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Country risk and its impact on Pretoria Portland Cement's (PPC) valuation of its African expansion projects

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Countries	**CRP**	**BC-DSD**	**WGI**	**F-HSE**	**WEF**	**EFW**	**PRS**	**Moody's Rating Spread**	**Damo Meld CRP**
Algeria	12.73	8	-0.803965	5.5	3.9	5.35	0.531376	5.34	7.47
Botswana	8.02	3	0.684471	2.3	4.12	7.8	0.691982	0.95	1.33
DRC	19.8	1445	-1.598511	5.9	3.29	4.71	0.243939	7.29	10.21
Egypt	19.8	2	-0.648667	5.45	3.82	6.42	0.490341	7.29	10.21
Ethiopia	16.38	914	-0.938445	5.36	3.56	5.61	0.471907	5.05	7.07
Ghana	19.8	650	0.058295	1.5	3.64	6.7	0.565783	7.29	10.21
Kenya	15.45	76	-0.68743	3.45	3.79	7.06	0.51392	5.05	7.07
Mali	12.71	325	-0.465447	3.15	3.38	6.02	0.430335	5.46	7.65
Mozambique	17.72	906	-0.354813	3.4	3.2	5.7	0.542677	8.41	11.77
Niger	17.17	249	-0.640915	3.6	3.4	5.83	0.433965	7.85	10.99
Nigeria	13.75	4099	-1.129933	4.14	3.55	6.27	0.387816	5.05	7.07
Rep Congo	13.75	1968	-1.088516	5.45	3.55	5.35	0.430366	6.17	8.64
Rwanda	15.23	164	-0.373993	6	4.23	6.93	0.35	5.05	7.07
Uganda	15.63	462	-0.589415	4.65	3.52	7.21	0.501578	5.05	7.07
Zambia	17.72	1013	-0.333973	3.5	3.65	7.05	0.565783	7.29	10.21
Zimbabwe	17.17	3874	-1.480971	6.1	3.2	4.32	0.327462	7.85	10.99
Angola	12.51	674	-1.069473	5.5	3.02	4.84	0.466035	5.05	7.07
Benin		163	-0.29177	2	3.57	6.09	0.4	1.79	3
Burkina Faso		172	-0.363289	4	3.28	5.93	0.49	7.29	10.21
Cameroon		663	-0.901061	6	3.58	6.07	0.51	6.17	8.64
Cape Verde		4	0.478121	1	3.62	6.7	0.68	6.17	8.64
Gabon		260	-0.555865	5.35	3.78	5.77	0.48	5.05	7.07
Namibia		3	0.318496	2	3.97	6.68	0.69	2.47	3.46
Senegal		300	-0.268431	2.55	3.7	6.1	0.48	5.05	7.07
Tunisia		1	-0.167163	4.35	4.3	6.72	0.61	4.04	5.66

Regression analysis of all risk models

	PPC CRP	BC-DSD	WGI	PRS	WEF	EFW	F-HSE	Moody's Ratings	Damo Meld CRP
PPC CRP	1.000	0.089 *0.344*	-0.307 *0.230*	-0.350 *0.168*	-0.268 *0.299*	-0.210 *0.419*	0.110 *0.673*	0.844 *0.027*	0.844 *0.000*
BC-DSD	0.089 0.344	1.000	-0.612 0.001	-0.509 0.009	-0.416 0.039	-0.458 0.021	0.325 0.113	*0.298* *0.147*	0.299 0.099
WGI	-0.307 *0.230*	-0.612 *0.001*	1.000	0.817 *0.000*	0.522 *0.007*	0.751 *0.000*	-0.791 *0.000*	-0.450 *0.024*	-0.453 *0.022*
PRS	-0.350 0.168	-0.509 *0.009*	0.817 *0.000*	1.000	0.439 *0.028*	0.622 *0.001*	-0.594 *0.002*	-0.343 *0.000*	-0.355 *0.104*
WEF	-0.268 *0.299*	-0.416 *0.039*	0.522 *0.007*	0.439 *0.028*	1.000	0.659 *0.000*	-0.129 *0.538*	-0.544 *0.005*	-0.554 *0.007*
EFW	-0.210 *0.419*	-0.458 *0.021*	0.751 *0.000*	0.622 *0.001*	0.659 *0.000*	1.000	-0.529 *0.007*	-0.436 *0.030*	-0.443 *0.030*
F-HSE	0.110 *0.673*	0.325 *0.113*	-0.791 *0.000*	-0.594 *0.002*	-0.129 *0.538*	-0.529 *0.007*	1.000	0.302 0.142	0.296 *0.112*
Moody's Ratings	0.844 *0.027*	*0.298* *0.147*	-0.450 *0.024*	-0.343 *0.000*	-0.544 *0.005*	-0.436 *0.030*	0.302 0.142	1.000	0.999 *0.000*
Damo Meld CRP	0.844 *0.000*	0.299 *0.099*	-0.453 *0.022*	-0.355 *0.081*	-0.554 *0.007*	-0.443 *0.030*	0.296 *0.112*	0.999 *0.000*	1.000

