Extended results for 'Regression Analysis of Macroeconomic Conditions and Capital Structures of Publicly Listed British Firms'

Keywords: capital structure, macroeconomic conditions, firm-specific, pecking order theory, trade-off theory, market timing theory

This document contains the full set of results complementing the work published in the main article. To facilitate the comprehension of the tables included in this manuscript, a brief definition of the employed variables is reported in table 1. However, the main article should be considered for further details.

Variable	**Proxy**	**Symbol**
Leverage	Book Leverage	`Lev`
Business Cycle	Industrial Production Growth	`IPGrate`
	Corporate Tax Growth Rate	`TAXGrate`
Financial risk premium	Risk Premium $= \mathtt{prime} - \mathtt{Treasury}^{USA}$	`RiskP`
	Commercial Paper Spread $= \mathtt{LIBOR} - \mathtt{Treasury}^{USA}$	`ComPaperSp`
Credit Supply	M3 Growth Rate $= \log \mathtt{M3} - \log \mathtt{M3}$	`M3Grate`
Stock Market Performance	FTSE100 Return $= \ln \mathrm{P}_t - \ln \mathrm{P}_{t-1}$	`FTSE100Re`
Tangibility	Tangible assets divided by total assets	`Tang`
Profitability	Earnings (pre-interests & taxes) over the total assets	`Prof`
Firm Size	logarithm of total assets: $\mathtt{FSize} = \ln(\mathrm{TA})$	`FSize`
Growth Opportunity	Growth rate of net sales	`Growthopp`
Current Ratio	Current assets divided by current liabilities	`CRatio`

Table 1: Variables Definition

The results of Static (i.e. FEM, REM, Tobit, GLS) and Dynamic (i.e. SGMM and DGMM) estimation strategies using model specification 1, are organised as follows:

- Table 2 numerically show the Impact of Macroeconomic Variables on Leverage (including Commercial Paper Spread and Corporate Tax Growth Rate);
- Table 3 numerically show the Impact of Macroeconomic Variables on Leverage, (including Commercial Paper Spread and Industrial Production Growth Rate).
- Table 4 numerically show the Impact of Macroeconomic Variables on Leverage, (including Risk Premium and Corporate Tax Growth Rate).
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- Table 17 shows the results of the SGMM and DGMM Estimation strategies using models 1 & 2 and `RiskP` and `TAXGrate` (considering lag of `M3Grate` and lag of `FTSE100Re`)
- Table 18 shows the results of the SGMM and DGMM Estimation strategies using models 1 & 2 and `RiskP` and `IPGrate` (considering lag of `M3Grate`and lag of `FTSE100Re`)

Variable	FEM	REM	Tobit	GLS	SGMM	DGMM
`ComPaperSp`	-0.0078	-0.0115	-0.00749	**-0.0169****	**0.0496*****	**0.0310****
	(-0.95)	(-1.39)	(-1.48)	(-2.46)	(-3.52)	(-2.18)
`TAXGrate`	**-0.162*****	**-0.0791*****	**-0.0436*****	**-0.0876*****	-0.0253	-0.033
	(-5.61)	(-5.79)	(-5.23)	(-8.32)	(-1.09)	(-1.23)
`M3Grate`	**0.165*****	**0.206*****	**0.142*****	**0.297*****	**-0.135****	-0.059
	(-4.49)	(-5.65)	(-6.27)	(-10.6)	(-1.98)	(-0.79)
`FTSE100Re`	**0.0199*****	**0.0144***	0.00734	0.00852	0.0224	0.0103
	(-2.65)	(-1.91)	(-1.62)	(-1.44)	(-1.08)	(-0.4)
`Tang`	-0.0508	-0.02	-0.0221	**0.0760***	0.0354	-0.0295
	(-0.88)	(-0.35)	(-0.64)	(-1.83)	(-0.37)	(-0.21)
`CRatio`	**-0.00808*****	**-0.00843*****	**-0.0114*****	**-0.00900*****	**-0.00940*****	**-0.00748*****
	(-18.14)	(-19.42)	(-22.77)	(-33.70)	(-6.10)	(-5.57)
`Growthopp`	-0.00114	-0.00177	-0.000599	0.0000676	-0.00489	-0.00101
	(-0.68)	(-1.05)	(-0.57)	(-0.05)	(-1.57)	(-0.36)
`Prof`	**-0.00139*****	**-0.00182*****	**-0.000981*****	**-0.00473*****	**-0.00219*****	**-0.00961****
	(-4.12)	(-5.42)	(-4.94)	(-3.94)	(-3.90)	(-2.32)
`FSize`	**-0.0155*****	**-0.00368****	-0.000011	**0.0174*****	**-0.0142****	-0.00716
	(-8.11)	(-2.49)	(-0.01)	(-37.82)	(-2.05)	(-0.57)
$\mathtt{Lev}_{t-1}$					**0.690*****	**0.615*****
					(-24.76)	(17.98)
Adjusted R2 , overall	0.09%	3.68%				
Wald chi2 (Prob >chi2)			0.000	0.000	0.000	0.000
Sargan test (Prob >chi2)					0.000	0.000
Hansen test (Prob >chi2)					0.000	0.074
N	9952	9952	9951	9952	9495	8605

