To: **WBF Finite Difference Course Participants**
Fr: **Jesper Andreasen**
St: **Level 0**
Dt: **10 May 2023**

Agenda

For the finite difference course you need to bring your own Windows lap top.

The lap top needs to be connectable to UK electricity and have wifi.

The lap top needs to have Excel installed. Either a 32 or 64 bit version.

You also need to install Microsoft Visual Studio C++ version 2022, download the course project from github, make sure that you can compile, hook to Excel and run spreadsheet through the VS debugger. Below we go through the individual steps.

We would like you to be set up and ready before class on Thursday 25 May 2023.

To Do

0/ Install Microsoft Visual Studio 2022 C++:

https://visualstudio.microsoft.com/downloads/

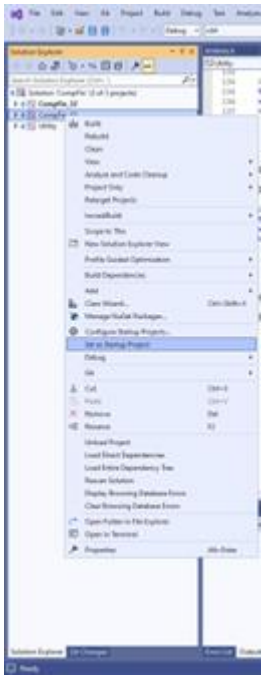
Community version is fine. You just need 'Desktop Development with C++'.

1/ Download the WBS level 0 material from Brian's github:

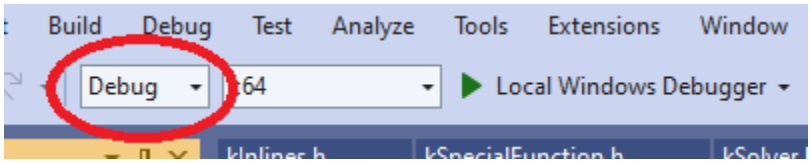
https://github.com/brnohu/WBS_FD

2/ Open the project WBS_FD\level 0\xladdin\CompFin.sln in VS C++.

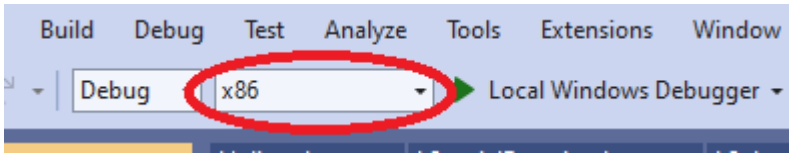
3/ If you are using 64 bit Excel then right click on CompFin_64 and choose "Set as Startup Project" (If you are using 32 bit Excel CompFin_32 should be the startup project otherwise right click CompFin_32 and choose "Set as Startup Project")



