



FINPLAN

Hands-on 4: FINPLAN Results Interpretation

Learning outcomes

By the end of this exercise, you will be able to:

- 1) Run a complete model using FINPLAN.
- 2) Understand the operating Account, the Cash Flow, and the Balance Sheet.
- 3) Calculate the results of the model using financial ratios, such as Leverage, Exchange Risk, and Debt Service Coverage.
- 4) Interpret the results of different financial ratios.

Activity 1

Results Menu

Now that you have entered all the data required for financial analysis of the coal power plant, we press the button "Calculate". FINPLAN provides two sets of results, one is "Intermediate Results" and the other is "Final Results", reported under the item results. Intermediate results are useful to explain the final results. We first explain the final results. If you click the button results, the following screen appears. It has six items: "Operating Account", "Cash Inflows and Outflows", "Balance Sheet", "Shareholders' Return", "Financial Ratios", and "Project Finance Analysis". In the next couple of lines, we explain each of these items one by one.

FINPLAN

A Model for Financial Analysis of Electric Sector Expansion Plans.. Case Study: Democase 1

HOME CASE STUDIES

☒ Case Data

Terms of Project Finance Loan

Discount Rate	5	%
Average Loan Term	10	Year(s)
Security Ratio for Loan Period	1.3	
Expected Life of Project	30	Year(s)
Security Ratio for Project Life	1.3	
First Year of Cash to Debt Service	2017	

General Data

General Information
Inflation Information
Currency Exchange Rates

Taxation Data

Tax & Depreciation Information
Royalty Payment

Initial Balance Sheet & History

Initial Balance Sheet
Old Commercial Loans
Old Bonds
Committed Investment

Sales & Purchase Data

Consumers Contribution & Deposits
Fixed Revenues & Other Income
Sales Data
Purchase Data

☒ Plant Data
☒ FinManager
Calculate
☒ Intermediate Results
☒ Results

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A Model for Financial Analysis of Electric Sector Expansion Plans.. Case Study: Democase 1

HOME CASE STUDIES

☒ Case Data
☒ Plant Data
☒ FinManager
Calculate

☒ Intermediate Results
☒ Results

Operating Account
Cash Inflows and Outflows
Balance Sheet
Shareholders' Return
Financial Ratios
Project Finance Analysis

Reports Generated

Activity 2

Operating Account

If you click “Operating Account”, the table below will appear. Operating account is explained in the lectures. This table summarizes the yearly income and expenses due to operation of the project, and it shows whether the firm is making money from its operation. It should be noted that all results are in million local currency, and at current prices.

The top five rows present the income by year. The only income from the project is revenue from electricity sales. As operation starts from the year 2017, so do the sales of electricity. This is reported in the third row at the top. Although electricity amount to be sold remains constant, as price increases over time due to inflation, therefore, revenue increases too.

Let us focus on the expenditure block now. The plant has only two operational expenses: fuel costs and O&M costs. Other expenses are financing-related, including interest payment, foreign exchange loss, and depreciation.

Foreign exchange loss occurs due to the currency depreciation. In simple terms, suppose in the year 2014 you borrowed 100 US dollars and the exchange rate is 3.5 Ringgits per dollar. So, when you converted it into local currency, you received 350 Ringgits. You have to return those 100 dollars in the year 2016, and in that time the ringgit depreciates, and the exchange rate becomes 4 Ringgits per dollar. So, you need 400 Ringgits to buy 100 dollars. Therefore, in 2014 you received 350 Ringgits, but when you return that money you need 400 Ringgits. 400 minus 350 is 50 Ringgits, and that is foreign exchange loss. We have assumed Malaysian Ringgit is fairly stable, so foreign exchange loss is not substantial.

Depreciation expense is 137.4 million Ringgits every year, starting from the year 2017, when the plant goes into operation, and continues for 20 years.

Total expenses are calculated and reported in the row called “Total Expenses”.

Subtracting total expenses from the total revenue in a particular year is how the net income is calculated. It is reported here as “Profit or Loss”. Profit when it is positive, and loss when it is negative. You may notice that the plant makes losses till the year 2017, and thereafter it makes a profit. The plant pays tax only when it makes profit. However, if you notice carefully, it started paying tax only from the year 2021, although profit starts from 2018. This is due to the tax loss carried forward provision, which we will explain in a few moments.

