate Tax Calculation

[578] Periods

- Row shows the periods of the corporate tax calculation which is equal to [14] Periods

[579] Initial Tax Period?

- Row shows the first period in which taxes are paid
- $=IF(J2864=\$J\$2856,1,0)$
 - i. IF [575] First Period Taxes Paid is = [578] Periods
 - ii. Then [579] is = 1
 - iii. Otherwise [579] is = 0

[580] Periods After Initial Payment

- Row calculates the number of periods after the initial tax payment
- $=IF(SUM(\$J\$2865:J2865)=0,0,IF(J2865=1,\$J\$2858,I2866+1))$
 - i. IF the sum of [579] Initial Tax Period? Is = 0
 - ii. Then [580] is = 0
 - iii. Otherwise IF [579] Initial Tax Period? is = 1
 - iv. Then [580] is = [577] Taxes Frequency in Periods
 - v. Otherwise [580] is = preceding [580] + 1
- Row calculates the period after the initial payment by first checking when the initial tax period happens and adding 1 to the frequency thereafter

[581] Taxes Paid

- Row calculates each period in which taxes are paid which is signified by a 1
- $=IF(J2866=0,0,IF(J2866=1,1,IF(MOD(J2866,\$J\$2858)=0,1,0)))$

- i. IF [580] Periods after Initial Payment is = 0
- ii. Then [581] is = 0
- iii. Otherwise IF [580] Periods after Initial Payment is = 1
- iv. Then [581] is = 1
- v. Otherwise IF the remainder of [580] Periods after Initial Payment / [577] Taxes Frequency in Periods is =0
- vi. Then [581] is = 1
- vii. Otherwise [581] is = 0

[582] EBT

- Row shows the earnings before taxes which is equal to [611] EBT

[583] Tax Loss Carried Forward

- Row shows the tax loss carried forward which is equal to [518] Initial Tax Loss Carry Forward for the first period and [585] Tax Loss Carry Forward for each subsequent period

[584] Corporate Tax Basis

- =IF(J2867=0,0,(SUM(OFFSET(J2869,0,-\$J\$2858+1,1,\$J\$2858))+SUM(OFFSET(J2870,0,-\$J\$2858+1,1,\$J\$2858))*\$K2855))
 - i. IF [581] Taxes Paid is = 0
 - ii. Then [584] is = 0
 - iii. Otherwise [584] is = the sum of the [582] EBT over the [577] Taxes Frequency in Periods + (the sum of [583] Tax Loss Carried Forward over the [577] Taxes Frequency in Periods) * [574] Tax Loss Carry Forward Activated)
- Formula calculates the EBT less loss carry forwards under which the corporate tax will be calculated by using the offset formula to only add the EBT and carry forwards during the tax frequency period

[585] Tax Loss To Carry Forward Each Period

- Row calculates the tax loss carry forwards for each period of the model
- =IF((J2870+J2869)<0,\$K2855*(J2870+J2869),0)
 - i. IF ([583] Tax Loss Carry Forward + [582] EBT) is Less Than 0
 - ii. Then [585] is = [574] Tax Loss To Carry Forward Activated * ([583] Tax Loss Carry Forward + [582] EBT)
 - iii. Otherwise [585] is = 0

[586] Corporate Tax Rate

- Row shows the corporate tax rate which is equal to the [571] Initial Corporate Tax Rate plus the [587] Manual Change to Corporate Tax Rate

[587] Manual Change to Corporate Tax Rate

- Manual input for the percentage change in the corporate tax rate for each period of the model

[588] Corporate Tax Expense

- Row calculates the corporate tax expense for each period of the model
- =IF(J2871>0,J2871*J2873,0)
 - i. IF [584] Corporate Tax Basis is Greater Than 0
 - ii. Then [588] is = [584] Corporate Tax Basis * [586] Corporate Tax Rate

- iii. Otherwise [588] is = 0

[589] Corporate Tax Payment

- Row calculates whether the tax payment will occur in the current or next period
- =IF(\$K2854=1,I2876,I2876)
 - i. IF [573] Tax Payment Period is = 1
 - ii. Then [589] is = current [588] Corporate Tax Expense
 - iii. Otherwise [589] is = preceding [588] Corporate Tax Expense

Part 8: Financial Statements

Income Statement

Income Statement

[590] Operating Mask

- Manual input of a 1 or 0 for the operating mask which is used as an input of whether to calculate [610] Net Finance Expenses and [704] Interest and Fees Construction Financing

Operating Revenues

[591] NT Transshipment Traffic

- NT transshipment traffic revenue which is equal to [109] Total NT Transshipment Traffic Revenue for each period of the model

[592] NT Domestic Traffic

- NT domestic traffic revenue for each period of the model which is equal to the total NT domestic traffic revenue [109] for each period of the model

[593] ET Transshipment Traffic

- ET transshipment traffic revenue for each period of the model which is equal to total ET transshipment traffic revenue [109] for each period of the model

[594] ET Domestic Traffic

- ET domestic traffic revenue for each period of the model which is equal to total ET domestic traffic revenue [109] for each period of the model

[595] Total Revenues

- Total revenues for each period of the model which is equal to the sum of [591], [592], [593], and [594]

Operating Expenses

[596] Fuel Operating Expense

- Fuel operating expense for each period of the model which is equal to [146] Total Fuel Operating Expense for each period of the model

[597] Labour Operating Expense

- Labour operating expense which is equal to labour operating expense [146] for each period of the model

[598] Other Variable Operating Expenses

- Other variable operating expenses which is equal to other variable operating expenses [146] for each period of the model

[599] Total Variable Expenses

- Total variable expenses which is equal to the sum of [596], [597], and [598] for each period of the model

[600] Fixed Maintenance Costs

- Fixed maintenance costs which is equal to [168] Total Fixed Maintenance Costs for each period of the model

[601] Fixed Labour Operating Costs

- Fixed labour operating costs which is equal to total fixed labour [168] from Total Fixed Operating Costs for each period of the model

[602] Administrative & Other Operating Costs

- Administrative & other operating costs which is equal to total administrative & other operating costs [168] from Total Fixed Operating Costs for each period of the model

[603] Total Fixed Costs

- Total fixed operating costs which is equal to the sum of [600] to [603] for each period of the model

[604] Gross Operating Surplus

- Gross operating surplus which is equal to [595] Total Revenues – [603] Total Fixed Costs – [599] Total Variable Expenses

Non-Operating Adjustments

[605] Total Non-Operating Adjustments

- Total non-operating adjustments which is equal to [121] Total Non-Operating Revenue – [184] Total Non-Operating Costs

[606] EBITDA

- Earnings before interest, taxes, depreciation, and amortization for each period of the model which is equal to [604] Gross Operating Surplus – [605] Total Non-Operating Adjustments

[607] Depreciation

- Depreciation for each period of the model which is equal to [259] Total Depreciation of New Fixed Assets + [273] Total Depreciation of Existing Assets + [305] Total Amortization of Intangible Assets for each period of the model

[608] Allowance For Renewal

- Allowance for renewal which is equal to [278] Allowance for Renewal for each period of the model

[609] EBIT

- Earnings before interest and taxes which is equal to [606] EBITDA – [607] Depreciation – [608] Allowance for Renewal

[610] Net Finance Expenses

- Net finance expenses for each period of the model
- $=J2885*(I2252+I2253+I2255)+I2333+I2334+I2336+I2369+I2687-J2844-I2817$
 - i. $[590] \text{ Operating Mask } * (\text{Commercial Construction Loan } [370] \text{ Interest Due at End of the Year } + [371] \text{ Front End Fee } + [373] \text{ Commitment Fee}) + \text{Export Credit } [417] \text{ Interest Due at the End of the Year } + [418] \text{ Front End Fee } + [420] \text{ Commitment Fee } + [438] \text{ Total Revolver Finance Fees } + [486] \text{ Net Financing Fees } - [570] \text{ Interest Amount on Cash Balances } - [555] \text{ Interest on Trustee Account}$

[611] EBT

- Earnings before tax which is equal to $[609] \text{ EBIT} - [610] \text{ Net Finance Expenses}$ for each period of the model

[612] Income Tax

- Income tax amount which is equal to $[588] \text{ Corporate Tax Expense}$ for each period of the model

[613] Net Income

- Total net income which is equal to $[611] \text{ EBT} - [612] \text{ Income Tax}$ for each period of the model

Balance Sheet

Balance Sheet

Assets

[614] Cash and Cash Equivalents

- Cash and cash equivalents which is equal to $[569] \text{ Ending Cash Balance}$ for each period of the model

[615] Accounts Receivable

- Accounts receivable which is equal to $[203] \text{ Accounts Receivable}$ for each period of the model

[616] Inventory

- Inventory which equal $[204] \text{ Inventory}$ for each period of the model

[617] Other Receivables

- Other receivables which is equal to $[205] \text{ Other Receivables}$ for each period of the model

[618] Trustee Account Reserve

- Trustee account reserve which is equal to $[554] \text{ Ending Trustee Account Balance}$ for each period of the model

[619] Total Current Assets

- Total current assets which is equal to the sum of $[614]$ to $[618]$ for each period of the model

[620] Net Fixed Assets

- Net fixed assets for each period of the model which is equal to existing asset $[275] \text{ Total Net Asset Value} + \text{new asset } [261] \text{ Total Net Asset Value}$ for each period of the model