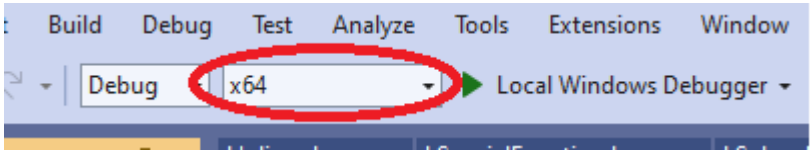
4/ Choose Debug configuration



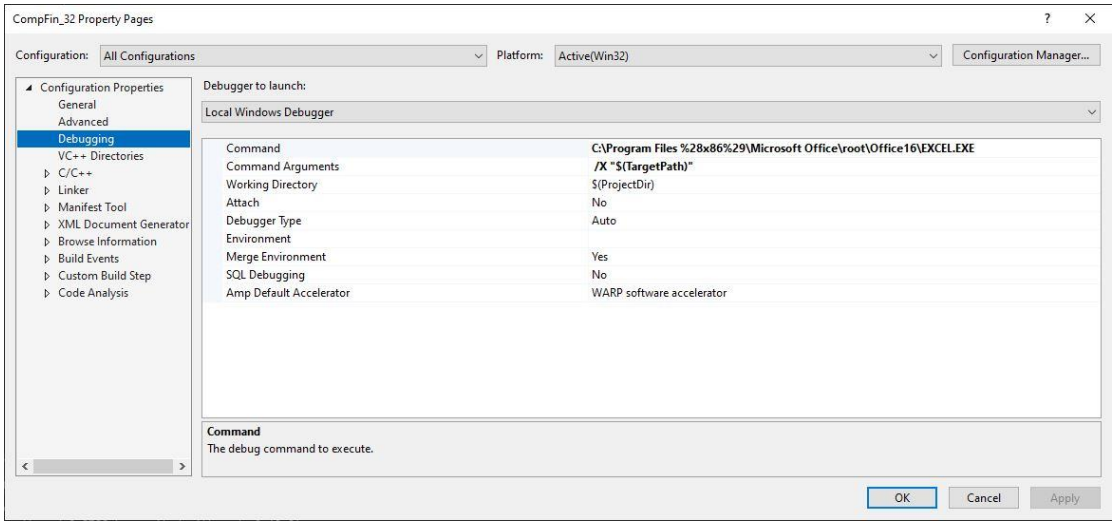
5/ Choose Platform:
For 32 bit choose x86



For 64 bit choose x64

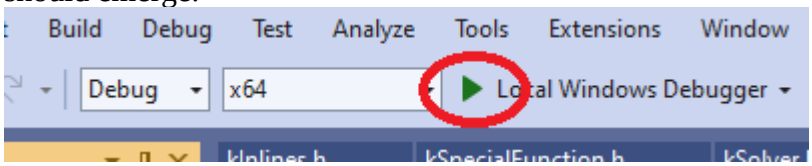


6/ Set the debugger settings: right click on your project CompFin_32 or CompFin_64 and choose properties:

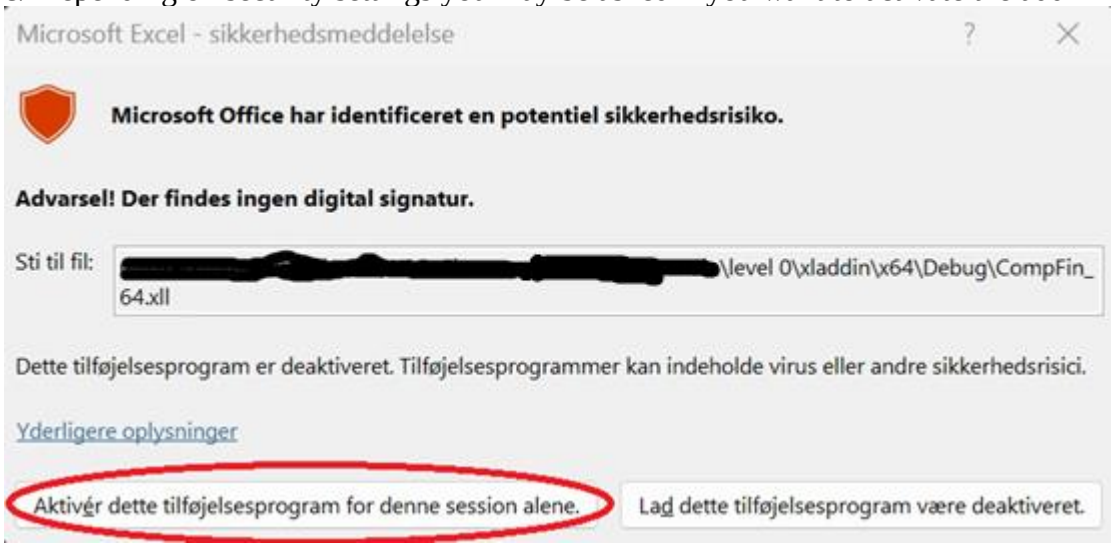


'Command' specifies the path to excel.exe on your computer. In the above it is 32bit Excel. The location will be specific to the specific set up on your computer. 'Command Arguments' should be: /X "$(TargetPath)". Remember the "" around $(TargetPath).

7/ Hit the debugger button in Visual Studio and after the solution is build Excel should emerge.