Operating Account in FINPLAN

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
INCOME :												
Fixed Income + other Income	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales Revenues	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1340.5
Interest Earned	0	0	0	0	0	0	0	0	0	0	0	0
Total Income	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1340.5
EXPENDITURE :												
General Expenses	0	0	0	0	0	0	0	0	0	0	0	0
Expenditure on Purchases	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Costs	0	0	0	0	0	638.52	664.26	691.03	718.87	747.85	777.98	806.5
O&M Costs	0	0	0	0	0	150.57	156.6	162.86	169.37	176.15	183.2	190.5
Contr. To Decomm. Fund	0	0	0	0	0	0	0	0	0	0	0	0
Interest Paid	0	0	15.27	50.03	92.99	119.78	96.69	88.66	79.3	68.47	62.66	58.5
Foreign Exchange Loss	0	0	1.94	7.8	15.64	19.49	18.15	16.74	15.25	13.68	12.02	10.5
Contr. To Decomm. Trust	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	137.42	137.42	137.42	137.42	137.42	137.42	137.42
Royalty	0	0	0	0	0	0	0	0	0	0	0	0
Income Tax	0	0	0	0	0	0	0	0	0	20.75	30.48	30.48
Total Expenses	0	0	17.21	57.82	108.63	1065.79	1073.11	1096.71	1120.22	1164.31	1203.76	1245.4
Profit/Loss	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	81.08	91.45	105.1
Dividends	0	0	0	0	0	0	0	0	0	62.26	91.45	105.1
Retained Earnings	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	18.82	0	0

If you click at the left top corner, you can export this table in Excel, which makes computation easy. On the next page, you can see this Excel table in two screenshots.

Tax Loss Carried Forward

Look at the first screenshot from Excel. Coming back to the tax issue, we have added a couple of rows at the bottom to show the tax calculations. From the row on profit or loss, from year 2014 till 2017, the plant makes losses. In 2014 the loss was 17.2 million, in 2015 the loss was 57.8 million, and so on. Thus, till the year 2017, the accumulated loss of the firm was 184.8 million Ringgits. Now by the tax loss carried forward option, this accumulated loss can be carried forward to the successive years, to calculate the taxable income. In 2018, expenses before tax were 1073.1 million. When subtracting these from the total income, we get net income as 34 million, which is positive, but if the accumulated loss is carried forward, then the firm's taxable income is -184.88 plus 34, which is a loss of 150.8 million. So, there is no need to pay tax. Similarly, in 2019, the net income before tax is 54.7 million, but when the accumulated loss of 150.8 million from the previous year is added, the firm's taxable income is minus 96.12 million. So, again there is no need to pay tax.

Continuing this way, in 2021, for the first time, the firm makes a positive taxable income of 83 million, so the firm needs to pay the tax. Applying a tax rate of 25%, tax in that year is 20.8 million. Afterwards, the taxable income is positive every year, and the firm needs to pay tax.

Dividends and Retained Earnings

Now analyse the same table a little further by focussing on dividends and retained earnings. Look at the second screenshot on the following page. Net income is divided into two parts: dividends which will be paid to the shareholders and the remaining income which will be kept within the firm as retained earnings. Dividends can be paid only when the firm pays tax. Therefore, the dividend payment starts from 2021. Till 2020, as taxable income is negative, no dividend will be paid, and the entire profit is kept in the firm as retained earnings. But how is the dividend calculated in FINPLAN? You may remember, you have used the dividend rate as 50% in the equity screen. Dividend in a particular year is a minimum of 50% of the equity, and 50% of profit, whichever is the minimum. You can check that till the year 2028, equity is 650 million; therefore 50% of the equity is 325 million. Up to 2028, profit is always less than 325 million, so the entire profit is distributed as dividends. In 2030, equity is 250 million because of equity return in 2029 and 2030. So, 50% of the equity is 125 million. However, the profit is higher than this amount, so 125 million is distributed as dividend, and the remaining is kept within the firm as retained earnings.



