

# 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-commerce),
3. Large projects (adding complex functionality, complex back-end computations),
4. Enterprise projects (thousands of users, complex back-end operations), and
5. Inhouse projects (EVA like projects).

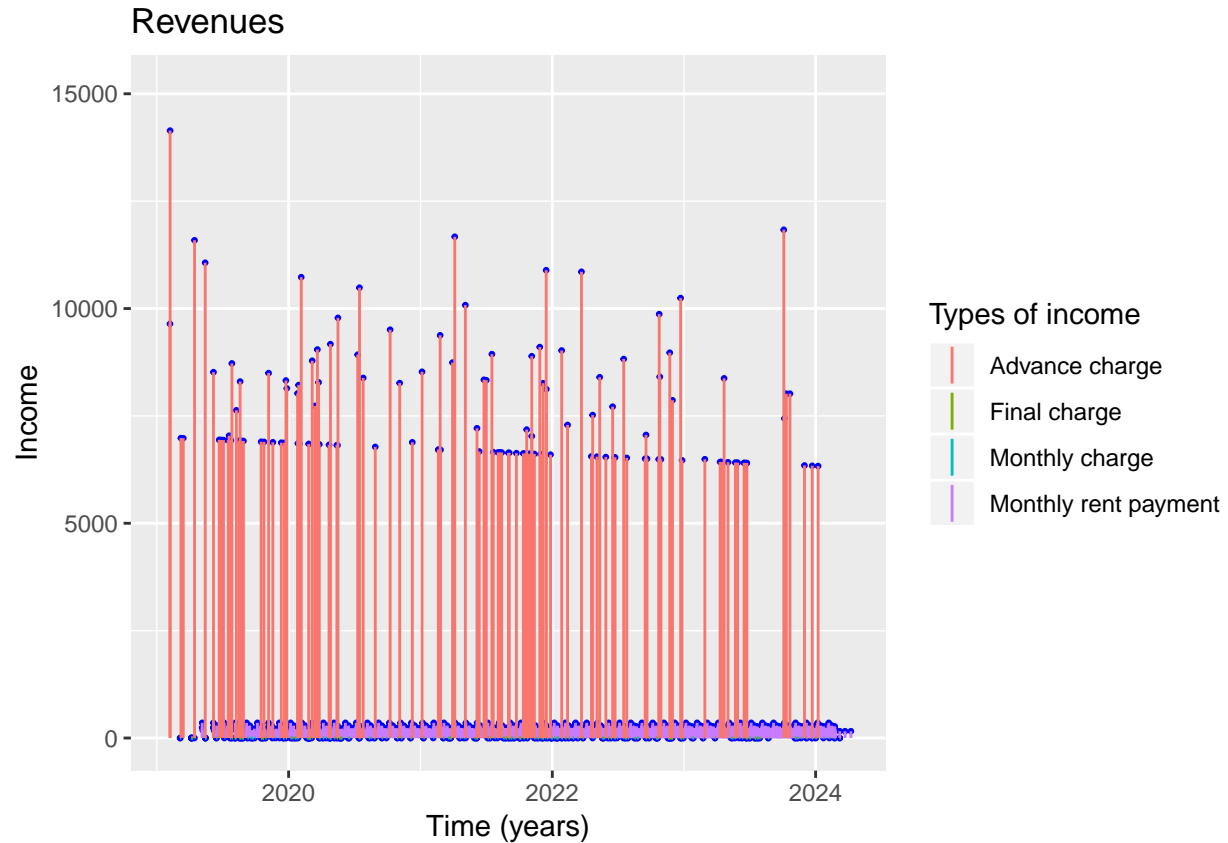
Each type of project will arrive to the company according to a Poisson point process with a given ratio  $\lambda$  per year. In other words, the company will arrange contracts with frequency in such a way that it will have development start points randomly distributed in the timeline with a given average. 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

