

APPENDIX A:  
TABLES OF RESULTS

to accompany

ON THE MODELLING OF ULTRA HIGH  
FREQUENCY FINANCIAL DATA ON THE  
JOHANNESBURG STOCK EXCHANGE

by

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MAY 2006

**Table A.1.** Data span and Chebyshev coefficients for the log duration of Anglo American PLC from November 2004 to February 2005

Date	Span	$T_0$	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
2004/11/01	0.64803	-175.592	0.68794	-5.56569	-1.35338	1.33368	0.23948
2004/11/02	0.35972	-187.508	-2.14058	-2.08455	-0.9051	2.78045	-1.10967
2004/11/03	0.29911	-180.013	-15.0414	4.1186	-4.68413	3.64624	4.08371
2004/11/04	0.64961	-188.757	-2.19932	-2.75395	-1.90184	0.64421	0.62702
2004/11/05	0.38342	-186.169	-0.89347	-7.76516	-1.98025	3.62784	1.47865
2004/11/08	0.50228	-181.967	-2.39205	5.62464	-3.4885	0.23635	1.25096
2004/11/09	0.8	-187.204	-5.43452	1.23261	-0.02886	-0.1751	-0.01478
2004/11/10	0.32856	-193.047	-3.27269	7.67431	-0.5222	1.5305	0.22158
2004/11/11	0.46585	-182.663	-6.15646	3.50011	-4.07224	1.63458	0.78055
2004/11/12	0.53464	-186.761	-1.17812	-2.83127	-4.56396	1.31097	1.52987
2004/11/15	0.63603	-183.98	-4.19751	2.21563	-0.55157	-0.12254	0.2916
2004/11/16	0.51321	-189.289	-1.20115	-6.76655	-4.18877	2.1929	0.13625
2004/11/17	0.6453	-188.27	2.43954	-0.93843	-0.52103	0.22243	0.07232
2004/11/18	0.74176	-184.062	0.42222	1.10871	-1.5038	0.35803	0.47343
2004/11/19	0.34642	-182.015	2.25201	1.74479	-1.07189	5.13999	1.17226
2004/11/22	0.33419	-182.496	-6.80651	1.03719	-2.60893	3.01334	1.57627
2004/11/23	0.65373	-188.886	8.46548	0.37399	-1.13004	0.46897	0.17112
2004/11/24	0.76564	-191.057	0.28457	1.22359	-0.56254	-0.19345	0.20868
2004/11/25	0.76685	-189.84	5.1625	0.19502	-0.80314	0.17996	0.32533
2004/11/26	0.48252	-185.851	0.83718	-1.03487	0.89388	1.25219	0.21393
2004/11/29	0.70066	-186.964	-8.07775	1.26913	-1.33322	-0.1868	0.47165
2004/11/30	0.44169	-202.633	-1.10343	-2.86025	-1.50181	0.59513	0.25223
2004/12/03	0.56373	-183.577	-8.27508	-4.6609	-1.3266	0.54169	0.81221
2004/12/06	0.3227	-197.365	-5.30424	-1.38985	-1.94822	2.17106	-0.10517
2004/12/07	0.50412	-197.967	3.45877	-2.33417	-1.65892	1.04445	-0.14394
2004/12/08	0.31725	-191.669	-2.02289	0.74191	-2.58296	4.10228	-0.14907
2004/12/09	0.32545	-185.131	2.7327	2.41415	3.18814	3.05992	1.48375
2004/12/10	0.43575	-185.906	1.65748	1.97984	-0.95883	1.75188	-1.05307
2004/12/13	0.6531	-187.904	-5.84833	3.32691	-1.72238	-0.72682	0.55462
2004/12/14	0.72398	-181.849	4.15405	-4.0721	-1.62225	0.86137	0.46894
2004/12/15	0.42026	-189.029	-1.32983	6.52849	8.62291	3.94166	-1.25512
2004/12/17	0.38185	-190.732	2.40126	-2.06979	3.64576	1.37331	1.61747
2004/12/20	0.37857	-182.036	-3.17249	-0.98784	-4.33359	5.6447	-1.10068
2004/12/21	0.28034	-173.807	-14.914	-0.52311	-0.2165	3.7721	6.17496
2004/12/22	0.55918	-163.894	-5.82065	0.68729	-4.20707	-0.60194	0.93614
2004/12/23	0.52256	-162.572	-4.22411	3.52881	0.35636	0.15484	0.10033
2004/12/24	0.8	-145.888	0.69585	-1.46346	1.49837	0.28005	-0.55576
2004/12/28	0.68594	-146.386	-0.82086	1.58853	-1.33258	-0.85273	0.271
2004/12/29	0.52303	-159.791	-0.05985	-5.00882	6.21103	5.46336	-0.6772
2004/12/30	0.8	-160.116	5.38175	7.3703	-0.6275	-1.03527	0.2173
2004/12/31	0.68202	-138.879	4.10286	15.9939	4.14446	-2.42335	-2.05228

Date	Span	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
2005/01/03	0.464	-147.093	-6.05356	-0.90375	-5.18195	6.87854	0.52981
2005/01/04	0.38822	-167.13	-4.71893	-1.89396	0.21559	1.98999	0.50868
2005/01/05	0.72145	-175.079	-2.12844	-3.52078	-0.639	0.59263	0.11155
2005/01/06	0.32682	-178.467	-8.21491	6.72848	-3.89511	2.35804	2.25613
2005/01/07	0.48684	-174.488	-3.73949	2.0243	-3.88302	2.19655	1.20346
2005/01/10	0.8	-175.761	-1.25526	3.77088	-1.49129	-0.62949	0.55123
2005/01/11	0.40984	-177.261	-3.39901	0.55694	-8.72632	4.13493	1.73698
2005/01/12	0.3196	-181.456	-5.46302	5.39658	-1.32936	5.24395	-0.37933
2005/01/13	0.34209	-181.379	-1.01418	-0.96262	1.61995	3.24155	0.88665
2005/01/14	0.58316	-182.05	4.78147	2.29408	-2.02202	-0.16162	0.70707
2005/01/17	0.8	-182.765	2.37347	0.33569	-0.95356	0.09449	0.33208
2005/01/18	0.66637	-193.091	-3.57101	-0.15852	-2.75372	0.10825	0.92921
2005/01/19	0.3822	-190.034	-2.42917	-0.45551	-2.26304	2.86098	1.41214
2005/01/20	0.35467	-184.017	-7.17828	0.136	-2.83425	-2.62562	0.27215
2005/01/21	0.67159	-178.453	3.6952	-3.52167	-1.21281	0.88982	0.28689
2005/01/24	0.66028	-178.585	-0.573	-0.46597	-1.14331	0.26486	0.30869
2005/01/25	0.6085	-176.018	-3.09721	1.4852	-3.04042	1.14929	1.05344
2005/01/26	0.65508	-177.438	3.92443	-2.59353	-2.49345	0.71186	0.91597
2005/01/27	0.52284	-178.516	-6.33277	6.25404	2.2215	0.18289	-0.89586
2005/01/28	0.40111	-174.295	0.03204	-5.90231	-0.34369	3.6671	-1.21661
2005/01/31	0.59623	-181.843	3.23458	0.10332	-2.29024	1.19842	0.32077
2005/02/01	0.37778	-191.216	-5.29706	6.11171	-2.33833	1.14777	0.86691
2005/02/02	0.8	-186.489	-0.45228	3.76864	-0.18918	-0.55598	0.06631
2005/02/03	0.59397	-190.628	-2.72487	2.75539	-0.80466	0.05102	0.20656
2005/02/04	0.63251	-181.413	-4.69206	2.843	-5.79984	0.77884	2.08696
2005/02/07	0.46775	-176.77	3.80549	6.61126	-2.70565	1.33397	-0.02788
2005/02/08	0.36907	-186.247	-5.99653	2.59406	-4.16911	2.36876	-0.58446
2005/02/09	0.42129	-176.558	-3.97466	7.71376	0.07083	1.07621	-0.3289
2005/02/10	0.3829	-187.525	-5.42233	-5.08779	-0.93509	3.90836	1.99011
2005/02/11	0.50308	-176.776	-1.48074	0.12589	2.23582	0.38988	-0.7658
2005/02/14	0.52627	-178.508	-3.71803	4.75595	-4.05947	-0.08404	1.26097
2005/02/15	0.5468	-173.467	-1.83095	-0.96206	-2.52145	0.66982	0.61313
2005/02/16	0.43779	-182.445	-7.12959	4.32439	-5.71679	3.47779	0.14709
2005/02/17	0.61704	-186.773	-6.00029	-4.05868	-2.10945	0.38656	0.55716
2005/02/18	0.44152	-180.174	-6.24587	3.21643	0.10135	-1.07876	-0.81608
2005/02/21	0.41946	-179.783	-0.03808	-5.34624	-1.4022	1.9129	1.02984
2005/02/22	0.45328	-183.374	-3.06573	5.19403	-1.05456	1.87876	0.65573
2005/02/23	0.32876	-188.964	0.57267	-4.02236	2.56506	3.14585	1.49845
2005/02/24	0.56876	-183.182	-2.91154	-2.47823	-4.68388	0.46573	1.48224
2005/02/25	0.53063	-173.97	4.26809	-3.25911	-0.96662	-0.57933	0.91198
2005/02/28	0.41934	-177.279	-4.24211	1.61383	-3.83118	1.29041	1.02858

**Table A.2.** Data span and Chebyshev coefficients for the log duration of the MTN Group Ltd. from November 2004 to February 2005

Date	Span	$T_0$	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
2004/11/01	0.47112	-178.189	1.61658	-5.73851	-2.81678	3.39592	-1.189
2004/11/02	0.34733	-172.847	-11.2651	5.09445	-2.71032	3.43027	1.61885
2004/11/03	0.40967	-172.21	3.05286	-0.69723	-1.24826	-1.11009	0.73776
2004/11/04	0.43716	-178.597	4.06602	-1.24175	-2.31356	-0.86289	1.11435
2004/11/05	0.55392	-171.226	-0.77865	-0.52261	-5.55997	4.0473	0.22536
2004/11/08	0.8	-175.023	-4.84953	0.05548	-0.66692	-0.00399	0.25355
2004/11/09	0.8	-181.649	-0.03791	5.67706	-0.06804	-0.95988	0.05197
2004/11/10	0.74564	-171.577	8.26537	-0.05126	0.06025	-0.02665	-0.01366
2004/11/11	0.46499	-179.751	4.56298	-10.5584	3.47656	0.44096	-1.73118
2004/11/12	0.47045	-181.1	-1.63879	6.01187	2.01894	-3.56175	-0.87062
2004/11/15	0.38796	-171.091	2.09594	-1.50135	2.1594	2.45329	0.33094
2004/11/16	0.4601	-178.037	2.3408	2.45915	0.55009	-1.53221	0.10114
2004/11/17	0.8	-175.967	3.9922	-0.20783	-0.51514	0.1211	0.19683
2004/11/18	0.33218	-171.439	-3.75401	-4.63687	-1.13791	5.76306	-0.55759
2004/11/19	0.8	-188.338	4.57353	-4.12284	0.81711	0.57821	-0.38825
2004/11/22	0.8	-183.874	-3.29687	1.81329	0.04677	-0.24269	-0.0597
2004/11/23	0.8	-189.468	-3.76205	-0.45123	-0.40052	0.02921	0.11529
2004/11/24	0.34	-187.645	-5.52755	-2.00135	-3.60894	3.61436	1.78312
2004/11/25	0.61756	-184.527	0.87337	2.86559	-1.92553	0.45578	0.47691
2004/11/26	0.2991	-200.243	-4.77325	-2.78701	-0.19848	3.93793	-0.56194
2004/11/29	0.53926	-181.27	2.81824	-4.73649	-0.52016	0.57673	0.05268
2004/11/30	0.39353	-192.01	3.41189	-3.48868	0.07333	1.2989	-1.23008
2004/12/03	0.72298	-181.759	-3.04895	4.39663	0.77859	-0.40897	-0.32872
2004/12/06	0.45184	-178.395	-3.89783	0.55949	-0.25184	2.21655	1.12348
2004/12/07	0.41013	-180.753	3.77904	-4.83256	-1.62068	-2.37279	0.74047
2004/12/08	0.40171	-187.354	0.08768	-3.66885	0.75743	1.80303	-2.2959
2004/12/09	0.41379	-179.462	-6.84977	1.07857	-2.88232	1.12511	0.12991
2004/12/10	0.63158	-176.287	-5.37499	0.03153	-0.61256	0.22764	0.19312
2004/12/13	0.6388	-177.206	-2.55539	-6.17334	2.437	1.21319	-0.84418
2004/12/14	0.43082	-165.03	-3.24135	-0.59864	-4.07102	1.89399	2.04906
2004/12/15	0.44377	-181.442	-5.60485	4.53073	6.85365	3.49945	-0.83089
2004/12/17	0.42641	-179.602	7.01029	-10.0201	-1.6754	3.72949	-2.04735
2004/12/20	0.8	-160.022	7.47998	-2.11466	-1.30211	0.48492	0.46373
2004/12/21	0.48513	-157.725	-4.41921	-6.5396	2.23822	0.22492	-1.40397
2004/12/22	0.79417	-181.106	-5.51348	3.40241	-0.11707	-0.35628	-0.07263
2004/12/23	0.73444	-163.053	-8.16749	2.36676	-0.34983	-0.2902	0.0679
2004/12/24	0.46247	-155.822	12.4606	5.45378	4.81657	1.62876	-1.56751
2004/12/28	0.65817	-165.078	-23.1059	6.84905	-0.68309	-0.7515	0.4227
2004/12/29	0.55448	-160.817	-1.94531	3.40671	5.91287	2.39307	-1.45102
2004/12/30	0.8	-150.363	-12.396	8.03715	0.2471	-1.17013	-0.27895
2004/12/31	0.72923	-143.177	15.9207	-1.43448	1.30314	0.07094	-0.38322

Date	Span	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
2005/01/03	0.53252	-167.26	-9.59109	5.56475	1.92311	-0.8392	-1.03353
2005/01/04	0.8	-172.385	1.61552	-1.11346	-1.40387	0.37186	0.36066
2005/01/05	0.46832	-162.181	-0.96277	-3.5918	2.38796	5.40227	2.52304
2005/01/06	0.6568	-183.336	-3.83911	5.39706	-1.90458	-0.9584	1.00295
2005/01/07	0.8	-180.892	2.15333	-4.77901	0.57613	0.75967	-0.33343
2005/01/10	0.63249	-163.541	3.87894	1.54571	-0.58598	0.45441	0.09863
2005/01/11	0.8	-175.214	0.35621	1.78407	-0.82432	-0.11471	0.19792
2005/01/12	0.37419	-172.899	-4.60436	0.76273	-0.52287	2.63527	1.52762
2005/01/13	0.53709	-187.278	7.64067	0.82596	-0.14808	0.00538	-0.00211
2005/01/14	0.60839	-171.24	3.73311	0.67495	-2.65006	1.61685	-0.07642
2005/01/17	0.51051	-173.195	-3.93952	1.56302	-2.77745	1.41391	0.69676
2005/01/18	0.73132	-179.133	5.49006	-3.20377	-0.40139	0.56684	0.10692
2005/01/19	0.8	-186.919	-1.07258	-0.62188	-0.52372	0.11827	0.15188
2005/01/20	0.53982	-175.548	2.94198	-1.68304	-2.95593	1.49657	0.22712
2005/01/21	0.37145	-171.582	2.19282	-0.27281	-4.47858	-2.12532	3.2909
2005/01/24	0.54709	-178.389	-15.6727	-4.90482	-1.88958	1.13535	1.18372
2005/01/25	0.74296	-181.984	0.04116	-0.20187	-0.04705	-0.00787	0.03595
2005/01/26	0.41823	-167.087	-0.6838	-1.3173	-5.38545	-0.75544	0.23348
2005/01/27	0.5292	-176.711	-6.19685	2.53201	-0.96803	0.7783	1.10019
2005/01/28	0.64256	-177.25	5.78261	-6.74136	0.64109	0.54084	-0.24869
2005/01/31	0.43609	-175.387	-5.35919	-2.11863	0.45269	1.29281	0.69705
2005/02/01	0.56278	-186.342	0.02128	-0.76765	-2.6488	1.02921	0.51016
2005/02/02	0.67201	-180.97	2.49275	4.3674	0.57184	-0.41471	-0.20321
2005/02/03	0.36437	-162.2	-10.3967	4.69498	-4.97636	5.63144	3.02788
2005/02/04	0.8	-151.723	1.21713	3.54885	0.61375	-0.58544	-0.19687
2005/02/07	0.36385	-184.395	-5.8287	-1.43692	-2.87953	3.72967	0.44441
2005/02/08	0.43042	-179.966	-0.96822	-7.26052	-4.45689	0.90255	0.51627
2005/02/09	0.58754	-189.976	-9.91636	9.45573	-2.84564	-1.85937	1.59779
2005/02/10	0.3291	-188.981	2.99336	1.84825	2.72461	3.06453	2.56674
2005/02/11	0.35289	-179.875	0.13027	-3.94537	4.37938	3.7534	-1.38323
2005/02/14	0.36123	-174.505	-3.47553	-8.92085	0.22402	1.46563	-0.62448
2005/02/15	0.41065	-176.834	-0.90522	2.22567	-1.93226	5.31175	-1.6117
2005/02/16	0.55426	-169.607	1.33187	3.62986	-5.44286	3.40452	-0.40861
2005/02/17	0.40902	-179.544	3.96274	0.70864	-4.11304	4.02567	-0.76244
2005/02/18	0.58456	-169.028	8.53839	5.2051	-2.08381	0.34803	0.13966
2005/02/21	0.8	-169.827	-0.26447	-4.97585	-0.37002	0.67346	0.09385
2005/02/22	0.52771	-173.738	-4.26608	6.83062	-6.69007	-0.38019	2.38914
2005/02/23	0.34677	-175.101	5.48172	1.69871	-2.10935	6.42732	-3.25269
2005/02/24	0.70971	-186.693	4.87461	-6.49758	0.19744	0.81879	-0.1267
2005/02/25	0.42898	-171.276	4.02203	0.35709	-1.63373	3.58788	-1.65301
2005/02/28	0.60331	-178.805	-1.97203	-1.39798	-1.08572	-0.51894	0.11024

**Table A.3.** Data span and Chebyshev coefficients for the log duration of Harmony Gold Mining Company Ltd. from November 2004 to February 2005

Date	Span	$T_0$	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
2004/11/01	0.45159	-160.634	-5.6488	-3.16286	-2.98971	-1.59759	0.92592
2004/11/02	0.8	-172.01	-0.52923	-1.82754	-0.27708	0.24535	0.14455
2004/11/03	0.47044	-160.856	8.94039	8.55415	-0.31757	1.22247	-0.88877
2004/11/04	0.43187	-176.178	-9.3508	-1.74322	-1.99035	-1.09726	-0.51651
2004/11/05	0.47154	-175.905	-4.57519	-1.42947	0.47825	3.05896	0.657
2004/11/08	0.8	-164.725	-18.0461	5.12413	1.55608	-0.13197	-0.38381
2004/11/09	0.70289	-145.936	10.2687	2.59403	-0.69795	0.2218	0.06765
2004/11/10	0.8	-167.756	-6.5375	6.49842	-0.4452	-0.90235	0.13955
2004/11/11	0.50551	-183.421	-0.34541	-15.4348	-3.43768	-1.04768	-0.63028
2004/11/12	0.33705	-177.047	1.32415	-0.51024	-2.07154	-2.13713	0.0916
2004/11/15	0.65362	-177.369	-5.87406	0.62865	-0.08826	-0.17797	0.00651
2004/11/16	0.33517	-162.131	-9.16965	-3.28507	-4.96922	4.03539	2.18299
2004/11/17	0.71614	-182.562	-7.69082	-2.06723	-0.5962	0.19647	0.26797
2004/11/18	0.48231	-179.068	-12.3586	-6.74485	-2.2784	0.24617	-0.12288
2004/11/19	0.39758	-166.895	3.5609	-5.67023	-6.71436	2.38573	-0.3001
2004/11/22	0.75033	-160.97	-8.01518	1.08036	-0.46904	-0.28783	0.16551
2004/11/23	0.79397	-164.147	-14.93	-0.51571	0.55903	0.31854	-0.16362
2004/11/24	0.33903	-175.005	-1.26968	-0.84462	-0.74518	4.02985	-1.71169
2004/11/25	0.5959	-145.758	5.67959	11.1155	-2.27807	-0.96874	0.58156
2004/11/26	0.60175	-160.068	-12.2018	2.32951	0.33049	-0.3629	-0.21349
2004/11/29	0.8	-155.478	-7.13259	-3.24236	-0.48495	0.33199	0.07244
2004/11/30	0.51593	-162.246	-7.33667	-5.76652	-1.1842	1.22097	0.5794
2004/12/03	0.40401	-157.12	-7.91817	8.64488	0.53049	2.28459	2.36586
2004/12/06	0.557	-162.818	-14.339	-1.00976	-3.48221	-1.45367	0.25941
2004/12/07	0.50154	-168.909	-16.2214	10.4912	2.10141	-1.53454	-1.24659
2004/12/08	0.41933	-171.204	-12.2706	3.94047	-4.48565	-0.55132	1.87372
2004/12/09	0.53687	-173.835	-9.26367	6.20097	-3.04752	-2.61668	1.25347
2004/12/10	0.49272	-150.071	-14.7545	-1.28728	0.69086	0.627	-0.13657
2004/12/13	0.67319	-158.828	-13.1647	-5.13361	-4.61434	-0.94262	1.26645
2004/12/14	0.55283	-165.668	-16.4108	-2.84015	-5.90722	-3.56828	-0.26163
2004/12/15	0.28982	-159.819	-7.36401	10.1167	13.6694	4.96504	-2.35756
2004/12/17	0.8	-159.388	-3.34746	-2.66734	0.42741	0.41061	-0.08713
2004/12/20	0.41679	-148.516	-12.2477	3.38219	3.16853	-3.9459	-3.38179
2004/12/21	0.35714	-163.827	-3.47411	0.97482	-5.32847	-4.12895	2.06042
2004/12/22	0.65799	-156.812	-7.33647	-7.04385	-0.18256	0.77131	0.02935
2004/12/23	0.58282	-157.022	-10.4088	-3.9579	-2.09128	-0.53763	-0.3049
2004/12/24	0.44316	-137.453	12.2388	19.8724	2.3578	0.19911	-0.31549
2004/12/28	0.66433	-117.165	6.89316	-10.0656	0.01319	1.70558	-0.51357
2004/12/29	0.47411	-159.276	-9.06128	1.14613	-7.77456	0.07031	1.94215
2004/12/30	0.31621	-163.195	7.26604	-5.42922	-10.5276	-2.1036	2.02351
2004/12/31	0.48745	-108.651	-2.00801	8.22088	-1.42796	1.80938	-2.39952

Date	Span	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
2005/01/03	0.52239	-138.245	-5.07346	0.06939	0.48379	2.53221	0.84341
2005/01/04	0.45503	-138.58	4.47603	-0.62986	-4.67467	0.44506	0.86568
2005/01/05	0.4687	-138.802	-8.32371	-2.36783	-3.4525	3.53398	4.089
2005/01/06	0.37111	-163.485	-1.06069	-5.72341	-7.02345	6.09331	5.38977
2005/01/07	0.54679	-169.823	-2.46634	-5.04036	-0.68428	-0.04148	-0.06157
2005/01/10	0.7321	-159.241	-11.3677	0.84912	-1.00398	-0.56954	0.20935
2005/01/11	0.56287	-163.785	2.4564	-6.18646	-2.45187	1.9733	0.30814
2005/01/12	0.58304	-154.015	-3.43925	-1.76148	-1.08477	1.58986	-0.79945
2005/01/13	0.34219	-138.215	-8.2162	-7.91632	-8.08995	-6.4253	-4.89184
2005/01/14	0.46261	-158.127	-2.4692	-2.02293	-4.00407	1.52588	1.02608
2005/01/17	0.5318	-157.729	-15.6179	-0.13719	1.184	-0.14203	0.06803
2005/01/18	0.48379	-173.216	2.86305	-7.29449	1.26359	0.26589	-1.15132
2005/01/19	0.53772	-173.062	-4.64707	-11.8552	-4.3861	0.76397	0.99109
2005/01/20	0.4125	-167.113	-11.8491	-6.8996	-2.96305	-0.44915	0.96886
2005/01/21	0.29847	-166.76	-5.36725	-6.86663	-1.84298	0.26544	0.48971
2005/01/24	0.45915	-134.014	-8.65235	-10.467	-2.3417	3.95997	4.52994
2005/01/25	0.57517	-178.171	-4.59722	-7.69607	-3.26865	1.07897	1.02325
2005/01/26	0.43618	-181.865	5.67504	-6.35442	4.25761	-0.41341	-0.0436
2005/01/27	0.45358	-163.329	-11.9518	-4.36917	-1.82186	0.53074	-0.74825
2005/01/28	0.53562	-167.037	1.22098	-5.43297	0.17979	0.49136	0.12352
2005/01/31	0.43906	-168.871	-11.5082	1.01198	2.62578	2.47018	1.58997
2005/02/01	0.67397	-169.531	-1.79796	0.50247	0.98445	0.20685	-0.27538
2005/02/02	0.8	-165.811	-0.02477	-6.54562	-0.86965	1.08343	0.48417
2005/02/03	0.49918	-168.721	-13.1875	-5.08453	-6.70226	-2.56541	-0.23424
2005/02/04	0.35897	-159.796	-16.5407	-5.14557	-7.82163	-6.28961	-1.15767
2005/02/07	0.43369	-159.451	-17.3958	-3.57895	3.52606	2.92414	-0.11521
2005/02/08	0.68133	-163.011	-11.3634	0.5154	-5.10031	-1.07184	1.50999
2005/02/09	0.50109	-161.326	-18.8121	7.2824	-4.08705	-0.35127	2.63164
2005/02/10	0.3766	-163.958	-2.46308	-3.83194	1.22633	4.38176	3.17769
2005/02/11	0.34928	-160.772	-11.8312	-5.32282	-11.4302	-3.74014	-0.62992
2005/02/14	0.60898	-160.965	0.97401	0.99786	-2.24125	-0.95848	1.16905
2005/02/15	0.8	-140.273	-3.25201	-4.34528	-0.36111	0.57307	0.05771
2005/02/16	0.54225	-148.894	-12.3764	-4.21787	-2.43996	-0.80499	0.36705
2005/02/17	0.8	-162.498	-3.90577	-0.51932	-1.18818	-0.28145	0.28712
2005/02/18	0.69872	-160.612	-5.40448	-2.90001	-0.57924	0.32564	0.32135
2005/02/21	0.34359	-141.332	-16.0923	7.81357	2.16404	2.23043	4.70035
2005/02/22	0.59142	-163.683	1.51644	-7.51897	-0.27177	0.88357	-0.1095
2005/02/23	0.47581	-144.389	0.46115	0.96856	-6.79251	2.77923	2.21137
2005/02/24	0.70675	-170.308	-7.88493	-3.81185	-1.19905	-0.12352	0.16358
2005/02/25	0.41078	-152.156	0.00254	-6.16367	-7.58645	1.99273	2.97489
2005/02/28	0.60346	-157.603	-9.29121	-5.45383	-4.33973	-0.14556	1.09625

**Table A.4.** Data span and Chebyshev coefficients for the log duration of Tiger Brands Ltd. from November 2004 to February 2005

Date	Span	$T_0$	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
2004/11/01	0.8	-156.055	-3.16621	4.26351	0.16717	-0.4566	0.09622
2004/11/02	0.67544	-151.088	5.27223	-1.89435	1.61913	0.32615	-0.55951
2004/11/03	0.78311	-154.83	-1.68419	0.04896	-3.57997	0.69826	1.07038
2004/11/04	0.8	-138.721	9.98298	-5.33089	0.41159	1.03459	-0.29974
2004/11/05	0.28182	-140.617	4.86682	-0.61782	11.1324	11.0131	7.63767
2004/11/08	0.8	-145.506	0.76565	4.74145	0.0238	-0.65153	0.01626
2004/11/09	0.35581	-142.379	-1.53637	-0.63037	-6.41449	-0.22284	3.00452
2004/11/10	0.69947	-151.726	-9.05804	3.48124	-5.88979	0.36411	2.01857
2004/11/11	0.37625	-145.097	-8.02456	-11.2661	0.38229	5.42566	2.27411
2004/11/12	0.8	-138.806	0.20328	3.50945	0.51563	-0.46982	-0.22534
2004/11/15	0.54654	-143.11	-1.15195	-1.47643	-0.16761	0.68682	0.58678
2004/11/16	0.40672	-141.21	-9.71242	-10.2583	-9.39335	-3.19794	0.39498
2004/11/17	0.46883	-168.912	5.40346	-2.79339	-6.06289	-0.61301	3.26435
2004/11/18	0.38693	-144.522	-11.0994	2.32417	-5.04563	2.82166	3.56062
2004/11/19	0.55741	-156.11	-2.42167	1.63737	-0.52758	0.25947	0.69093
2004/11/22	0.52723	-141.953	-7.78483	0.54095	2.29692	0.95793	-0.81356
2004/11/23	0.44354	-160.001	0.85198	-1.36964	4.92311	4.0824	-0.78467
2004/11/24	0.70278	-139.071	-1.40319	4.07107	-1.18176	-0.43917	0.50027
2004/11/25	0.37797	-154.158	-8.12366	-2.78886	5.27657	5.81882	2.51685
2004/11/26	0.65284	-156.514	-0.96687	-1.50943	-1.89628	0.57381	0.57687
2004/11/29	0.60583	-146.043	-13.1403	-2.2859	0.06436	0.59276	0.10234
2004/11/30	0.8	-138.456	-9.57555	2.37851	1.67213	0.22263	-0.46475
2004/12/03	0.6227	-149.613	-2.65644	-3.757	-1.53684	0.67804	0.82041
2004/12/06	0.77383	-162.788	-3.23118	-2.44195	-0.85826	0.40708	0.16804
2004/12/07	0.77008	-161.561	-8.17667	-2.07859	-1.11771	0.15466	0.32228
2004/12/08	0.5525	-161.296	-5.91493	-2.02579	-1.55207	-1.60109	-0.57149
2004/12/09	0.69755	-155.519	1.02233	-9.89289	-0.56723	1.12026	0.14726
2004/12/10	0.60812	-129.075	-14.4266	-2.95386	-2.07855	-1.61969	-0.10509
2004/12/13	0.34369	-166.984	-4.28561	1.54395	4.40685	-6.84237	-5.82245
2004/12/14	0.41822	-147.356	-5.72319	3.79827	2.49	2.99868	1.85662
2004/12/15	0.30647	-165.659	-7.53951	14.4005	9.94329	3.92736	-0.5274
2004/12/17	0.63508	-156.363	5.85612	3.35506	-1.69653	-0.05026	0.2937
2004/12/20	0.33497	-137.653	-15.0462	2.32294	0.05577	5.42345	6.5947
2004/12/21	0.8	-137.63	3.45886	0.57752	-1.82917	0.34894	0.37233
2004/12/22	0.8	-158.764	16.7266	-2.68074	0.45927	0.33953	-0.30187
2004/12/23	0.69904	-131.655	-3.87196	2.12513	-2.38418	-0.05367	1.02406
2004/12/24	0.51757	-129.62	5.31994	0.74763	6.15547	2.5505	0.08823
2004/12/28	0.45697	-121.895	-11.9329	-6.48094	-17.8348	7.37992	1.50428
2004/12/29	0.63437	-134.638	-3.15934	-0.26364	1.40677	0.83503	0.0454
2004/12/30	0.56226	-134.556	9.65015	5.80365	5.26894	-0.15183	-1.69814
2004/12/31	0.38865	-124.131	7.57007	-11.2956	0.1131	1.62405	3.35474



Date	Span	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
2005/01/03	0.52249	-146.862	-2.78275	5.29625	-4.43023	0.53916	2.21171
2005/01/04	0.8	-144.307	2.52998	-5.2622	1.25701	0.34465	-0.38517
2005/01/05	0.62483	-142.827	-0.54295	-6.1309	-3.3087	0.95261	1.0072
2005/01/06	0.55507	-146.088	-9.27845	-2.11582	-3.89124	1.56329	2.31093
2005/01/07	0.72966	-143.556	-4.77493	-1.39881	-0.21159	0.26399	0.10694
2005/01/10	0.51079	-153.492	-8.06425	4.62477	1.94204	-1.91488	-0.91382
2005/01/11	0.53572	-159.362	-4.03379	4.56794	8.218	0.57982	-4.41231
2005/01/12	0.41843	-159.107	1.61255	7.01807	-3.32045	2.6119	-1.93105
2005/01/13	0.56055	-162.667	0.17791	-5.33553	-0.53991	2.40398	-0.26524
2005/01/14	0.36809	-147.55	2.29549	-4.22012	-3.43362	-3.87494	4.93342
2005/01/17	0.47541	-143.163	4.32357	3.35156	-2.03675	2.34996	-0.8701
2005/01/18	0.7243	-163.886	-2.17896	4.38394	-1.2643	-0.71279	0.39792
2005/01/19	0.54637	-162.93	-1.05469	1.61152	-5.58219	0.62335	0.9091
2005/01/20	0.37411	-156.637	-1.36881	-8.67552	5.30253	0.47162	1.89328
2005/01/21	0.8	-146.622	-16.2863	-6.2262	-0.62741	1.20826	0.4296
2005/01/24	0.54914	-152.875	-9.78743	0.38275	4.90494	4.74557	-1.12677
2005/01/25	0.35303	-144.705	0.80281	13.7493	0.89313	3.83029	-4.50376
2005/01/26	0.378	-162.951	5.74989	-0.83378	10.2777	5.94541	-3.8366
2005/01/27	0.8	-146.303	-22.4769	2.23351	-1.17617	-0.3947	0.41962
2005/01/28	0.59639	-164.456	5.9315	-3.08492	-1.95473	1.66865	0.37455
2005/01/31	0.50002	-156.273	-6.96115	-3.41997	-2.6323	1.92555	1.12709
2005/02/01	0.43443	-165.045	-11.5622	2.35918	3.6967	4.03691	-0.59185
2005/02/02	0.34272	-153.768	20.7294	-4.1555	10.5351	2.80846	-2.10785
2005/02/03	0.63874	-118.527	-17.1868	0.57006	-0.90888	-2.01196	-1.0153
2005/02/04	0.39501	-138.664	-18.6115	2.36992	-4.37373	-0.70876	3.9503
2005/02/07	0.72431	-159.355	-0.50592	3.09487	-1.1925	-0.18219	0.39682
2005/02/08	0.40902	-159.159	-7.09589	0.46942	5.60004	5.3421	3.87901
2005/02/09	0.60516	-156.614	-11.4183	-0.04392	-2.10629	-2.14811	0.44295
2005/02/10	0.37069	-153.17	4.54749	-8.56019	-4.62994	-3.66611	3.91287
2005/02/11	0.37685	-165.539	-1.69302	-5.29177	4.35745	-1.55756	-4.06635
2005/02/14	0.33341	-154.702	-15.508	2.79706	-4.81579	6.41757	2.4816
2005/02/15	0.61644	-153.667	-16.8971	-14.4627	-4.25136	-0.47715	-0.52682
2005/02/16	0.63462	-165.826	-4.76189	0.94676	-1.2232	-0.17267	0.55373
2005/02/17	0.44458	-154.527	-16.3037	-9.27035	-5.85363	0.37119	1.35215
2005/02/18	0.64025	-147.519	2.57854	6.2927	-0.83474	-1.13147	0.39998
2005/02/21	0.59852	-167.346	14.5896	-2.5926	4.04728	1.79183	-1.32568
2005/02/22	0.69305	-160.72	-14.403	-0.79224	0.08167	0.14534	0.11432
2005/02/23	0.34055	-164.575	-2.92441	-7.51028	-9.53686	-0.05915	3.23292
2005/02/24	0.8	-150.075	-15.9846	0.23485	0.72781	0.32344	-0.13971
2005/02/25	0.53129	-141.784	-20.1361	15.9091	-6.11921	-5.39715	3.20296
2005/02/28	0.44974	-163.139	-2.03113	-8.19406	1.98134	3.33549	1.21873

**Table A.5.** VAR parameter estimates with F-stat(istic) and p-val(ues) for Anglo American PLC. Significant parameters in bold.

	Estimate	F-stat	p-val		Estimate	F-stat	p-val		Estimate	F-stat	p-val
$\Phi_{11}$	<b>0.7742</b>	10.5199	0.0000	$\Phi_{12}$	0.0023	0.0520	0.9586	$\Phi_{13}$	0.0357	0.9235	0.3587
$\Phi_{21}$	0.1001	0.4601	0.6468	$\Phi_{22}$	0.0322	0.2465	0.8060	$\Phi_{23}$	<b>0.3508</b>	3.0726	0.0030
$\Phi_{31}$	0.1152	0.5247	0.6014	$\Phi_{32}$	0.0019	0.0146	0.9884	$\Phi_{33}$	-0.0056	-0.0486	0.9613
$\Phi_{41}$	-0.2641	-0.5631	0.5751	$\Phi_{42}$	-0.2960	-1.0520	0.2962	$\Phi_{43}$	0.2429	0.9866	0.3270
$\Phi_{51}$	0.7252	0.8844	0.3793	$\Phi_{52}$	0.3081	0.6262	0.5331	$\Phi_{53}$	0.5638	1.3096	0.1943
const	<b>-40.6979</b>	-3.0527	0.0031	const	-1.3105	-0.1638	0.8703	const	7.2593	1.0372	0.3030
$\Phi_{14}$	0.0104	0.5627	0.5753	$\Phi_{15}$	-0.0164	-1.5367	0.1286				
$\Phi_{24}$	0.0140	0.2558	0.7988	$\Phi_{25}$	-0.0477	-1.5098	0.1353				
$\Phi_{34}$	0.0800	1.4527	0.1505	$\Phi_{35}$	0.0114	0.3590	0.7206				
$\Phi_{44}$	0.0708	0.6013	0.5495	$\Phi_{45}$	<b>0.1654</b>	2.4285	0.0176				
$\Phi_{54}$	-0.2949	-1.4329	0.1560	$\Phi_{55}$	<b>-0.2865</b>	-2.4052	0.0186				
const	3.3031	0.9872	0.3267	const	-2.6119	-1.3489	0.1814				

**Table A.6.** VAR parameter estimates with F-stat(istic) and p-val(ues) for the MTN Group Ltd. Significant parameters in bold.

	Estimate	F-stat	p-val		Estimate	F-stat	p-val
$\Phi_{11}$	<b>0.3935</b>	3.8210	0.0003	$\Phi_{12}$	<b>0.1009</b>	2.1430	0.0352
$\Phi_{21}$	0.3627	1.5028	0.1369	$\Phi_{22}$	-0.1324	-1.2001	0.2337
const	<b>-106.4189</b>	-5.8787	0.0000	const	<b>17.5902</b>	2.1248	0.0368

**Table A.7.** VAR parameter estimates with F-stat(istic) and p-val(ues) for Harmony Gold Mining Company Ltd. Significant parameters in bold.

	Estimate	F-stat	p-val		Estimate	F-stat	p-val
$\Phi_{11}$	<b>0.3011</b>	2.8818	0.0051	$\Phi_{12}$	0.0193	0.3210	0.7490
$\Phi_{21}$	<b>0.4411</b>	2.2243	0.0290	$\Phi_{22}$	-0.0095	-0.0832	0.9339
const	<b>-109.4308</b>	-6.5507	0.0000	const	-2.8508	-0.2963	0.7678

**Table A.8.** VAR parameter estimates with F-stat(istic) and p-val(ues) for Tiger Brands Ltd. Significant parameters in bold.