Operating Account Exported in EXCEL - Tax Loss Carried Forward

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
INCOME :																											
Fixed Income + other Income	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Sales Revenues	0	0		0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1347.02	1400.9	1456.94	1515.22	1575.83	1623.1	1671.79	1721.95	1773.61	1826.81	1881.62	1938.07	1996.21	2056.09	2117.76	
Interest Earned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.09	7.28	13.52	19.79	
Total Income	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1347.02	1400.9	1456.94	1515.22	1575.83	1623.1	1671.79	1721.95	1773.61	1826.81	1881.62	1939.16	2003.49	2069.61	2137.57	
EXPENDITURE :																											
General Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Expenditure on Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fuel Costs	0	0	0	0	0	638.52	664.26	691.03	718.87	747.85	777.98	809.34	841.95	875.88	911.18	947.9	986.1	1025.84	1067.18	1110.19	1154.93	1201.48	1249.89	1300.27	1352.67	1407.18	
O&M Costs	0	0	0	0	0	150.57	156.6	162.86	169.37	176.15	183.2	190.52	198.14	206.07	214.31	222.88	231.8	241.07	250.72	260.74	271.17	282.02	293.3	305.03	317.23	329.92	
Contr. To Decomm. Fund	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Paid	0	0	15.27	50.03	92.95	119.78	96.89	88.66	79.3	68.47	62.66	58.58	54.46	50.16	45.96	42.2	38.85	35.95	40.98	42.42	28.06	12.95	0	0	0	0	
Foreign Exchange Loss	0	0	1.94	7.8	15.64	19.49	18.15	16.74	15.25	13.68	12.02	10.32	8.65	7.05	5.44	3.73	1.92	0	0	0	0	0	0	0	0	0	
Contr. To Decomm. Trust	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Depreciation	0	0	0	0	0	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	
Royalty	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Income Tax	0	0	0	0	0	0	0	0	0	20.75	30.48	35.21	40.07	45.09	50.22	55.42	56.75	57.88	58.42	55.71	58.81	61.94	64.83	65.16	65.57	100.12	
Total Expenses	0	0	17.21	57.82	108.63	1065.79	1073.11	1096.71	1120.22	1164.31	1203.76	1241.39	1280.69	1321.67	1364.55	1409.56	1452.84	1498.16	1552.69	1606.49	1650.39	1695.81	1745.25	1807.91	1872.9	1837.22	
Profit/Loss	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	81.08	91.45	105.63	120.21	135.27	150.67	166.27	170.26	173.63	169.25	167.12	176.42	185.81	193.9	195.58	196.72	300.35	
Dividends	0	0	0	0	0	0	0	0	0	62.26	91.45	105.63	120.21	135.27	150.67	166.27	170.26	173.63	125	125	125	125	125	125	125	125	
Retained Earnings	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	18.82	0	0	0	0	0	0	0	0	44.25	42.12	51.42	60.81	68.9	70.58	71.72	175.35	
Expenses before tax						1073.12	1096.71	1120.21	1143.57	1173.28	1206.18	1240.62	1276.58	1314.33	1354.13	1396.09	1440.28	1496.28	1550.77	1591.58	1633.87	1680.61	1742.72	1807.32	1737.1		
Accumulated loss						-184.88																					
Taxable income						-150.85	-98.12	-18.83	83.0	121.9	140.8	160.3	180.4	200.9	221.7	227.0	231.5	225.7	222.8	235.2	247.8	258.6	260.8	262.3	400.5		
Tax										20.8	30.5	35.2	40.1	45.1	50.2	55.4	56.8	57.9	58.4	55.7	58.8	61.9	64.6	65.2	65.8	100.1	

Operating Account Exported in EXCEL - Dividends and Retained Earnings

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
INCOME :																											
Fixed Income + other Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Sales Revenues	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1347.02	1400.9	1456.94	1515.22	1575.83	1623.1	1671.79	1721.95	1773.61	1826.81	1881.62	1938.07	1996.21	2056.09	2117.76	
Interest Earned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.09	7.28	13.52	19.79	
Total Income	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5	1245.4	1295.21	1347.02	1400.9	1456.94	1515.22	1575.83	1623.1	1671.79	1721.95	1773.61	1826.81	1881.62	1939.16	2003.49	2069.61	2137.57	
EXPENDITURE :																											
General Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Expenditure on Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fuel Costs	0	0	0	0	0	638.52	664.26	691.03	718.87	747.85	777.98	809.34	841.95	875.88	911.18	947.9	986.1	1025.84	1067.18	1110.19	1154.93	1201.48	1249.89	1300.27	1352.67	1407.18	
O&M Costs	0	0	0	0	0	150.57	156.6	162.86	169.37	176.15	183.2	190.52	198.14	206.07	214.31	222.88	231.8	241.07	250.72	260.74	271.17	282.02	293.3	305.03	317.23	329.92	
Contr. To Decomm. Fund	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Paid	0	0	15.27	50.03	92.95	119.78	96.89	88.66	79.3	68.47	62.66	58.58	54.46	50.16	45.96	42.2	38.85	35.95	40.98	42.42	28.06	12.95	0	0	0	0	
Foreign Exchange Loss	0	0	1.94	7.8	15.64	19.49	18.15	16.74	15.25	13.68	12.02	10.32	8.65	7.05	5.44	3.73	1.92	0	0	0	0	0	0	0	0	0	
Contr. To Decomm. Trust	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Depreciation	0	0	0	0	0	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	137.42	
Royalty	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Income Tax	0	0	0	0	0	0	0	0	0	20.75	30.48	35.21	40.07	45.09	50.22	55.42	56.75	57.88	58.42	55.71	58.81	61.94	64.83	65.18	65.57	100.12	
Total Expenses	0	0	17.21	57.82	108.63	1065.79	1073.11	1096.71	1120.22	1164.31	1203.76	1241.39	1280.69	1321.67	1364.55	1409.58	1452.84	1498.16	1552.69	1606.49	1650.39	1695.81	1745.25	1807.91	1872.9	1837.22	
Profit/Loss	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	81.08	91.45	105.63	120.21	135.27	150.67	166.27	170.26	173.63	169.25	167.12	176.42	185.81	193.9	195.58	196.72	300.35	
Dividends	0	0	0	0	0	0	0	0	0	62.26	91.45	105.63	120.21	135.27	150.67	166.27	170.26	173.63	125	125	125	125	125	125	125	125	
Retained Earnings	0	0	-17.21	-57.82	-108.63	-1.22	34.04	54.73	77.28	18.82	0	0	0	0	0	0	0	0	44.25	42.12	51.42	60.81	68.9	70.58	71.72	175.35	
Expenses before tax						1073.12	1096.71	1120.21	1143.57	1173.28	1206.18	1240.62	1276.58	1314.33	1354.13	1396.09	1440.28	1490.28	1550.77	1591.58	1633.87	1680.81	1742.72	1807.32	1737.1		
Accumulated loss						-184.88																					
Taxable income						-150.85	-96.12	-18.83	83.0	121.9	140.8	160.3	180.4	200.9	221.7	227.0	231.5	225.7	222.8	235.2	247.8	258.6	260.8	262.3	400.5		
Tax										20.8	30.5	35.2	40.1	45.1	50.2	55.4	56.8	57.9	58.4	55.7	58.8	61.9	64.6	65.2	65.8	100.1	

