Free, Quality, Open-Source Software may help **Chilean** retail investors better invest in **Mutual Funds.**

Enhanced Chilean Mutual Fund Data Explorer

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What Exists Today

This is a screenshot of what is currently available to retail traders. As you can see, it is raw data with no cleaning/analysis/etc. at best providing periodic trends.

ACCIONARIO AMERICA LATINA

BANCHILE	8811-0	LATAM ACCIONARIO	B	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	1.925,3614	SI	-1,1143 %
BANCHILE	8811-0	LATAM ACCIONARIO	BCH	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	1.075,8182	No	-1,1102 %
BANCHILE	8811-0	LATAM ACCIONARIO	BPLUS	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	2.172,5038	SI	-1,1118 %
BANCHILE	8811-0	LATAM ACCIONARIO	L	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	641,2353	No	-1,1229 %
BANCHILE	8811-0	LATAM ACCIONARIO	M	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	2.888,8229	No	-1,1183 %
BCI	8434-4	BCI AMERICA LATINA	ALPAT	FM MIXTO	677,6187	No	0,3685 %
BCI	8434-4	BCI AMERICA LATINA	APV	FM MIXTO	1.283,3044	SI	0,3692 %
BCI	8434-4	BCI AMERICA LATINA	BCI	FM MIXTO	778,4731	No	0,374 %
BCI	8434-4	BCI AMERICA LATINA	BPRIV	FM MIXTO	970,5625	No	-
BCI	8434-4	BCI AMERICA LATINA	CLASI	FM MIXTO	914,7772	No	0,3643 %
BCI	8434-4	BCI AMERICA LATINA	FAMIL	FM MIXTO	1.008,7258	No	0,3657 %
BICE	8537-5	BICE LATAM PACIFICO	APV	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	645,8104	SI	-1,5627 %
BICE	8537-5	BICE LATAM PACIFICO	CLASICA	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	459,3521	No	-1,5696 %
BICE	8537-5	BICE LATAM PACIFICO	D	FM DE INVERSION EN INSTRUMENTOS DE CAPITALIZACION	576,8456	SI	-1,5678 %

DESCARGAR A EXCEL

What We Made

These are two example screenshots of some of our dashboard elements within a Tableau workbook (**there are many more**!). From it you can see **outlier** visualizations, **clustering**, and **efficiency boundaries**. These visualizations also surface contextual information when UI elements are clicked. This enables rapid visual analysis vs. what would be a very manual Excel driven process.

Background

Chilean **retail investors** (people like you and I) **don't have access to quality** Mutual Fund **analysis tools**, and public data is hard to aggregate. By providing a **free**, **quality**, and **open-source** software package, we can **improve** trader's ability to make **decisions** about what **Mutual Funds** to invest in. We recognized this as an **underserved community** that we wished to help.

Objectives

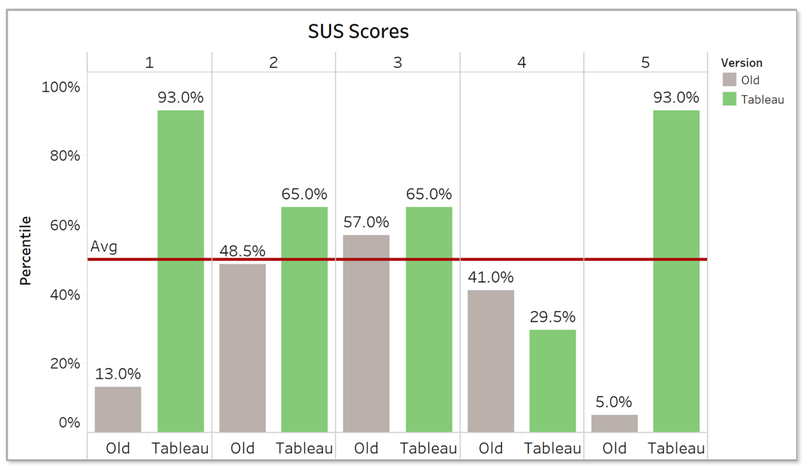
- **Consolidate** Mutual Fund financial data
- Use financial and Machine Learning algorithms to **identify abnormal risk/return** for Mutual Funds
- **Identify abnormal** Mutual Funds that don't fit their stated **category**
- Create a **rich user interface** to compare Mutual Fund statistics and distributions

Approach

1. **Scrape** data from publicly accessible data sets (4 million time-series data points)
2. **Clean** and transform data to a form useful for analysis
3. **Apply Financial** and **Machine Learning algorithms** (t-SNE, MPT, k-means, etc.)
4. **Export** the modified/analyzed data for use in visualizations
5. **Visualize** mutual fund characteristics and clustering

Experiments and Results

In lieu of a long-term user study that would accurately gauge our success but would not fit into a semester's worth of time, we fell upon a System Usability Scale industry standard survey. This survey enabled us to gage how usable our software is compared to another privately developed trade analysis software (one of our teammates works at a Bank in Chile).



In the above chart we can see that participants rated our software **as significantly more usable than privately available software at an investment bank**. From this we make the **claim** that **our software will improve the lives of retail investors** who do not have access to the same resources as an investment bank.

Discussion

Due to limited time and resources, it was impossible to scientifically prove that our software was an improvement for Chilean mutual fund retail investors; however, we were able to work with banking day traders, gather a small usability study that follows industry standard practices, and show subjective analysis that our software was more usable than privately developed investment banking software. Intuitively, given our software scrapes, cleans, analyzes, and visualizes mutual fund data, it stands to reason our software is likely better than a spreadsheet of raw data.

Our Chilean teammate plans to **open source** the software**, expand on its capabilities**, extend where appropriate, embed it in a public facing website, and **evangelize its usefulness** to the Chilean retail investment community. Once those tasks have been completed, a long-term analysis of trades, and/or user traffic to the website would be able to show whether or not our software is useful in the long term.

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