Table 2: Static and Dynamic estimation of Impact of Macroeconomic Variables on Leverage using model 1, (including Commercial Paper Spread and Corporate Tax Growth Rate)

Methods	FEM	REM	Tobit	GLS	SGMM	DGMM
`ComPaperSp`	-0.0085	-0.0107	-0.00566	-0.00893	**0.0441*** **	**0.0428*** **
	(-1.02)	(-1.28)	(-1.11)	(-1.27)	(-2.67)	(-2.91)
`IPGrate`	**-0.332*** **	**-0.285*** **	**-0.137*** **	**-0.215*** **	0.00144	0.103
	(-5.89)	(-5.06)	(-4.01)	(-4.75)	(-0.01)	(-0.43)
`M3Grate`	**0.0940** **	**0.137*** **	**0.0991*** **	**0.183*** **	**-0.0865* **	-0.0839
	(-2.96)	(-4.36)	(-5.11)	(-7.13)	(-1.67)	(-1.52)
`FTSE100Re`	**0.0171* **	0.0103	0.00397	-0.00213	-0.0128	-0.0348
	(-2.31)	(-1.4)	(-0.9)	(-0.36)	(-0.23)	(-0.75)
`Tang`	-0.0538	-0.0227	-0.0239	0.0235	0.0275	-0.0409
	(-0.93)	(-0.40)	(-0.70)	(-0.55)	(-0.29)	(-0.29)
`CRatio`	**-0.00805*** **	**-0.00841*** **	**-0.0114*** **	**-0.00994*** **	**-0.00941*** **	**-0.00749*** **
	(-18.06)	(-19.35)	(-22.73)	(-27.09)	(-6.11)	(-5.61)
`Growthopp`	-0.00102	-0.00171	-0.000581	-0.000177	**-0.00528* **	-0.000701
	(-0.60)	(-1.02)	(-0.55)	(-0.12)	(-1.68)	(-0.25)
`Prof`	**-0.00141*** **	**-0.00184*** **	**-0.000989*** **	**-0.00486*** **	**-0.00229*** **	**-0.00977** **
	(-4.16)	(-5.47)	(-4.98)	(-4.05)	(-4.12)	(-2.34)
`FSize`	**-0.0161*** **	**-0.00393*** **	-0.000116	**0.0170*** **	**-0.0112* **	-0.00284
	(-8.37)	(-2.65)	(-0.12)	(-36.36)	(-1.86)	(-0.32)
$\texttt{Lev}_{t-1}$					**0.690*** **	**0.618*** **
					-24.87	-18.12
Adjusted R2 , overall	0.05%	3.52%				
Wald chi2 (Prob >chi2)			0.000	0.000	0.000	0.000
Sargan test (Prob >chi2)					0.000	0.000
Hansen test (Prob >chi2)					0.000	0.102
N	9952	9952	9951	9952	9495	8605

Table 3: Static and Dynamic estimation of Impact of Macroeconomic Variables on Leverage using model 1, (including Commercial Paper Spread and Industrial Production Growth Rate)

Methods	FEM	REM	Tobit	GLS	SGMM	DGMM
RiskP	-0.00829	-0.00454	0.00322	-0.0134	**0.0367*****	0.0268
	(-0.78)	(-0.42)	(-0.49)	(-1.56)	(-2.6)	(-1.1)
TAXGrate	**-0.0809*****	**-0.0717*****	**-0.0383*****	**-0.0792*****	**-0.0398***	-0.0313
	(-6.47)	(-5.74)	(-5.02)	(-8.17)	(-1.65)	(-1.10)
M3Grate	**0.149*****	**0.179*****	**0.121*****	**0.265*****	-0.0165	-0.00682
	(-4.93)	(-5.95)	(-6.47)	(-11.45)	(-0.37)	(-0.09)
FTSE100Re	**0.0177****	0.0122	0.0069	0.00454	0.0138	0.00387
	(-2.31)	(-1.59)	(-1.5)	(-0.74)	(-0.63)	(-0.13)
Tang	-0.0512	-0.0206	-0.0224	**0.0802***	0.0358	-0.0331
	(-0.89)	(-0.36)	(-0.65)	(-1.96)	(-0.37)	(-0.23)
CRatio	**-0.00807*****	**-0.00842*****	**-0.0114*****	**-0.00891*****	**-0.00949*****	**-0.00752*****
	(-18.12)	(-19.39)	(-22.75)	(-34.02)	(-6.14)	(-5.60)
Growthopp	-0.00112	-0.00175	-0.000597	0.0000515	-0.00497	-0.000825
	(-0.67)	(-1.04)	(-0.57)	(-0.04)	(-1.59)	(-0.29)
Prof	**-0.00139*****	**-0.00182*****	**-0.000974*****	**-0.00471*****	**-0.00226*****	**-0.00956****
	(-4.11)	(-5.40)	(-4.91)	(-3.92)	(-4.00)	(-2.36)
FSize	**-0.0157*****	**-0.00383*****	-0.0000785	**0.0174*****	**-0.0122***	-0.00557
	(-8.24)	(-2.60)	(-0.08)	(-37.86)	(-1.74)	(-0.38)
Lev_{t-1}					**0.687*****	**0.613*****
					-24.78	-18.1
Adjusted R2 , overall	0.08%	3.60%				
Wald chi2 (Prob >chi2)			0.000	0.000	0.000	0.000
Sargan test (Prob >chi2)					0.000	0.000
Hansen test (Prob >chi2)					0.000	0.047
N	9952	9952	9951	9952	9495	8605