Activity 3

Cash Inflows and Outflows

We move to the next item by clicking “Cash Inflows and Outflows”. The table below shows all sources of cash that come into the project account at a certain year and the cash that goes out as expenses. Clicking at the top left corner, this table can be exported to Excel as well. On the following page there is the Excel table which could be used for calculations.

The block at the top shows cash “Inflows” by sources. During the construction years, the sources of cash have included equity, loans, and stand-by facility. The company borrows from an export credit entity as well as takes a project loan. However, they are added together and reported as “Loans Drawdowns”. This money will be spent to pay the bill of the plant construction. There is a shortage of funds; therefore, the model withdraws from the stand-by facility to match the fund requirement.

From 2017, only cash inflow is revenue. However, between 2022 and 2030, stand-by facility is used again to meet the shortfall.

Let us look now at the lower block, which presents the cash “Outflows”. Between 2013 and 2016, the major expense is construction related. Other expenses are interest payments and loan repayments. From 2017, outflows include operating expenses, such as fuel, and financing expenses, such interest payments, loan repayments, etc.

In the last row, cash outflow for VAT payment and cash inflow of VAT reimbursement are reported. VAT repayment is reported in negative terms, 219.8 million Ringgits, which is used to repay the stand-by facility that paid the VAT.

From the year 2034, a large amount of cash is deposited as a short-term deposit, visible in the top-most row. This is not a good use of cash, as a short-term deposit provides low interest.

In conclusion, this is not a good financial plan. A better financial plan can be developed.

Cash Inflows and Outflows in FINPLAN

Cash Inflows and Outflows

Cash Available in Short Term Deposits (at end of previous year)	0	0	0	0	0	0	0	0	0
Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
INFLOWS :									
Revenues	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5
Fixed Revenues	0	0	0	0	0	0	0	0	0
Sales	0	0	0	0	0	1064.57	1107.15	1151.44	1197.5
Others	0	0	0	0	0	0	0	0	0
Interest Earned	0	0	0	0	0	0	0	0	0
New Equity	0	100	150	200	200	0	0	0	0
Bonds Issue	0	0	0	0	0	0	0	0	0
Loans Drawdowns	0	193.92	587.58	791.27	399.59	0	0	0	0
Stand-by Facility	0	96.48	149.73	156.71	149.81	0	0	0	0
Total Inflows	0	390.4	887.3	1147.98	749.4	1064.57	1107.15	1151.44	1197.5
Flow from ShortTermDeposits	0	0	0	0	0	0	0	0	0
Total Cash Available	0	390.4	887.3	1147.98	749.4	1064.57	1107.15	1151.44	1197.5
OUTFLOWS :									
Investment	0	361.48	804.04	1002.89	580.04	0	0	0	0
O&M + Decommissioning Cost	0	0	0	0	0	150.57	156.6	162.86	169.37
Fuel Expenses	0	0	0	0	0	638.52	664.26	691.03	718.87
Expenditure on Purchases	0	0	0	0	0	0	0	0	0
General Expenses	0	0	0	0	0	0	0	0	0
Interest Paid	0	0	15.27	50.03	92.99	119.78	96.69	88.66	79.3
Repayments: Loans & Bonds	0	0	3.67	14.84	29.97	153.7	159.62	165.8	172.26
Repayments: Stand-by facility	0	0	0	0	0	221.87	30	43.09	57.68
Equity Repayment	0	0	0	0	0	0	0	0	0
Taxes & Royalties	0	0	0	0	0	0	0	0	0

