Step-by-step plan!

Gym environment

Basic bank environment

Model other cashflows

Funding

~~Now – only one off. Do we need to refund?\*\*~~

Bank accounts

~~Import Interest on Bank Accounts \*\*~~

~~Apply interest on bank accounts \*\*~~

Model zero curve movement and correlated rates

Correlations can be improved. Zero curve is not correct if step > 1

Add limits for Risk parameters

Done.

Rewards

Model risk and returns (npv, bpv and SOT done, NII\*\* remains)

For NII I will need to split cashflows in interest and principal

done

Update model at every time step

* Change timestep to 2 weeks
  + Zerocurve is not correct when step > 1
* Roll forward bank account (done)
* ~~New business for mortgages \*\*~~

Set up customized gym class

Model Buying and selling of Swaps (done)

Setup a Gym class

Determine the status and rewards and set these in a matrix.

Set time and run experiments

Train a basis RL model (DQN, DDPG) in Keras

Optimize model performance

Validate models

Develop a visualisation class for path trajectory

\*\* Not yet done – in first model