Table 4: Static and Dynamic estimation of Impact of Macroeconomic Variables on Leverage using model 1, (including Risk Premium and Corporate Tax Growth Rate)

Methods	FEM	REM	Tobit	GLS	SGMM	DGMM
`RiskP`	-0.0079	-0.00376	0.00407	-0.00429	**0.0352****	0.00377
	(-0.74)	(-0.35)	(-0.63)	(-0.49)	(-2.01)	(-0.16)
`IPGrate`	**-0.310*****	**-0.254*****	**-0.119*****	**-0.194*****	-0.08	-0.244
	(-6.10)	(-5.02)	(-3.87)	(-4.77)	(-0.54)	(-1.15)
`M3Grate`	**0.0798****	**0.117*****	**0.0857*****	**0.168*****	-0.0339	0.0203
	(-2.96)	(-4.37)	(-5.18)	(-7.67)	(-0.89)	(-0.29)
`FTSE100Re`	0.0148	0.00839	0.00397	-0.0037	-0.0195	0.0173
	(-1.96)	(-1.11)	(-0.88)	(-0.61)	(-0.65)	(-0.46)
`Tang`	-0.0541	-0.023	-0.024	0.0269	0.0221	-0.0505
	(-0.94)	(-0.41)	(-0.70)	(-0.64)	(-0.23)	(-0.35)
`CRatio`	**-0.00804*****	**-0.00840*****	**-0.0114*****	**-0.00990*****	**-0.00948*****	**-0.00756*****
	(-18.03)	(-19.33)	(-22.71)	(-27.13)	(-6.15)	(-5.54)
`Growthopp`	-0.00101	-0.00172	-0.000595	-0.000196	-0.00474	-0.000818
	(-0.60)	(-1.02)	(-0.57)	(-0.14)	(-1.53)	(-0.30)
`Prof`	**-0.00140*****	**-0.00183*****	**-0.000982*****	**-0.00486*****	**-0.00228*****	**-0.00990****
	(-4.15)	(-5.45)	(-4.95)	(-4.05)	(-4.08)	(-2.30)
`FSize`	**-0.0162*****	**-0.00403*****	-0.000132	**0.0170*****	**-0.0123***	-0.00228
	(-8.46)	(-2.72)	(-0.14)	(-36.32)	(-1.89)	(-0.25)
$\mathtt{Lev}_{t-1}$					**0.690*****	**0.617*****
					(-24.95)	(-18.08)
Adjusted R2 , overall	0.04%	3.47%				
Wald chi2 (Prob >chi2)			0.000	0.000	0.000	0.000
Sargan test (Prob >chi2)					0.000	0.000
Hansen test (Prob >chi2)					0.000	0.031
N	9952	9952	9951	9952	9495	8605

Table 5: Static and Dynamic estimation of Impact of Macroeconomic Variables on Leverage using model 1, (including Risk Premium and Industrial Production Growth Rate)

	Business Cycle			Credit Supply			Financial Market Risk			Stock Market Performance		
Theories	TOT	POT	MTT	TOT	POT	MTT	TOT	POT	MTT	TOT	POT	MTT
Hypotheses	H1A	H1	NA	H2	H2	NA	H3A	H3	NA	H4	H4A	H4A
Predicted sign	(+)	(-)	NA	(+)	(+)	NA	(-)	(+)	NA	(+)	(-)	(-)
Fixed effect		(-)		(+)	(+)					(+)		
Random effect		(-)		(+)	(+)					(+)		
Tobit		(-)		(+)	(+)					(+)		
GLS		(-)		(+)	(+)		(-)			(+)		
SGMM		(-)				(-)		(+)				
DGMM								(+)				

Table 6: Summary of Dynamic and Static models' Results: Signs vs. Capital Structure Theories and the Research Hypotheses without considering the Financial Crisis.

