Appendix 1

AGREEMENT IN REGARD TO CONFIDENTIALITY AND NON-DISCLOSURE

In favour of your business (hereinafter referred to as "Your Business")

I, the undersigned, _____ hereby agree as follows:

WHEREAS I am a duly authorised representative of

_____ (hereinafter referred to as "the researcher");

AND WHEREAS YOUR BUSINESS and the researcher are desirous of entering into INFORMATION EXCHANGE (hereinafter referred to as "the discussions");

AND WHEREAS for purposes of the discussions YOUR BUSINESS will be disclosing to the researcher certain confidential information;

AND WHEREAS YOUR BUSINESS requires the undertaking below to be made by the researcher in order to protect the proprietary interests of YOUR BUSINESS in the confidential information;

NOW THEREFORE the researcher undertakes towards YOUR BUSINESS that:

1. All Confidential Information obtained or received by the researcher from YOUR BUSINESS or about the business of YOUR BUSINESS shall be treated as confidential and shall not be used by the researcher or disclosed to any third party or entity or in any way be used to the prejudice of YOUR BUSINESS;
2. The Confidential Information will only be used directly in connection with the discussions and will not be used for any other reason or purpose whatsoever without the prior written consent of YOUR BUSINESS, which may be withheld for any reason whatsoever;

3. It will ensure that every officer, employee, contractor or other person involved in the discussions shall be bound not to disclose any of the Confidential Information and such individual shall be bound to deal with Confidential Information in the same manner as the researcher is bound to do in terms of this Agreement;
4. It shall securely store all documents, papers and other matter furnished to the researcher by YOUR BUSINESS in connection with or which constitutes the Confidential Information, in such a manner as to ensure that only individuals entitled to access to the Confidential Information and who are bound in terms of clause 3 of this Agreement, shall have access to it;
5. The researcher agrees that, notwithstanding the fact that certain Confidential Information may already be in the possession of the researcher or may already be contained or expressed in public literature in general terms not specifically in accordance with the Confidential Information, the Confidential Information shall remain subject to the provisions of this Agreement;
6. In the event of the researcher being compelled it shall immediately notify YOUR BUSINESS thereof in order that YOUR BUSINESS may seek an appropriate protective order or waive compliance with such provisions of this Agreement as would prevent compliance with the law, or give its consent thereto, and such waiver, compliance or consent shall not constitute a breach of this Agreement.
7. The researcher acknowledges that a breach of this Agreement shall give rise to a claim for damages by YOUR BUSINESS. The researcher accordingly acknowledges and agrees that the provisions hereof shall continue for so long as the confidential nature of the information persists.
8. All Confidential Information disclosed by YOUR BUSINESS to the researcher shall remain the property of YOUR BUSINESS notwithstanding such disclosure.

9. The researcher acknowledges that this Agreement does not grant, transfer or confirm upon the researcher, either expressly or impliedly, any rights, license or any interest in any intellectual property by the furnishing of the Confidential Information pursuant to this Agreement.

…/SIGNED

SIGNED at _____ on this _____ day of _____

As Witnesses:

1. ……

2. ……

Signature _____
(duly authorised hereto by the researcher)

PRINT FIRST NAME AND SURNAME CLEARLY

Dr/Mr/Ms: _____

Capacity: _____

Signed at _____ on this _____day of _____

As Witnesses:

1. ……

2. ……

Signature _____

(duly authorised hereto by YOUR BUSINESS)

Dr/Mr/Ms: _____

Capacity: _____

Appendix 2

UNIVERSITY OF PRETORIA

Capital generation as a measurement of SME contribution to economic development

The following questionnaire is part of an extensive research study undertaken to investigate the impact of SMEs by analysing, *capital generation as a measurement of SME contribution to economic development*.

Based on economic theory a business will contribute to economic development if it can generate capital. The capital generation can be measured via

- Contribution to government tax,
- contribution to workers income,
- contribution to owners income and
- contribution to the growth of business assets

The research will have important relevance especially for government, banks, businesses and agencies developing the South African SME sector.

All business data will be treated as confidential and no reference will be made to the businesses contributing to the research except if requested. Business references to the data will be erased in order to protect business sensitive information.

Confidentiality agreements will be signed by the researcher, Johan Olivier. Businesses contributing to the research will be provided with a summary of the findings if required.

It will be appreciated it if you would complete it as thoroughly as possible. All information will be treated as confidential and will only be used for academic purposes.

Johan Olivier
DBAl Candidate
University of Pretoria
Tel: 083 327 3336

Study Leader:	Dr. Marius Pretorius Chair of Entrepreneurship Tel: (012) 420-3394 Cell: 082 822 6333

Questionnaire

General business information

Business name_____

Contact name: _____

Contact's designation: _____

Contacts details : Telephone(___)_____Fax(___)_____

Email address: _____

Physical address: _____

Would you like us to publish your business as a contributor to the research?

Mark the appropriate answer with an (x) in one of the open blocks below.

Yes	
No	

2. Do you require a confidentiality agreement?

Mark the appropriate answer with an (x) in one of the open blocks below.

Yes	
No	

3. Do you require a summary of the findings?

Mark the appropriate answer with an (x) in one of the open blocks below.

Yes	
No	

4. In which province is your main business located?

Mark the appropriate answer with an (x) in one of the open blocks below.

Gauteng	
Free State	
Western Cape	
Northern Cape	
Limpopo Province	
Mapumalanga	
KwaZulu-Natal	
North West	
Eastern Cape	

5. How many shareholders (owners, directors or members of a closed corporation) were working in the above businesses over the past 5 years?

Write the appropriate number in the open blocks below.

Year 1	
Year 2	
Year 3	
Year 4	
Year 5	

6. How many workers excluding shareholders were working in the above business over the past 5 years?

Write the appropriate number in the open blocks below.

Year 1	
Year 2	
Year 3	
Year 4	
Year 5	

7. Under which manufacturing sector would you classify your business?

Mark the appropriate block or blocks with a cross (X) or describe any alternative sector.	
Automotive and transport manufacturing	
General engineering manufacturing	
Chemical manufacturing	
Agricultural, forestry and fishing manufacturing	
Mining manufacturing	
General manufacturing	
Other (Please specify)	

8. Please provide the last 5 years audited financial statements if not available please complete section 8.1. If your business is younger than 5 years please provide the last year's data since operations started.