Cash Inflows and Outflows Exported in EXCEL

Cash Inflows and Outflows																													
Cash Available in Short Term																													
Deposits (at end of previous year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	243	451	680	835	1010	
Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
INFLOWS																													
Revenues	0	0	0	0	0	1085	1107	1151	1198	1245	1295	1347	1401	1457	1515	1576	1623	1672	1722	1774	1827	1882	1938	1996	2058	2118	2181	2247	
Fixed Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sales	0	0	0	0	0	1085	1107	1151	1198	1245	1295	1347	1401	1457	1515	1576	1623	1672	1722	1774	1827	1882	1938	1996	2058	2118	2181	2247	
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Earned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	14	20	25	30	
New Equity	0	100	150	200	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bonds Issue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Loans Drawdowns	0	194	588	791	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stand-by Facility	0	96	150	157	150	0	0	0	0	9	33	30	23	24	33	44	54	63	18	0	0	0	0	0	0	0	0	0	
Total Inflows	0	390	887	1148	749	1085	1107	1151	1197	1254	1328	1377	1424	1481	1549	1619	1677	1734	1740	1774	1827	1882	1939	2003	2070	2138	2208	2277	
Flow from ShortTermDeposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Cash Available	0	390	887	1147.9	749	1085	1107	1151	1198	1254	1328	1377	1424	1481	1549	1619	1677	1734	1740	1774	1827	1882	1939	2003	2070	2138	2208	2277	
OUTFLOWS																													
Investment	0	381.4	804.0	1002.8	580.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
O&M + Decommissioning Cost	0	0	0	0	0	151	157	163	169	178	183	191	198	206	214	223	232	241	251	261	271	282	293	305	317	330	343	357	
Fuel Expenses	0	0	0	0	0	639	684	691	719	748	778	809	842	876	911	948	986	1028	1067	1110	1155	1201	1250	1300	1353	1407	1464	1523	
Expenditure on Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
General Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Paid	0	0	15.27	50	93	120	97	89	79	68	63	59	54	50	48	42	39	36	41	42	28	13	0	0	0	0	0	0	
Repayments: Loans & Bonds	0	0	3.67	15	30	154	160	166	172	179	182	177	169	168	178	185	194	0	0	0	0	0	0	0	0	0	0	0	
Repayments: Stand-by facility	0	0	0	0	0	222	30	43	58	0	0	0	0	0	0	0	0	0	0	180	189	162	0	0	0	0	0	0	
Equity Repayment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	200	0	0	0	0	0	0	0	0	0	
Taxes & Royalties	0	0	0	0	0	0	0	0	0	21	30	35	40	45	50	55	57	58	58	58	59	62	65	65	66	100	100	99	
Dividend	0	0	0	0	0	0	0	0	0	82	91	106	120	135	151	166	170	173.63	125	125	125	125	125	125	125	125	125	125	
Flow to short term deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	208	208	209	175	175	173	
Total Outflows	0	381	823	1068	703	1284	1107	1151	1198	1254	1328	1377	1424	1481	1549	1619	1677	1734	1740	1774	1827	1882	1939	2003	2070	2138	2208	2277	
Cash Available (VAT)	0	29	64	80	48	-220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Activity 4

Balance Sheet

The next item of the results menu in FINPLAN is the "Balance Sheet". This is defined in the lecture. The balance sheet gives a snapshot of the financial health of a company by reporting what the project company owns and what it owes at a certain point of time. What it owns are called assets, reported in the upper half of the table. What it owes are called liabilities, reported in lower half of the table. Again, by clicking at the top left corner, we can export this table in Excel.


On the following page, you can see the same table exported to Excel. Let us discuss the asset portion first. When construction is completed, asset value is reported, which is the total construction value, 2,748 million. Depreciation starts from the same year, at the rate of 5% per year, as we have assumed straight line depreciation with depreciable life as 20 years.

Receivables are the short-term assets, which would be encashed soon. In this case, this is the VAT, or value added tax, which has been paid during the construction. This will be refunded on the year the plant starts selling electricity. The short-term deposit starts accumulating from year 2033.

Now we look into the liability portion. Investor's equity is liability to the project company, which is reported in the first row. Cumulative retained earnings reported in the operating account are transferred to the balance sheet and reported under the heading "Retained Earnings".

Loans from export credit and other sources outstanding in a year plus net of principal paid in that year is reported under net loans outstanding. Current maturity includes accumulated stand-by facility, plus the loan amount due next year.

