Cash Flow Analysis

Act. Bernardo Mondragon Brozon

January 16, 2019

Assumptions

The cash flow analysis will consist of computing the present value of the future revenue of all projects that the company will generate in the following 5 years making the following assumptions:

- Risk free annual effective interest rate of Mexican economy: 0.1.
- Sustained price annual increment ratio of technology: -0.02.

The company will work on 5 types of projects at the same time:

1. Landing pages (only images, company description, contact, almost no functionality),
2. Small projects (basic functionality, manage users, blog, order, e-comerce),
3. Large projects (adding complex functionality, complex back-end computations),
4. Enterprice projects (thousands of users, complex back-end operations), and
5. Inhouse projects (EVA like projects).

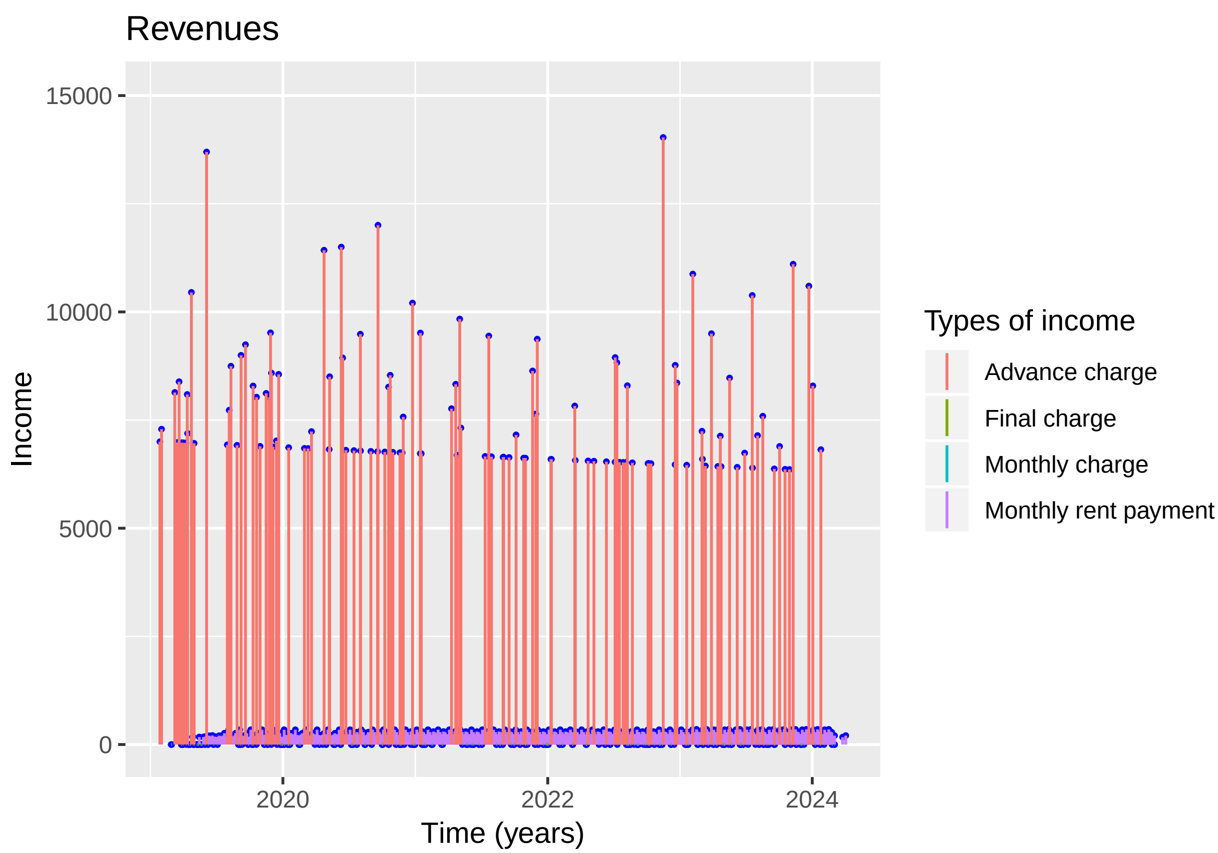
Each type of project will arrive to the company according to a Poisson point process with a given ratio λ per year. In other words, the company will arrange contracts with frequency in such a way that it will have development start points randomly distributed in the timeline with a given average. For example, we will consider that the company will develop an average of $\lambda = 24$ landing pages in a year (two each month). We will make these kind of assumptions for each type of project the company wants to develop and the average of contracts in a year will depend on the size of the project.