	Estimate	F-stat	p-val		Estimate	t-stat	p-val		Estimate	F-stat	p-val
$\Phi_{11}$	<b>0.3391</b>	3.2977	0.0015	$\Phi_{12}$	0.1291	1.5334	0.1294	$\Phi_{13}$	0.0525	0.9692	0.3356
$\Phi_{21}$	<b>0.4328</b>	3.0091	0.0036	$\Phi_{22}$	0.0024	0.0203	0.9839	$\Phi_{23}$	-0.0863	-1.1391	0.2583
$\Phi_{31}$	-0.2926	-1.3517	0.1805	$\Phi_{32}$	<b>0.4016</b>	2.2654	0.0264	$\Phi_{33}$	-0.1537	-1.3468	0.1821
$\Phi_{41}$	0.3246	1.1584	0.2504	$\Phi_{42}$	-0.1177	-0.5129	0.6095	$\Phi_{43}$	<b>0.3546</b>	2.4011	0.0188
$\Phi_{51}$	0.4530	1.0363	0.3034	$\Phi_{52}$	-0.0337	-0.0940	0.9253	$\Phi_{53}$	0.0937	0.4068	0.6853
const	<b>-98.1528</b>	-6.2922	0.0000	const	15.9339	1.2475	0.2161	const	6.8739	0.8360	0.4058
$\Phi_{14}$	0.0058	0.1218	0.9034	$\Phi_{15}$	0.0106	0.3847	0.7015				
$\Phi_{24}$	0.0078	0.1164	0.9076	$\Phi_{25}$	0.0683	1.7762	0.0798				
$\Phi_{34}$	0.1744	1.7288	0.0880	$\Phi_{35}$	<b>0.1245</b>	2.1519	0.0346				
$\Phi_{44}$	-0.0838	-0.6419	0.5229	$\Phi_{45}$	-0.0296	-0.3951	0.6939				
$\Phi_{54}$	0.0751	0.3687	0.7134	$\Phi_{55}$	-0.0363	-0.3108	0.7568				
const	0.5291	0.0728	0.9422	const	2.8980	0.6951	0.4892				

**Table A.9.** Parameter estimates for differenced raw durations of Anglo American PLC. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		mal		$\sigma$	
2004/11/01	388	<b>0.000312</b>	0.0034477	0.9474435	0.0337905	1.3152276	0.2217083
2004/11/02	673	<b>-8.362E-05</b>	0.0013243	0.9703	0.0181413	0.6477391	0.1099124
2004/11/03	636	<b>-0.0037112</b>	0.0065574	0.8477064	0.026182	1.0659502	0.2926596
2004/11/04	737	<b>-0.0006856</b>	0.0010261	0.962227	0.0267253	0.4260242	0.0493911
2004/11/05	586	<b>0.0004068</b>	0.0024163	0.9487299	0.0163225	1.2463342	0.3173469
2004/11/08	632	<b>-0.0012816</b>	0.0028198	0.9206955	0.0415742	0.7749881	0.1662095
2004/11/09	455	<b>-0.0023553</b>	0.0039615	0.9100404	0.0287547	0.7816891	0.1544961
2004/11/10	1231	<b>0.0026531</b>	0.0068404	0.8795086	0.02622	-	-
2004/11/11	583	<b>3.416E-05</b>	0.0274127	0.8874876	0.127233	-	-
2004/11/12	581	<b>0.0066679</b>	0.0232562	0.8662252	0.1525899	-	-
2004/11/15	599	<b>-0.0008287</b>	0.0027496	0.9280722	0.0176922	0.8367961	0.1653908
2004/11/16	624	<b>0.000344</b>	0.0031951	0.9170724	0.0218216	0.7829496	0.1248899
2004/11/17	601	<b>0.0001082</b>	0.0023133	0.9408636	0.028835	0.9225737	0.2224603
2004/11/18	589	<b>-0.0007926</b>	0.004008	0.9021601	0.0226143	0.912705	0.1467096
2004/11/19	573	<b>0.0080849</b>	0.0470324	<b>0.00152</b>	0.0577854	-	-
2004/11/22	554	<b>-0.00317</b>	0.0039564	0.9152325	0.0180709	1.1108845	0.1891585
2004/11/23	794	<b>-5.271E-05</b>	0.0237254	0.9411619	0.240075	-	-
2004/11/24	697	<b>2.797E-05</b>	0.0010255	0.9777512	0.0263838	0.6225218	0.1030049
2004/11/25	754	<b>-0.0041168</b>	0.0097582	0.7645664	0.0916189	-	-
2004/11/26	720	<b>-0.0023211</b>	0.0199093	0.9656679	0.1392809	-	-
2004/11/29	665	<b>-0.004683</b>	0.0058178	0.8423727	0.0223323	0.7974622	0.1499443
2004/11/30	1470	<b>8.784E-06</b>	0.000392	0.9605707	0.0176443	0.1470976	0.0346422
2004/12/03	545	<b>-0.0072551</b>	0.009792	0.8040731	0.0267485	1.5197197	0.4758599
2004/12/06	1191	<b>-0.0001763</b>	0.0004542	0.9770644	0.0292247	0.2305994	0.0480244
2004/12/07	1099	<b>7.171E-05</b>	0.0003445	0.9809221	0.0213627	0.2523975	0.0391398
2004/12/08	991	<b>-0.0001655</b>	0.001049	0.9520783	0.0155472	0.308966	0.080334
2004/12/09	715	<b>0.0068789</b>	0.006197	0.8353505	0.0902184	-	-
2004/12/10	654	<b>0.0007502</b>	0.0014175	0.9699898	0.0255111	0.791803	0.1537059
2004/12/13	680	<b>-0.0001036</b>	0.0110282	0.909442	0.0933873	-	-
2004/12/14	491	<b>0.0158194</b>	0.0158999	0.746947	0.0508695	-	-
2004/12/15	1299	<b>0.000745</b>	0.0091681	0.907385	0.0169355	-	-
2004/12/17	620	<b>0.0014992</b>	0.003637	0.8930315	0.0179509	0.7412097	0.0980602
2004/12/20	423	<b>0.0232262</b>	0.0224532	0.8347586	0.1279286	-	-
2004/12/21	395	<b>-0.001156</b>	0.0070708	0.9124199	0.0349376	2.1312273	0.4160359
2004/12/22	234	<b>-0.0012246</b>	0.0120444	0.981186	0.0521948	6.2006283	2.4095126
2004/12/23	265	<b>0.0001484</b>	0.0108211	0.8817355	0.0354762	2.4227907	0.3543665
2004/12/24	35	<b>0.0376616</b>	0.140561	0.903754	0.1068069	20.267707	7.9903335
2004/12/28	80	<b>0.0044703</b>	0.0539842	0.9604506	0.070432	37.249002	10.446667
2004/12/29	169	<b>-0.0249701</b>	0.0723344	0.7662751	0.0893924	-	-
2004/12/30	220	<b>0.0301731</b>	0.0504159	0.8222802	0.0560667	-	-
2004/12/31	47	<b>-0.1160851</b>	0.2557436	0.656732	0.1356388	19.732834	6.0191654

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.5	0.0137	0.29
-	-	-	-	-	-	0.2639	0.0419	0.1378
-	-	-	-	-	-	0.06657	0	0.0408
-	-	-	-	-	-	0.5	0.0124	0.29
-	-	-	-	-	-	0.45223	0.0027	0.1327
-	-	-	-	-	-	0.32711	0.109	0.29
-	-	-	-	-	-	0.3603	0.4472	0.1869
0.0100417	0.0054011	0.1862383	0.0566698	0.8128911	0.0587591	0.02146	0.0178	0.115
0.1590862	0.1260056	0.1942426	0.1439085	0.6031448	0.2302332	4.3E-05	0.0998	0.2086
0.0384232	0.1302026	0.1200707	0.1435699	0.8494145	0.2229281	0.03196	0.0561	0.29
-	-	-	-	-	-	0.12377	0.4594	0.2256
-	-	-	-	-	-	0.13985	0.0006	1E-05
-	-	-	-	-	-	0.07431	0.317	0.0372
-	-	-	-	-	-	0.13932	0.0103	0.29
0.918889	0.2878707	0.381306	0.2198289	4.382E-08	0.2419624	5.3E-07	0.0267	0
-	-	-	-	-	-	0.10892	0.0007	0.0305
0.0018259	0.1921974	0.0295475	0.1210481	0.9672185	0.3466919	0.00679	0	0.1706
-	-	-	-	-	-	0.12796	0.6023	0.0646
0.147372	0.0704958	0.6945785	0.1946345	0.3018637	0.1568155	7.6E-09	0.017	0.29
0.2999367	0.0691309	0.943035	0.2125388	1.03E-07	0.1104312	0.0244	0.1682	0.2265
-	-	-	-	-	-	0.17968	0.0008	0.29
-	-	-	-	-	-	0.37503	0.0202	0.1287
-	-	-	-	-	-	0.21023	0	0.0028
-	-	-	-	-	-	0.25519	0	0.1433
-	-	-	-	-	-	0.05358	0	0.0083
-	-	-	-	-	-	0.36981	0.0312	0.007
0.052683	0.0463184	0.2955495	0.1290617	0.7014374	0.1490985	0.00027	0.0515	0.29
-	-	-	-	-	-	0.43531	0.0104	0.0445
0.0278436	0.0344574	0.231802	0.0701399	0.7598029	0.1158819	0.00872	0.0105	0.1341
0.2070062	0.0986448	0.4919212	0.1544779	0.5066485	0.1479493	7.6E-05	0.1159	0.29
0.0002332	0.0004951	0.0778725	0.0482474	0.9218939	0.0483271	0.00067	0	0.2702
-	-	-	-	-	-	0.33882	0.1432	0.29
1.028861	0.4366715	0.9006803	0.2861157	0.0731309	0.1846665	0.00163	0.2054	0.29
-	-	-	-	-	-	0.45849	0	0.0018
-	-	-	-	-	-	0.5	0.3121	0.29
-	-	-	-	-	-	0.28644	0.0159	0.29
-	-	-	-	-	-	0.3243	0.5793	0.29
-	-	-	-	-	-	0.5	0.368	0.29
2.0843959	1.0286872	0.6668408	0.2609899	0.3248474	0.2473298	1.1E-05	0.0044	0.29
0.3601514	0.4081023	0.3386862	0.1221163	0.6575154	0.1449638	0.024	0.101	0.1332
-	-	-	-	-	-	0.29902	0.1925	0.29

Table A.9. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	135	<b>0.0643218</b>	0.0748409	0.69298	0.1058976	-	-
2005/01/04	272	<b>1.982E-05</b>	0.0125188	0.8884782	0.0372723	3.074039	0.6517732
2005/01/05	283	<b>0.0120677</b>	0.0802255	0.6951468	0.1437927	-	-
2005/01/06	580	<b>-0.000598</b>	0.0034988	0.9229859	0.0224788	0.9378309	0.1756064
2005/01/07	326	<b>-0.0040841</b>	0.0083852	0.9005816	0.0298928	2.5303581	0.3352276
2005/01/10	391	<b>0.0288212</b>	0.0152228	0.8160873	0.044258	-	-
2005/01/11	432	<b>0.0004459</b>	0.0205409	0.9636606	0.0413874	-	-
2005/01/12	638	<b>0.0068983</b>	0.0167628	0.8848867	0.0930118	-	-
2005/01/13	480	<b>0.0237244</b>	0.0227102	0.8531089	0.0575997	-	-
2005/01/14	507	<b>0.0012464</b>	0.0011605	0.9780283	0.030285	1.046889	0.1438336
2005/01/17	437	<b>0.0004569</b>	0.0474539	0.9889907	0.0438171	-	-
2005/01/18	913	<b>-0.0001742</b>	0.0008151	0.9606076	0.0143544	0.3206624	0.0409891
2005/01/19	732	<b>0.007428</b>	0.0170354	0.9125012	0.0252631	-	-
2005/01/20	670	<b>-0.0001644</b>	0.0014022	0.9553378	0.0194678	0.4896623	0.0663391
2005/01/21	341	<b>-0.0027741</b>	0.0082193	0.897081	0.0342516	2.2505933	0.3444151
2005/01/24	425	<b>0.0009604</b>	0.0013552	0.9877056	0.0293262	1.3918647	0.2607828
2005/01/25	418	<b>-0.0114265</b>	0.0154304	0.7541667	0.0270625	1.897816	0.5913363
2005/01/26	344	<b>-0.0052285</b>	0.0409535	0.7532665	0.1142623	-	-
2005/01/27	471	<b>-0.0089642</b>	0.0142414	0.810117	0.0310309	2.2600845	0.6142979
2005/01/28	332	<b>0.0012373</b>	0.003871	0.9659581	0.0418815	2.8649057	0.7135114
2005/01/31	523	<b>0.0003775</b>	0.0017488	0.9675809	0.0449226	1.2083632	0.3238774
2005/02/01	1120	<b>-0.0004489</b>	0.0011092	0.9316674	0.0117455	0.3040072	0.1096907
2005/02/02	865	<b>0.0002372</b>	0.0006784	0.969917	0.0159354	0.3493805	0.0595964
2005/02/03	898	<b>0.0067351</b>	0.0153432	0.8210761	0.0922794	-	-
2005/02/04	520	<b>0.0028487</b>	0.0243808	0.9203855	0.1323036	-	-
2005/02/07	541	<b>3.107E-07</b>	0.0017238	0.9535507	0.0190669	0.8521495	0.1285939
2005/02/08	715	<b>-5.329E-05</b>	0.0015176	0.9461778	0.0174969	0.601626	0.1141978
2005/02/09	541	<b>-0.0002886</b>	0.0018598	0.9657313	0.0362037	0.9103259	0.1994506
2005/02/10	780	<b>0.0026018</b>	0.012346	0.884157	0.0902484	-	-
2005/02/11	393	<b>-0.0013497</b>	0.0030365	0.9644235	0.0300688	1.680128	0.3046856
2005/02/14	507	<b>0.010769</b>	0.0193125	0.8764766	0.0923997	-	-
2005/02/15	383	<b>-0.0001923</b>	0.0725408	0.9999216	0.3049288	-	-
2005/02/16	650	<b>0.002691</b>	0.0287606	0.8561793	0.0890843	-	-
2005/02/17	527	<b>-0.003187</b>	0.0044762	0.9007852	0.0222829	1.0830064	0.1573914
2005/02/18	511	<b>-0.0031214</b>	0.002781	0.941622	0.0310769	1.1647257	0.2105961
2005/02/21	394	<b>0.0001838</b>	0.0027183	0.9744887	0.0410696	1.6591259	0.3744295
2005/02/22	612	<b>-0.0006074</b>	0.0026613	0.9234996	0.0147808	0.7301094	0.1297833
2005/02/23	819	<b>0.0048609</b>	0.0064883	0.8590981	0.0874137	-	-
2005/02/24	466	<b>-0.0013111</b>	0.0037737	0.9293971	0.0266375	1.2569726	0.1769438
2005/02/25	395	<b>0.0003757</b>	0.0026839	0.9680808	0.0287974	1.0619478	0.1633231
2005/02/28	533	<b>-0.002084</b>	0.0296513	0.9613116	0.1704132	-	-

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
1.5296933	1.1625323	0.4674438	0.1982428	0.4502113	0.2309502	0.00013	0.204	0.29
-	-	-	-	-	-	0.433	0.2339	0.1311
2.3994777	1.0600318	0.8098854	0.3233873	2.407E-10	0.174796	0.01107	0.3209	0.29
-	-	-	-	-	-	0.30046	0.0042	0.2825
-	-	-	-	-	-	0.16627	0.0546	0.2629
0.2389008	0.1444717	0.4633807	0.1362428	0.5189419	0.1450211	0.03161	0.025	0.29
0.1190206	0.1713777	0.2428813	0.1625242	0.7505032	0.190371	0.00265	0.0012	0.1679
0.0545521	0.0608344	0.1668575	0.1089842	0.771962	0.1776288	1.7E-08	0.0003	0.29
0.4165364	0.1742802	0.6541147	0.2278425	0.3271625	0.19216	0.00011	0.0065	0.29
-	-	-	-	-	-	0.06009	0	0.2713
0.048882	0.2008404	0.1041085	0.1334778	0.8878916	0.1822148	0.04258	0.1933	0.0541
-	-	-	-	-	-	0.5	0.0167	0.1259
0.0196919	0.0144934	0.2175557	0.0681146	0.78126	0.0680274	0.01079	0.0198	0.0484
-	-	-	-	-	-	0.19986	0.018	0.29
-	-	-	-	-	-	0.24558	0.2024	0.29
-	-	-	-	-	-	0.5	0.3298	0.29
-	-	-	-	-	-	0.18105	0.1796	0.29
1.6343491	0.4311592	0.4224161	0.264596	0.004031	0.1874854	1.3E-10	0.1235	0.29
-	-	-	-	-	-	0.26173	0.0131	0.29
-	-	-	-	-	-	0.4248	0.0392	0.29
-	-	-	-	-	-	0.5	0.0093	0.29
-	-	-	-	-	-	0.38231	0.0201	0.0107
-	-	-	-	-	-	0.33532	0.0181	0.0584
0.0422488	0.0356133	0.2943315	0.1569966	0.7026404	0.1822047	1E-15	0.0032	0.29
0.0107948	0.1365067	0.0865306	0.1549671	0.9110334	0.2148068	0.00999	0.0181	0.2654
-	-	-	-	-	-	0.35502	0.001	0.0736
-	-	-	-	-	-	0.30178	0.079	0.0088
-	-	-	-	-	-	0.5	0.2492	0.29
0.0051047	0.023003	0.1067595	0.1195097	0.8896118	0.1511334	1.6E-12	0	0.29
-	-	-	-	-	-	0.05391	0.6176	0.0691
0.053243	0.0923154	0.2035501	0.0857904	0.7874338	0.1280126	0.0382	0.1118	0.1339
1.4688864	0.5884621	0.1143161	0.2721761	0.0038938	0.3226035	0.00018	0.1556	0.29
0.004761	0.0800133	0.0700801	0.1088384	0.9291749	0.163211	0	0.0341	0.29
-	-	-	-	-	-	0.18488	0.0081	0.29
-	-	-	-	-	-	0.44152	0.0058	0.2588
-	-	-	-	-	-	0.5	0.1803	0.29
-	-	-	-	-	-	0.18337	0.1454	0.29
0.0135382	0.0465866	0.1023695	0.090886	0.8651603	0.1908031	0.01144	0.0024	0.29
-	-	-	-	-	-	0.38175	0.0521	0.0707
-	-	-	-	-	-	0.5	0.4186	0.29
0.1108512	0.2500738	0.1313824	0.1690317	0.7588775	0.2919461	7.9E-06	0.0803	0.1819

**Table A.10.** Parameter estimates for differenced log durations of Anglo American PLC. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		mal		$\sigma$	
2004/11/01	388	<b>-0.00027</b>	0.006622	0.9245071	0.0250056	2.1892607	0.1359146
2004/11/02	673	<b>-0.001188</b>	0.0027791	0.9535495	0.017183	2.0609211	0.0887744
2004/11/03	636	<b>-0.0030664</b>	0.1043098	0.8966783	0.0894756	-	-
2004/11/04	737	<b>-0.0020649</b>	0.0028386	0.9513192	0.0166262	1.8998299	0.0761105
2004/11/05	586	-0.2250024	0.0852318	0.8692144	0.0897764	-	-
2004/11/08	632	<b>-0.0025272</b>	0.0060473	0.8928821	0.021613	1.985849	0.0985928
2004/11/09	455	<b>-0.0042314</b>	0.0066593	0.9066226	0.0237043	2.4551949	0.1527709
2004/11/10	1231	<b>-0.0002652</b>	0.0035808	0.900735	0.0125258	1.6617005	0.0572621
2004/11/11	583	<b>-0.004716</b>	0.0087648	0.8649807	0.0235231	2.3597805	0.120025
2004/11/12	581	<b>-0.0033052</b>	0.0095155	0.852483	0.0224815	2.3808703	0.120219
2004/11/15	599	<b>-0.0009682</b>	0.0082275	0.8800916	0.0185251	2.3365617	0.1238456
2004/11/16	624	<b>-0.0012881</b>	0.0928294	0.9216998	0.0166518	-	-
2004/11/17	601	<b>-0.0006999</b>	0.0083873	0.8591814	0.0213446	2.2948564	0.1189544
2004/11/18	589	<b>-0.0023733</b>	0.1319665	0.9013278	0.1529951	-	-
2004/11/19	573	<b>3.171E-05</b>	0.0085034	0.8527464	0.0221643	2.2354813	0.1091961
2004/11/22	554	<b>-0.0032043</b>	0.0059607	0.9101276	0.0202728	2.2750785	0.1208143
2004/11/23	794	<b>-0.0759891</b>	0.0728828	0.9122024	0.0156071	-	-
2004/11/24	697	<b>0.0003078</b>	0.0088595	0.8554085	0.020336	2.4565766	0.1140149
2004/11/25	754	<b>-0.0030177</b>	0.0065098	0.862557	0.0188253	1.7916281	0.0903672
2004/11/26	720	<b>-0.0004824</b>	0.0025071	0.955314	0.0184043	1.9304418	0.1052428
2004/11/29	665	<b>-0.0046775</b>	0.0055908	0.8848296	0.0230406	2.0064476	0.091888
2004/11/30	1470	<b>-0.0006391</b>	0.0017176	0.9493725	0.0118296	1.5238492	0.0511007
2004/12/03	545	<b>-0.0049074</b>	0.060699	0.9117664	0.0184491	-	-
2004/12/06	1191	<b>-0.0012601</b>	0.0522842	0.9342704	0.0914078	-	-
2004/12/07	1099	0.1731288	0.07098	0.9490007	0.101598	-	-
2004/12/08	991	<b>-0.0007128</b>	0.0045422	0.9043992	0.0140558	1.729125	0.0705427
2004/12/09	715	<b>-0.0021768</b>	0.0072443	0.8735121	0.0188051	2.0680762	0.1107845
2004/12/10	654	<b>-0.0011468</b>	0.0071204	0.8873772	0.0202438	2.2060424	0.104681
2004/12/13	680	<b>-0.002096</b>	0.0107572	0.8220465	0.0228621	2.2313537	0.1297517
2004/12/14	491	<b>-0.005169</b>	0.0110751	0.847876	0.0258642	2.3650259	0.1366574
2004/12/15	1299	<b>-0.0001915</b>	0.0514334	0.9006917	0.0120234	-	-
2004/12/17	620	<b>-0.0024937</b>	0.0530341	0.7776418	0.0227489	-	-
2004/12/20	423	<b>-0.0462024</b>	0.1189742	0.7559727	0.093638	-	-
2004/12/21	395	<b>0.0008945</b>	0.0886088	0.7231975	0.0363014	-	-
2004/12/22	234	<b>-0.0055328</b>	0.0084261	0.9216809	0.0328997	2.2733487	0.1833544
2004/12/23	265	<b>-0.0001759</b>	0.0120984	0.8681903	0.0378731	2.2943757	0.1659397
2004/12/24	35	<b>0.0441101</b>	0.0796962	0.8474593	0.1172948	4.6921609	1.2630515
2004/12/28	80	<b>-0.0094936</b>	0.1035504	0.5689592	0.0931871	4.5707753	0.6577348
2004/12/29	169	<b>-0.0114159</b>	0.0835974	0.7701365	0.0895451	-	-
2004/12/30	220	<b>-0.0094921</b>	0.1568045	0.8648897	0.0959618	-	-
2004/12/31	47	<b>-0.0100384</b>	0.1196395	0.5449147	0.1374225	3.584811	0.8063828



$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.30339	0.0129	0.29
-	-	-	-	-	-	0.17378	0.1067	0.0629
0.0019086	0.7009402	0.0126613	0.0288599	0.986652	0.3219444	0.03887	0	0.0342
-	-	-	-	-	-	0.5	0.0388	0.29
0.3709617	0.555969	0.0760094	0.0483259	0.7478084	0.25798	0.00933	0.0203	0.1902
-	-	-	-	-	-	0.27671	0.0315	0.0004
-	-	-	-	-	-	0.34633	0.0539	0.0177
-	-	-	-	-	-	0.05916	0.0062	0.0488
-	-	-	-	-	-	0.47251	0.3485	0.0469
-	-	-	-	-	-	0.24474	0.035	0.1489
-	-	-	-	-	-	0.38703	0.0745	0.1363
0.1675198	0.3297755	0.0693542	0.0375532	0.8589868	0.1640533	0.00088	0.0018	0.0487
-	-	-	-	-	-	0.25698	0.093	0.0025
0.1189911	0.7722424	0.0276559	0.0436914	0.9169934	0.3317024	0.00123	0.0284	0.2612
-	-	-	-	-	-	0.29647	0.0211	0.1031
-	-	-	-	-	-	0.32253	0.0003	0.1097
0.4139122	0.4925583	0.0629961	0.0411607	0.7375715	0.256613	0.00621	0	0.0473
-	-	-	-	-	-	0.5	0.3863	0.0001
-	-	-	-	-	-	0.4064	0	0.0186
-	-	-	-	-	-	0.25536	0.3974	0.0294
-	-	-	-	-	-	0.5	0.0001	0.1184
-	-	-	-	-	-	0.0604	0.0242	0.01
0.2075986	0.3653548	0.0738308	0.0360612	0.8363242	0.1745135	0.00016	0	0.096
0.0576652	0.3363389	0.0413546	0.0235265	0.9245673	0.1626733	0.00025	0	0.0452
1.1325155	0.6221417	0.064524	0.0440344	0.3195425	0.320835	0.04048	0	0.0305
-	-	-	-	-	-	0.15435	0.057	0.049
-	-	-	-	-	-	0.5	0.0658	0.2709
-	-	-	-	-	-	0.25045	0.0725	0.0634
-	-	-	-	-	-	0.0913	0.0091	0.0777
-	-	-	-	-	-	0.13769	0.0029	0.29
0.0024234	0.5553604	0.0238348	0.0137392	0.9749101	0.2820093	0.00033	0	0.0728
0.0106023	0.675776	7.46E-13	0.0177067	0.9952543	0.3184043	0.01332	0.1696	0.1245
0.0696984	0.8604932	2.987E-10	0.0293262	0.9708673	0.3378448	0.02028	0.0947	0.29
1.1514661	0.5627132	0.1729442	0.0903301	0.3092539	0.3004252	0.03083	0	0.2332
-	-	-	-	-	-	0.16074	0.1547	0.0301
-	-	-	-	-	-	0.20931	0.1481	0.0135
-	-	-	-	-	-	0.38265	0.969	0.29
-	-	-	-	-	-	0.5	0.5335	0.1226
1.4058053	0.7739115	0.2183651	0.1452476	0.3374839	0.2839662	0.01223	0.004	0.29
2.0250068	0.8375107	0.1137087	0.0961355	0.1556411	0.3527714	0.03969	0.059	0.1133
-	-	-	-	-	-	0.5	0.108	0.29

Table A.10. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	135	<b>-0.0140654</b>	0.0272993	0.8307129	0.0493936	2.7555929	0.3409897
2005/01/04	272	<b>0.0033037</b>	0.0173019	0.8294025	0.0328465	2.9323393	0.25088
2005/01/05	283	<b>-0.0087677</b>	0.0910042	0.8424207	0.0324998	-	-
2005/01/06	580	<b>0.0002397</b>	0.0085973	0.8357454	0.0234844	2.0011855	0.1067641
2005/01/07	326	<b>-0.0022587</b>	0.011862	0.8799806	0.0290685	2.9996434	0.2037679
2005/01/10	391	<b>0.0001492</b>	0.012857	0.8411058	0.0268398	2.597596	0.1732275
2005/01/11	432	<b>-0.0004358</b>	0.1571898	0.8802024	0.171333	-	-
2005/01/12	638	0.1910316	0.0886133	0.8913556	0.0189464	-	-
2005/01/13	480	<b>-0.0040881</b>	0.0106097	0.8363371	0.0253313	2.2791841	0.1192581
2005/01/14	507	-0.259058	0.0863792	0.9638061	0.0910236	-	-
2005/01/17	437	<b>-0.0011654</b>	0.003663	0.9685904	0.0234626	2.7305344	0.1549133
2005/01/18	913	<b>-0.0001129</b>	0.0029741	0.9345896	0.0161956	1.8605538	0.0765423
2005/01/19	732	<b>-0.0014193</b>	0.0092616	0.8231265	0.0221437	2.0877686	0.0912575
2005/01/20	670	<b>-0.0010507</b>	0.1040917	0.8853272	0.0173938	-	-
2005/01/21	341	<b>0.0804486</b>	0.1058473	0.8947235	0.1079385	-	-
2005/01/24	425	<b>-0.001396</b>	0.0027262	0.9754469	0.0236133	2.3450415	0.1425635
2005/01/25	418	<b>-0.0048337</b>	0.0102235	0.8593498	0.0314971	2.3278574	0.1368409
2005/01/26	344	<b>-0.0060955</b>	0.0160347	0.8743603	0.0245763	-	-
2005/01/27	471	<b>-0.0043574</b>	0.0086476	0.8693459	0.0254586	2.2289383	0.1444335
2005/01/28	332	<b>0.0014446</b>	0.0053641	0.9560679	0.0264044	2.3695147	0.189111
2005/01/31	523	<b>0.0010147</b>	0.0031499	0.9562806	0.0226945	2.0276979	0.1224113
2005/02/01	1120	<b>0.0293623</b>	0.1101424	0.9512819	0.0131373	-	-
2005/02/02	865	<b>-0.0002287</b>	0.0010634	0.9846073	0.0182328	1.7535665	0.0709616
2005/02/03	898	<b>-0.0031531</b>	0.0056946	0.87145	0.0176339	1.7912618	0.0759514
2005/02/04	520	0.3048374	0.0829636	0.8895123	0.022199	-	-
2005/02/07	541	<b>0.0018318</b>	0.0058514	0.9050646	0.0199045	1.9899166	0.1084646
2005/02/08	715	<b>-0.0004506</b>	0.0050432	0.9023001	0.0178613	1.9870615	0.0947891
2005/02/09	541	<b>-0.0007536</b>	0.0035327	0.9455955	0.0224567	2.1103257	0.117945
2005/02/10	780	<b>-0.0028187</b>	0.099796	0.9142002	0.0150312	-	-
2005/02/11	393	<b>-0.0037319</b>	0.0134985	0.8474507	0.0277941	2.5520752	0.1770131
2005/02/14	507	<b>-0.0023083</b>	0.004007	0.9408001	0.0228425	2.2393324	0.1201747
2005/02/15	383	<b>-0.0022803</b>	0.0045235	0.9525531	0.0239856	2.1643709	0.1674159
2005/02/16	650	<b>-0.0037933</b>	0.1055165	0.9085402	0.0906008	-	-
2005/02/17	527	<b>-0.0051408</b>	0.0070847	0.89744	0.0216034	2.3506331	0.114451
2005/02/18	511	<b>-0.0045623</b>	0.1644248	0.9258037	0.021987	-	-
2005/02/21	394	0.2235611	0.1015882	0.9601252	0.0730906	-	-
2005/02/22	612	<b>-0.0012509</b>	0.1287099	0.8663685	0.0227162	-	-
2005/02/23	819	<b>-0.0013862</b>	0.0045753	0.9143184	0.0164455	1.8709826	0.0804348
2005/02/24	466	<b>-0.0026005</b>	0.0071239	0.9026193	0.0231434	2.4381275	0.1494514
2005/02/25	395	<b>0.0009454</b>	0.0056456	0.9309938	0.0200789	2.2161818	0.1429246
2005/02/28	533	<b>-0.0026493</b>	0.0044517	0.9293795	0.0187276	1.8313563	0.1015279

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.5	0.3728	0.29
-	-	-	-	-	-	0.05516	0.031	0.008
1.4666947	0.7227321	0.1254703	0.0885254	0.3545445	0.3091743	0.02015	0.2245	0.2553
-	-	-	-	-	-	0.37506	0.0625	0.0469
-	-	-	-	-	-	0.47355	0.3165	0.1964
-	-	-	-	-	-	0.35629	0.08	0.0005
1.6030655	1.0144231	0.1028987	0.0697883	0.2483617	0.3487178	0.01337	0.0006	0.0498
0.2084796	0.6386045	0.0084003	0.0212228	0.8888168	0.318273	0.04134	0.02	0.2309
-	-	-	-	-	-	0.34667	0.0143	0.29
0.0422125	0.7342349	0.0361739	0.0311785	0.9483578	0.2561913	0.00044	0.0054	0.0042
-	-	-	-	-	-	0.16074	0.1335	0.0784
-	-	-	-	-	-	0.5	0.0221	0.1793
-	-	-	-	-	-	0.45155	0.1742	0.0108
0.0425589	0.5343284	0.0275587	0.0279536	0.9496649	0.2935879	0.02601	0.0019	0.143
2.622631	1.0918079	0.137437	0.0829208	4.719E-05	0.3907511	0.00379	0.0443	0.2377
-	-	-	-	-	-	0.34283	0.5918	0.2143
-	-	-	-	-	-	0.07244	0.1385	0.0202
0.4294285	0.6815758	0.0618424	0.0578495	0.7879848	0.2624191	0.04506	0.0159	0.29
-	-	-	-	-	-	0.5	0.0005	0.29
-	-	-	-	-	-	0.5	0.0561	0.0769
-	-	-	-	-	-	0.328	0.0003	0.2099
1.5085651	0.5577388	0.0608685	0.0352681	0.0303335	0.3600728	0.02246	0.105	0.1149
-	-	-	-	-	-	0.35219	0.0467	0.1367
-	-	-	-	-	-	0.5	0.1568	0.068
0.3595272	0.3858272	0.1055446	0.0453541	0.7394199	0.192897	0.03656	0.012	0.2102
-	-	-	-	-	-	0.30402	0.0004	0.0742
-	-	-	-	-	-	0.29556	0.2299	0.0689
-	-	-	-	-	-	0.16264	0.0135	0.0056
0.0485101	0.2981664	0.0459049	0.0232279	0.9280099	0.1709546	0.04953	0	0.2574
-	-	-	-	-	-	0.35304	0.1022	0.29
-	-	-	-	-	-	0.17738	0.0752	0.0373
-	-	-	-	-	-	0.2323	0.3469	0.1907
0.0276168	0.6620601	0.0199525	0.0322228	0.96776	0.2944017	0.02344	0.0189	0.1905
-	-	-	-	-	-	0.39075	0.0004	0.29
1.9639333	0.7153249	0.0921205	0.0646195	6.462E-06	0.3766187	0.00148	0.0115	0.29
0.5587288	0.827761	0.0605061	0.0486401	0.7396218	0.280329	0.00188	0.1146	0.0621
0.8389157	0.5463729	0.0749982	0.0501481	0.545735	0.2846497	0.04285	0.1038	0.29
-	-	-	-	-	-	0.12619	0.0051	0.29
-	-	-	-	-	-	0.08992	0.0369	0.0415
-	-	-	-	-	-	0.13668	0.0082	0.2362
-	-	-	-	-	-	0.16593	0.3229	0.2135

**Table A.11.** Parameter estimates for differenced raw durations of the MTN Group Ltd. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		mal		$\sigma$	
2004/11/01	330	<b>-0.0033914</b>	0.0073145	0.929036	0.0286543	3.4577885	0.8318701
2004/11/02	399	<b>0.0300168</b>	0.0298215	0.7715428	0.0891677	-	-
2004/11/03	321	<b>-0.0076965</b>	0.0217501	0.7781023	0.0386674	3.4658621	0.9587462
2004/11/04	416	<b>-0.0002188</b>	0.0031474	0.9657778	0.0318558	2.0814522	0.463723
2004/11/05	328	<b>0.0016302</b>	0.005327	0.959192	0.0520415	3.6091842	1.5942594
2004/11/08	388	<b>-0.005826</b>	0.0053951	0.9210516	0.0464586	1.887569	0.4741386
2004/11/09	471	<b>-0.0031485</b>	0.0050767	0.8497437	0.0295313	0.5761136	0.0852329
2004/11/10	381	<b>0.0006629</b>	0.0025303	0.9844069	0.046596	1.6255705	0.2874736
2004/11/11	386	<b>0.031529</b>	0.0218044	0.7106293	0.0740692	-	-
2004/11/12	452	<b>0.0009965</b>	0.0014882	0.9817234	0.039324	1.5134874	0.2554706
2004/11/15	353	<b>0.0012004</b>	0.0030962	0.9672176	0.0372066	1.8442086	0.2856906
2004/11/16	412	<b>-0.0010714</b>	0.003196	0.9641785	0.0400436	1.7208972	0.2571211
2004/11/17	388	<b>-0.0023941</b>	0.011482	0.8640124	0.0355	1.9360874	0.3403484
2004/11/18	322	<b>0.0005241</b>	0.0041012	0.9601769	0.027145	2.5988497	0.5473844
2004/11/19	658	<b>0.0006683</b>	0.0016533	0.9457061	0.0224234	0.5233158	0.0670303
2004/11/22	669	<b>0.0535184</b>	0.0325137	0.9856861	0.0353017	-	-
2004/11/23	748	<b>0.0063535</b>	0.0424791	0.7730377	0.1997919	-	-
2004/11/24	680	<b>1.186E-08</b>	0.001941	0.9374648	0.017675	0.6914154	0.1525402
2004/11/25	693	<b>-0.000443</b>	0.0018021	0.937659	0.0228809	0.5254153	0.0717285
2004/11/26	1366	<b>0.0014273</b>	0.0075929	0.9258359	0.0197736	-	-
2004/11/29	497	<b>-0.0002766</b>	0.0019708	0.971988	0.0212828	0.9576301	0.1388808
2004/11/30	822	<b>-0.0002477</b>	0.0011271	0.9551181	0.0151538	0.43124	0.0480002
2004/12/03	514	<b>-0.0009051</b>	0.0017384	0.9764097	0.0295938	1.4007496	0.3743609
2004/12/06	417	<b>-0.0008889</b>	0.0028407	0.9643736	0.0336989	1.5130354	0.2911686
2004/12/07	382	<b>-0.0078255</b>	0.0127408	0.8386279	0.0325519	2.4210442	0.3706576
2004/12/08	498	<b>0.0222206</b>	0.0168034	0.7714076	0.0945054	-	-
2004/12/09	446	<b>-0.0026715</b>	0.0031354	0.9502443	0.0396226	1.7964243	0.3612148
2004/12/10	336	<b>-0.0020187</b>	0.0026775	0.9794034	0.0344666	2.2709187	0.3245767
2004/12/13	323	<b>0.0154584</b>	0.0255877	0.8287285	0.0382733	-	-
2004/12/14	278	<b>-0.0020411</b>	0.0067841	0.9344537	0.0429222	2.3270168	0.3152428
2004/12/15	845	<b>0.0002718</b>	0.0101229	0.9111543	0.1374768	-	-
2004/12/17	314	<b>0.0091826</b>	0.0366215	0.8951919	0.0562503	-	-
2004/12/20	158	<b>-0.0024433</b>	0.0217635	0.9167247	0.057528	8.0722328	1.8184961
2004/12/21	119	<b>-0.012955</b>	0.0245355	0.9510436	0.0546474	12.953944	2.3210822
2004/12/22	422	<b>-0.0016581</b>	0.0045949	0.9409977	0.0253811	2.163379	0.4007764
2004/12/23	222	<b>-0.024682</b>	0.0299917	0.8035135	0.0427534	4.9024526	0.9619381
2004/12/24	63	<b>0.0352936</b>	0.0356787	0.9295213	0.0871695	7.159075	2.4667582
2004/12/28	167	<b>-0.0544485</b>	0.0593143	0.7547556	0.0531841	13.568865	3.0305557
2004/12/29	196	<b>0.0048271</b>	0.0182596	0.9254173	0.0478427	8.1568778	1.8668257
2004/12/30	99	<b>-0.0883322</b>	0.0636461	0.8643115	0.0706393	26.914224	7.2442006
2004/12/31	47	<b>0.097295</b>	0.0657239	0.9132418	0.0962058	13.33915	3.5970567

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.4997	0.2471	0.29
0.2915158	0.3011708	0.3174836	0.2013656	0.6013518	0.2547421	0.00013	0	0.29
-	-	-	-	-	-	0.5	0.4834	0.29
-	-	-	-	-	-	0.5	0.1321	0.1349
-	-	-	-	-	-	0.49155	0.0004	0.0758
-	-	-	-	-	-	0.08923	0.0078	0.29
-	-	-	-	-	-	0.25127	0.0247	0.29
-	-	-	-	-	-	0.17944	0.0149	0.2088
0.2775872	0.2094193	0.5598512	0.1752813	0.4362538	0.170749	0.00033	0.0097	0.29
-	-	-	-	-	-	0.27991	0.3495	0.2188
-	-	-	-	-	-	0.36106	0.1948	0.29
-	-	-	-	-	-	0.09551	0.5274	0.0258
-	-	-	-	-	-	0.17506	0.291	0.29
-	-	-	-	-	-	0.5	0.0789	0.29
-	-	-	-	-	-	0.08017	0	0.0253
0.3694815	0.1040725	0.9809165	0.2605355	0.019074	0.1559638	0.00322	0.0007	0.2315
0.3398217	0.1537843	0.2190558	0.1952942	0.2151943	0.2885676	0.00845	0.0579	0.0209
-	-	-	-	-	-	0.28788	0.0225	0.1672
-	-	-	-	-	-	0.26335	0.0317	0.0052
0.0010806	0.0012338	0.0805681	0.0388653	0.9192377	0.0395858	0.03217	0	0.1587
-	-	-	-	-	-	0.05107	0.0564	0.1914
-	-	-	-	-	-	0.12445	0.0003	0.2245
-	-	-	-	-	-	0.5	0.2159	0.29
-	-	-	-	-	-	0.10341	0.001	0.0008
-	-	-	-	-	-	0.29439	0.0863	0.29
0.0724805	0.1731923	0.1724376	0.1627012	0.8267367	0.1945601	7.3E-05	0.2021	0.29
-	-	-	-	-	-	0.43927	0.0116	0.1079
-	-	-	-	-	-	0.5	0.0549	0.29
0.4399972	0.2883689	0.3409185	0.1765399	0.550225	0.2005128	0.00029	0.0057	0.29
-	-	-	-	-	-	0.5	0.131	0.1556
0.0010223	0.100205	0.093468	0.0821846	0.9063988	0.0837795	0.01427	0	0.29
0.4857958	0.4947678	0.3873947	0.1836322	0.6064788	0.1907967	0.00625	0.0073	0.29
-	-	-	-	-	-	0.5	0.3884	0.0662
-	-	-	-	-	-	0.5	0.7548	0.29
-	-	-	-	-	-	0.38645	0.0052	0.1402
-	-	-	-	-	-	0.36486	0.019	0.29
-	-	-	-	-	-	0.5	0.68	0.29
-	-	-	-	-	-	0.23847	0.0114	0.29
-	-	-	-	-	-	0.5	0.0038	0.29
-	-	-	-	-	-	0.42957	0.0128	0.29
-	-	-	-	-	-	0.5	0.25	0.29

Table A.11. (continued)

Date	N Obs	mu		mal		$\sigma$	
2005/01/03	262	<b>0.0003865</b>	0.1086291	0.9814466	0.1725065	-	-
2005/01/04	297	<b>-0.0005595</b>	0.0082094	0.9222263	0.0305029	2.8798509	0.5185361
2005/01/05	212	<b>-0.0011299</b>	0.0192792	0.8884589	0.0370578	5.296159	0.9994545
2005/01/06	617	<b>0.0006829</b>	0.0024149	0.9425856	0.0150756	0.8811675	0.1730043
2005/01/07	438	<b>0.0044139</b>	0.0460752	0.9456545	0.160885	-	-
2005/01/10	268	<b>-0.0079696</b>	0.1143105	<b>-0.0056774</b>	0.0562905	-	-
2005/01/11	331	<b>0.0260473</b>	0.0598986	0.8602867	0.172895	-	-
2005/01/12	396	<b>-0.0012292</b>	0.0019366	0.988239	0.0344122	1.4996845	0.3203254
2005/01/13	656	<b>0.015046</b>	0.0149238	0.730142	0.0480536	-	-
2005/01/14	349	<b>-0.0031051</b>	0.0063408	0.9307362	0.0323006	2.3302354	0.4270558
2005/01/17	340	<b>-0.0013824</b>	0.005374	0.9439908	0.0310498	2.0775373	0.2917224
2005/01/18	476	<b>-0.0034696</b>	0.0070249	0.8522302	0.0274879	1.0703518	0.1450033
2005/01/19	659	<b>0.0049503</b>	0.0144751	0.9096012	0.0293837	-	-
2005/01/20	336	<b>0.0025616</b>	0.0732419	0.8537963	0.093657	-	-
2005/01/21	315	<b>0.0002386</b>	0.0053062	0.9452418	0.0324696	2.7364237	0.5089915
2005/01/24	421	<b>-0.0061036</b>	0.0056243	0.9074428	0.0318809	1.7339517	0.2659916
2005/01/25	463	<b>0.0266699</b>	0.0172005	0.8089271	0.0474006	-	-
2005/01/26	230	<b>-0.0092138</b>	0.0110166	0.9251601	0.0424611	4.0967754	0.8837708
2005/01/27	397	<b>0.0036928</b>	0.0142544	0.81517	0.1028807	-	-
2005/01/28	357	<b>0.0010376</b>	0.0040509	0.9603599	0.0200594	2.1198233	0.4234775
2005/01/31	396	<b>-0.0009782</b>	0.0281017	0.9621272	0.0988467	-	-
2005/02/01	719	<b>0.0005709</b>	0.0225577	0.9329506	0.018999	-	-
2005/02/02	567	<b>-0.0020568</b>	0.0059323	0.8461265	0.0269547	0.7964819	0.1400286
2005/02/03	269	<b>0.0122079</b>	0.0345147	0.8360334	0.1005975	-	-
2005/02/04	168	<b>-0.0026823</b>	0.0095109	0.9760881	0.0390614	5.7099247	1.2104399
2005/02/07	516	<b>-0.004008</b>	0.004431	0.9295972	0.0193393	2.5770831	1.0148517
2005/02/08	332	<b>0.0019886</b>	0.0039413	0.9690251	0.0247481	2.4656063	0.3646826
2005/02/09	908	<b>0.0010889</b>	0.0115245	0.839192	0.0406881	-	-
2005/02/10	721	<b>0.0071161</b>	0.0163261	0.8177276	0.0266108	-	-
2005/02/11	356	<b>0.0333542</b>	0.1253712	0.9944426	0.3479477	-	-
2005/02/14	315	<b>-0.0001714</b>	0.034573	0.9697703	0.0296006	-	-
2005/02/15	346	0.0318056	0.015458	0.800844	0.0515834	-	-
2005/02/16	306	<b>0.018592</b>	0.2376056	0.6908818	0.0805178	-	-
2005/02/17	404	<b>0.053875</b>	0.0878298	0.4512589	0.1297314	-	-
2005/02/18	359	<b>0.0099419</b>	0.0315839	0.9148485	0.0330518	-	-
2005/02/21	231	<b>-0.0044741</b>	0.160865	0.9334707	0.2680349	-	-
2005/02/22	313	<b>-0.0065449</b>	0.0094252	0.8952658	0.0355451	2.7422266	0.4541152
2005/02/23	287	<b>-0.0099951</b>	0.0141464	0.9062632	0.0316402	5.9743532	1.6031006
2005/02/24	471	<b>0.0003804</b>	0.0026817	0.9698203	0.02132	1.6681368	0.3039063
2005/02/25	327	<b>-0.0013959</b>	0.0074067	0.9231551	0.0280593	2.6198154	0.5902557
2005/02/28	452	<b>-0.0017655</b>	0.0050174	0.9256684	0.0328595	1.4630144	0.3689198

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
3.0319584	1.0770191	0.9242937	0.269609	2.332E-08	0.1773525	2.5E-06	0.0149	0.2504
-	-	-	-	-	-	0.36574	0.123	0.29
-	-	-	-	-	-	0.34063	0.0014	0.29
-	-	-	-	-	-	0.4834	0.01	0.1712
0.0236502	0.3709523	0.0573395	0.1560798	0.9231733	0.3046765	0.00239	0.0003	0.1611
2.4012997	0.5416433	0.5884208	0.2017366	1.996E-10	0.1229182	0.00125	0.0175	0.0092
0.2511105	0.878931	0.1088437	0.1950332	0.8244303	0.3024098	0.03991	0.296	0.0841
-	-	-	-	-	-	0.5	0.0706	0.29
0.1215113	0.0440598	0.5517576	0.1490661	0.4447743	0.1330653	3.8E-08	0.0005	0.0437
-	-	-	-	-	-	0.26433	0.0035	0.1507
-	-	-	-	-	-	0.07656	0.219	0.0863
-	-	-	-	-	-	0.19919	0.016	0.29
0.03436	0.0680457	0.176772	0.0780069	0.8216166	0.1460471	0.00661	0.1515	0.29
1.5389504	0.4593675	0.9987305	0.2076224	3.759E-12	0.1143818	0.00198	0.0122	0.29
-	-	-	-	-	-	0.31575	0.0338	0.2218
-	-	-	-	-	-	0.0552	0	0.0738
0.1636908	0.097819	0.3000247	0.1200105	0.6910249	0.1252949	8.1E-07	0.5303	0.29
-	-	-	-	-	-	0.5	0.3557	0.29
0.3985295	0.267957	0.501508	0.2001759	0.4838475	0.2061191	0.03053	0	0.29
-	-	-	-	-	-	0.5	0.0336	0.29
0.5592109	0.2678461	0.4382793	0.2240242	0.3151187	0.2121233	1E-15	0.0038	0.2019
0.0027128	0.1216768	0.0587349	0.0618123	0.9394703	0.1565405	0.01784	0.0233	0.1468
-	-	-	-	-	-	0.13882	0.0621	0.29
0.1682987	0.3630787	0.2064371	0.1519627	0.7883776	0.1793134	0.03517	0.0826	0.29
-	-	-	-	-	-	0.38974	0.733	0.2485
-	-	-	-	-	-	0.44649	0.0033	0.29
-	-	-	-	-	-	0.5	0.0937	0.042
0.0026149	0.0078727	0.0976038	0.0630229	0.9021852	0.0634828	0	0	0.0002
0.0049116	0.0376677	0.0651016	0.0681838	0.9332594	0.1164273	9.3E-07	0.0047	0.29
2.7949286	1.1657302	0.0846391	0.337167	5.114E-07	0.3318349	0.01145	0.4008	0.2328
0.6081275	0.5690383	0.1461488	0.1908075	0.6173298	0.2859926	0.0066	0.0168	0.0567
0.154825	0.1301791	0.3077962	0.1535831	0.6894273	0.1681002	0.00039	0.1014	0.29
0.0095465	2.7939048	0.1387069	0.1149546	0.8610392	0.1293078	0.0022	0.0073	0.29
1.2632138	0.4280158	0.8245573	0.2773584	0.1147839	0.1679772	0.00073	0.0862	0.1072
0.0395444	0.4808084	0.1198258	0.0760851	0.8756076	0.1457829	0.01723	0.0004	0.29
3.5186874	1.3695405	0.2836852	0.3392047	0.0174247	0.2653229	0.00547	0.2579	0.2084
-	-	-	-	-	-	0.42825	0.2423	0.29
-	-	-	-	-	-	0.16588	0.5867	0.0359
-	-	-	-	-	-	0.46203	0.0164	0.0837
-	-	-	-	-	-	0.5	0.0286	0.29
-	-	-	-	-	-	0.26032	0.0096	0.0014