Please indicate from which year onward the information will be made available	
First year of audited statements provided	

Or

8.1 Complete the following data Tables with at least the last 5 years data as accurate as possible. If your business is younger than 5 years please provide the last years data since operations started.

Please indicate from which year onward the information will be completed

First year of audited statements provided	

8.1.1 This data will be used to calculate the business's contribution to **business tax**. The data used is available from your income statement as tax and loss/profit after tax.
(*The net loss if any is important since profits will be balanced with losses when taxes are paid.*)

Complete the appropriate blocks with the last 5 years data as described above.

Indicate losses as a negative (i.e. -1000)

Year	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Business tax contribution									
Net loss/profit									

8.1.2 This data will be used to calculate the business's contribution to workers income. The data used is available from the income statement.

Complete the appropriate blocks with the last 5 years data as described above.

Year	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Salaries (excluding directors and owners)									
Staff welfare									
Commissions									
Other Benefits									

8.1.3 This data will be used to calculate the business's contribution to shareholder income. The data is available from the income statement as directors or members salaries and dividends.

Complete the appropriate blocks with the last 5 years data as described above.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total members/ shareholders salaries									
Dividends paid									

8.1.4 This data will be used to calculate the business's ability to grow its assist. The data is available from the balance sheet as total assets.

Complete the appropriate blocks with the last 5 years data as described above.

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total assist									

End

Appendix 3

This table refer to all categories used for analysis

Reference	Age	Industry	Form	Province	Area	Employees
Business	Age	Industry	Form	Province	Area	AVG.
v1	v2	v3	v4	v5	v6	v7
3	10	3	1	2	3	2
20	4	1	1	1	5	5
12	6	2	1	2	4	7
24	4	6	1	2	6	6
29	3	5	1	1	5	6
16	2	5	1	2	3	4
27	7	6	1	2	6	14
25	8	1	1	2	6	10
11	5	2	2	2	4	30
26	8	6	1	2	6	14
2	4	2	1	1	2	17
23	3	2	1	2	6	16
10	9	6	2	2	4	10
38	12	7	1	1	5	10
36	23	3	2	1	5	12
39	3	7	1	1	5	11
28	21	6	2	1	5	13
37	10	1	1	1	5	24
35	3	4	1	1	7	12
32	9	10	3	2	6	13
8	6	5	2	2	4	16
21	6	7	2	2	3	14
17	2	2	1	2	3	13
30	3	4	1	1	7	15
43	8	6	2	2	6	34
4	5	4	2	2	3	19
9	10	2	1	2	4	20
45	7	1	2	1	1	20
42	32	1	2	2	6	28
1	4	1	1	1	1	24
22	10	11	1	2	6	18

Reference	Age	Industry	Form	Province	Area	Employees
Business	Age	Industry	Form	Province	Area	AVG.
15	7	1	2	1	2	30
19	3	8	1	2	3	25
33	4	8	2	1	5	32
7	30	1	2	2	4	35
13	10	5	1	2	4	35
40	8	1	2	1	1	41
41	10	9	2	2	6	39
5	5	2	2	2	4	56
44	20	7	2	1	1	64
31	13	1	2	2	6	96
18	20	7	2	2	3	41
6	7	3	2	2	4	87
14	3	1	2	1	1	90
34	8	7	1	1	1	124

Appendix 4

Appendix 4 refer to all the inflation corrected data for the individual businesses

Asset Growth Base Trend					Owners Income per owner base trend					Employees Income base trend					Tax Income base trend					
AGT1999/00	AGT2000/1	AGT2001/2	AGT2002/3	AGT2003/4	OIT1999/00	OIT2000/1	OIT2001/2	OIT2002/3	OIT2003/4	EIT1999/00	EIT2000/1	EIT2001/2	EIT2002/3	EIT2003/4	TIT1999/00	TIT2000/1	TIT2001/2	TIT2002/3	TIT2003/4	Business
v48	v49	v50	v51	v52	v53	v54	v55	v56	v57	v58	v59	v60	v61	v62	v63	v64	v65	v66	v67	V1
70000	75460	80440	87921	93900	5000	5390	5746	6280	6707	42000	45276	48264	52753	56340	0	0	0	0	0	3
	2000	2132	2330	2489		0	0	0	0		9320	9935	10859	11598		0	0	0	0	20
2500000	2695000	2872870	3140047	3353570	88000	94864	101125	110530	118046	12871	13875	14791	16167	17266	18789	20255	21591	23599	25204	12
	50000	53300	58257	62218		24000	25584	27963	29865		9000	9594	10486	11199		0	0	0	0	24
		150000	163950	175099			46000	50278	53697			12000	13116	14008			0	0	0	29
			7000	7476				0	0				1575	1682				3250	3471	16
210000	226380	241321	263764	281700	60000	64680	68949	75361	80486	24000	25872	27580	30144	32194	1610	1736	1850	2022	2160	27
140000	150920	160881	175843	187800	24000	25872	27580	30144	32194	8000	8624	9193	10048	10731	0	0	0	0	0	25
915000	986370	1051470	1149257	1227407	127500	137445	146516	160142	171032	42500	45815	48839	53381	57011	1634	1761	1878	2052	2192	11
35000	37730	40220	43961	46950	15000	16170	17237	18840	20121	4650	5013	5344	5840	6238	0	0	0	0	0	26
	218118	232514	254138	271419		46000	49036	53596	57241		15014	16005	17493	18683		30122	32110	35096	37483	2
		1322844	1445869	1544188			0	0	0			12825	14018	14971			0	0	0	23
882411	951240	1014021	1108325	1183691	0	0	0	0	0	6928	7469	7962	8702	9294	7000	7546	8044	8792	9390	10
250000	269500	287287	314005	335357	234225	252494	269159	294191	314196	43303	46680	49761	54389	58087	15200	16386	17467	19091	20390	38
1001200	1079294	1150527	1257526	1343038	420000	452760	482642	527528	563400	76364	82320	87753	95914	102436	300000	323400	344744	376806	402428	36
		20000	21860	23346			96000	104928	112063			1270	1388	1482			16340	17859	19074	39
2281683	2459654	2621991	2865836	3060713	1	1	1	1	1	56472	60876	64894	70929	75752	100130	107940	115064	125765	134317	28
230000	247940	264304	288884	308528	171934	185345	197578	215953	230638	28731	30972	33016	36087	38541	0	0	0	0	0	37
		60000	65580	70039			0	0	0			8000	8744	9339			0	0	0	35
72000	77616	82739	90433	96583	46000	49588	52861	57777	61706	21600	23285	24822	27130	28975	0	0	0	0	0	32
625000	673750	718218	785012	838393	72000	77616	82739	90433	96583	20844	22470	23953	26181	27961	0	0	0	0	0	8
4928491	5312913	5663566	6190277	6611216	387235	417439	444990	486374	519448	170180	183455	195562	213750	228285	52036	56095	59797	65358	69803	21
			39500	42186				8400	8971				7200	7690				0	0	17
		52000	56836	60701			0	0	0			34286	37474	40023			0	0	0	30
280000	301840	321761	351685	375600	75550	81443	86818	94892	101345	30000	32340	34474	37681	40243	198545	214032	228158	249376	266334	43
186662	201222	214502	234451	250394	6667	7187	7661	8373	8943	1389	1497	1596	1744	1863	5000	5390	5746	6280	6707	4
500000	539000	574574	628009	670714	13000	14014	14939	16328	17439	9000	9702	10342	11304	12073	0	0	0	0	0	9
12566	13546	14440	15783	16856	85550	92223	98310	107452	114759	28800	31046	33095	36173	38633	31434	33886	36122	39482	42166	45
230000	247940	264304	288884	308528	880000	948640	1011250	1105297	1180457	16696	17998	19186	20970	22396	1465	1579	1684	1840	1965	42