	1	2	3	4	5	6
Commercial paper spread	-0.0169**	-0.0160**	-0.0136**	-0.0136*	-0.0111	-0.00606
	(-2.46)	(-2.33)	(-1.96)	(-1.87)	(-1.52)	(-0.81)
Corporate Tax growth rate	-0.0876***	-0.0907***	-0.0814***	-0.0816***	-0.0763***	-0.0710***
	(-8.32)	(-8.46)	(-7.69)	(-7.45)	(-5.51)	(-5.07)
M3 growth rate	0.297***	0.273***	0.145***	0.144***	0.125**	0.103*
	(10.6)	(8.96)	(3.51)	(2.89)	(2.37)	(1.93)
FTSE100 return	0.00852	0.0114*	0.00691	0.00699	0.00435	0.00329
	(1.44)	(1.87)	(1.16)	(1.18)	(0.65)	(0.49)
Tangibility	0.0760*	0.0772*	0.0772*	0.0781*	0.058	0.0571
	(1.83)	(1.86)	(1.86)	(1.89)	(1.38)	(1.33)
Current ratio	-0.00900***	-0.00897***	-0.00895***	-0.00894***	-0.00931***	-0.00936***
	(-33.70)	(-33.04)	(-33.38)	(-33.01)	(-29.70)	(-29.16)
Growth opportunity	0.0000676	0.0000831	-0.0000894	-0.0000852	-0.000166	-0.000159
	(0.05)	(0.06)	(-0.06)	(-0.06)	(-0.12)	(-0.11)
Profitability	-0.00473***	-0.00478***	-0.00479***	-0.00479***	-0.00484***	-0.00486***
	(-3.94)	(-3.98)	(-3.99)	(-3.98)	(-4.03)	(-4.04)
Size	0.0174***	0.0174***	0.0176***	0.0176***	0.0175***	0.0174***
	(37.82)	(37.82)	(38.22)	(38.22)	(37.65)	(37.54)
Year		***yes***				
Crisis			-0.0202***	-0.0202***	-0.0207***	0.000139
			(-5.33)	(-4.04)	(-4.00)	(0.01)
M3 growth rate *crisis				0.00307	0.0175	-0.00112
				(0.04)	(0.2)	(-0.01)
Corporate Tax growth rate*crisis					0.00582	0.0136
					(0.28)	(0.2)
FTSE100 return*crisis						-0.049
						(-0.94)
Commercial paper spread*crisis						-0.109***
						(-2.75)
Wald chi^2	3134.29	3097.66	3182.90	3211.70	2895.63	2879.59
Prob > chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	9952	9952	9952	9952	9952	9952

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 7. GLS Estimation of Impact of Macroeconomic Variables on Leverage

	1	2	3	4	5	6
Commercial paper spread	-0.00893	-0.00928	-0.00982	-0.0064	-0.01	-0.00573
	(-1.27)	(-1.32)	(-1.40)	(-0.89)	(-1.38)	(-0.78)
Industrial Production growth rate	-0.215***	-0.252***	-0.258***	-0.252***	-0.450***	-0.431***
	(-4.75)	(-5.24)	(-5.59)	(-5.45)	(-5.65)	(-5.40)
M3 growth rate	0.183***	0.153***	0.0163	-0.0302	-0.0225	-0.0319
	(7.13)	(5.36)	(0.44)	(-0.69)	(-0.51)	(-0.72)
FTSE100 return	-0.00213	0.00269	-0.000395	0.000158	-0.0105	-0.00947
	(-0.36)	(0.43)	(-0.07)	(0.03)	(-1.50)	(-1.36)
Tangibility	0.0235	0.0253	0.0304	0.0309	0.0321	0.0369
	(0.55)	(0.6)	(0.72)	(0.72)	(0.74)	(0.85)
Current ratio	-0.00994***	-0.00989***	-0.00981***	-0.00980***	-0.00986***	-0.00980***
	(-27.09)	(-26.85)	(-26.99)	(-26.92)	(-26.97)	(-26.98)
Growth opportunity	-0.000177	-0.000131	-0.000251	-0.000132	-0.0000636	0.0000683
	(-0.12)	(-0.09)	(-0.17)	(-0.09)	(-0.04)	(0.05)
Profitability	-0.00486***	-0.00492***	-0.00490***	-0.00491***	-0.00486***	-0.00488***
	(-4.05)	(-4.10)	(-4.08)	(-4.09)	(-4.05)	(-4.06)
Size	0.0170***	0.0171***	0.0173***	0.0174***	0.0173***	0.0173***
	(36.36)	(36.45)	(37.05)	(37.11)	(37.24)	(37.22)
Year		***yes***				
Crisis			-0.0254***	-0.0316***	-0.0299***	0.0075
			(-6.65)	(-6.46)	(-6.10)	(0.6)
M3 growth rate*crisis				0.164*	0.149*	-0.0423
				(1.95)	(1.76)	(-0.32)
Industrial Production growth rate*crisis					0.295***	1.480*
					(2.88)	(1.9)
FTSE100 return*crisis						-0.281*
						(-1.87)
Commercial paper spread*crisis						-0.0793*
						(-1.68)
Wald chi^2	2677.15	2695.12	2792.27	2802.58	2830.70	2848.59
Prob > chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	9952	9952	9952	9952	9952	9952