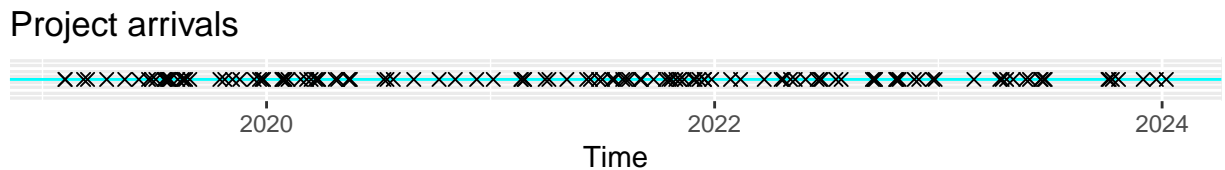
Landing pages will arrive to the company with a ratio of 24 per year and will consider the following assumptions:

- 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.
- $1 \times 100$  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:



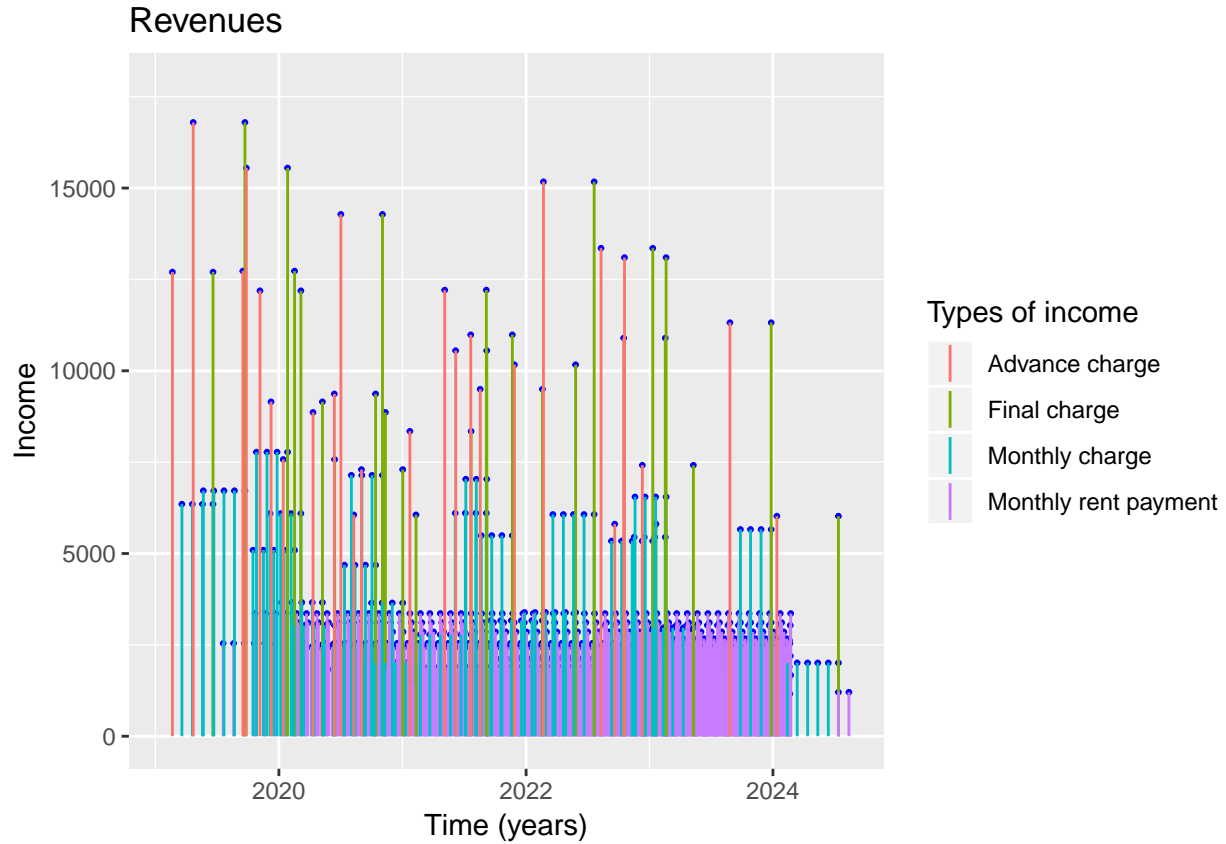
Given the previous future cash flows, the present value of lading pages development revenues is worth \$1362162.5225906 MNX.