	WGI	PRS	WEF	EFW	F-HSE	Moody's Ratings	Damo Meld CRP
BC-DSD	-0.612 0.001	-0.509 0.009	-0.416 0.039	-0.458 0.021	0.325 0.113	*0.298* *0.147*	0.299 0.099

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SUMMARY OUTPUT — CRP

egression Statistics	
Multiple R	0.08852717
R Square	0.00783706
Adjusted R Square	-0.0583071
Standard Error	1287.93177
Observations	17

ANOVA

	df	SS	MS	F	Significance F
Regression	1	196538.2838	196538.284	0.11848448	0.73546217
Residual	15	24881523.48	1658768.23		
Total	16	25078061.76			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	439.706162	1629.255449	0.26988166	0.79092885	-3032.9696	3912.38195	-3032.9696	3912.38195
CRP	35.2641714	102.4478761	0.34421574	0.73546217	-183.09831	253.62665	-183.09831	253.62665

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SUMMARY OUTPUT — WBGI

Regression Statistics	
Multiple R	0.611788
R Square	0.374284
Adjusted R	0.347079
Standard E	886.0429
Observatio	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	10800955.94	10800955.9	13.7579162	0.00115495
Residual	23	18056657.9	785072.082		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	96.69384	247.1899703	0.39117217	0.69927024	-414.657575	608.045251	-414.657575	608.045251
WBGI	-1209.5	326.0827707	-3.70916651	0.00115495	-1884.0489	-534.941689	-1884.0489	-534.941689

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SUMMARY OUTPUT — F-House

Regression Statistics	
Multiple R	0.32497218
R Square	0.10560691
Adjusted R Sq	0.06672026
Standard Erro	1059.32814
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	3047563.562	3047564	2.715762	0.112957
Residual	23	25810050.28	1122176		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	-194.71189	603.1534478	-0.32282	0.749746	-1442.43	1053.006	-1442.43	1053.006
F-HSE	227.64968	138.1405448	1.647957	0.112957	-58.1158	513.4152	-58.1158	513.4152

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SUMMARY OUTPUT — WEF

Regression Statistics	
Multiple R	0.415706
R Square	0.172812
Adjusted R	0.136847
Standard Ei	1018.752
Observatio	25

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	4986933.076	4986933	4.805035	0.038761
Residual	23	23870680.76	1037856		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	5899.197	2364.263534	2.495152	0.020209	1008.345	10790.05	1008.345	10790.05
WEF	-1424.43	649.8200302	-2.19204	0.038761	-2768.69	-80.1757	-2768.69	-80.1757

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SUMMARY OUTPUT — PRS

egression Statistics	
Multiple R	0.50930558
R Square	0.25939217
Adjusted R Square	0.22719183
Standard Error	963.963169
Observations	25

ANOVA

	df	SS	MS	F	Significance F
Regression	1	7485439.059	7485439.06	8.05557226	0.00931295
Residual	23	21372174.78	929224.99		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3255.2824	908.3468577	3.58374378	0.00157137	1376.22376	5134.34104	1376.22376	5134.34104
PRS	-5126.797	1806.333426	-2.838234	0.00931295	-8863.4823	-1390.1116	-8863.4823	-1390.1116

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SUMMARY OUTPUT — EFW

Regression Statistics	
Multiple R	0.458083
R Square	0.20984
Adjusted R	0.175485
Standard E	995.6893
Observatio	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6055478.807	6055478.81	6.10802508	0.02129109
Residual	23	22802135.03	991397.175		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4435.9	1510.279695	2.93713778	0.00740313	1311.64796	7560.15113	1311.64796	7560.15113
EFW	-603.664	244.2559345	-2.4714419	0.02129109	-1108.94625	-98.3824536	-1108.94625	-98.3824536