**Table A.12.** Parameter estimates for differenced log durations of the MTN Group Ltd. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	N Obs	mu		mal		$\sigma$	
2004/11/01	330	<b>-0.0049205</b>	0.0089549	0.8942257	0.0288769	2.9859584	0.2423307
2004/11/02	399	<b>-0.0043782</b>	0.0141061	0.8262301	0.030568	2.7121523	0.158091
2004/11/03	321	<b>-0.0045119</b>	0.0156307	0.8434465	0.0313602	2.5519919	0.2022291
2004/11/04	416	<b>0.00058</b>	0.0029123	0.9666267	0.0214615	2.1694536	0.1357243
2004/11/05	328	<b>-0.0008481</b>	0.0079199	0.9103912	0.0268677	2.4647397	0.1753215
2004/11/08	388	<b>-0.0060785</b>	0.0066819	0.9211145	0.0241638	2.5271929	0.1815112
2004/11/09	471	<b>-0.0039124</b>	0.0079007	0.895032	0.0208225	2.3018731	0.150298
2004/11/10	381	<b>-5.325E-05</b>	0.0057546	0.9312544	0.0245111	2.1958233	0.1539791
2004/11/11	386	<b>-0.0037426</b>	0.0582118	0.7696604	0.0821506	-	-
2004/11/12	452	<b>4.687E-06</b>	0.0160402	0.8077234	0.0295058	2.8149246	0.1655504
2004/11/15	353	<b>0.0005511</b>	0.0032591	1	0.0332135	2.0389872	0.1629748
2004/11/16	412	<b>-0.0230729</b>	0.0962477	0.8162844	0.0353135	2.3733157	0.1611883
2004/11/17	388	<b>-0.0018788</b>	0.0149405	0.8266911	0.0312369	2.3116181	0.1786295
2004/11/18	322	<b>-0.0001052</b>	0.1413125	0.8581064	0.0905687	-	-
2004/11/19	658	<b>0.0029935</b>	0.0072926	0.8687463	0.0191144	1.9213122	0.0995671
2004/11/22	669	<b>-0.0012364</b>	0.008407	0.852144	0.0206549	1.8774179	0.1010019
2004/11/23	748	<b>-0.0026122</b>	0.0054302	0.8922405	0.0180873	2.0131388	0.0972377
2004/11/24	680	<b>-2.827E-08</b>	0.1079613	0.8505227	0.0196998	-	-
2004/11/25	693	<b>-8.575E-05</b>	0.0814592	0.9475484	0.0956591	-	-
2004/11/26	1366	<b>0.0635263</b>	0.0667442	0.9172289	0.0123679	-	-
2004/11/29	497	-0.1480277	0.0606694	0.9359438	0.113059	-	-
2004/11/30	822	<b>-0.000964</b>	0.0695225	0.9270042	0.0144384	-	-
2004/12/03	514	<b>-0.0014228</b>	0.0961796	0.9474485	0.1313721	-	-
2004/12/06	417	<b>-0.0021937</b>	0.0036957	0.9604527	0.0254723	2.430348	0.160705
2004/12/07	382	<b>-0.005301</b>	0.0117303	0.83632	0.0309856	2.5575582	0.1744442
2004/12/08	498	<b>-0.0050038</b>	0.0135928	0.8203478	0.0245507	2.5145079	0.1595321
2004/12/09	446	<b>-0.0041565</b>	0.005643	0.9220853	0.0212788	2.3790149	0.1463463
2004/12/10	336	<b>0.0343751</b>	0.0839406	0.972228	0.0267731	-	-
2004/12/13	323	<b>-0.0036793</b>	0.0129365	0.8573533	0.0325068	2.6471026	0.1775313
2004/12/14	278	<b>-0.0027442</b>	0.1461313	0.929338	0.1273892	-	-
2004/12/15	845	<b>-0.0019644</b>	0.0229766	0.919136	0.0926376	-	-
2004/12/17	314	<b>-0.0043996</b>	0.0205445	0.7927782	0.0365563	2.9376712	0.2297324
2004/12/20	158	<b>-0.0025749</b>	0.0316224	0.8061367	0.0476398	3.0177302	0.3336629
2004/12/21	119	<b>-0.0089365</b>	0.0303645	0.8134961	0.0642019	3.4113687	0.3868419
2004/12/22	422	<b>-0.0024358</b>	0.0070737	0.9183114	0.024994	2.5210956	0.1711928
2004/12/23	222	<b>-0.0104543</b>	0.0180041	0.8194872	0.0425237	2.7318148	0.2319311
2004/12/24	63	<b>0.0293915</b>	0.0327981	0.8874268	0.067439	3.443887	0.5222578
2004/12/28	167	<b>-0.0257755</b>	0.0416545	0.7215744	0.0531056	3.9875806	0.4313939
2004/12/29	196	<b>0.002631</b>	0.0131664	0.9150269	0.0365489	3.109404	0.2776152
2004/12/30	99	<b>-0.0247139</b>	0.0269061	0.8865504	0.0545054	4.8798649	0.6394593
2004/12/31	47	<b>0.0402844</b>	0.0270214	0.9210907	0.0891692	2.9677982	0.6172166



$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.35265	0.0112	0.164
-	-	-	-	-	-	0.07882	0.0056	0.0563
-	-	-	-	-	-	0.39849	0.0609	0.29
-	-	-	-	-	-	0.5	0.0077	0.158
-	-	-	-	-	-	0.16937	0.0008	0.0539
-	-	-	-	-	-	0.5	0.0597	0.0094
-	-	-	-	-	-	0.34487	0.0316	0.1657
-	-	-	-	-	-	0.21248	0.0003	0.0727
0.2394178	0.4553065	0.0847674	0.0420845	0.8099944	0.2044386	0.01601	0.0099	0.2616
-	-	-	-	-	-	0.05358	0.0008	0.1793
-	-	-	-	-	-	0.5	0.2448	0.0829
-	-	-	-	-	-	0.05325	0.2583	0.0874
-	-	-	-	-	-	0.45552	0.1426	0.2359
0.3838725	0.6816891	0.0759125	0.0526038	0.7626442	0.2727812	0.03097	0.0293	0.29
-	-	-	-	-	-	0.08813	0	0.0074
-	-	-	-	-	-	0.42979	0.0264	0.1254
-	-	-	-	-	-	0.19317	0.0088	1E-05
0.130577	0.5671991	0.0305377	0.0292975	0.9066661	0.2824128	0.00397	0.0008	0.1083
0.0189883	0.5570592	0.0053244	0.0360805	0.9840423	0.3058995	3.1E-05	0.005	0.0349
0.0959539	0.1175518	0.0692598	0.0203019	0.8737125	0.0780872	2E-06	0	0
1.0296773	0.744993	0.0613036	0.0488581	0.4226797	0.3495352	0.02779	0.0144	0.0142
0.0462517	0.3691082	0.0297692	0.0194925	0.9437744	0.2115997	0.02637	0	0.1578
1.2850285	0.7285601	0.1420118	0.0761692	0.3041926	0.3211293	0.00032	0.0209	0.1058
-	-	-	-	-	-	0.05157	0.0472	5E-06
-	-	-	-	-	-	0.5	0.0273	0.29
-	-	-	-	-	-	0.079	0.1581	0.0673
-	-	-	-	-	-	0.2528	0.0658	0.0287
0.4793012	0.2397454	0.2807658	0.0639474	0.6019425	0.1056015	2.6E-06	0.1753	0.107
-	-	-	-	-	-	0.5	0.0082	0.2047
1.6034232	0.8293912	0.1096533	0.0810213	0.102185	0.389239	0.04957	0.3402	0.1618
0.0055478	0.137948	0.0470014	0.0400971	0.9514868	0.1490258	2.9E-05	0	0.29
-	-	-	-	-	-	0.12272	0	0.0558
-	-	-	-	-	-	0.45167	0.06	0.29
-	-	-	-	-	-	0.5	0.099	0.29
-	-	-	-	-	-	0.1372	0.0325	0.29
-	-	-	-	-	-	0.5	0.017	0.29
-	-	-	-	-	-	0.14412	0.6391	0.29
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.5	0.0015	0.2656
-	-	-	-	-	-	0.5	0.1718	0.29
-	-	-	-	-	-	0.5	0.1416	0.29

Table A.12. (continued)

Date	N Obs	mu		mal		$\sigma$	
2005/01/03	262	<b>0.0025321</b>	0.1533074	0.8871211	0.0903918	-	-
2005/01/04	297	<b>-0.0025391</b>	0.01418	0.8396105	0.0343039	2.523458	0.1885491
2005/01/05	212	<b>-0.0013202</b>	0.1332472	0.8640598	0.1453683	-	-
2005/01/06	617	<b>0.0013768</b>	0.0049607	0.9161339	0.020283	2.1624777	0.1245808
2005/01/07	438	<b>0.0022968</b>	0.0087591	0.8888309	0.0205059	2.1668083	0.1337532
2005/01/10	268	<b>-0.0028244</b>	0.0111505	0.8750235	0.0324798	2.1831726	0.1771991
2005/01/11	331	<b>0.00039</b>	0.0116904	0.8543465	0.0310217	2.4258813	0.176835
2005/01/12	396	<b>-0.002543</b>	0.0050994	0.9309961	0.0249015	2.1394415	0.1460523
2005/01/13	656	<b>-0.0028042</b>	0.0095343	0.8121219	0.0239456	2.0373467	0.1011289
2005/01/14	349	<b>-0.0038558</b>	0.0090468	0.8873716	0.0254273	2.2821625	0.1779701
2005/01/17	340	<b>-0.0007796</b>	0.0026468	0.9966006	0.0310206	2.6782068	0.188063
2005/01/18	476	<b>-0.0025838</b>	0.0064694	0.8989135	0.0211154	2.0593987	0.1330707
2005/01/19	659	<b>-0.0036838</b>	0.0053968	0.9040691	0.020298	1.9223511	0.1006359
2005/01/20	336	<b>-0.0061301</b>	0.01252	0.8642063	0.0318972	2.6837246	0.206857
2005/01/21	315	<b>0.0003223</b>	0.0181951	0.7897132	0.0417045	2.3111861	0.1465484
2005/01/24	421	<b>-0.0083434</b>	0.01109	0.8409521	0.0304613	2.4048107	0.1532446
2005/01/25	463	<b>-0.005002</b>	0.0091269	0.8555915	0.0254021	2.2599287	0.1395549
2005/01/26	230	<b>-0.0087355</b>	0.0152689	0.8884479	0.0329809	3.2550143	0.321884
2005/01/27	397	<b>-0.0049251</b>	0.0153049	0.795567	0.0330972	2.3529239	0.1612622
2005/01/28	357	<b>0.0018381</b>	0.109135	0.8914609	0.0273163	-	-
2005/01/31	396	<b>0.0004604</b>	0.0075004	0.9062964	0.026357	2.0880936	0.1282255
2005/02/01	719	<b>-0.0013063</b>	0.0041833	0.9249145	0.0171213	1.8008254	0.0815491
2005/02/02	567	<b>-0.0021455</b>	0.0104664	0.8256609	0.0218619	2.1938518	0.1049231
2005/02/03	269	<b>-0.0082817</b>	0.1429019	0.8500312	0.0900768	-	-
2005/02/04	168	<b>-0.0026054</b>	0.0113091	0.9083747	0.037845	2.3889996	0.2385982
2005/02/07	516	<b>-0.0040254</b>	0.0093862	0.8636395	0.0245399	2.2875823	0.1324025
2005/02/08	332	<b>0.0015013</b>	0.0107395	0.8994763	0.027588	2.7817915	0.1887949
2005/02/09	908	<b>-0.0029601</b>	0.0073362	0.8225067	0.0177253	1.8792411	0.0898072
2005/02/10	721	<b>-0.0012907</b>	0.0102368	0.8169649	0.0238502	2.2356461	0.107354
2005/02/11	356	<b>-0.2982732</b>	0.0828177	0.7859676	0.0815086	-	-
2005/02/14	315	<b>-0.000837</b>	0.0069382	0.9328484	0.0230614	2.4122276	0.1752467
2005/02/15	346	<b>-0.0032367</b>	0.0141211	0.8158388	0.0336821	2.5187383	0.1782456
2005/02/16	306	<b>-0.0077345</b>	0.0164664	0.8020387	0.0318253	2.4122131	0.1752724
2005/02/17	404	<b>-0.0048241</b>	0.0671935	0.7170396	0.1061233	-	-
2005/02/18	359	<b>0.001872</b>	0.0039679	0.9537487	0.0247893	2.4166518	0.1766183
2005/02/21	231	<b>0.0019095</b>	0.0194191	0.8247122	0.0381204	2.6633799	0.2256774
2005/02/22	313	<b>-0.0052314</b>	0.0149468	0.8722012	0.0296573	3.2810132	0.2438389
2005/02/23	287	<b>-0.0046549</b>	0.0177114	0.8284447	0.0325465	2.8135889	0.2072909
2005/02/24	471	<b>-0.0001117</b>	0.0072322	0.9024633	0.0246461	2.2153798	0.1279933
2005/02/25	327	<b>-0.0018434</b>	0.0095292	0.8893356	0.0259033	2.5020017	0.1680195
2005/02/28	452	<b>-0.0022887</b>	0.0076136	0.8903823	0.0233041	1.94472	0.1308536

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
2.4453444	0.9899209	0.217469	0.1213731	7.51E-08	0.364182	0.00048	0.0055	0.2481
-	-	-	-	-	-	0.26325	0.0799	0.0333
0.7432421	0.9273223	0.0914918	0.073626	0.6335786	0.3190837	0.03313	0.0205	0.29
-	-	-	-	-	-	0.16005	0.012	0.0336
-	-	-	-	-	-	0.10683	0.0015	0.0939
-	-	-	-	-	-	0.34902	0.0805	0.0108
-	-	-	-	-	-	0.5	0.2317	0.0526
-	-	-	-	-	-	0.24684	0.0122	0.1189
-	-	-	-	-	-	0.23054	0.0001	0.0017
-	-	-	-	-	-	0.5	0.002	0.1499
-	-	-	-	-	-	0.22279	0.4493	0.0245
-	-	-	-	-	-	0.0778	0	0.29
-	-	-	-	-	-	0.1125	0.2212	0.29
-	-	-	-	-	-	0.16685	0.0105	0.059
-	-	-	-	-	-	0.47862	0.0032	0.0009
-	-	-	-	-	-	0.44375	0	0.1353
-	-	-	-	-	-	0.33037	0.8196	0.2519
-	-	-	-	-	-	0.07704	0.1651	0.1506
-	-	-	-	-	-	0.23303	0.0372	0.2512
0.7377273	0.6942236	0.0407809	0.0464411	0.6590025	0.297087	0.03287	0.001	0.095
-	-	-	-	-	-	0.17401	0.0001	0.1364
-	-	-	-	-	-	0.5	0.0111	0.1558
-	-	-	-	-	-	0.24807	0.0777	0.0351
2.2976046	0.847168	0.1143109	0.0778163	3.332E-06	0.360988	0.02471	0.0805	0.0705
-	-	-	-	-	-	0.5	0.3461	0.1793
-	-	-	-	-	-	0.28392	0.0031	0.1565
-	-	-	-	-	-	0.32356	0.0326	0.2751
-	-	-	-	-	-	0.12333	0	5E-05
-	-	-	-	-	-	0.19431	0.1491	0.0139
2.2093352	0.8566037	0.1510055	0.0905611	2.665E-07	0.3679535	0.00582	0.0828	0.0497
-	-	-	-	-	-	0.5	0.0005	0.0632
-	-	-	-	-	-	0.37462	0.0821	0.29
-	-	-	-	-	-	0.5	0.0002	0.1213
0.1362941	0.6026019	0.0554128	0.0488986	0.889043	0.2481604	0.04421	0.0004	0.0355
-	-	-	-	-	-	0.35518	0.0001	0.1889
-	-	-	-	-	-	0.10692	0.2149	0.1118
-	-	-	-	-	-	0.29713	0.0254	0.0677
-	-	-	-	-	-	0.09361	0.001	0.29
-	-	-	-	-	-	0.15844	0.0001	0.1004
-	-	-	-	-	-	0.5	0.0031	0.29
-	-	-	-	-	-	0.12244	0.1919	0.1347

**Table A.13.** Parameter estimates for differenced raw durations of Harmony Gold Mining Group Ltd. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		ma1		$\sigma$	
2004/11/01	175	<b>-0.0218182</b>	0.1379341	0.922199	0.0921525	-	-
2004/11/02	248	<b>0.0349826</b>	0.0669266	0.752759	0.1002363	-	-
2004/11/03	246	<b>0.0042155</b>	0.0098533	0.9358515	0.0385644	4.4169242	0.9447462
2004/11/04	373	<b>0.0423079</b>	0.0312502	0.6652101	0.1080753	-	-
2004/11/05	264	<b>-0.004216</b>	0.0144805	0.882467	0.0412572	4.1571242	0.8519059
2004/11/08	253	<b>-0.0068133</b>	0.0053426	0.9635685	0.0518082	5.8522829	1.6507245
2004/11/09	101	<b>0.032259</b>	0.0167086	0.9324971	0.0644636	7.1930719	1.4501288
2004/11/10	278	<b>-0.0020085</b>	0.0116595	0.9267879	0.0442748	4.9010828	1.4626323
2004/11/11	420	<b>-0.0020197</b>	0.0044137	0.9409364	0.0384825	1.9823342	0.4736415
2004/11/12	549	<b>-0.0006693</b>	0.0032629	0.9026597	0.0250791	0.628745	0.0835856
2004/11/15	460	<b>-0.0015483</b>	0.0017181	0.9795286	0.036599	1.2078783	0.2046782
2004/11/16	271	<b>0.0029834</b>	0.0124907	0.8923142	0.0413663	3.9862246	1.0183167
2004/11/17	463	<b>0.036298</b>	0.0335185	0.674474	0.10665	-	-
2004/11/18	410	<b>0.0002707</b>	0.0065857	0.8916626	0.0258544	1.5812658	0.2049131
2004/11/19	269	<b>0.0226152</b>	0.0212346	0.7583989	0.0629506	-	-
2004/11/22	164	<b>0.1101547</b>	0.0927875	0.6042564	0.1556575	-	-
2004/11/23	294	<b>0.0043969</b>	0.0251396	0.9647258	0.1013547	-	-
2004/11/24	439	<b>0.0510412</b>	0.0301885	0.7429019	0.1270436	-	-
2004/11/25	152	<b>0.0055217</b>	0.023397	0.9404737	0.0425472	10.537015	2.8758503
2004/11/26	232	<b>-0.0040122</b>	0.0121751	0.9310824	0.0320351	4.1690794	0.7072196
2004/11/29	140	<b>-0.0299461</b>	0.0162975	0.955438	0.174177	-	-
2004/11/30	257	<b>0.0170452</b>	0.0980537	0.778662	0.0862007	-	-
2004/12/03	187	<b>0.0271146</b>	0.1142252	0.7999622	0.1030668	-	-
2004/12/06	236	<b>-0.0075259</b>	0.0074743	0.9588057	0.0480923	5.6382995	1.2422309
2004/12/07	493	<b>0.0047539</b>	0.0138684	0.872938	0.0376235	-	-
2004/12/08	430	<b>-0.0014762</b>	0.0056786	0.8967422	0.0253379	1.3002331	0.1922836
2004/12/09	375	<b>-0.0011332</b>	0.0030871	0.9693967	0.0374969	1.7920899	0.3268717
2004/12/10	162	<b>-0.0163919</b>	0.014169	0.9489926	0.0573401	9.4707756	2.6809786
2004/12/13	144	<b>-0.0138939</b>	0.019396	0.9509357	0.0545569	15.107782	4.975011
2004/12/14	239	<b>0.003812</b>	0.0347558	0.6598823	0.103501	-	-
2004/12/15	566	<b>0.0006734</b>	0.0058845	0.8993258	0.0243624	1.9949364	0.4621771
2004/12/17	181	<b>0.0028125</b>	0.0115875	0.9407139	0.0418849	4.3403002	0.6218206
2004/12/20	118	<b>-0.0173988</b>	0.0186264	0.897341	0.0675122	18.288491	4.3595824
2004/12/21	224	<b>-0.0210292</b>	0.0323188	0.8037911	0.0379441	6.2952505	1.9213611
2004/12/22	127	<b>-0.0036989</b>	0.027079	0.9260617	0.0577842	12.22516	2.560461
2004/12/23	123	<b>-0.021403</b>	0.0269246	0.9583017	0.0781048	24.518865	9.0455689
2004/12/24	37	<b>-0.0185118</b>	0.1724135	0.7943035	0.1166478	19.688336	6.248485
2004/12/28	30	<b>0.4888417</b>	0.5239454	0.892007	0.1568336	314.02495	164.1711
2004/12/29	169	<b>0.0202672</b>	0.126756	0.5923935	0.1694351	-	-
2004/12/30	176	<b>-0.0528415</b>	0.0787725	0.6590127	0.0565848	10.97716	2.322064
2004/12/31	19	<b>-0.2423625</b>	1.1166298	<b>0.1969523</b>	0.2904642	39.326073	13.735552

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
0.0001804	4.5919611	0.0564526	0.2428052	0.9435402	0.2929398	0.00886	0.0086	0.29
1.8304142	0.7761578	0.7952548	0.2093595	0.1880017	0.1450025	0.00979	0.351	0.29
-	-	-	-	-	-	0.08537	0.0008	0.0201
0.472004	0.3293778	0.5234389	0.2297882	0.456684	0.2318411	0.00649	0	0.29
-	-	-	-	-	-	0.27813	0.0819	0.29
-	-	-	-	-	-	0.38682	0.0001	0.29
-	-	-	-	-	-	0.5	0.0347	0.29
-	-	-	-	-	-	0.5	0.0123	0.259
-	-	-	-	-	-	0.45001	0.0003	0.29
-	-	-	-	-	-	0.17669	0.0369	0.0895
-	-	-	-	-	-	0.5	0.0074	0.1563
-	-	-	-	-	-	0.5	0.0047	0.1142
0.7266726	0.3166005	0.7181351	0.2440339	0.2719818	0.2161014	1.2E-10	0.0364	0.29
-	-	-	-	-	-	0.27217	0.0001	0.2199
0.1707948	0.1515129	0.3272817	0.1396904	0.6719499	0.1494342	0.00062	0.0259	0.29
2.5882981	1.5695915	0.6488594	0.2253722	0.3007446	0.2216955	0.00486	0.043	0.164
0.1198047	0.1985384	0.2405548	0.1293877	0.7518277	0.1590355	0.00079	0	0.0713
0.3346787	0.1498946	0.5909492	0.1969981	0.4048929	0.182365	0	0.145	0.1888
-	-	-	-	-	-	0.5	0.0742	0.29
-	-	-	-	-	-	0.5	0.0002	0.29
0.000735	5.6600283	0.0587455	0.2087927	0.9412222	0.3416351	0.04885	0.0075	0.29
0.0074061	23.334278	0.085962	0.1612047	0.9138914	0.2101392	0.0081	0	0.29
2.7408523	1.0355692	0.9251518	0.2399897	0.042743	0.1800131	0.00047	0.0925	0.1269
-	-	-	-	-	-	0.45724	0	0.0908
0.0089494	0.0318279	0.1687948	0.1092626	0.8309262	0.1123092	0.03438	0	0.29
-	-	-	-	-	-	0.39158	0	0.29
-	-	-	-	-	-	0.33448	0.032	0.1906
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.5	0.0019	0.29
0.0934985	0.2030442	0.241333	0.1335073	0.7580679	0.162969	3.4E-06	0	0.0581
-	-	-	-	-	-	0.18022	0	0.0001
-	-	-	-	-	-	0.5	0.0912	0.29
-	-	-	-	-	-	0.34947	0.0115	0.29
-	-	-	-	-	-	0.05671	0.0866	0.29
-	-	-	-	-	-	0.45214	0.0223	0.29
-	-	-	-	-	-	0.18914	0.0011	0.29
-	-	-	-	-	-	0.36458	0.5458	0.29
-	-	-	-	-	-	0.5	0.2931	0.29
3.5913686	2.3665513	0.4064331	0.2752376	0.3012738	0.2612083	0.00994	0.1336	0.29
-	-	-	-	-	-	0.06432	0.0092	0.29
-	-	-	-	-	-	0.5	0.4964	0.29

Table A.13. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	72	<b>-0.1263638</b>	0.1279367	0.8451643	0.0868019	45.308985	12.051201
2005/01/04	84	<b>0.0640262</b>	0.0491943	0.9419049	0.0542643	27.83888	9.0869077
2005/01/05	68	<b>-0.0070639</b>	0.0847823	0.936468	0.0727177	28.323253	9.2955906
2005/01/06	229	<b>0.0005479</b>	0.0179632	0.8653912	0.0353557	4.0628481	0.7871333
2005/01/07	190	<b>-0.0002816</b>	0.0164976	0.9530628	0.0448167	8.5822672	1.9122995
2005/01/10	176	<b>-0.0109507</b>	0.023252	0.9168382	0.0610905	10.32851	3.5196198
2005/01/11	203	<b>-0.0087966</b>	0.0179745	0.9004396	0.0441946	5.6116548	1.9172528
2005/01/12	146	<b>-0.0168434</b>	0.0420857	0.8593167	0.0614928	10.847731	3.1542732
2005/01/13	85	<b>-0.167919</b>	0.2069992	0.7367977	0.1504388	-	-
2005/01/14	142	<b>0.0365667</b>	0.1467076	0.7928328	0.1103033	-	-
2005/01/17	126	<b>-0.0056879</b>	0.0166247	1	0.0574359	19.07992	7.1109913
2005/01/18	272	<b>-0.0252683</b>	0.0444939	0.3385229	0.1313408	-	-
2005/01/19	276	<b>0.0269012</b>	0.0235223	0.7337993	0.0747588	-	-
2005/01/20	221	<b>-0.0068069</b>	0.0079541	0.9678453	0.054127	6.5407975	1.3937329
2005/01/21	222	<b>-0.0069012</b>	0.0119599	0.9554851	0.032602	8.835801	2.1943758
2005/01/24	70	-0.1523448	0.0717988	0.8729891	0.0772352	52.613662	19.177816
2005/01/25	290	<b>-0.012012</b>	0.0196701	0.850098	0.0408378	5.1048086	1.0645168
2005/01/26	434	<b>0.0003022</b>	0.0039472	0.934342	0.0301477	1.5086524	0.2201308
2005/01/27	232	<b>-0.0159453</b>	0.0174944	0.8950878	0.0394197	6.4446358	1.5219764
2005/01/28	204	<b>-0.0085677</b>	0.0241494	0.8605813	0.0492661	6.063814	0.9527685
2005/01/31	284	<b>-0.0106884</b>	0.011577	0.9007491	0.0384685	3.9186796	0.6841111
2005/02/01	275	<b>0.0615445</b>	0.0345198	0.8203555	0.0492246	-	-
2005/02/02	244	<b>-0.0079404</b>	0.0182931	0.9131131	0.0316607	-	-
2005/02/03	228	<b>0.0278827</b>	0.1320612	0.507318	0.0922308	-	-
2005/02/04	164	<b>-0.0085786</b>	0.013769	0.9672185	0.0456499	9.1053969	2.5763609
2005/02/07	242	<b>-0.0220296</b>	0.0260437	0.8158394	0.0403927	3.8027503	0.7224037
2005/02/08	224	<b>-0.0080758</b>	0.0182773	0.9019946	0.0435862	6.7942585	1.5551439
2005/02/09	312	<b>-0.016723</b>	0.0180979	0.7557791	0.0617087	-	-
2005/02/10	231	<b>-2.445E-05</b>	0.0115012	0.9409492	0.0306039	5.0225371	1.0315661
2005/02/11	222	<b>-0.0219651</b>	0.041902	0.7381239	0.0498506	6.7812073	2.3123245
2005/02/14	216	<b>-0.0009159</b>	0.0067982	0.9854726	0.0379833	4.590823	0.8845397
2005/02/15	100	<b>-0.0350402</b>	0.0616199	0.870364	0.057557	18.451631	5.0537181
2005/02/16	114	<b>-0.0149515</b>	0.0566391	0.6301857	0.1231098	-	-
2005/02/17	231	<b>-0.0125849</b>	0.0102262	0.9340971	0.0547525	4.8236406	1.0037624
2005/02/18	177	<b>0.074008</b>	0.151365	0.6336854	0.1660861	-	-
2005/02/21	139	<b>-0.0347947</b>	0.0207317	0.9270953	0.0518831	15.378732	3.2360814
2005/02/22	212	<b>-0.009783</b>	0.0183441	0.8984929	0.0506875	5.8136984	1.6574399
2005/02/23	103	<b>-0.0100483</b>	0.0638749	0.9005592	0.0647047	18.617508	5.3015755
2005/02/24	234	<b>-0.004533</b>	0.0146803	0.9384925	0.037505	7.1973647	3.2044153
2005/02/25	144	<b>-0.0052952</b>	0.0252494	0.9259184	0.057067	11.105512	3.4325015
2005/02/28	171	<b>-0.0652299</b>	0.070692	0.672695	0.0644857	8.901816	1.8689896

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.5	0.2439	0.29
-	-	-	-	-	-	0.37893	0.2058	0.29
-	-	-	-	-	-	0.5	0.1165	0.29
-	-	-	-	-	-	0.21154	0.0144	0.0581
-	-	-	-	-	-	0.5	0.2223	0.29
-	-	-	-	-	-	0.5	0.0051	0.29
-	-	-	-	-	-	0.4448	0.0439	0.29
-	-	-	-	-	-	0.31789	0.2365	0.29
0.6603528	3.3258675	0.3920349	0.1986195	0.6042996	0.2353591	0.04488	0.0012	0.29
3.6737084	2.155625	0.5937586	0.2697823	0.3874456	0.2384994	0.00675	0.1312	0.29
-	-	-	-	-	-	0.5	0.2231	0.29
0.6134731	0.690861	0.6051542	0.1792323	0.3883292	0.1716622	0.04988	0.045	0.1776
0.1673496	0.1870817	0.3360761	0.1436705	0.6619946	0.1673151	4.6E-07	0.0249	0.29
-	-	-	-	-	-	0.16267	0	0.29
-	-	-	-	-	-	0.45563	0	0.2619
-	-	-	-	-	-	0.5	0.0023	0.0567
-	-	-	-	-	-	0.15138	0.0855	0.29
-	-	-	-	-	-	0.48057	0.0141	0.1219
-	-	-	-	-	-	0.28971	0.0001	0.29
-	-	-	-	-	-	0.5	0.4822	0.0522
-	-	-	-	-	-	0.12452	0	0.0358
0.1586297	0.3044897	0.194566	0.1578055	0.8003846	0.1949288	0.00019	0.0063	0.29
0.0050476	0.5838558	0.1438236	0.0519203	0.8558987	0.0533418	6.8E-06	0	0.29
0.0314903	7.0826757	0.2118882	0.0953002	0.7878966	0.1014998	1.5E-06	0.0009	0.124
-	-	-	-	-	-	0.5	0.004	0.1553
-	-	-	-	-	-	0.1521	0	0.29
-	-	-	-	-	-	0.35793	0.0055	0.0202
0.4641977	0.2670566	0.6221469	0.2066571	0.37283	0.2032402	1.6E-09	0	0.29
-	-	-	-	-	-	0.0949	0.0012	0.29
-	-	-	-	-	-	0.38006	0	0.0256
-	-	-	-	-	-	0.35897	0.3474	0.1349
-	-	-	-	-	-	0.5	0.3973	0.29
2.6998564	2.3712886	0.5719467	0.2504211	0.397552	0.2263511	0.04729	0.0047	0.29
-	-	-	-	-	-	0.30667	0.0027	0.29
3.4380643	2.5869375	0.8266654	0.2788621	0.1631214	0.2303436	0.00881	0.1772	0.29
-	-	-	-	-	-	0.21568	0	0.007
-	-	-	-	-	-	0.5	0.0756	0.29
-	-	-	-	-	-	0.39524	0.0615	0.29
-	-	-	-	-	-	0.16131	0.001	0.0867
-	-	-	-	-	-	0.5	0.0296	0.29
-	-	-	-	-	-	0.06607	0.0293	0.29

**Table A.14.** Parameter estimates for differenced log durations of Harmony Gold. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		ma1		$\sigma$	
2004/11/01	175	<b>0.2523478</b>	0.1331956	0.8961393	0.1303592	-	-
2004/11/02	248	<b>0.0864244</b>	0.144373	0.8448535	0.038778	3.4201404	0.3042146
2004/11/03	246	<b>0.0015932</b>	0.0137187	0.8767766	0.032284	2.5872043	0.2018849
2004/11/04	373	<b>-0.0069836</b>	0.0172245	0.7793778	0.0355165	2.2900895	0.1299714
2004/11/05	264	<b>-0.0048609</b>	0.0418004	0.6543119	0.0511743	3.6374581	0.3222857
2004/11/08	253	<b>0.2038014</b>	0.1372104	0.8505681	0.0408015	3.160195	0.256753
2004/11/09	101	<b>0.0191576</b>	0.0115058	0.9255956	0.0565412	2.8848664	0.4549383
2004/11/10	278	<b>-0.0003014</b>	0.0193631	0.8130942	0.0408786	2.7032275	0.1853209
2004/11/11	420	0.196524	0.0775499	0.9266932	0.0216371	-	-
2004/11/12	549	<b>-0.0015134</b>	0.0069561	0.8747048	0.0235079	1.8568249	0.1058487
2004/11/15	460	<b>-0.0019893</b>	0.0063327	0.9048789	0.0261959	2.0650435	0.1177934
2004/11/16	271	<b>0.0002259</b>	0.0101463	0.9015925	0.033645	2.1791884	0.1947351
2004/11/17	463	<b>-0.0056702</b>	0.0710456	0.8411108	0.1165211	-	-
2004/11/18	410	<b>0.0018961</b>	0.0124412	0.8371741	0.0255153	2.3706873	0.1670224
2004/11/19	269	<b>-0.0100583</b>	0.0240215	0.7675907	0.0427978	2.5230643	0.2398993
2004/11/22	164	<b>-0.0187611</b>	0.0245947	0.8334951	0.048599	3.0149485	0.291725
2004/11/23	294	<b>-0.1360087</b>	0.0749133	0.8979813	0.0294516	-	-
2004/11/24	439	<b>-0.0050991</b>	0.0106696	0.8519643	0.0257583	2.1049947	0.1512721
2004/11/25	152	<b>-3.143E-05</b>	0.0189905	0.876587	0.0549902	2.6646165	0.32275
2004/11/26	232	<b>-0.0025823</b>	0.0040179	0.9762931	0.0376979	2.3565308	0.2100863
2004/11/29	140	<b>-0.0145333</b>	0.010033	0.9207659	0.0442447	3.006373	0.3588895
2004/11/30	257	<b>-0.012088</b>	0.0154423	0.8345281	0.0338479	2.026766	0.1816192
2004/12/03	187	<b>-0.0203216</b>	0.0689009	0.8493602	0.1231214	-	-
2004/12/06	236	-0.0099468	0.0043928	0.9387456	0.0345755	2.615475	0.2560535
2004/12/07	493	<b>-0.0067603</b>	0.0075817	0.8669374	0.0269997	1.8386861	0.1025327
2004/12/08	430	<b>-0.0032527</b>	0.003801	0.9435763	0.0220524	2.1687155	0.1613786
2004/12/09	375	<b>-0.0017984</b>	0.0165323	0.8164263	0.0281756	2.6412852	0.1710031
2004/12/10	162	-0.0177492	0.0072307	0.9219564	0.041219	2.8743525	0.3196713
2004/12/13	144	<b>-0.0141999</b>	0.0305097	0.8064605	0.0602144	3.708451	0.4125232
2004/12/14	239	<b>-0.0186673</b>	0.020992	0.8019215	0.0403644	2.8073638	0.2419717
2004/12/15	566	-0.1869256	0.0660615	0.918394	0.0187538	-	-
2004/12/17	181	<b>0.0013509</b>	0.0083659	0.9457463	0.0374059	2.572077	0.2603529
2004/12/20	118	<b>-0.0146381</b>	0.0186515	0.8859602	0.0461184	3.0471949	0.3234495
2004/12/21	224	<b>-0.007678</b>	0.0190278	0.8311778	0.0404061	2.781359	0.3097008
2004/12/22	127	<b>0.0185072</b>	0.0658769	0.595611	0.0809125	3.5405185	0.4161662
2004/12/23	123	<b>-0.0195627</b>	0.0137192	0.9027883	0.044016	3.5405941	0.4133095
2004/12/24	37	<b>-0.0172956</b>	0.0739321	0.8017702	0.1315735	3.0050419	0.7321134
2004/12/28	30	<b>0.0456498</b>	0.0512983	0.9111704	0.1205205	2.5375524	0.8140437
2004/12/29	169	<b>-0.0018865</b>	0.1594752	<b>0.0005</b>	0.0623073	-	-
2004/12/30	176	<b>-0.0197388</b>	0.0315819	0.7272509	0.0488619	2.9414041	0.3368747
2004/12/31	19	<b>-0.0210996</b>	0.2931898	<b>0.1796065</b>	0.3104921	1.7967022	0.6878438



$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
2.5991432	1.1074123	0.1310291	0.1073334	0.1347456	0.3489157	0.04435	0.0548	0.0667
-	-	-	-	-	-	0.05226	0.4933	0.2231
-	-	-	-	-	-	0.17664	0.0314	0.29
-	-	-	-	-	-	0.39775	0.0001	0.2749
-	-	-	-	-	-	0.38856	0.0819	0.29
-	-	-	-	-	-	0.05345	0	0.29
-	-	-	-	-	-	0.5	0.0062	0.29
-	-	-	-	-	-	0.5	0.1113	0.2043
0.4880344	0.4107619	0.1012774	0.066235	0.6602515	0.2474182	0.00594	0	0.1759
-	-	-	-	-	-	0.5	0.0311	0.1091
-	-	-	-	-	-	0.5	0.0029	0.1207
-	-	-	-	-	-	0.5	0.0035	0.29
0.4025596	0.6314562	0.0881748	0.053317	0.7499812	0.2642754	0.03519	0.0001	0.29
-	-	-	-	-	-	0.32335	0	0.29
-	-	-	-	-	-	0.35389	0.0003	0.29
-	-	-	-	-	-	0.5	0.0524	0.2268
1.1201395	0.6240034	0.109299	0.0818746	0.3631477	0.3467601	0.00406	0	0.2162
-	-	-	-	-	-	0.14659	0.1534	0.29
-	-	-	-	-	-	0.2882	0.0316	0.29
-	-	-	-	-	-	0.5	0.0018	0.1289
-	-	-	-	-	-	0.12128	0.0256	0.29
-	-	-	-	-	-	0.3055	0	0.2003
2.1797565	0.8404301	0.1053622	0.0991243	0.0598892	0.3499986	0.01662	0.0019	0.29
-	-	-	-	-	-	0.08418	0	0.023
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.22128	0.0046	0.2559
-	-	-	-	-	-	0.5	0.0196	0.2162
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.18584	0.0005	0.29
-	-	-	-	-	-	0.2786	0	0.0281
0.0178946	0.1293461	0.0693093	0.0261939	0.9244595	0.0932067	0.00666	0	0.231
-	-	-	-	-	-	0.12452	0.0688	0.29
-	-	-	-	-	-	0.27909	0.0279	0.2435
-	-	-	-	-	-	0.24678	0.0427	0.153
-	-	-	-	-	-	0.05059	0.005	0.29
-	-	-	-	-	-	0.5	0.0133	0.29
-	-	-	-	-	-	0.1026	0.7557	0.29
-	-	-	-	-	-	0.48674	0.4639	0.29
1.3347372	0.8501648	3.441E-06	0.0510851	0.6142196	0.2702519	0.00047	0.303	0.039
-	-	-	-	-	-	0.16461	0.0051	0.29
-	-	-	-	-	-	0.5	0.5219	0.29

Table A.14. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	72	<b>-0.0245697</b>	0.030622	0.8846509	0.0820535	3.7478315	0.6183678
2005/01/04	84	<b>0.0158101</b>	0.0141685	0.9539297	0.0739853	2.6435325	0.4261773
2005/01/05	68	<b>-0.004274</b>	0.0198696	1	0.0696831	3.0407297	0.4550251
2005/01/06	229	<b>-0.0037955</b>	0.1483072	0.9017823	0.0300254	-	-
2005/01/07	190	<b>0.0001361</b>	0.0141726	0.8921385	0.0364823	3.4654018	0.317916
2005/01/10	176	<b>-0.0033846</b>	0.0065124	0.9743569	0.0440664	2.811313	0.3143751
2005/01/11	203	<b>-0.0085616</b>	0.0154654	0.8633785	0.0418958	2.3353951	0.2428365
2005/01/12	146	<b>-0.0119014</b>	0.023005	0.8624003	0.0538683	2.7992902	0.3653077
2005/01/13	85	<b>-0.0460658</b>	0.052107	0.7333263	0.0917048	4.0264554	0.5278618
2005/01/14	142	<b>-0.0105783</b>	0.1260377	0.9172941	0.1236338	-	-
2005/01/17	126	<b>-0.0203567</b>	0.0103073	0.9305428	0.0514325	3.1477637	0.3677088
2005/01/18	272	<b>-0.0099089</b>	0.0181386	0.8151615	0.0409592	2.4503714	0.2221559
2005/01/19	276	<b>-0.0135703</b>	0.019565	0.7890325	0.0394262	2.5398311	0.1917205
2005/01/20	221	<b>-0.0101689</b>	0.0090264	0.9157455	0.0340244	2.6456082	0.2457298
2005/01/21	222	<b>-0.0031761</b>	0.1357023	0.8683358	0.1085162	-	-
2005/01/24	70	<b>-0.0404008</b>	0.0211338	0.8486965	0.0677563	3.0505739	0.4969724
2005/01/25	290	<b>-0.0114795</b>	0.0187515	0.8024246	0.035723	2.6263617	0.2113583
2005/01/26	434	<b>-0.0014317</b>	0.0120768	0.8476693	0.0231223	2.3144546	0.1358846
2005/01/27	232	<b>-0.0082391</b>	0.0179615	0.8165929	0.043301	2.3865343	0.2277168
2005/01/28	204	<b>-0.003514</b>	0.0266461	0.7998621	0.0449033	2.7923519	0.2460348
2005/01/31	284	<b>-0.0098537</b>	0.0187577	0.8113442	0.0393379	2.8769983	0.2526974
2005/02/01	275	<b>-0.0028512</b>	0.0488072	0.8357598	0.0895116	-	-
2005/02/02	244	<b>-0.0115417</b>	0.0240489	0.7488201	0.0460708	2.2538277	0.211192
2005/02/03	228	<b>-0.0181877</b>	0.0191189	0.8240121	0.0410057	3.2241921	0.3015301
2005/02/04	164	<b>-0.0271992</b>	0.0270763	0.7961632	0.0425827	3.3197261	0.3459271
2005/02/07	242	<b>-0.0136463</b>	0.0086379	0.8933844	0.0338358	2.2915264	0.2019745
2005/02/08	224	<b>-0.0086718</b>	0.0107196	0.9099609	0.0338998	2.8705354	0.226277
2005/02/09	312	<b>-0.0102927</b>	0.1035933	0.781161	0.1196786	-	-
2005/02/10	231	<b>0.0055613</b>	0.0118833	0.8805903	0.0407273	2.6357858	0.2209016
2005/02/11	222	<b>-0.0164754</b>	0.0157682	0.8315524	0.0379889	2.6578354	0.2361916
2005/02/14	216	<b>0.0005142</b>	0.0137249	0.8789898	0.0383023	2.5909742	0.2310131
2005/02/15	100	<b>-0.0197492</b>	0.0275781	0.8395489	0.0573859	2.6676811	0.3834753
2005/02/16	114	<b>-0.0090326</b>	0.1454795	0.8625939	0.1261299	-	-
2005/02/17	231	<b>-0.0072001</b>	0.017074	0.8356465	0.0454278	2.3453382	0.2129249
2005/02/18	177	<b>-0.0165816</b>	0.0259062	0.7646707	0.0543664	2.6354143	0.2922217
2005/02/21	139	<b>-0.0107079</b>	0.0187083	0.8549236	0.0534238	2.1390036	0.2174636
2005/02/22	212	<b>-0.0085241</b>	0.0114526	0.8912588	0.0358363	2.5618413	0.2357275
2005/02/23	103	<b>0.2283531</b>	0.1436152	0.8854475	0.063199	3.2625113	0.4367778
2005/02/24	234	<b>-0.0001318</b>	0.0130403	0.8999301	0.0378459	3.0535275	0.2786818
2005/02/25	144	<b>0.000835</b>	0.0152941	0.9054036	0.0525773	2.8234746	0.396254
2005/02/28	171	<b>-0.0277621</b>	0.0252608	0.7883899	0.0514441	2.5416792	0.2617821