## Small projects

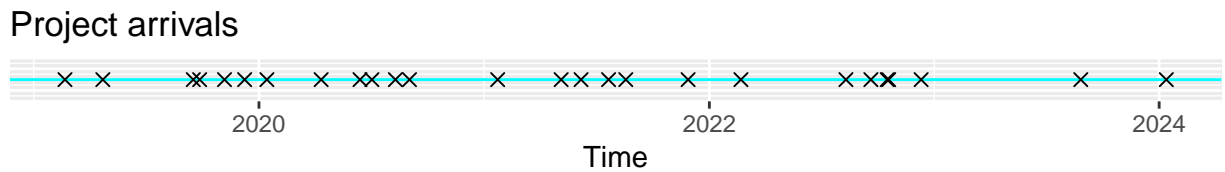
Small projects will arrive to the company with a ratio of 5 per year and will consider the following assumptions:

- 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.
- $0.25 \times 100$  percent of the project will be charged in advance.
- $0.5 \times 100$  percent of the project will be charged monthly during the development.
- $0.25 \times 100$  percent of the project will be charged when the project is finished.
- $0.05 \times 100$  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 \$2148038.1594538 MNX.

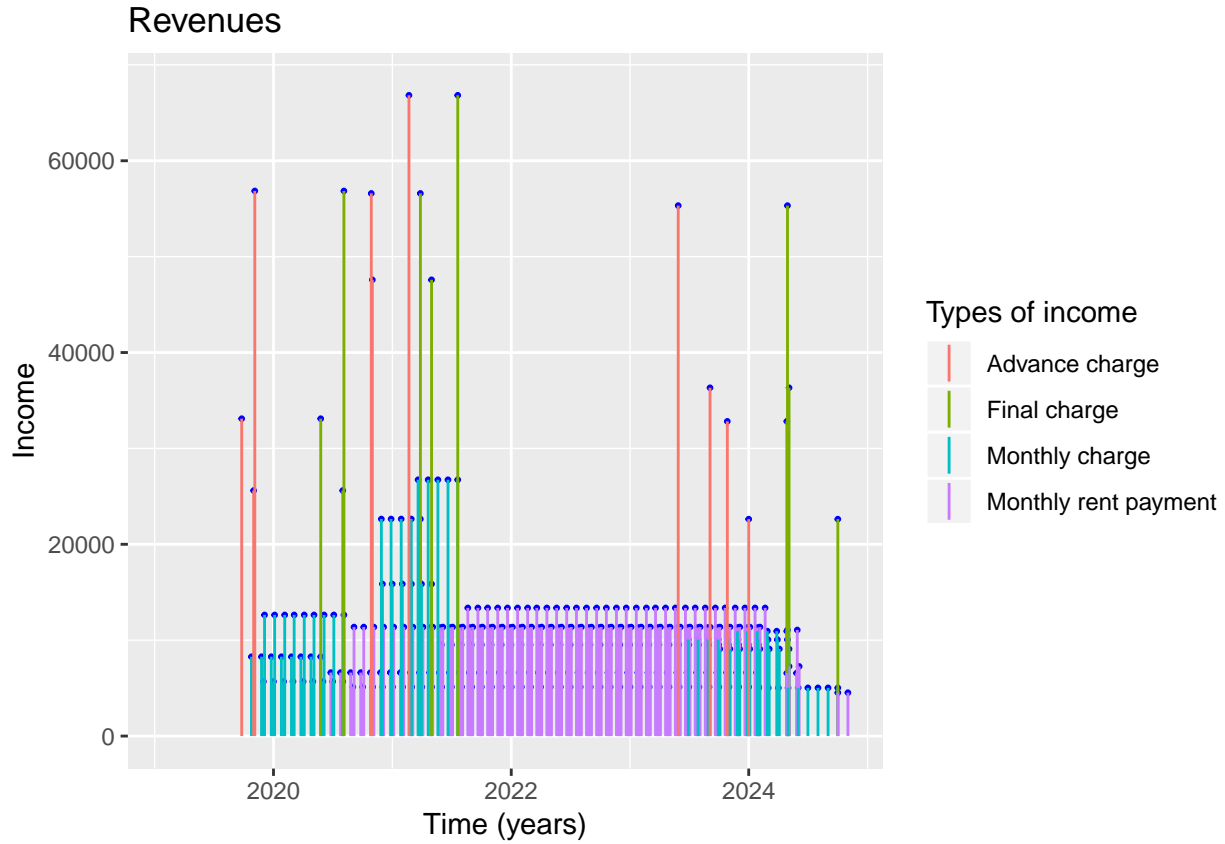
## Large projects

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

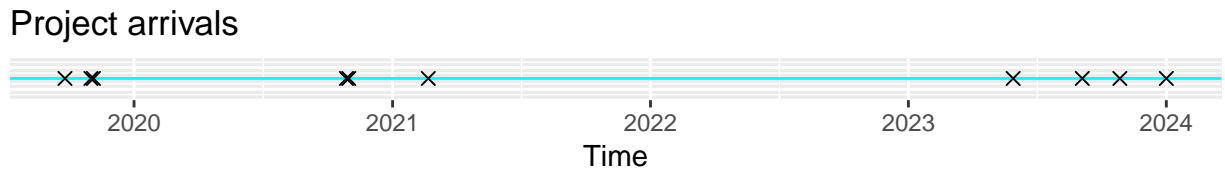
- The price of a large project will be \$200000 MNX in average with a standar deviation of \$70000 MNX .
- The average development time of a large project will be 7 months.
- $0.25 \times 100$  percent of the project will be charged in advance.
- $0.5 \times 100$  percent of the project will be charged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

- $0.05 \times 100$  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 \$2853510.4664809 MNX.