Balance Sheet in FINPLAN

 Balance Sheet in Local Currency (Million) Rectangular Snip

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets :														
Gross Fixed Assets	0	0	-0	0	0	2748.45	2748.45	2748.45	2748.45	2748.45	2748.45	2748.45	2748.45	2748.45
Less:Acc.Depreciation	0	0	0	0	0	137.42	274.84	412.27	549.69	687.11	824.53	961.96	1099.38	1236.8
Less:Bal.Consumer Contribution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Fixed Assets	0	0	-0	0	0	2611.02	2473.6	2336.18	2198.76	2061.34	1923.91	1786.49	1649.07	1511.65
Work In Progress	0	361.48	1165.52	2168.41	2748.45	0	0	0	0	0	0	0	0	0
Receivables	0	28.92	93.24	173.47	219.88	-0	-0	-0	-0	-0	-0	-0	-0	-0
Short Term Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	390.4	1258.76	2341.88	2968.32	2611.02	2473.6	2336.18	2198.76	2061.34	1923.91	1786.49	1649.07	1511.65
Equity and Liabilities :														
Equity	0	100	250	450	650	650	650	650	650	650	650	650	650	650
Retained Earnings	0	0	-17.21	-75.03	-183.66	-184.88	-150.83	-96.1	-18.82	0	0	0	0	0
Bonds Outstanding	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Loans Outstanding	0	190.28	765.08	1534.32	1797.08	1657.01	1509.43	1353.96	1190.26	1021.86	856.42	697.91	538.25	369.04
Consumer Deposits + Decommissioning Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Maturity	0	100.11	260.9	432.59	704.9	488.89	465.01	428.32	377.33	389.48	417.49	438.58	460.81	492.61
TOTAL	0	390.4	1258.76	2341.88	2968.32	2611.02	2473.6	2336.18	2198.76	2061.34	1923.91	1786.49	1649.07	1511.65



Balance Sheet Exported in EXCEL

Balance Sheet in Local Currency
(Million)

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Assets :																													
Gross Fixed Assets	0	0	0	0	0	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748
Less:Acc.Depreciation	0	0	0	0	0	137	275	412	550	687	825	962	1099	1237	1374	1512	1649	1786	1924	2061	2199	2336	2474	2611	2748	2748	2748	2748	2748
Less:Bal.Consumer																													
Contribution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Fixed Assets	0	0	0	0	0	2611	2473	2336	2199	2061	1924	1786	1649	1512	1374	1237	1099	962	825	687	550	412	275	137	0	0	0	0	0
Work In Progress	0	361	1166	2168	2748	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Receivables	0	29	93	173	220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short Term Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	243	451	660	835	1010	1183	1353
TOTAL	0	390	1259	2342	2968	2611	2474	2336	2199	2061	1924	1786	1649	1512	1374	1237	1099	962	825	687	550	449	518	588	660	835	1010	1183	1353
Equity and Liabilities :																													
Equity	0	100	250	450	650	650	650	650	650	650	650	650	650	650	650	650	650	450	250	250	250	250	250	250	250	250	250	250	250
Retained Earnings	0	0	-17	-75	-184	-185	-151	-96	-19	0	0	0	0	0	0	0	0	0	44	86	138	199	268	338	410	585	760	933	1103
Bonds Outstanding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Loans Outstanding	0	190	765	1534	1797	1657	1509	1354	1190	1022	856	698	538	369	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumer Deposits +																													
Decommissioning Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Maturity	0	100	261	433	705	489	465	428	377	389	417	439	461	493	534	587	449	512	530	351	162	0	0	0	0	0	0	0	0
TOTAL	0	390	1259	2342	2968	2611	2474	2336	2199	2061	1924	1786	1649	1512	1374	1237	1099	962	825	687	550	449	518	588	660	835	1010	1183	1353



Activity 5

Shareholders' Return

The next output from the model is the "Shareholders' Return". If you click it, the following table will appear. We export this table in Excel and we will explain it.

At the top, it provides shareholders' Net Present Value (NPV) and equity Internal Rate of Return (IRR). The concepts of NPV and IRR are explained in the lectures. That means in calculation only shareholders' contribution, which is equity, is considered as cost. Benefits include shareholders' earnings, which are dividends, and the disposal value of the plant, which is basically cash that remains in the project account. The loan and remaining portion of the earnings are ignored. NPV is positive and IRR is 12.19%. Both are good, and the project is attractive for the investors.

The model also calculates the return on equity on an annual basis by dividing the dividend in that year into the total equity outstanding. Equity was injected for four years, starting from the year 2013. After 2016, no equity was injected. Therefore, equity outstanding in the year 2017 and onwards is 650 million. The dividend in the year 2021 is 62.3 million ringgits and equity is 650 million Ringgits. Return on equity is 62.3 divided by 650, which is 9.58%. Next year the dividend increases to 91.5 million Ringgits; however, outstanding equity remains the same at 650 million. Therefore, the return on equity is 14.1% and so on.

Activity 6

Financial Ratios

A power project has many stakeholders; the most important are the owners and investors, lenders, government, and regulators. FINPLAN produces many financial ratios. By clicking the button "Financial Ratio", the following table appears. These ratios determine the financial viability of the project from the viewpoint of different stakeholders. By clicking the top left button, we export the table in Excel. We explain three ratios: Leverage, Exchange Risk, and Debt Service Coverage. The meaning behind these ratios is explained in the lectures.