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.22044	0.5991	0.29
-	-	-	-	-	-	0.5	0.2844	0.0926
-	-	-	-	-	-	0.11711	0.0894	0.2199
1.8509869	0.440773	0.4965405	0.1786837	0.0512954	0.1954949	0.03328	0.1062	0.1075
-	-	-	-	-	-	0.17952	0.1988	0.29
-	-	-	-	-	-	0.4686	0.0186	0.29
-	-	-	-	-	-	0.5	0.067	0.29
-	-	-	-	-	-	0.14699	0.3995	0.29
-	-	-	-	-	-	0.49267	0	0.29
0.7435868	1.0295366	0.1826826	0.1061708	0.6146024	0.2689445	0.00084	0.3981	0.29
-	-	-	-	-	-	0.07971	0.0002	0.29
-	-	-	-	-	-	0.27306	0.008	0.2128
-	-	-	-	-	-	0.25842	0.0003	0.0473
-	-	-	-	-	-	0.07396	0	0.0382
0.0844461	0.8279359	0.0771244	0.0555371	0.8947705	0.2474467	0.00434	0	0.2706
-	-	-	-	-	-	0.5	0.003	0.29
-	-	-	-	-	-	0.05538	0.0029	0.29
-	-	-	-	-	-	0.5	0.0009	0.0908
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.5	0.3693	0.1035
-	-	-	-	-	-	0.11501	0	0.2283
2.3381708	0.8945839	0.0917437	0.0773555	1.07E-07	0.3799207	0.00148	0.4052	0.2051
-	-	-	-	-	-	0.12902	0.0562	0.29
-	-	-	-	-	-	0.13947	0	0.1652
-	-	-	-	-	-	0.25369	0.0016	0.29
-	-	-	-	-	-	0.36959	0	0.29
-	-	-	-	-	-	0.3734	0.0011	0.29
0.1658035	0.8149252	0.0417716	0.0516754	0.8869172	0.3368337	0.04881	0.0035	0.2213
-	-	-	-	-	-	0.5	0.0072	0.2761
-	-	-	-	-	-	0.34845	0	0.2093
-	-	-	-	-	-	0.3278	0.3052	0.0574
-	-	-	-	-	-	0.5	0.3642	0.29
1.7084972	1.1106086	0.3136944	0.2009258	0.2687797	0.3188186	2.9E-05	0.0048	0.29
-	-	-	-	-	-	0.09317	0.3267	0.29
-	-	-	-	-	-	0.5	0.02	0.29
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.09259	0.066	0.29
-	-	-	-	-	-	0.05325	0.0971	0.29
-	-	-	-	-	-	0.15037	0.0013	0.0133
-	-	-	-	-	-	0.42727	0.1463	0.29
-	-	-	-	-	-	0.5	0	0.0243

**Table A.15.** Parameter estimates for differenced raw durations of Tiger Brands Ltd. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		ma1		$\sigma$	
2004/11/01	117	<b>0.2169657</b>	0.1508504	0.623655	0.1448805	-	-
2004/11/02	128	<b>0.0134454</b>	0.0158975	0.9695334	0.0740235	12.902386	3.2166057
2004/11/03	100	<b>0.2785575</b>	0.3684974	<b>0.1902565</b>	0.1316474	-	-
2004/11/04	81	<b>0.075739</b>	0.0493774	0.9259913	0.0663589	27.58276	9.2627513
2004/11/05	123	<b>0.0125691</b>	0.0476077	0.8960482	0.0520857	13.467897	2.6101676
2004/11/08	145	<b>-0.0085884</b>	0.1953671	0.7116467	0.2163613	-	-
2004/11/09	91	<b>-0.0047978</b>	0.0435889	0.8771496	0.0726181	8.3171524	1.4193614
2004/11/10	147	<b>-0.0221399</b>	0.0360603	0.8829719	0.0505126	11.08827	2.0565343
2004/11/11	112	<b>-0.0293878</b>	0.0394112	0.9049414	0.0735528	20.213445	7.2094498
2004/11/12	97	<b>0.0179143</b>	0.0574936	0.8832756	0.0682001	16.272153	4.8022222
2004/11/15	84	<b>0.0130813</b>	0.0782762	0.9148334	0.0997769	34.703012	15.009059
2004/11/16	76	<b>-0.0347246</b>	0.0844766	0.9021672	0.0702633	35.360293	8.6833628
2004/11/17	166	<b>0.0085692</b>	0.0155365	0.963655	0.0610894	16.131073	6.2140167
2004/11/18	129	<b>-0.0121723</b>	0.0354315	0.919395	0.0645068	18.952965	5.1884162
2004/11/19	173	<b>0.0050661</b>	0.0177018	0.9432233	0.0617377	7.8637074	2.2697599
2004/11/22	95	<b>-0.0465785</b>	0.0732378	0.881215	0.0757946	22.772707	6.2255909
2004/11/23	178	<b>0.0023451</b>	0.0200386	0.9101079	0.0690184	8.1082878	2.0125816
2004/11/24	76	<b>-0.1681745</b>	0.2418459	0.770801	0.0843005	67.054007	22.028053
2004/11/25	123	<b>-0.0394858</b>	0.0381762	0.8870886	0.0676822	17.082746	3.9316003
2004/11/26	169	<b>-0.0107559</b>	0.0168002	0.9274255	0.046392	6.7523975	1.4439927
2004/11/29	109	<b>-0.02239</b>	0.0429592	0.9268907	0.0500602	25.412625	11.942435
2004/11/30	129	<b>0.0065676</b>	0.0878054	0.9124813	0.047454	-	-
2004/12/03	123	<b>-0.0028465</b>	0.0333986	0.9513992	0.0741885	16.633974	6.7573335
2004/12/06	177	<b>0.017664</b>	0.1610698	0.7467103	0.1610308	-	-
2004/12/07	166	<b>-0.0055873</b>	0.0134688	0.9580416	0.0502297	8.8490032	1.8321989
2004/12/08	194	<b>0.0397019</b>	0.0811822	0.7621409	0.1207763	-	-
2004/12/09	120	<b>-0.0200886</b>	0.0381396	0.9147026	0.062643	19.045386	4.6002485
2004/12/10	43	<b>-1.0776076</b>	1.2629553	0.3306555	0.1424443	156.43947	52.993707
2004/12/13	165	<b>-0.0016537</b>	0.0266239	0.9108139	0.0396805	12.692601	2.980046
2004/12/14	155	<b>0.018388</b>	0.0919978	0.8011312	0.0726104	-	-
2004/12/15	629	<b>0.0007082</b>	0.0131766	0.9161597	0.0259481	-	-
2004/12/17	146	<b>-0.0044956</b>	0.0211569	0.9383996	0.0627477	9.534983	1.5941935
2004/12/20	98	<b>-0.1320994</b>	0.1530933	0.734148	0.087512	34.441999	10.359333
2004/12/21	70	<b>-0.0358829</b>	0.1190315	0.8868011	0.0778743	38.13269	7.7180629
2004/12/22	109	<b>0.0137141</b>	0.0399228	0.9538873	0.0564182	37.425355	13.663146
2004/12/23	71	<b>-0.2248242</b>	0.2698958	0.5573652	0.1745845	-	-
2004/12/24	24	<b>0.9759174</b>	0.9801157	-0.5725838	0.214666	11.283463	3.1299461
2004/12/28	41	<b>-0.3109511</b>	0.4328675	0.7214529	0.1399053	75.730849	24.205056
2004/12/29	73	<b>-0.042417</b>	0.0616974	0.9577217	0.0647308	33.955396	9.7168628
2004/12/30	57	<b>0.3222599</b>	1.2519153	0.9301308	0.0716073	68.269737	21.212019
2004/12/31	21	<b>0.1622054</b>	0.4004269	0.9376517	0.1465455	58.199311	22.752426

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
5.6508998	3.3313412	0.6881981	0.2710129	0.2809377	0.2466578	1.8E-05	0.1889	0.29
-	-	-	-	-	-	0.5	0.5762	0.0633
12.409715	5.1824356	0.9805321	0.2303469	0.0092033	0.1460771	0.00969	0.1981	0.1502
-	-	-	-	-	-	0.5	0.0957	0.29
-	-	-	-	-	-	0.5	0.2079	0.29
6.7210164	3.0021953	0.1936457	0.2400092	0.0425097	0.3340156	0.03284	0.4502	0.29
-	-	-	-	-	-	0.19376	0.0409	0.066
-	-	-	-	-	-	0.31618	0.272	0.29
-	-	-	-	-	-	0.35167	0.0017	0.0377
-	-	-	-	-	-	0.5	0.3957	0.29
-	-	-	-	-	-	0.5	0.3658	0.29
-	-	-	-	-	-	0.5	0.0035	0.29
-	-	-	-	-	-	0.5	0.5103	0.29
-	-	-	-	-	-	0.37977	0.1083	0.0353
-	-	-	-	-	-	0.27329	0.7229	0.29
-	-	-	-	-	-	0.5	0.9528	0.29
-	-	-	-	-	-	0.5	0.1002	0.29
-	-	-	-	-	-	0.35919	0.763	0.29
-	-	-	-	-	-	0.21186	0.0181	0.29
-	-	-	-	-	-	0.5	0.5116	0.29
-	-	-	-	-	-	0.10514	0.0024	0.29
5.307E-05	1.5820183	0.0826329	0.1033929	0.9173651	0.1421147	0.00104	0	0.29
-	-	-	-	-	-	0.5	0.19	0.29
4.5090117	1.4864873	0.4235107	0.2402807	9.863E-09	0.2769147	0.00159	0.3883	0.29
-	-	-	-	-	-	0.30081	0.0492	0.29
2.7044542	0.8138909	0.9826012	0.2506924	0.0123538	0.1369585	0.00297	0.0083	0.29
-	-	-	-	-	-	0.39425	0.1024	0.29
-	-	-	-	-	-	0.28077	0.0722	0.29
-	-	-	-	-	-	0.06377	0.0438	0.0237
0.3827661	2.0238918	0.2595047	0.1583172	0.729568	0.2261373	0.02476	0.007	0.29
0.000788	0.0022077	0.1841375	0.0424562	0.8158556	0.042639	0.00416	0	0.29
-	-	-	-	-	-	0.12966	0.3178	0.0917
-	-	-	-	-	-	0.5	0.0123	0.29
-	-	-	-	-	-	0.10251	0.3625	0.29
-	-	-	-	-	-	0.5	0.0169	0.29
14.029133	5.539543	0.9767273	0.2532692	1.805E-12	0.1993897	0.0064	0.1643	0.29
-	-	-	-	-	-	0.33911	0.4504	0.29
-	-	-	-	-	-	0.5	0.2799	0.29
-	-	-	-	-	-	0.2909	0.0995	0.29
-	-	-	-	-	-	0.0552	0.919	0.29
-	-	-	-	-	-	0.5	0.349	0.29

Table A.15. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	85	<b>-0.2365784</b>	0.3513323	<b>-0.0492857</b>	0.1435061	-	-
2005/01/04	71	<b>-0.2234263</b>	0.6961314	0.9693254	0.3002495	-	-
2005/01/05	67	<b>0.0342623</b>	0.0811705	0.9811215	0.0784811	42.607456	11.717218
2005/01/06	102	<b>-0.0188282</b>	0.0282508	0.9680395	0.0462698	19.811194	4.2486102
2005/01/07	113	<b>0.0010277</b>	0.0290686	0.9665524	0.0811123	17.74338	6.7258036
2005/01/10	120	<b>-0.0122629</b>	0.0201002	0.9840963	0.0546529	19.221041	4.3125228
2005/01/11	140	<b>0.0033848</b>	0.0722442	0.7174299	0.0687198	11.131294	2.039669
2005/01/12	184	<b>0.0088379</b>	0.0123238	0.9728669	0.045036	8.972193	2.316982
2005/01/13	141	<b>0.0019648</b>	0.0432791	0.8811365	0.0543526	12.742322	2.4507904
2005/01/14	118	<b>-0.0235523</b>	0.0633392	0.7811073	0.0562014	11.38829	2.2346835
2005/01/17	116	<b>0.0720962</b>	0.1074542	0.7724344	0.1045824	-	-
2005/01/18	246	<b>-0.0039313</b>	0.0115519	0.9355902	0.0278492	6.7144839	2.3388068
2005/01/19	249	<b>-0.011151</b>	0.0144559	0.8612637	0.046078	3.2547079	0.501884
2005/01/20	153	<b>0.0017383</b>	0.0253229	0.9117832	0.0493352	9.8387795	2.1267089
2005/01/21	99	<b>-0.0549253</b>	0.0587584	0.9067268	0.0946418	31.233766	10.67377
2005/01/24	121	<b>0.074495</b>	0.1307562	0.5976953	0.0921732	-	-
2005/01/25	162	<b>-0.0183883</b>	0.0362456	0.8333009	0.0535533	8.3524703	1.7709078
2005/01/26	140	<b>0.0112803</b>	0.0381297	0.9052398	0.0567838	14.972032	3.7421262
2005/01/27	122	<b>-0.0717139</b>	0.0637257	0.8120177	0.0703493	17.29819	4.7058927
2005/01/28	148	<b>-0.0336229</b>	0.0543684	0.8532847	0.0522167	16.701568	6.4937673
2005/01/31	192	<b>-0.003873</b>	0.0119288	0.9506297	0.0441475	5.7626468	1.4034447
2005/02/01	248	<b>0.033345</b>	0.0497405	0.6490074	0.0828295	-	-
2005/02/02	129	<b>0.0170724</b>	0.0279468	0.9262269	0.0475215	11.249331	2.1262536
2005/02/03	60	<b>-0.1190692</b>	0.1926763	0.7761738	0.1254647	-	-
2005/02/04	101	<b>-0.0619483</b>	0.0504066	0.8531499	0.0699584	15.625008	3.1442257
2005/02/07	168	<b>-0.0235564</b>	0.0399311	0.8173662	0.049501	7.5830763	1.0961669
2005/02/08	160	<b>-0.0124917</b>	0.021113	0.96877	0.0518666	19.126554	9.8897594
2005/02/09	136	<b>-0.0495626</b>	0.0766129	0.731612	0.0633748	12.162511	1.8496687
2005/02/10	142	<b>0.0024391</b>	0.0411458	0.8631933	0.051979	8.7092325	1.3236161
2005/02/11	191	<b>-0.0045281</b>	0.0148793	0.9289293	0.042245	6.5903791	1.1601083
2005/02/14	183	<b>0.0317585</b>	0.1015958	0.4933031	0.112702	-	-
2005/02/15	91	<b>-0.0963096</b>	0.1772389	0.6442477	0.0982354	28.225029	7.8736942
2005/02/16	179	<b>-0.0261625</b>	0.0419211	0.8410843	0.1501027	-	-
2005/02/17	136	<b>-0.0317018</b>	0.0444325	0.8784078	0.0629524	19.421843	5.8835957
2005/02/18	123	<b>-0.0390255</b>	0.0742979	0.788027	0.0619604	14.779594	3.0313656
2005/02/21	80	<b>-0.0883797</b>	0.0723772	0.9471126	0.0890627	68.52535	25.026069
2005/02/22	168	<b>0.0244806</b>	0.2108118	<b>0.1195765</b>	0.1232913	-	-
2005/02/23	210	<b>0.0104901</b>	0.0789362	0.9362275	0.1845238	-	-
2005/02/24	152	<b>-0.0250415</b>	0.0200365	0.9244158	0.0714454	12.422689	5.2935242
2005/02/25	109	<b>0.0616313</b>	0.2006782	<b>0.1995603</b>	0.1364992	-	-
2005/02/28	177	<b>-0.0561513</b>	0.0804526	0.6279903	0.0613072	8.7712074	1.7675447

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
35.572913	16.988179	0.8933164	0.3826857	9.83E-13	0.3676379	0.04576	0.8727	0.29
53.853578	28.840585	0.1815861	0.3763804	4.807E-10	0.371603	9.4E-05	0.5477	0.1862
-	-	-	-	-	-	0.5	0.8259	0.29
-	-	-	-	-	-	0.5	0.0468	0.29
-	-	-	-	-	-	0.49848	0.3205	0.29
-	-	-	-	-	-	0.18342	0.091	0.151
-	-	-	-	-	-	0.5	0.1175	0.29
-	-	-	-	-	-	0.1593	0.1196	0.171
-	-	-	-	-	-	0.12482	0.1922	0.29
-	-	-	-	-	-	0.5	0.0888	0.29
2.2302534	2.8525489	0.3289266	0.1807511	0.5970306	0.2473141	0.01885	0.6273	0.29
-	-	-	-	-	-	0.5	0.0377	0.0928
-	-	-	-	-	-	0.05666	0.0894	0.29
-	-	-	-	-	-	0.5	0.0572	0.0852
-	-	-	-	-	-	0.27367	0.0411	0.29
1.7763121	1.7554121	0.3935896	0.1825607	0.5425425	0.2348519	0.00446	0.0706	0.29
-	-	-	-	-	-	0.27422	0.2595	0.29
-	-	-	-	-	-	0.47088	0.2528	0.2765
-	-	-	-	-	-	0.0574	0.0001	0.0218
-	-	-	-	-	-	0.43371	0.6151	0.29
-	-	-	-	-	-	0.5	0.1251	0.29
1.9238263	0.446383	0.991991	0.2152503	5.521E-12	0.1136714	3.6E-10	0.0002	0.29
-	-	-	-	-	-	0.5	0.5903	0.0282
0.6721143	5.5181207	0.2810577	0.1951555	0.7159807	0.2552587	0.00508	0.0024	0.29
-	-	-	-	-	-	0.09365	0.0026	0.29
-	-	-	-	-	-	0.5	0.7135	0.29
-	-	-	-	-	-	0.5	0.0013	0.29
-	-	-	-	-	-	0.26973	0.0601	0.29
-	-	-	-	-	-	0.07943	0.1352	0.29
-	-	-	-	-	-	0.33771	0.0047	0.29
1.639797	1.0147269	0.617319	0.2055442	0.3271468	0.2046066	0.03523	0.1556	0.2733
-	-	-	-	-	-	0.173	0.001	0.0845
2.3831445	0.8523787	0.9951095	0.1823845	3.584E-11	0.1185073	0.04439	0.0319	0.29
-	-	-	-	-	-	0.11871	0.0022	0.29
-	-	-	-	-	-	0.5	0.258	0.29
-	-	-	-	-	-	0.13568	0.3568	0.29
4.0490479	1.7597654	0.9854238	0.2515228	9.6E-13	0.1131582	0.02305	0.0111	0.061
1.8254152	1.1070815	0.2934981	0.2706622	0.3954741	0.2756411	0.0096	0.011	0.29
-	-	-	-	-	-	0.492	0.0009	0.2454
2.630315	1.0771052	0.9556684	0.2116077	0.0432675	0.1419799	1.2E-05	0.0073	0.0034
-	-	-	-	-	-	0.1716	0.0117	0.1183

**Table A.16.** Parameter estimates for differenced log durations of Tiger Brands Ltd. In each case the bootstrap standard errors are in the adjacent column. Insignificant parameters are in bold. The last three columns contain p-values for the ARCH-test, MA unit root test (I(1)) and White noise test (Fit).

Date	# Obs	mu		ma1		$\sigma$	
2004/11/01	117	<b>-0.0217485</b>	0.0435026	0.8051425	0.0640852	4.1752364	0.5465391
2004/11/02	128	<b>0.0022403</b>	0.0279383	0.8489073	0.0567838	3.5652029	0.5214579
2004/11/03	100	<b>-0.037724</b>	0.0599386	0.7150212	0.0936135	4.7030749	0.5761747
2004/11/04	81	<b>0.0304519</b>	0.0168774	0.9164306	0.067053	3.015595	0.5261216
2004/11/05	123	<b>0.0004242</b>	0.0239774	0.8307553	0.0570477	2.9781668	0.2998187
2004/11/08	145	<b>-0.0069512</b>	0.0190768	0.8348682	0.0564123	1.8861961	0.1851875
2004/11/09	91	<b>-0.0184882</b>	0.0481183	0.7498914	0.079091	2.7860413	0.4142945
2004/11/10	147	<b>-0.013376</b>	0.0191928	0.8474168	0.052765	3.2467717	0.3559811
2004/11/11	112	<b>-0.0146617</b>	0.0214481	0.8731243	0.0544395	2.4563223	0.3248822
2004/11/12	97	<b>0.0227135</b>	0.0401543	0.7783133	0.0725535	3.3676358	0.526252
2004/11/15	84	<b>0.0183002</b>	0.0335559	0.8219914	0.0770981	3.6138186	0.5068981
2004/11/16	76	<b>-0.022914</b>	0.0181682	0.867001	0.0665312	3.4019893	0.5600664
2004/11/17	166	<b>0.0043656</b>	0.0125853	0.930364	0.0423829	3.8010961	0.3287603
2004/11/18	129	<b>-0.0079281</b>	0.0918148	0.9154391	0.1861055	-	-
2004/11/19	173	<b>0.0061494</b>	0.0134495	0.9023073	0.0383015	2.6247426	0.2230655
2004/11/22	95	<b>-0.0222805</b>	0.0155799	0.9126713	0.0576841	2.9889204	0.3623513
2004/11/23	178	<b>0.0049625</b>	0.0267702	0.7986345	0.0453957	2.8944465	0.2894623
2004/11/24	76	<b>-0.0310476</b>	0.0409744	0.8174617	0.0862917	3.2077649	0.5404876
2004/11/25	123	<b>-0.0142394</b>	0.0197298	0.8836809	0.0466183	3.5468398	0.4954329
2004/11/26	169	<b>-0.0110411</b>	0.0151344	0.8598051	0.1679818	-	-
2004/11/29	109	<b>-0.0073518</b>	0.011152	0.9623385	0.0531759	3.0284486	0.4718361
2004/11/30	129	<b>0.0039569</b>	0.0183908	0.886094	0.0583626	2.5863497	0.3448764
2004/12/03	123	-0.2970739	0.1358962	0.9990157	0.1870098	-	-
2004/12/06	177	<b>-0.009174</b>	0.0242907	0.8001703	0.0518665	3.1547716	0.338573
2004/12/07	166	<b>-0.0104604</b>	0.0073427	0.947523	0.0420591	2.7967397	0.3009531
2004/12/08	194	<b>-0.0157888</b>	0.0251869	0.7734969	0.046286	2.1848462	0.1933168
2004/12/09	120	<b>-0.0126168</b>	0.0684009	0.9379424	0.0399252	-	-
2004/12/10	43	<b>-0.0900216</b>	0.0659013	0.7371015	0.1177876	4.0144181	1.0502399
2004/12/13	165	<b>0.0407355</b>	0.1170229	0.8334757	0.1269234	-	-
2004/12/14	155	<b>-0.0074694</b>	0.0178412	0.8786533	0.0446642	2.7405675	0.2916012
2004/12/15	629	<b>-0.001685</b>	0.0051283	0.8958016	0.0208025	1.575479	0.1192186
2004/12/17	146	<b>-0.0079146</b>	0.0295782	0.7946094	0.0531875	2.9818733	0.3470663
2004/12/20	98	<b>-0.0246795</b>	0.0346647	0.8059776	0.0662186	3.3678008	0.6222455
2004/12/21	70	<b>-0.0119399</b>	0.0325433	0.8423617	0.094375	2.8007547	0.4431703
2004/12/22	109	<b>-0.0006918</b>	0.0342317	0.8508802	0.0576301	3.584176	0.4821756
2004/12/23	71	<b>-0.0253637</b>	0.0397541	0.7836888	0.0982483	2.3553089	0.3631541
2004/12/24	24	<b>0.0516293</b>	0.0749069	0.7236983	0.179489	1.7350451	0.510462
2004/12/28	41	<b>-0.0872793</b>	0.1310075	0.5959725	0.1322486	4.0225386	1.0463411
2004/12/29	73	<b>-0.0171679</b>	0.0215719	0.9096395	0.0552274	2.9395947	0.6179137
2004/12/30	57	<b>0.0228319</b>	0.0342737	0.9310726	0.0994905	4.2810921	0.7727876
2004/12/31	21	<b>-0.0519897</b>	0.0972419	1	0.3829163	-	-



$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.5	0.4196	0.29
-	-	-	-	-	-	0.5	0.299	0.1908
-	-	-	-	-	-	0.26892	0.4204	0.29
-	-	-	-	-	-	0.25483	0.0195	0.0984
-	-	-	-	-	-	0.5	0.0003	0.29
-	-	-	-	-	-	0.43183	0.3491	0.29
-	-	-	-	-	-	0.5	0.0899	0.29
-	-	-	-	-	-	0.09727	0.1811	0.2655
-	-	-	-	-	-	0.4425	0	0.0389
-	-	-	-	-	-	0.5	0.66	0.29
-	-	-	-	-	-	0.16366	0.7951	0.219
-	-	-	-	-	-	0.22202	0.0004	0.29
-	-	-	-	-	-	0.5	0.0501	0.29
0.0068916	1.1505535	3.89E-13	0.0578958	0.9973056	0.3753831	0.04592	0.023	0.29
-	-	-	-	-	-	0.5	0.5937	0.29
-	-	-	-	-	-	0.5	0.0345	0.29
-	-	-	-	-	-	0.30043	0.0702	0.29
-	-	-	-	-	-	0.312	0.6119	0.29
-	-	-	-	-	-	0.35991	0.0043	0.29
0.021119	0.9814374	1.036E-08	0.0557926	0.9916073	0.3624349	0.04272	0.6407	0.2154
-	-	-	-	-	-	0.4288	0.005	0.29
-	-	-	-	-	-	0.05611	0.0701	0.29
1.743954	0.8499197	0.295134	0.1790201	1.3E-06	0.3652297	0.03969	0.5962	0.29
-	-	-	-	-	-	0.35064	0.3757	0.1768
-	-	-	-	-	-	0.09637	0.0048	0.0765
-	-	-	-	-	-	0.28628	0.0054	0.29
0.2472464	0.5707454	0.2092178	0.0952711	0.7337782	0.1898612	0.00037	0.307	0.2319
-	-	-	-	-	-	0.5	0.0345	0.29
2.7340717	1.0912549	0.200458	0.1565602	3.011E-08	0.3962075	0.00077	0.0676	0.2312
-	-	-	-	-	-	0.23961	0.0031	0.29
-	-	-	-	-	-	0.05952	0	0.0339
-	-	-	-	-	-	0.5	0.102	0.0126
-	-	-	-	-	-	0.4597	0	0.29
-	-	-	-	-	-	0.5	0.2885	0.29
-	-	-	-	-	-	0.5	0.0022	0.1278
-	-	-	-	-	-	0.14721	0.4858	0.29
-	-	-	-	-	-	0.09191	0.959	0.29
-	-	-	-	-	-	0.5	0.171	0.29
-	-	-	-	-	-	0.5	0.1961	0.29
-	-	-	-	-	-	0.5	0.8698	0.29
2.1226772	1.44888	0.2839143	0.282951	0.019955	0.3505668	0.00647	0.1127	0.29

Table A.16. (continued)

Date	# Obs	mu		mal		$\sigma$	
2005/01/03	85	<b>-0.0353481</b>	0.055539	0.777002	0.0794577	3.8886924	0.6544556
2005/01/04	71	<b>0.0118815</b>	0.0296438	0.8631951	0.0733661	3.1364531	0.5750021
2005/01/05	67	<b>-0.0161807</b>	0.0216553	0.9263531	0.0650322	3.138706	0.4540109
2005/01/06	102	<b>-0.0197693</b>	0.1838339	0.9433747	0.2110326	-	-
2005/01/07	113	<b>-0.004898</b>	0.0097102	0.9837055	0.0657072	2.6261885	0.4834755
2005/01/10	120	<b>-0.0125568</b>	0.0132798	0.9259213	0.0555991	3.3314565	0.4627011
2005/01/11	140	<b>0.0100155</b>	0.0828824	0.469847	0.0712528	3.6540495	0.5091334
2005/01/12	184	<b>0.0037749</b>	0.0260613	0.7953044	0.0422132	3.2443927	0.3080014
2005/01/13	141	<b>0.0034083</b>	0.0230589	0.8757631	0.0505506	3.7245395	0.3944839
2005/01/14	118	<b>0.1163625</b>	0.156139	0.7461365	0.0546563	2.9939072	0.3544207
2005/01/17	116	<b>-0.0052557</b>	0.0275681	0.8193137	0.0617451	2.9526599	0.4533249
2005/01/18	246	<b>-0.0003393</b>	0.0082302	0.9165343	0.0343196	2.1361084	0.1723359
2005/01/19	249	<b>-0.0080236</b>	0.0151526	0.8449047	0.0381706	2.1842725	0.1860551
2005/01/20	153	<b>-0.0005836</b>	0.0263171	0.8318623	0.0489713	2.6782373	0.2576473
2005/01/21	99	-0.0287576	0.0137282	0.8804324	0.0643535	2.9482119	0.4602548
2005/01/24	121	<b>-0.0174814</b>	0.0837107	0.4950401	0.0894823	4.3084059	0.5309456
2005/01/25	162	<b>-0.0048462</b>	0.0269011	0.7936606	0.0539563	2.8135096	0.3107309
2005/01/26	140	<b>0.0107195</b>	0.0422037	0.7713205	0.0629405	4.4257901	0.5746324
2005/01/27	122	<b>-0.028402</b>	0.0275501	0.8428114	0.0516318	3.7375085	0.4383076
2005/01/28	148	<b>-0.0119882</b>	0.0267204	0.8450111	0.056953	3.873371	0.4035294
2005/01/31	192	<b>-0.0086447</b>	0.0057546	0.9353049	0.0405951	2.6820917	0.3439346
2005/02/01	248	<b>-0.0142437</b>	0.0234611	0.7998389	0.0402739	3.4576121	0.2796676
2005/02/02	129	<b>0.0186023</b>	0.0530334	0.8687661	0.094454	-	-
2005/02/03	60	<b>-0.0345955</b>	0.031266	0.873757	0.0826566	3.8957248	1.1130395
2005/02/04	101	<b>-0.020384</b>	0.0397484	0.7976295	0.0774454	3.3221279	0.4781614
2005/02/07	168	<b>-0.0069614</b>	0.0292707	0.7821165	0.0469926	3.1887795	0.3172736
2005/02/08	160	<b>-0.0070076</b>	0.0176967	0.8833039	0.0486525	3.4293819	0.3538545
2005/02/09	136	<b>-0.0167386</b>	0.045718	0.742016	0.0552781	3.4909272	0.3497493
2005/02/10	142	<b>0.0046241</b>	0.0327377	0.7629066	0.0499682	2.5095062	0.2619055
2005/02/11	191	<b>-0.0037565</b>	0.0063819	0.9469219	0.0355792	3.0532227	0.3330029
2005/02/14	183	<b>-0.0030257</b>	0.0360003	0.7247582	0.0567251	3.1890201	0.3747189
2005/02/15	91	<b>-0.0590767</b>	0.0771915	0.6571758	0.0860666	5.0606048	0.6898913
2005/02/16	179	<b>0.1816864</b>	0.1707622	0.8910596	0.145124	-	-
2005/02/17	136	<b>-0.0170126</b>	0.0384379	0.7402575	0.0709504	3.0221819	0.3302958
2005/02/18	123	<b>-0.0081799</b>	0.0268962	0.8516985	0.0617283	3.3463476	0.523267
2005/02/21	80	<b>-0.0153363</b>	0.1089147	0.6079327	0.1001585	5.7305896	1.0735827
2005/02/22	168	<b>-0.0170352</b>	0.0117169	0.871785	0.0466792	-	-
2005/02/23	210	<b>-0.0063952</b>	0.0097348	0.9019457	0.0382248	2.5376416	0.2150397
2005/02/24	152	<b>-0.0146184</b>	0.0103617	0.9093376	0.0409666	1.9994981	0.2311385
2005/02/25	109	<b>-0.0301674</b>	0.0514919	0.6689556	0.0745746	3.2082117	0.5115121
2005/02/28	177	<b>-0.0152505</b>	0.034441	0.7514333	0.0505791	2.8149174	0.2769511

$a_0$		$a_1$		$b_1$		ARCH	I(1)	Fit
-	-	-	-	-	-	0.12483	0.4768	0.29
-	-	-	-	-	-	0.29504	0.6975	0.29
-	-	-	-	-	-	0.4525	0.5379	0.29
2.7867383	1.4068343	0.2090518	0.178483	6.648E-08	0.3987878	0.03279	0.079	0.0552
-	-	-	-	-	-	0.5	0.1239	0.29
-	-	-	-	-	-	0.5	0.0745	0.29
-	-	-	-	-	-	0.5	0.0123	0.0203
-	-	-	-	-	-	0.26803	0.0558	0.0563
-	-	-	-	-	-	0.5	0.5279	0.2658
-	-	-	-	-	-	0.05996	0.1585	0.0928
-	-	-	-	-	-	0.20395	0.112	0.29
-	-	-	-	-	-	0.5	0.3627	0.1466
-	-	-	-	-	-	0.5	0.0255	0.29
-	-	-	-	-	-	0.5	0.0559	0.29
-	-	-	-	-	-	0.5	0.0004	0.29
-	-	-	-	-	-	0.5	0.0063	0.0465
-	-	-	-	-	-	0.21992	0.155	0.0405
-	-	-	-	-	-	0.5	0.2999	0.0171
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.5	0.0841	0.29
-	-	-	-	-	-	0.0907	0.0157	0.29
-	-	-	-	-	-	0.0812	0	0.019
0.0039632	2.6501765	0.0900808	0.1141768	0.9094579	0.2924007	0.03983	0.0104	0.0324
-	-	-	-	-	-	0.48328	0.3822	0.29
-	-	-	-	-	-	0.09516	0.0049	0.29
-	-	-	-	-	-	0.5	0.5328	0.29
-	-	-	-	-	-	0.5	0	0.29
-	-	-	-	-	-	0.5	0.0107	0.1268
-	-	-	-	-	-	0.4354	0.0459	0.29
-	-	-	-	-	-	0.43666	0.0811	0.2468
-	-	-	-	-	-	0.22205	0.0057	0.1428
-	-	-	-	-	-	0.25606	0	0.2646
0.4893104	1.3911856	0.0458167	0.0653525	0.835442	0.2975957	0.01065	0.3788	0.29
-	-	-	-	-	-	0.16534	0	0.29
-	-	-	-	-	-	0.5	0.3142	0.1353
-	-	-	-	-	-	0.13272	0.1071	0.29
3.858E-05	0.2109028	0.1429237	0.0503402	0.8570705	0.0506182	0.00014	0	0.29
-	-	-	-	-	-	0.15669	0.0677	0.29
-	-	-	-	-	-	0.49997	0.0001	0.29
-	-	-	-	-	-	0.5	0.0206	0.29
-	-	-	-	-	-	0.48656	0.0049	0.29

**Table A.17.** Results from Markov chain fitting for zero and non-zero returns for Anglo American PLC. The standard errors of transition probabilities are in the adjacent columns. For the hypothesis that a 10th (3rd) order chain can sufficiently be described by a 1st order chain "TRUE" indicates the null hypothesis is not rejected at the 5% level

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/11/01	388	198	TRUE	TRUE	0.63452	0.03193	0.36548	0.03193	0.38421	0.03824	0.61579	0.03824
2004/11/02	673	340	TRUE	TRUE	0.61357	0.02612	0.38643	0.02612	0.3964	0.02494	0.6036	0.02494
2004/11/03	636	326	TRUE	TRUE	0.6411	0.02771	0.3589	0.02771	0.37864	0.03126	0.62136	0.03126
2004/11/04	737	353	TRUE	TRUE	0.5767	0.02285	0.4233	0.02285	0.39063	0.02832	0.60938	0.02832
2004/11/05	586	255	TRUE	TRUE	0.56863	0.03137	0.43137	0.03137	0.33333	0.02654	0.66667	0.02654
2004/11/08	632	337	TRUE	TRUE	0.64286	0.02677	0.35714	0.02677	0.41017	0.02826	0.58983	0.02826
2004/11/09	455	260	TRUE	TRUE	0.71923	0.02926	0.28077	0.02926	0.37113	0.03435	0.62887	0.03435
2004/11/10	1231	580	TRUE	TRUE	0.6069	0.01962	0.3931	0.01962	0.35077	0.01677	0.64923	0.01677
2004/11/11	583	322	TRUE	TRUE	0.66149	0.02669	0.33851	0.02669	0.41538	0.02874	0.58462	0.02874
2004/11/12	581	295	TRUE	TRUE	0.63946	0.02544	0.36054	0.02544	0.37413	0.02794	0.62587	0.02794
2004/11/15	599	303	TRUE	TRUE	0.64356	0.02906	0.35644	0.02906	0.3661	0.02773	0.6339	0.02773
2004/11/16	624	292	TRUE	TRUE	0.60616	0.0268	0.39384	0.0268	0.34441	0.02669	0.65559	0.02669
2004/11/17	601	333	TRUE	TRUE	0.67868	0.02574	0.32132	0.02574	0.40075	0.02699	0.59925	0.02699
2004/11/18	589	320	TRUE	TRUE	0.65	0.02594	0.35	0.02594	0.41791	0.02709	0.58209	0.02709
2004/11/19	573	290	FALSE	TRUE	0.64014	0.02837	0.35986	0.02837	0.36749	0.03037	0.63251	0.03037
2004/11/22	554	290	TRUE	TRUE	0.6609	0.02467	0.3391	0.02467	0.375	0.03109	0.625	0.03109
2004/11/23	794	417	TRUE	TRUE	0.66427	0.02345	0.33573	0.02345	0.36968	0.02426	0.63032	0.02426
2004/11/24	697	402	TRUE	TRUE	0.71322	0.02297	0.28678	0.02297	0.38983	0.03155	0.61017	0.03155
2004/11/25	754	394	TRUE	TRUE	0.6599	0.02354	0.3401	0.02354	0.37326	0.02517	0.62674	0.02517
2004/11/26	720	396	TRUE	TRUE	0.67595	0.02246	0.32405	0.02246	0.39815	0.02971	0.60185	0.02971
2004/11/29	665	357	TRUE	TRUE	0.67227	0.023	0.32773	0.023	0.37785	0.02941	0.62215	0.02941
2004/11/30	1470	759	TRUE	TRUE	0.65172	0.01656	0.34828	0.01656	0.37271	0.02015	0.62729	0.02015
2004/12/03	545	284	TRUE	TRUE	0.62324	0.03307	0.37676	0.03307	0.40769	0.03227	0.59231	0.03227
2004/12/06	1191	568	TRUE	TRUE	0.63732	0.0191	0.36268	0.0191	0.33119	0.01811	0.66881	0.01811
2004/12/07	1099	606	TRUE	TRUE	0.66777	0.01926	0.33223	0.01926	0.40974	0.02065	0.59026	0.02065
2004/12/08	991	504	TRUE	TRUE	0.63294	0.02048	0.36706	0.02048	0.38066	0.02224	0.61934	0.02224

Table A.17. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/12/09	715	328	TRUE	TRUE	0.55793	0.03023	0.44207	0.03023	0.37565	0.02364	0.62435	0.02364
2004/12/10	654	387	TRUE	TRUE	0.71835	0.02156	0.28165	0.02156	0.40977	0.02929	0.59023	0.02929
2004/12/13	680	360	TRUE	TRUE	0.64624	0.02262	0.35376	0.02262	0.4	0.02578	0.6	0.02578
2004/12/14	491	253	TRUE	TRUE	0.64032	0.03214	0.35968	0.03214	0.38397	0.03144	0.61603	0.03144
2004/12/15	1299	602	TRUE	TRUE	0.56811	0.02167	0.43189	0.02167	0.37356	0.01971	0.62644	0.01971
2004/12/17	620	374	FALSE	TRUE	0.7185	0.02152	0.2815	0.02152	0.43089	0.03229	0.56911	0.03229
2004/12/20	423	243	TRUE	FALSE	0.72727	0.02769	0.27273	0.02769	0.37222	0.0413	0.62778	0.0413
2004/12/21	395	200	TRUE	FALSE	0.64	0.02995	0.36	0.02995	0.37113	0.03489	0.62887	0.03489
2004/12/22	234	127	TRUE	TRUE	0.65354	0.04874	0.34646	0.04874	0.40566	0.04728	0.59434	0.04728
2004/12/23	265	133	TRUE	TRUE	0.64662	0.04506	0.35338	0.04506	0.35878	0.04808	0.64122	0.04808
2004/12/24	35	22	TRUE	TRUE	0.66667	0.10874	0.33333	0.10874	0.61538	0.13713	0.38462	0.13713
2004/12/28	80	38	FALSE	TRUE	0.65789	0.08465	0.34211	0.08465	0.29268	0.07501	0.70732	0.07501
2004/12/29	169	90	FALSE	FALSE	0.67778	0.04735	0.32222	0.04735	0.37179	0.05647	0.62821	0.05647
2004/12/30	220	113	TRUE	TRUE	0.62832	0.04773	0.37168	0.04773	0.39623	0.05524	0.60377	0.05524
2004/12/31	47	25	TRUE	TRUE	0.68	0.10141	0.32	0.10141	0.38095	0.12771	0.61905	0.12771
2005/01/03	135	65	TRUE	TRUE	0.53846	0.06484	0.46154	0.06484	0.42029	0.05673	0.57971	0.05673
2005/01/04	272	147	TRUE	TRUE	0.66438	0.03414	0.33562	0.03414	0.4	0.04484	0.6	0.04484
2005/01/05	283	139	TRUE	TRUE	0.6087	0.04125	0.3913	0.04125	0.38194	0.04111	0.61806	0.04111
2005/01/06	580	319	TRUE	TRUE	0.67085	0.03043	0.32915	0.03043	0.40385	0.03183	0.59615	0.03183
2005/01/07	326	166	TRUE	TRUE	0.66265	0.03349	0.33735	0.03349	0.3522	0.04279	0.6478	0.04279
2005/01/10	391	248	TRUE	TRUE	0.72581	0.02746	0.27419	0.02746	0.47183	0.04607	0.52817	0.04607
2005/01/11	432	231	TRUE	TRUE	0.61304	0.0368	0.38696	0.0368	0.44776	0.03527	0.55224	0.03527
2005/01/12	638	302	TRUE	TRUE	0.56623	0.03004	0.43377	0.03004	0.39104	0.02514	0.60896	0.02514
2005/01/13	480	269	TRUE	TRUE	0.66914	0.02853	0.33086	0.02853	0.42381	0.0356	0.57619	0.0356
2005/01/14	507	273	TRUE	TRUE	0.66176	0.02705	0.33824	0.02705	0.39744	0.03105	0.60256	0.03105
2005/01/17	437	198	TRUE	TRUE	0.55051	0.03764	0.44949	0.03764	0.37395	0.02933	0.62605	0.02933
2005/01/18	913	520	TRUE	TRUE	0.68462	0.02107	0.31538	0.02107	0.41837	0.02472	0.58163	0.02472
2005/01/19	732	330	TRUE	FALSE	0.60909	0.02748	0.39091	0.02748	0.3217	0.02233	0.6783	0.02233

Table A.17. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2005/01/20	670	312	TRUE	TRUE	0.57878	0.02786	0.42122	0.02786	0.36872	0.0281	0.63128	0.0281
2005/01/21	341	147	TRUE	TRUE	0.57823	0.03721	0.42177	0.03721	0.32124	0.03431	0.67876	0.03431
2005/01/24	425	216	TRUE	TRUE	0.62037	0.03017	0.37963	0.03017	0.39423	0.03513	0.60577	0.03513
2005/01/25	418	158	TRUE	TRUE	0.46835	0.04258	0.53165	0.04258	0.32432	0.02812	0.67568	0.02812
2005/01/26	344	129	TRUE	TRUE	0.47287	0.04262	0.52713	0.04262	0.31308	0.03349	0.68692	0.03349
2005/01/27	471	187	TRUE	TRUE	0.54545	0.03773	0.45455	0.03773	0.30035	0.02714	0.69965	0.02714
2005/01/28	332	148	TRUE	TRUE	0.52703	0.04564	0.47297	0.04564	0.37705	0.03277	0.62295	0.03277
2005/01/31	523	226	TRUE	TRUE	0.60619	0.03099	0.39381	0.03099	0.30068	0.03321	0.69932	0.03321
2005/02/01	1120	529	TRUE	FALSE	0.62382	0.02069	0.37618	0.02069	0.33729	0.01982	0.66271	0.01982
2005/02/02	865	422	TRUE	TRUE	0.58432	0.02597	0.41568	0.02597	0.39729	0.02291	0.60271	0.02291
2005/02/03	898	362	TRUE	TRUE	0.50276	0.02752	0.49724	0.02752	0.33458	0.01902	0.66542	0.01902
2005/02/04	520	318	FALSE	TRUE	0.70755	0.02564	0.29245	0.02564	0.46269	0.02875	0.53731	0.02875
2005/02/07	541	290	TRUE	FALSE	0.62759	0.0306	0.37241	0.0306	0.432	0.03118	0.568	0.03118
2005/02/08	715	361	TRUE	TRUE	0.61496	0.02693	0.38504	0.02693	0.39377	0.02491	0.60623	0.02491
2005/02/09	541	249	TRUE	TRUE	0.60241	0.0289	0.39759	0.0289	0.34021	0.02667	0.65979	0.02667
2005/02/10	780	396	FALSE	TRUE	0.65404	0.02305	0.34596	0.02305	0.35509	0.02569	0.64491	0.02569
2005/02/11	393	223	TRUE	TRUE	0.66816	0.03219	0.33184	0.03219	0.43787	0.03208	0.56213	0.03208
2005/02/14	507	229	TRUE	TRUE	0.55895	0.03829	0.44105	0.03829	0.36462	0.02748	0.63538	0.02748
2005/02/15	383	178	TRUE	TRUE	0.55932	0.04123	0.44068	0.04123	0.38049	0.03462	0.61951	0.03462
2005/02/16	650	310	TRUE	TRUE	0.56311	0.02772	0.43689	0.02772	0.4	0.02578	0.6	0.02578
2005/02/17	527	282	TRUE	TRUE	0.65836	0.02721	0.34164	0.02721	0.39184	0.03223	0.60816	0.03223
2005/02/18	511	275	TRUE	TRUE	0.62182	0.02834	0.37818	0.02834	0.4383	0.03172	0.5617	0.03172
2005/02/21	394	235	TRUE	TRUE	0.69231	0.03219	0.30769	0.03219	0.45283	0.03592	0.54717	0.03592
2005/02/22	612	326	TRUE	TRUE	0.63804	0.02855	0.36196	0.02855	0.41053	0.02831	0.58947	0.02831
2005/02/23	819	414	TRUE	TRUE	0.58354	0.02231	0.41646	0.02231	0.42469	0.02493	0.57531	0.02493
2005/02/24	466	291	TRUE	TRUE	0.73196	0.02507	0.26804	0.02507	0.44253	0.03363	0.55747	0.03363
2005/02/25	395	231	TRUE	TRUE	0.7013	0.02536	0.2987	0.02536	0.42331	0.03883	0.57669	0.03883
2005/02/28	533	280	TRUE	TRUE	0.64643	0.0293	0.35357	0.0293	0.39286	0.02593	0.60714	0.02593