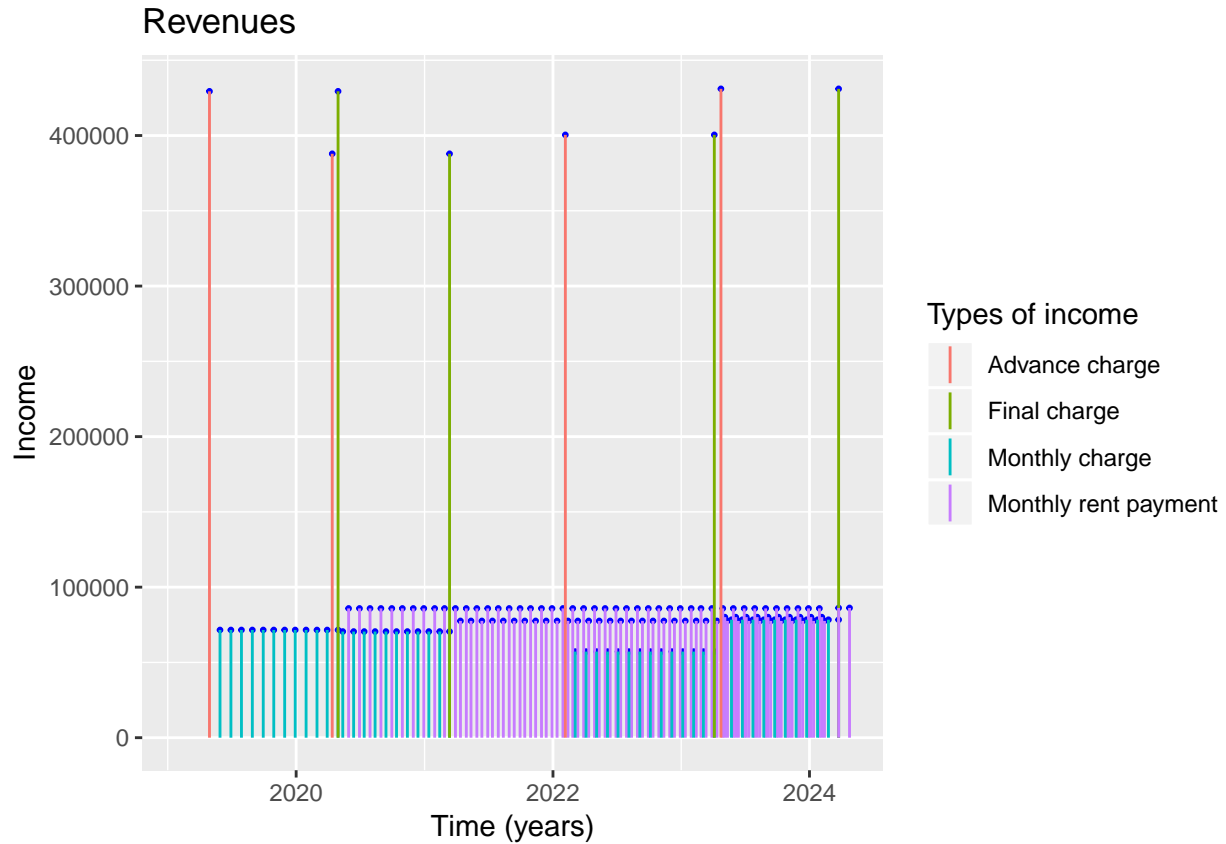
## Enterprise projects

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

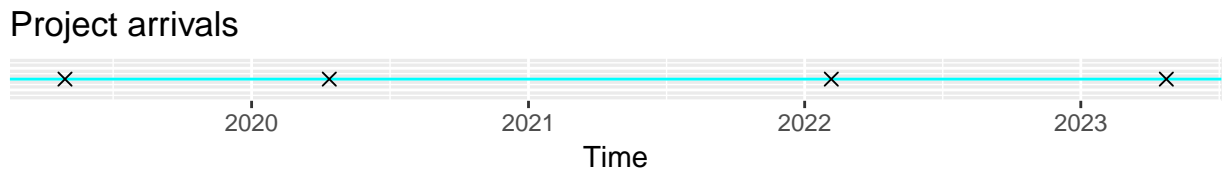
- The price of an enterprise project will be \$1600000 MNX in average with a standar deviation of \$200000 MNX.
- The average development time of an enterprise project will be 13 months.
- $0.25 \times 100$  percent of the project will be charged in advance.

- $0.5 \times 100$  percent of the project will be charged monthly during the development.
- $0.25 \times 100$  percent of the project will be charged when the project is finished.
- $0.05 \times 100$  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 enterprise 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 enterprise projects development revenues is worth \$10483659.5174878 MNX.