[621] Cumulative Allowance For Renewal

- Cumulative allowance for renewal which is equal to [278] allowance for renewal + preceding [621] for each period of the model

[622] Intangible Assets

- Intangible assets which is equal to [307] Total Intangible Asset Value for each period of the model

[623] Other Long-Term Assets

- Other long-term assets which is equal to [308] Other Long Term Assets

[624] Total Long-Term Assets

- Total long-term assets which is equal to [620] Net Fixed Assets minus [621] Cumulative Allowance for renewal plus [622] Intangible Assets plus [623] Other Long-Term Assets

[625] Total Assets

- Total assets which is equal to [619] Total Current Assets plus [624] Total Long-Term Assets for each period of the model

Liabilities

[626] Accounts Payable

- Accounts payable which is equal to [207] Accounts Payable for each period of the model

[627] Other Payables

- Other payables which is equal to [208] Other Payables for each period of the model

[628] Short-Term Loan Payables

- Short term loan payables which is equal to the sum [463] Repayment of Principal multiplied by the exchange rate for each existing debt amount plus the sum of [471] Repayment of principal multiplied by the exchange rate for each new debt amount

[629] Revolver

- Outstanding amount of revolver financing which is equal to [435] Ending Revolver Amount for each period of the model

[630] Tax Payable

- Amount of taxes payable in each period of the model
- $= J2876 * (1 - \$K2854)$
 - i. [588] Corporate Tax Expense * $(1 - [573] \text{ Tax Payment Period})$
- Formula finds the correct payment period as either 0 for next period or 1 for current period which outputs either the tax expense amount or 0

[631] Total Current Liabilities

- Total current liabilities which is equal to the sum of [626] to [630]

[632] Commercial Construction Loan

- Amount outstanding of the commercial construction loan which is equal to [369] Principal Outstanding at End of the Year for each period of the model

[633] Export Credit

- Amount outstanding of export credit financing which is equal to [416] Principal Outstanding at the End of the Year for Export Credit

[634] Long-Term Loans

- Total amount of long term loans outstanding which is equal to the sum of [478] Principal Outstanding at the End of the Year multiplied by the exchange rate for new debt financing plus the sum of [464] Principal Outstanding multiplied by the exchange rate for existing debt financing for each period of the model

[635] Other Long-Term Liabilities

- Amount of other long-term liabilities outstanding which is equal to [488] Annual Amount of other long-term liabilities

[636] Total Long-Term Liabilities

- Total long-term liabilities which is equal to the sum of [632] to [635] for each period of the model

[637] Total Liabilities

- Total liabilities which is equal to the sum of [631] Total Current Liabilities and [636] Total Current Liabilities

Equity**[638] Paid-In Capital**

- Amount of paid in capital outstanding which is equal to [529] Ending Paid-In Capital for each period of the model

[639] Capital Subsidy

- Amount of capital subsidy which is equal to [532] Ending Capital Subsidy for each period of the model

[640] Other Equity

- Amount of other equity which is equal to [535] Ending Other Equity for each period of the model

[641] Retained Earnings

- Amount for retained earnings which is equal to [538] Retained Earnings Ending Balance for each period of the model

[642] Total Equity

- Total amount of equity which is equal to the sum of [638] to [641] for each period of the model

[643] Total Liabilities And Equity

- Total amount of liabilities and equity which is equal to [637] Total Liabilities plus [642] Total Equity for each period of the model

[644] Balance?

- Row checks to see if total assets are equal to total liabilities and equity for each period of the model
- =IF((J2975-J2949)<(0.0001),"YES","NO")
 - i. IF [643] Total Liabilities and Equity – [625] Total Assets is Less Than 0.0001
 - ii. Then [644] is = “YES
 - iii. Otherwise [644] is = “No”

Cash Flow Statement

Cash Flow Statement

Operating Activities

[645] Gross Operating Surplus

- Gross operating surplus which is equal to [604] Gross Operating Surplus for each period of the model

[646] Taxes Paid

- Taxes paid which is equal to [589] Corporate Tax Payment for each period of the model

[647] Accounts Receivable

- Change in accounts receivable which is equal to current [615] Accounts Receivable minus preceding [615]

[648] Inventory

- Change in inventory for each period of the model which is equal to current [616] Inventory minus preceding [616]

[649] Other Receivables

- Change in other receivables which is equal to current [617] Other Receivables minus preceding [617]

[650] Accounts Payable

- Change in accounts payable which is equal to current [626] Accounts Payable minus preceding [626]

[651] Other Payables

- Change in other payables which is equal to current [627] Other Payables minus preceding [627]

[652] Total Change in Working Capital

- Total cash from the change in working capital accounts which is equal to [650] Accounts Payable plus [651] Other Payables minus [647] Accounts Receivable, [648] Inventory, and [649] Other Receivables

[653] Net Cash From Operating Activities

- Total net cash from operating activities which is equal to [645] Gross Operating Surplus – [646] Taxes Paid + [652] Total Change in Working Capital

Investing Activities

[654] Acquisition of Property, Plant and Equipment

- Total acquisition of property, plant and equipment which is equal to the sum of [302] Total Capitalized Expenses, [270] Total CAPEX, and [255] Total CAPEX for each period of the model

[655] Sale of Property, Plant and Equipment

- Total sales of property plant and equipment which is equal to the sum of [303] Total Sales of intangible assets, [271] Total Sale of existing fixed assets, and [256] Total Sales of Existing Fixed Assets for each period of the model

[656] Other Long-Term Assets

- Other long-term assets which is equal to current [623] Other Long-Term Assets minus preceding [623] for each period of the model

[657] Net Cash From Investing Activities

- Total net cash generated from investing activities which is equal to [655] Sale of Property Plant and Equipment plus [656] Other Long-Term Assets minus [654] Acquisition of Property, Plant, and Equipment

Financing Activities

[658] Contribution to Trustee Account

- Contribution to the trustee account which is equal to current [554] Ending Trustee Account Balance minus preceding [554] for each period of the model

[659] Change in Revolver

- Change in the revolver amount which is equal to current [629] Revolver minus preceding [629] for each period of the model

[660] Repayment of Loans

- Total repayment of loans which is equal to the sum of [471] Repayment of Principal for new debt financing multiplied by the exchange rate plus the sum of [463] Repayment of Principal multiplied by the exchange rate for existing debt financing plus [414] Repayment of Principal for export financing plus [367] Repayment of Principal for the commercial construction loan

[661] Proceeds From Loans

- Total proceeds from loans which is equal to the sum of [477] Principal Received for new debt financing multiplied by the exchange rate plus [415] Principal Received for export credit plus [368] Principal Received for the commercial construction loan

[662] Interest and Fees During Construction Period

- Total interest and fees which is equal to [486] Net Financing Fees for new debt financing plus [438] Total Revolver Finance Fees plus [417] Interest Due at the End of the Year plus [418] Front End Fee plus [420] Commitment Fee for export credit plus [370] Interest Due at the End of the Year plus [371] Front End Fee plus [373] Commitment Fee

[663] Capital Subsidy

- Capital subsidy received which is equal to [95] Capital Subsidy for each period of the model

[664] Change in Other Long-Term Liabilities

- Change in other long-term liabilities which is equal to current [635] Other Long-Term Liabilities minus preceding [635] for each period of the model

[665] Change in Paid-In Capital

- Change in paid-in capital which is equal to current [638] Paid-In Capital minus preceding [638] for each period of the model

[666] Net Cash From Financing Activities

- Total cash received from financing activities which is equal to [661] Proceeds from Loan plus [663] Capital Subsidy plus [664] Change in Other Long-Term Liabilities plus [665] Change in Paid-In Capital plus [659] Change in Revolver minus [658] Contribution to Trustee Account minus [662] Interest and Fees During Construction Period minus [660] Repayment of Loans

[667] Net Change in Cash Before Dividends

- Total net change in cash before dividends are paid which is equal to the sum of [653] Net Cash From Operating Activities, [657] Net Cash from Investing Activities, and [666] Net Cash from Financing Activities

[668] Dividends Paid

- Dividends paid which is equal to [515] Annual Dividend for each period of the model

[669] Net Change in Cash

- Total net change in cash after dividends which is equal to [667] Net Change in Cash Before Dividends minus [668] Dividends Paid

[670] Cash Balance At Beginning of Year

- Cash balance at the beginning of each period which is equal to [671] Cash Balance at the End of the Year for the first period and preceding [614] Cash and Cash Equivalents for subsequent periods

[671] Cash Balance at End of Year

- Cash Balance at the end of each period which is equal to [614] Cash and Cash Equivalents for each period of the model

[672] Check

- Row checks that the change in cash from the cash flow statement matches the amount of change on the balance sheet
- =IF(((K3021-K3020)-K3018)<(0.00001),"YES","NO")
 - IF ([671] Cash Balance at the End of Year – [670] Cash Balance at Beginning of Year) – [669] Net Change in Cash is Less Than 0.00001
 - Then [672] is equal “YES”
 - Otherwise [672] is equal “NO”

Sources and Uses Statement

Sources and Uses Statement

Sources

[673] Gross Operating Surplus

- Gross operating surplus which is equal to [645] Gross Operating Surplus for each period of the model

[674] Sale of Property, Plant and Equipment

- Total sales of property, plant, and equipment which is equal to [655] Sale of Property, Plant, and Equipment for each period of the model

