HW2.1 ANALYZING LOANS TO MAXIMIZE THE RISK RETURN RELATIONSHIP

You are thinking about investing some money, but whatever your bank is offering seems boring and not fulfilling. You got interested in a peer to peer (P2P) lending platform http://www.fellowfinance.fi that connects people who want to borrow some money with people who are ready to lend (invest) some. The returns that borrowers are offering there are rather high, but it happens that money is not paid back on time, or sometimes even not paid back at all – borrowers default on their loans.

Imagine (or try for real) that you are about to lend some money there, and you need to decide to whom. You would want to avoid those people who are likely to default. In an offer, you can find the user profile (information about the borrower, such as age, gender, education, etc.), an offered return (or an interest that he or she is ready to pay for borrowing your money), and when he or she is going to return the money. Of course, you cannot say for sure if this or that particular borrower will return the money on time or even at all, it is the risk. The good part is that you have access to the full loan database of the company (see files **CreditScoringDataSet.xls** and **CreditScoringDataSet_description.pdf**) and you can do analysis on over 4000 loans and their performance! The data contains user profiles AND loan performance indicators, such as how long the payback was delayed (e.g. **InDebt30Day**) or whether the loan defaulted (**AD**). You need to figure out what kind of borrowers you want to invest to, or in other words to identify which borrower characteristics predict good loan performance. It is up to you to decide which return expectation you would like to have and what risk levels you are ready to take (of course, to some reasonable extent, the highest offered returns might happen never to be returned).

1. Use the basic **filter** functionality with the data and find all 33-year-old borrowers from Finland with secondary education (or higher) and calculate their average monthly total income.

➥ *save your result under a separate worksheet on your file.*

➥ *this one is just to force you to try the basic Excel filter.*

2. Create a pivot table of the data and do the analysis on the profitability/risk relationship on a selected group of borrowers:

➥ ***limit your search**: the idea is not to find or map all aspects of the data, but to show that you can use the pivot functionality in Excel for your own benefit in a coherent and a logical way. Limiting your search means, for example, concentrating only on loans in certain one country (use pivot filtering to filter out data you do want to exclude from the analysis).*

➥ *remember to **include documentation** of HOW you have come to your conclusions! The conclusions alone are worth zero in this assignment – The point is to learn to use Excel to do this kind of analyses! Do this by using screenshots (for example) of your analyses and your choices.*

➥ *first, **establish a "benchmark"** of some kind for your analysis – what is the "number" of which "variable" you want to beat by filtering the loans? Use that number to develop your strategy. Also: If you are looking at issues like 60 days overdue, then be sure to exclude loans that are younger than 60 days in the analysis!*

3. Make graphical presentations of the data to illustrate the points that you make; use the pivot graphics functionality to create the presentations.

➞ *make a graphical presentation of the data in a way that illustrates your "investment" strategy into these loans with pivot charts. Use at least one bar/column chart displaying at least two classifications (break down of results by two or more other variables) simultaneously and at least one graph with a numeric variable grouped into ranges.*

➞ *it's essential in this task to play with the data and generate a lot of useful graphs, you are free to include them into your explanation as screenshots, though make sure that you have at least one functioning pivot table and a chart, not everything is in the screenshots.*

Grading and self-check	**Total points: 4**
Functioning pivot table with filters	1
Calculation in pivot table makes sense (explain why you use sum, count or average)	1
At least two pivot charts, one bars/columns chart with 2 or more variables as categories and one chart with one numeric variable grouped into ranges	1
Conclusion about the strategy is presented that explains to which groups to invest and is supported by the analysis	1