**Table A.18.** Results from Markov chain fitting for zero and non-zero returns for the MTN Group Ltd. The standard errors of transition probabilities are in the adjacent columns. For the hypothesis that a 10th (3rd) order chain can sufficiently be described by a 1st order chain "TRUE" indicates the null hypothesis is not rejected at the 5% level

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/11/01	330	206	TRUE	TRUE	0.73171	0.02758	0.26829	0.02758	0.45161	0.04616	0.54839	0.04616
2004/11/02	399	262	TRUE	TRUE	0.73282	0.02962	0.26718	0.02962	0.50735	0.04472	0.49265	0.04472
2004/11/03	321	154	TRUE	TRUE	0.64286	0.04013	0.35714	0.04013	0.33133	0.03544	0.66867	0.03544
2004/11/04	416	232	TRUE	TRUE	0.66234	0.03258	0.33766	0.03258	0.42935	0.03641	0.57065	0.03641
2004/11/05	328	189	TRUE	TRUE	0.7037	0.03496	0.2963	0.03496	0.4058	0.04376	0.5942	0.04376
2004/11/08	388	219	TRUE	TRUE	0.6484	0.03395	0.3516	0.03395	0.45238	0.04316	0.54762	0.04316
2004/11/09	471	267	FALSE	TRUE	0.70037	0.0291	0.29963	0.0291	0.39409	0.03599	0.60591	0.03599
2004/11/10	381	187	TRUE	TRUE	0.62567	0.03536	0.37433	0.03536	0.36269	0.03507	0.63731	0.03507
2004/11/11	386	233	TRUE	TRUE	0.74249	0.03001	0.25751	0.03001	0.38816	0.03585	0.61184	0.03585
2004/11/12	452	269	TRUE	TRUE	0.76119	0.02515	0.23881	0.02515	0.34973	0.03655	0.65027	0.03655
2004/11/15	353	189	TRUE	TRUE	0.66489	0.03312	0.33511	0.03312	0.39024	0.04105	0.60976	0.04105
2004/11/16	412	246	TRUE	TRUE	0.71837	0.03007	0.28163	0.03007	0.42169	0.04216	0.57831	0.04216
2004/11/17	388	221	FALSE	FALSE	0.66364	0.03566	0.33636	0.03566	0.4491	0.03509	0.5509	0.03509
2004/11/18	322	163	TRUE	TRUE	0.62346	0.03655	0.37654	0.03655	0.38994	0.04341	0.61006	0.04341
2004/11/19	658	351	TRUE	TRUE	0.66382	0.02335	0.33618	0.02335	0.38562	0.02907	0.61438	0.02907
2004/11/22	669	371	TRUE	TRUE	0.67568	0.02738	0.32432	0.02738	0.40604	0.02747	0.59396	0.02747
2004/11/23	748	442	FALSE	TRUE	0.6991	0.02093	0.3009	0.02093	0.43607	0.03038	0.56393	0.03038
2004/11/24	680	397	TRUE	TRUE	0.70529	0.02147	0.29471	0.02147	0.41489	0.02623	0.58511	0.02623
2004/11/25	693	311	TRUE	TRUE	0.60645	0.03016	0.39355	0.03016	0.32199	0.02471	0.67801	0.02471
2004/11/26	1366	681	TRUE	TRUE	0.66324	0.02045	0.33676	0.02045	0.33577	0.0173	0.66423	0.0173
2004/11/29	497	265	TRUE	TRUE	0.6566	0.03014	0.3434	0.03014	0.39394	0.03396	0.60606	0.03396
2004/11/30	822	431	TRUE	TRUE	0.65893	0.02096	0.34107	0.02096	0.37436	0.02666	0.62564	0.02666
2004/12/03	514	285	TRUE	TRUE	0.67254	0.02973	0.32746	0.02973	0.41048	0.02643	0.58952	0.02643
2004/12/06	417	232	TRUE	TRUE	0.70996	0.03287	0.29004	0.03287	0.36757	0.0399	0.63243	0.0399
2004/12/07	382	202	TRUE	TRUE	0.67822	0.03558	0.32178	0.03558	0.36313	0.03735	0.63687	0.03735
2004/12/08	498	316	TRUE	FALSE	0.73418	0.02615	0.26582	0.02615	0.46409	0.03814	0.53591	0.03814

Table A.18. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/12/09	446	237	TRUE	TRUE	0.67089	0.03317	0.32911	0.03317	0.37019	0.0359	0.62981	0.0359
2004/12/10	336	195	TRUE	TRUE	0.72821	0.03219	0.27179	0.03219	0.37143	0.03624	0.62857	0.03624
2004/12/13	323	180	TRUE	TRUE	0.68715	0.03656	0.31285	0.03656	0.3986	0.04714	0.6014	0.04714
2004/12/14	278	141	TRUE	TRUE	0.57447	0.0441	0.42553	0.0441	0.43382	0.04179	0.56618	0.04179
2004/12/15	845	415	TRUE	TRUE	0.57971	0.02316	0.42029	0.02316	0.40465	0.02381	0.59535	0.02381
2004/12/17	314	212	TRUE	TRUE	0.7783	0.02625	0.2217	0.02625	0.46535	0.05181	0.53465	0.05181
2004/12/20	158	103	TRUE	TRUE	0.79412	0.04374	0.20588	0.04374	0.4	0.05861	0.6	0.05861
2004/12/21	119	60	TRUE	TRUE	0.67797	0.06519	0.32203	0.06519	0.32203	0.06623	0.67797	0.06623
2004/12/22	422	245	TRUE	TRUE	0.69262	0.02479	0.30738	0.02479	0.42938	0.03581	0.57062	0.03581
2004/12/23	222	107	TRUE	TRUE	0.65421	0.03933	0.34579	0.03933	0.32456	0.03997	0.67544	0.03997
2004/12/24	63	39	TRUE	TRUE	0.76316	0.07021	0.23684	0.07021	0.41667	0.11893	0.58333	0.11893
2004/12/28	167	114	TRUE	TRUE	0.77193	0.04404	0.22807	0.04404	0.5	0.0647	0.5	0.0647
2004/12/29	196	109	TRUE	FALSE	0.64815	0.04816	0.35185	0.04816	0.44828	0.05506	0.55172	0.05506
2004/12/30	99	45	TRUE	TRUE	0.56818	0.07586	0.43182	0.07586	0.35185	0.07159	0.64815	0.07159
2004/12/31	47	18	TRUE	TRUE	0.47059	0.10081	0.52941	0.10081	0.34483	0.09841	0.65517	0.09841
2005/01/03	262	142	TRUE	TRUE	0.7234	0.03885	0.2766	0.03885	0.33333	0.04643	0.66667	0.04643
2005/01/04	297	149	TRUE	TRUE	0.60811	0.03688	0.39189	0.03688	0.39865	0.0392	0.60135	0.0392
2005/01/05	212	117	TRUE	TRUE	0.66667	0.04342	0.33333	0.04342	0.40426	0.0453	0.59574	0.0453
2005/01/06	617	333	TRUE	TRUE	0.69578	0.02626	0.30422	0.02626	0.35915	0.03002	0.64085	0.03002
2005/01/07	438	220	TRUE	TRUE	0.63927	0.03217	0.36073	0.03217	0.36697	0.03243	0.63303	0.03243
2005/01/10	268	133	FALSE	TRUE	0.59848	0.0392	0.40152	0.0392	0.4	0.04327	0.6	0.04327
2005/01/11	331	193	TRUE	TRUE	0.70833	0.03285	0.29167	0.03285	0.41304	0.0421	0.58696	0.0421
2005/01/12	396	203	FALSE	TRUE	0.64039	0.03477	0.35961	0.03477	0.38021	0.03764	0.61979	0.03764
2005/01/13	656	378	TRUE	TRUE	0.68966	0.02143	0.31034	0.02143	0.42446	0.02856	0.57554	0.02856
2005/01/14	349	162	TRUE	TRUE	0.62346	0.03281	0.37654	0.03281	0.32796	0.03136	0.67204	0.03136
2005/01/17	340	202	TRUE	TRUE	0.74129	0.02817	0.25871	0.02817	0.37681	0.04115	0.62319	0.04115
2005/01/18	476	207	FALSE	TRUE	0.57005	0.03616	0.42995	0.03616	0.33209	0.02986	0.66791	0.02986
2005/01/19	659	345	TRUE	TRUE	0.66667	0.02467	0.33333	0.02467	0.36741	0.03044	0.63259	0.03044



Table A.18. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2005/01/20	336	165	TRUE	TRUE	0.61212	0.03573	0.38788	0.03573	0.37647	0.03821	0.62353	0.03821
2005/01/21	315	166	TRUE	FALSE	0.6303	0.0358	0.3697	0.0358	0.41611	0.04435	0.58389	0.04435
2005/01/24	421	221	TRUE	TRUE	0.63182	0.03169	0.36818	0.03169	0.41	0.03642	0.59	0.03642
2005/01/25	463	173	TRUE	TRUE	0.53179	0.03535	0.46821	0.03535	0.27682	0.02942	0.72318	0.02942
2005/01/26	230	97	TRUE	TRUE	0.53608	0.04889	0.46392	0.04889	0.34091	0.04251	0.65909	0.04251
2005/01/27	397	213	TRUE	TRUE	0.64623	0.03547	0.35377	0.03547	0.41304	0.03545	0.58696	0.03545
2005/01/28	357	181	TRUE	TRUE	0.65193	0.03809	0.34807	0.03809	0.36	0.03847	0.64	0.03847
2005/01/31	396	175	TRUE	TRUE	0.60571	0.03875	0.39429	0.03875	0.31364	0.03039	0.68636	0.03039
2005/02/01	719	336	TRUE	TRUE	0.59524	0.02551	0.40476	0.02551	0.35602	0.02455	0.64398	0.02455
2005/02/02	567	285	TRUE	FALSE	0.6807	0.02993	0.3193	0.02993	0.32384	0.02747	0.67616	0.02747
2005/02/03	269	150	TRUE	TRUE	0.67785	0.04215	0.32215	0.04215	0.40336	0.038	0.59664	0.038
2005/02/04	168	90	TRUE	TRUE	0.6	0.0529	0.4	0.0529	0.45455	0.05761	0.54545	0.05761
2005/02/07	516	264	TRUE	TRUE	0.63118	0.02563	0.36882	0.02563	0.38889	0.03305	0.61111	0.03305
2005/02/08	332	161	TRUE	TRUE	0.575	0.04208	0.425	0.04208	0.40351	0.04146	0.59649	0.04146
2005/02/09	908	430	TRUE	FALSE	0.62326	0.02424	0.37674	0.02424	0.33962	0.01899	0.66038	0.01899
2005/02/10	721	407	TRUE	FALSE	0.69704	0.02497	0.30296	0.02497	0.3949	0.02658	0.6051	0.02658
2005/02/11	356	226	TRUE	TRUE	0.74667	0.02801	0.25333	0.02801	0.43846	0.0426	0.56154	0.0426
2005/02/14	315	176	TRUE	TRUE	0.69886	0.03026	0.30114	0.03026	0.38406	0.04208	0.61594	0.04208
2005/02/15	346	178	TRUE	TRUE	0.6573	0.03134	0.3427	0.03134	0.36527	0.04062	0.63473	0.04062
2005/02/16	306	153	FALSE	FALSE	0.61184	0.03881	0.38816	0.03881	0.39216	0.04213	0.60784	0.04213
2005/02/17	404	217	TRUE	TRUE	0.67593	0.03148	0.32407	0.03148	0.37968	0.0354	0.62032	0.0354
2005/02/18	359	155	TRUE	TRUE	0.57419	0.03341	0.42581	0.03341	0.32512	0.03342	0.67488	0.03342
2005/02/21	231	111	TRUE	TRUE	0.61818	0.0462	0.38182	0.0462	0.35	0.04471	0.65	0.04471
2005/02/22	313	180	TRUE	TRUE	0.70556	0.03075	0.29444	0.03075	0.40152	0.04016	0.59848	0.04016
2005/02/23	287	157	TRUE	TRUE	0.71338	0.03917	0.28662	0.03917	0.34884	0.04216	0.65116	0.04216
2005/02/24	471	229	TRUE	TRUE	0.59389	0.03026	0.40611	0.03026	0.38589	0.03192	0.61411	0.03192
2005/02/25	327	159	TRUE	TRUE	0.62893	0.03501	0.37107	0.03501	0.35329	0.03913	0.64671	0.03913
2005/02/28	452	235	TRUE	TRUE	0.63675	0.03279	0.36325	0.03279	0.39631	0.03243	0.60369	0.03243

**Table A.19.** Results from Markov chain fitting for zero and non-zero returns for Harmony Gold. The standard errors of transition probabilities are in the adjacent columns. For the hypothesis that a 10th (3rd) order chain can sufficiently be described by a 1st order chain "TRUE" indicates the null hypothesis is not rejected at the 5% level

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/11/01	175	86	TRUE	TRUE	0.56977	0.04859	0.43023	0.04859	0.40909	0.05668	0.59091	0.05668
2004/11/02	248	158	TRUE	TRUE	0.78481	0.03305	0.21519	0.03305	0.38202	0.04821	0.61798	0.04821
2004/11/03	246	141	TRUE	TRUE	0.7	0.03769	0.3	0.03769	0.40952	0.05632	0.59048	0.05632
2004/11/04	373	179	TRUE	TRUE	0.64045	0.03344	0.35955	0.03344	0.33505	0.03628	0.66495	0.03628
2004/11/05	264	159	TRUE	TRUE	0.70253	0.0346	0.29747	0.0346	0.45714	0.04518	0.54286	0.04518
2004/11/08	253	148	TRUE	TRUE	0.72109	0.03852	0.27891	0.03852	0.4	0.04302	0.6	0.04302
2004/11/09	101	59	TRUE	TRUE	0.63793	0.06155	0.36207	0.06155	0.5	0.07793	0.5	0.07793
2004/11/10	278	177	TRUE	TRUE	0.73295	0.03111	0.26705	0.03111	0.46535	0.0501	0.53465	0.0501
2004/11/11	420	238	TRUE	FALSE	0.68487	0.03142	0.31513	0.03142	0.40884	0.03601	0.59116	0.03601
2004/11/12	549	332	TRUE	TRUE	0.76205	0.02421	0.23795	0.02421	0.36574	0.03834	0.63426	0.03834
2004/11/15	460	270	TRUE	TRUE	0.69259	0.02701	0.30741	0.02701	0.43915	0.0364	0.56085	0.0364
2004/11/16	271	113	TRUE	TRUE	0.55357	0.04879	0.44643	0.04879	0.32278	0.0355	0.67722	0.0355
2004/11/17	463	269	TRUE	TRUE	0.69888	0.02734	0.30112	0.02734	0.41969	0.03646	0.58031	0.03646
2004/11/18	410	233	TRUE	TRUE	0.70259	0.02671	0.29741	0.02671	0.39548	0.03813	0.60452	0.03813
2004/11/19	269	157	TRUE	TRUE	0.75159	0.03771	0.24841	0.03771	0.34234	0.04397	0.65766	0.04397
2004/11/22	164	101	TRUE	TRUE	0.71287	0.04281	0.28713	0.04281	0.46774	0.05795	0.53226	0.05795
2004/11/23	294	170	TRUE	TRUE	0.69231	0.03556	0.30769	0.03556	0.42742	0.043	0.57258	0.043
2004/11/24	439	217	TRUE	TRUE	0.64977	0.03429	0.35023	0.03429	0.34389	0.02923	0.65611	0.02923
2004/11/25	152	84	TRUE	TRUE	0.66265	0.04978	0.33735	0.04978	0.41176	0.05676	0.58824	0.05676
2004/11/26	232	110	TRUE	TRUE	0.58716	0.05092	0.41284	0.05092	0.36885	0.04335	0.63115	0.04335
2004/11/29	140	78	TRUE	TRUE	0.62338	0.05768	0.37662	0.05768	0.46774	0.06113	0.53226	0.06113
2004/11/30	257	134	TRUE	TRUE	0.64179	0.04521	0.35821	0.04521	0.38525	0.04173	0.61475	0.04173
2004/12/03	187	89	TRUE	TRUE	0.61798	0.05987	0.38202	0.05987	0.35052	0.04504	0.64948	0.04504
2004/12/06	236	128	TRUE	TRUE	0.67188	0.04412	0.32813	0.04412	0.38318	0.04204	0.61682	0.04204
2004/12/07	493	268	TRUE	TRUE	0.63806	0.03033	0.36194	0.03033	0.42857	0.03538	0.57143	0.03538
2004/12/08	430	217	TRUE	TRUE	0.64977	0.03212	0.35023	0.03212	0.35849	0.03458	0.64151	0.03458

Table A.19. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/12/09	375	231	TRUE	TRUE	0.75652	0.03182	0.24348	0.03182	0.39583	0.04126	0.60417	0.04126
2004/12/10	162	105	TRUE	TRUE	0.73077	0.04512	0.26923	0.04512	0.49123	0.06078	0.50877	0.06078
2004/12/13	144	91	TRUE	TRUE	0.73626	0.05056	0.26374	0.05056	0.46154	0.0729	0.53846	0.0729
2004/12/14	239	143	TRUE	TRUE	0.67606	0.04197	0.32394	0.04197	0.48958	0.04906	0.51042	0.04906
2004/12/15	566	212	TRUE	TRUE	0.4455	0.03628	0.5545	0.03628	0.33333	0.02516	0.66667	0.02516
2004/12/17	181	98	TRUE	TRUE	0.62887	0.04872	0.37113	0.04872	0.44578	0.04804	0.55422	0.04804
2004/12/20	118	73	TRUE	TRUE	0.68056	0.06045	0.31944	0.06045	0.51111	0.08449	0.48889	0.08449
2004/12/21	224	127	TRUE	TRUE	0.72441	0.03831	0.27559	0.03831	0.36458	0.05526	0.63542	0.05526
2004/12/22	127	87	TRUE	TRUE	0.73256	0.04615	0.26744	0.04615	0.6	0.08245	0.4	0.08245
2004/12/23	123	78	TRUE	TRUE	0.74359	0.04885	0.25641	0.04885	0.43182	0.07443	0.56818	0.07443
2004/12/24	37	22	TRUE	TRUE	0.72727	0.11141	0.27273	0.11141	0.42857	0.13033	0.57143	0.13033
2004/12/28	30	14	TRUE	TRUE	0.35714	0.11959	0.64286	0.11959	0.6	0.11777	0.4	0.11777
2004/12/29	169	110	TRUE	TRUE	0.76147	0.03837	0.23853	0.03837	0.44068	0.05284	0.55932	0.05284
2004/12/30	176	144	TRUE	FALSE	0.92308	0.02029	0.07692	0.02029	0.375	0.10032	0.625	0.10032
2004/12/31	19	7	TRUE	TRUE	0.57143	0.24705	0.42857	0.24705	0.18182	0.13929	0.81818	0.13929
2005/01/03	72	39	TRUE	TRUE	0.68421	0.09716	0.31579	0.09716	0.36364	0.08304	0.63636	0.08304
2005/01/04	84	36	TRUE	FALSE	0.6	0.07607	0.4	0.07607	0.3125	0.064	0.6875	0.064
2005/01/05	68	30	TRUE	TRUE	0.5	0.09164	0.5	0.09164	0.40541	0.07771	0.59459	0.07771
2005/01/06	229	128	TRUE	TRUE	0.66406	0.03608	0.33594	0.03608	0.43	0.04753	0.57	0.04753
2005/01/07	190	102	TRUE	TRUE	0.60784	0.0515	0.39216	0.0515	0.45977	0.05552	0.54023	0.05552
2005/01/10	176	80	FALSE	TRUE	0.625	0.05811	0.375	0.05811	0.31579	0.04648	0.68421	0.04648
2005/01/11	203	110	TRUE	TRUE	0.58182	0.04549	0.41818	0.04549	0.5	0.05262	0.5	0.05262
2005/01/12	146	54	TRUE	TRUE	0.49057	0.06867	0.50943	0.06867	0.30435	0.04683	0.69565	0.04683
2005/01/13	85	47	TRUE	TRUE	0.74468	0.06094	0.25532	0.06094	0.32432	0.08057	0.67568	0.08057
2005/01/14	142	69	TRUE	TRUE	0.69565	0.06044	0.30435	0.06044	0.29167	0.05231	0.70833	0.05231
2005/01/17	126	69	TRUE	TRUE	0.63235	0.06086	0.36765	0.06086	0.4386	0.06568	0.5614	0.06568
2005/01/18	272	119	TRUE	TRUE	0.5042	0.0472	0.4958	0.0472	0.38816	0.03907	0.61184	0.03907
2005/01/19	276	127	FALSE	TRUE	0.62205	0.04456	0.37795	0.04456	0.32432	0.03939	0.67568	0.03939

Table A.19. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2005/01/20	221	110	TRUE	TRUE	0.64545	0.0481	0.35455	0.0481	0.35455	0.04983	0.64545	0.04983
2005/01/21	222	129	TRUE	TRUE	0.70543	0.04221	0.29457	0.04221	0.41304	0.04876	0.58696	0.04876
2005/01/24	70	21	TRUE	TRUE	0.38095	0.11347	0.61905	0.11347	0.27083	0.06094	0.72917	0.06094
2005/01/25	290	140	TRUE	TRUE	0.59286	0.04316	0.40714	0.04316	0.38255	0.04279	0.61745	0.04279
2005/01/26	434	259	TRUE	TRUE	0.7027	0.02673	0.2973	0.02673	0.44253	0.04047	0.55747	0.04047
2005/01/27	232	113	TRUE	TRUE	0.64602	0.0456	0.35398	0.0456	0.33051	0.04386	0.66949	0.04386
2005/01/28	204	137	TRUE	TRUE	0.79412	0.03854	0.20588	0.03854	0.43284	0.05534	0.56716	0.05534
2005/01/31	284	179	TRUE	TRUE	0.78771	0.03179	0.21229	0.03179	0.35577	0.05198	0.64423	0.05198
2005/02/01	275	175	TRUE	TRUE	0.66857	0.03606	0.33143	0.03606	0.57576	0.0491	0.42424	0.0491
2005/02/02	244	140	TRUE	TRUE	0.71429	0.0411	0.28571	0.0411	0.37864	0.04716	0.62136	0.04716
2005/02/03	228	156	TRUE	TRUE	0.79355	0.03415	0.20645	0.03415	0.44444	0.05468	0.55556	0.05468
2005/02/04	164	104	TRUE	TRUE	0.72115	0.04378	0.27885	0.04378	0.47458	0.0669	0.52542	0.0669
2005/02/07	242	163	TRUE	TRUE	0.75309	0.03508	0.24691	0.03508	0.50633	0.05078	0.49367	0.05078
2005/02/08	224	132	TRUE	TRUE	0.73485	0.04095	0.26515	0.04095	0.38462	0.05218	0.61538	0.05218
2005/02/09	312	169	TRUE	TRUE	0.70414	0.03335	0.29586	0.03335	0.35211	0.03989	0.64789	0.03989
2005/02/10	231	148	TRUE	TRUE	0.69388	0.03833	0.30612	0.03833	0.54217	0.05665	0.45783	0.05665
2005/02/11	222	142	TRUE	TRUE	0.71831	0.04137	0.28169	0.04137	0.49367	0.05875	0.50633	0.05875
2005/02/14	216	106	TRUE	TRUE	0.64151	0.05164	0.35849	0.05164	0.34862	0.04939	0.65138	0.04939
2005/02/15	100	46	TRUE	TRUE	0.6	0.0799	0.4	0.0799	0.35185	0.06552	0.64815	0.06552
2005/02/16	114	69	FALSE	TRUE	0.69118	0.05696	0.30882	0.05696	0.48889	0.08433	0.51111	0.08433
2005/02/17	231	163	TRUE	TRUE	0.80368	0.03222	0.19632	0.03222	0.47761	0.06721	0.52239	0.06721
2005/02/18	177	107	TRUE	TRUE	0.69159	0.0453	0.30841	0.0453	0.47826	0.06555	0.52174	0.06555
2005/02/21	139	93	TRUE	TRUE	0.76344	0.04115	0.23656	0.04115	0.48889	0.07207	0.51111	0.07207
2005/02/22	212	112	TRUE	TRUE	0.65179	0.0486	0.34821	0.0486	0.39394	0.04657	0.60606	0.04657
2005/02/23	103	55	TRUE	TRUE	0.66667	0.06029	0.33333	0.06029	0.39583	0.08105	0.60417	0.08105
2005/02/24	234	152	TRUE	TRUE	0.76159	0.03191	0.23841	0.03191	0.45122	0.05481	0.54878	0.05481
2005/02/25	144	71	FALSE	TRUE	0.61972	0.06143	0.38028	0.06143	0.36111	0.055	0.63889	0.055
2005/02/28	171	96	TRUE	FALSE	0.66667	0.04633	0.33333	0.04633	0.43243	0.05422	0.56757	0.05422

**Table A.20.** Results from Markov chain fitting for zero and non-zero returns Tiger Brands Ltd. The standard errors of transition probabilities are in the adjacent columns. For the hypothesis that a 10th (3rd) order chain can sufficiently be described by a 1st order chain "TRUE" indicates the null hypothesis is not rejected at the 5% level

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/11/01	117	60	TRUE	TRUE	0.62712	0.06082	0.37288	0.06082	0.40351	0.07712	0.59649	0.07712
2004/11/02	128	73	TRUE	TRUE	0.64384	0.05517	0.35616	0.05517	0.48148	0.06952	0.51852	0.06952
2004/11/03	100	71	TRUE	TRUE	0.74648	0.04824	0.25352	0.04824	0.60714	0.09738	0.39286	0.09738
2004/11/04	81	57	TRUE	TRUE	0.78571	0.05485	0.21429	0.05485	0.54167	0.11023	0.45833	0.11023
2004/11/05	123	77	TRUE	FALSE	0.74026	0.05322	0.25974	0.05322	0.42222	0.0752	0.57778	0.0752
2004/11/08	145	84	TRUE	TRUE	0.71084	0.04637	0.28916	0.04637	0.39344	0.0635	0.60656	0.0635
2004/11/09	91	58	TRUE	TRUE	0.72414	0.05923	0.27586	0.05923	0.46875	0.1028	0.53125	0.1028
2004/11/10	147	102	TRUE	TRUE	0.72549	0.04263	0.27451	0.04263	0.61364	0.07391	0.38636	0.07391
2004/11/11	112	54	TRUE	TRUE	0.55556	0.06848	0.44444	0.06848	0.42105	0.06135	0.57895	0.06135
2004/11/12	97	72	TRUE	TRUE	0.8169	0.04343	0.1831	0.04343	0.56	0.1151	0.44	0.1151
2004/11/15	84	42	TRUE	TRUE	0.64286	0.08147	0.35714	0.08147	0.36585	0.06915	0.63415	0.06915
2004/11/16	76	51	FALSE	FALSE	0.70588	0.06542	0.29412	0.06542	0.625	0.09899	0.375	0.09899
2004/11/17	166	103	TRUE	TRUE	0.68932	0.04695	0.31068	0.04695	0.51613	0.05987	0.48387	0.05987
2004/11/18	129	75	TRUE	TRUE	0.64	0.05573	0.36	0.05573	0.50943	0.06604	0.49057	0.06604
2004/11/19	173	101	TRUE	TRUE	0.64	0.04811	0.36	0.04811	0.51389	0.06239	0.48611	0.06239
2004/11/22	95	50	TRUE	TRUE	0.61224	0.05866	0.38776	0.05866	0.44444	0.07533	0.55556	0.07533
2004/11/23	178	114	TRUE	TRUE	0.71681	0.03717	0.28319	0.03717	0.5	0.05871	0.5	0.05871
2004/11/24	76	38	TRUE	TRUE	0.48649	0.0757	0.51351	0.0757	0.52632	0.08122	0.47368	0.08122
2004/11/25	123	78	TRUE	TRUE	0.69231	0.05172	0.30769	0.05172	0.52273	0.08463	0.47727	0.08463
2004/11/26	169	105	TRUE	TRUE	0.64423	0.03905	0.35577	0.03905	0.57813	0.058	0.42188	0.058
2004/11/29	109	55	TRUE	TRUE	0.55556	0.06226	0.44444	0.06226	0.46296	0.06378	0.53704	0.06378
2004/11/30	129	61	TRUE	TRUE	0.5082	0.06579	0.4918	0.06579	0.44776	0.06464	0.55224	0.06464
2004/12/03	123	82	TRUE	TRUE	0.7439	0.05737	0.2561	0.05737	0.525	0.08419	0.475	0.08419
2004/12/06	177	105	TRUE	FALSE	0.70192	0.04086	0.29808	0.04086	0.44444	0.06233	0.55556	0.06233
2004/12/07	166	107	TRUE	TRUE	0.69811	0.04261	0.30189	0.04261	0.55932	0.06688	0.44068	0.06688
2004/12/08	194	104	TRUE	TRUE	0.61538	0.05129	0.38462	0.05129	0.4382	0.04877	0.5618	0.04877

Table A.20. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2004/12/09	120	72	TRUE	TRUE	0.76056	0.05566	0.23944	0.05566	0.375	0.08063	0.625	0.08063
2004/12/10	43	17	TRUE	TRUE	0.52941	0.13534	0.47059	0.13534	0.28	0.08451	0.72	0.08451
2004/12/13	165	106	TRUE	TRUE	0.73333	0.04476	0.26667	0.04476	0.49153	0.0656	0.50847	0.0656
2004/12/14	155	83	TRUE	TRUE	0.68675	0.05045	0.31325	0.05045	0.3662	0.0591	0.6338	0.0591
2004/12/15	629	278	TRUE	TRUE	0.56318	0.0299	0.43682	0.0299	0.34473	0.0247	0.65527	0.0247
2004/12/17	146	93	TRUE	TRUE	0.79348	0.03759	0.20652	0.03759	0.37736	0.07103	0.62264	0.07103
2004/12/20	98	69	TRUE	TRUE	0.75	0.05395	0.25	0.05395	0.58621	0.08787	0.41379	0.08787
2004/12/21	70	42	TRUE	TRUE	0.71429	0.06726	0.28571	0.06726	0.44444	0.08193	0.55556	0.08193
2004/12/22	109	78	TRUE	TRUE	0.79221	0.04422	0.20779	0.04422	0.54839	0.097	0.45161	0.097
2004/12/23	71	39	TRUE	TRUE	0.63158	0.08125	0.36842	0.08125	0.46875	0.10006	0.53125	0.10006
2004/12/24	24	14	TRUE	TRUE	0.64286	0.15251	0.35714	0.15251	0.55556	0.18604	0.44444	0.18604
2004/12/28	41	27	TRUE	TRUE	0.77778	0.08077	0.22222	0.08077	0.38462	0.13651	0.61538	0.13651
2004/12/29	73	40	TRUE	TRUE	0.66667	0.07434	0.33333	0.07434	0.39394	0.10161	0.60606	0.10161
2004/12/30	57	35	TRUE	TRUE	0.64706	0.08229	0.35294	0.08229	0.59091	0.12122	0.40909	0.12122
2004/12/31	21	17	TRUE	TRUE	0.9375	0.05836	0.0625	0.05836	0.5	0.29633	0.5	0.29633
2005/01/03	85	61	TRUE	TRUE	0.80328	0.04674	0.19672	0.04674	0.47826	0.10368	0.52174	0.10368
2005/01/04	71	44	TRUE	TRUE	0.69767	0.06227	0.30233	0.06227	0.48148	0.10176	0.51852	0.10176
2005/01/05	67	36	TRUE	TRUE	0.47222	0.07093	0.52778	0.07093	0.63333	0.09553	0.36667	0.09553
2005/01/06	102	71	TRUE	TRUE	0.71429	0.05423	0.28571	0.05423	0.64516	0.08817	0.35484	0.08817
2005/01/07	113	65	TRUE	TRUE	0.6875	0.05992	0.3125	0.05992	0.41667	0.07572	0.58333	0.07572
2005/01/10	120	89	TRUE	TRUE	0.78652	0.04534	0.21348	0.04534	0.63333	0.09264	0.36667	0.09264
2005/01/11	140	81	TRUE	TRUE	0.675	0.05846	0.325	0.05846	0.45763	0.07185	0.54237	0.07185
2005/01/12	184	109	TRUE	TRUE	0.7037	0.04629	0.2963	0.04629	0.44	0.05415	0.56	0.05415
2005/01/13	141	102	TRUE	TRUE	0.79208	0.04047	0.20792	0.04047	0.53846	0.08255	0.46154	0.08255
2005/01/14	118	73	TRUE	TRUE	0.70833	0.05558	0.29167	0.05558	0.46667	0.0759	0.53333	0.0759
2005/01/17	116	68	TRUE	TRUE	0.71642	0.05112	0.28358	0.05112	0.41667	0.08178	0.58333	0.08178
2005/01/18	246	150	TRUE	TRUE	0.69128	0.03823	0.30872	0.03823	0.47917	0.05589	0.52083	0.05589
2005/01/19	249	124	TRUE	TRUE	0.61789	0.04421	0.38211	0.04421	0.376	0.04157	0.624	0.04157

Table A.20. (continued)

Date	# Obs	# $m_t=0$	10 vs. 1	3 vs.1	00		01		10		11	
2005/01/20	153	95	TRUE	TRUE	0.69149	0.05104	0.30851	0.05104	0.51724	0.06893	0.48276	0.06893
2005/01/21	99	43	TRUE	TRUE	0.55814	0.08266	0.44186	0.08266	0.34545	0.06277	0.65455	0.06277
2005/01/24	121	80	TRUE	TRUE	0.7625	0.04701	0.2375	0.04701	0.475	0.08802	0.525	0.08802
2005/01/25	162	93	TRUE	TRUE	0.68817	0.05024	0.31183	0.05024	0.41176	0.05224	0.58824	0.05224
2005/01/26	140	97	TRUE	TRUE	0.78351	0.04514	0.21649	0.04514	0.47619	0.07109	0.52381	0.07109
2005/01/27	122	69	TRUE	TRUE	0.66176	0.05716	0.33824	0.05716	0.43396	0.07314	0.56604	0.07314
2005/01/28	148	72	TRUE	TRUE	0.48611	0.05708	0.51389	0.05708	0.48	0.05172	0.52	0.05172
2005/01/31	192	139	TRUE	TRUE	0.78986	0.0318	0.21014	0.0318	0.54717	0.06656	0.45283	0.06656
2005/02/01	248	169	TRUE	TRUE	0.74556	0.0299	0.25444	0.0299	0.55128	0.05277	0.44872	0.05277
2005/02/02	129	80	TRUE	TRUE	0.75949	0.05465	0.24051	0.05465	0.40816	0.08297	0.59184	0.08297
2005/02/03	60	38	TRUE	TRUE	0.67568	0.08188	0.32432	0.08188	0.59091	0.11658	0.40909	0.11658
2005/02/04	101	40	TRUE	TRUE	0.53846	0.08246	0.46154	0.08246	0.31148	0.05582	0.68852	0.05582
2005/02/07	168	99	TRUE	TRUE	0.66327	0.04361	0.33673	0.04361	0.49275	0.06117	0.50725	0.06117
2005/02/08	160	98	TRUE	TRUE	0.71134	0.04813	0.28866	0.04813	0.45161	0.06644	0.54839	0.06644
2005/02/09	136	88	FALSE	TRUE	0.75	0.04463	0.25	0.04463	0.46809	0.07453	0.53191	0.07453
2005/02/10	142	82	TRUE	TRUE	0.65854	0.05127	0.34146	0.05127	0.47458	0.06796	0.52542	0.06796
2005/02/11	191	134	TRUE	TRUE	0.79104	0.03205	0.20896	0.03205	0.48214	0.07249	0.51786	0.07249
2005/02/14	183	92	TRUE	TRUE	0.61538	0.05351	0.38462	0.05351	0.3956	0.05	0.6044	0.05
2005/02/15	91	54	TRUE	TRUE	0.62963	0.06524	0.37037	0.06524	0.52778	0.07394	0.47222	0.07394
2005/02/16	179	122	TRUE	TRUE	0.78689	0.03957	0.21311	0.03957	0.44643	0.0669	0.55357	0.0669
2005/02/17	136	76	TRUE	TRUE	0.71053	0.05802	0.28947	0.05802	0.37288	0.06585	0.62712	0.06585
2005/02/18	123	76	TRUE	FALSE	0.72	0.04892	0.28	0.04892	0.46809	0.08353	0.53191	0.08353
2005/02/21	80	49	TRUE	TRUE	0.8125	0.05881	0.1875	0.05881	0.32258	0.08867	0.67742	0.08867
2005/02/22	168	113	TRUE	FALSE	0.77679	0.04158	0.22321	0.04158	0.45455	0.06995	0.54545	0.06995
2005/02/23	210	154	TRUE	TRUE	0.82353	0.0281	0.17647	0.0281	0.48214	0.06325	0.51786	0.06325
2005/02/24	152	116	TRUE	TRUE	0.82759	0.03423	0.17241	0.03423	0.57143	0.09194	0.42857	0.09194
2005/02/25	109	77	TRUE	TRUE	0.80263	0.04452	0.19737	0.04452	0.46875	0.09035	0.53125	0.09035
2005/02/28	177	113	TRUE	TRUE	0.69912	0.03911	0.30088	0.03911	0.52381	0.06577	0.47619	0.06577

**Table A.21a.** Estimates of mean and AR parameters for non-standardized dynamic returns of Anglo American PLC. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>-0.01105</b>	0.210229	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>-0.01714</b>	0.149415	<b>0.136409</b>	0.444175	<b>0.108876</b>	0.096477	<b>0.09523</b>	0.066098	<b>0.068947</b>	0.064386	<b>-0.03299</b>	0.056468	-	-
2004/11/03	-0.30657	0.149751	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>-0.01401</b>	0.38149	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	0.324002	0.114811	-0.28157	0.056749	-0.10816	0.048482	<b>-0.08752</b>	0.045683	-0.12273	0.043711	<b>-0.00724</b>	0.047529	<b>0.025135</b>	0.048365
2004/11/08	<b>0.004685</b>	0.073853	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.38119</b>	0.312598	<b>0.364315</b>	0.49751	<b>0.161608</b>	0.088587	<b>0.185854</b>	0.094412	-	-	-	-	-	-
2004/11/10	<b>-0.485</b>	0.271528	<b>-0.7371</b>	0.549951	<b>-0.05704</b>	0.118998	<b>-0.07405</b>	0.080704	<b>-0.06245</b>	0.114806	-	-	-	-
2004/11/11	<b>0.224005</b>	0.450111	<b>0.124557</b>	0.431224	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>-0.11516</b>	0.201855	<b>-0.02133</b>	0.445867	<b>0.10695</b>	0.098028	<b>-0.02928</b>	0.040409	<b>-0.0453</b>	0.03962	0.153647	0.04922	-	-
2004/11/15	-0.56408	0.18341	<b>0.114306</b>	0.512003	-	-	-	-	-	-	-	-	-	-
2004/11/16	0.340277	0.098093	<b>-0.19534</b>	0.310115	<b>0.145577</b>	0.274109	<b>0.051419</b>	0.063671	<b>0.020476</b>	0.049573	-	-	-	-
2004/11/17	<b>0.245936</b>	0.13269	<b>-0.1417</b>	0.422967	<b>-0.03017</b>	0.05165	<b>-0.05428</b>	0.043813	0.097764	0.046189	-	-	-	-
2004/11/18	<b>0.220713</b>	0.198364	<b>-0.37793</b>	0.47063	<b>-0.09596</b>	0.080302	-	-	-	-	-	-	-	-
2004/11/19	<b>0.00031</b>	0.061146	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>-0.06135</b>	0.217494	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.034053</b>	0.10469	<b>-0.01376</b>	0.4405	<b>-0.00924</b>	0.07522	<b>0.035697</b>	0.045744	-	-	-	-	-	-
2004/11/24	<b>-0.0522</b>	1.286314	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.003587</b>	0.098521	<b>-0.13535</b>	0.407681	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.033055</b>	1.141766	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	-0.59225	0.193076	<b>0.054956</b>	0.541379	<b>-0.09922</b>	0.057621	-	-	-	-	-	-	-	-
2004/11/30	<b>0.065436</b>	0.142907	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>0.277072</b>	0.171945	<b>-0.07125</b>	0.394163	<b>-0.0276</b>	0.268337	<b>-0.05656</b>	0.071275	-	-	-	-	-	-
2004/12/06	<b>0.01506</b>	0.104033	<b>-0.10693</b>	0.306752	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.37415</b>	0.429295	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.20709</b>	0.181349	<b>-0.06475</b>	0.319971	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>0.438953</b>	0.574884	<b>-0.48952</b>	0.347377	<b>-0.37892</b>	0.450927	<b>-0.13156</b>	0.106836	-	-	-	-	-	-
2004/12/10	<b>-0.9089</b>	20.93162	<b>-0.05447</b>	0.261764	<b>0.149851</b>	0.371476	-	-	-	-	-	-	-	-
2004/12/13	<b>-0.01319</b>	0.143925	<b>0.072766</b>	0.38715	<b>-0.03013</b>	0.071698	<b>-0.04693</b>	0.048672	<b>0.020412</b>	0.041428	<b>0.010117</b>	0.045731	-	-
2004/12/14	1.191029	0.377189	<b>-0.70119</b>	0.380526	<b>-0.14886</b>	0.227962	<b>-0.00124</b>	0.065588	<b>0.043116</b>	0.057909	-	-	-	-
2004/12/15	0.075223	-	0.968945	-	0.017358	-	-0.04826	-	0.068473	-	-0.00823	-	-	-
2004/12/17	<b>0.000944</b>	0.036469	<b>-0.40817</b>	0.268545	-0.27621	0.104663	<b>-0.15664</b>	0.117916	<b>-0.12373</b>	0.169631	<b>-0.03525</b>	0.242186	-	-



Table A.21a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>-0.05719</b>	0.152133	<b>-0.04061</b>	0.540056	<b>0.006732</b>	0.093781	<b>0.045416</b>	0.057801	-	-	-	-	-	-
2004/12/21	<b>0.127289</b>	0.193667	<b>-0.42331</b>	0.460458	<b>-0.36471</b>	0.333062	<b>-0.12347</b>	0.087908	<b>-0.08848</b>	0.06761	-	-	-	-
2004/12/22	<b>-0.19446</b>	3.023111	<b>0.461561</b>	0.360168	0.392319	0.103794	<b>0.102959</b>	0.079569	-	-	-	-	-	-
2004/12/23	<b>0.402355</b>	0.217938	<b>-0.35828</b>	0.404633	<b>-0.42738</b>	0.418048	-	-	-	-	-	-	-	-
2004/12/24	0.559139	0.231226	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.066107</b>	1.327502	<b>0.151179</b>	0.483003	<b>-0.00413</b>	0.393561	<b>-0.10867</b>	0.174047	-	-	-	-	-	-
2004/12/29	0.635869	0.298892	<b>-0.42419</b>	0.287863	<b>-0.07638</b>	0.103644	<b>-0.04001</b>	0.088393	<b>-0.0056</b>	0.076771	<b>0.000343</b>	0.084176	-	-
2004/12/30	<b>0.18671</b>	0.28719	<b>-0.03958</b>	0.416498	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>0.35754</b>	0.375499	<b>-0.50765</b>	0.570784	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>1.41556</b>	0.81223	<b>0.043347</b>	0.449818	<b>0.482986</b>	0.38524	<b>0.149095</b>	0.11104	-	-	-	-	-	-
2005/01/04	<b>-0.09069</b>	0.221999	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.082788</b>	0.178243	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>0.04483</b>	0.120843	-0.25912	0.126866	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.443227</b>	0.42372	-0.70984	0.296827	<b>-0.21764</b>	0.526918	<b>-0.07176</b>	0.098825	-	-	-	-	-	-
2005/01/10	-0.87448	0.200856	<b>0.048898</b>	0.09825	<b>0.096557</b>	0.072774	<b>0.116261</b>	0.064826	<b>0.0232</b>	0.048988	<b>0.02062</b>	0.058412	-	-
2005/01/11	<b>0.034711</b>	0.148	<b>0.024091</b>	0.37309	<b>0.004243</b>	0.064708	<b>0.035336</b>	0.063416	-	-	-	-	-	-
2005/01/12	<b>-0.4599</b>	6.674719	-0.79954	0.111866	-0.66392	0.092578	-0.6302	0.080006	-	-	-	-	-	-
2005/01/13	0.029153	-	0.460767	-	0.505768	-	0.033038	-	-	-	-	-	-	-
2005/01/14	<b>0.021729</b>	0.168117	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>0.005659</b>	0.103873	-0.37895	0.064002	-	-	-	-	-	-	-	-	-	-
2005/01/18	-0.23865	0.098858	<b>0.090824</b>	0.349595	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.057888</b>	0.210935	<b>-0.24878</b>	0.508377	<b>-0.00781</b>	0.154268	<b>-0.03384</b>	0.09193	<b>0.023681</b>	0.070509	<b>0.064031</b>	0.058699	-	-
2005/01/20	<b>0.011699</b>	0.088215	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	2.31023	0.312132	<b>0.134541</b>	0.070489	<b>0.095071</b>	0.050913	<b>0.000742</b>	0.054107	<b>-0.05611</b>	0.035483	<b>0.013296</b>	0.065238	<b>0.091903</b>	0.069399
2005/01/24	<b>-0.09743</b>	0.154759	<b>0.039586</b>	0.344011	-	-	-	-	-	-	-	-	-	-
2005/01/25	-0.34252	0.155359	<b>-0.32835</b>	0.234584	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>0.01135</b>	0.160879	<b>0.153955</b>	0.449387	-	-	-	-	-	-	-	-	-	-
2005/01/27	<b>0.046279</b>	0.306338	<b>0.610067</b>	0.599919	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>-0.20578</b>	0.208561	<b>-0.09074</b>	0.359511	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.14419</b>	0.094539	<b>-0.12589</b>	0.346471	<b>-0.04903</b>	0.08392	<b>-0.03064</b>	0.051961	<b>0.0339</b>	0.044321	<b>0.021254</b>	0.055659	-	-
2005/02/01	<b>0.047704</b>	0.122503	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>-0.00986</b>	0.156953	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.09307</b>	0.323057	<b>-0.65</b>	0.443716	-	-	-	-	-	-	-	-	-	-