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 8. GLS Estimation of Impact of Macroeconomic Variables on Leverage

	1	2	3	4	5	6
Risk Premium	-0.0134	-0.0185**	-0.0187**	-0.0187**	-0.0157*	-0.00883
	(-1.56)	(-2.09)	(-2.18)	(-2.18)	(-1.81)	(-0.95)
Corporate Tax growth rate	-0.0792***	-0.0844***	-0.0767***	-0.0756***	-0.0742***	-0.0721***
	(-8.17)	(-8.51)	(-7.98)	(-7.77)	(-5.89)	(-5.69)
M3 growth rate	0.265***	0.241***	0.117***	0.103**	0.0972**	0.0936**
	(11.45)	(9.47)	(3.23)	(2.47)	(2.2)	(2.11)
FTSE100 return	0.00454	0.00762	0.00278	0.00276	0.000591	0.00111
	(0.74)	(1.22)	(0.45)	(0.45)	(0.09)	(0.16)
Tangibility	0.0802*	0.0831**	0.0881**	0.0886**	0.0710*	0.0706*
	(1.96)	(2.03)	(2.17)	(2.17)	(1.72)	(1.67)
Current ratio	-0.00891***	-0.00885***	-0.00875***	-0.00875***	-0.00908***	-0.00911***
	(-34.02)	(-34.27)	(-36.32)	(-35.58)	(-31.39)	(-30.57)
Growth opportunity	0.0000515	0.0000642	-0.000104	-0.0000772	-0.000159	-0.000109
	(0.04)	(0.04)	(-0.07)	(-0.05)	(-0.11)	(-0.08)
Profitability	-0.00471***	-0.00476***	-0.00475***	-0.00475***	-0.00479***	-0.00482***
	(-3.92)	(-3.97)	(-3.95)	(-3.95)	(-3.99)	(-4.01)
Size	0.0174***	0.0175***	0.0177***	0.0177***	0.0176***	0.0175***
	(37.86)	(37.97)	(38.56)	(38.55)	(38)	(37.86)
Year		***yes***				
Crisis			-0.0218***	-0.0237***	-0.0232***	-0.0215***
			(-5.77)	(-4.92)	(-4.65)	(-3.61)
M3 growth rate *crisis				0.0502	0.0503	0.177*
				(0.61)	(0.59)	(1.78)
Corporate Tax growth rate*crisis					0.0099	-0.180**
					(0.48)	(-2.21)
FTSE100 return*crisis						0.119**
						(2.19)
Risk Premium*crisis						-0.0878***
						(-2.74)
Wald chi^2	3323.52	3451.10	5215.71	4675.33	3062.73	2997.33
Prob > chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	9952	9952	9952	9952	9952	9952

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 9. GLS Estimation of Impact of Macroeconomic Variables on Leverage

	1	2	3	4	5	6
Risk Premium	-0.00429	-0.00983	-0.0115	-0.0116	-0.0169*	-0.0125
	(-0.49)	(-1.08)	(-1.30)	(-1.31)	(-1.89)	(-1.30)
Industrial Production growth rate	-0.194***	-0.233***	-0.236***	-0.241***	-0.441***	-0.431***
	(-4.77)	(-5.30)	(-5.67)	(-5.78)	(-5.81)	(-5.67)
M3 growth rate	0.168***	0.138***	0.00174	-0.0425	-0.0439	-0.0443
	(7.67)	(5.53)	(0.05)	(-1.07)	(-1.11)	(-1.12)
FTSE100 return	-0.0037	0.000391	-0.0033	-0.00231	-0.0147**	-0.0126*
	(-0.61)	(0.06)	(-0.55)	(-0.38)	(-2.02)	(-1.71)
Tangibility	0.0269	0.0293	0.0363	0.0368	0.0384	0.0412
	(0.64)	(0.7)	(0.87)	(0.87)	(0.9)	(0.96)
Current ratio	-0.00990***	-0.00985***	-0.00973***	-0.00973***	-0.00980***	-0.00972***
	(-27.13)	(-26.90)	(-27.16)	(-27.08)	(-27.13)	(-27.16)
Growth opportunity	-0.000196	-0.000162	-0.000287	-0.000146	-0.000078	0.000104
	(-0.14)	(-0.11)	(-0.20)	(-0.10)	(-0.05)	(0.07)
Profitability	-0.00486***	-0.00491***	-0.00489***	-0.00490***	-0.00484***	-0.00487***
	(-4.05)	(-4.09)	(-4.07)	(-4.08)	(-4.04)	(-4.06)
Size	0.0170***	0.0171***	0.0174***	0.0174***	0.0174***	0.0173***
	(36.32)	(36.45)	(37.11)	(37.19)	(37.34)	(37.27)
Year		***yes***				
Crisis			-0.0258***	-0.0328***	-0.0317***	0.00394
			(-6.69)	(-6.74)	(-6.51)	(0.31)
M3 growth rate*crisis				0.182**	0.177**	-0.0995
				(2.22)	(2.16)	(-0.80)
Industrial Production growth rate*crisis					0.308***	2.158***
					(3)	(3.27)
FTSE100 return*crisis						-0.387***
						(-2.87)
Risk Premium*crisis						-0.00759
						(-0.28)
Wald chi^2	2668.84	2690.40	2789.45	2805.07	2834.07	2847.17
Prob > chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	9952	9952	9952	9952	9952	9952