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SUMMARY OUTPUT — Damod Melded

Regression Statistics	
Multiple R	0.33768588
R Square	0.11403175
Adjusted R Sq	0.07551139
Standard Erro	1054.3271
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	3290684.265	3290684	2.960298	0.09876
Residual	23	25566929.58	1111606		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	-401.332596	693.8015259	-0.57845	0.568579	-1836.57	1033.905	-1836.57	1033.905
Damo Meld C	148.133772	86.09666808	1.720552	0.09876	-29.9708	326.2383	-29.9708	326.2383

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SUMMARY OUTPUT — DEBT/GDP

Regression Statistics	
Multiple R	0.23187
R Square	0.053764
Adjusted R	0.008705
Standard Ei	1128.325
Observatio	23

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	1519065.003	1519065	1.193186	0.287061
Residual	21	26735440.48	1273116		
Total	22	28254505.48			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	1268.12	503.7094816	2.517561	0.020004	220.5984	2315.641	220.5984	2315.641
Debt/GDP	-9.90682	9.069430034	-1.09233	0.287061	-28.7677	8.954095	-28.7677	8.954095

Multiple Regression

SUMMARY OUTPUT — BOC WBGI +FHSE

egression Statistics	
Multiple R	0.66484349
R Square	0.44201687
Adjusted R Square	0.39129113
Standard Error	855.518496
Observations	25

ANOVA

	df	SS	MS	F	Significance F
Regression	2	12755552.11	6377776.05	8.71385761	0.00163242
Residual	22	16102061.73	731911.897		
Total	24	28857613.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	963.704664	581.7623996	1.65652621	0.11181009	-242.79671	2170.20604	-242.79671	2170.20604
WBGI	-1875.3569	514.93061	-3.6419604	0.0014383	-2943.2576	-807.45619	-2943.2576	-807.45619
F-HSE	-298.171	182.4594162	-1.6341771	0.11645177	-676.56867	80.2266713	-676.56867	80.2266713

SUMMARY OUTPUT — WEF WBGI +FHSE

Regression Statistics	
Multiple R	0.697862
R Square	0.487012
Adjusted R	0.440376
Standard E	0.239396
Observatio	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	1.196989073	0.59849454	10.4429847	0.00064741
Residual	22	1.260834927	0.05731068		
Total	24	2.457824			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.333099	0.16279236	20.4745392	8.1572E-16	2.99548787	3.67070925	2.99548787	3.67070925
WBGI	0.647119	0.144091075	4.49104154	0.00018181	0.3482924	0.9459456	0.3482924	0.9459456
F-HSE	0.155017	0.051056925	3.03615326	0.00606377	0.04913107	0.26090223	0.04913107	0.26090223

SUMMARY OUTPUT — EFW WBGI +FHSE

Regression Statistics	
Multiple R	0.75892989
R Square	0.57597458
Adjusted R Sq	0.53742681
Standard Erro	0.56593079
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	2	9.571075536	4.785538	14.94184	7.97E-05
Residual	24	7.046108464	0.320278		
Total	24	16.617184			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	6.4554016	0.384839434	16.77427	5.08E-14	5.657293	7.25351	5.657293	7.25351
WBGI	1.33428261	0.340629791	3.917105	0.000738	0.62786	2.040706	0.62786	2.040706
F-HSE	0.09270437	0.120698035	0.768069	0.450613	-0.15761	0.343017	-0.15761	0.343017

SUMMARY OUTPUT — PRS WBGI +FHSE

Regression Statistics	
Multiple R	0.821333
R Square	0.674587
Adjusted R	0.645004
Standard Ei	0.064904
Observatio	25

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	2	0.192115857	0.096058	22.80323	4.33E-06
Residual	22	0.092674345	0.004212		
Total	24	0.284790202			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	0.548056	0.044135156	12.41768	2.06E-11	0.456525	0.639587	0.456525	0.639587
WBGI	0.182058	0.039064991	4.66039	0.00012	0.101042	0.263074	0.101042	0.263074
F-HSE	0.00968	0.013842206	0.699339	0.491669	-0.01903	0.038387	-0.01903	0.038387