Landing pages

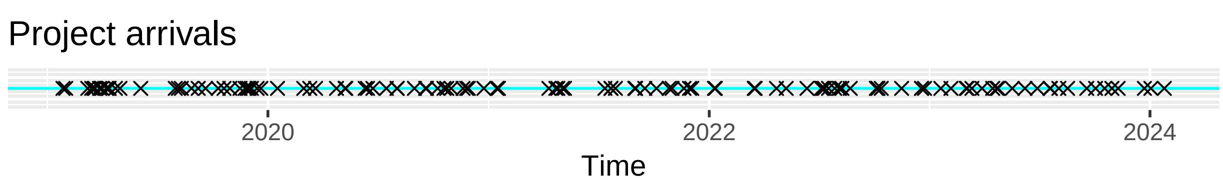
Landing pages will arrive to the company with a ratio of 24 per year and will consider the following assumptions:

- The price of a landing page will be $10000 MNX in average with a standar deviation of $2000 MNX.
- The average development time of a landing page will be 1 month.
- 1×100 percent of the project will be charged in advance.

The positive cash flows that the company will obtain during the following 5 years due to lading pages development will look similar to the following graph:



Project arrivals to the company will look like the following graph:



Given the previous future cash flows, the present value of lading pages development revenues is worth \$1320306.0642848 MNX.