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 10. GLS Estimation of Impact of Macroeconomic Variables on Leverage

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
Leverage_{t-1}	0.690***	0.688***	0.615***	0.604***
	(24.76)	(24.76)	(17.98)	(17.94)
Commercial paper spread	**0.0496*** **	**0.0577*** **	**0.0310** **	**0.0349*** **
	(3.52)	(3.67)	(2.18)	(2.59)
Corporate Tax growth rate	-0.0253	-0.0202	-0.033	-0.034
	(-1.09)	(-0.88)	(-1.23)	(-1.30)
M3 growth rate	**-0.135** **	**-0.202** **	-0.059	-0.0675
	(-1.98)	(-2.37)	(-0.79)	(-0.91)
FTSE100 return	0.0224	0.0286	0.0103	0.0119
	(1.08)	(1.34)	(0.4)	(0.49)
Tangibility	0.0354	0.0391	-0.0295	0.0117
	(0.37)	(0.41)	(-0.21)	(0.08)
Current ratio	-0.00940***	-0.00944***	-0.00748***	-0.00757***
	(-6.10)	(-6.14)	(-5.57)	(-5.58)
Growth opportunity	-0.00489	-0.00529*	-0.00101	-0.00237
	(-1.57)	(-1.68)	(-0.36)	(-0.81)
Profitability	-0.00219***	-0.00220***	-0.00961**	-0.00777**
	(-3.90)	(-3.91)	(-2.32)	(-2.14)
Size	-0.0142**	-0.0127*	-0.00716	-0.0343
	(-2.05)	(-1.88)	(-0.57)	(-1.56)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.790	0.814	0.895	0.780
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.074	0.076
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 11. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
$Leverage_{t-1}$	0.690***	0.688***	0.618***	0.607***
	(24.87)	(24.89)	(18.12)	(18.08)
Commercial paper spread	**0.0441*** **	**0.0485*** **	**0.0428*** **	**0.0453*** **
	(2.67)	(2.98)	(2.91)	(3.12)
Industrial Production growth rate	0.00144	0.151	0.103	0.128
	(0.01)	(0.54)	(0.43)	(0.55)
M3 growth rate	**-0.0865* **	**-0.104* **	-0.0839	-0.0861
	(-1.67)	(-1.90)	(-1.52)	(-1.53)
FTSE100 return	-0.0128	-0.0385	-0.0348	-0.0398
	(-0.23)	(-0.66)	(-0.75)	(-0.87)
Tangibility	0.0275	0.0287	-0.0409	0.000231
	(0.29)	(0.3)	(-0.29)	0
Current ratio	-0.00941***	-0.00940***	-0.00749***	-0.00757***
	(-6.11)	(-6.14)	(-5.61)	(-5.63)
Growth opportunity	-0.00528*	-0.00527*	-0.000701	-0.00207
	(-1.68)	(-1.67)	(-0.25)	(-0.70)
Profitability	-0.00229***	-0.00229***	-0.00977**	-0.00784**
	(-4.12)	(-4.13)	(-2.34)	(-2.21)
Size	-0.0112*	-0.0107*	-0.00284	-0.0304
	(-1.86)	(-1.72)	(-0.32)	(-1.42)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.799	0.781	0.914	0.797
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.102	0.098
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 12. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
Leverage_{t-1}	0.687***	0.686***	0.613***	0.603***
	(24.78)	(24.74)	-18.1	-17.87
Risk Premium	**0.0367*** **	**0.0408*** **	0.0268	**0.0412***
	(2.6)	(2.9)	-1.1	-1.9
Corporate Tax growth rate	**-0.0398***	-0.038	-0.0313	-0.0349
	(-1.65)	(-1.60)	(-1.10)	(-1.26)
M3 growth rate	-0.0165	-0.0334	-0.00682	-0.0493
	(-0.37)	(-0.67)	(-0.09)	(-0.62)
FTSE100 return	0.0138	0.0178	0.00387	0.0127
	(0.63)	(0.8)	-0.13	-0.41
Tangibility	0.0358	0.0373	-0.0331	0.00713
	(0.37)	(0.39)	(-0.23)	-0.05