[675] Proceeds From Loans

- Total proceeds from loans which is equal to [661] Proceeds from Loans for each period of the model

[676] Capital Subsidy

- Capital subsidy which is equal to [663] Capital Subsidy for each period of the model

[677] Change in Other Long-Term Liabilities

- Change in other long-term liabilities which is equal to [664] Change in Other Long-Term Liabilities for each period of the model

[678] Change in Paid-In Capital

- Change in paid-in capital which is equal to [665] Change in Paid-In Capital for each period of the model

[679] Total Sources

- Total sources of capital which is equal to the sum of [673] to [678] for each period of the model

Uses

[680] Taxes Paid

- Taxes paid which is equal to [646] Taxes Paid for each period of the model

[681] Total Change in Working Capital

- Total change in working capital which is equal to [652] Total Change in Working Capital for each period of the model

[682] Acquisition of Property, Plant and Equipment

- Acquisition of property, plant, and equipment which is equal to [654] Acquisition of Property, Plant, and Equipment for each period of the model

[683] Other Long-Term Assets

- Change in other long-term assets which is equal to [656] Other Long-Term Assets for each period of the model

[684] Contribution to Trustee Account

- Total contribution to the trustee account which is equal to [658] Contribution to Trustee Account for each period of the model

[685] Change in Revolver

- Change in revolver which is equal to [659] Change in Revolver for each period of the model

[686] Repayment of Loans

- Repayment of loans which is equal to [660] Repayment of Loans for each period of the model

[687] Interest and Fees During Construction Period

- Interest and fees which is equal to [662] Interest and Fees During Construction Period for each period of the model

[688] Dividends Paid

- Dividends paid which is equal to [668] dividends paid for each period of the model

[689] Variation of Cash Flow

- Total variation of cash flow which is equal to [669] Net Change in Cash for each period of the model

[690] Total Uses

- Total uses of capital which is equal to the sum of [680] to [689] for each period of the model

[691] Variation of Cash Flow

- Total variation of cash flow which is equal to [679] Total Sources minus [690] Total Uses for each period of the model

Part 9: Scenario Analysis

Scenario Analysis

Control Panel

[692] Start Date

- Manual input for the start period of the scenario analysis

[693] End Date

- Manual input for the end date of the scenario analysis

[694] Model Number of Years

- Total number of years in the model which is equal to [4] Number of Quarters

[695] End Scenario Year

- Formula used to calculate the end period of scenario analysis as the minimum of [693] End Date and [694] Model Number of Years

[696] Summary Page On?

- Drop down menu used as an input for whether to show the summary page

[697] Run Scenario Analysis?

- Drop down menu used as an input for whether to run the scenario analysis

[698] Scenario Analysis On?

- Formula outputs “Yes” or “No” based on whether [697] Run Scenario Analysis? Is set to run

[699] Traffic Multiplier (4 Rows)

- Column to calculate a scenario analysis based on an implied traffic multiplier
- Row 1 uses a drop down menu with “Yes” or “No” as an input for whether to run that particular scenario analysis within the current model
- Row 2 uses formula to decide if scenario analysis will be run based on the Row 1 input
- Row 3 is the input of what the variable for the current model will be set to in the scenario analysis
- Row 4 uses the input from row 3 that will be run in the scenario analysis

Part 10: Financial Returns and Metrics

Capital Structure Metrics

Annual Debt Service Cover Ratio

[700] Operating Cash Flow

- Operating cash flow which is equal to [653] Net Cash From Operating Activities for each period of the model

[701] Investing Cash Flow

- Investing Cash flow which is equal to [657] Net Cash From Investing Activities for each period of the model

[702] Finance Cash Flow Before Debt Service and Dividend

- Finance cash flow before any debt service and dividends are paid which is equal to [661] Proceeds from Loans plus [663] Capital Subsidy plus [664] Change in Other Long-Term Liabilities plus [665] Change in Paid-In Capital minus [658] Contribution to Trustee Account

[703] Cash Flow Before Debt Service and Dividend

- Total cash flow before any debt service and dividends are paid which is equal to the sum of [700] to [702] for each period of the model

[704] Interest & Fees Construction Financing

- Total interest and fees of construction financing for each period of the model
- $=IF(J\$2885=0,0,I\$2255+I\$2253+I\$2252)$
 - i. IF [590] Operating Mask is = 0
 - ii. Then [704] is = 0
 - iii. Otherwise [704] is = the sum of [370] Interest Due at the End of the Year, [371] Front End Fee, and [373] Commitment Fee

[705] Repayment Construction Financing

- Repayment of construction financing which is equal to [367] Repayment of Principal for each period of the model

[706] Interest & Fees Export Credits

- Total interest and fees on export credit which is equal to the sum of [417] Interest Due at the End of the Year, [418] Front End Fee, and [420] Commitment Fee for each period of the model

[707] Repayment Export Credits

- Repayment of export credit which is equal to [414] Repayment of Principal

[708] Interest & Fees on Other Long-Term Debt

- Interest and fees on other long-term debt financing which is equal to [486] Net Financing Fees for each period of the model

[709] Repayment of Other Long-Term Debt

- Repayment of other long-term debt which is equal to [487] Total Repayment for each period of the model

[710] Total Debt Service

- Total debt service which is equal to the sum of [704] to [709] for each period of the model

[711] DSCR

- Row calculates the debt service coverage ratio based on [703] Cash Flow before Debt Service and Dividend and [710] Total Debt Service
- =IF(OR(ABS(J3098)<0.00001,ABS(J3090)<0.0001),0,J3090/J3098)
 - i. IF the absolute value of [710] Total Debt Service OR the absolute value of [703] Cash Flow before Debt Service and Dividend is Less Than 0.00001 or 0.0001 respectively
 - ii. Then [711] is = 0
 - iii. Otherwise [711] is = [710] Total Debt Service / [703] Cash Flow before Debt Service and Dividend

Debt Cost

[712] Drawings Construction Financing

- Drawings on construction financing which is equal to [368] Principal Received for each period of the model

[713] Less: Interest & Fees Construction Financing

- Subtracted interest and fees on construction financing which is equal to the sum of [370] Interest Due at the End of the Year, [371] Front End Fee, and [373] Commitment Fee

[714] Less: Repayment Construction Financing

- Subtracted repayments of construction financing which is equal to [367] Repayment of Principal for each period of the model

[715] Drawings Export Credits

- Drawings on export credit which is equal to [415] Principal Received for each period of the model

[716] Less: Interest & Fees Export Credit

- Subtracted interest and fees for export credit which is equal to the sum of [417] Interest Due at the End of the Year, [418] Front End Fee, and [420] Commitment Fee for each period of the model

[717] Less: Repayment Export Credits

- Subtracted repayments of export credit which is equal to [414] Repayment of Principal for each period of the model

[718] Drawings Long-Term Debt

- Drawings on other long-term debt which is equal to [485] Total Drawings for each period of the model

[719] Less: Interest & Fees on Other Long-Term Debt

- Subtracted interest and fees of other long-term debt which is equal to [486] Net Financing Fees for each period of the model

[720] Less: Repayment of Other Long-Term Debt

- Subtracted repayment of other long-term debt which is equal to [487] Total Repayment for each period of the model

[721] Total Debt Cash Flow

- Total debt cash flow for each period of the model
- =J3106-J3107-J3108+J3109-J3110-J3111+J3112-J3113-J3114
 - i. [712] Drawings Construction Financing – [713] Less: Interest and Fees on Construction Financing – [704] Less: Repayments of Construction Financing + [715] Drawings Export Credit – [716] Less: Interest and Fees on Export Credit – [717] Less: Repayment Export Credit + [718] Drawings Long-Term Debt – [719] Less: Interest and Fees on Other Long-Term Debt – [720] Less: Repayments of Other Long-Term Debt

[722] Debt Cost in Period

- Formula calculates the compound debt cost over the course of the model by taking the internal rate of return over the entire length of the model
- =IRR(OFFSET(J3115,0,0,1,D14),0.1)
 - i. IRR of the [721] Total Debt Cash Flow Row for [4] No. of Quarters as the length and 10% as the initial guess

[723] Annual Debt Cost

- Formula converts [722] Debt Cost in Period to an annual debt cost
- =(1+J3117)^D15-1
 - i. (1 + [722] Debt Cost in Period) to the exponent ([5] Compounding Frequency – 1)

Loan Life Coverage Ratio

[724] Cash Flow Before Debt Service and Dividend

- Cash flow before debt service and dividend which is equal to [703] Cash Flow before Debt Service and Dividend for each period of the model

[725] Total Debt Service

- Total debt service which is equal to [710] Total Debt Service for each period of the model

[726] Loan Life Coverage Ratio (11 Years)

- Formula calculates the loan life coverage ratio by taking the net present value of the cash flow before interest and dividends divided by the net present value of the total debt service costs
- Manual input for the Start Year and Years
- =(NPV(J\$3117,OFFSET(J\$3125,0,J3129-1,1,K3129)))/(NPV(J\$3117,OFFSET(J\$3126,0,J3129-1,1,K3129)))
 - i. Net Present Value of [724] Cash Flow before Debt Service and Dividend by using the Start Year and Years as the length and [722] Debt Cost in Period as the discount Rate / the Net Present Value of [725] Total Debt Service by using the Start Year and Years as the length and [722] Debt Cost in Period as the discount Rate