Table A.21a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/04	<b>-0.24987</b>	0.14474	<b>0.282944</b>	0.374012	<b>0.009168</b>	0.062108	<b>0.033365</b>	0.042066	<b>0.094721</b>	0.049711	-	-	-	-
2005/02/07	<b>0.181674</b>	0.161792	<b>0.148613</b>	0.366702	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>0.030696</b>	0.122044	<b>0.001081</b>	0.37253	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.00974</b>	0.078541	<b>-0.05874</b>	0.417846	-	-	-	-	-	-	-	-	-	-
2005/02/10	<b>-0.28347</b>	0.299552	<b>-0.2241</b>	0.495536	<b>-0.60514</b>	0.339084	-0.17075	0.082007	-	-	-	-	-	-
2005/02/11	<b>-0.23853</b>	0.279658	-0.28869	0.101241	<b>-0.01701</b>	0.086604	<b>0.071279</b>	0.091527	<b>-0.0191</b>	0.079204	<b>-0.02458</b>	0.079787	<b>-0.00294</b>	0.084747
2005/02/14	<b>0.078909</b>	0.102987	<b>-0.41184</b>	0.332457	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>-0.00351</b>	0.103884	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>-0.01436</b>	0.067311	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.020346</b>	0.291692	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>-0.12144</b>	0.275612	<b>-0.04234</b>	0.541158	<b>0.093677</b>	0.083608	<b>-0.03163</b>	0.071531	<b>0.12308</b>	0.077469	-	-	-	-
2005/02/21	<b>0.016567</b>	0.31111	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>-0.08436</b>	166.1059	<b>0.999939</b>	0.795644	-	-	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.00904</b>	0.09651	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.166601</b>	0.334955	<b>0.118427</b>	0.466684	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>0.007479</b>	0.89485	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.06322</b>	0.100364	<b>0.09216</b>	0.390824	<b>-0.0972</b>	0.333531	<b>0.022749</b>	0.078935	<b>0.041261</b>	0.056157	-	-	-	-

**Table A.21b.** Estimates of MA parameters for non-standardized dynamic returns of Anglo American PLC. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	0.3918983	0.1042231	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.6193832</b>	0.4231892	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.1142204</b>	0.0953926	-0.2878512	0.0652261	<b>0.0182236</b>	0.0579534	-0.1235504	0.0576628	<b>0.0399831</b>	0.042591	<b>-0.07079</b>	0.0581016
2004/11/04	0.4516786	0.0756111	-	-	-	-	-	-	-	-	-	-
2004/11/05	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/08	0.3092741	0.0540875	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.7271456</b>	0.480269	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>-0.688679</b>	0.5807386	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.019488</b>	0.4260652	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>0.3409018</b>	0.4518803	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>0.0912755</b>	0.5112526	<b>-0.094493</b>	0.0715646	-	-	-	-	-	-	-	-
2004/11/16	<b>0.0156451</b>	0.2987217	<b>0.1367563</b>	0.2731946	-	-	-	-	-	-	-	-
2004/11/17	<b>-0.020233</b>	0.4157921	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>-0.078302</b>	0.435009	-	-	-	-	-	-	-	-	-	-
2004/11/19	0.3125308	0.0616459	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.2853399</b>	0.149899	<b>0.026953</b>	0.0863202	<b>0.0386921</b>	0.1073397	<b>0.0497722</b>	0.0762137	-	-	-	-
2004/11/23	<b>0.3168184</b>	0.4215337	-	-	-	-	-	-	-	-	-	-
2004/11/24	0.4315116	0.1733237	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.1681515</b>	0.3767196	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.288315</b>	0.1619307	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>0.1015762</b>	0.5413624	-	-	-	-	-	-	-	-	-	-
2004/11/30	0.5819035	0.1374903	<b>-0.036837</b>	0.0708127	<b>0.0098039</b>	0.0744962	<b>-0.139565</b>	0.0839726	-	-	-	-
2004/12/03	<b>0.2479501</b>	0.3902862	<b>-0.153029</b>	0.2689121	-	-	-	-	-	-	-	-
2004/12/06	<b>0.3843633</b>	0.2930454	-	-	-	-	-	-	-	-	-	-
2004/12/07	-0.2637823	0.0730438	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>0.3014551</b>	0.3073931	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.305328</b>	0.385517	<b>-0.261749</b>	0.4438833	-	-	-	-	-	-	-	-
2004/12/10	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.3577275</b>	0.3915072	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>-0.774922</b>	0.3891978	<b>-0.22204</b>	0.2362477	-	-	-	-	-	-	-	-
2004/12/15	0.9699339	-	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.0640204</b>	0.2715207	-	-	-	-	-	-	-	-	-	-

Table A.21b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	<b>0.2860909</b>	0.5102724	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>-0.009429</b>	0.4604499	<b>-0.216729</b>	0.3386354	-	-	-	-	-	-	-	-
2004/12/22	<b>0.7749411</b>	0.4059505	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.186915</b>	0.3955655	<b>-0.301974</b>	0.4348177	<b>0.11388</b>	0.0957031	<b>-0.041173</b>	0.0871528	-	-	-	-
2004/12/24	0.9920822	0.3900806	<b>0.595579</b>	0.4093847	-	-	-	-	-	-	-	-
2004/12/28	<b>0.7394932</b>	0.5534625	<b>-0.231892</b>	0.4731864	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.109417</b>	0.3006964	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.4853386</b>	0.410847	<b>-0.227011</b>	0.1258751	0.2876105	0.0835955	-	-	-	-	-	-
2004/12/31	<b>0.3303657</b>	0.6269989	0.7184017	0.2308001	0.6556369	0.2416276	-	-	-	-	-	-
2005/01/03	<b>0.1010151</b>	0.4607347	<b>0.5549679</b>	0.41797	-	-	-	-	-	-	-	-
2005/01/04	0.4656565	0.0738186	-	-	-	-	-	-	-	-	-	-
2005/01/05	0.4011231	0.0721728	-	-	-	-	-	-	-	-	-	-
2005/01/06	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>-0.547543</b>	0.2831949	<b>-0.008272</b>	0.5464638	-	-	-	-	-	-	-	-
2005/01/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/11	<b>0.4124232</b>	0.3776086	-	-	-	-	-	-	-	-	-	-
2005/01/12	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	0.7278568	-	0.4337004	-	-0.1454257	-	-	-	-	-	-	-
2005/01/14	0.511181	0.0911081	-0.2052186	0.0645423	-	-	-	-	-	-	-	-
2005/01/17	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	<b>0.1369494</b>	0.3510666	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.2803445</b>	0.4953951	-	-	-	-	-	-	-	-	-	-
2005/01/20	0.4407685	0.0571806	-	-	-	-	-	-	-	-	-	-
2005/01/21	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.4120746</b>	0.3050549	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.0949117</b>	0.2349856	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>0.687329</b>	0.4286016	<b>-0.18964</b>	0.1529516	-	-	-	-	-	-	-	-
2005/01/27	<b>0.7943899</b>	0.5885395	-0.2054701	0.0921141	-	-	-	-	-	-	-	-
2005/01/28	<b>0.2438295</b>	0.3477639	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>0.2463991</b>	0.3495343	-	-	-	-	-	-	-	-	-	-
2005/02/01	0.5929944	0.1466795	-	-	-	-	-	-	-	-	-	-
2005/02/02	0.3580643	0.1064295	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.286469</b>	0.4002163	<b>0.1573682</b>	0.079046	-	-	-	-	-	-	-	-

Table A.21b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/04	<b>0.5317687</b>	0.3727294	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>0.4281164</b>	0.3528054	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>0.3388348</b>	0.3348813	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>0.3435932</b>	0.3907937	<b>-0.100311</b>	0.0949222	-	-	-	-	-	-	-	-
2005/02/10	<b>0.0474762</b>	0.4791455	<b>-0.649913</b>	0.3484996	-	-	-	-	-	-	-	-
2005/02/11	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/14	<b>-0.017232</b>	0.310568	-	-	-	-	-	-	-	-	-	-
2005/02/15	0.3592141	0.0738532	-	-	-	-	-	-	-	-	-	-
2005/02/16	0.294037	0.0453678	-	-	-	-	-	-	-	-	-	-
2005/02/17	0.3672649	0.093264	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>0.3094697</b>	0.5109515	-	-	-	-	-	-	-	-	-	-
2005/02/21	0.2347589	0.0755676	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.8944927</b>	0.642427	-	-	-	-	-	-	-	-	-	-
2005/02/23	0.3239596	0.0766893	-0.1510575	0.0617341	-	-	-	-	-	-	-	-
2005/02/24	<b>0.2764624</b>	0.4690274	-	-	-	-	-	-	-	-	-	-
2005/02/25	0.2043411	0.0939682	<b>0.0169756</b>	0.0725631	-	-	-	-	-	-	-	-
2005/02/28	<b>0.3926511</b>	0.3797908	<b>-0.085261</b>	0.3470233	-	-	-	-	-	-	-	-

**Table A.21c.** Variance related parameters for non-standardized dynamic returns of Anglo American PLC with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The " $H_0$  Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/11/01	-	-	0.48233312	0.2639872	0.57594982	0.18264091	0.21666791	0.22317288	0.012543	0.5961	
2004/11/02	-	-	0.03555099	0.07677546	0.16090174	0.09138157	0.82873416	0.14106307	2.1579E-06	0.618	
2004/11/03	-	-	0.69303783	0.18094402	0.2140492	0.25515735	0.36061808	0.27128056	4.3704E-06	0.3406	
2004/11/04	-	-	0.00873539	0.22025184	0.05076729	0.03930943	0.94849029	0.0484621	0.00137679	0.0287	
2004/11/05	-	-	0.32494581	0.19415108	0.18066007	0.11887332	0.57648419	0.28891722	-	0.2788	
2004/11/08	-	-	0.21326858	0.08270718	0.17199618	0.08558779	0.54023278	0.24030784	2.2511E-09	0.5303	
2004/11/09	-	-	0.05570327	0.3278903	0.16455722	0.16925003	0.80263207	0.26045825	0.00112235	0.1621	
2004/11/10	-	-	0.71037651	0.86182031	0.62617803	0.27659134	5.1258E-09	0.00340784	5.268E-08	-	reject
2004/11/11	-	-	0.58216496	1.87981743	0.95613462	0.30809042	2.1239E-10	0.03696355	6.2571E-09	0.4683	
2004/11/12	1.26031088	0.65939536	-	-	-	-	-	-	0.09176697	0.9751	
2004/11/15	-	-	0.72296025	0.20069015	0.37179567	0.12905069	0.17077181	0.22602075	0.00219824	0.0043	reject
2004/11/16	-	-	0.09171093	0.09361188	0.11287982	0.07307574	0.74673008	0.27510223	1.0574E-06	0.6449	
2004/11/17	-	-	0.34380429	0.07382545	0.21491871	0.08325111	0.29845584	0.1904099	0.00256841	0.7673	
2004/11/18	-	-	0.76170473	0.13937247	0.2209404	0.26158591	0.00213201	0.1006313	7.2233E-09	0.918	
2004/11/19	-	-	0.11149082	0.06298584	0.19634009	0.10082966	0.61627752	0.26224193	0.01445206	0.8806	
2004/11/22	-	-	0.42242705	0.25304469	0.88950646	0.29133694	1.7811E-10	-	0.00945993	0.1687	
2004/11/23	-	-	0.14082639	0.0600256	0.226638	0.08639619	0.49078213	0.23074923	5.3E-14	0.0191	
2004/11/24	-	-	0.13857636	0.15070348	0.63398402	0.21871449	0.36548162	0.26566284	9.3532E-10	0.6091	
2004/11/25	-	-	0.42876482	0.15578853	0.23327844	0.20587562	0.34905011	0.2327506	2.157E-12	0.0258	
2004/11/26	-	-	0.15364283	0.56346718	0.51971139	0.18749871	0.4800358	0.22473954	-	0.1315	
2004/11/29	-	-	0.46942052	0.22875597	0.27109175	0.18617095	0.4187827	0.258038	0.00045426	0.1104	
2004/11/30	-	-	0.17998956	0.12045002	0.54913704	0.21106596	0.4030013	0.2425119	8.3366E-07	0.486	
2004/12/03	-	-	0.13996007	0.15039295	0.14462872	0.055616	0.70558093	0.27628595	3.4588E-06	0.0133	
2004/12/06	-	-	0.67389066	0.17872006	0.17835707	0.21549303	0.22787396	0.23210766	7.3204E-08	0.2515	
2004/12/07	20.5467648	14.7251476	-	-	-	-	-	-	0.5	0.9911	
2004/12/08	-	-	0.07390943	0.14668547	0.12271115	0.14766243	0.84710178	0.20562175	3.9623E-11	0.0824	
2004/12/09	-	-	0.47463562	0.46815981	0.44335841	0.2223787	0.54712755	0.2538572	-	0.2074	
2004/12/10	-	-	0.04300348	7.92145005	0.1021671	0.11634292	0.89055345	0.1294651	2.5049E-08	0.045	
2004/12/13	-	-	0.7220092	0.10063048	0.19752944	0.11695455	2.6402E-06	0.0302598	0.00130725	0.4407	
2004/12/14	-	-	2.00837241	0.37361329	0.07820867	0.11374388	5.3385E-06	0.02645514	-	0.2294	

Table A.21c. (Continued)

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/15	-	-	0.3038091	-	0.12888765	-	0.73001363	-	1.0174E-07	-	reject
2004/12/17	-	-	0.02257959	0.1283918	0.19363516	0.04697847	0.80486748	0.11135299	2.2684E-08	0.0952	
2004/12/20	0.52122846	0.12309566	-	-	-	-	-	-	0.06159956	0.4093	
2004/12/21	0.90245114	0.18917877	-	-	-	-	-	-	0.36111782	0.4022	
2004/12/22	-	-	1.61553702	1.46813615	0.0993153	0.13601553	1.2694E-09	7.0758E-08	1.1253E-05	0.5098	
2004/12/23	-	-	0.21368801	0.18097363	0.25203031	0.16180199	0.57361729	0.276811	0.00892819	0.6302	
2004/12/24	-	-	0.1010814	0.18396017	0.94760677	0.36408283	0.01342906	0.18040652	0.04189623	0.2688	
2004/12/28	1.82018513	0.8966779	-	-	-	-	-	-	0.33003999	0.7892	
2004/12/29	-	-	1.40283232	0.33122445	0.19366249	0.24959591	0.14212717	0.20783873	0.00285297	0.5762	
2004/12/30	2.35570401	0.71161816	-	-	-	-	-	-	0.09208287	0.6907	
2004/12/31	0.74166207	0.94408392	-	-	-	-	-	-	0.27895216	0.66	
2005/01/03	-	-	3.51655748	1.42822707	0.21693172	0.27477261	3.5059E-06	0.02394109	6.5133E-06	0.6192	
2005/01/04	1.85192608	0.36434791	-	-	-	-	-	-	0.07505361	0.1751	
2005/01/05	-	-	1.33477462	0.16162473	0.13834499	0.10647024	1.7584E-06	0.01960323	7.4559E-06	0.4035	
2005/01/06	-	-	0.05322691	0.09977805	0.08108332	0.17779132	0.8811838	0.28966517	0.01303753	0.5245	
2005/01/07	-	-	0.23834632	0.33165462	0.34591496	0.15638884	0.61713086	0.26433791	2.7111E-05	0.0415	
2005/01/10	-	-	0.66276527	0.18570818	0.14072685	0.25299302	0.38087399	0.21446689	0.02621382	0.3526	
2005/01/11	-	-	0.09595744	0.14675433	0.11457163	0.07347053	0.81173151	0.27173704	0.01290023	0.0739	
2005/01/12	413.802862	686761.592	-	-	-	-	-	-	0.07087747	-	reject
2005/01/13	-	-	0.2235485	-	0.61837372	-	0.37685211	-	5.7794E-05	0.7448	
2005/01/14	-	-	0.25289232	0.12665202	0.30972829	0.12084961	0.4204665	0.27774365	9.98E-06	0.7311	
2005/01/17	-	-	0.59945199	0.11084502	0.14368948	0.04487416	0.09606033	0.20915642	0.00319232	0.1258	
2005/01/18	-	-	0.03691118	0.04219128	0.13440597	0.0533044	0.8202568	0.15401108	9.8E-14	-	reject
2005/01/19	-	-	0.27897658	0.27282352	0.78108018	0.24043541	0.06950863	0.22587338	7.354E-12	0.5772	
2005/01/20	-	-	0.03581472	0.04657552	0.10854616	0.04318935	0.84998392	0.13616506	4.1991E-08	0.7679	
2005/01/21	-	-	0.44939701	0.1011245	2.5702E-10	0.01181586	0.94576759	0.02974337	0.00069612	0.2335	
2005/01/24	0.73270296	0.12817854	-	-	-	-	-	-	0.07261647	0.1158	
2005/01/25	-	-	0.98825883	0.3020024	0.2223866	0.10803213	0.2241818	0.24365549	8.7944E-05	-	reject
2005/01/26	1.16519534	0.41490437	-	-	-	-	-	-	0.41264847	0.4578	
2005/01/27	-	-	0.02817674	0.19734535	0.10761875	0.03954388	0.88469893	0.12715312	0.00157239	0.0002	reject
2005/01/28	-	-	0.01317439	0.30617305	0.12385584	0.06513662	0.87096829	0.17042393	2.0848E-09	0.5095	
2005/01/31	-	-	0.2394644	0.07989172	0.17705999	0.08291633	0.3989401	0.23544918	0.00058734	0.174	
2005/02/01	2.42523669	1.70558042	-	-	-	-	-	-	0.5	0.9358	

Table A.21c. (Continued)

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/02	3.69574775	2.82227788	-	-	-	-	-	-	0.46859255	0.8808	
2005/02/03	-	-	0.01191347	0.02442835	0.10531231	0.0260183	0.89329143	0.02721329	1.0877E-10	0.098	
2005/02/04	-	-	0.14492793	0.05012926	0.28936469	0.11458218	0.4337059	0.23152471	0.00055049	0.9798	
2005/02/07	0.51780962	0.07794298	-	-	-	-	-	-	0.28664325	0.0027	reject
2005/02/08	-	-	0.42411899	0.35929977	0.70370383	0.32396563	0.20177534	0.2487023	-	0.338	
2005/02/09	-	-	0.32075122	0.06806668	0.33043742	0.15011219	0.05551812	0.19492988	5.4071E-05	0.5644	
2005/02/10	-	-	0.34341191	0.24629103	0.14098389	0.16637515	0.49506141	0.29469196	6E-15	0.0637	
2005/02/11	-	-	0.06024013	0.09715508	0.32144245	0.12705398	0.67073591	0.1948806	0.00067538	0.627	
2005/02/14	-	-	0.55213721	0.30564413	0.27279963	0.2163047	4.309E-09	0.0113946	5.1998E-05	0.6452	
2005/02/15	-	-	0.59657947	0.0669465	0.25767694	0.079967	1.9346E-06	0.01981818	8.3984E-06	0.038	
2005/02/16	-	-	0.26560655	0.05279658	0.19976436	0.04034285	0.23314629	0.19531182	0.02859156	0.5825	
2005/02/17	-	-	0.03127135	0.04626016	0.2326647	0.0712466	0.75857327	0.15259788	0.00286718	0.1263	
2005/02/18	-	-	0.03317458	0.05229044	0.15364454	0.08009784	0.80466426	0.17146334	0.00049446	0.1503	
2005/02/21	-	-	0.02007666	0.05249824	0.2226586	0.07682052	0.77391777	0.13810344	1.6024E-07	0.4462	
2005/02/22	-	-	0.0072627	1680.99893	0.0163789	0.2250733	0.98210922	0.22611878	2.03E-13	0.8427	
2005/02/23	-	-	0.21177858	0.10768647	0.13517371	0.20048324	0.57113383	0.30227358	-	0.7684	
2005/02/24	-	-	0.96460043	0.19179574	0.10400469	0.34373969	4.018E-06	0.01389775	1.8577E-08	0.2115	
2005/02/25	-	-	0.01419108	1.25450333	0.19049005	0.10727537	0.80753805	0.1186826	0.0002996	0.2492	
2005/02/28	-	-	0.09852054	0.07877381	0.20090665	0.09278696	0.62010058	0.30487687	1.5044E-07	0.2078	



**Table A.22a.** Estimates of mean and AR parameters for dynamic returns of the MTN Group Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>-0.11283</b>	0.515313	<b>-0.64371</b>	0.395094	<b>-0.24505</b>	0.163018	<b>-0.11124</b>	0.311416	-	-	-	-	-	-
2004/11/02	-2.19446	0.544925	<b>0.113201</b>	0.371701	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>-0.25361</b>	11.56078	<b>0.182687</b>	0.480273	<b>0.030116</b>	0.144368	<b>0.056368</b>	0.134786	-	-	-	-	-	-
2004/11/04	<b>0.082417</b>	0.190265	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	-0.7282	0.315884	<b>0.004397</b>	0.357782	-	-	-	-	-	-	-	-	-	-
2004/11/08	<b>0.518197</b>	0.431188	<b>-0.75419</b>	0.597883	-0.2457	0.109518	-	-	-	-	-	-	-	-
2004/11/09	<b>0.001197</b>	0.399659	<b>-0.09787</b>	0.143571	<b>0.110294</b>	0.20527	<b>0.099155</b>	0.175298	<b>0.177163</b>	0.128433	<b>0.186389</b>	0.189529	<b>0.196693</b>	0.175509
2004/11/10	<b>-0.1379</b>	0.305576	<b>0.100032</b>	0.436716	<b>0.088573</b>	0.127856	-	-	-	-	-	-	-	-
2004/11/11	<b>0.023228</b>	0.193887	<b>-0.0209</b>	0.338741	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>0.023731</b>	0.248775	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>0.157322</b>	0.263526	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>-0.03064</b>	0.159403	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>0.025309</b>	0.156329	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>-0.05657</b>	0.219738	<b>-0.42242</b>	0.460806	<b>-0.17479</b>	0.124774	<b>-0.01734</b>	0.079942	-	-	-	-	-	-
2004/11/19	<b>0.055571</b>	0.137028	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.066308</b>	0.189939	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>-0.07484</b>	5.114245	0.993981	0.37768	<b>-0.00602</b>	0.463013	-	-	-	-	-	-	-	-
2004/11/24	<b>0.709451</b>	2.138	<b>0.149356</b>	0.546633	<b>-0.03432</b>	0.299536	<b>-0.44248</b>	0.326829	-	-	-	-	-	-
2004/11/25	<b>-0.09801</b>	0.273598	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.024776</b>	0.258577	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.53015</b>	0.700656	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.36369</b>	1.404565	<b>-0.56601</b>	0.387327	<b>-0.12489</b>	0.073906	<b>0.034798</b>	0.074649	<b>-0.0474</b>	0.0784	<b>0.020948</b>	0.071369	-	-
2004/12/03	<b>0.118297</b>	0.693726	<b>-0.16954</b>	0.506866	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>-0.14259</b>	0.183872	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>0.107667</b>	0.28409	<b>0.377823</b>	0.331069	<b>0.094068</b>	0.456368	<b>0.066703</b>	0.088615	<b>-0.02974</b>	0.074771	-	-	-	-
2004/12/08	<b>-0.28259</b>	0.175792	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>0.223593</b>	0.345535	<b>-0.3281</b>	0.26397	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>-0.3437</b>	0.381156	<b>-0.14579</b>	0.469317	<b>-0.16722</b>	0.365098	-	-	-	-	-	-	-	-
2004/12/13	<b>-0.55718</b>	0.630595	<b>-0.46265</b>	0.446084	<b>-0.21472</b>	0.137483	-0.16186	0.065621	-0.15523	0.06973	<b>-0.00554</b>	0.061601	-	-
2004/12/14	<b>0.072844</b>	0.199813	<b>-0.02446</b>	0.482677	<b>0.02812</b>	0.097258	<b>-0.0032</b>	0.046664	<b>-0.04637</b>	0.072404	<b>-0.06528</b>	0.070103	-	-
2004/12/15	<b>0.011982</b>	0.223271	<b>0.015469</b>	0.443185	<b>-0.02836</b>	0.06291	-	-	-	-	-	-	-	-
2004/12/17	<b>0.270871</b>	0.191834	<b>-0.01445</b>	0.296854	-	-	-	-	-	-	-	-	-	-
2004/12/20	<b>-0.33858</b>	0.420263	<b>-0.43542</b>	0.472505	<b>0.476015</b>	0.41809	<b>-0.02344</b>	0.106068	<b>-0.0939</b>	0.101824	-	-	-	-
2004/12/21	<b>0.041592</b>	0.166296	-	-	-	-	-	-	-	-	-	-	-	-

Table A.22a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/22	<b>0.057096</b>	0.2103	<b>-0.09514</b>	0.463987	<b>-0.2843</b>	0.431768	<b>0.205334</b>	0.238589	-	-	-	-	-	-
2004/12/23	<b>0.78963</b>	0.598273	<b>0.059551</b>	0.416803	<b>-0.53225</b>	0.475657	-	-	-	-	-	-	-	-
2004/12/24	<b>0.164335</b>	0.439962	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>-0.13728</b>	0.634254	<b>-0.92525</b>	0.556228	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.4357</b>	0.584564	<b>-0.30756</b>	0.368831	<b>-0.08494</b>	0.338851	-	-	-	-	-	-	-	-
2004/12/30	<b>-0.29948</b>	0.687369	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>-0.01562</b>	0.606303	<b>-0.05215</b>	0.53133	<b>-0.04635</b>	0.180517	-	-	-	-	-	-	-	-
2005/01/03	<b>0.294591</b>	0.655955	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.27446</b>	0.205558	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.097088</b>	0.254287	<b>-0.19888</b>	0.61951	<b>-0.03495</b>	0.218423	<b>-0.41123</b>	0.279782	-	-	-	-	-	-
2005/01/06	<b>-0.15759</b>	0.419206	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>-0.24161</b>	0.272376	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.00827</b>	0.436567	<b>-0.077</b>	0.607269	<b>-0.01174</b>	0.099614	<b>-0.14205</b>	0.108135	-	-	-	-	-	-
2005/01/11	<b>-0.06614</b>	0.248921	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>-0.03084</b>	0.211583	<b>-0.14194</b>	0.433371	<b>-0.01134</b>	0.068636	<b>-0.05982</b>	0.066696	-	-	-	-	-	-
2005/01/13	<b>0.071806</b>	0.135864	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>-0.08027</b>	9.432111	<b>0.884025</b>	0.565669	<b>0.117442</b>	0.173435	<b>-0.00382</b>	0.140932	-	-	-	-	-	-
2005/01/17	<b>-0.21895</b>	0.510983	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	<b>0.062244</b>	0.145502	<b>0.350376</b>	0.503596	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.332709</b>	11.97744	<b>0.854772</b>	0.463325	<b>0.134241</b>	0.166439	<b>-0.01129</b>	0.128096	<b>-0.0835</b>	0.137126	<b>0.090738</b>	0.196856	-	-
2005/01/20	<b>-0.01987</b>	0.193714	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>0.016374</b>	0.127452	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.35484</b>	0.332138	<b>0.29886</b>	0.430554	<b>0.10778</b>	0.083447	<b>-0.06396</b>	0.054771	<b>0.040342</b>	0.060655	-	-	-	-
2005/01/25	<b>-0.00012</b>	0.217858	<b>-0.81966</b>	0.4645	<b>0.069458</b>	0.361153	-	-	-	-	-	-	-	-
2005/01/26	<b>-0.82858</b>	71.05297	0.752513	0.373307	<b>0.143433</b>	0.201568	<b>0.0853</b>	0.120552	-	-	-	-	-	-
2005/01/27	<b>0.135758</b>	0.939827	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>0.095457</b>	0.261501	-0.36685	0.084545	<b>-0.11679</b>	0.073455	-	-	-	-	-	-	-	-
2005/01/31	-1.86063	0.619368	-0.88471	0.436775	<b>0.00623</b>	0.061474	<b>0.016659</b>	0.058755	-	-	-	-	-	-
2005/02/01	-0.31571	0.100533	<b>-0.15419</b>	0.19895	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>-0.27698</b>	0.418321	<b>-0.2937</b>	0.541844	<b>0.027396</b>	0.117111	<b>-0.01008</b>	0.08687	<b>-0.02934</b>	0.064739	<b>-0.06091</b>	0.078484	-	-
2005/02/03	<b>-0.01898</b>	0.402749	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/04	<b>0.036789</b>	0.134794	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.25965</b>	0.159009	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>0.03332</b>	0.20839	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.21798</b>	57.44948	0.988407	0.244043	-	-	-	-	-	-	-	-	-	-

Table A.22a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/10	<b>0.00071</b>	0.147228	<b>-0.20814</b>	0.326231	<b>-0.09896</b>	0.075088	<b>0.012829</b>	0.088475	<b>-0.00288</b>	0.064288	-	-	-	-
2005/02/11	<b>-0.1692</b>	0.19482	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/14	<b>-0.09752</b>	3.427362	<b>-0.0007</b>	0.419504	0.831282	0.377892	<b>0.100072</b>	0.217998	<b>0.063928</b>	0.036449	-	-	-	-
2005/02/15	<b>-0.23331</b>	0.356248	<b>-0.15633</b>	0.438336	<b>0.038059</b>	0.12723	<b>-0.05545</b>	0.064254	-0.14672	0.057816	-	-	-	-
2005/02/16	<b>-0.09289</b>	0.399841	<b>0.00897</b>	0.479988	<b>-0.01386</b>	0.100688	-	-	-	-	-	-	-	-
2005/02/17	<b>-0.03945</b>	0.397028	<b>-0.52744</b>	0.490585	<b>-0.19479</b>	0.19056	<b>-0.14242</b>	0.095887	<b>-0.10627</b>	0.09775	<b>-0.02895</b>	0.094368	-	-
2005/02/18	0.612875	0.26856	<b>-0.02637</b>	0.446501	<b>-0.06503</b>	0.080972	-	-	-	-	-	-	-	-
2005/02/21	<b>0.058434</b>	0.14102	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.000697</b>	0.176675	<b>0.010771</b>	0.483136	<b>0.060638</b>	0.340745	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.24078</b>	0.229367	<b>0.006107</b>	0.476092	<b>0.044962</b>	0.253467	-	-	-	-	-	-	-	-
2005/02/24	-0.75129	0.247766	<b>-0.12646</b>	0.406481	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>0.629862</b>	6.059693	<b>-0.88103</b>	0.745625	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>0.092577</b>	1.95731	<b>-0.29418</b>	0.444614	-0.23163	0.091428	-0.17616	0.080345	-	-	-	-	-	-

**Table A.22b.** Estimates of MA parameters for non-standardized dynamic returns of the MTN Group Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	<b>-0.181129</b>	0.4059508	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.0434981</b>	0.3612567	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.6108913</b>	0.4841396	-	-	-	-	-	-	-	-	-	-
2004/11/04	0.3646515	0.0712437	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>0.3759447</b>	0.346237	-	-	-	-	-	-	-	-	-	-
2004/11/08	<b>-0.510254</b>	0.5794904	-	-	-	-	-	-	-	-	-	-
2004/11/09	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>0.6976646</b>	0.4034685	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.4676353</b>	0.3207575	-	-	-	-	-	-	-	-	-	-
2004/11/12	0.4410856	0.1533448	-	-	-	-	-	-	-	-	-	-
2004/11/15	0.3530314	0.1103405	-	-	-	-	-	-	-	-	-	-
2004/11/16	0.3616293	0.0699958	-	-	-	-	-	-	-	-	-	-
2004/11/17	0.4482469	0.0553846	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>0.0736079</b>	0.4440261	-	-	-	-	-	-	-	-	-	-
2004/11/19	0.3629773	0.0637479	-	-	-	-	-	-	-	-	-	-
2004/11/22	0.4137982	0.0675038	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.8216504</b>	0.466462	<b>0.1415369</b>	0.4146322	<b>-0.0843</b>	0.1269385	-	-	-	-	-	-
2004/11/24	<b>-0.126347</b>	0.5333424	<b>-0.337544</b>	0.3141328	<b>-0.506578</b>	0.3060755	-	-	-	-	-	-
2004/11/25	<b>0.5210234</b>	0.2688801	<b>0.0351122</b>	0.1128221	<b>-0.040078</b>	0.1051614	<b>-0.013868</b>	0.0841316	<b>-0.084146</b>	0.133176	-	-
2004/11/26	0.3878959	0.1314423	<b>-0.002887</b>	0.0764474	<b>-0.048896</b>	0.0708129	<b>-0.082778</b>	0.0735893	-	-	-	-
2004/11/29	<b>0.2505681</b>	0.2341406	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.324001</b>	0.3783009	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>0.271559</b>	0.4518352	<b>-0.069764</b>	0.101286	<b>0.1381956</b>	0.0880083	<b>-0.036532</b>	0.0859837	-	-	-	-
2004/12/06	0.4247966	0.0679254	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>0.6285624</b>	0.3450622	<b>0.0894607</b>	0.4553262	-	-	-	-	-	-	-	-
2004/12/08	<b>0.000113</b>	0.1046141	0.1639287	0.069658	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.016365</b>	0.2588212	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>0.1263283</b>	0.4801048	<b>-0.060128</b>	0.3852145	-	-	-	-	-	-	-	-
2004/12/13	<b>0.2215959</b>	0.4598132	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>0.3146081</b>	0.4811599	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>0.3888179</b>	0.406615	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.3975711</b>	0.3267687	-	-	-	-	-	-	-	-	-	-
2004/12/20	<b>-0.604132</b>	0.5029623	<b>0.5191275</b>	0.4224502	-	-	-	-	-	-	-	-
2004/12/21	0.4352181	0.0986525	-	-	-	-	-	-	-	-	-	-

Table A.22b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/22	<b>0.1630867</b>	0.4306676	<b>-0.259777</b>	0.4490083	<b>0.3271902</b>	0.2304739	-	-	-	-	-	-
2004/12/23	<b>0.3426591</b>	0.4242629	<b>-0.620618</b>	0.4848489	<b>0.1611376</b>	0.1050828	<b>0.1257149</b>	0.0907075	-	-	-	-
2004/12/24	<b>0.2753135</b>	0.1818098	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>-0.725977</b>	0.5200606	<b>0.2244471</b>	0.1165766	<b>-0.147847</b>	0.117946	-	-	-	-	-	-
2004/12/29	<b>0.0020769</b>	0.3744157	<b>-0.061112</b>	0.3626969	<b>0.0399584</b>	0.1060153	0.429116	0.1084354	-	-	-	-
2004/12/30	0.2576762	0.1190197	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>-0.013803</b>	0.5995178	-	-	-	-	-	-	-	-	-	-
2005/01/03	0.4855221	0.1723623	-	-	-	-	-	-	-	-	-	-
2005/01/04	0.4179921	0.0955813	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.0438818</b>	0.5997789	<b>0.0152912</b>	0.2082186	<b>-0.418919</b>	0.2956279	-	-	-	-	-	-
2005/01/06	0.756022	0.0966303	-0.1054312	0.0411544	-	-	-	-	-	-	-	-
2005/01/07	<b>0.1803055</b>	0.1645094	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>0.1635016</b>	0.5791736	-	-	-	-	-	-	-	-	-	-
2005/01/11	0.5053189	0.0954526	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.2085238</b>	0.4091353	-	-	-	-	-	-	-	-	-	-
2005/01/13	0.3352726	0.0535542	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.9542443</b>	0.6677395	-	-	-	-	-	-	-	-	-	-
2005/01/17	0.530611	0.125103	<b>-0.08668</b>	0.0773752	<b>-0.120086</b>	0.0926214	-	-	-	-	-	-
2005/01/18	<b>0.5692373</b>	0.4534912	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.9223432</b>	0.5665994	-	-	-	-	-	-	-	-	-	-
2005/01/20	0.4688247	0.0639267	-	-	-	-	-	-	-	-	-	-
2005/01/21	0.3477145	0.0699816	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.6298629</b>	0.429635	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>-0.456776</b>	0.4666881	<b>0.3936096</b>	0.3654306	-	-	-	-	-	-	-	-
2005/01/26	<b>0.6983499</b>	0.4681022	-	-	-	-	-	-	-	-	-	-
2005/01/27	0.4717524	0.1227109	<b>-0.005126</b>	0.0779361	-	-	-	-	-	-	-	-
2005/01/28	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.84824</b>	0.4432003	-	-	-	-	-	-	-	-	-	-
2005/02/01	<b>0.1552758</b>	0.2114895	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>0.1593621</b>	0.5028992	-	-	-	-	-	-	-	-	-	-
2005/02/03	0.7439513	0.0882264	-0.1930484	0.0732914	-	-	-	-	-	-	-	-
2005/02/04	0.420313	0.0838853	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>0.02012</b>	0.1506439	-	-	-	-	-	-	-	-	-	-
2005/02/08	0.411319	0.0639246	-	-	-	-	-	-	-	-	-	-
2005/02/09	0.919239	0.358841	-	-	-	-	-	-	-	-	-	-

Table A.22b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/10	<b>0.15637</b>	0.311002	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>0.36066</b>	0.244628	<b>-0.07964</b>	0.10441	-	-	-	-	-	-	-	-
2005/02/14	<b>0.05642</b>	0.466516	0.82771	0.35843	-	-	-	-	-	-	-	-
2005/02/15	<b>0.45005</b>	0.425448	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>0.31314</b>	0.459327	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.06807</b>	0.496576	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>0.16141</b>	0.450448	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.22726</b>	0.150347	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.0813</b>	0.473763	<b>-0.05146</b>	0.3533	<b>-0.01853</b>	0.06987	-	-	-	-	-	-
2005/02/23	<b>0.38184</b>	0.44992	<b>-0.12172</b>	0.25451	-	-	-	-	-	-	-	-
2005/02/24	<b>0.10993</b>	0.415399	<b>-0.0435</b>	0.09059	-	-	-	-	-	-	-	-
2005/02/25	<b>-0.76169</b>	0.700819	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.10048</b>	0.453651	-	-	-	-	-	-	-	-	-	-

**Table A.22c.** Variance related parameters for non-standardized dynamic returns of the MTN Group Ltd with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	0.2620494	0.7648028	0.3907794	0.1226629	0.6073319	0.1983991	4.257E-12	0.1372	
2004/11/02	-	-	5.4229636	0.9863416	0.2793688	0.3280961	9.585E-06	0.0296107	0.0051971	0.8664	
2004/11/03	-	-	1.2758621	2.2280727	0.8925764	0.2753136	0.0112112	0.2039895	5.347E-05	0.255	
2004/11/04	-	-	0.5025039	0.2179257	0.2737177	0.1370995	0.438293	0.2644175	0.0001105	0.0401	
2004/11/05	-	-	3.3828377	0.4737896	0.1627146	0.1643184	2.834E-08	4.007E-06	0.00011	0.921	
2004/11/08	-	-	0.0927764	0.167569	0.1845995	0.1057101	0.7734468	0.2005723	9.012E-06	0.5435	
2004/11/09	-	-	0.0214938	0.5065542	0.0990652	0.0694321	0.89937	0.1032207	4.825E-05	0.0391	
2004/11/10	-	-	0.1536489	0.256791	0.2324299	0.0587824	0.7535012	0.1487621	0.010926	0.8156	
2004/11/11	-	-	1.5620486	0.298493	0.1121399	0.2848281	4.933E-07	0.0024073	0.0003945	0.2404	
2004/11/12	-	-	2.1999122	0.3699285	0.1478876	0.353994	1.775E-07	0.0468933	0.0001397	0.5131	
2004/11/15	-	-	0.1859092	0.2554827	0.2573035	0.1609424	0.7137138	0.257818	0.0001605	0.2529	
2004/11/16	-	-	0.3394968	0.1219259	0.2641601	0.0860409	0.4593326	0.2476685	4.483E-05	0.9615	
2004/11/17	0.7694637	0.1644673	-	-	-	-	-	-	0.0548643	0.3783	
2004/11/18	-	-	0.6274285	1.0496675	0.3181483	0.1059084	0.4444854	0.2874477	0.005556	0.3657	
2004/11/19	2.6567497	0.9881612	-	-	-	-	-	-	0.2031613	0.636	
2004/11/22	-	-	0.8961699	0.1792149	0.1844034	0.1590595	0.2253076	0.2059402	4.487E-12	0.981	
2004/11/23	-	-	3.3684572	35.814305	0.2872167	0.2076546	2.372E-05	0.0063061	1.59E-05	0.089	
2004/11/24	-	-	1.717415	1.4599389	0.7415295	0.3278635	0.0171499	0.2144874	1E-15	0.006	
2004/11/25	-	-	1.1635889	3.4240631	0.9835931	0.2930695	2.784E-11	0.0646548	0.0010205	0.4892	
2004/11/26	-	-	0.6014207	0.7494427	0.1584716	0.2689438	0.7581723	0.2826682	-	0.8366	
2004/11/29	-	-	1.8216759	4.2199047	0.9794445	0.3282518	1.476E-10	0.0196865	5.288E-05	0.3719	
2004/11/30	-	-	0.0349063	0.2042628	0.0798768	0.0467083	0.9189996	0.0633887	-	0.3365	
2004/12/03	-	-	0.3351144	0.5433834	0.3056695	0.1305423	0.6760454	0.2161669	-	0.6676	
2004/12/06	1.8944078	0.3325117	-	-	-	-	-	-	0.073096	0.5377	
2004/12/07	-	-	1.4266635	0.4181567	0.3587354	0.1769502	0.1982895	0.2341853	3.51E-06	0.1858	
2004/12/08	-	-	0.1664572	0.2178277	0.1604158	0.2077583	0.7664999	0.3278092	1.333E-10	0.0399	
2004/12/09	-	-	0.0800054	0.2162684	0.1280538	0.1023557	0.849801	0.2294951	1.014E-05	0.4024	
2004/12/10	-	-	0.9733248	0.248341	0.4313532	0.2728719	7.532E-08	1.919E-06	-	0.4742	
2004/12/13	7.6750184	2.2801036	-	-	-	-	-	-	0.0681757	0.0274	
2004/12/14	-	-	0.9715979	0.1491002	0.1998525	0.1032116	7.72E-08	1.045E-05	0.004932	0.3002	
2004/12/15	-	-	0.0224201	0.0381272	0.141516	0.033425	0.8573965	0.0402892	-	0.0171	
2004/12/17	-	-	0.7325806	0.1657953	0.1634698	0.1973094	0.3791839	0.2343071	3.559E-07	0.7854	

Table A.22c. (Continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/12/20	0.496418	0.222267	-	-	-	-	-	-	0.4437723	0.7404	
2004/12/21	0.8328231	0.2046916	-	-	-	-	-	-	0.5	0.4648	
2004/12/22	-	-	1.1884716	0.359178	0.2594477	0.1425023	6.168E-06	0.0009059	3.524E-10	0.2278	
2004/12/23	4.061735	1.3794081	-	-	-	-	-	-	0.2506567	0.9133	
2004/12/24	1.9326912	0.7542689	-	-	-	-	-	-	0.5	0.592	
2004/12/28	-	-	0.8726538	0.4163434	0.2479754	0.2480811	0.4411185	0.264272	2.586E-07	0.2592	
2004/12/29	4.6295173	2.1465325	-	-	-	-	-	-	0.3101923	0.7117	
2004/12/30	18.087862	7.3955986	-	-	-	-	-	-	0.1811053	0.0331	
2004/12/31	2.4007301	0.9051808	-	-	-	-	-	-	0.4764604	0.7921	
2005/01/03	-	-	0.0705613	0.7914141	0.1096231	0.1963036	0.8873974	0.2727131	7.615E-07	0.314	
2005/01/04	-	-	2.4092835	0.5258196	0.0954341	0.2100293	0.2019904	0.2216627	0.0014548	0.6456	
2005/01/05	-	-	0.9508221	0.2875457	0.2178555	0.1444696	6.022E-05	0.0292406	0.0370203	0.4039	
2005/01/06	11.184303	5.0839098	-	-	-	-	-	-	0.0748162	0.1855	
2005/01/07	-	-	1.194123	0.8269267	0.97109	0.3077208	1.25E-12	-	0.0143273	0.7152	
2005/01/10	-	-	0.1517292	0.2157429	0.3397694	0.2074704	0.6558881	0.2893524	0.0009827	0.4162	
2005/01/11	-	-	0.6120627	0.1848868	0.2364541	0.1491911	0.2876038	0.2387495	0.0021516	0.0825	
2005/01/12	-	-	0.1111479	0.2741098	0.1393984	0.1109168	0.8317806	0.2361895	2.752E-11	0.3305	
2005/01/13	-	-	0.3386508	0.1303811	0.2328406	0.0708371	0.500544	0.2275032	4.3E-14	0.7269	
2005/01/14	-	-	2.2982532	2.1218149	0.3387437	0.1449596	0.0729148	0.2626935	3.969E-05	0.0963	
2005/01/17	-	-	0.0419439	0.7329466	0.1240693	0.1907521	0.8723404	0.2935425	0.0365476	0.3575	
2005/01/18	-	-	0.332381	0.4052146	0.2949856	0.112126	0.5448529	0.2249457	2.275E-05	0.2014	
2005/01/19	-	-	0.0437235	6.0261921	0.1045694	0.0467251	0.8947863	0.047188	5.981E-09	0.0338	
2005/01/20	2.4068584	0.5542615	-	-	-	-	-	-	0.0849336	0.1203	
2005/01/21	-	-	0.1711443	0.1559869	0.1646696	0.1013865	0.6969565	0.2792159	0.0042823	0.4966	
2005/01/24	-	-	0.6853724	0.2392558	0.3127909	0.1606095	0.3637869	0.2773805	0.0003162	0.7222	
2005/01/25	-	-	4.9898206	1.8293724	0.3212061	0.2738665	0.0370695	0.2130953	0.0205919	0.0589	
2005/01/26	-	-	6.9455746	23.950005	0.1739289	0.1377325	0.4782821	0.2151952	1.671E-05	0.0074	
2005/01/27	-	-	0.0896945	0.5316576	0.2879576	0.113737	0.7109714	0.1354734	-	0.7822	
2005/01/28	-	-	1.6256612	0.6227851	0.1571528	0.184568	0.4704952	0.2722351	0.0009238	0.0255	
2005/01/31	-	-	9.0995498	1.7899124	0.1472047	0.1547477	2.326E-05	0.0423567	5.986E-10	0.0999	
2005/02/01	-	-	0.3440459	0.1994674	0.2215102	0.0861127	0.5876365	0.2502428	3.021E-06	0.2525	
2005/02/02	-	-	0.2181782	0.2754497	0.4547785	0.1544778	0.50354	0.2596238	0.000173	0.526	
2005/02/03	5.2539153	1.2803007	-	-	-	-	-	-	0.2781527	0.2174	
2005/02/04	0.605523	0.1216345	-	-	-	-	-	-	0.1650553	0.313	
2005/02/07	-	-	0.6775058	0.5619848	0.5309353	0.2409803	0.4405869	0.2645934	0.0002612	0.2152	