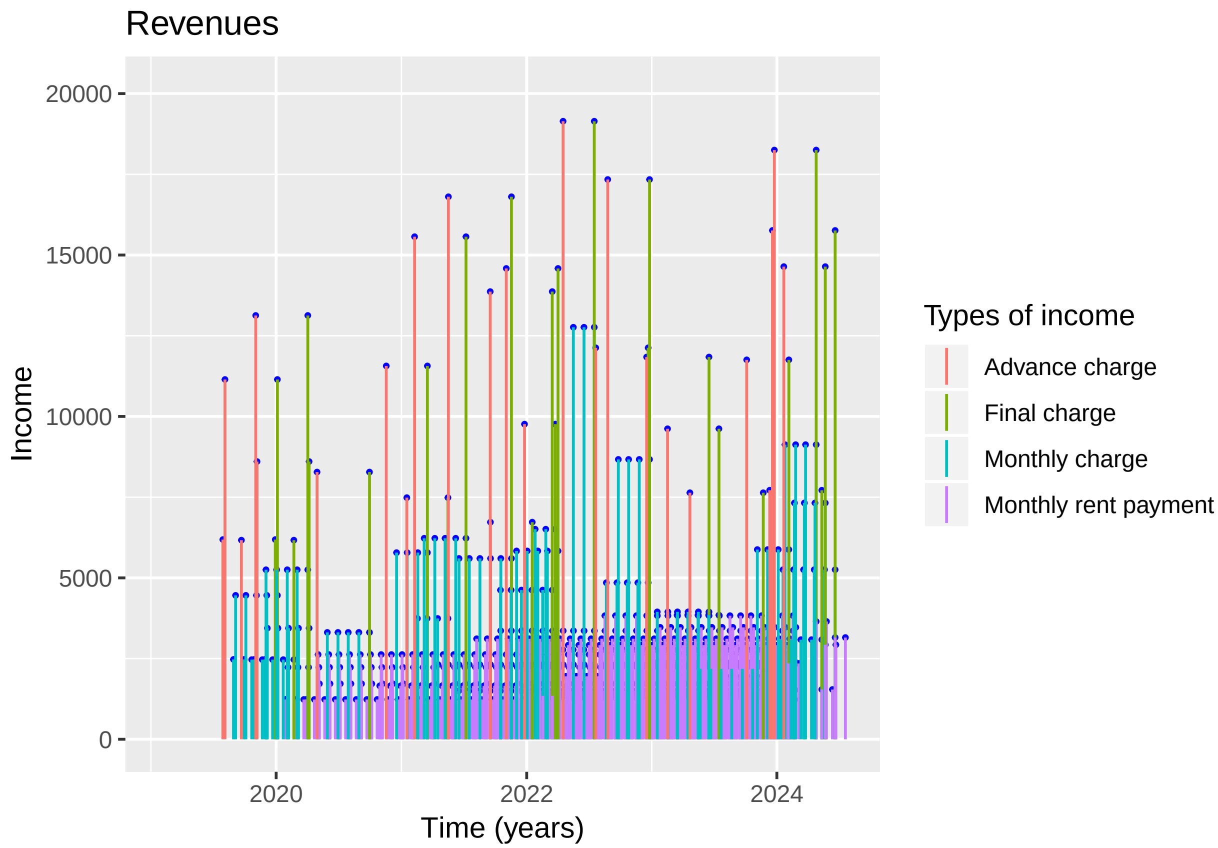
Small projects

Small projects will arrive to the company with a ratio of 5 per year and will consider the following assumptions:

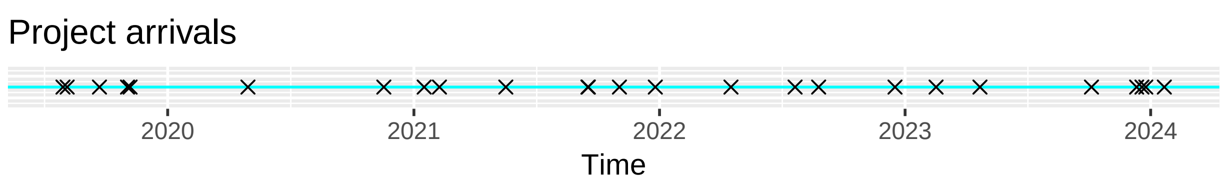
- The price of a small project will be \$50000 MNX in average with a standar deviation of \$20000 MNX.
- The average development time of a small project will be 4 months.
- 0.25×100 percent of the project will be charged in advance.
- 0.5×100 percent of the project will be charged monthly during the development.

- 0.25×100 percent of the project will be charged when the project is finished.
- 0.05×100 percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to small projects development will look similar to the following graph:



Project arrivals to the company will look like the following graph:



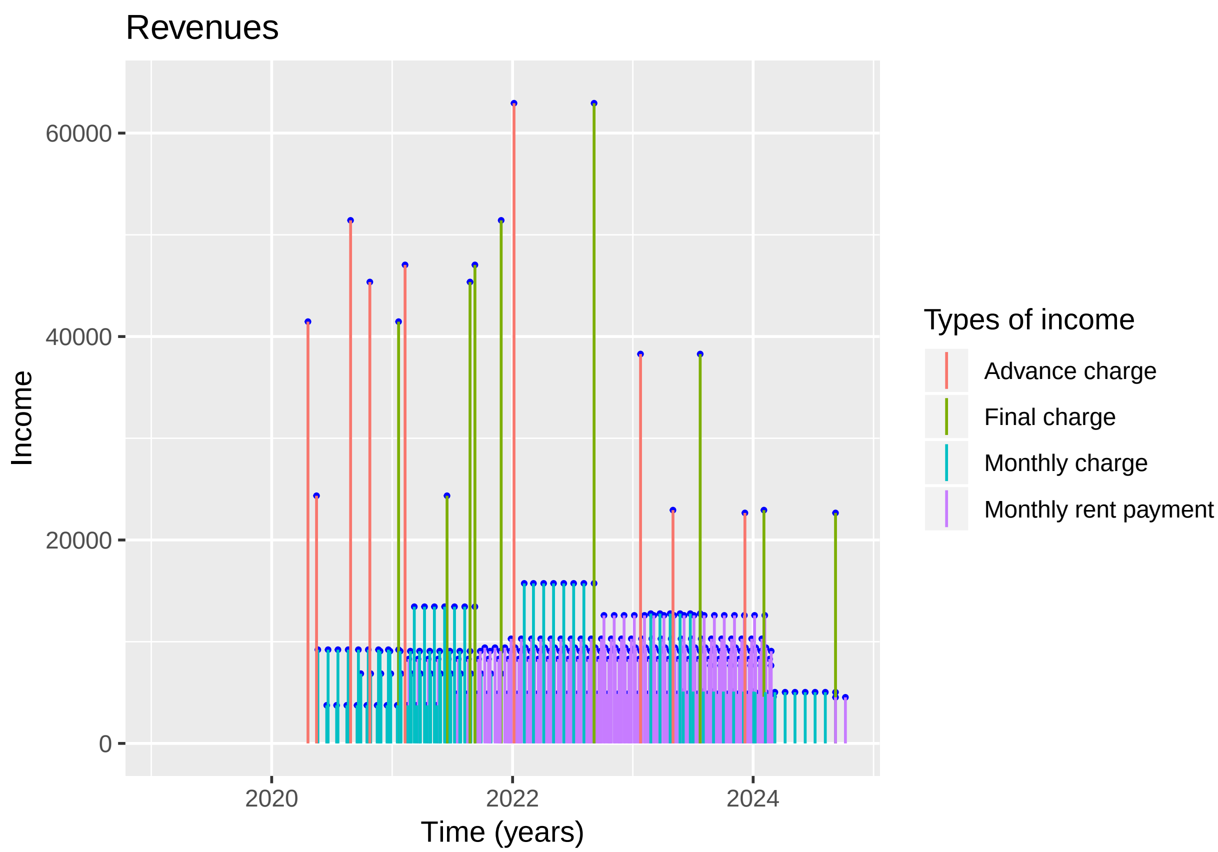
Given the previous future cash flows, the present value of small projects development revenues is worth \$1739314.9848669 MNX.