[727] Loan Life Coverage Ratio (20 Years)

- Formula calculates the loan life coverage ratio by taking the net present value of the cash flow before interest and dividends divided by the net present value of the total debt service costs

- Manual input for the Start Year and Years
- $$=(NPV(J\$3117,OFFSET(J\$3125,0,J3129-1,1,K3129)))/(NPV(J\$3117,OFFSET(J\$3126,0,J3129-1,1,K3129)))$$
 - i. Net Present Value of [724] Cash Flow before Debt Service and Dividend by using the Start Year and Years as the length and [722] Debt Cost in Period as the discount rate / the Net Present Value of [725] Total Debt Service by using the Start Year and Years as the length and [722] Debt Cost in Period as the discount Rate

Financial Structure Ratios

[728] Total Debt

- Total debt which is equal to the sum of [628] Short Term Receivables, [629] Revolver, [632] Commercial Construction Loan, [633] Export Credit, and [634] Long-Term Loans for each period of the model

[729] Equity

- Equity which is equal to [642] Total Equity for each period of the model

[730] Intangible Assets

- Intangible assets which is equal to [622] Intangible Assets for each period of the model

[731] Adjusted Equity

- Adjusted equity without accounting for intangibles which is equal to [729] Equity minus [730] Intangible Assets

[732] Debt/Equity

- Debt to equity ratio which is equal to [728] Total Debt / [731] Adjusted Equity

[733] Debt/Debt+Equity

- Debt to total debt and equity ratio which is equal to [728] Total Debt / ([728] Total Debt + [731] Adjusted Equity)

[734] Equity/Debt+Equity

- Equity to total debt and equity ratio which is equal to [731] Adjusted Equity / ([728] Total Debt + [731] Adjusted Equity)

Financial Payback

Payback

[735] Operating Surplus

- Operating surplus which is equal to [604] Gross Operating Surplus for each period of the model

[736] Cumulative Operating Surplus

- Cumulative operating surplus which is equal to preceding [736] + [735] Operating Surplus

[737] Average Operating Surplus

- Row calculates the average operating surplus
- $$=AVERAGE(OFFSET(J3152,0,0,1,D14))$$

- i. Average of the [735] Operating Surplus row based on the [4] No. of Quarters

[738] Total CAPEX & Development Cost Including Intangibles

- Total of the capital expenditures and development costs which is equal to the sum of the [302] Total Capitalized Expenses row under Intangible Assets + the sum of the [270] Total CAPEX row under Existing Fixed Assets + the sum of the [255] Total CAPEX row under New Fixed Assets using the [4] No. of Quarters as the number of periods to sum for each

[739] Average Payback Periods

- Average payback periods which is equal to [738] Total CAPEX & Development Costs / [737] Average Operating Surplus

[740] Average Payback Annual

- Converts [739] Average Payback Periods to an average annual payback as [739] Average Payback Periods / [5] Compounding Frequency

[741] Payback in Periods

- Calculates the number of periods for the CAPEX and development costs to be paid back by using the match formula to find the [736] Cumulative Operating Surplus which equals [738] Total CAPEX and Development Costs
- =MATCH(J3156,OFFSET(J3153,0,0,1,D14))
 - i. Match [738] Total CAPEX and Development Costs with [736] Cumulative Operating Surplus
 - ii. [741] is = the index number of this match

[742] Payback Annual

- Converts [741] Payback in Periods to an annual amount which is equal to [741] Payback in Periods / [5] Compounding Frequency

Financial Return

Internal Rate of Return

[743] Add: Gross Operating Surplus

- Addition of the gross operating surplus which is equal [604] Gross Operating Surplus

[744] Less: Variation in Working Capital

- Subtraction of the variation in working capital which is equal to [652] Total Change in Working Capital for each period of the model

[745] Less: Development Cost (Intangible Asset)

- Subtraction of intangible asset development costs which is equal to [302] Total Capitalized Expenses under Intangible Assets for each period of the model

[746] Less: CAPEX For Fixed Assets

- Subtraction of CAPEX for fixed assets which is equal to the sum of [255] Total CAPEX of new fixed assets and [270] Total CAPEX of existing fixed assets

[747] Total Cash Flow Before Tax

- Total cash before tax which is equal to [743] Add: Gross Operating Surplus minus [744] to [746]

[748] Internal Rate Of Return Before Tax in Periods

- Formula calculates the internal rate of return for the [746] Total Cash Flow Before Tax row based on [4] No. of Quarters

[749] Internal Rate of Return Before Tax Annual

- Converts the [748] Internal Rate of Return before Tax to an annual amount which is equal to $(1 + [748] \text{ Internal Rate of Return Before Tax to the exponent } ([5] \text{ Compounding Periods} - 1))$

[750] Corporation Cash Tax Payments

- Corporate cash tax payments which is equal to [589] Corporate Tax Payment for each period of the model

[751] Cash Flow After Tax

- Cash flow after tax which is equal to [747] Cash Flow Before Tax – [750] Corporation Cash Tax Payments for each period of the model

[752] Internal Rate of Return After Tax in Periods

- Formula calculates the internal rate of return for the [751] Cash Flow After Tax row based on [4] No. of Quarters

[753] Internal Rate of Return After Tax Annual

- Converts the [752] Internal Rate of Return after Tax to an annual amount which is equal to $(1 + [752] \text{ Internal Rate of Return After Tax to the exponent } ([5] \text{ Compounding Periods} - 1))$

Equity Holder Rate of Return

[754] Less: Equity Injections

- Subtraction of equity injections which is equal to [528] Equity Injections for each period of the model

[755] Add: Dividends

- Addition of dividends which is equal to [515] Annual Dividend for each period of the model

[756] Total Shareholder Cash Flow

- Total Shareholder cash flow which is equal to [755] Add: Dividends – [754] Less: Equity Injections

[757] Equity Holder Rate of Return in Periods

- Formula calculates the internal rate of return for the [756] Total Shareholder Cash Flow row based on [4] No. of Quarters

[758] Equity Holder Rate of Return Annual

- Converts the [757] Equity Holder Rate of Return to an annual amount which is equal to $(1 + [757] \text{ Equity Holder Rate of Return to the exponent } ([5] \text{ Compounding Periods} - 1))$

Return on Assets

[759] Average Total Assets

- Average of the total assets which is equal to preceding $([652] \text{ Total Assets} + \text{current } [652]) / 2$ for each period of the model

[760] Operating Surplus

- Operating surplus which is equal to [604] Gross Operating Surplus for each period of the model

[761] Return on Assets

- Row calculates the return on average assets as [760] Operating Surplus / [759] Average Total Assets for each period of the model

Return on Equity

[762] Average Total Equity

- Average of the total equity which is equal to (preceding [642] Total Equity + current [642]) / 2 for each period of the model

[763] Operating Surplus

- Operating surplus which is equal to [604] Gross Operating Surplus for each period of the model

[764] Return on Equity

- Row calculates the return on average equity as [763] Operating Surplus / [762] Average Total Equity for each period of the model

Operational

[765] Average NT Transshipment Traffic

- Formula calculates the average NT Transshipment Traffic for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year
- =IF(\$D\$3068="False ","-",AVERAGE(OFFSET(\$AR\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - IF [696] Summary Page On? is = "False"
 - Then [765] is = "-"
 - Otherwise [765] is = the average of the NT Transshipment Traffic from Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes an average of the NT transshipment traffic by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. An average is then taken of the rows selected in the total NT transshipment traffic column

[766] Average NT Domestic Traffic

- Formula calculates the average of NT domestic traffic for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[767] Average ET Transshipment Traffic

- Formula calculates the average of ET transshipment traffic for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[768] Average ET Domestic Traffic

- Formula calculates the average of ET domestic traffic for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[769] Average Total Traffic

- Formula calculates the average total traffic for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

Profitability and Operating Surplus

[770] Average Total NT Transshipment Traffic Revenue

- Formula calculates the average NT Transshipment Traffic Revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year
- =IF(\$D\$3068="False ","-",AVERAGE(OFFSET(\$AE\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - i. IF [696] Summary Page On? is = "False"
 - ii. Then [770] is = "-"
 - iii. Otherwise [770] is = the average of the NT Transshipment Traffic from Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes an average of the NT transshipment traffic revenue by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. An average is then taken of the rows selected in the total NT transshipment traffic revenue column

[771] Average Total NT Domestic Traffic Revenue

- Formula calculates the average of NT domestic traffic revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[772] Average Total ET Transshipment Traffic Revenue

- Formula calculates the average of ET transshipment traffic revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[773] Average Total ET Domestic Traffic Revenue

- Formula calculates the average of ET domestic traffic revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[774] Average Total Revenues

- Formula calculates the average total revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[775] Average Total Variable Expenses

- Formula calculates the average of total variable expenses for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[776] Average Total Fixed Costs

- Formula calculates the average of total fixed costs for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[777] Average Gross Operating Surplus

- Formula calculates the average of gross operating surplus revenue for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[778] Annual Internal Rate Of Return

- Annual internal rate of return which is equal to [753] Internal Rate of Return After Tax Annual

[779] Annual Equity Rate Of Return

- Annual equity rate of return which is equal to [758] Equity Holder Rate of Return Annual