Asset Growth Base Trend					Owners Income per owner base trend					Employees Income base trend					Tax Income base trend					
AGT1999/00	AGT2000/1	AGT2001/2	AGT2002/3	AGT2003/4	OIT1999/00	OIT2000/1	OIT2001/2	OIT2002/3	OIT2003/4	EIT1999/00	EIT2000/1	EIT2001/2	EIT2002/3	EIT2003/4	TIT1999/00	TIT2000/1	TIT2001/2	TIT2002/3	TIT2003/4	Business
	166326	177304	193793	206971		19000	20254	22138	23643		16125	17189	18788	20065		789	841	919	982	1
300000	323400	344744	376806	402428	46000	49588	52861	57777	61706	420000	452760	482642	527528	563400	7000	7546	8044	8792	9390	22
3500000	3773000	4022018	4396066	4694998	96000	103488	110318	120578	128777	48989	52810	56295	61531	65715	70000	75460	80440	87921	93900	15
		3000000	3279000	3501972			46000	50278	53697			1680	1836	1961			0	0	0	19
	10500000	11193000	12233949	13065858		46000	49036	53596	57241		60327	64308	70289	75069		35000	37310	40780	43553	33
3663000	3948714	4209329	4600797	4913651	46000	49588	52861	57777	61706	55139	59440	63363	69256	73965	0	0	0	0	0	7
207117	223272	238008	260143	277833	0	0	0	0	0	9514	10256	10933	11950	12763	0	0	0	0	0	13
16000	17248	18386	20096	21463	54444	58691	62564	68383	73033	25667	27669	29495	32238	34430	834000	899052	958389	1047520	1118751	40
1300000	1401400	1493892	1632824	1743856	0	0	0	0	0	11261	12139	12941	14144	15106	0	0	0	0	0	41
3500000	3773000	4022018	4396066	4694998	150000	161700	172372	188403	201214	28696	30934	32976	36042	38493	200000	215600	229830	251204	268286	5
21000	22638	24132	26376	28170	775550	836043	891222	974105	1040345	22000	23716	25281	27632	29511	76543	82513	87959	96139	102677	44
2900000	3126200	3332529	3642454	3890141	520000	560560	597557	653130	697543	47667	51385	54776	59870	63941	700000	754600	804404	879213	939000	31
12000000	12936000	13789776	15072225	16097136	250000	269500	287287	314005	335357	3846	4146	4420	4831	5159	0	0	0	0	0	18
5208000	5614224	5984763	6541346	6986157	46000	49588	52861	57777	61706	36535	39384	41984	45888	49008	0	0	0	0	0	6
		9332078	10199962	10893559			40000	43720	46693			21726	23746	25361			0	0	0	14
21500000	23177000	24706682	27004403	28840703	1375447	1482732	1580592	1727587	1845063	130995	141213	150533	164532	175720	0	0	0	0	0	34

Appendix 5

Appendix 7 refer to the Deflated base data as retrieved from the various businesses