Current ratio	-0.00949***	-0.00951***	-0.00752***	-0.00762***
	(-6.14)	(-6.15)	(-5.60)	(-5.65)
Growth opportunity	-0.00497	-0.00509	-0.000825	-0.00212
	(-1.59)	(-1.63)	(-0.29)	(-0.72)
Profitability	-0.00226***	-0.00225***	-0.00956**	-0.00792**
	(-4.00)	(-3.98)	(-2.36)	(-2.23)
Size	-0.0122*	-0.0121*	-0.00557	-0.0296
	(-1.74)	(-1.71)	(-0.38)	(-1.27)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.779	0.781	0.906	0.808
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.047	0.043
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 13. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
$\mathrm{Leverage}_{t-1}$	0.690***	0.689***	0.617***	0.606***
	(24.95)	(24.93)	(18.08)	(17.93)
Risk Premium	**0.0352****	**0.0341****	0.00377	0.0231
	(2.01)	(2.07)	(0.16)	(1.11)
Industrial Production growth rate	-0.08	-0.148	-0.244	-0.138
	(-0.54)	(-0.85)	(-1.15)	(-0.69)
M3 growth rate	-0.0339	-0.0538	0.0203	-0.028
	(-0.89)	(-1.42)	(0.29)	(-0.47)
FTSE100 return	-0.0195	-0.00233	0.0173	0.00231
	(-0.65)	(-0.06)	(0.46)	(0.06)
Tangibility	0.0221	0.0248	-0.0505	-0.0108
	(0.23)	(0.26)	(-0.35)	(-0.08)
Current ratio	-0.00948***	-0.00950***	-0.00756***	-0.00768***
	(-6.15)	(-6.16)	(-5.54)	(-5.63)
Growth opportunity	-0.00474	-0.00499	-0.000818	-0.00204
	(-1.53)	(-1.62)	(-0.30)	(-0.69)
Profitability	-0.00228***	-0.00228***	-0.00990**	-0.00810**
	(-4.08)	(-4.08)	(-2.30)	(-2.28)
Size	-0.0123*	-0.0114	-0.00228	-0.0262
	(-1.89)	(-1.62)	(-0.25)	(-1.14)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.820	0.830	0.959	0.852
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.031	0.023
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 14. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
$Leverage_{t-1}$	0.688***	0.687***	0.617***	0.604***
	(24.89)	**(24.85)**	(18.02)	(17.91)
Commercial paper spread	**0.0223*** **	**0.0213*** **	**0.0205** **	**0.0238*** **
	(2.8)	(2.7)	(2.55)	(2.93)
Corporate Tax growth rate	**-0.0273** **	**-0.0260** **	**-0.0263** **	**-0.0256** **
	(-2.15)	(-2.00)	(-1.98)	(-1.96)
lag of M3 growth rate	-0.0169	-0.02	0.0136	0.0137
	(-0.60)	(-0.65)	(0.38)	(0.38)
lag of FTSE100 return	0.00865	0.00909	0.00258	0.00449
	(1.07)	(1.11)	(0.29)	(0.52)
Tangibility	0.0288	0.0278	-0.0438	0.00824
	(0.3)	(0.29)	(-0.31)	(0.06)
Current ratio	-0.00945***	-0.00949***	-0.00748***	-0.00755***
	(-6.10)	(-6.11)	(-5.56)	(-5.57)
Growth opportunity	-0.00544*	-0.00566*	-0.000704	-0.00245
	(-1.73)	(-1.79)	(-0.26)	(-0.83)
Profitability	-0.00228***	-0.00228***	-0.00998**	-0.00763**
	(-4.08)	(-4.08)	(-2.35)	(-2.13)
Size	-0.0115*	-0.0111*	-0.000766	-0.0364
	(-1.81)	(-1.71)	(-0.09)	(-1.64)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.777	0.778	0.922	0.769
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.047	0.061
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 15. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage (considering lag of M3 growth rate and lag of FTSE100)