Working Capital Assumptions

[781] Days in Accounts Receivable

- Formula calculates the average days in accounts receivable for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year
- =IF(D3068="False ","-",AVERAGE(OFFSET(\$BN\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - i. IF [696] Summary Page On? is = "False"
 - ii. Then [781] is = "-"
 - iii. Otherwise [781] is = the average of the Days in Accounts Receivable from Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes an average of the days in accounts receivable by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. An average is then taken of the rows selected in the days in accounts receivable column

[782] Days in Inventory

- Formula calculates the average days in inventory for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[783] Days in Other Receivables

- Formula calculates the average days in other receivables for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[784] Days in Accounts Payable

- Formula calculates the average days in accounts payable for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[785] Days in Other Payables

- Formula calculates the average days in other payables for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

Total Capital Expenditures

[786] Infrastructure

- Formula calculates the average infrastructure capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year
- =IF(D3068="False ","-",AVERAGE(OFFSET(\$BE\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - i. IF [696] Summary Page On? is = "False"
 - ii. Then [786] is = "-"
 - iii. Otherwise [786] is = the average of Infrastructure from Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes an average of infrastructure by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. An average is then taken of the rows selected in the infrastructure column

[787] Buildings & Superstructures

- Formula calculates the average buildings and superstructure capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[788] Surfacing

- Formula calculates the average surfacing capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[789] Equipment

- Formula calculates the average equipment capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[790] Port Equipment Rehabilitation

- Formula calculates the average port equipment rehabilitation capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[791] Civil Engineering Rehabilitation

- Formula calculates the average civil engineering rehabilitation capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[792] Total Capitalized Expenses

- Formula calculates the average total capitalized expenses for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[793] Total

- Total average capital expenditures which is equal to the sum of [785] to [791]

[794] Construction Payback Period

- Construction period payback which is equal to [742] Payback Annual

Operating and Non-Operating Expenses (2 Columns)

[795] Fuel Variable Fuel Cost

- Formula calculates the initial and average infrastructure capital expenditures for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

- First column is equal to the initial value in the variable fuel cost column from Summary and Chart Data if [696] Summary Page On? Is = "True"
- Second column:
- =IF(\$D\$3068="False ","-",AVERAGE(OFFSET(\$BT\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - i. IF [696] Summary Page On? is = "False"
 - ii. Then [795] is = "-"
 - iii. Otherwise [795] is = the average of variable fuel costs from Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes an average of variable fuel costs by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. An average is then taken of the rows selected in the variable fuel cost column

[796] Electricity Variable Fuel Cost

- Formulas calculate the initial and average variable electricity cost for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[797] NT Labour Variable Cost

- Formulas calculate the initial and average variable NT labour cost for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[798] ET Labour Variable Cost

- Formulas calculate the initial and average variable ET labour cost for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[799] Part Lease Payment Other Variable Operating Costs

- Formulas calculate the initial and average part lease payment costs for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[800] ET Maintenance Other Variable Operating Costs

- Formulas calculate the initial and average ET Maintenance costs for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[801] Total Non-Operating Adjustments

- Formulas calculate the initial and average total non-operating adjustments for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

Capital Structure (2 Columns)

[802] Debt

- First formula calculates the initial value of debt for the Summary Pages
- =IF(D3068="False ","-", \$T\$3400)
 - i. IF [696] Summary Page On? Is = "False"
 - ii. Then [802] is = "-"

- iii. Otherwise [802] is = the starting value in the total debt column of Summary and Chart Data
- Second formula calculates the ending value of debt for the Summary Pages
- =IF(D3068="False ","-",OFFSET(\$T\$3400,\$D\$3067-\$D\$3064,0))
 - i. IF [696] Summary Page On? Is = "False"
 - ii. Then [802] is = "-"
 - iii. Otherwise [802] is = the ending value of the total debt column based on the [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula uses the offset function to move to the ending value in the total debt column by taking the [695] End Scenario Year – [692] Start Date

[803] Equity

- First formula calculates the initial value of equity for the Summary Pages
- Second formula calculates the ending value of equity for the Summary Pages

[804] Lifetime Cost Of Debt – Annual

- Annual lifetime cost of debt which is equal to [723] Annual Debt Cost

[805] Average Debt/Debt+Equity

- Formula calculates the average debt / debt + equity for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[806] Average DSCR

- Formula calculates the average debt service coverage ratio for the Summary Pages based on the inputs [692] Start Date and [695] End Scenario Year

[807] Loan Life Coverage Ratio (11 Years)

- Loan life coverage ratio for 11 years which is equal to [726] Loan Life Coverage Ratio (11 Years)

Financing (3 Columns)

[808] First Modeling Year

- First column is the first modeling year for construction financing which is equal to [448] First Disbursement Year
- Second column is the first modeling year for export credit which is equal to [375] Year
- Third column is the first modeling year for the revolver which is equal to 1

[809] Principal Amount /Maximum Balance

- 3 columns for the principal amount of construction financing, export credit, and revolver which is equal to [333] Principal Amount for each form of financing respectively

[810] Currency

- 3 columns for the currency of construction financing, export credit, and revolver which is equal to [331] Debt Currency for each form of financing respectively

[811] Fixed/Variable

- 3 columns for construction financing, export credit, and revolver of whether the interest rate is fixed or variable which is equal to [335] Interest Rate Fixed of Variable? for each form of financing respectively

[812] Interest Rate/Margin

- 3 columns for the interest rate/margin of construction financing, export credit, and revolver which is equal to [337] Spread over EURIBOR for each form of financing respectively

[813] Term

- 3 columns for the term of construction financing, export credit, and revolver which is equal to [340] Term for each form of financing respectively

[814] Grace Period

- 3 columns for the grace period of construction financing, export credit, and revolver which is equal to [341] Grace Period for each form of financing respectively

[815] Repayment Profile

- 3 columns for the repayment profile of construction financing, export credit, and revolver which is equal to [344] Repayment Profile for each form of financing respectively

[816] Front-End Fee

- 3 columns for the front-end fee of construction financing, export credit, and revolver which is equal to [346] Front-End Fee for each form of financing respectively

[817] Commitment Fee

- 3 columns for the commitment fee of construction financing, export credit, and revolver which is equal to [347] Commitment Fee for each form of financing respectively

Ratios (3 Rows, 2 Columns)

[818] Operating Profit

- Minimum row calculates the minimum operating profit for the Summary Pages
- =IF(D3068="False ","-",MIN(OFFSET(\$F\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - IF [696] Summary Page On? Is = "False"
 - Then [818] is = "-"
 - Otherwise [818] is = the minimum value of operating profit from the Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes the minimum value of operating profit by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. The minimum is then taken of the rows selected in the operating profit column
- Maximum row calculates the maximum operating profit for the Summary Pages
- =IF(D3068="False ","-",MAX(OFFSET(\$F\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - IF [696] Summary Page On? Is = "False"

- ii. Then [818] is = “-“
 - iii. Otherwise [818] is = the maximum value of operating profit from the Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes the maximum value of operating profit by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start date from the control panel. The maximum is then taken of the rows selected in the operating profit column
- Average row calculates the average operating profit for the Summary Pages
- =IF(D3068="False ","-",AVERAGE(OFFSET(\$F\$3400,0,0,\$D\$3067-\$D\$3064+1,1)))
 - i. IF [696] Summary Page On? Is = “False”
 - ii. Then [818] is = “-“
 - iii. Otherwise [818] is = the average value of operating profit from the Summary and Chart Data using the number of rows in the column as set by [695] End Scenario Year – [692] Start Date
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes the average value of operating profit by using the offset function to first select the column required from Summary and Chart Data. It then uses the fourth argument of offset to select the entire number of periods set out in [695] End Scenario Year and [692] Start Date from the control panel. The average is then taken of the rows selected in the operating profit column
- Date column calculates the date under which either the minimum and maximum values occurred for operating profit
- =IF(D3068="False ","-",INDEX(\$C\$3400:\$C\$3444,MATCH(O3279,\$F\$3400:\$F\$3444,0)))
 - i. IF [696] Summary Page On? Is = “False”
 - ii. Then [818] is = “-“
 - iii. Otherwise [818] is = the date index from Period To of the Summary and Chart Data at the matched value of the minimum/maximum
- Formula first checks if the Summary Pages are set to be displayed. If true, the formula takes the Period To index from the Summary and Chart Data and selects the correct date based on a match to the correct minimum or maximum value calculated in the minimum row and the maximum row of operating profit

[819] Operating Margin

- Minimum row calculates the minimum operating margin for the Summary Pages
- Maximum row calculates the maximum operating margin for the Summary Pages
- Average row calculates the average operating margin for the Summary Pages
- Date column calculates the date under which the minimum and maximum values occurred for operating margin

[820] ROE

- Minimum row calculates the minimum ROE for the Summary Pages
- Maximum row calculates the maximum ROE for the Summary Pages

- Average row calculates the average ROE for the Summary Pages
- Date column calculates the date under which the minimum and maximum values occurred for ROE

[821] ROA

- Minimum row calculates the minimum ROA for the Summary Pages
- Maximum row calculates the maximum ROA for the Summary Pages
- Average row calculates the average ROA for the Summary Pages
- Date column calculates the date under which the minimum and maximum values occurred for ROA

[822] Current Ratio

- Minimum row calculates the minimum current ratio for the Summary Pages
- Maximum row calculates the maximum current ratio for the Summary Pages
- Average row calculates the average current ratio for the Summary Pages
- Date column calculates the date under which the minimum and maximum values occurred for the current ratio

Checks

[823] Balance Sheet Always Balanced?