Asset Growth					Owners Income per owner					Employees Income					Tax Income					
AG1999/00	AG2000/1	AG2001/2	AG2002/3	AG2003/4	OI1999/00	OI2000/1	OI2001/2	OI2002/3	OI2003/4	EI1999/00	EI2000/1	EI2001/2	EI2002/3	EI2003/4	TI1999/00	TI2000/1	TI2001/2	TI2002/3	TI2003/4	Business
v8	v9	v10	v11	v12	v13	v14	v15	v16	v17	v18	v19	v20	v21	v22	v23	v24	v25	v26	v27	V1
70000	70000	91000	89000	90000	5000	12525	0	0	0	42000	42000	42000	40000	40000	0	0	0	0	0	1
	2000	2000	2000	2000		0	0	0	0		9320	6480	14400	19200		0	0	0	0	2
2500000	1900000	1060000	1450000	1390000	88000	88000	88000	94000	240000	12871	13223	15002	12210	12077	18789	27115	42351	14551	130000	3
	50000	50000	50000	50000		24000	24000	24000	24000		9000	4500	8000	8400		0	0	4300	3000	4
		150000	2000000	250000			46000	24000	42000			12000	12000	17333			0	0	0	5
			7000	11000				0	0				1575	1575				3250	350	6
210000	512000	2000000	2003000	3023000	60000	60000	180000	180000	240000	24000	24000	16473	16909	17143	1610	8000	8120	16200	19000	7
140000	300000	800000	900000	1100000	24000	26400	37200	34800	36120	8000	7680	8400	7385	9680	0	0	0	183490	18100	8
915000	2100000	2500000	5240000	6000000	127500	127500	41500	241500	241500	42500	24309	30882	350000	400000	1634	180000	114000	488000	381000	9
35000	40000	45200	55120	60000	15000	16800	18000	21600	24000	4650	4286	6857	7145	8143	0	0	2000	0	8000	10
	218118	259885	405418	430000		46000	48000	72000	74000		15014	11720	10841	1111		30122	34633	35267	40134	11
		1322844	1262844	1276844			0	0	0			12825	9537	8482			0	0	42000	12
882411	882411	882411	1066411	1026411	0	0	0	0	0	6928	7698	8554	9504	10560	7000	0	1564	1899	7387	13
250000	250000	250000	250000	250000	234225	249175	265080	282000	300000	43303	48114	53460	59400	66000	15200	26100	25100	30000	30000	14
1001200	1002000	1000100	1100000	1000000	420000	420000	300000	300000	240000	76364	77455	79636	80000	96000	300000	300000	300000	200000	100000	15
		20000	40000	180000			96000	96000	132000			1270	1380	1500			16340	17859	19074	16
2281683	2352250	2425000	2500000	4000000	1	0	0	0	0	56472	57624	58800	60000	96000	100130	90000	123000	110000	300000	17
230000	600000	1200000	1660000	1869000	171934	186885	203136	220800	240000	28731	31229	33945	36897	40105	0	23000	58000	83000	90000	18
		60000	70000	150000			0	0	0			8000	8000	11077			0	0	0	19
72000	72000	72000	72000	72000	46000	36000	36000	36000	36000	21600	23077	23077	24000	26000	0	0	0	5480	0	20
625000	625000	625000	625000	660000	72000	72000	72000	72000	72000	20844	20529	21870	21600	21600	0	0	0	0	0	21
4928491	6354617	7327414	7647386	7471368	387235	415759	384309	850331	525157	170180	231310	245494	305319	310730	52036	82663	623139	0	120407	22
			39500	256362				8400	12000				7200	12000				0	0	23
		52000	63400	80000			0	0	20000			34286	32000	49600			0	0	0	24
280000	150000	250000	250000	300000	75550	85550	85550	88550	95550	30000	30000	30000	27857	30000	198545	354887	451287	326543	298465	25
186662	188773	201728	119424	197654	6667	9667	10260	10050	11293	1389	1442	13711	14395	16774	5000	11000	0	98012	9467	26
500000	550000	600000	650000	750000	13000	14000	15000	16000	16000	9000	9600	10200	10800	10800	0	0	0	0	3500	27
12566	15556	19000	19877	19800	85550	300017	303350	300000	306667	28800	30000	30000	30000	33000	31434	34445	34683	25367	25000	28

Asset Growth					Owners Income per owner					Employees Income					Tax Income					
AG1999/00	AG2000/1	AG2001/2	AG2002/3	AG2003/4	OI1999/00	OI2000/1	OI2001/2	OI2002/3	OI2003/4	EI1999/00	EI2000/1	EI2001/2	EI2002/3	EI2003/4	TI1999/00	TI2000/1	TI2001/2	TI2002/3	TI2003/4	Business
230000	250000	280000	240000	180000	880000	440000	440000	440000	440000	16696	17647	20625	27692	30000	1465	33122	107899	199345	58966	29
	166326	554179	902245	910200		19000	24000	0	24000		16125	16884	15621	15875		789	0	0	3300	30
300000	310000	310100	203000	201000	46000	120000	120000	192000	0	420000	360000	360000	240000	120000	7000	14000	12000	0	0	31
3500000	3500000	3700000	3700000	4500000	96000	96000	96000	96000	96000	48989	54432	60480	67200	68800	70000	80000	80000	110000	200500	32
		3000000	3200000	3200000			46000	12000	100000			1680	2000	2077			0	0	8000	33
	10500000	10800000	11000000	11500000		46000	64868	69750	75000		60327	64868	69750	75000		35000	0	344000	90100	34
3663000	3586000	3715000	3101000	5086000	46000	46000	153500	192500	227500	55139	59999	64515	66895	77579	0	75000	113000	990000	250000	35
207117	218118	259885	405418	412000	0	0	0	0	0	9514	12571	11686	12857	24286	0	0	0	70000	80000	36
16000	40000	95000	140000	230000	54444	56778	60166	60166	70000	25667	27000	27000	29334	30000	834000	764333	98133	900012	943222	37
1300000	1300000	1300000	1300000	1300000	0	0	0	0	0	11261	12109	13020	14308	16216	0	0	0	0	0	38
3500000	5400000	6100000	6200000	6400000	150000	150000	175000	200000	250000	28696	28696	21379	21379	23571	200000	210000	400000	640000	690000	39
21000	25000	150000	550000	434000	775550	392775	295183	296183	298517	22000	24933	27508	27508	34182	76543	43566	27897	55267	60455	40
2900000	3600000	4250000	8900000	11400000	520000	107143	128571	700000	900000	47667	49429	50000	56667	57143	700000	1000000	1200000	1800000	2400000	41
12000000	11500000	11000000	11500000	10000000	250000	250000	250000	280000	300000	3846	3333	5833	5000	6250	0	20000	30000	40000	50000	42
5208000	4685000	5408000	5018000	536000	46000	140500	153500	192500	227500	36535	39755	42747	51424	52391	0	0	339000	308000	515000	43
		9332078	11405874	10368976			40000	48000	72000			21726	22458	22652			0	0	0	44
21500000	21920000	22390400	22917248	23507318	1375447	487747	518880	564000	600000	130995	139356	155664	178105	200000	0	0	0	50000	100000	45

Appendix 6

Appendix 7 refer to all the employment data used for analysis, indicating the number of people employed during each year per business

Employees					Reference
E1999/00	Business	E2001/2	E2002/3	E2003/4	Company
v68	v1	v70	v71	v72	V1
2	3	2	3	3	3
	20	3	6	8	20
3	12	6	8	13	12
	24	8	6	5	24
	29	4	4	9	29
	16		4	4	16
5	27	11	22	28	27
6	25	9	13	15	25
6	11	34	40	50	11
8	26	14	22	14	26
	2	14	22	23	2
	23	8	19	22	23
10	10	10	10	10	10
10	38	10	10	10	38
11	36	11	9	5	36
	39	11	11	11	39
12	28	12	12	15	28
12	37	24	30	38	37
	35	12	12	13	35
13	32	13	13	12	32
13	8	16	18	20	8
14	21	14	14	14	21
	17		15	10	17

