

# Rotman Portfolio Management Competition (RPMC) 2018

## OVERVIEW

The BMO Financial Group Finance Research and Trading Lab is pleased to present Rotman Portfolio Management Competition (RPMC) 2018. This competition is open to undergraduate students at the University of Toronto (St. George, Mississauga, and Scarborough campuses). RPMC aims to promote hands-on learning experience for students by managing an investment portfolio with the securities listed and traded in actual markets using the Rotman Portfolio Manager (RPM) platform developed by the Rotman Finance Lab.

## DESCRIPTION

Students will participate in teams of either two or three and each team will start with an initial cash allocation of CAD \$1 million at day 1. Each team's objective is to generate the highest risk-adjusted returns by the end of the competition period measured by the Sortino Ratio. Participants will only be allowed to trade restricted securities listed on the U.S. and the Canadian exchanges. Participants may also short-sell any securities and trade on margin (e.g. leverage allowed).

The competition will take place online on Monday, October 23<sup>rd</sup>, 2017 and run until Friday, March 9<sup>th</sup>, 2018. Selected teams from the top 10 performing teams will be invited to present their strategies and performance results at the closing day on Friday, March 16<sup>th</sup>, 2018 in front of the judges to determine the overall winner.

All the registered participants are invited to attend the Opening Ceremony on Friday, Oct 13<sup>th</sup>, 2017 at the Rotman School of Management. There will be a presentation about the competition, which will include tutorials on investment strategy suggestions for your portfolio. Refreshments will also be served.

### Prize

Grand prize for RPMC will be \$500 and a trophy to the overall top performing team.

## COMPETITION RULES

1. Tradable Securities – Teams are only allowed to trade securities and ETFs that are listed on the “Tradable Securities” document. You can find the list [here](#).  
Teams who trade beyond the list of allowed securities will be penalized.
2. Portfolio Constraints – Each investment (security or ETF) must not exceed 20% of the portfolio at any point of the trading period.
3. Capital Allocation – Each team should invest most of the capital into securities. Cash position should always be kept lower than 10% of the total portfolio value at all times starting from Nov 1<sup>st</sup>, 2017.

4. Trading Frequency – Teams must maintain regular trading activity with a minimum of one trade every two weeks starting from Nov 1<sup>st</sup>, 2017. Failure to make a trade every two weeks will result in a penalty.

## SCHEDULE

Dates	Description
September 8 <sup>th</sup> , 2017 to October 16 <sup>th</sup> , 2017	Registration Period
Friday, October 13 <sup>th</sup> , 2017	Opening Ceremony 11 am to noon Fleck Atrium – Rotman School of Management
October 23 <sup>rd</sup> , 2017 – March 9 <sup>th</sup> , 2018	Competition Period
March 12 <sup>th</sup> , 2018	Portfolio Performance Analysis Workshop Time TBD Finance Lab – Rotman School of Management
March 16 <sup>th</sup> , 2018	Presentation, Awards and Closing Ceremony 2pm to 6pm Fleck Atrium – Rotman School of Management

During the Opening Ceremony on Friday, October 13<sup>th</sup>, we will also run a presentation that includes the following topics to help you prepare for the competition:

- Understanding the RPM platform and tradable securities
- Strategy implementation
- Portfolio construction (weight of securities, diversification through security type, geography, industry, and sector)
- Stock picking rationale and processes using available resources

## REGISTRATION

Registration Period: September 8<sup>th</sup>, 2017 – October 16<sup>th</sup>, 2017

You have to register in teams of two or three students in order to participate; we will not accept registrations from individual students. Only one member needs to register for the team.

1. Complete the Team Registration Form, which can be found [here](#)

2. You will also need to pay the registration fee of CAD \$30/team plus 13% HST via this payment [website](#)
3. Once our staff receives your completed registration form and checks the payment, you will receive a confirmation e-mail for your registration along with the necessary instructions for setting up your RPM account within 72 hours. If you have not received communication from our staff after 72 hours please email [rPMC@rotman.utoronto.ca](mailto:rPMC@rotman.utoronto.ca) with the subject line "Registration Confirmation Inquiry" and include your team representative's full name, phone number and full names of all other team members

## TRADABLE SECURITIES & BENCHMARK

Most of the securities included in the S&P500 Index and the S&P/TSX Composite Index are available for trading. Some securities were excluded from the list due to their illiquidity, high volatility, and/or high beta. In addition, a few major ETFs that represent particular asset classes, sectors, industries, and regions are also included in the list for trading.

There is a benchmark portfolio that consists of the following ETFs with corresponding weights. The benchmark portfolio will be constructed according to the weights based on the closing prices of the ETFs as of Oct 20<sup>th</sup>, 2017. The benchmark portfolio will be re-balanced on a monthly basis at the beginning of each month, and any distributions (e.g. dividends) will be re-invested into the ETFs according to the weights when the rebalancing happens. Please be advised that the purpose of the RPMC is not necessarily to 'outperform' the benchmark portfolio, but it will be another useful measure for understanding the performance of the portfolio.

Ticker	Name	Weight
SPY	SPDR S&P 500 ETF	35%
XIC.TO	iShares Core S&P/TSX Capped Composite Index ETF	15%
IEMG.K	iShares Core MSCI Emerging Markets ETF	20%
XBB.TO	iShares Core Canadian Universe Bond Index ETF	20%
GLD	SPDR Gold Shares	10%

The benchmark portfolio account will be named 'RPMC Benchmark' and each team will be able to compare the team's portfolio performance against the benchmark portfolio in RPM.

## SCORING

RPMC will use a 'score' system where a score is provided to each team based on their performance. Teams will be first evaluated by their performance measured by Sortino Ratio. Then, from the top 10 performing teams, selected teams will be invited to present their strategies and performance results in front of the

judges to determine the overall winner. Any penalties will result in a score deduction when computing the ranking.

Deliverable	Weight
Sortino Ratio Ranking	50%
Presentation*	50%

\* Selected from top 10 performing teams

### Sortino Ratio

The Sortino ratio is a variation of the Sharpe ratio, where the average portfolio return is adjusted with the risk-free rate and divided by the standard deviation of negative portfolio returns (also known as downside deviation). The purpose of the Sortino ratio is to measure average portfolio return against its overall negative volatility.

$$\text{Sortino Ratio} = \frac{R_p - R_f}{\sigma_n}$$

Where,

$R_p$  = Portfolio Return

$R_f$  = Risk Free Rate

$\sigma_n$  = Standard Deviation of Negative Portfolio Returns

### Sharpe Ratio

The Sharpe ratio on the other hand measures the average return adjusted for the risk-free rate and divides it against the total standard deviation of the portfolio. The definition of “zero risk” here indicates the investment of safe securities like the U.S. Treasury Bill. In other words, a portfolio that is 100% invested in U.S. Treasury Bills will yield a Sharpe ratio of exactly zero.

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

Where,

$R_p$  = Portfolio Return

$R_f$  = Risk Free Rate

$\sigma_p$  = Standard Deviation of Portfolio Returns

### Presentation

Selected teams from the top 10 performing teams will be required to deliver a presentation on their portfolio performance and strategies to a panel of portfolio managers and investment professionals on Friday, March 16<sup>th</sup>, 2018.

There will be a workshop hosted by the Rotman Finance Lab to provide guidance on the portfolio performance analyses and presentations for the selected teams on Monday, March 12<sup>th</sup>, 2018.