# Investment Game

## Contacts & Credentials for Reuters

You can send the reports to [marco.guzzetti@polimi.it](mailto:marco.guzzetti@polimi.it)

Access to Reuters: Aula Margherita.

username: daniele.marazzina@polimi.it

password: DigMateP0l1m1 (P ZERO l UNO m UNO)

Only few people at the same time are allowed in the room: coordinate with other teams.

## Rules

Every team represents a fund.

During the game, every two weeks, the team valuates the portfolio by using market prices, informs the clients and acts to maximize the value of the investment while respecting the constraints decided at the beginning of the game.

You are allowed to change composition as many time as you want, whenever you want: in order for the new composition to become effective, though, you have to communicate it via e-mail.

External events may happen: a supervisory institution may demand a scenario analysis, a client may deposit or withdraw some money,…

## Goal

Your goal is to maximize the information ratio:

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that is, the expected excess return (with respect to the benchmark) divided by the volatility of the excess return. The ratio will be estimated based on the historical daily data.

## Evaluation criteria

You will get a score based both on your result and the quality of your reports, as follows:

* If you do not participate: 0
* If you join and leave the game: -1
* If you complete the game: 1-3 points, based on the following criteria:
  + Level of service: you provided plain and complete information, you were punctual
  + Investment process: your results are correct, you made a thoughtful use of the algorithms, you provided a solid economic justification for your choices
  + Ex post analysis: your analysis was deep and the main drivers were highlighted

The points **are not added** to your final mark: ask prof. Marazzina for details.

## Reports: What and when

* **Deadline: 9/29.** If you want to participate, the team representative must send via e-mail
  + the name of the team members
  + the type of fund that you want to run (i.e. if there exists any constraint to the composition) and a suitable benchmark. If you are in doubt, use the standard benchmark below.
  + the composition of the fund: this is a table listing the asset identifiers, the amount purchased (quantity), the price/value of the asset and the fx rate at the date. To compute the quantity use the last price available.
* **Deadline: every two weeks, starting from 10/10 at 12.00 (noon).** The team representative must send:
  + a public report: the report will be shared with the other teams. It contains basic information intended for the clients:
    - A table or chart with the aggregate composition using a criterion of your choice
    - A chart with the time series of the cumulative return, both of the fund and of the benchmark
    - A very short comment on the past performances and your view for the future
  + a technical report. This will determine your final score, and it will not be shared. Make sure to describe exactly your methodology, algorithms and choices. Include working code and do not forget to cite the references: attach them if possible. The exact composition must be included.
* **Reminder.** Recall that, if you want, you can change the composition at any time, not only when you receive new data or when you send the reports. However, any change you make will become effective only after you send an e-mail: note that prices are provided with a time lag, so that you will not be able to compute the exact quantity for each asset. Therefore it is ok to send only an approximate composition. Example: on 3/10 you discover that the interest rates will be raised and choose to sell short duration. You work your magic and send the new composition on 4/10. The last prices (uploaded on 2/10) refer to Friday 27/9, so you cannot determine the exact quantity of the assets: it is ok to send the weights only. On 10/10 you send the periodical report: to compute the performance, you will use the pre-change composition up to the 4/10 (end of day) and the new one from then on. Now the last prices (uploaded on 9/10) refer to Friday 4/10, so you can compute the exact composition using the end-of-day prices referring to 4/10.
* **Deadline: 14/11** **at 12.00 (noon).** The team representative must send a final report containing:
  + Absolute performance analysis
  + Relative performance analysis
  + Commentary: what you would change if you could, and what you are happy with; strength and weaknesses of your approach; lucky strikes (be honest!); whatever you think is relevant
* **Deadline: 14/11** **at 12.00 (noon).** The team representative must send the result of a screening of stocks/funds by using Thomson-Reuters. The main purpose of the exercise is to get acquainted with the TR interface. It is up to you whether to include the selected assets in your portfolio or not. You have to do this just once, when you prefer.

## Info

* The prices for a selection of indices will be uploaded on Beep on Tuesday/Wednesday, the prices will refer to the last Friday. Indices are often rebased: assume that the values are expressed in the index currency.
* At the beginning of the game you have 5,000,000 of euro (cash).
* Assume a risk-free rate of 0%.
* Transaction costs are equal to 0.3%: they apply both to sales and purchases.
* The reference value is the Euro; this means that you must present your performance in this currency.
* Benchmark: you can choose a suitable benchmark, if data are available to you. If you are uncertain, use the following (of course you can change the composition of the benchmark, if you want):

50% MSCI World AC Net TR – 50% JPM Maggie

These indices will be part of the data uploaded.

* You can include in your portfolio every financial instrument that you can price. However, to keep things simple, I strongly suggest to limit yourself to the indices provided and, if you want, to stocks and funds. You can obtain prices for several assets from Yahoo finance.
* Non “traditional” strategies, such as those involving derivatives or long-short position must be preventively authorized.