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
Leverage_{t-1}	0.689***	0.688***	0.620***	0.605***
	(24.82)	(24.79)	(18.12)	(18.01)
Commercial paper spread	**0.0249****	0.0175	**0.0323****	**0.0320****
	(2.13)	(1.52)	(2.38)	(2.41)
Industrial Production growth rate	**-0.163*****	**-0.134****	-0.0998	-0.0903
	(-2.74)	(-2.14)	(-1.60)	(-1.48)
lag of M3 growth rate	-0.0347	-0.0336	0.0387	0.0365
	(-1.17)	(-0.98)	(0.8)	(0.79)
lag of FTSE100 return	0.00104	0.00593	-0.00968	-0.00479
	(0.11)	(0.65)	(-0.91)	(-0.47)
Tangibility	0.0229	0.0225	-0.0563	0.0033
	(0.24)	(0.24)	(-0.39)	(0.02)
Current ratio	-0.00943***	-0.00949***	-0.00747***	-0.00757***
	(-6.12)	(-6.12)	(-5.54)	(-5.56)
Growth opportunity	-0.00548*	-0.00572*	-0.000462	-0.00252
	(-1.74)	(-1.81)	(-0.17)	(-0.86)
Profitability	-0.00231***	-0.00229***	-0.0106**	-0.00781**
	(-4.14)	(-4.10)	(-2.30)	(-2.10)
Size	-0.0111*	-0.0113*	0.00501	-0.0362*
	(-1.69)	(-1.70)	(0.61)	(-1.67)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.809	0.798	0.959	0.792
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.081	0.090
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 16. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage (considering lag of M3 growth rate and lag of FTSE100)

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
Leverage_{t-1}	0.687***	0.687***	0.616***	0.604***
	(24.87)	(24.81)	(18.01)	(17.85)
Risk Premium	0.0236**	0.0255**	0.0180*	0.0253**
	(2.13)	(2.27)	(1.68)	(2.37)
Corporate Tax growth rate	-0.0251*	-0.0211	-0.0182	-0.0217
	(-1.74)	(-1.52)	(-1.19)	(-1.49)
lag of M3 growth rate	0.00465	0.00681	0.026	0.0154
	(0.16)	(0.21)	(0.63)	(0.39)
lag of FTSE100 return	0.0125	0.0126	0.00864	0.00894
	(1.58)	(1.58)	(1.04)	(1.1)
Tangibility	0.0315	0.0306	-0.0436	0.00437
	(0.33)	(0.32)	(-0.31)	(0.03)
Current ratio	-0.00952***	-0.00955***	-0.00755***	-0.00762***
	(-6.13)	(-6.14)	(-5.60)	(-5.63)
Growth opportunity	-0.00540*	-0.00554*	-0.000762	-0.00234
	(-1.71)	(-1.76)	(-0.28)	(-0.79)
Profitability	-0.00229***	-0.00229***	-0.00993**	-0.00778**
	(-4.10)	(-4.09)	(-2.35)	(-2.19)
Size	-0.0108*	-0.0108	-0.00114	-0.0332
	(-1.66)	(-1.63)	(-0.13)	(-1.44)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.786	0.790	0.933	0.790
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.055	0.057
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 17. SGMM and DGMM Estimations of Impact of Macroeconomic Variables on Leverage (considering lag of M3 growth rate and lag of FTSE100)

	SGMM	SGMM	DGMM	DGMM
	1	**2**	**1**	**2**
Leverage_{t-1}	0.691***	0.689***	0.617***	0.606***
	(24.83)	(24.88)	(18.04)	(17.96)
Risk Premium	0.0173	0.0168	0.0137	0.0178
	(1.08)	(1.1)	(0.95)	(1.21)
Industrial Production growth rate	-0.229**	-0.243***	-0.116	-0.122
	(-2.32)	(-2.91)	(-1.50)	(-1.62)
lag of M3 growth rate	-0.0337	-0.0506	0.0232	0.0116
	(-0.88)	(-1.21)	(0.48)	(0.25)
lag of FTSE100 return	0.00231	0.00145	0.0014	0.00223
	(0.25)	(0.16)	(0.15)	(0.24)
Tangibility	0.0185	0.0211	-0.0497	-0.0106
	(0.19)	(0.22)	(-0.35)	(-0.08)
Current ratio	-0.00950***	-0.00951***	-0.00757***	-0.00767***
	(-6.14)	(-6.14)	(-5.58)	(-5.61)
Growth opportunity	-0.00497	-0.00528*	-0.000766	-0.00214
	(-1.58)	(-1.67)	(-0.28)	(-0.72)
Profitability	-0.00228***	-0.00231***	-0.00990**	-0.00808**
	(-4.10)	(-4.15)	(-2.32)	(-2.24)
Size	-0.0124*	-0.0108*	-0.00193	-0.0276
	(-1.93)	(-1.66)	(-0.24)	(-1.22)
Year		***yes***		***yes***
Number of instruments	27	28	20	21
Wald chi2 (Prob > chi2)	0.000	0.000	0.000	0.000
Arellano-Bond test AR(2) (Pr > z)	0.833	0.840	0.952	0.844
Sargan test (Prob > chi2)	0.000	0.000	0.000	0.000
Hansen test (Prob > chi2)	0.000	0.000	0.019	0.016
N	9495	9495	8605	8605

The dependent variable is the estimated leverage (the book value of total debts scaled by the book value of total assets). T-statistics are in parentheses. *, **, and *** denote statistically significant at 10%, 5% and 1% level respectively.

Table 18. SGMM and DGMM Estimation of Impact of Macroeconomic Variables on Leverage (considering lag of M3 growth rate and lag of FTSE100)