

Power-Up Builders

(450 points available)

CASE BACKGROUND

This case was inspired by a real-life project case study that our sponsors at AG Capital have once completed for their client, a construction company. The company has successfully completed several important objects within tough deadlines and has established a very good reputation among the clients. This has opened the doors to more than tripling the volume of their business during the next financial year.

However, after thorough calculations, the company understood that they were not able to finance such a fast pace of growth. They needed to either attract investor financing or grow at a slower pace, otherwise, bankruptcy was inevitable.

COMPANY OVERVIEW

You have been hired to create a high-level forecast for Power-Up Builders, Inc. (PUB) in a fictional country of Evergreen. They have been working as subcontractors, doing electric installation works for large construction companies (typically called General Contractors). One of the PUB's competitors has just failed significantly to deliver their work on time at a construction of the new Olympic Stadium that was about to host an important international event.

PUB had to step in and complete the works after their competitors failed. Fortunately, PUB was able to do a great job in no time and it was very appreciated by the management of the General Contractor. As a result, all the future subcontracts for electric installation works in the portfolio of the General Contractor were awarded to PUB. Now Power-Up Builders are facing an extremely alluring opportunity to increase their sales almost 4 times in 2021.

In 2020 PUB's completed contracts amounted to 50 million Evergreen Dollars (EGD or \$). The pipeline for 2021 shows contracts for almost 200 million EGD ready to be signed. However, the CEO is concerned whether they will have enough money to finance such a fast expansion. PUB is a private company, and the CEO is very reluctant to attract investor money.

FINANCIAL MODEL

You are required to create a simple monthly 3-way financial model. The model should be flexible enough to incorporate different combinations of construction contracts. In other words, the model should allow switching on/off each individual construction contract and instantly recalculate the financial projections for PUB.

The base case scenario assumes that all contracts are signed and executed (no flexibility is required).

Base case scenario calculations will give 350 points out of the maximum 450 points for this case. On top of the 450 points, this case has one Extra question (Q16) that is worth additional 100 points.

CONSTRUCTION PROJECTS

A total of 10 different contracts for construction works are available for PUB to sign and complete in 2021. None of these contracts has been signed yet. PUB has a freedom of choice – they can sign as many contracts as they want. Assume that all the contracts from 2020 are fully completed and paid by December 31, 2020, and do not overflow to the year 2021 (except for the holdbacks – see below).

The list of these contracts, together with the contract value and the projected timeline of works is given in the financial model on the Assumptions tab.

PAYMENT TERMS AND REVENUE RECOGNITION

The following payment terms should be taken into account while constructing the model:

- **Advance Payments.** Each contract pays a 10% advance payment the month before construction begins. The 10% are being calculated from the total contract value, but are not recognized as revenue at the time of the payment.
- **Holdbacks.** Each contract also takes a 10% holdback from each progress payment as a guarantee that the works have been completed in good quality. These 10% are withheld by the General Contractor.
 - The money is released 12 months after the contract has been fully completed (therefore no holdbacks for the contracts completed in 2021 will actually be received during the scope of the model).
 - Even though the money is being withheld, it is still recognized as revenue.
 - At the beginning of 2021, the amount of outstanding holdbacks is equal to \$5,000,000. Of these, \$2,500,000 are expected to be received on June 30, 2021, while the remaining funds will become available to PUB only in 2022 (outside the scope of the model).
- **Progress payments and revenue recognition.** At the end of every month, an invoice is issued to the General Contractor based on the amount of work done during the month. The total monetary value of work is recognized as revenue. However, the payment is being made only in the amount of 80% from the invoice. 10% have already been paid out as an advance payment, while another 10% are withheld as a holdback guarantee. The 80% are paid to the PUB's bank account by the end of the next month.

Example: Assume that the works on a contract are scheduled to take place from March to July. The contract is worth \$1,000,000 in total over the 5 months. It is expected that every month 20% of works will be completed.

- In February PUB will receive an advance payment of \$100,000. No revenue recognized. \$100,000 will appear on the balance sheet of PUB under the current liabilities (advances received).
- On March 31 PUB will invoice the general contractor for \$200,000 (recognized as revenue for March).
 - Of these \$20,000 will be written off from the current liabilities.
 - Another \$20,000 will be added to the current assets (holdbacks).
 - The remaining \$160,000 will be added to the accounts receivable on the balance sheet.

- Then, on April 30, the General Contractor will actually pay the \$160,000 that were invoiced in March. The amount will decrease the outstanding amount of the accounts receivable.
- The same actions will happen on April 30, May 31, June 30 and July 31.
- On July 31, 2022, 12 months after contract completion, PUB will receive the holdback of \$100,000.

OTHER INPUTS

- **Materials and Labor.** For simplicity assume that both materials and labor are used proportionally to the work completed during the month and are paid during the same month.
- **Overhead.** PUB has overhead expenses (administration salaries, office rent, etc.) of \$500,000 every month. This amount is not dependent on the volume of the contracts.
- For simplicity assume no taxes, no dividends during the year and no new share capital injections.

FINANCING

- **Revolving Line of Credit.** PUB has negotiated a revolving line of credit with the maximum limit of \$12,500,000 from its bank. As a typical construction company, PUB has strong profitability, but insufficient collateral. Therefore, bank financing growth is not possible with the growth of the business volume.
 - A 3% interest rate is charged based on the opening balance for the month (assume the Actuals/365 convention).
 - The opening balance as of Jan 1, 2021 is \$2,500,000.
 - Assume that all the available cash is swept to repay the outstanding balance of the revolver if there is any (i.e., either cash or revolver is larger than 0, but not both items simultaneously).
- **Equipment Lease.** PUB will need to expand its base of fixed assets to grow its business volume.
 - The bank will finance 80% of the new CAPEX for the year at a 2.5% interest rate (assume the Actuals/365 convention).
 - The repayment term is 60 months in equal principal payments. The first principal payment starts in March.

DEPRECIATION AND CAPEX

- PUB will need to expand its base of fixed assets in order to grow its business volume. The investment needs to be done timely, before the start of the construction season. Assume that all CAPEX investment for the year will happen on February 28 and the first depreciation will be calculated in March.
- The volume of the CAPEX will depend on the business growth rate.
 - If the total volume of the contracts for the year 2021 is \$50 million or less, no CAPEX is needed.
 - If the total volume of the contracts for the year 2021 is \$50-\$100 million, CAPEX investment will reach \$5 million.

- If the total volume of the contracts for the year 2021 is \$100-\$150 million, CAPEX investment will reach \$10 million.
- If the total volume of the contracts for the year 2021 is more than \$150 million, CAPEX investment will reach \$20 million.
- All new CAPEX will be depreciated over 5 years under the straight-line method.
- Assume that the existing PP&E will depreciate over 3 years under the straight-line method.