Large projects

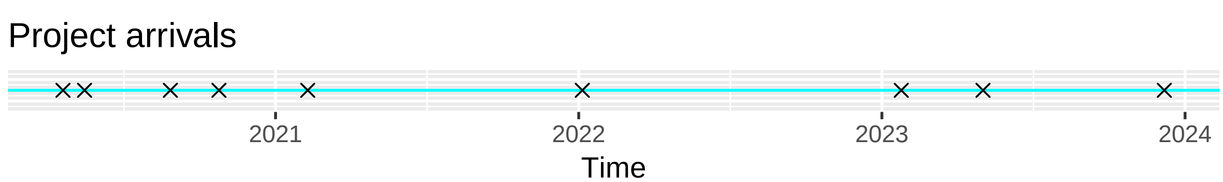
Large projects will arrive to the company with a ratio of 2 per year and will consider the following assumptions:

- The price of a large project will be $200000 MNX in average with a standar deviation of $70000 MNX .
- The average development time of a large project will be 7 months.
- 0.25×100 percent of the project will be charged in advance.
- 0.5×100 percent of the project will be charged monthly during the development.
- 0.25×100 percent of the project will be charged when the project is finished.
- 0.05×100 percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to large projects development will look similar to the following graph:



Project arrivals to the company will look like the following graph:



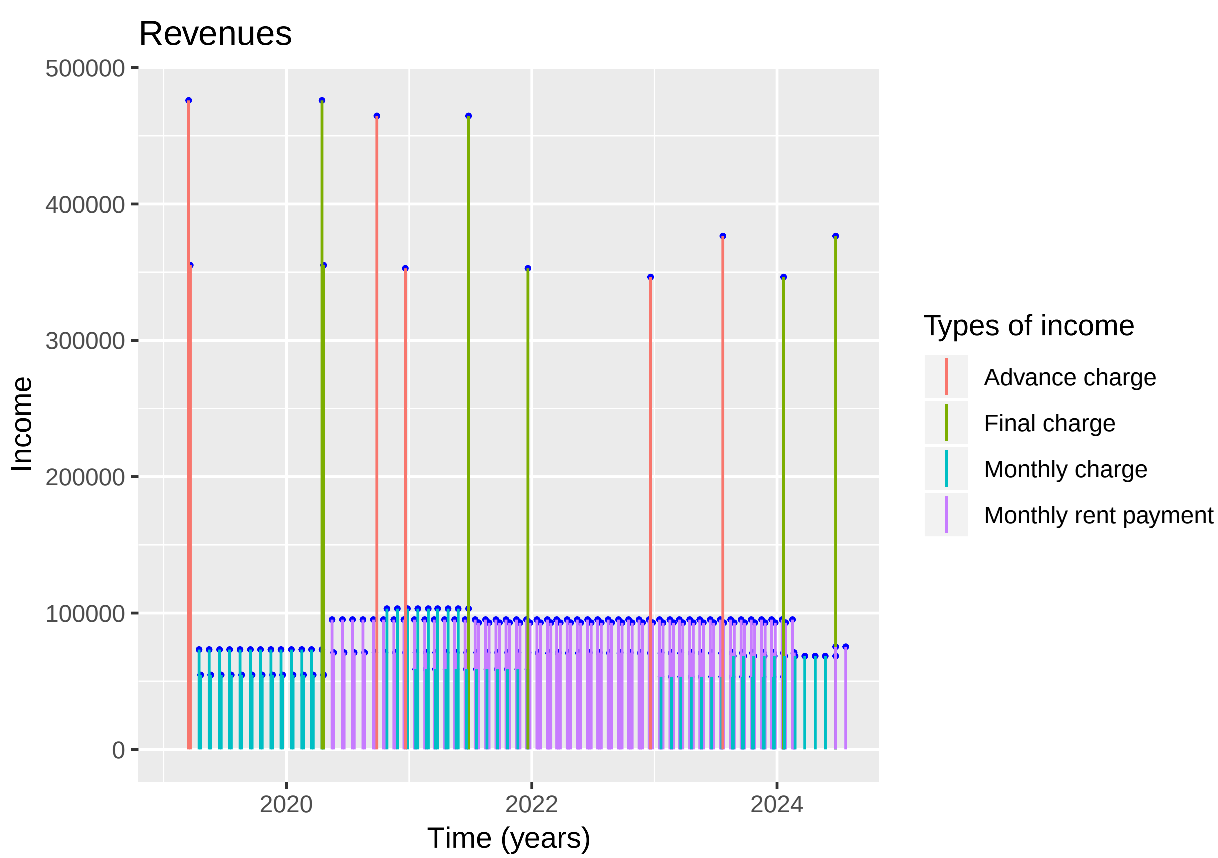
Given the previous future cash flows, the present value of large projects development revenues is worth $2157945.8939956 MNX.

Enterprise projects

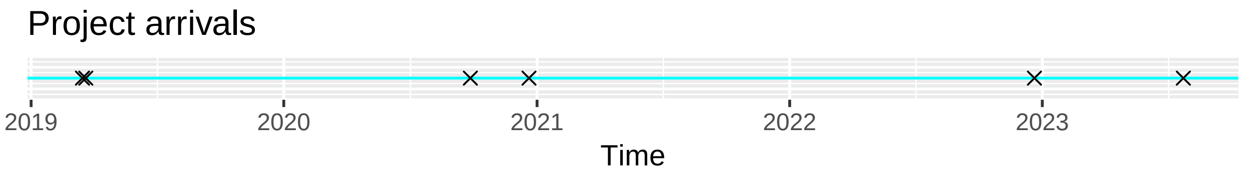
Enterprice projects will arrive to the company with a ratio of 1 per year and will consider the following assumptions:

- The price of an enterprice project will be \$1600000 MNX in average with a standar deviation of \$200000 MNX.
- The average development time of an enterprice project will be 13 months.
- 0.25×100 percent of the project will be charged in advance.
- 0.5×100 percent of the project will be charged monthly during the development.
- 0.25×100 percent of the project will be charged when the project is finished.
- 0.05×100 percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to enterprice projects development will look similar to the following graph:



Project arrivals to the company will look like the following graph:



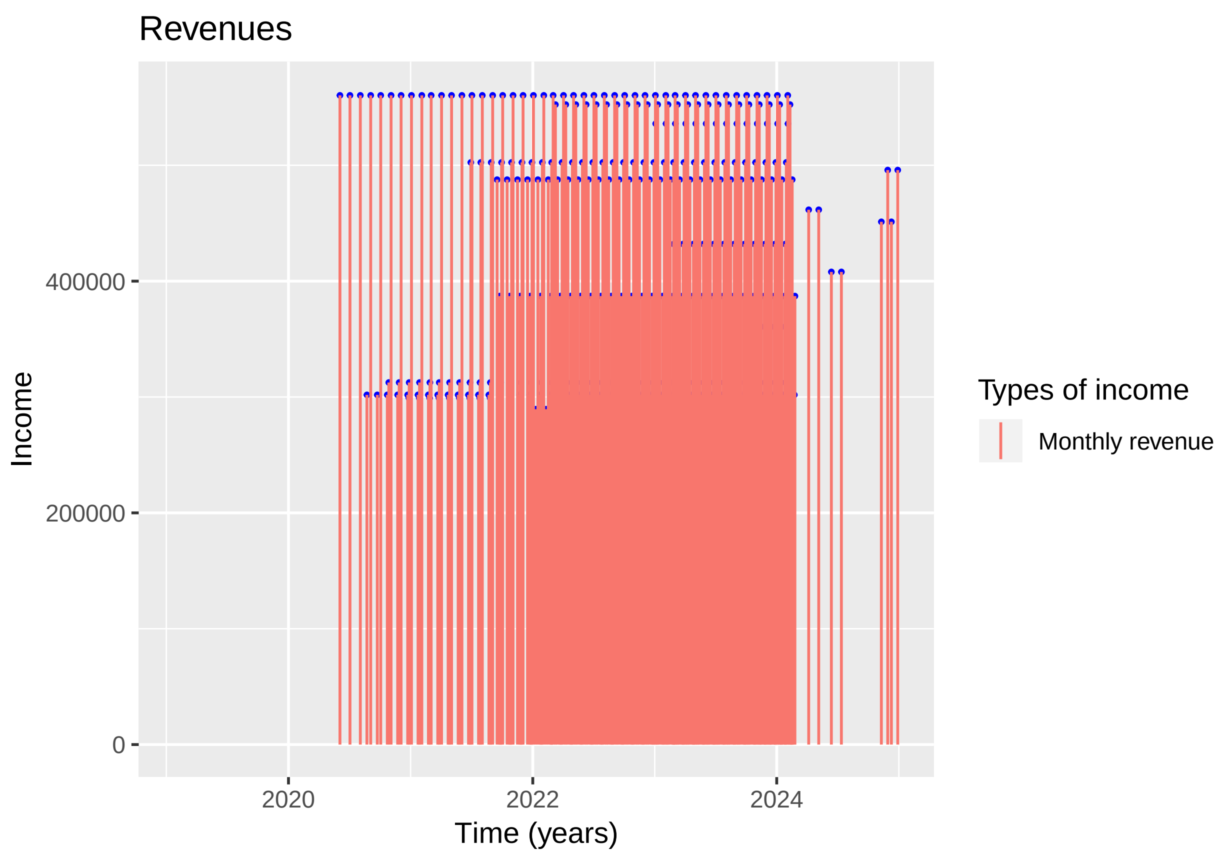
Given the previous future cash flows, the present value of enterprice projects development revenues is worth $16624655.7758 MNX.

Inhouse projects

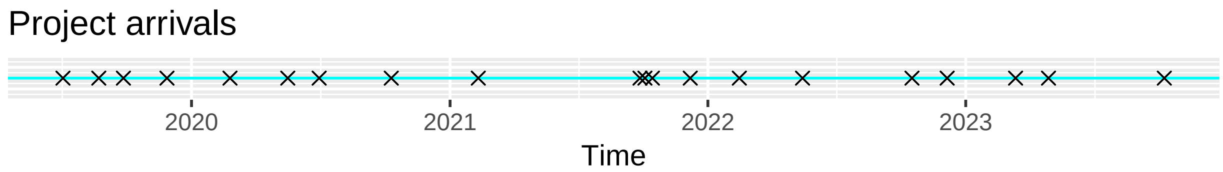
Inhouse projects will arrive to the company with a ratio of 5 per year and will consider the following assumptions:

- The average development time of a project will be 14. months.
- The revenue generated by an inhouse project will be $400000 MNX in average with an standard deviation of $100000 MNX.

The positive cash flows that the company will obtain during the following 5 years due to inhouse projects development will look similar to the following graph:



Project arrivals to the company will look like the following graph:



Given the previous future cash flows, the present value of inhouse projects development revenues is worth $115049282.871853 MNX.

Valuation

Summing up the net present value of all company's projects the net worth of the company es given by $136891505.590801 MNX.