

Here is an opportunity for you to make billions of \$\$\$!



Just kidding.

This is the **Arbitrage Project**.

You can form a generalized min-cost flow model based on currency rates and make an infinite amount of \$\$ without playing the Squid Game!

Here is what you need to do.

1. Download the *arbitrage* folder on Canvas
2. Open *rates.csv* and update the currencies as well as the exchange rates (<https://www.reuters.com/markets/currencies>)
3. Run *arbitrage_gurobi.py* or *arbitrage_cvxpy.py* to see if your model makes \$\$

Note that the code is designed to make US\$1 (see the lecture notes for details).
Once you find an arbitrage model that makes money, you can double the recipe to make US\$2, and more! (given you have enough base money to invest)

So why don't people use this method to get rich??

We have a few assumptions here.

1. We set the transaction fee to be 1%, which is pretty low compared to standards. It is usually at least 3%.
2. There is usually some capacity on the amount of money we could exchange. We basically allow infinite capacities, which is not realistic.
3. The currency rate we use is the mid-market exchange rate. The actual rates we use in banks are buy & sell exchange rates.

Therefore, we can't really use this method in real life. Making money is not this easy :)