8/ Depending on security settings you may be asked if you want to activate the add-in

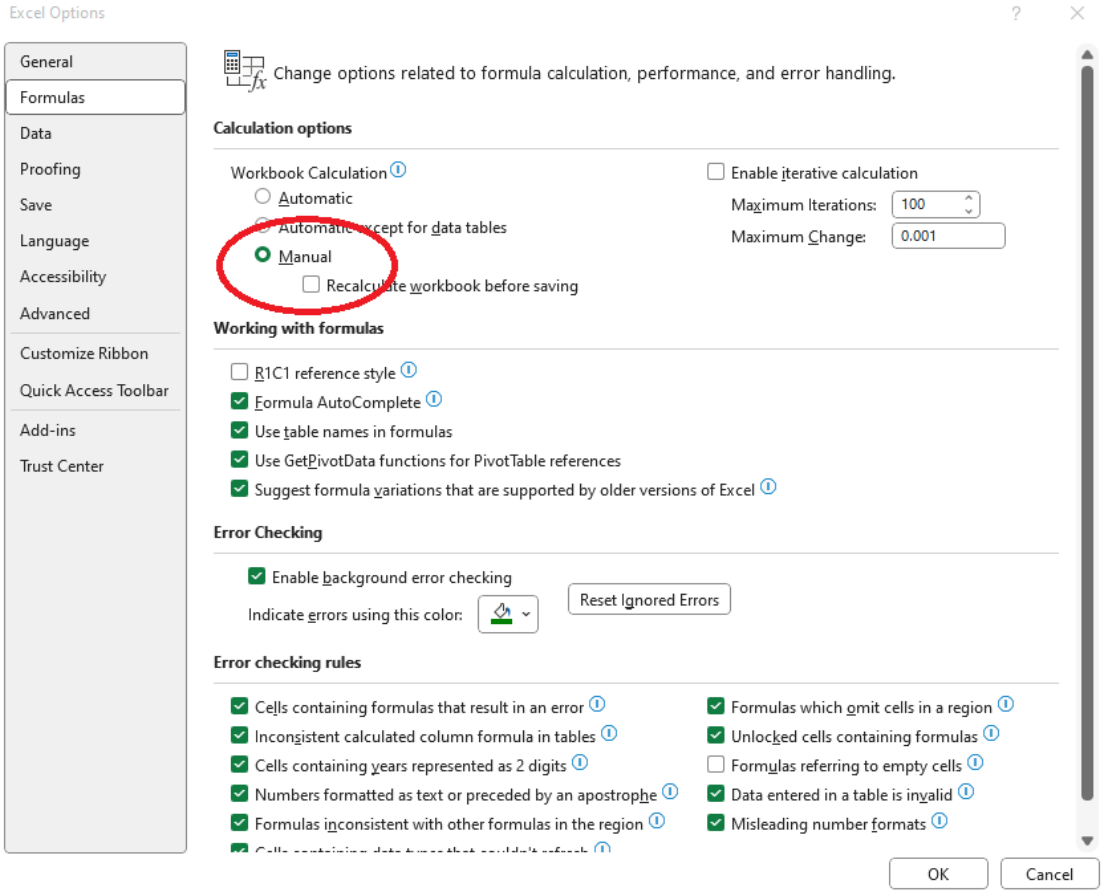


push activate.

9/ Excel is now calling CompFin.xll to do calculations in C++.

10/ Open the spreadsheet bachelier.xlsx to check that this is indeed the case.

11/ Check that manual calculation is switched on: File -> Options -> Formulas



We want to control the calculations and not let Excel trigger potentially a lot of calculations automatically.

12/ Change input numbers and hit SHIFT+F9 to verify that numbers change.

13/ Put a break point in kBachelier::call() and see if you can catch the process.

14/ Optional before the course: add kBlack.h and kBlack.cpp similar to kBachelier.h and kBachelier.cpp. Also, add the missing xl functions xBlackCall, xBlackImplied similar to xBachelierCall, xBachelierImplied.