Employees					Reference
E1999/00	Business	E2001/2	E2002/3	E2003/4	Company
	30	14	15	15	30
18	43	20	56	56	43
18	4	20	0	20	4
20	9	20	20	20	9
20	45	20	20	20	45
23	42	32	26	26	42
	1	25	24	24	1
25	22	20	18	4	22
25	15	25	25	25	15
	19	25	25	26	19
	33	32	32	32	33
33	7	33	38	38	7
35	13	35	35	35	13
36	40	40	45	48	40
39	41	39	39	37	41
46	5	58	58	70	5
60	44	65	65	66	44
60	31	92	120	140	31
65	18	30	30	20	18
83	6	83	92	92	6
	14	92	89	89	14
105	34	100	95	90	34

Appendix 7

The results of the statistical analysis of the data as performed by the Department of statistics at the University of Pretoria

```
PROGRAM - NORM DTA - TWEEDE METODE
title1 'O18B';
*-------------------------------------------------------------
------------*
|O18B SAS - Proc GLM
|
| Data: NORM     DTA A
|
*-------------------------------------------------------------
------------*;
options linesize=73;
DATA d1;
set dta.norm;
*if v1¬=' ';

jasset=0;
jowner=0;
jemp  =0;
jtax  =0;
array ver1 (j) v8 -v12;
array ver2 (j) v13-v17;
array ver3 (j) v18-v22;
array ver4 (j) v23-v27;
do over ver1;
        if ver1>=0 then  jasset+1;
        if ver2>=0 then  jowner+1;
        if ver3>=0 then  jemp  +1;
        if ver4>=0 then  jtax  +1;
        end;

wasset=mean(of v8 -v12);
wowner=sum(of v13-v17);
iowner=sum(of v53-v57);
rowner=((wowner-iowner)/jowner)/wasset;
wemp  =sum(of v18-v22);
iemp  =sum(of v58-v62);
remp  =((wemp-iemp)/jemp)/wasset;
wtax  =sum(of v23-v27);
itax  =sum(of v63-v67);
```

```
rtax  =((wtax-itax)/jtax)/wasset;
wtot=sum(of wowner wemp wtax);
itot=sum(of iowner iemp itax);
rtot  =((wtot-itot)/jemp)/wasset;


if v68>0 then begin = v68;
else if v69>0 then begin = v69;
else if v70>0 then begin = v70;
else if v71>0 then begin = v71;
else if v72>0 then begin = v72;
if 1<=begin<=19 then size='Klein';
if    begin>=20 then size='Groot';
if 1 <=v2<=5  then oud=' 1 -5 ';
if 6 <=v2<=10 then oud=' 6 -10';
if     v2>=11 then oud='11+   ';

proc print data=d1(obs=3);

proc glm data=d1;
class size oud  ;
model rowner = size|oud  jowner / ss3;
means size|oud  ;
lsmeans size|oud         / stderr pdiff;
title2 ' J Olivier - ANOVA';
title3 'NORM DTA             ';

proc glm data=d1;
class size oud  ;
model remp   = size|oud  jemp   / ss3;
means size|oud  ;
lsmeans size|oud         / stderr pdiff;
title2 ' J Olivier - ANOVA';
title3 'NORM DTA             ';

proc glm data=d1;
class size oud ;
model rtax   = size|oud  jtax   / ss3;
means size|oud        ;
lsmeans size|oud         / stderr pdiff;
title2 ' J Olivier - ANOVA';
title3 'NORM DTA             ';

proc glm data=d1;
class size oud ;
model rtot   = size|oud  jemp   / ss3;
means size|oud        ;
```

```
lsmeans size|oud         / stderr pdiff;
title2 ' J Olivier - ANOVA';
title3 'NORM DTA             ';

RESULTATE
1                                   O18B
1
                                              10:40 Tuesday,
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 Obs v1 v2 v4 v5   v7    v8    v9     v10    v11    v12
v13  v14    v15

   1  1  4  1  1 24.25     . 166326 554179 902245 910200
. 19000 24000
   2  2  4  1  1 16.75     . 218118 259885 405418 430000
. 46000 48000
   3  3 10  1  2  2.40 70000  70000  91000  89000  90000
5000 12525     0

 Obs   v16   v17  v18     v19      v20      v21      v22
v23   v24   v25

   1     0 24000     . 16124.79 16884.32 15620.92 15875.00
.    789     0
   2 72000 74000     . 15013.88 11720.07 10841.14 13330.43
.  30122 34633
   3     0     0 42000 42000.00 42000.00 40000.00 40000.00
0      0     0

 Obs   v26   v27  v48    v49     v50       v51       v52
v53  v54

   1     0  3300     . 166326 177303.52 193792.74 206970.65
. 19000
   2 35267 40134     . 218118 232513.79 254137.57 271418.93
. 46000
   3     0     0 70000  75460  80440.36  87921.31  93899.96
5000  5390

 Obs    v55      v56      v57    v58     v59      v60
v61      v62

   1 20254.00 22137.62 23642.98     . 16124.79 17189.03
18787.61 20065.16
   2 49036.00 53596.35 57240.90     . 15013.88 16004.79
17493.24 18682.78
```

```
   3  5745.74  6280.09  6707.14 42000 45276.00 48264.22
52752.79 56339.98

 Obs v63   v64      v65      v66      v67 v68 v69 v70 v71
v72 v73 v74

   1  .    789   841.07   919.29   981.81  .   24  25  24
24  .   2
   2  .  30122 32110.05 35096.29 37482.83  .    8  14  22
23  .   1
   3  0      0     0.00     0.00     0.00  2    2   2   3
3  4   4

 Obs v75 v76 v77 v78 v79 jasset jowner jemp jtax j   wasset
wowner

   1  2   2   2   1   1     4      4     4    4  6
633237.50  67000
   2  1   1   1   1   2     4      4     4    4  6
328355.25 240000
   3  4   4   4   2   1     5      5     5    5  6
82000.00  17525

 Obs   iowner    rowner     wemp      iemp      remp
wtax      itax

   1  85034.60 -0.007120  64505.03  72166.59 -0.003025
4089   3531.17
   2 205873.25  0.025983  50905.52  67194.68 -0.012402
140156 134811.17
   3  29122.97 -0.028288 206000.00 244632.98 -0.094227
0      0.00

 Obs       rtax     wtot       itot      rtot    begin
size    oud

   1 .000220228  135594.03  160732.37  -0.00992    24
Groot  1 -5
   2 .004069393  431061.52  407879.10   0.01765     8
Klein  1 -5
   3          0  223525.00  273755.96  -0.12251     2
Klein  6 -10
1                                 O18B
2
                              J Olivier - ANOVA
                            NORM DTA
```

