Brexit Case

The provided dataset has two tabs. The first specifies a client's currency flow since the beginning of 2018 and as far into the future as they have currency hedges, i.e. end of September 2020. The client reports in DKK for its annual report. The second tab provides GPB/DKK end-of-day rates for each bank day since primo May 2016.

1. Based on the provided dataset, map the client's future currency flows (from the first tab) as a histogram.
   a. Plot only the relevant crosses in terms of Brexit impact and plot only the main currency (i.e. not DKK)
   b. Afterwards consider whether using gross or net flows make more sense from a risk perspective and plot the relevant information

2. Calculate and plot the returns for GBP/DKK movements in the second tab in the dataset.
   a. What are the implications of this data distribution? How accurate might long-term predictions be?
   b. Can daily returns be assumed normal? Use a QQ-plot and the Jarque-Bera test to evaluate this.

3. Without resorting to Google (for your own understanding's sake), try to mix-and-match the below events with dates & returns. Consider the inherent causality. Why would you expect certain events to make GBP's worth move up or down compared to DKK?

   Events:
   a. Theresa May writes an open letter to UK nationals living in Europe
   b. Government publishes a draft bill allowing UK to start the process of leaving the EU
   c. Announcement of the Great Repeal Bill and Theresa Mays confirmation of article 50 to be triggered before March 2017
   d. Theresa May Resigns
   e. Theresa May postpones the planned Brexit deal vote as she is facing a certain defeat.

   Returns:
   i.   -0,77%   (03-10-2016)
   ii.   +0,31%   (26-01-2017)
   iii. +0,05%   (21-12-2017)
   iv.   -1,12%   (10-12-2018)
   v.   +0,22%   (24-05-2019)

4. Lastly, consider how the client with GBP exposure could hedge its FX risk given a scenario in which we know the final decision date (24/10-21 with 50% chance of leaving and 50% chance of remaining). Our research department has the following forecast in those two extreme events: GBP/DKK: 7,50 if leaving and 9,50 if remaining. The current spot rate is 8,50.
   a. Consider how tail scenarios influence the choice of hedging.
   b. Should this client hedge?
   c. If hedging, what happens in case they use the option market instead of the forward market?
   d. What type of option could the firm consider?