FINPLAN has a default value for each of these ratios and judges the computed value from the project relative to that. If it is less than the default value, then it reports "PB", otherwise, "OK". In the next pages, we explain these ratios one by one.



Shareholders' Return in FINPLAN

Shareholders' Return in Local Currency (Million)

NPV Project	IRR
1623.95	12.19 %

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Initial Equity	-0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eq.Increase	-0	-0	-100	-150	-200	-200	-0	-0	-0	-0	-0	-0	-0	-0
Eq.Repayments	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dividend	0	0	0	0	0	0	0	0	0	0	62.26	91.45	105.63	120.21
Final Disposal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Flow	0	0	-100	-150	-200	-200	0	0	0	0	62.26	91.45	105.63	120.21
Return On Equity (%)	0	0	0	0	0	0	0	0	0	0	9.58	14.07	16.25	18.49

Shareholders' Return Exported in EXCEL

Shareholders' Return in Local Currency (Million)

NPV Project	IRR
1623.95	12.19%

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Initial Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Eq.Increase	0	0	-100	-150	-200	-200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Eq.Repayments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dividend	0	0	0	0	0	0	0	0	0	0	62.26	91.45	105.63	120.21	135.27	150.67	166.27	170.26	173.63	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
Final Disposal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2278.84	
Total Flow	0	0	-100	-150	-200	-200	0	0	0	0	62.26	91.45	105.63	120.21	135.27	150.67	166.27	170.26	373.63	325	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	2403.84
Return On Equity (%)	0	0	0	0	0	0	0	0	0	0	9.58	14.07	16.25	18.49	20.81	23.18	25.58	26.19	26.71	27.78	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	

Financial Ratios in FINPLAN

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Working Capital	0	0.8	0.86	0.88	0.82	0.81	0.81	0.82	0.83	0.81	0.78	0.75	0.72	0.67	0.6
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB
Leverage	0	1.9	3.29	4.09	3.85	3.56	3.02	2.44	1.89	1.57	1.32	1.07	0.83	0.57	0.2
	Ok	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok
Equipment Renewal	0	1	1	1	1	0.95	0.9	0.85	0.8	0.75	0.7	0.65	0.6	0.55	0.5
	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Gross Profit Rate	0	0	0	0	0	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.6
	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Debt Repayment Time	0.2	40	40	40	40	6.02	5.27	4.55	3.85	3.18	2.56	2.01	1.49	0.98	0.4
	Ok	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Exchange Risk	0.1	0.1	0.1	0.91	0.24	0.75	1	1	1	1.06	1.09	1.1	1.12	1.13	1.1
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB
Breakeven Point	0.1	0.1	10	10	10	1	0.93	0.91	0.88	0.85	0.83	0.79	0.75	0.73	0.7
	Ok	Ok	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok
Interest Charge Weight	0.01	0.01	2	2	2	0.28	0.22	0.19	0.17	0.14	0.12	0.11	0.1	0.09	0.0
	Ok	Ok	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Global Index	0.04	2.36	4.31	4.54	4.41	1.66	1.55	1.42	1.28	1.2	1.12	1.05	0.98	0.91	0.8
Self Financing Ratio	0	0	-0.02	-0.08	-0.42	0	0	0	0	0	0	0	0	0	
	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Debt Equity Ratio	0	0.66	0.77	0.8	0.79	0.78	0.75	0.71	0.65	0.61	0.57	0.52	0.45	0.36	0.2
	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	PB	PB	PB	PB	PB
Debt Service Coverage	0	0	7.92	3.08	1.63	1.01	1.12	1.17	1.23	1.21	1.24	1.32	1.44	1.51	1.5
	PB	PB	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok
ROR on Rev Assets	0	0	-0.25	-0.47	-0.64	4.42	5.14	5.96	6.91	7.02	7.73	8.85	10.17	11.73	13.6
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok

Activity 7

Leverage

Leverage is also known as the debt–equity ratio. Simply calculate by dividing debt in a particular year by the equity outstanding in that year. The higher this value is, the worse the financial condition of the project, as the assets of the project depend more on debt, indicating the danger of bankruptcy. Therefore, the lender has a preferred value.

Default debt–equity ratio is 60:40, or 1.5. If leverage of any year is greater than 1.5, it reports it as “PB”, or problematic, and “Ok” if it is less than 1.5. If it is problematic, then equity should be increased to bring the ratio down. This number is important during the construction phase and the loan repayment stage. The modeller can select other values that will be deemed acceptable by the lender. For example, 75 to 25, or 3, and adjust the debt–equity ratio accordingly.

If we assume debt–equity ratio of this project as 75 to 25, then from the table, this is not complied with between the year 2014 and 2018. Therefore, this plan is not acceptable; more equity needs to be injected during the construction year. That will influence many other financial aspects of the project, for example, NPV, IRR, etc.

