Master thesis

This code is run on a Windows

```matlab
% initial
clc;
clear all;
close all;
% Import data
data=readtable('Thesis_Data.xlsx','Sheet','matlab');
% Correlation between variables
correlation = corr([data.Wactive,data.DW_t_1_,data.DB_t_1_,...
    data.Cret,data.Lret,data.GDP,data.DIST,data.DEMU,data.BORD,...
    data.PS,data.CEP,data.FinC]);
% Collinearity test/Variance Decomposition
collinearity=collintest(data);
collintest(data,'plot','on')
% Spesification 1a
Spec1a=fitlm(data,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + GDP '...
    ' + DIST + BORD + DEMU']);
% Spesification 2a
Spec2a=fitlm(data,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + GDP '...
    ' + DIST + BORD + DEMU + PS + CEP']);
% Spesification 1b
Spec1b=fitlm(data,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + GDP '...
    ' + DIST + BORD + DEMU + FinC']);
% Spesification 2b
Spec2b=fitlm(data,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + GDP '...
    ' + DIST + BORD + DEMU + PS + CEP + FinC']);
% Cook's Distance
plotDiagnostics(Spec2b,'cookd');
outliers=find((Spec2b.Diagnostics.CooksDistance)...
    >3*mean(Spec2b.Diagnostics.CooksDistance));
% Remove outliers
data2=data;
data2([outliers], : ) = [];
Spec3b=fitlm(data2,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + GDP '...
    ' + DIST + BORD + DEMU + PS + CEP + FinC']);
% Ratio of GDP and DIST to deal with multicollinearity
GDP_DIST=data.GDP+data.DIST;
data3=addvars(data,GDP_DIST,'Before','Wactive');
data3=removevars(data3,{'GDP','DIST'});
Spec3a=fitlm(data3,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret + '...
    ' GDP_DIST + BORD + DEMU + PS + CEP + FinC']);
% Collinearity test/Variance Decomposition
collinearity2=collintest(data3);
% Regression without outliers and with GDP+DIST
```

```matlab
outliers2=find((Spec3a.Diagnostics.CooksDistance)...
    >3*mean(Spec2b.Diagnostics.CooksDistance));
data4=data3;
data4([outliers2], : ) = [];
Spec3c=fitlm(data4,['Wactive ~ DW_t_1_ + DB_t_1_ + Cret + Lret '...
    ' + GDP_DIST + BORD + DEMU + PS + CEP + FinC']);
```

Warning: Table variable names were modified to make them valid MATLAB identifiers. The original names are saved in the VariableDescriptions property.

Variance Decomposition

sValue	condIdx	DW_t_1_	DB_t_1_	Cret	Lret	GDP	DIST	DEMU	BORD	PS	CEP	FinC	Wactive
2.2092	1	0.0007	0.0046	0.0078	0.0070	0.0003	0.0004	0.0076	0.0044	0.0013	0.0063	0.0069	0.0013
1.1681	1.8912	0.2469	0.0761	0.0001	0.0357	0.0000	0.0000	0.0632	0.0765	0.0000	0.0000	0.0002	0.0232
1.0745	2.0559	0.0758	0.2241	0.0059	0.1672	0.0001	0.0002	0.0083	0.0165	0.0006	0.0080	0.0199	0.0392
1.0056	2.1968	0.0132	0.0030	0.1400	0.0371	0.0000	0.0000	0.0097	0.0131	0.0000	0.0002	0.0378	0.6108
0.9163	2.4111	0.0079	0.0003	0.0762	0.0018	0.0000	0.0000	0.0091	0.0107	0.0001	0.0005	0.7547	0.1479
0.8804	2.5094	0.0416	0.0464	0.5766	0.0103	0.0001	0.0002	0.0001	0.0003	0.0010	0.0044	0.1456	0.1492
0.8175	2.7024	0.1239	0.0170	0.0006	0.0241	0.0000	0.0002	0.1769	0.5053	0.0001	0.0002	0.0094	0.0005
0.7928	2.7865	0.3896	0.0099	0.0014	0.0253	0.0001	0.0002	0.5236	0.0109	0.0007	0.0266	0.0201	0.0018
0.6533	3.3815	0.0748	0.6104	0.1548	0.6705	0.0001	0.0002	0.0007	0.0203	0.0008	0.0085	0.0015	0.0155
0.4691	4.7092	0.0227	0.0072	0.0041	0.0169	0.0054	0.0085	0.0715	0.0040	0.0020	0.6046	0.0003	0.0043
0.1593	13.8690	0.0000	0.0010	0.0317	0.0039	0.0234	0.0755	0.0117	0.0216	0.9499	0.3360	0.0022	0.0013
0.0721	30.6519	0.0031	0.0000	0.0008	0.0003	0.9704	0.9146	0.1177	0.3164	0.0435	0.0048	0.0015	0.0049