**Table A.22c.** (Continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/08	3.532895	0.4225308	-	-	-	-	-	-	0.050301	0.1131	
2005/02/09	-	-	0.316787	77.10231	0.2221672	0.0316674	0.7747905	0.0324809	4.698E-07	0.0243	
2005/02/10	-	-	0.0644923	0.1589895	0.1923461	0.0949603	0.8030663	0.1405767	1.867E-11	0.6193	
2005/02/11	-	-	0.6564503	1.300375	0.7712256	0.2990051	3.645E-09	4.99E-07	2.551E-06	0.9241	
2005/02/14	-	-	0.1450033	3.9698261	0.2398239	0.0972936	0.7584072	0.1016954	4.11E-09	0.2238	
2005/02/15	2.5177317	0.8574269	-	-	-	-	-	-	0.0676272	0.0779	
2005/02/16	-	-	0.0896919	0.2087402	0.2344465	0.0673808	0.7598598	0.1199457	2.408E-06	0.2661	
2005/02/17	-	-	0.6298945	1.3178025	0.9590609	0.3124613	2.218E-09	7.35E-06	0.0054481	0.1066	
2005/02/18	-	-	0.4108526	0.3748107	0.195909	0.1127233	0.6430545	0.2848535	0.0065118	0.4706	
2005/02/21	-	-	0.6946941	0.4496199	0.7164634	0.2689707	2.511E-07	0.0574299	0.0001681	0.7754	
2005/02/22	-	-	0.773321	0.1097881	0.1556572	0.1844819	0.0100308	0.1735264	7.966E-05	0.0942	
2005/02/23	-	-	0.0654892	0.1847253	0.1634324	0.1401301	0.805267	0.2933857	0.0268787	0.6461	
2005/02/24	-	-	1.3596608	0.54443	0.2384775	0.2081638	0.3137294	0.2449785	8.5E-14	0.0966	
2005/02/25	-	-	0.5015094	16.466825	0.4085512	0.1471252	0.5911881	0.1945861	6.569E-06	0.1063	
2005/02/28	-	-	0.0476732	2.1069719	0.0828792	0.0766413	0.9126748	0.1718161	0.0085512	0.9251	

**Table A.23a.** Estimates of mean and AR parameters for non-standardized dynamic returns of Harmony Gold. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>-0.589</b>	0.875202	<b>-0.01024</b>	0.520513	<b>-0.02457</b>	0.08195	<b>0.00075</b>	0.092888	<b>0.026309</b>	0.091803	-	-	-	-
2004/11/02	-0.05003	-	-0.526	-	-0.30097	-	-0.1123	-	-0.06073	-	-	-	-	-
2004/11/03	<b>-0.07756</b>	0.388163	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>0.12282</b>	0.561568	<b>-0.04009</b>	0.589908	<b>0.07283</b>	0.16031	-	-	-	-	-	-	-	-
2004/11/05	<b>-0.10438</b>	0.44133	<b>-0.28841</b>	0.43016	0.69996	0.313675	0.321459	0.099605	-	-	-	-	-	-
2004/11/08	<b>-0.43057</b>	0.993368	<b>0.101816</b>	0.454054	<b>-0.17952</b>	0.139048	<b>-0.07915</b>	0.129609	-	-	-	-	-	-
2004/11/09	<b>0.026915</b>	1.969414	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>-0.33373</b>	0.441931	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.025775</b>	2.047649	<b>0.012532</b>	0.090669	<b>0.159753</b>	0.082678	0.236572	0.080417	0.190633	0.088587	0.161934	0.074809	-	-
2004/11/12	<b>-0.54043</b>	5.322453	<b>0.268172</b>	0.550873	<b>0.073797</b>	0.146557	-	-	-	-	-	-	-	-
2004/11/15	<b>-0.98927</b>	1.752066	<b>-0.02166</b>	0.439573	<b>-0.01666</b>	0.128145	<b>-0.01604</b>	0.149817	-	-	-	-	-	-
2004/11/16	<b>-0.01014</b>	0.286848	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>-1.28279</b>	12.01487	<b>0.132212</b>	0.499724	<b>0.112084</b>	0.240263	<b>-0.05174</b>	0.250031	<b>0.075762</b>	0.271376	-	-	-	-
2004/11/18	<b>-0.09616</b>	0.376201	<b>0.237956</b>	0.580874	<b>-0.07434</b>	0.119928	-	-	-	-	-	-	-	-
2004/11/19	<b>0.002501</b>	0.688313	-0.72452	0.086189	-0.40317	0.061194	-0.21425	0.063688	<b>0.017805</b>	0.062347	<b>-0.01754</b>	0.063638	<b>-0.05043</b>	0.057743
2004/11/22	<b>0.317528</b>	14.04396	0.988564	0.430271	<b>-0.01104</b>	0.248247	<b>-0.00299</b>	0.239764	-	-	-	-	-	-
2004/11/23	<b>-0.11106</b>	0.347604	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/24	<b>-0.63488</b>	0.974186	<b>-0.02608</b>	0.384576	<b>-0.03564</b>	0.113595	-0.1603	0.066762	<b>-0.06706</b>	0.057076	<b>0.106299</b>	0.058109	-	-
2004/11/25	<b>0.080541</b>	1.346259	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.160763</b>	0.777449	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.119</b>	0.628694	<b>-0.01038</b>	0.48353	<b>-0.02365</b>	0.372108	-	-	-	-	-	-	-	-
2004/11/30	-2.35606	1.00068	<b>-0.36957</b>	0.475364	<b>-0.48324</b>	0.264707	<b>-0.00262</b>	0.098962	<b>-0.0896</b>	0.112196	-	-	-	-
2004/12/03	<b>0.18417</b>	0.603287	<b>-0.05482</b>	0.464386	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>0.218393</b>	0.578702	<b>-0.17898</b>	0.512419	<b>-0.079</b>	0.083588	<b>-0.09636</b>	0.08213	-	-	-	-	-	-
2004/12/07	<b>-0.07282</b>	1.017942	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-1.76751</b>	1.449582	<b>-0.18923</b>	0.533822	<b>-0.01018</b>	0.154765	<b>-0.06276</b>	0.075844	<b>0.074778</b>	0.089477	<b>0.03352</b>	0.097921	-	-
2004/12/09	<b>0.108398</b>	1.037678	<b>0.159198</b>	0.485754	<b>0.214289</b>	0.124087	<b>0.094602</b>	0.103884	-	-	-	-	-	-
2004/12/10	<b>0.050175</b>	0.564842	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.332519</b>	0.946203	<b>0.154454</b>	0.433582	<b>0.086054</b>	0.135874	-	-	-	-	-	-	-	-
2004/12/14	<b>-0.08392</b>	0.266317	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>0.020777</b>	0.389505	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>-0.09344</b>	1.447991	-	-	-	-	-	-	-	-	-	-	-	-

Table A.23a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>0.013886</b>	1.049445	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>-0.30979</b>	0.837273	<b>0.381552</b>	0.503925	0.426572	0.134156	<b>-0.16368</b>	0.094049	<b>0.077295</b>	0.08775	<b>-0.02901</b>	0.08133	-	-
2004/12/22	<b>0.107548</b>	0.207911	<b>-0.09065</b>	0.140901	<b>-0.01833</b>	0.067868	<b>-0.00019</b>	0.093798	<b>0.067024</b>	0.096308	-	-	-	-
2004/12/23	<b>-0.45033</b>	0.304	<b>-0.07889</b>	0.137438	<b>-0.16021</b>	0.098895	<b>-0.09375</b>	0.115518	<b>0.007792</b>	0.098224	<b>-0.18392</b>	0.099018	-	-
2004/12/24	<b>0.337276</b>	0.604794	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.771814</b>	0.605936	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.09063</b>	0.408923	<b>0.113476</b>	0.540533	<b>-0.08865</b>	0.137561	<b>0.182062</b>	0.135731	<b>-0.1264</b>	0.107077	-	-	-	-
2004/12/30	<b>0.004189</b>	0.401838	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>0.434477</b>	0.389462	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>1.369049</b>	1.410171	<b>0.336992</b>	0.448979	<b>0.534213</b>	0.422347	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.08951</b>	0.890567	<b>-0.13952</b>	0.427491	<b>-0.01078</b>	0.342352	<b>-0.33062</b>	0.211456	-0.32666	0.14265	-	-	-	-
2005/01/05	<b>0.343093</b>	0.564799	<b>-0.11075</b>	0.432177	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>0.575958</b>	1.359695	<b>-0.24208</b>	0.197063	<b>-0.1361</b>	0.15639	<b>-0.06401</b>	0.130313	<b>0.063088</b>	0.142951	<b>-0.05255</b>	0.089107	-	-
2005/01/07	<b>0.079278</b>	0.585186	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>0.656545</b>	0.852418	<b>-0.04716</b>	0.53796	<b>-0.00214</b>	0.170056	-	-	-	-	-	-	-	-
2005/01/11	<b>0.367209</b>	0.456381	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.008556</b>	0.535332	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>1.495979</b>	1.057921	<b>-0.72626</b>	0.540215	<b>-0.19218</b>	0.151503	<b>-0.08156</b>	0.137208	-	-	-	-	-	-
2005/01/14	<b>0.470724</b>	0.772068	<b>-0.06229</b>	0.448451	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>-0.68246</b>	3.085033	<b>-0.32679</b>	0.390559	<b>0.004433</b>	0.418441	<b>-0.06207</b>	0.120152	<b>0.122312</b>	0.113045	-	-	-	-
2005/01/18	<b>-0.20452</b>	0.402492	<b>-0.08171</b>	0.472947	<b>0.015674</b>	0.102574	-0.16958	0.068451	-	-	-	-	-	-
2005/01/19	<b>-0.06493</b>	0.294004	<b>0.002976</b>	0.252805	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>-0.45232</b>	0.405623	<b>-0.02262</b>	0.51948	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>-0.57171</b>	0.608526	<b>-0.28106</b>	0.475558	<b>-0.14848</b>	0.116206	-0.25881	0.083675	<b>-0.06499</b>	0.083395	-	-	-	-
2005/01/24	-1.04509	0.494013	<b>-0.14774</b>	0.173529	<b>-0.2412</b>	0.140533	<b>0.00394</b>	0.1259	<b>-0.05255</b>	0.118796	<b>0.131062</b>	0.113877	-	-
2005/01/25	<b>0.323478</b>	0.875399	-0.48748	0.112277	-0.25372	0.081903	-0.20228	0.091059	<b>-0.0331</b>	0.116688	-	-	-	-
2005/01/26	-1.48065	0.625957	-0.16051	0.056511	<b>0.027591</b>	0.042353	<b>0.037921</b>	0.048819	0.186173	0.063148	-	-	-	-
2005/01/27	<b>1.211719</b>	1.618766	<b>0.043514</b>	0.555127	<b>0.160862</b>	0.385322	<b>0.421577</b>	0.282632	-	-	-	-	-	-
2005/01/28	<b>-0.2265</b>	1.102506	<b>0.270085</b>	0.468591	<b>-0.00024</b>	0.115385	<b>-0.07685</b>	0.040188	<b>-0.01874</b>	0.102105	-	-	-	-
2005/01/31	<b>0.021019</b>	0.763635	<b>0.550796</b>	0.314353	<b>0.283629</b>	0.349906	<b>0.147837</b>	0.17217	-	-	-	-	-	-
2005/02/01	1.125246	0.461572	<b>0.466436</b>	0.499817	<b>0.174439</b>	0.095703	0.156778	0.074316	<b>-0.04072</b>	0.072508	-	-	-	-
2005/02/02	<b>-0.04712</b>	0.315087	<b>-0.20001</b>	0.38756	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.3602</b>	1.158357	<b>0.061839</b>	0.510627	<b>-0.14984</b>	0.118405	-	-	-	-	-	-	-	-

Table A.23a. (Continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/04	<b>-0.48872</b>	0.415582	<b>-0.03721</b>	0.430032	<b>0.014274</b>	0.102388	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.06543</b>	0.639231	<b>-0.37</b>	0.406424	<b>-0.15978</b>	0.089072	<b>-0.00371</b>	0.062975	<b>0.008473</b>	0.094449	<b>-0.01858</b>	0.099195	-	-
2005/02/08	<b>0.111401</b>	0.262507	<b>0.004758</b>	0.453717	<b>-0.00943</b>	0.307977	-	-	-	-	-	-	-	-
2005/02/09	<b>0.461023</b>	0.5926	-0.73738	0.354258	<b>-0.24188</b>	0.455355	<b>-0.02075</b>	0.089974	-	-	-	-	-	-
2005/02/10	<b>-0.13127</b>	0.388262	<b>-0.06603</b>	0.064152	<b>-0.04227</b>	0.071198	<b>0.062203</b>	0.06693	<b>-0.01775</b>	0.064017	-	-	-	-
2005/02/11	1.49839	0.556636	<b>0.051343</b>	0.384498	<b>-0.07012</b>	0.076215	<b>-0.02416</b>	0.079651	<b>-0.0203</b>	0.073756	-	-	-	-
2005/02/14	<b>0.038803</b>	0.646441	<b>-0.2109</b>	0.491568	<b>-0.1623</b>	0.163086	<b>-0.00216</b>	0.100806	<b>-0.04625</b>	0.071224	-	-	-	-
2005/02/15	<b>-0.27199</b>	0.418435	-0.37767	0.094455	<b>-0.11122</b>	0.092552	<b>0.035324</b>	0.091441	0.350337	0.107092	-	-	-	-
2005/02/16	<b>0.023332</b>	0.519673	<b>0.436768</b>	0.511903	<b>0.01112</b>	0.130028	<b>0.058164</b>	0.107679	-	-	-	-	-	-
2005/02/17	-0.47096	0.179519	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>-46.0533</b>	126.1978	<b>0.044545</b>	0.20696	<b>0.08356</b>	0.145571	<b>0.106407</b>	0.124908	<b>0.198283</b>	0.173231	0.357122	0.152914	<b>0.199695</b>	0.166031
2005/02/21	<b>0.917274</b>	0.516444	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>-0.31302</b>	33.5221	0.995634	0.491433	<b>-0.00349</b>	0.323829	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.02526</b>	0.497927	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>-0.03485</b>	0.469917	<b>0.119496</b>	0.550257	<b>0.052359</b>	0.093459	<b>-0.03783</b>	0.066042	-	-	-	-	-	-
2005/02/25	<b>0.794665</b>	0.562109	<b>-0.04694</b>	0.097276	<b>-0.0617</b>	0.102786	<b>0.029937</b>	0.09041	<b>0.028747</b>	0.09525	<b>-0.05613</b>	0.092938	-	-
2005/02/28	<b>0.26726</b>	0.379528	-	-	-	-	-	-	-	-	-	-	-	-

**Table A.23b.** Estimates of MA parameters for non-standardized dynamic returns of Harmony Gold. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	<b>0.1955817</b>	0.5029121	-	-	-	-	-	-	-	-	-	-
2004/11/02	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/03	0.4807878	0.1283058	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>0.5271608</b>	0.5406021	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>0.2562741</b>	0.4049765	0.8269402	0.3304175	-	-	-	-	-	-	-	-
2004/11/08	<b>0.4764786</b>	0.453318	-	-	-	-	-	-	-	-	-	-
2004/11/09	0.8812091	0.1669746	0.2480703	0.1033046	-	-	-	-	-	-	-	-
2004/11/10	0.4090384	0.1373156	<b>-0.050083</b>	0.0823043	-	-	-	-	-	-	-	-
2004/11/11	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>0.536886</b>	0.5658833	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>0.140854</b>	0.4711942	-	-	-	-	-	-	-	-	-	-
2004/11/16	0.4572395	0.0921339	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>0.0874065</b>	0.5852686	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>0.7255093</b>	0.5497583	-	-	-	-	-	-	-	-	-	-
2004/11/19	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.8688777</b>	0.5588154	-	-	-	-	-	-	-	-	-	-
2004/11/23	0.4784941	0.0716575	-	-	-	-	-	-	-	-	-	-
2004/11/24	<b>0.450204</b>	0.4049504	-	-	-	-	-	-	-	-	-	-
2004/11/25	0.538238	0.1709274	-	-	-	-	-	-	-	-	-	-
2004/11/26	0.5071387	0.162671	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>0.2700107</b>	0.4941149	<b>0.3417166</b>	0.4254106	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.297731</b>	0.493317	<b>-0.442382</b>	0.300718	-	-	-	-	-	-	-	-
2004/12/03	<b>0.0451603</b>	0.4795121	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>0.0354417</b>	0.50887	-	-	-	-	-	-	-	-	-	-
2004/12/07	0.8043655	0.192394	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.064171</b>	0.5400854	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>0.6742468</b>	0.4393499	-	-	-	-	-	-	-	-	-	-
2004/12/10	0.5249843	0.1233574	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.7190343</b>	0.4458956	-	-	-	-	-	-	-	-	-	-
2004/12/14	0.318448	0.0936729	-	-	-	-	-	-	-	-	-	-
2004/12/15	0.6335269	0.0637962	-	-	-	-	-	-	-	-	-	-
2004/12/17	0.7703549	0.159482	-	-	-	-	-	-	-	-	-	-

Table A.23b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	0.2322332	0.1111223	0.4829907	0.117372	-	-	-	-	-	-	-	-
2004/12/21	1	0.4954322	-	-	-	-	-	-	-	-	-	-
2004/12/22	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	<b>0.3299288</b>	0.2578606	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.4865465</b>	0.272317	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>0.469764</b>	0.5545257	-	-	-	-	-	-	-	-	-	-
2004/12/30	0.5864067	0.1559995	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>0.4903953</b>	0.4108762	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>0.8912153</b>	0.5128629	<b>0.3550822</b>	0.4801973	-	-	-	-	-	-	-	-
2005/01/04	<b>0.6898598</b>	0.4741182	<b>-0.244318</b>	0.4586201	-	-	-	-	-	-	-	-
2005/01/05	<b>0.3429953</b>	0.4759764	-	-	-	-	-	-	-	-	-	-
2005/01/06	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	0.3488688	0.0795601	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>0.0078131</b>	0.5671451	-	-	-	-	-	-	-	-	-	-
2005/01/11	0.2654709	0.0712097	-	-	-	-	-	-	-	-	-	-
2005/01/12	0.4710321	0.0848286	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>-0.403088</b>	0.5771708	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.3290278</b>	0.4428341	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>0.2280563</b>	0.439127	<b>0.2766513</b>	0.4673287	-	-	-	-	-	-	-	-
2005/01/18	<b>0.2307339</b>	0.4721141	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.5045992</b>	0.2627848	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>0.3020068</b>	0.516118	<b>0.0677166</b>	0.1163217	-	-	-	-	-	-	-	-
2005/01/21	<b>0.1861369</b>	0.495895	-	-	-	-	-	-	-	-	-	-
2005/01/24	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/25	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/26	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/27	<b>0.0518537</b>	0.5695502	<b>0.1541439</b>	0.3906808	<b>0.3618794</b>	0.2785376	-	-	-	-	-	-
2005/01/28	<b>0.5851173</b>	0.4611371	-	-	-	-	-	-	-	-	-	-
2005/01/31	0.6637454	0.3109411	<b>0.1359749</b>	0.3333459	-	-	-	-	-	-	-	-
2005/02/01	<b>0.8693166</b>	0.5077406	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>0.292989</b>	0.3764763	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>0.4739818</b>	0.5229852	-	-	-	-	-	-	-	-	-	-

Table A.23b. (Continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/04	<b>0.2551928</b>	0.4358767	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>0.2091624</b>	0.4063087	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>0.218401</b>	0.4447332	<b>-0.165271</b>	0.3341874	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.512377</b>	0.3558682	<b>-0.018264</b>	0.4721291	-	-	-	-	-	-	-	-
2005/02/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>0.2277708</b>	0.3568296	-	-	-	-	-	-	-	-	-	-
2005/02/14	<b>0.5279046</b>	0.4798429	-	-	-	-	-	-	-	-	-	-
2005/02/15	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>0.7075621</b>	0.5243251	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.0616886</b>	0.1307983	-	-	-	-	-	-	-	-	-	-
2005/02/18	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.2076769</b>	0.1093058	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.9240337</b>	0.7189384	-	-	-	-	-	-	-	-	-	-
2005/02/23	0.7039672	0.1080124	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.3803436</b>	0.548967	-	-	-	-	-	-	-	-	-	-
2005/02/25	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	0.7341946	0.1003562	<b>0.1263774</b>	0.0870385	<b>0.0866196</b>	0.0729624	<b>0.0002556</b>	0.0780373	0.1976463	0.0904545	-	-

**Table A.23c.** Variance related parameters for non-standardized dynamic returns of Harmony Gold with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	3.24243484	3.59156531	0.41856037	0.20427773	1.8197E-09	1.2834E-06	0.02064912	0.9005	
2004/11/02	-	-	3.32422093	-	0.31602052	-	0.16955138	-	0.01171798	0.3751	
2004/11/03	-	-	2.57179269	1.10683064	0.1268373	0.24078869	0.45587696	0.25720434	0.01834988	0.7579	
2004/11/04	-	-	0.78251008	1.20815868	0.53123291	0.22133025	0.46705128	0.2782982	0.00532201	0.7609	
2004/11/05	-	-	3.78746825	2.03795963	0.24689089	0.16935311	6.7997E-05	0.05730233	0.00014843	0.2671	
2004/11/08	-	-	1.41763955	3.88097796	0.86596582	0.30571834	0.13370232	0.24392524	0.00011453	0.9443	
2004/11/09	48.8649906	39.9694061	-	-	-	-	-	-	0.24296199	0.9822	
2004/11/10	-	-	2.8317939	0.59184315	0.42499684	0.22665699	6.4667E-10	3.1623E-08	0.00016253	0.0984	
2004/11/11	-	-	0.43219109	1.57156421	0.12470625	0.10676492	0.82582804	0.17415158	0.00031152	0.0423	
2004/11/12	-	-	17.0360996	4.09694372	0.16040548	0.43332547	2.4944E-10	0.00069028	0.00654093	0.994	
2004/11/15	-	-	0.13018181	5.11163763	0.21710104	0.05236407	0.77879156	0.09813074	-	0.0319	
2004/11/16	-	-	2.71220621	0.88416777	0.41598124	0.14469693	0.03776793	0.21742611	1.6854E-07	0.0552	
2004/11/17	-	-	0.25765877	21.4651892	0.2248548	0.07661343	0.76201577	0.0777434	1.0814E-08	0.6301	
2004/11/18	-	-	0.52634284	0.68381655	0.50905183	0.1841599	0.48379862	0.27665269	-	0.6911	
2004/11/19	3.50849427	12.8702702	-	-	-	-	-	-	0.49227836	0.6448	
2004/11/22	-	-	1.23434331	52.0338815	0.24425573	0.20787131	0.65230046	0.31344921	0.00644751	0.1145	
2004/11/23	4.62136504	0.89508533	-	-	-	-	-	-	0.1773684	0.0116	
2004/11/24	17.4552328	13.3435852	-	-	-	-	-	-	0.49478596	0.9594	
2004/11/25	-	-	0.44757037	2.36739	0.33347432	0.19950345	0.66413604	0.23692729	0.00653998	0.9793	
2004/11/26	-	-	5.15587996	6.25348586	0.86184327	0.27665332	0.11085352	0.22957548	0.00055008	0.8127	
2004/11/29	3.67538404	1.31225282	-	-	-	-	-	-	0.27847066	0.7491	
2004/11/30	-	-	2.80240794	3.06247222	0.1155045	0.30528993	0.76476207	0.34072192	2.9524E-06	0.2783	
2004/12/03	-	-	5.84999543	1.31966989	0.06361743	0.17441979	1.0365E-08	0.01466154	0.01173888	0.0613	
2004/12/06	6.07954546	1.5645943	-	-	-	-	-	-	0.1193716	0.9256	
2004/12/07	90.112284	64.2774896	-	-	-	-	-	-	0.16214348	0.5806	
2004/12/08	-	-	5.36006189	7.38586549	0.62352025	0.22767777	0.36060411	0.25215311	3.8234E-05	0.2814	
2004/12/09	-	-	0.27219392	2.53421712	0.08104947	0.21800007	0.91727361	0.2677388	0.01498254	0.7587	
2004/12/10	-	-	4.68730567	1.30366098	0.32040258	0.21465158	0.14614694	0.25434601	2.2414E-07	0.1411	
2004/12/13	-	-	3.88525222	3.45786066	0.36480869	0.25097749	0.20048916	0.21634002	0.00046722	0.2622	
2004/12/14	-	-	2.62573253	0.462064	0.31355077	0.16998744	3.253E-06	0.06223595	0.00120866	0.0285	



Table A.23c. (Continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/15	7.15099778	1.58321257	-	-	-	-	-	-	0.5	0.0002	reject
2004/12/17	22.2079873	20.8540708	-	-	-	-	-	-	0.32326268	0.6674	
2004/12/20	26.2150889	13.3762132	-	-	-	-	-	-	0.4308253	0.9183	
2004/12/21	7.52688779	3.5485292	-	-	-	-	-	-	0.29077053	0.6978	
2004/12/22	-	-	0.30198402	0.1247764	0.25386947	0.1812516	0.49340446	0.28113674	0.0023324	0.3695	
2004/12/23	-	-	1.93239384	0.30650923	0.17050085	0.29289286	5.595E-05	0.05189967	0.00128399	0.9778	
2004/12/24	2.71074177	0.88600605	-	-	-	-	-	-	0.13418562	0.9652	
2004/12/28	3.586125	1.30626497	-	-	-	-	-	-	0.1056749	0.5987	
2004/12/29	-	-	0.03814689	0.14096265	0.28175352	0.25974379	0.70835115	0.3488206	0.00076336	0.021	
2004/12/30	1.36170806	0.40872351	-	-	-	-	-	-	0.32645698	0.1453	
2004/12/31	1.16337631	0.56212474	-	-	-	-	-	-	0.5	0.6745	
2005/01/03	4.15072531	2.20615601	-	-	-	-	-	-	0.5	0.31	
2005/01/04	12.6858219	15.2714861	-	-	-	-	-	-	0.5	0.7308	
2005/01/05	4.96593389	1.42795437	-	-	-	-	-	-	0.13269945	0.416	
2005/01/06	-	-	5.55333388	4.40717168	0.96215648	0.34642592	0.03605472	0.22501393	0.00083793	0.545	
2005/01/07	15.7936587	3.19238808	-	-	-	-	-	-	0.10919433	0.9019	
2005/01/10	-	-	1.3958769	2.36289332	0.45600109	0.24517845	0.38920386	0.296221	0.00019273	0.4426	
2005/01/11	6.72565407	1.42450048	-	-	-	-	-	-	0.5	0.6335	
2005/01/12	14.7365274	2.46707989	-	-	-	-	-	-	0.21677664	0.4231	
2005/01/13	17.1761675	5.09962509	-	-	-	-	-	-	0.27334711	0.9715	
2005/01/14	18.2801614	4.1952271	-	-	-	-	-	-	0.5	0.3016	
2005/01/17	12.4988498	5.14099593	-	-	-	-	-	-	0.24704348	0.231	
2005/01/18	6.45011241	2.02507073	-	-	-	-	-	-	0.22804537	0.7604	
2005/01/19	4.55006872	0.7819085	-	-	-	-	-	-	0.06292126	0.0399	
2005/01/20	-	-	3.16732304	0.71867663	0.41742353	0.21120338	7.8347E-08	0.0068613	0.02039928	0.649	
2005/01/21	8.57944114	2.77216563	-	-	-	-	-	-	0.06143327	0.2504	
2005/01/24	-	-	4.73078319	2.05349865	0.53189674	0.32863531	0.00057513	0.08658869	0.01053802	0.4243	
2005/01/25	-	-	0.19356853	3.92468449	0.16197102	0.09829845	0.83358223	0.1619438	7.0139E-10	0.5188	
2005/01/26	12.0699649	144.794165	-	-	-	-	-	-	0.05559907	0.9591	
2005/01/27	-	-	2.63358095	2.41942427	0.71622887	0.30545566	3.7676E-09	4.3704E-07	6.1E-14	0.0123	
2005/01/28	-	-	0.21433364	1.12412517	0.22172575	0.26306013	0.77284164	0.35208458	0.00283538	0.8687	
2005/01/31	-	-	0.23795739	1.45581127	0.27502575	0.08636693	0.70538362	0.12698842	0.00250745	0.523	
2005/02/01	2.67861721	0.59120313	-	-	-	-	-	-	0.5	0.0243	

Table A.23c. (Continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/02	-	-	1.62141325	0.57364966	0.5536739	0.28079546	0.00988094	0.17818332	1.6887E-05	0.1356	
2005/02/03	-	-	0.25038771	15.3886553	0.17035957	0.255084	0.82118415	0.36904256	0.0123903	0.3643	
2005/02/04	-	-	0.77371565	0.52110662	0.16145893	0.10714315	0.56065746	0.26510496	0.03875392	0.5248	
2005/02/07	-	-	0.78992631	1.15086855	0.27091218	0.19831914	0.6668202	0.33523937	0.01333816	0.811	
2005/02/08	-	-	1.17380346	0.32864749	0.16820707	0.29845794	4.7443E-05	0.08497026	0.00059271	0.0921	
2005/02/09	-	-	2.65362719	1.0332833	0.27622475	0.23005504	4.527E-08	0.00808544	7.1E-14	0.3167	
2005/02/10	1.19067585	0.83080632	-	-	-	-	-	-	0.23630612	0.4351	
2005/02/11	-	-	2.58112111	0.94700728	0.18645406	0.12401966	0.4152049	0.24303341	0.00254176	0.532	
2005/02/14	11.0204931	3.50789582	-	-	-	-	-	-	0.35291451	0.9376	
2005/02/15	1.7871438	2.12651709	-	-	-	-	-	-	0.21762877	0.5005	
2005/02/16	3.60991534	1.14930631	-	-	-	-	-	-	0.43740773	0.0615	
2005/02/17	-	-	1.06724749	0.12547237	0.16496053	0.30757215	1.7334E-05	0.0732345	0.00040563	0.3782	
2005/02/18	-	-	3.14221993	374.520564	0.9897845	0.30772762	7.3569E-06	0.23185305	0.03845881	0.8578	
2005/02/21	4.51639772	1.28712569	-	-	-	-	-	-	0.1345219	0.1107	
2005/02/22	-	-	0.11966552	17.9445486	0.00452459	0.14508612	0.99291668	0.15215898	0.00015899	0.4246	
2005/02/23	4.18990241	1.17567718	-	-	-	-	-	-	0.1883849	0.533	
2005/02/24	2.40139332	0.88612542	-	-	-	-	-	-	0.5	0.9878	
2005/02/25	3.59646444	5.90544128	-	-	-	-	-	-	0.20398809	0.6993	
2005/02/28	3.18279605	0.7542786	-	-	-	-	-	-	0.5	0.5968	

**Table A.24a.** Estimates of mean and AR parameters for non-standardized dynamic returns of Tiger Brands Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>0.171402</b>	0.176425	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.19965</b>	1.317253	<b>0.321663</b>	0.538066	<b>-0.59904</b>	0.405809	-	-	-	-	-	-	-	-
2004/11/03	<b>0.206382</b>	0.489168	<b>-0.03263</b>	0.105055	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>-0.3986</b>	0.374906	-0.27671	0.114915	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>-1.31012</b>	0.721056	<b>-0.1583</b>	0.091137	<b>0.00551</b>	0.078047	<b>0.06591</b>	0.093586	<b>-0.04841</b>	0.091428	<b>-0.0313</b>	0.081524	-	-
2004/11/08	<b>-0.00706</b>	0.486271	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>-0.23625</b>	0.445561	<b>-0.04972</b>	0.530603	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>-0.10569</b>	0.305811	<b>0.28721</b>	0.520195	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>-0.02916</b>	0.369903	-0.26204	0.107915	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>-0.92103</b>	0.719313	<b>0.07104</b>	0.123234	<b>0.004373</b>	0.100546	<b>-0.16294</b>	0.105027	-	-	-	-	-	-
2004/11/15	<b>-0.42998</b>	0.553845	<b>-0.53875</b>	0.505351	<b>-0.32273</b>	0.169803	<b>-0.09519</b>	0.114341	<b>-0.03691</b>	0.118588	-	-	-	-
2004/11/16	<b>0.36909</b>	0.414492	<b>-0.01437</b>	0.561697	<b>0.005624</b>	0.127651	<b>-0.03068</b>	0.119019	-	-	-	-	-	-
2004/11/17	<b>0.071004</b>	0.507976	<b>-0.08031</b>	0.46393	<b>0.168397</b>	0.469901	<b>0.019405</b>	0.094993	<b>-0.01951</b>	0.086819	-	-	-	-
2004/11/18	<b>0.979877</b>	0.931406	<b>0.076695</b>	0.095233	-0.18448	0.075955	<b>-0.0861</b>	0.08235	<b>0.09107</b>	0.091176	<b>-0.14909</b>	0.08236	<b>-0.03429</b>	0.092489
2004/11/19	<b>0.036172</b>	0.656707	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.247496</b>	0.240729	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>-0.67578</b>	5.391628	<b>-0.15911</b>	0.477154	<b>-0.15141</b>	0.160261	-	-	-	-	-	-	-	-
2004/11/24	<b>-0.15702</b>	0.328561	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.50276</b>	0.658235	<b>0.258137</b>	0.52357	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.10649</b>	0.181744	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>0.417126</b>	0.782127	<b>-0.34005</b>	0.49174	<b>0.363845</b>	0.41093	<b>0.46187</b>	0.433038	-	-	-	-	-	-
2004/11/30	<b>-0.0184</b>	0.28189	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>-0.69793</b>	0.537996	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>-0.31042</b>	0.223199	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.08994</b>	0.147297	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.03145</b>	0.350263	<b>-0.36813</b>	0.454428	<b>0.610826</b>	0.516263	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.06262</b>	0.125837	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>-0.54197</b>	0.341334	<b>-0.05438</b>	0.571203	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.097927</b>	0.246224	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>-0.0027</b>	0.176348	<b>0.35441</b>	0.37339	<b>0.630913</b>	0.353418	-	-	-	-	-	-	-	-
2004/12/15	<b>-0.16539</b>	0.289787	<b>0.067044</b>	0.400892	<b>0.057315</b>	0.094467	<b>-0.0251</b>	0.042968	<b>-0.0146</b>	0.051926	-0.20254	0.057257	-	-
2004/12/17	<b>-0.05395</b>	0.186189	-	-	-	-	-	-	-	-	-	-	-	-

Table A.24a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>-0.2618</b>	0.219077	-0.29198	0.119024	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>-0.13996</b>	0.331581	<b>-0.05956</b>	0.128878	-	-	-	-	-	-	-	-	-	-
2004/12/22	<b>-0.10129</b>	0.444384	<b>-0.11176</b>	0.104531	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.06601</b>	0.352842	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	<b>-0.13861</b>	0.671509	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.617273</b>	0.506698	<b>0.128299</b>	0.558697	-	-	-	-	-	-	-	-	-	-
2004/12/29	0.562334	0.166476	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.146187</b>	0.369568	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	-0.26036	-*	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>0.610438</b>	0.579219	<b>0.016471</b>	0.531637	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.10732</b>	0.605397	<b>-0.40945</b>	0.563213	-	-	-	-	-	-	-	-	-	-
2005/01/05	0.237514	0.110333	<b>-0.17001</b>	0.098342	-	-	-	-	-	-	-	-	-	-
2005/01/06	-0.77364	0.30323	-0.22344	0.086803	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.029423</b>	0.23794	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.11847</b>	0.13787	<b>-0.01458</b>	0.150813	<b>0.007527</b>	0.11297	<b>0.002532</b>	0.100103	<b>-0.01333</b>	0.083582	-	-	-	-
2005/01/11	<b>0.125286</b>	0.155109	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>-0.03942</b>	0.161619	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>-0.02662</b>	0.228623	<b>0.000925</b>	0.090148	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.553169</b>	0.621177	<b>0.737561</b>	0.538275	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>-0.07891</b>	0.158378	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	<b>-0.14433</b>	0.204266	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.076776</b>	0.131181	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>0.011293</b>	0.274679	<b>-0.1744</b>	0.498877	<b>0.140024</b>	0.120329	<b>-0.0213</b>	0.102622	<b>-0.02924</b>	0.107647	<b>0.062261</b>	0.104231	-	-
2005/01/21	<b>-0.02262</b>	0.182795	<b>0.198551</b>	0.413213	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>-0.27062</b>	0.349787	<b>-0.11275</b>	0.54251	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.121695</b>	0.374015	<b>-0.046</b>	0.488531	<b>-0.04127</b>	0.152997	-	-	-	-	-	-	-	-
2005/01/26	<b>-0.02243</b>	0.458823	<b>-0.63161</b>	0.563591	-0.36839	0.138874	-	-	-	-	-	-	-	-
2005/01/27	<b>0.143832</b>	0.364578	<b>0.021652</b>	0.467745	<b>-0.22637</b>	0.121654	<b>-0.04422</b>	0.100076	<b>-0.16013</b>	0.089167	-	-	-	-
2005/01/28	<b>-0.04989</b>	0.458505	<b>-0.1789</b>	0.408159	<b>0.451069</b>	0.335332	<b>0.249616</b>	0.142048	0.360338	0.108753	-	-	-	-
2005/01/31	<b>-0.12764</b>	0.225588	<b>0.052556</b>	0.385229	<b>-0.0156</b>	0.083992	<b>0.074304</b>	0.085082	<b>0.002065</b>	0.096762	<b>-0.00435</b>	0.09943	-	-
2005/02/01	<b>0.10037</b>	0.233276	-0.45102	0.142552	-0.23731	0.094677	<b>-0.16022</b>	0.094897	<b>-0.17829</b>	0.089213	<b>0.086716</b>	0.122242	<b>0.045758</b>	0.128341
2005/02/02	<b>-0.08101</b>	0.740629	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>0.131154</b>	0.577845	-	-	-	-	-	-	-	-	-	-	-	-

Table A.24a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/04	<b>0.245928</b>	0.297847	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.02973</b>	0.256938	<b>-0.03187</b>	0.079206	<b>-0.07233</b>	0.076721	<b>0.024765</b>	0.077081	-	-	-	-	-	-
2005/02/08	<b>-0.29767</b>	0.362449	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.30629</b>	0.419022	-0.4342	0.121843	0.296712	0.101542	<b>-0.04667</b>	0.083114	<b>-0.04043</b>	0.094256	<b>0.129853</b>	0.090574	<b>0.02729</b>	0.091454
2005/02/10	<b>0.119639</b>	0.175877	<b>-0.2652</b>	0.156066	<b>-0.08959</b>	0.093793	<b>-0.05274</b>	0.102392	<b>0.043722</b>	0.087444	<b>-0.01057</b>	0.09078	0.204143	0.098705
2005/02/11	<b>-0.03328</b>	0.124538	<b>-0.03553</b>	0.406967	<b>0.012978</b>	0.094328	-	-	-	-	-	-	-	-
2005/02/14	<b>0.147611</b>	0.21662	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>0.093537</b>	0.277599	<b>0.052662</b>	0.398454	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>0.537467</b>	0.962634	<b>0.157751</b>	0.401342	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.841543</b>	0.829186	<b>-0.11486</b>	0.51551	<b>-0.01222</b>	0.404419	<b>0.076429</b>	0.347969	-	-	-	-	-	-
2005/02/18	<b>-0.12591</b>	0.283493	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.236438</b>	2.329832	0.995235	0.491824	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.211885</b>	0.142281	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/23	0.696894	0.210207	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.338927</b>	0.224726	<b>0.05443</b>	0.117012	<b>-0.06465</b>	0.096162	<b>-0.13093</b>	0.0795	<b>0.087013</b>	0.08031	-	-	-	-
2005/02/25	<b>-0.17893</b>	0.215973	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.01333</b>	0.520021	<b>0.004346</b>	0.447902	<b>-0.02637</b>	0.458141	<b>0.01496</b>	0.087773	-	-	-	-	-	-

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.

**Table A.24b.** Estimates of MA parameters for non-standardized dynamic returns of Tiger Brands Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	0.3640775	0.1324809	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.396868</b>	0.5991685	<b>-0.603132</b>	0.4174164	-	-	-	-	-	-	-	-
2004/11/03	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/08	0.5393583	0.1662386	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.1431957</b>	0.5605894	0.4679572	0.1846708	-	-	-	-	-	-	-	-
2004/11/10	<b>0.7071985</b>	0.5112248	-	-	-	-	-	-	-	-	-	-
2004/11/11	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>-0.036276</b>	0.5300849	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>-0.007774</b>	0.589107	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>0.5626109</b>	0.4940055	<b>0.2483633</b>	0.4998526	-	-	-	-	-	-	-	-
2004/11/18	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/19	0.6898967	0.1465695	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.0411311</b>	0.1291001	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.0773004</b>	0.5078421	-	-	-	-	-	-	-	-	-	-
2004/11/24	0.4177751	0.1130653	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.6604227</b>	0.5622072	-	-	-	-	-	-	-	-	-	-
2004/11/26	0.3151059	0.0897679	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>0.0280665</b>	0.5488508	<b>0.7124863</b>	0.4809737	<b>0.5504199</b>	0.477113	-	-	-	-	-	-
2004/11/30	0.2685369	0.0971848	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>0.0100146</b>	0.120685	0.460084	0.10227	-	-	-	-	-	-	-	-
2004/12/06	0.2422993	0.0823026	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>0.0291068</b>	0.0900197	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.193678</b>	0.4559026	<b>0.9180354</b>	0.5429112	-	-	-	-	-	-	-	-
2004/12/09	0.5780077	0.2648759	<b>0.2935159</b>	0.172425	-	-	-	-	-	-	-	-
2004/12/10	<b>0.1100424</b>	0.646113	-	-	-	-	-	-	-	-	-	-
2004/12/13	0.6488455	0.1452732	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>0.2889862</b>	0.3619144	<b>0.532943</b>	0.345113	-	-	-	-	-	-	-	-
2004/12/15	<b>0.4548874</b>	0.3986189	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.2743779</b>	0.2120824	<b>-0.209788</b>	0.1067413	-	-	-	-	-	-	-	-

Table A.24b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/22	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>0.109546</b>	0.1712885	0.6044998	0.2047823	0.5425444	0.1992077	<b>0.126407</b>	0.1740067	-	-	-	-
2004/12/24	<b>0.1632167</b>	0.278011	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.3896221</b>	0.6510693	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.029395</b>	0.1692054	-	-	-	-	-	-	-	-	-	-
2004/12/30	0.3552647	0.1631124	-	-	-	-	-	-	-	-	-	-
2004/12/31	1.6909266	-*	0.7596347	-*	-	-	-	-	-	-	-	-
2005/01/03	<b>0.3678129</b>	0.5457346	<b>-0.177413</b>	0.1823908	-	-	-	-	-	-	-	-
2005/01/04	<b>-1.05513</b>	0.6246059	<b>0.1769074</b>	0.1706226	<b>0.021342</b>	0.1987366	-	-	-	-	-	-
2005/01/05	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/06	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.0758996</b>	0.1243026	-	-	-	-	-	-	-	-	-	-
2005/01/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/11	<b>0.110845</b>	0.1276801	-	-	-	-	-	-	-	-	-	-
2005/01/12	0.2202019	0.08531	-	-	-	-	-	-	-	-	-	-
2005/01/13	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>1.0647177</b>	0.5709125	<b>-0.028744</b>	0.1248036	<b>-0.070881</b>	0.1264132	<b>0.1516598</b>	0.1290174	-	-	-	-
2005/01/17	0.3763572	0.1193092	-	-	-	-	-	-	-	-	-	-
2005/01/18	0.1712967	0.0702639	-	-	-	-	-	-	-	-	-	-
2005/01/19	0.2531522	0.0674454	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>0.2049327</b>	0.5080961	-	-	-	-	-	-	-	-	-	-
2005/01/21	0.8134497	0.3985364	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.3191194</b>	0.4999623	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.4719616</b>	0.4952838	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>-0.082597</b>	0.5609929	-	-	-	-	-	-	-	-	-	-
2005/01/27	<b>0.3347291</b>	0.5172829	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>0.1889893</b>	0.4618404	0.985321	0.3584238	-	-	-	-	-	-	-	-
2005/01/31	<b>0.4034686</b>	0.4000576	-	-	-	-	-	-	-	-	-	-
2005/02/01	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/02	0.3278766	0.1216304	0.2995883	0.1096802	0.3149104	0.1074239	-	-	-	-	-	-
2005/02/03	<b>-0.092976</b>	0.1336331	-	-	-	-	-	-	-	-	-	-

Table A.24b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/04	0.6457171	0.1408955	-	-	-	-	-	-	-	-	-	-
2005/02/07	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/08	0.344709	0.1126469	-0.252307	0.0905801	0.3441745	0.086622	-	-	-	-	-	-
2005/02/09	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>-0.01456</b>	0.413123	-	-	-	-	-	-	-	-	-	-
2005/02/14	0.4920711	0.0943151	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>0.302811</b>	0.4549759	<b>-0.172037</b>	0.1451192	-	-	-	-	-	-	-	-
2005/02/16	0.8930186	0.3889613	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.3598276</b>	0.5306866	<b>0.1925434</b>	0.4606087	<b>0.1154806</b>	0.419898	-	-	-	-	-	-
2005/02/18	0.4044321	0.1158792	-	-	-	-	-	-	-	-	-	-
2005/02/21	1.3268864	0.5534819	<b>0.0678861</b>	0.201379	<b>-0.292668</b>	0.1912893	-	-	-	-	-	-
2005/02/22	0.3444912	0.1308939	-	-	-	-	-	-	-	-	-	-
2005/02/23	0.7811602	0.2634425	-	-	-	-	-	-	-	-	-	-
2005/02/24	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>-0.194139</b>	0.2165431	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.033703</b>	0.4749213	<b>0.2242791</b>	0.4864335	-	-	-	-	-	-	-	-

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.