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The GLM Procedure

Class Level Information

Class	Levels	Values
size	2	Groot Klein
oud	3	1 -5 6 -10 11+

Number of observations 45

1 O18B 3

J Olivier - ANOVA
NORM DTA

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The GLM Procedure

Dependent Variable: rowner

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	12.54517340	2.09086223	0.99	0.4452
Error	38	80.18019565	2.11000515		
Corrected Total	44	92.72536905			

R-Square	Coeff Var	Root MSE	rowner Mean
0.135294	1281.083	1.452586	0.113387

Source	DF	Type III SS	Mean Square	F Value	Pr > F

```
 size                          1    0.05535554    0.05535554
0.03  0.8722
 oud                           2    5.21253714    2.60626857
1.24  0.3022
 size*oud                      2    5.27972557    2.63986279
1.25  0.2977
 jowner                        1    0.00018792    0.00018792
0.00  0.9925
1                                        O18B
4

                              J Olivier - ANOVA
                            NORM DTA
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                               The GLM Procedure

 Level of        ----------rowner----------   ----------
jowner----------
 size         N            Mean        Std Dev            Mean
Std Dev

 Groot       19     0.26795739     2.25853770     4.68421053
0.67103830
 Klein       26     0.00043220     0.06980731     4.26923077
1.04144870


 Level of        ----------rowner----------   ----------
jowner----------
 oud          N            Mean        Std Dev            Mean
Std Dev

 1 -5        17     0.02036768     0.04987208     3.52941176
0.94324222
 6 -10       20     0.45634806     2.05564354     5.00000000
0.00000000
 11+          8    -0.54634804     0.95739931     5.00000000
0.00000000


 Level of Level of    ----------rowner---------- ----------
jowner---------
 size     oud       N          Mean      Std Dev
Mean      Std Dev
```

```
 Groot    1 -5      5  -0.00046407   0.00374156
3.80000000   0.83666003
 Groot    6 -10     9   1.03190048   3.05813832
5.00000000   0.00000000
 Groot    11+       5  -0.83871870   1.14714194
5.00000000   0.00000000
 Klein    1 -5      12   0.02904758   0.05773427
3.41666667   0.99620492
 Klein    6 -10     11  -0.01455846   0.07030613
5.00000000   0.00000000
 Klein    11+       3  -0.05906360   0.08004388
5.00000000   0.00000000
1                                  O18B
5

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                            The GLM Procedure
                           Least Squares Means


H0:LSMean1=
                    rowner         Standard    H0:LSMEAN=0
LSMean2
    size            LSMEAN            Error       Pr > |t|
Pr > |t|

    Groot       0.06481501       0.35149638          0.8547
0.8722
    Klein      -0.01475534       0.34513374          0.9661


                        rowner         Standard
LSMEAN
       oud              LSMEAN            Error    Pr > |t|
Number

       1 -5         0.01119697       0.50694865       0.9825
1
       6 -10        0.51072735       0.39248394       0.2010
2
       11+         -0.44683481       0.57342109       0.4407
3
```

Least Squares Means for effect oud
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: rowner

i/j	1	2	3
1		0.5062	0.5947
2	0.5062		0.1325
3	0.5947	0.1325	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

size	oud	Number	rowner LSMEAN	Standard Error	Pr > |t|	LSMEAN Number
Groot	1 -5		-0.00284942	0.69705599	0.9968	1
Groot	6 -10		1.03395682	0.53096398	0.0589	2
Groot	11+		-0.83666236	0.68518520	0.2296	3
Klein	1 -5		0.02524335	0.58165822	0.9656	4
Klein	6 -10		-0.01250212	0.48917929	0.9797	5
Klein	11+		-0.05700726	0.86649453	0.9479	6

1 O18B 6

J Olivier - ANOVA
NORM DTA

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The GLM Procedure

Least Squares Means

Least Squares Means for effect size*oud
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: rowner

i/j	1	2	3	4	5	6
1		0.2755	0.4242	0.9717	0.9916	0.9630
2	0.2755		0.0265	0.2653	0.1173	0.2670
3	0.4242	0.0265		0.3902	0.2995	0.4669
4	0.9717	0.2653	0.3902		0.9655	0.9421
5	0.9916	0.1173	0.2995	0.9655		0.9627
6	0.9630	0.2670	0.4669	0.9421	0.9627	

NOTE: To ensure overall protection level, only probabilities associated
with pre-planned comparisons should be used.
1 O18B
7

J Olivier - ANOVA
NORM DTA
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The GLM Procedure

Class Level Information

Class	Levels	Values
size	2	Groot Klein
oud	3	1 -5 6 -10 11+

Number of observations 45

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The GLM Procedure

Dependent Variable: remp

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	0.19062847	0.03177141	0.93	0.4831
Error	38	1.29471361	0.03407141		
Corrected Total	44	1.48534208			

R-Square	Coeff Var	Root MSE	remp Mean
0.128340	-5840.117	0.184584	-0.003161

Source	DF	Type III SS	Mean Square	F Value	Pr > F
size	1	0.03275003	0.03275003	0.96	0.3331
oud	2	0.09607329	0.04803665	1.41	0.2567
size*oud	2	0.01344556	0.00672278	0.20	0.8218
jemp	1	0.02516753	0.02516753	0.74	0.3955

The GLM Procedure

Level of jemp	----------remp----------			----------	
size	N	Mean	Std Dev	Mean	Std Dev
Groot	19	-0.04853483	0.16689806	4.68421053	0.67103830
Klein	26	0.02999744	0.19144182	4.26923077	1.04144870