Activity 8

Exchange Risk Ratio

The principal and interest of foreign loans due in a year need to be repaid in foreign currency. So, the company needs enough local currency to buy the required foreign currency based on that year’s prevailing exchange rate. The exchange rate varies over the year, and this may lead to foreign currency risk. The exchange risk ratio ensures that, in any particular year, enough local cash should be available so that foreign currency needed to repay foreign loans and interest due in that year could be bought when applying that year’s exchange rate.

FINPLAN assumes the default value as 1.2 or security margin as 20%. That means that the local cash available in a particular year should be 1.2 times or 20% higher than the local cash needed to buy the required foreign currency to repay foreign loans and interest due in that year, applying the exchange rate of that year.

It is important during the loan repayment period. In this model, it is clear that the financial plan of our project would not be acceptable to the lender, as the exchange risk ratio is less than 1 in 2017, and 1 thereafter. It can be improved by increasing the revenue, that means price, or injecting some loans or bonds in local currency.

Leverage

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Leverage	0	1.9	3.29	4.09	3.85	3.56	3.02	2.44	1.89	1.57	1.32	1.07	0.83	0.57	0.29	0	0	0	0	0	0	0	0	0	0	0	0	0
	Ok	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Exchange Risk	0.1	0.1	0.1	0.91	0.24	0.75	1	1	1	1.06	1.09	1.1	1.12	1.13	1.14	1.14	1.14	1.36	1.3	1.11	1.11	1.13	1.26	1.25	1.24	1.2	1.19	1.18
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	PB	PB	PB	Ok	Ok	Ok	PB	PB	PB
Debt Service Coverage	0	0	7.92	3.08	1.63	1.01	1.12	1.17	1.23	1.21	1.24	1.32	1.44	1.51	1.53	1.54	1.5	9.65	8.49	8.18	12.19	25.96	0	0	0	0	0	0
	PB	PB	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB

Exchange Risk Ratio

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Leverage	0	1.9	3.29	4.09	3.85	3.56	3.02	2.44	1.89	1.57	1.32	1.07	0.83	0.57	0.29	0	0	0	0	0	0	0	0	0	0	0	0	0
	Ok	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Exchange Risk	0.1	0.1	0.1	0.91	0.24	0.75	1	1	1	1.06	1.09	1.1	1.12	1.13	1.14	1.14	1.14	1.36	1.3	1.11	1.11	1.13	1.26	1.25	1.24	1.2	1.19	1.18
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	PB	PB	PB	Ok	Ok	Ok	PB	PB	PB
Debt Service Coverage	0	0	7.92	3.08	1.63	1.01	1.12	1.17	1.23	1.21	1.24	1.32	1.44	1.51	1.53	1.54	1.5	9.65	8.49	8.18	12.19	25.96	0	0	0	0	0	0
	PB	PB	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB

Debt Service Coverage

Study Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Leverage	0	1.9	3.29	4.09	3.85	3.56	3.02	2.44	1.89	1.57	1.32	1.07	0.83	0.57	0.29	0	0	0	0	0	0	0	0	0	0	0	0	0
	Ok	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Exchange Risk	0.1	0.1	0.1	0.91	0.24	0.75	1	1	1	1.06	1.09	1.1	1.12	1.13	1.14	1.14	1.14	1.36	1.3	1.11	1.11	1.13	1.26	1.25	1.24	1.2	1.19	1.18
	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	PB	Ok	Ok	PB	PB	PB	Ok	Ok	Ok	PB	PB	PB
Debt Service Coverage	0	0	7.92	3.08	1.63	1.01	1.12	1.17	1.23	1.21	1.24	1.32	1.44	1.51	1.53	1.54	1.5	9.65	8.49	8.18	12.19	25.96	0	0	0	0	0	0
	PB	PB	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	PB	PB	PB	PB	PB	PB



Activity 9

Debt Service Coverage

The debt service coverage ratio (DSCR) is important for the lenders. They want to be sure that there is enough cash in the account, so that the principal and interest due in any particular year will be repaid.

Default value in FINPLAN for this ratio is 1.3. Therefore, security margin is 30%. That means cash available in a particular year, which is net income before paying interest, plus new equity if there is any, should be 1.3 times or 30% higher than the payment, which is the total of interest and principal amount due in that year.

Lenders monitor this indicator during the loan repayment period. If it is less than 1.3, then the modeller should make the adjustment. For example, increase the price or inject new equity. The DSCR of our project given in the above table is violated between 2017 and 2022; therefore, re-evaluation is needed. Therefore, the current financial plan of the coal power project is not a viable one as it does not comply with several aspects – revision is needed. As has been previously mentioned, FINPLAN cannot optimize the financial plan by itself, it needs to be done manually, so that all aspects are compiled and NPV and IRR are optimized.