- Formula checks if the balance sheet is balanced throughout the entirety of the model
- =IF(COUNTIF(J1427:BC1427,"NO")>0,"NO","YES")
 - IF the count of [644] Balance? that = "NO" is Greater Than 0
 - Then [823] is = "NO"
 - Otherwise [823] is = "YES"
- Counts if there are any "NO" values in [644] Balance?

[824] Cash Balance above Zero in All Years?

- Formula checks if there is a positive cash balance throughout the entirety of the model
- =IF(COUNTIF(J1397:BC1397,"<0")>0,"NO","YES")
 - IF the count of all the [614] Cash and Cash Equivalents cash balances Less Than 0 is Greater Than 0
 - Then [824] is = "No"
 - Otherwise [824] is = "Yes"

[825] Cash on Cash Flow = Cash on Balance Sheet?

- Formula checks if the ending cash balance on the cash flow statement is equal to the cash and cash equivalents value from the balance sheet for the entirety of the model
- =IF(((SUM(J1397:BC1397))-(SUM(J1468:BC1468)))>0.001,"NO","YES")
 - IF (Sum of [614] Cash and Cash Equivalents) – (sum of [671] Cash Balance at End of Year) is Greater Than 0.001
 - Then [825] is = "No"
 - Otherwise [825] is = "Yes"

- IF the sum of [614] Cash and Cash Equivalents minus the sum of [671] Cash balance at End of Year is greater than 0.001, then the formula outputs “No” otherwise it outputs “Yes”

Summary and Chart Data

Note: Repeating Formulas are only explained once to avoid redundancy although the main headings from the Summary and Chart Data sections are shown

- This section is used to construct the Summary Page including all the charts and summary assumptions shown from data calculated within the model

Profitability

- Left most column contains numbers that are based on how long the scenario analysis is set to run
- Column 1:
- First cell in column 1:
 - =IF(D3068="True ",IF(J33="", "",D3064), "")
 - IF [696] Summary Page On? Is = “True”
 - Then IF [16] Period To is blank
 - Then the first cell in the first column under Profitability is blank
 - Otherwise = [692] Start Date
 - Otherwise the first cell in the first column under Profitability is blank
- Later cells in column 1:
 - =IF(B3400="", "",IF((B3400+1)<=\$D\$3067,(B3400+1), ""))
 - IF previous cell in column is blank
 - Then current cell is = blank
 - Otherwise IF the previous cell in the column + 1 is Less Than or Equal To [695] End Scenario Year
 - Then the current cell is = the previous cell + 1 (signalling the next period of the scenario analysis)
 - Otherwise the current cell is = blank
- Other columns under profitability are Period To, Return on Equity, Total Operating Expenses, Total Revenues, EBIT and Operating margin
- Period To:
 - =IF(\$B3400="",NA(),OFFSET(\$B\$2,C\$3398-1,\$B\$3399+\$B3400))
 - IF the left most column value is blank
 - Then the Period To column is = NA()
 - Otherwise the current cell in Period To is = offset from the top left most column of the model, down by the row number indicated at the top of the column - 1 and right by 7 + the period indicated in the left most column

- This formula uses the offset function to first find the row of the model the data is in and then based on the current period of the scenario analysis, selects the correct column for that period of data

Cash Management

- Contains summary data columns for Net Cash from Operating Activities, Net Cash from Investing Activities, Net Cash from Financing Activities, Net Changes in Cash, Cash and Cash Equivalents, and Dividends Paid

Liquidity and Stability

- Contains summary data columns for Commercial Construction Loan, Export Credit, Long-Term Loans, Short-Term Payables, Total Debt, Drawings Construction Financing, Total Debt Service, DSCR, Total Equity, Equity Injections, Equity Rate of Return, Firm Value, Debt to Firm Value and Repayment of Loans

Revenue

- Contains summary data columns for Total NT Transshipment Traffic Revenue, Total NT Domestic Traffic Revenue, Total ET Transshipment Traffic Revenue, Total ET Domestic Traffic Revenue, Total Revenues, Total NT Transshipment Average Unit Revenue, Total NT Domestic Average Unit Revenue, Total ET Transshipment Average Unit Revenue, Total ET Domestic Average Unit Revenue, Total Variable Expenses, Total Fixed Costs, and Total Operating Expenses

Annual Traffic

- Contains summary data columns for NT Transshipment Traffic, NT Domestic Traffic, ET Transshipment Traffic, ET Domestic Traffic, and Total Traffic

Subsidies and Expenditures

- Contains summary data columns for Operational Subsidy, Capital Subsidy, and Acquisition of Property, Plant and Equipment

Operating Information

- Contains summary data columns for Return on Assets and Return on Equity

CAPEX

- Contains summary data columns for Infrastructure, Buildings and Superstructures, Surfacing, Equipment, Port Equipment and Rehabilitation, Civil Engineering and Rehabilitation, Total Capitalized Expenses, and Total CAPEX

Working Capital

- Contains summary data columns for Days in Accounts Receivable, Days in Inventory, Days in Other Receivables, Days in Accounts Payable, and Days in Other Payables

Other Expenses

- Contains summary data columns for Variable Fuel Cost, Variable Electricity Cost, Variable NT Labour Cost, Variable ET Labour Cost, Part Lease Payment, ET Maintenance, and Total Non-Operating Adjustments

INDEX	
1	Name Of Entity
2	Operational Benchmark
3	Type Of Model
4	No. Quarters
5	Compounding Frequency
6	Model Starting Date
7	Type Of Model (Number)
8	End Of Month?
9	Model Ending Date
10	Units
11	Name Of Home Currency
12	Name Of Foreign Currency 1
13	Name Of Foreign Currency 2
14	Periods
15	Period From:
16	Period To:
17	No. Days
18	Model Period Starts Here:
19	Model Period Started:
20	Model Period Ends Here:
21	Model Period Ended:
22	Active Integrated Model Period:
23	Annual Inflation Index %
24	Inflation Adjustment
25	Inflation End Period
26	Inflation Mid Period
27	Inflation Index
28	Inflation Per Period
29	Nt Transhipment Traffic Index %
30	Inflation Adjustment
31	Nt Transhipment Traffic Index End Period
32	Nt Transhipment Traffic Index Mid Period
33	Nt Transhipment Traffic Index
34	Period Index Adjustment
35	Salaries Index %
36	Inflation Adjustment
37	Salaries Index End Period
38	Salaries Index Mid Period
39	Salaries Index

40	Period Index Adjustment
41	Nt Labour Variable Cost Index %
42	Inflation Adjustment
43	Nt Labour Variable Cost Index End Period
44	Nt Labour Variable Cost Index Mid Period
45	Nt Labour Variable Cost Index
46	Period Index Adjustment
47	Construction Index %
48	Inflation Adjustment
49	Construction Index End Period
50	Construction Index Mid Period
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54	Change In Cny Rate
55	Eur\Cny
56	Change In Eur\Cny
57	Traffic Name 1
58	Traffic Flow 1 Measured In
59	Data In Containers
60	Containers To Containers Conversion
61	Raw Data In
62	Raw Data Multiplier
63	Traffic Calculated Manual Or By Model?
64	If By Model Linear, Logarithmic Or Exponential?
65	Start Period
66	Coefficient A
67	Name Of Traffic Flow 1
68	Full-Container Annual Traffic Volume
69	Traffic Calculation Periods
70	Full-Container Annual Traffic Volume
71	Nt Transshipment Traffic Calculation Multiplier Enabled? (Yes=1, No=2)
72	Nt Transshipment Traffic Calculation Multiplier
73	Annual Traffic Volume Of Full-Container
74	Total
75	Annual Traffic Volume Of Full-Container
76	Total
77	Annual Traffic Volume Of Full-Container
78	Total

79	Is Public Subsidy Available?
80	Subsidy In First Year
81	Model Calculate Or Manual?
82	If Calculate, Grow Subsidy By Inflation?
83	If Yes What Proportion Of Inflation?
84	Enter Additional Annual Change
85	Manual Input
86	Is Public Subsidy Available?
87	Subsidy In First Year
88	Amortization In First Year
89	Model Calculate Or Manual?
90	If Calculate, Grow Subsidy By Inflation?
91	If Yes What Proportion Of Inflation?
92	Enter Additional Annual Change
93	Manual Input
94	Operational Subsidy
95	Capital Subsidy
96	Amortization Of Capital Subsidy
97	Total Subsidy (Including Amortization)
98	Revenue Measured In?
99	Grow Tariff By Inflation In Forecast Period?
100	Discount For Transshipment Traffic
101	Full-Container
102	Nt Transshipment Traffic Revenue Unit Revenue Multiplier Enabled (Yes=1, No=0)
103	Nt Transshipment Traffic Revenue Unit Revenue Multiplier From Scenario Analysis
104	Nt Transshipment Traffic Revenue Unit Revenue Growth Rate Enabled (Yes=1, No=0)
105	Nt Transshipment Traffic Revenue Unit Revenue Growth Rate From Scenario Analysis
106	Full-Container Per-Unit Revenue
107	Nt Transshipment Traffic Average Unit Revenue
108	Full-Container Revenue
109	Total Nt Transshipment Traffic Revenue
110	Annual Amount
111	Change In Other Operating Revenue
112	Grow Non-Operating Revenue By Inflation In Forecast Period?
113	Name Of Non-Operating Revenue 1