Level of jemp	----------remp----------			----------	
oud	N	Mean	Std Dev	Mean	Std Dev
1 -5	17	0.05248224	0.23482836	3.52941176	0.94324222
6 -10	20	-0.05303581	0.16220967	5.00000000	0.00000000
11+	8	0.00328622	0.00743996	5.00000000	0.00000000

Level of size	Level of oud	----------remp---------- N	Mean	Std Dev	---------- Mean	Std Dev
Groot	1 -5	5	-0.00105717	0.00126137	3.80000000	0.83666003
Groot	6 -10	9	-0.10396067	0.23681393	5.00000000	0.00000000
Groot	11+	5	0.00375403	0.00605812	5.00000000	0.00000000
Klein	1 -5	12	0.07479033	0.27993493	3.41666667	0.99620492
Klein	6 -10	11	-0.01137001	0.02973944	5.00000000	0.00000000
Klein	11+	3	0.00250654	0.01090299	5.00000000	0.00000000

1 O18B 10

J Olivier - ANOVA

NORM DTA

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The GLM Procedure
Least Squares Means

H0:LSMean1=

size	remp LSMEAN	Standard Error	H0:LSMEAN=0 Pr > |t|	H0:LSMean1=LSMean2 Pr > |t|
Groot	-0.04041778	0.04466570	0.3712	0.3331
Klein	0.02078577	0.04385718	0.6383	

oud	remp LSMEAN	Standard Error	Pr > |t|	LSMEAN Number
1 -5	0.07268117	0.06441949	0.2663	1
6 -10	-0.08146241	0.04987411	0.1107	2
11+	-0.02066679	0.07286634	0.7782	3

Least Squares Means for effect oud
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: remp

i/j	1	2	3
1		0.1114	0.3949
2	0.1114		0.4471
3	0.3949	0.4471	

NOTE: To ensure overall protection level, only probabilities associated
with pre-planned comparisons should be used.

size	oud	remp LSMEAN	Standard Error	Pr > |t|	LSMEAN Number
Groot	1 -5	0.02654744	0.08857700	0.7660	1
Groot	6 -10	-0.12775775	0.06747119	0.0659	2
Groot	11+	-0.02004304	0.08706854	0.8192	3
Klein	1 -5	0.11881491	0.07391306	0.1162	4
Klein	6 -10	-0.03516708	0.06216148	0.5749	5
Klein	11+	-0.02129053	0.11010806	0.8477	6

1 O18B
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J Olivier - ANOVA
NORM DTA
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The GLM Procedure
Least Squares Means

Least Squares Means for effect size*oud
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: remp

i/j	1	2	3	4	5	6
1		0.2028	0.7244	0.3624	0.5982	0.7474
2	0.2028		0.3021	0.0359	0.2714	0.3924

```
     3      0.7244      0.3021                 0.2774
0.8801      0.9927
     4      0.3624      0.0359      0.2774
0.1708      0.3331
     5      0.5982      0.2714      0.8801      0.1708
0.9087
     6      0.7474      0.3924      0.9927      0.3331
0.9087


 NOTE: To ensure overall protection level, only
probabilities associated
       with pre-planned comparisons should be used.
1                                    O18B
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                             J Olivier - ANOVA
                           NORM DTA
                                                 10:40 Tuesday,
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                             The GLM Procedure

                          Class Level Information

                  Class         Levels    Values

                  size               2    Groot Klein

                  oud                3    1 -5 6 -10 11+


                       Number of observations    45
1                                    O18B
13
                             J Olivier - ANOVA
                           NORM DTA
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October 4, 2005

                             The GLM Procedure

 Dependent Variable: rtax

                                        Sum of
 Source                      DF       Squares    Mean Square
F Value  Pr > F
```

Model	6	0.84748894	0.14124816	0.89 0.5087
Error	38	5.99984830	0.15789074	
Corrected Total	44	6.84733725		

R-Square	Coeff Var	Root MSE	rtax Mean
0.123769	-1006.764	0.397355	-0.039469

Source	DF	Type III SS	Mean Square	F Value	Pr > F
size	1	0.07445861	0.07445861	0.47	0.4964
oud	2	0.21323525	0.10661763	0.68	0.5150
size*oud	2	0.38748169	0.19374085	1.23	0.3045
jtax	1	0.02487943	0.02487943	0.16	0.6936