Variance Decomposition

sValue	condIdx	DW_t_1_	DB_t_1_	Cret	Lret	GDP	DIST	DEMU	BORD	PS	CEP	FinC	Wactive
2.2092	1	0.0007	0.0046	0.0078	0.0070	0.0003	0.0004	0.0076	0.0044	0.0013	0.0063	0.0069	0.0013
1.1681	1.8912	0.2469	0.0761	0.0001	0.0357	0.0000	0.0000	0.0632	0.0765	0.0000	0.0000	0.0002	0.0232
1.0745	2.0559	0.0758	0.2241	0.0059	0.1672	0.0001	0.0002	0.0083	0.0165	0.0006	0.0080	0.0199	0.0392
1.0056	2.1968	0.0132	0.0030	0.1400	0.0371	0.0000	0.0000	0.0097	0.0131	0.0000	0.0002	0.0378	0.6108

```
0.9163    2.4111    0.0079    0.0003   0.0762   0.0018   0.0000   0.0000
0.0091   0.0107   0.0001   0.0005    0.7547    0.1479
0.8804    2.5094    0.0416    0.0464   0.5766   0.0103   0.0001   0.0002
0.0001   0.0003   0.0010   0.0044    0.1456    0.1492
0.8175    2.7024    0.1239    0.0170   0.0006   0.0241   0.0000   0.0002
0.1769   0.5053   0.0001   0.0002    0.0094    0.0005
0.7928    2.7865    0.3896    0.0099   0.0014   0.0253   0.0001   0.0002
0.5236   0.0109   0.0007   0.0266    0.0201    0.0018
0.6533    3.3815    0.0748    0.6104   0.1548   0.6705   0.0001   0.0002
0.0007   0.0203   0.0008   0.0085    0.0015    0.0155
0.4691    4.7092    0.0227    0.0072   0.0041   0.0169   0.0054   0.0085
0.0715   0.0040   0.0020   0.6046    0.0003    0.0043
0.1593   13.8690    0.0000    0.0010   0.0317   0.0039   0.0234   0.0755
0.0117   0.0216   0.9499   0.3360    0.0022    0.0013
0.0721   30.6519    0.0031    0.0000   0.0008   0.0003   0.9704   0.9146
0.1177   0.3164   0.0435   0.0048    0.0015    0.0049
```

Variance Decomposition

sValue	condIdx	DW_t_1_	DB_t_1_	Cret	Lret	DEMU	BORD	PS	CEP	FinC	GDP_DIST	Wactive
1.9990	1	0.0007	0.0077	0.0122	0.0111	0.0137	0.0112	0.0019	0.0093	0.0109	0.0025	0.0023
1.1658	1.7147	0.2420	0.0910	0.0000	0.0445	0.0658	0.1041	0.0000	0.0000	0.0004	0.0000	0.0207
1.0641	1.8786	0.1027	0.1999	0.0122	0.1537	0.0085	0.0225	0.0009	0.0109	0.0358	0.0008	0.0434
1.0056	1.9878	0.0138	0.0029	0.1407	0.0376	0.0110	0.0196	0.0000	0.0001	0.0372	0.0000	0.6124
0.9152	2.1842	0.0107	0.0007	0.1090	0.0030	0.0110	0.0190	0.0001	0.0007	0.6940	0.0002	0.1694
0.8747	2.2853	0.0894	0.0471	0.5260	0.0068	0.0011	0.0089	0.0014	0.0073	0.1655	0.0009	0.1300
0.8136	2.4569	0.0353	0.0190	0.0002	0.0190	0.3526	0.6848	0.0001	0.0003	0.0101	0.0003	0.0000
0.7864	2.5418	0.3962	0.0268	0.0003	0.0459	0.4318	0.0872	0.0015	0.0398	0.0374	0.0010	0.0008
0.6512	3.0696	0.0768	0.5985	0.1556	0.6484	0.0009	0.0403	0.0012	0.0177	0.0026	0.0006	0.0148
0.4180	4.7818	0.0315	0.0050	0.0063	0.0233	0.1032	0.0002	0.0192	0.6443	0.0020	0.0788	0.0060
0.1400	14.2828	0.0009	0.0015	0.0375	0.0067	0.0004	0.0023	0.9737	0.2694	0.0040	0.9150	0.0003

Published with MATLAB® R2019a