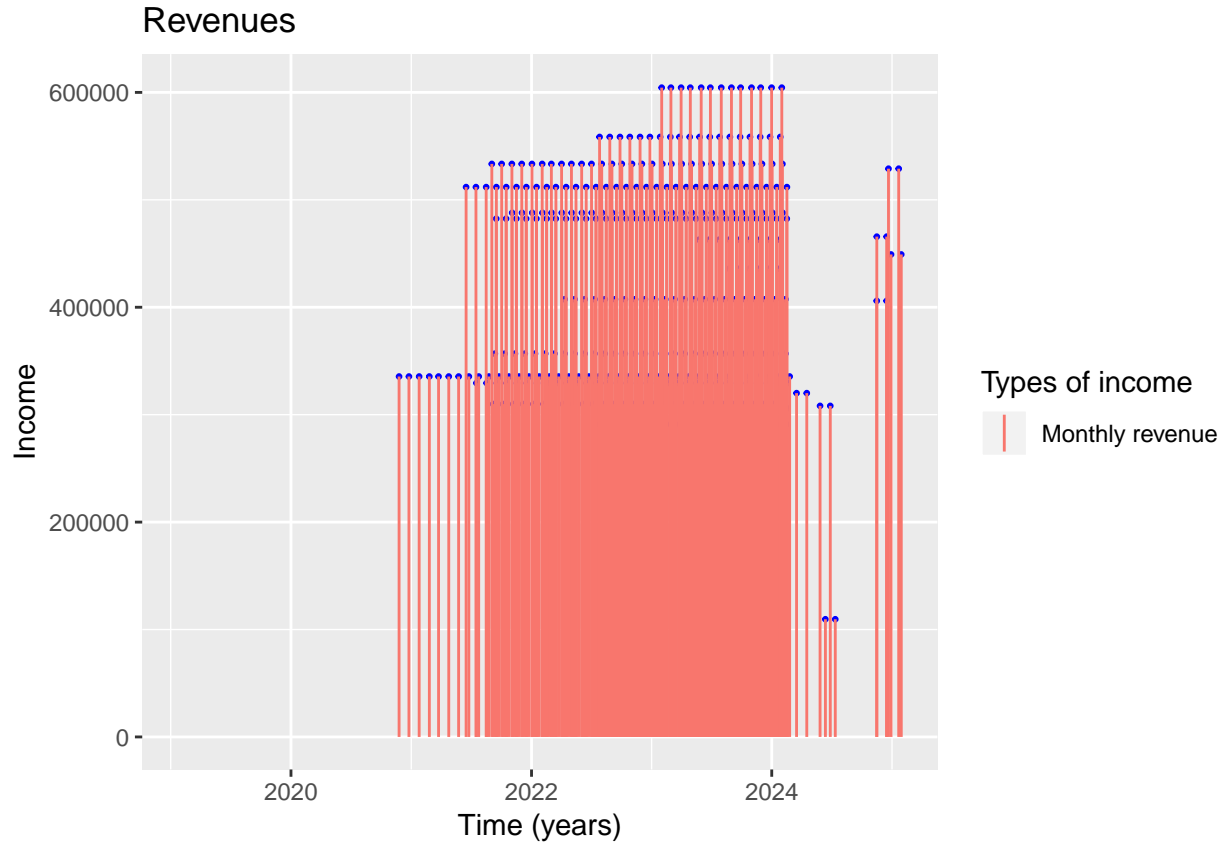
## Inhouse projects

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

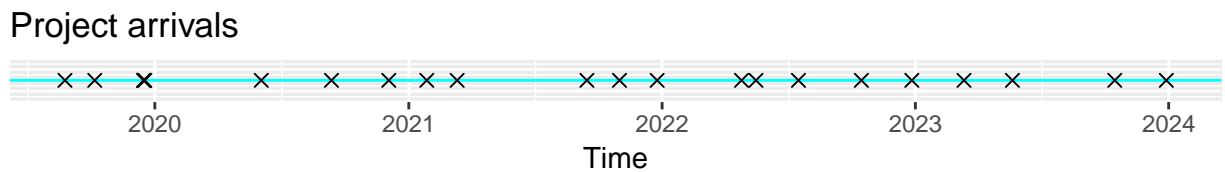
- The average development time of a project will be 14. months.

- 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 \$113243124.667144 MNX.

## Valuation

Summing up the net present value of all company's projects the net worth of the company es given by \$130090495.333157 MNX.