The GLM Procedure

Level of size	N	rtax Mean	rtax Std Dev	jtax Mean	jtax Std Dev
Groot	19	-0.12342411	0.59681716	4.68421053	0.67103830
Klein	26	0.02188366	0.09035833	4.26923077	1.04144870

```
 Level of        ------------rtax-----------   ------------
jtax-----------
 oud          N            Mean         Std Dev            Mean
Std Dev

 1 -5        17      0.00564971      0.05487163      3.52941176
0.94324222
 6 -10       20     -0.10789996      0.58372556      5.00000000
0.00000000
 11+          8      0.03573391      0.14720309      5.00000000
0.00000000


 Level of Level of    -----------rtax---------- -----------
jtax----------
 size     oud        N          Mean       Std Dev
Mean       Std Dev

 Groot    1 -5       5    0.00870681    0.01517202
3.80000000    0.83666003
 Groot    6 -10      9   -0.30456792    0.84523277
5.00000000    0.00000000
 Groot    11+        5    0.07050383    0.17643258
5.00000000    0.00000000
 Klein    1 -5      12    0.00437592    0.06549627
3.41666667    0.99620492
 Klein    6 -10     11    0.05301019    0.11212052
5.00000000    0.00000000
 Klein    11+        3   -0.02221596    0.07432408
5.00000000    0.00000000
1                                    O18B
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                            J Olivier - ANOVA
                          NORM DTA
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                            The GLM Procedure
                           Least Squares Means


H0:LSMean1=
                                      Standard    H0:LSMEAN=0
LSMean2
    size       rtax LSMEAN            Error        Pr > |t|
Pr > |t|
```

```
    Groot      -0.08174403      0.09615180          0.4006
0.4964
    Klein       0.01054036      0.09441131          0.9117


                                          Standard
LSMEAN
       oud        rtax LSMEAN            Error     Pr > |t|
Number

       1 -5        0.04215038      0.13867576       0.7628
1
       6 -10      -0.14943933      0.10736395       0.1720
2
       11+         0.00048346      0.15685929       0.9976
3


                  Least Squares Means for effect oud
                 Pr > |t| for H0: LSMean(i)=LSMean(j)

                        Dependent Variable: rtax

              i/j              1              2
3

                 1                      0.3526
0.8593
                 2         0.3526
0.3844
                 3         0.8593         0.3844


 NOTE: To ensure overall protection level, only
probabilities associated
       with pre-planned comparisons should be used.


                                              Standard
LSMEAN
  size      oud        rtax LSMEAN            Error     Pr >
|t|      Number

  Groot     1 -5        0.03615296       0.19067961
0.8506            1
  Groot     6 -10      -0.32822839       0.14524515
0.0296            2
```

```
  Groot    11+         0.04684335      0.18743235
0.8040             3
  Klein    1 -5        0.04814779      0.15911255
0.7638             4
  Klein    6 -10       0.02934972      0.13381495
0.8276             5
  Klein    11+        -0.04587643      0.23702950
0.8476             6


1                                   O18B
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                              J Olivier - ANOVA
                            NORM DTA
                                                  10:40 Tuesday,
October 4, 2005

                              The GLM Procedure
                             Least Squares Means

                  Least Squares Means for effect size*oud
                    Pr > |t| for H0: LSMean(i)=LSMean(j)

                              Dependent Variable: rtax

  i/j            1           2           3           4
5           6

     1                 0.1633      0.9700      0.9559
0.9784      0.7975
     2      0.1633                 0.0988      0.1313
0.0524      0.2932
     3      0.9700      0.0988                 0.9962
0.9354      0.7511
     4      0.9559      0.1313      0.9962
0.9373      0.7616
     5      0.9784      0.0524      0.9354      0.9373
0.7729
     6      0.7975      0.2932      0.7511      0.7616
0.7729


 NOTE: To ensure overall protection level, only
probabilities associated
       with pre-planned comparisons should be used.
1                                   O18B
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```

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J Olivier - ANOVA
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The GLM Procedure

Class Level Information

Class	Levels	Values
size	2	Groot Klein
oud	3	1 -5 6 -10 11+

Number of observations 45
1 O18B
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The GLM Procedure

Dependent Variable: rtot

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	6.45310342	1.07551724	0.49	0.8152
Error	38	84.23507455	2.21671249		
Corrected Total	44	90.68817797			

R-Square	Coeff Var	Root MSE	rtot Mean
0.071157	2104.158	1.488863	0.070758

Source	DF	Type III SS	Mean Square	F Value	Pr > F
size	1	0.04776986	0.04776986	0.02	0.8841
oud	2	3.04467035	1.52233518	0.69	0.5093
size*oud	2	2.55660591	1.27830296	0.58	0.5666
jemp	1	0.09160694	0.09160694	0.04	0.8400

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The GLM Procedure

Level of size	N	rtot Mean	rtot Std Dev	jemp Mean	jemp Std Dev
Groot	19	0.09599846	2.22874694	4.68421053	0.67103830
Klein	26	0.05231330	0.22410673	4.26923077	1.04144870

Level of oud	N	rtot Mean	rtot Std Dev	jemp Mean	jemp Std Dev
1 -5	17	0.07849964	0.24257854	3.52941176	0.94324222
6 -10	20	0.29541230	2.05139379	5.00000000	0.00000000
11+	8	-0.50732791	0.93401431	5.00000000	0.00000000

Level of size	Level of oud	rtot Mean	rtot Std Dev	jemp Mean	jemp Std Dev

size	oud	N	Mean	Std Dev	Mean	Std Dev
Groot	1 -5	5	0.00718558	0.01716912	3.80000000	0.83666003
Groot	6 -10	9	0.62337189	3.12234944	5.00000000	0.00000000
Groot	11+	5	-0.76446084	1.13725884	5.00000000	0.00000000
Klein	1 -5	12	0.10821383	0.28672235	3.41666667	0.99620492
Klein	6 -10	11	0.02708172	0.14267198	5.00000000	0.00000000
Klein	11+	3	-0.07877301	0.16075412	5.00000000	0.00000000

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The GLM Procedure
Least Squares Means

H0:LSMean1=

size	rtot LSMEAN	Standard Error	H0:LSMEAN=0 Pr > |t|	LSMean2 Pr > |t|
Groot	-0.05734680	0.36027472	0.8744	0.8841
Klein	0.01657078	0.35375318	0.9629	

oud	rtot LSMEAN	Standard Error	LSMEAN Pr > |t|	Number
1 -5	0.12602852	0.51960928	0.8097	1
6 -10	0.27982560	0.40228591	0.4909	2

```
       11+       -0.46701814      0.58774181      0.4318
3


                    Least Squares Means for effect oud
                   Pr > |t| for H0: LSMean(i)=LSMean(j)

                         Dependent Variable: rtot

              i/j              1              2
3

                  1                      0.8413
0.5020
                  2         0.8413
0.2493
                  3         0.5020         0.2493


 NOTE: To ensure overall protection level, only
probabilities associated
       with pre-planned comparisons should be used.


                                                Standard
LSMEAN
  size      oud       rtot LSMEAN           Error     Pr >
|t|      Number

  Groot    1 -5        0.05985098      0.71446440
0.9337            1
  Groot    6 -10       0.57797068      0.54422437
0.2949            2
  Groot    11+        -0.80986205      0.70229714
0.2560            3
  Klein    1 -5        0.19220606      0.59618466
0.7489            4
  Klein    6 -10      -0.01831948      0.50139614
0.9710            5
  Klein    11+        -0.12417422      0.88813453
0.8895            6


1                                  O18B
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                             J Olivier - ANOVA
                           NORM DTA
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The GLM Procedure
Least Squares Means

Least Squares Means for effect size*oud
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: rtot

i/j	1	2	3	4	5	6
1		0.5927	0.4162	0.8706	0.9339	0.8779
2	0.5927		0.1029	0.6755	0.3785	0.4836
3	0.4162	0.1029		0.3305	0.3305	0.5321
4	0.8706	0.6755	0.3305		0.8142	0.7852
5	0.9339	0.3785	0.3305	0.8142		0.9137
6	0.8779	0.4836	0.5321	0.7852	0.9137	

NOTE: To ensure overall protection level, only probabilities associated
with pre-planned comparisons should be used.

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