114	Total Revenue In First Year
115	Total Quantity In First Year
116	Quantity (Physical Revenue Driver)
117	Change In Quantity
118	Variability With Inflation
119	Annual Unit Revenue
120	Additional Annual Change
121	Total Non-Operating
122	Grow Variable Operating Costs By Inflation?
123	Name Of Variable Cost Category 1
124	Name Of Category 1 Variable Cost 1
125	Fuel Variable Cost
126	Cost Driven By Nt Transshipment Traffic?
127	Cost Driven By Nt Domestic Traffic?
128	Cost Driven By Et Transshipment Traffic?
129	Cost Driven By Et Domestic Traffic?
130	Nt Transshipment Traffic Cost Driver Measured In?
131	Nt Domestic Traffic Cost Driver Measured In?
132	Et Transshipment Traffic Cost Driver Measured In?
133	Et Domestic Traffic Cost Driver Measured In?
134	Unit Scaled By Multiple?
135	Expense Currency?
136	Fuel Variable Cost
137	Manual Override
138	Fuel Variable Cost Driver
139	Exchange Rate
140	Variability Of Cost To Cost Driver
141	Variability With Inflation
142	Initial Unit Cost
143	Per Fuel Variable Cost
144	Annual Additional Change
145	Fuel Variable Cost
146	Total Fuel Operating Expense
147	Total Variable Operating Cost
148	Grow Fixed Costs By Inflation?
149	Name Of Fixed Cost Category 1
150	Name Of Category 1 Fixed Cost 1
151	Infrastructures Fixed Maintenance Costs
152	Cost Multiplied By Scalar?
153	Cost Grown By Manufacturing Index?

154	Expense Currency?
155	Exchange Rate
156	Raw Data In
157	Raw Data Multiplier
158	Total Cost In Year 1
159	Total Quantity (Physical Cost Driver) Year 1
160	Quantity (Physical Cost Driver)
161	Enter Change In Quantity
162	Enter Variability Of Cost To Cost Driver
163	Variability With Inflation
164	Initial Cost Per Cost Driver Manual Override
165	Annual Unit Cost
166	Additional Annual Change
167	Infrastructures Fixed Maintenance Costs
168	Total Fixed Maintenance Costs
169	Total
170	Grow Non-Operating Costs By Inflation?
171	Name Of Non-Operating Costs Expense 1
172	Cost Multiplied By Scalar?
173	Cost Grown By Non-Operating Index?
174	Expense Currency?
175	Exchange Rate
176	Total Cost In Year 1
177	Quantity (Physical Cost Driver)
178	Enter Change In Quantity
179	Enter Variability Of Cost To Cost Driver
180	Variability With Inflation
181	Initial Cost Per Cost Driver Manual Override
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187	Change In Accounts Receivable
188	Inventory Start Value
189	Days In Inventory
190	Change In Inventory
191	Other Receivables Start Value
192	Days In Other Receivables
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194	Accounts Payable Start Value
195	Days In Accounts Payable
196	Change In Accounts Payables
197	Other Payables Start Value
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199	Change In Other Payables
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201	Include Cash In Working Capital?
202	Cash And Cash Equivalent
203	Accounts Receivable
204	Inventory
205	Other Receivables
206	Current Assets
207	Account Payable
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209	Current Liabilities
210	Change In Working Capital (Use Of Cash)
211	Cash Ratio
212	Current Ratio
213	Grow Fixed Asset Assumptions By Inflation?
214	Name Of New Fixed Asset 1
215	Cost Multiplied By Scalar?
216	Cost Grown By Construction Index?
217	Expense Currency?
218	Exchange Rate
219	Starting Infrastructure Gross Value
220	Starting Accumulated Amortization
221	Capital Expenditures
222	Sale Of Asset
223	Useful Life
224	Manual Change To Useful Life
225	Manual Override For Depreciation
226	Variability With Inflation
227	Infrastructure Total Index
228	Additional Annual Index Change
229	Grow Fixed Asset Assumptions By Inflation?
230	Name Of Existing Fixed Asset 1
231	Cost Multiplied By Scalar?
232	Cost Grown By Construction Index?
233	Expense Currency?

234	Exchange Rate
235	Starting Civil Engineering Rehabilitation Gross Value
236	Starting Accumulated Amortization
237	Capital Expenditures
238	Sale Of Asset
239	Useful Life
240	Manual Change To Useful Life
241	Manual Override For Depreciation
242	Variability With Inflation
243	Civil Engineering Rehabilitation Total Index
244	Additional Annual Index Change
245	Include Interest & Fees Of Construction Debt In Depreciation?
246	Capex Multiplier Enabled (Yes=1, No=0)
247	Capex Multiplier From Scenario Analysis
248	Starting Value Of New Assets
249	Add Capex
250	Less Sale Of Assets
251	Interest & Fees On Fixed Asset Debt
252	Gross Value
253	Less Depreciation Of New Assets
254	Accumulated Depreciation Of New Assets
255	Ending Net Asset Value
256	Total Capex
257	Total Sale
258	Total Interest & Fees On Fixed Asset Debt
259	Total Gross Value
260	Total Depreciation
261	Total Accumulated Depreciation
262	Total Net Asset Value
263	Starting Value Of Existing Assets
264	Add Capex
265	Less Sale Of Assets
266	Gross Value
267	Less Depreciation Of Existing Assets
268	Accumulated Depreciation Of Existing Assets
269	Ending Net Asset Value
270	Total Capex
271	Total Sale
272	Total Gross Value

273	Total Depreciation
274	Total Accumulated Depreciation
275	Total Net Asset Value
276	Total Depreciation
277	Renewal Index Multiple
278	Allowance For Renewal
279	Grow Intangible Asset Assumptions By Inflation?
280	Name Of Intangible Asset 1
281	Cost Multiplied By Scalar?
282	Cost Grown By Construction Index?
283	Expense Currency?
284	Exchange Rate
285	Starting Technical Studies Gross Value
286	Starting Accumulated Amortization Of Intangibles
287	Intangible Expenses Capitalized
288	Sale Of Asset
289	Useful Life
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295	Starting Value Of Intangible Assets
296	Intangible Expenses Capitalized
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300	Accumulated Amortization Of Intangible Assets
301	Ending Intangible Asset Value
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303	Total Sale
304	Total Gross Value
305	Total Amortization
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307	Total Intangible Asset Value
308	Other Long-Term Assets
309	Change In Other Long-Term Assets
310	Circle Breaker 2
311	Circle Breaker 3
312	Include Interest On Commercial Construction Financing In

	Construction Need
313	Include Expense To Cash Tax Differences In Construction Need
314	Year
315	Nt Construction Mask
316	Construction Capex
317	Interest & Fees On Commercial Construction Financing
318	Asset Purchase Need Of Financing
319	Operating Surplus
320	Change In Working Capital
321	Corporation Tax To Pay N + 1
322	Net Operating Cash Surplus
323	Export Credit Drawings
324	Interests & Fees On Export Credit
325	Financing By Export Credit
326	Contribution To Trustee Account
327	Total Needs Of Financing (Construction Period)
328	Intercalar Interests
329	Equity Injections
330	Year
331	Debt Currency?
332	Exchange Rate
333	Principal Amount In Issue Currency
334	Drawdown Amounts (Annual)
335	Interest Rate Fixed Or Variable?
336	Interest Rate Used
337	Spread Over Euribor
338	Euribor Rate
339	Interest Rate
340	Term
341	Grace Period
342	Term
343	Grace Period
344	Repayment Profile
345	Manual Repayment
346	Front-End Fee
347	Commitment Fee
348	Repayment Period
349	Interest Operating Mask
350	Interest Rate

351	Principal Outstanding At The Beginning Of The Year
352	Repayment Of Principal
353	Bullet Principal
354	Equal Installment Principal
355	Annuity Principal
356	Annuity Discount Factor
357	Annuity Interest
358	Principal Received
359	Principal Outstanding At The End Of The Year
360	Interest Due At The End Of The Year
361	Front-End Fee
362	Undisbursed Capital
363	Commitment Fee
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366	Principal Outstanding At The Beginning Of The Year
367	Repayment Of Principal
368	Principal Received
369	Principal Outstanding At The End Of The Year
370	Interest Due At The End Of The Year
371	Front-End Fee
372	Undisbursed Capital
373	Commitment Fee
374	Total Debt Service
375	Year
376	Debt Currency?
377	Exchange Rate
378	Total Exports
379	Proportion Of Export In Export Credit
380	Total Export Credit
381	Home Currency
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383	Principal Amount In Issue Currency
384	Drawdown Amounts (Annual)
385	Interest Rate Fixed Or Variable?
386	Interest Rate Used
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388	Euribor 6 Months Rate
389	Interest Rate
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391	Grace Period
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393	Manual Repayment
394	Front-End Fee
395	Commitment Fee
396	Repayment Period
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398	Principal Outstanding At The Beginning Of The Year
399	Repayment Of Principal
400	Bullet Principal
401	Equal Installment Principal
402	Annuity Principal
403	Annuity Discount Factor
404	Annuity Interest
405	Principal Received
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408	Front-End Fee
409	Undisbursed Capital
410	Commitment Fee
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414	Repayment Of Principal
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420	Commitment Fee
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423	Minimum Cash Balance
424	Starting Revolver Balance
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428	Euribor 6 Months Rate
429	Interest Rate
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433	Revolver Drawings
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438	Total Revolver Finance Fees
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440	Currency
441	Outstanding Amount At The Beginning Of First Year
442	Interest Expense In First Year
443	Principal Repayments (Annual)
444	Use Fixed Or Variable Interest Rate?
445	If Fixed, Enter Interest Rate
446	If Variable, Enter Margin On Libor
447	Debt/Bond Funding Source (Name Of Lender/Capital Markets)
448	First Disbursement Year
449	Currency
450	Principal Amount In Issue Currency
451	Drawdown Amounts (Annual)
452	Used Fixed Or Variable Interest Rate?
453	If Fixed, Enter Interest Rate
454	If Variable, Enter Margin On Libor
455	Term
456	Grace Period
457	Repayment Profile
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459	Commitment Fee
460	Existing Loan From
461	Interest Rate
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465	Interest Due At The End Of The Year
466	Total Debt Service
467	New Loan From 1St Tranche
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469	Interest Rate
470	Principal Outstanding At The Beginning Of The Year
471	Repayment Of Principal
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473	Equal Installment Principal
474	Annuity Principal
475	Annuity Discount Factor
476	Annuity Interest
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482	Commitment Fee
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489	Change In Other Long-Term Liabilities
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491	Issue Dividend?
492	Dividend Manually Or By Model?
493	Dividend Controls Be DSCR?
494	Required Debt Service Coverage Ratio Before Dividends Paid
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499	Taxes Frequency In Periods
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505	Investing Cash Flow
506	Finance Cash Flow Before Dividends
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508	Opening Cash Balance
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518	Equity Funding Source
519	Beginning Paid-In Capital In First Year
520	Equity Injections By Model Or Manually?
521	Equity As A % Of Total Long-Term Debt To Long-Term Debt + Paid-In-Capital
522	Additional Equity Injections
523	Ending Retained Earnings In First Year
524	Total Equity
525	Opening Balance In Other Equity
526	Change In Other Equity
527	Opening Paid-In Capital
528	Equity Injections
529	Ending Paid-In Capital
530	Opening Capital Subsidy
531	Change In Capital Subsidy Less Amortization
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566	Net Cash Before Revolver
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570	Interest Amount On Cash Balances (Included In Operating Cash)
571	Initial Corporate Tax Rate
572	Initial Tax Loss Carry Forward
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576	Select Taxes Payment Frequency
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579	Initial Tax Period?
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583	Tax Loss Carried Forward
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592	Nt Domestic Traffic
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597	Labour Operating Expense
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601	Fixed Labour Operating Costs
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618	Trustee Account Reserve
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621	Cumulative Allowance For Renewal
622	Intangible Assets
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631	Total Current Liabilities
632	Commercial Construction Loan
633	Export Credit
634	Long-Term Loans
635	Other Long-Term Liabilities
636	Total Long-Term Liabilities
637	Total Liabilities
638	Paid-In Capital
639	Capital Subsidy
640	Other Equity
641	Retained Earnings
642	Total Equity
643	Total Liabilities And Equity
644	Balance?
645	Gross Operating Surplus
646	Taxes Paid
647	Accounts Receivable
648	Inventory
649	Other Receivables
650	Accounts Payable
651	Other Payables
652	Total Change In Working Capital
653	Net Cash From Operating Activities
654	Acquisition Of Property, Plant And Equipment
655	Sale Of Property, Plant And Equipment
656	Other Long-Term Assets
657	Net Cash From Investing Activities
658	Contribution To Trustee Account
659	Change In Revolver
660	Repayment Of Loans
661	Proceeds From Loans
662	Interest And Fees During Construction Period
663	Capital Subsidy
664	Change In Other Long-Term Liabilities
665	Change In Paid-In Capital

666	Net Cash From Financing Activities
667	Net Change In Cash Before Dividends
668	Dividends Paid
669	Net Change In Cash
670	Cash Balance At Beginning Of Year
671	Cash Balance At End Of Year
672	Check
673	Gross Operating Surplus
674	Sale Of Property, Plant And Equipment
675	Proceeds From Loans
676	Capital Subsidy
677	Change In Other Long-Term Liabilities
678	Change In Paid-In Capital
679	Total Sources
680	Taxes Paid
681	Total Change In Working Capital
682	Acquisition Of Property, Plant And Equipment
683	Other Long-Term Assets
684	Contribution To Trustee Account
685	Change In Revolver
686	Repayment Of Loans
687	Interest And Fees During Construction Period
688	Dividends Paid
689	Variation Of Cash Flow
690	Total Uses
691	Variation Of Cash Flow
692	Start Date
693	End Date
694	Model Number Of Years
695	End Scenario Year
696	Summary Page On?
697	Run Scenario Analysis?
698	Scenario Analysis On?
699	Traffic Multiplier
700	Operating Cash Flow
701	Investing Cash Flow
702	Finance Cash Flow Before Debt Service And Dividend
703	Cash Flow Before Debt Service And Dividend
704	Interest & Fees Construction Financing
705	Repayment Construction Financing

706	Interest & Fees Export Credits
707	Repayment Export Credits
708	Interest & Fees On Other Long-Term Debt
709	Repayment Of Other Long-Term Debt
710	Total Debt Service
711	DSCR
712	Drawings Construction Financing
713	Less: Interest & Fees Construction Financing
714	Less: Repayment Construction Financing
715	Drawings Export Credits
716	Less: Interest & Fees Export Credits
717	Less: Repayment Export Credits
718	Drawings Long-Term Debt
719	Less: Interest & Fees On Other Long-Term Debt
720	Less: Repayment Of Other Long-Term Debt
721	Total Debt Cash Flow
722	Debt Cost In Period
723	Annual Debt Cost
724	Cash Flow Before Debt Service And Dividend
725	Total Debt Service
726	Loan Life Coverage Ratio (11 Years)
727	Loan Life Coverage Ratio (20 Years)
728	Total Debt
729	Equity
730	Intangible Assets
731	Adjusted Equity
732	Debt/Equity
733	Debt/Debt+Equity
734	Equity/Debt+Equity
735	Operating Surplus
736	Cumulative Operating Surplus
737	Average Operating Surplus
738	Total Capex & Development Cost Including Intangibles
739	Average Payback Periods
740	Average Payback Annual
741	Payback In Periods
742	Payback Annual
743	Add: Gross Operating Surplus
744	Less: Variation In Working Capital
745	Less: Development Cost (Intangible Asset)

746	Less: Capex For Fixed Assets
747	Total Cash Flow Before Tax
748	Internal Rate Of Return Before Tax In Periods
749	Internal Rate Of Return Before Tax Annual
750	Corporation Cash Tax Payments
751	Cash Flow After Tax
752	Internal Rate Of Return After Tax In Periods
753	Internal Rate Of Return After Tax Annual
754	Less: Equity Injections
755	Add: Dividends
756	Total Shareholder Cash Flow
757	Equity Holder Rate Of Return In Periods
758	Equity Holder Rate Of Return Annual
759	Average Total Assets
760	Operating Surplus
761	Return On Assets
762	Average Total Equity
763	Operating Surplus
764	Return On Equity
765	Average Nt Transhipment Traffic
766	Average Nt Domestic Traffic
767	Average Et Transhipment Traffic
768	Average Et Domestic Traffic
769	Average Total Traffic
770	Average Total Nt Transhipment Traffic Revenue
771	Average Total Nt Domestic Traffic Revenue
772	Average Total Et Transhipment Traffic Revenue
773	Average Total Et Domestic Traffic Revenue
774	Average Total Revenues
775	Average Total Variable Expenses
776	Average Total Fixed Costs
777	Average Gross Operating Surplus
778	Annual Internal Rate Of Return
779	Annual Equity Rate Of Return
780	Days In Accounts Receivable
781	Days In Inventory
782	Days In Other Receivables
783	Days In Accounts Payable
784	Days In Other Payables
785	Infrastructure

786	Buildings & Superstructures
787	Surfacing
788	Equipment
789	Port Equipment Rehabilitation
790	Civil Engineering Rehabilitation
791	Total Capitalized Expenses
792	Total
793	Construction Payback Period
794	Fuel Variable Cost
795	Electricity Variable Cost
796	Nt Labour Variable Cost
797	Et Labour Variable Cost
798	Part Lease Payment Other Variable Operating Costs
799	Et Maintenance Other Variable Operating Costs
800	Total Non-Operating Adjustments
801	Debt
802	Equity
803	Lifetime Cost Of Debt - Annual
804	Average Debt/Debt+Equity
805	Average DSCR
806	Loan Life Coverage Ratio (11 Years)
807	First Modeling Year
808	Principal Amount /Maximum Balance
809	Currency
810	Fixed/Variable
811	Interest Rate/Margin
812	Term
813	Grace Period
814	Repayment Profile
815	Front-End Fee
816	Commitment Fee
817	Operating Profit
818	Operating Margin
819	ROE
820	ROA
821	Current Ratio
822	Balance Sheet Always Balanced?
823	Cash Balance Above Zero In All Years?
824	Cash On Cash Flow = Cash On Balance Sheet?