**Table A.24c.** Variance related parameters for non-standardized dynamic returns of Tiger Brands Ltd. with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	0.7676971	0.3882759	0.1932937	0.2782452	0.4022577	0.2714125	1.979E-05	0.945	
2004/11/02	-	-	0.6912199	0.2119279	0.1531602	0.1643616	2.51E-07	0.0001076	1.383E-07	0.1744	
2004/11/03	0.9484116	0.9472512	-	-	-	-	-	-	0.5	0.1688	
2004/11/04	0.1936982	0.2699198	-	-	-	-	-	-	0.5	0.3459	
2004/11/05	1.9114491	8.6151689	-	-	-	-	-	-	0.3206737	0.6275	
2004/11/08	-	-	0.8245982	1.1373959	0.1155721	0.2692998	0.7939016	0.3541251	0.0168412	0.0009	reject
2004/11/09	0.8144687	0.4274059	-	-	-	-	-	-	0.5	0.1155	
2004/11/10	-	-	0.0364856	0.2474217	0.1640502	0.1649673	0.8227581	0.3158368	6.431E-05	0.8119	
2004/11/11	-	-	3.8464029	0.814666	0.1027691	0.2375594	5.092E-08	0.0012538	0.0050732	0.4057	
2004/11/12	0.5586076	0.739842	-	-	-	-	-	-	0.5	0.7378	
2004/11/15	4.8378429	1.3457692	-	-	-	-	-	-	0.1351362	0.0924	
2004/11/16	0.7629002	0.3175568	-	-	-	-	-	-	0.5	0.8675	
2004/11/17	1.9036641	0.9815971	-	-	-	-	-	-	0.3960042	0.9722	
2004/11/18	2.0992431	75.490812	-	-	-	-	-	-	0.5	0.0198	
2004/11/19	12.102046	7.3863594	-	-	-	-	-	-	0.2419065	0.8992	
2004/11/22	0.8075445	0.2405716	-	-	-	-	-	-	0.5	0.708	
2004/11/23	-	-	0.1206249	0.3348525	0.4972086	0.2108133	0.5006489	0.3269276	0.0341646	0.6981	
2004/11/24	2.1063776	0.5234355	-	-	-	-	-	-	0.2447265	0.0146	
2004/11/25	5.5109136	1.9602399	-	-	-	-	-	-	0.1020392	0.2311	
2004/11/26	0.8204663	0.3189777	-	-	-	-	-	-	0.3394091	0.9422	
2004/11/29	5.931291	2.7406397	-	-	-	-	-	-	0.3878734	0.7467	
2004/11/30	3.0867855	0.6865916	-	-	-	-	-	-	0.1266086	0.3695	
2004/12/03	3.2627133	1.1916701	-	-	-	-	-	-	0.5	0.4511	
2004/12/06	1.5174179	0.379669	-	-	-	-	-	-	0.1527959	0.0748	
2004/12/07	0.4242417	0.1116935	-	-	-	-	-	-	0.5	0.5621	
2004/12/08	0.8551352	0.6303869	-	-	-	-	-	-	0.1394292	0.0702	
2004/12/09	-	-	0.0460632	0.1570859	0.972968	0.319036	7.68E-13	0.0110303	2.3E-06	0.4415	
2004/12/10	1.3695784	0.5599413	-	-	-	-	-	-	0.4406033	0.2611	
2004/12/13	1.4510379	0.7466691	-	-	-	-	-	-	0.233934	0.9136	
2004/12/14	-	-	0.6633609	2.3145303	0.2185142	0.2161215	0.5107283	0.319846	0.0441943	0.8239	

Table A.24c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/15	6.2937094	1.9939581	-	-	-	-	-	-	0.1050327	0	reject
2004/12/17	-	-	0.2739998	0.0994416	0.3814821	0.3342629	0.2822044	0.2620094	0.0019844	0.5078	
2004/12/20	0.1026664	0.0589274	-	-	-	-	-	-	0.5	0.4844	
2004/12/21	0.8358423	1.0422253	-	-	-	-	-	-	0.5	0.8699	
2004/12/22	0.5773484	0.53454	-	-	-	-	-	-	0.3624562	0.0159	
2004/12/23	-	-	1.2192425	0.4729073	0.2412343	0.338977	3.114E-06	0.0857962	0.020998	0.6946	
2004/12/24	1.6965774	0.889812	-	-	-	-	-	-	0.5	0.6333	
2004/12/28	0.9063681	0.3928483	-	-	-	-	-	-	0.5	0.8755	
2004/12/29	-	-	0.1679658	0.1599713	0.1392835	0.2905158	0.6857167	0.3347455	0.0497415	0.9717	
2004/12/30	1.1606076	0.3690625	-	-	-	-	-	-	0.064456	0.4938	
2004/12/31	0.349794	-*	-	-	-	-	-	-	0.3836674	0.4412	
2005/01/03	1.623732	0.7090694	-	-	-	-	-	-	0.1066214	0.3237	
2005/01/04	0.4717841	0.2922147	-	-	-	-	-	-	0.4884311	0.7587	
2005/01/05	0.0507361	0.02197	-	-	-	-	-	-	0.0669921	0.7205	
2005/01/06	0.2105017	0.2427964	-	-	-	-	-	-	0.5	0.8684	
2005/01/07	-	-	2.0310785	0.2970647	0.2401483	0.263066	7.75E-08	0.0271774	0.0277987	0.71	
2005/01/10	-	-	0.2957193	0.02954	0.2570015	0.1905362	1.768E-08	5.805E-06	0.0009725	0.3905	
2005/01/11	-	-	0.913875	0.1514618	0.2282858	0.2571628	1.766E-06	0.0879967	0.000102	0.3954	
2005/01/12	0.8768851	0.2360773	-	-	-	-	-	-	0.5	0.3957	
2005/01/13	0.1611404	0.1534338	-	-	-	-	-	-	0.5	0.1477	
2005/01/14	3.2243014	1.5505966	-	-	-	-	-	-	0.2976949	0.1099	
2005/01/17	0.6482523	0.2169988	-	-	-	-	-	-	0.3319999	0.8631	
2005/01/18	1.6358333	0.4876039	-	-	-	-	-	-	0.4370963	0.0267	
2005/01/19	1.2722566	0.426105	-	-	-	-	-	-	0.3175581	0.0101	
2005/01/20	0.5395507	0.1968288	-	-	-	-	-	-	0.0832836	0.5313	
2005/01/21	1.0920773	0.3395787	-	-	-	-	-	-	0.5	0.1274	
2005/01/24	0.3776334	0.1630404	-	-	-	-	-	-	0.5	0.9075	
2005/01/25	1.4370976	0.4797639	-	-	-	-	-	-	0.2087997	0.1794	
2005/01/26	0.9668185	0.5725438	-	-	-	-	-	-	0.5	0.1378	
2005/01/27	-	-	0.0535892	0.0784361	0.186255	0.2059054	0.7333236	0.3454835	0.0173924	0.6431	
2005/01/28	-	-	0.0929201	0.3041526	0.2376105	0.2518397	0.6523349	0.3042789	0.0091758	0.486	
2005/01/31	-	-	0.0347022	0.0680495	0.2266987	0.2455063	0.7000184	0.3303429	0.0015359	0.9301	
2005/02/01	-	-	0.0354071	0.1087501	0.1803273	0.2182421	0.8048266	0.3440293	0.0015128	0.7277	

Table A.24c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2005/02/02	11.195459	4.1646756	-	-	-	-	-	-	0.0850997	0.366	
2005/02/03	1.9591399	0.7005876	-	-	-	-	-	-	0.5	0.2695	
2005/02/04	4.4601369	1.3811544	-	-	-	-	-	-	0.1554118	0.7923	
2005/02/07	0.6578451	0.2022811	-	-	-	-	-	-	0.5	0.7004	
2005/02/08	2.3932241	0.690076	-	-	-	-	-	-	0.0582876	0.1575	
2005/02/09	0.3663267	0.564933	-	-	-	-	-	-	0.0884693	0.0132	
2005/02/10	-	-	0.3245233	0.0830282	0.2861484	0.2685126	9.157E-07	8.613E-05	4.69E-06	0.3938	
2005/02/11	-	-	0.038871	0.022082	0.1921271	0.1885074	0.6273876	0.3100763	0.0002567	0.4014	
2005/02/14	1.9420833	0.3953467	-	-	-	-	-	-	0.3574036	0.127	
2005/02/15	-	-	0.7927586	0.2036398	0.1325631	0.2721894	7.946E-06	0.015272	0.0006108	0.6371	
2005/02/16	5.3528169	4.5978529	-	-	-	-	-	-	0.2612216	0.8657	
2005/02/17	10.706623	5.673179	-	-	-	-	-	-	0.0617899	0.9686	
2005/02/18	2.104943	0.807326	-	-	-	-	-	-	0.0840855	0.7995	
2005/02/21	2.5663554	1.8542325	-	-	-	-	-	-	0.5	0.6191	
2005/02/22	-	-	0.2664607	0.075916	0.1627281	0.2694173	0.4307413	0.2775018	5.814E-05	0.2624	
2005/02/23	-	-	0.00074	0.0047524	0.3795741	0.262277	0.6197739	0.2883964	0.0249203	0.8313	
2005/02/24	0.1162369	0.1201291	-	-	-	-	-	-	0.3968167	0.4155	
2005/02/25	-	-	0.4903188	0.1356993	0.4329069	0.3364703	6.044E-09	0.0463445	0.0188562	0.9797	
2005/02/28	1.8059726	0.7342034	-	-	-	-	-	-	0.5	0.0921	

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.

**Table A.25a.** Estimates of mean and AR parameters for standardized dynamic returns of Anglo American PLC. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>0.011714</b>	0.010796	-0.49865	0.11588	<b>-0.01608</b>	0.115789	<b>0.006556</b>	0.092114	<b>0.073792</b>	0.09906	<b>-0.01741</b>	0.074119	-	-
2004/11/02	<b>-0.00251</b>	0.010404	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>-0.00242</b>	0.01228	<b>0.052652</b>	0.247253	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>-0.01825</b>	0.036662	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>-0.01</b>	0.026148	<b>-0.05512</b>	0.49846	<b>-0.00681</b>	0.09851	-	-	-	-	-	-	-	-
2004/11/08	<b>-0.00293</b>	0.008469	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>-0.01307</b>	0.01645	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/10	-0.02274	0.011304	<b>-0.17965</b>	0.248707	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.003751</b>	0.014805	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>-0.00898</b>	0.014427	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>-0.00959</b>	0.029728	<b>0.529003</b>	0.496512	0.202522	0.073556	0.171265	0.054231	<b>-0.07769</b>	0.049986	-	-	-	-
2004/11/16	<b>-0.01029</b>	0.025996	<b>-0.02584</b>	0.433923	<b>0.700947</b>	0.40934	0.232555	0.092993	-	-	-	-	-	-
2004/11/17	<b>0.005864</b>	0.006311	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>0.002099</b>	17.73183	1	0.064294	-	-	-	-	-	-	-	-	-	-
2004/11/19	<b>-0.00248</b>	0.012783	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.016358</b>	0.020248	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>-0.00234</b>	0.012855	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/24	<b>0.000689</b>	0.006781	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>-0.00267</b>	0.013608	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>-0.00643</b>	0.485023	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.00858</b>	0.01498	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>0.003658</b>	0.012238	-0.41254	0.076348	<b>-0.11501</b>	0.058902	-	-	-	-	-	-	-	-
2004/12/03	<b>0.021119</b>	0.015125	<b>-0.31861</b>	0.395215	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>0.003199</b>	0.016832	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.00593</b>	0.032929	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.01972</b>	0.016237	<b>0.026812</b>	0.347524	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.01197</b>	0.055572	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>-0.00527</b>	0.014374	<b>-0.32893</b>	0.33527	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>-0.00327</b>	0.018141	<b>-0.04715</b>	0.301689	<b>-0.48862</b>	0.496917	<b>-0.08593</b>	0.080704	<b>-0.00535</b>	0.050121	-	-	-	-
2004/12/14	<b>0.011576</b>	0.009641	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>0.055152</b>	29.83657	<b>-0.54888</b>	0.498664	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.011601</b>	0.021134	-	-	-	-	-	-	-	-	-	-	-	-

Table A.25a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>-0.00663</b>	0.013205	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	0.062392	0.011954	<b>-0.0463</b>	0.096294	<b>0.000669</b>	0.067052	0.132273	0.055332	<b>0.059434</b>	0.064595	-	-	-	-
2004/12/22	<b>0.01077</b>	0.037702	-0.24322	0.117817	<b>-0.03137</b>	0.062159	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.00363</b>	0.064645	-0.33526	0.154354	<b>-0.1125</b>	0.073569	<b>0.023084</b>	0.064919	0.139334	0.058109	-	-	-	-
2004/12/24	0.001342	-	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.005841</b>	0.027875	<b>-0.35546</b>	0.193623	<b>-0.07537</b>	0.117522	-	-	-	-	-	-	-	-
2004/12/29	<b>0.004236</b>	0.112124	-0.53187	0.182652	-0.26266	0.091345	<b>-0.14925</b>	0.076087	<b>-0.08136</b>	0.070225	<b>-0.03732</b>	0.073708	-	-
2004/12/30	<b>0.012432</b>	0.013795	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>0.019483</b>	0.017086	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>0.010154</b>	0.012434	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>0.002241</b>	0.015222	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.005538</b>	0.010003	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>2.51E-05</b>	0.007472	<b>-0.15977</b>	0.521128	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.002425</b>	0.013188	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.02527</b>	0.029503	<b>0.616981</b>	0.49781	<b>-0.21449</b>	0.367794	-	-	-	-	-	-	-	-
2005/01/11	<b>0.019748</b>	0.012352	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.060274</b>	9.270717	<b>-0.78797</b>	0.502536	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>0.004947</b>	0.008203	-0.26535	0.075579	<b>-0.08079</b>	0.06085	<b>0.055808</b>	0.050582	<b>0.000508</b>	0.049854	<b>-0.05171</b>	0.051004	<b>0.031326</b>	0.050508
2005/01/14	<b>-0.0059</b>	0.00887	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>0.004462</b>	0.01734	-0.31315	0.053566	-	-	-	-	-	-	-	-	-	-
2005/01/18	<b>-0.02091</b>	0.036452	-0.22067	0.069153	<b>-0.06898</b>	0.036677	<b>-0.06577</b>	0.03507	<b>0.014519</b>	0.031538	-	-	-	-
2005/01/19	<b>-0.01028</b>	0.010413	<b>0.016703</b>	0.260408	<b>-0.39128</b>	0.368976	-	-	-	-	-	-	-	-
2005/01/20	<b>0.007837</b>	0.007301	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>0.012431</b>	0.048941	-0.23451	0.099275	<b>0.031508</b>	0.060143	-0.12975	0.059409	<b>-0.01304</b>	0.047125	<b>0.104938</b>	0.059929	-	-
2005/01/24	<b>0.003192</b>	0.050281	<b>-0.22768</b>	0.459276	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>-0.00798</b>	0.018645	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>-0.0098</b>	0.008288	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/27	<b>0.008327</b>	0.014605	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>-0.01014</b>	0.009566	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.00425</b>	0.01485	<b>0.392882</b>	0.545024	0.229257	0.095279	-	-	-	-	-	-	-	-
2005/02/01	<b>0.01331</b>	0.018699	-0.29769	0.111255	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>-0.00498</b>	0.009404	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.01305</b>	0.009906	<b>-0.26574</b>	0.179343	-	-	-	-	-	-	-	-	-	-

Table A.25a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/04	<b>-0.0299</b>	0.035446	<b>-0.05015</b>	0.108133	<b>-0.02391</b>	0.093388	<b>-0.15122</b>	0.123689	<b>0.053208</b>	0.133069	<b>-0.00921</b>	0.097036	-	-
2005/02/07	<b>0.010523</b>	0.011049	<b>0.098599</b>	0.366809	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>-0.00522</b>	0.012876	<b>0.167</b>	0.279573	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.0105</b>	0.010894	<b>-0.21741</b>	0.311594	-	-	-	-	-	-	-	-	-	-
2005/02/10	<b>-0.00092</b>	0.046147	-0.25882	0.084657	<b>0.02518</b>	0.041858	<b>0.023202</b>	0.038717	<b>0.031044</b>	0.030187	-	-	-	-
2005/02/11	<b>0.017948</b>	0.086971	-0.21328	0.105148	<b>-0.05131</b>	0.053291	<b>0.062703</b>	0.055868	<b>-0.00936</b>	0.058504	<b>0.066073</b>	0.052185	-0.15846	0.055173
2005/02/14	<b>-0.00676</b>	0.014706	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>-0.00175</b>	0.006642	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>-0.00246</b>	0.006027	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>-0.00376</b>	0.010658	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>-0.00313</b>	0.009904	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>-0.01091</b>	0.008025	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.000535</b>	0.025536	<b>0.484115</b>	0.56518	-	-	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.00252</b>	0.038881	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.000887</b>	0.01983	<b>0.106615</b>	0.523373	<b>0.121182</b>	0.380531	-	-	-	-	-	-	-	-
2005/02/25	<b>-0.00424</b>	0.005613	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.00116</b>	0.006011	<b>-0.06722</b>	0.437397	-	-	-	-	-	-	-	-	-	-

**Table A.25b.** Estimates of MA parameters for standardized dynamic returns of Anglo American PLC. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/02	0.2829615	0.0539637	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.379333</b>	0.2388991	-	-	-	-	-	-	-	-	-	-
2004/11/04	0.572583	0.188052	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>0.2894322</b>	0.5040173	-	-	-	-	-	-	-	-	-	-
2004/11/08	0.2290404	0.0574531	-	-	-	-	-	-	-	-	-	-
2004/11/09	0.3492274	0.1491282	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>0.072166</b>	0.2744079	-	-	-	-	-	-	-	-	-	-
2004/11/11	0.255756	0.056076	-	-	-	-	-	-	-	-	-	-
2004/11/12	0.2807675	0.0491557	-0.088759	0.0440662	0.1599497	0.0404274	-	-	-	-	-	-
2004/11/15	<b>0.834337</b>	0.4784623	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>0.2657394</b>	0.4329088	<b>0.665303</b>	0.4300485	-	-	-	-	-	-	-	-
2004/11/17	0.1685551	0.0635949	-	-	-	-	-	-	-	-	-	-
2004/11/18	0.925352	0.0826681	-	-	-	-	-	-	-	-	-	-
2004/11/19	0.5488656	0.1715202	-	-	-	-	-	-	-	-	-	-
2004/11/22	0.3292166	0.0674383	<b>-0.011509</b>	0.0440178	-0.318243	0.0696353	0.1341893	0.052561	-	-	-	-
2004/11/23	0.2588487	0.0556939	0.0971416	0.0386306	-0.201953	0.0423434	0.1248984	0.0370353	-	-	-	-
2004/11/24	0.6089111	0.0983806	-0.275048	0.0965414	<b>0.1160411</b>	0.2748607	-	-	-	-	-	-
2004/11/25	0.2197072	0.0570311	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.4798686</b>	0.2530906	-	-	-	-	-	-	-	-	-	-
2004/11/29	0.2989604	0.0567071	-	-	-	-	-	-	-	-	-	-
2004/11/30	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>-0.123486</b>	0.394802	-	-	-	-	-	-	-	-	-	-
2004/12/06	0.3917515	0.1773539	<b>-0.211778</b>	0.1194266	<b>0.0680938</b>	0.0890153	<b>-0.032532</b>	0.0961762	-	-	-	-
2004/12/07	0.3583055	0.0629022	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>0.3863619</b>	0.3454861	-	-	-	-	-	-	-	-	-	-
2004/12/09	0.3576678	0.1017098	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>-0.004803</b>	0.3305576	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.0793635</b>	0.3203731	<b>-0.491331</b>	0.5090912	-	-	-	-	-	-	-	-
2004/12/14	0.272756	0.06012	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>-0.497279</b>	0.5083882	<b>0.016082</b>	0.1467881	-	-	-	-	-	-	-	-
2004/12/17	0.382986	0.0586089	0.1100879	0.0528246	-0.241323	0.0543563	-	-	-	-	-	-

Table A.25b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	0.4032237	0.0646755	-	-	-	-	-	-	-	-	-	-
2004/12/21	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/22	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	1.0738702	-	0.2145334	-	-	-	-	-	-	-	-	-
2004/12/28	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/29	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.1960237</b>	0.1170127	-0.422206	0.1264852	<b>0.0718346</b>	0.1029312	-	-	-	-	-	-
2004/12/31	0.4500575	0.2099589	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>0.0893038</b>	0.0969529	-	-	-	-	-	-	-	-	-	-
2005/01/04	0.1751665	0.0755435	-	-	-	-	-	-	-	-	-	-
2005/01/05	0.253432	0.0695785	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>0.0523265</b>	0.4993098	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.1391952</b>	0.0696874	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>0.7390179</b>	0.4687923	<b>-0.260978</b>	0.3873724	-	-	-	-	-	-	-	-
2005/01/11	0.3482529	0.055689	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>-0.621581</b>	0.4249899	<b>-0.332288</b>	0.1811309	<b>-0.027962</b>	0.1648478	<b>-0.014999</b>	0.168275	-	-	-	-
2005/01/13	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	0.2100007	0.0486542	-	-	-	-	-	-	-	-	-	-
2005/01/17	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.3810628</b>	0.2530821	<b>-0.465208</b>	0.3653737	<b>0.157637</b>	0.0865014	<b>0.003918</b>	0.0498649	-	-	-	-
2005/01/20	0.2418404	0.0405469	-	-	-	-	-	-	-	-	-	-
2005/01/21	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.2145308</b>	0.4209071	-	-	-	-	-	-	-	-	-	-
2005/01/25	0.255658	0.0630642	-	-	-	-	-	-	-	-	-	-
2005/01/26	0.289662	0.0612487	-	-	-	-	-	-	-	-	-	-
2005/01/27	0.4255271	0.0729003	<b>-0.126326</b>	0.0711638	<b>-0.096625</b>	0.0608095	-	-	-	-	-	-
2005/01/28	0.2784156	0.0546868	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>0.7064705</b>	0.5072683	-	-	-	-	-	-	-	-	-	-
2005/02/01	<b>0.3047374</b>	0.1673876	-	-	-	-	-	-	-	-	-	-
2005/02/02	0.2414807	0.0390518	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>0.0214961</b>	0.1726497	-	-	-	-	-	-	-	-	-	-



Table A.25b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/04	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>0.4231367</b>	0.376333	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>0.4745686</b>	0.2534041	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>0.1445658</b>	0.3154749	-	-	-	-	-	-	-	-	-	-
2005/02/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/14	0.4877275	0.0992007	-	-	-	-	-	-	-	-	-	-
2005/02/15	0.2866013	0.0818728	<b>0.0241978</b>	0.0699312	<b>0.0578946</b>	0.0760774	-	-	-	-	-	-
2005/02/16	0.218795	0.0436342	-	-	-	-	-	-	-	-	-	-
2005/02/17	0.2719987	0.0560647	0.1358622	0.0513398	-	-	-	-	-	-	-	-
2005/02/18	0.3513005	0.0605821	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.0901367</b>	0.0650686	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.6950599</b>	0.5425896	<b>-0.119564</b>	0.0865668	-0.253684	0.0999688	<b>0.0455751</b>	0.0980625	-	-	-	-
2005/02/23	0.2498322	0.1083169	<b>-0.100542</b>	0.0771759	-	-	-	-	-	-	-	-
2005/02/24	<b>0.3722363</b>	0.5205319	<b>0.1041987</b>	0.3916178	-	-	-	-	-	-	-	-
2005/02/25	0.1570055	0.0573013	0.1509709	0.0599195	-	-	-	-	-	-	-	-
2005/02/28	<b>0.1879752</b>	0.4327516	-	-	-	-	-	-	-	-	-	-

**Table A.25c.** Variance related parameters for standardized dynamic returns of Anglo American PLC with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	0.0012295	0.0539901	0.6701473	0.2389241	0.3038962	0.2570388	0.0030315	0.4625	
2004/11/02	0.0061911	0.0013219	-	-	-	-	-	-	0.2110201	0.0128	
2004/11/03	0.0071741	0.0017886	-	-	-	-	-	-	0.5	0.2984	
2004/11/04	-	-	0.0030582	0.0025686	0.8035054	0.2153214	0.1830412	0.2449996	0.0387609	0.0008	reject
2004/11/05	0.0210729	0.0098416	-	-	-	-	-	-	0.5	0.0389	
2004/11/08	0.0054673	0.0020117	-	-	-	-	-	-	0.4847647	0.9842	
2004/11/09	-	-	0.0045628	0.0014294	0.5905795	0.3321617	4.902E-10	0.0406355	0	0.3357	
2004/11/10	-	-	0.00632	0.0034535	0.6420082	0.2943339	9.479E-10	0.0375289	0	0.0006	reject
2004/11/11	0.0060026	0.0016252	-	-	-	-	-	-	0.0503293	0.1805	
2004/11/12	0.0073795	0.0017186	-	-	-	-	-	-	0.5	0.1962	
2004/11/15	0.0079079	0.0047454	-	-	-	-	-	-	0.1561806	0.8804	
2004/11/16	-	-	0.0003633	0.0005985	0.2250695	0.1061439	0.7556455	0.1703736	1.49E-06	0.0481	
2004/11/17	-	-	0.0002904	0.0004466	0.084153	0.1766381	0.8531822	0.2616181	0.0089144	0.6782	
2004/11/18	-	-	0.006101	2.2093958	0.9647019	0.0719574	7.953E-08	0.0174704	2E-15	0.5018	
2004/11/19	-	-	0.0024687	0.0023639	0.7391489	0.2546791	0.1630755	0.259427	0	0.4943	
2004/11/22	0.0205006	0.0091731	-	-	-	-	-	-	0.4061874	0.6395	
2004/11/23	0.0058194	0.0017315	-	-	-	-	-	-	0.1336149	0.0053	
2004/11/24	-	-	0.0017294	0.0010261	0.7142491	0.1783238	0.2852797	0.1387959	0.0402796	0.6879	
2004/11/25	0.0118424	0.0045089	-	-	-	-	-	-	0.300432	0.1185	
2004/11/26	-	-	0.0017816	0.0813174	0.7088658	0.3013166	0.2911323	0.2993114	0	0.1972	
2004/11/29	0.0098985	0.0033596	-	-	-	-	-	-	0.1516887	0.1017	
2004/11/30	-	-	0.003296	0.0017126	0.3541181	0.1844452	0.3943405	0.2349822	6.242E-06	0.774	
2004/12/03	-	-	0.0037134	0.0010288	0.3633894	0.1777007	0.2020348	0.2321501	0.0033346	0.1004	
2004/12/06	-	-	0.0095019	0.0042374	0.9235466	0.302915	2.004E-08	0.0379398	2.332E-11	0.2386	
2004/12/07	0.0431319	0.0176857	-	-	-	-	-	-	0.3716912	0.9418	
2004/12/08	-	-	0.0011208	0.0018318	0.1980992	0.1378957	0.7854258	0.1866972	0.000137	0.1395	
2004/12/09	-	-	0.0008432	0.0017941	0.1864632	0.0975889	0.8119299	0.1032902	0.000397	0.9034	
2004/12/10	0.0056644	0.0013435	-	-	-	-	-	-	0.210275	0.0738	
2004/12/13	-	-	0.0063159	0.0008524	0.2493051	0.2990303	1.287E-08	6.295E-06	0.0050465	0.7039	
2004/12/14	0.0053409	0.0013725	-	-	-	-	-	-	0.0624302	0.3311	

Table A.25c. (continued)

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/15	-	-	0.0013603	0.0081961	0.4728632	0.0820289	0.5258116	0.0868992	0	0.0002	reject
2004/12/17	0.0121007	0.0023943	-	-	-	-	-	-	0.5	0	reject
2004/12/20	0.0032369	0.0008393	-	-	-	-	-	-	0.0838933	0.2515	
2004/12/21	-	-	0.0081958	0.0014282	0.2400303	0.1975137	0.0039702	0.1839922	7.689E-11	0.0304	
2004/12/22	0.0024848	0.002323	-	-	-	-	-	-	0.5	0.0121	
2004/12/23	0.0017716	0.009317	-	-	-	-	-	-	0.078977	0.136	
2004/12/24	-	-	0.0002118	-	0.9254586	-	0.0199566	-	0.0170041	0.8857	
2004/12/28	0.0017143	0.0023852	-	-	-	-	-	-	0.258198	0.8927	
2004/12/29	0.0082562	0.016005	-	-	-	-	-	-	0.4608146	0.1444	
2004/12/30	-	-	0.000337	0.000427	0.4685895	0.2180355	0.5238844	0.2705897	7.254E-07	0.539	
2004/12/31	0.0027622	0.0013786	-	-	-	-	-	-	0.5	0.9106	
2005/01/03	0.0048102	0.0017964	-	-	-	-	-	-	0.5	0.8085	
2005/01/04	0.0102822	0.0037432	-	-	-	-	-	-	0.5	0.854	
2005/01/05	0.0055074	0.0018503	-	-	-	-	-	-	0.2281541	0.1467	
2005/01/06	-	-	0.0023213	0.0006259	0.3416662	0.2197536	0.2329926	0.2558341	0.0104015	0.7222	
2005/01/07	0.0115335	0.0057357	-	-	-	-	-	-	0.5	0.8054	
2005/01/10	0.0044066	0.0280603	-	-	-	-	-	-	0.0528804	0.5476	
2005/01/11	0.0116986	0.0024771	-	-	-	-	-	-	0.0516691	0.0004	reject
2005/01/12	-	-	0.4308776	1.3843444	0.9975488	0.4126108	9.213E-09	0.0897302	0.033787	0.6914	
2005/01/13	-	-	0.001423	0.0005897	0.1338784	0.2057038	0.5434805	0.2954747	0.0008108	0.8845	
2005/01/14	0.0060128	0.0011135	-	-	-	-	-	-	0.3097515	0.789	
2005/01/17	0.0051286	0.0011577	-	-	-	-	-	-	0.1719791	0.0341	
2005/01/18	0.0049164	0.0017212	-	-	-	-	-	-	0.5	0.0214	
2005/01/19	-	-	0.0034137	0.000983	0.2215712	0.1415372	0.3032924	0.2668885	1.932E-09	0.8753	
2005/01/20	0.0043251	0.000544	-	-	-	-	-	-	0.3106055	0.8917	
2005/01/21	0.0084329	0.0053847	-	-	-	-	-	-	0.1140872	0.187	
2005/01/24	-	-	0.0011129	0.0041348	0.4985721	0.1907787	0.4947192	0.2498329	3.361E-11	0.8856	
2005/01/25	0.0237756	0.0137381	-	-	-	-	-	-	0.5	0.0893	
2005/01/26	0.0080394	0.001716	-	-	-	-	-	-	0.2279835	0.2946	
2005/01/27	-	-	0.0008909	0.0014523	0.13376	0.1124968	0.7910268	0.2570712	0.000171	0.6271	
2005/01/28	0.0072338	0.0017049	-	-	-	-	-	-	0.2971623	0.2595	
2005/01/31	0.0033449	0.0025067	-	-	-	-	-	-	0.0929009	0.228	
2005/02/01	0.0112161	0.0033932	-	-	-	-	-	-	0.5	0.4394	

Table A.25c. (continued)

Date	$\sigma$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/02	0.0070384	0.0011212	-	-	-	-	-	-	0.3101405	0.0264	
2005/02/03	-	-	0.0002784	0.0010297	0.0547681	0.0403676	0.9015711	0.1902062	0.0274317	0.3186	
2005/02/04	-	-	0.0008312	0.0008259	0.6004227	0.2269747	0.393071	0.2606309	0.0065215	0.8539	
2005/02/07	-	-	0.0019318	0.0004001	0.3110361	0.1148187	0.1629709	0.1936843	0.027065	0.2873	
2005/02/08	0.0126173	0.0045648	-	-	-	-	-	-	0.5	0.0857	
2005/02/09	-	-	0.0017146	0.0006753	0.166694	0.1409433	0.3990472	0.2834998	0.0050652	0.7178	
2005/02/10	0.0094806	0.0038168	-	-	-	-	-	-	0.0958661	0.0125	
2005/02/11	0.0044585	0.0102382	-	-	-	-	-	-	0.091396	0.0003	reject
2005/02/14	0.0068895	0.0032159	-	-	-	-	-	-	0.0529819	0.8662	
2005/02/15	-	-	0.001794	0.0008505	0.2703072	0.2228886	0.4286052	0.2774164	1.762E-07	0.2789	
2005/02/16	0.0046381	0.0013964	-	-	-	-	-	-	0.5	0.6083	
2005/02/17	0.0063799	0.0014483	-	-	-	-	-	-	0.2617758	0.3355	
2005/02/18	0.0044281	0.0008769	-	-	-	-	-	-	0.0974419	0.2097	
2005/02/21	0.0040323	0.001521	-	-	-	-	-	-	0.1275915	0.9335	
2005/02/22	-	-	0.0003412	0.0007411	0.3275593	0.175871	0.665982	0.2670835	5.612E-06	0.5824	
2005/02/23	-	-	0.0009112	0.0006816	0.4080317	0.1337007	0.5908054	0.1891324	2.187E-07	0.6216	
2005/02/24	-	-	0.0051697	0.0020166	0.3340805	0.3596514	3.658E-08	0.0833193	1.103E-09	0.6526	
2005/02/25	0.0019051	0.0006265	-	-	-	-	-	-	0.5	0.0425	
2005/02/28	-	-	0.0017991	0.0004961	0.3346998	0.2208061	0.0684949	0.1836706	1.147E-10	0.4545	

**Table A.26a.** Estimates of mean and AR parameters for standardized dynamic returns of the MTN Group Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>0.003813</b>	0.03371	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.022918</b>	7.160697	<b>0.150409</b>	0.546374	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.010794</b>	0.074427	-0.33243	0.112397	<b>-0.10387</b>	0.058866	-0.12711	0.054858	<b>-0.10743</b>	0.062175	<b>0.039902</b>	0.060106	<b>0.048856</b>	0.058182
2004/11/04	<b>-0.00462</b>	0.013832	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>-0.04196</b>	0.022385	<b>-0.24726</b>	0.27806	<b>-0.03989</b>	0.094621	<b>0.000768</b>	0.078026	-	-	-	-	-	-
2004/11/08	<b>0.030412</b>	0.019455	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.019577</b>	0.078888	-0.23466	0.111261	-0.1215	0.054981	<b>-0.06141</b>	0.039638	<b>-0.02104</b>	0.043351	<b>-0.05699</b>	0.042724	<b>-0.03553</b>	0.038837
2004/11/10	<b>0.002813</b>	0.020657	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.027132</b>	0.016898	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>-0.00779</b>	0.012374	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>-0.01198</b>	0.023473	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>-0.00182</b>	0.014557	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>-0.00192</b>	0.009717	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>0.001872</b>	0.020097	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/19	<b>0.000863</b>	0.012149	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.011547</b>	0.010572	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.007411</b>	0.046731	<b>0.566819</b>	0.469681	<b>-0.18182</b>	0.357038	-	-	-	-	-	-	-	-
2004/11/24	<b>0.013314</b>	0.02014	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.00624</b>	0.027086	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.003481</b>	0.040489	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.0271</b>	0.029994	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.00135</b>	0.083671	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>0.013925</b>	0.027533	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>-0.00526</b>	0.015942	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.03777</b>	0.029187	<b>-0.26487</b>	0.397781	<b>0.021164</b>	0.424843	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.00336</b>	0.010609	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>0.018499</b>	0.01493	<b>-0.17052</b>	0.32106	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>0.001079</b>	0.016633	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>-0.02841</b>	0.048853	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>0.001481</b>	0.012593	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>0.005157</b>	0.012615	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.021052</b>	0.012909	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/20	<b>0.006384</b>	0.010091	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>0.002548</b>	0.008217	-	-	-	-	-	-	-	-	-	-	-	-

Table A.26a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/22	<b>0.004555</b>	0.015489	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.00493</b>	0.014648	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	<b>0.006109</b>	0.265568	<b>-0.41561</b>	0.263463	<b>-0.17861</b>	0.160775	<b>-0.02023</b>	0.137572	<b>-0.05764</b>	0.133063	-	-	-	-
2004/12/28	<b>0.017613</b>	0.030148	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.01543</b>	0.017428	-0.58975	0.123695	<b>-0.2118</b>	0.106644	<b>-0.07056</b>	0.109196	<b>-0.03612</b>	0.084953	-	-	-	-
2004/12/30	<b>-0.03671</b>	0.037522	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	0.03188	0.012051	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>-0.00014</b>	0.043776	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.01031</b>	0.013309	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>-0.00529</b>	0.009884	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>-0.00727</b>	0.027987	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>-0.00164</b>	0.01537	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.00608</b>	0.013653	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/11	<b>-0.00206</b>	0.021444	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.000853</b>	0.01565	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>0.011652</b>	0.015043	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>-0.00367</b>	0.015269	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>-0.01072</b>	0.015313	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	-0.02614	0.012435	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>-0.01177</b>	0.022653	<b>-0.22123</b>	0.178152	<b>-0.02237</b>	0.502385	<b>0.056178</b>	0.101063	<b>1.02E-05</b>	0.060559	-	-	-	-
2005/01/20	<b>0.002931</b>	0.012413	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>0.002092</b>	0.010313	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.022217</b>	0.016387	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.056623</b>	163.3873	<b>-0.14118</b>	0.15418	<b>-0.1</b>	0.100958	<b>-0.00146</b>	0.106042	<b>0.04125</b>	0.074492	<b>-0.00271</b>	0.057772	<b>-0.0592</b>	0.060144
2005/01/26	<b>0.001006</b>	1.476193	<b>0.15618</b>	0.130309	<b>0.143567</b>	0.089254	<b>0.15049</b>	0.0811	<b>0.022487</b>	0.076435	<b>-0.05559</b>	0.083827	<b>0.119061</b>	0.075942
2005/01/27	<b>-0.00082</b>	0.016127	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>0.006712</b>	0.038941	-0.32572	0.1018	<b>-0.14905</b>	0.120245	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.04436</b>	0.023143	<b>-0.21463</b>	0.375085	-	-	-	-	-	-	-	-	-	-
2005/02/01	<b>-0.00483</b>	0.011782	<b>-0.02707</b>	0.224315	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>-0.01156</b>	0.014992	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.01561</b>	0.023865	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/04	<b>-0.008</b>	0.006205	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.00532</b>	0.024349	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/08	<b>-0.00567</b>	0.020155	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.02328</b>	0.026644	<b>-0.04055</b>	0.298068	-	-	-	-	-	-	-	-	-	-

Table A.26a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/10	<b>-0.0017</b>	0.02045	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>0.019401</b>	0.074307	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/14	<b>-0.00439</b>	0.3284	<b>0.047215</b>	0.458044	<b>0.069555</b>	0.141772	<b>0.103087</b>	0.102825	<b>-0.01731</b>	0.140747	-	-	-	-
2005/02/15	<b>-0.02557</b>	0.088328	-0.36908	0.112808	<b>-0.04802</b>	0.061373	<b>-0.07636</b>	0.052302	-0.17399	0.057513	-0.1151	0.049873	<b>0.050005</b>	0.047036
2005/02/16	<b>-0.00725</b>	0.015821	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>-6.1E-05</b>	0.071214	<b>-0.0561</b>	0.074752	<b>-0.03934</b>	0.051746	-0.23312	0.065632	<b>-0.03487</b>	0.043342	-	-	-	-
2005/02/18	<b>-0.00294</b>	0.012461	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.000951</b>	0.007702	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.0021</b>	0.149473	<b>-0.12024</b>	0.486522	<b>0.044604</b>	0.367587	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.00866</b>	0.016255	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>-0.00979</b>	0.076391	<b>-0.57465</b>	0.435504	<b>-0.42535</b>	0.355921	-	-	-	-	-	-	-	-
2005/02/25	<b>0.017485</b>	0.036938	<b>0.060159</b>	0.296844	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>0.003819</b>	0.011399	-	-	-	-	-	-	-	-	-	-	-	-

**Table A.26b.** Estimates of MA parameters for standardized dynamic returns of the MTN Group Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	0.3833821	0.1684974	<b>-0.172886</b>	0.1276159	-	-	-	-	-	-	-	-
2004/11/02	<b>0.2317955</b>	0.5277141	-	-	-	-	-	-	-	-	-	-
2004/11/03	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	0.3271383	0.0846862	<b>-0.057167</b>	0.0678372	<b>0.0245822</b>	0.0681386	<b>-0.140203</b>	0.0715982	0.2078025	0.0818214	-	-
2004/11/05	<b>0.0648926</b>	0.3180875	-	-	-	-	-	-	-	-	-	-
2004/11/08	0.3086406	0.0846427	-	-	-	-	-	-	-	-	-	-
2004/11/09	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/10	0.2426437	0.0554488	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.3223299</b>	0.1966879	-	-	-	-	-	-	-	-	-	-
2004/11/12	0.3040876	0.1200125	-	-	-	-	-	-	-	-	-	-
2004/11/15	0.4252315	0.1674408	-	-	-	-	-	-	-	-	-	-
2004/11/16	0.2411083	0.0542774	-	-	-	-	-	-	-	-	-	-
2004/11/17	0.2871232	0.0586674	-	-	-	-	-	-	-	-	-	-
2004/11/18	0.3592951	0.0620654	-	-	-	-	-	-	-	-	-	-
2004/11/19	0.1996038	0.0493597	-	-	-	-	-	-	-	-	-	-
2004/11/22	0.3616159	0.0707474	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.7554096</b>	0.4416907	<b>-0.241893</b>	0.3626192	-	-	-	-	-	-	-	-
2004/11/24	0.5259678	0.1658804	-	-	-	-	-	-	-	-	-	-
2004/11/25	0.4423413	0.0638634	<b>-0.008024</b>	0.0391856	<b>0.0151185</b>	0.0390518	-0.196496	0.0413272	-	-	-	-
2004/11/26	0.4203562	0.1280977	<b>-0.033365</b>	0.0779149	<b>-0.09405</b>	0.0583462	<b>-0.006493</b>	0.0735023	-	-	-	-
2004/11/29	<b>0.1757605</b>	0.2177549	-	-	-	-	-	-	-	-	-	-
2004/11/30	0.3526686	0.1153194	-	-	-	-	-	-	-	-	-	-
2004/12/03	0.7076605	0.162923	<b>-0.164912</b>	0.1060867	<b>0.0409851</b>	0.1401053	<b>-0.086442</b>	0.1435309	-	-	-	-
2004/12/06	0.2981618	0.0671957	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.005418</b>	0.3742982	<b>0.0927544</b>	0.4363824	<b>-0.139454</b>	0.1130772	<b>0.0762664</b>	0.0759977	-	-	-	-
2004/12/08	0.3481893	0.1115045	<b>0.0803768</b>	0.0919209	-	-	-	-	-	-	-	-
2004/12/09	<b>0.1316964</b>	0.3205369	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>0.1275566</b>	0.0830855	-	-	-	-	-	-	-	-	-	-
2004/12/13	0.3111057	0.0818933	-	-	-	-	-	-	-	-	-	-
2004/12/14	0.3307081	0.0647867	-	-	-	-	-	-	-	-	-	-
2004/12/15	0.253651	0.0341585	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.2283718</b>	0.1532326	-	-	-	-	-	-	-	-	-	-
2004/12/20	<b>0.0663372</b>	0.1178111	-	-	-	-	-	-	-	-	-	-
2004/12/21	0.3558499	0.0990187	-	-	-	-	-	-	-	-	-	-



Table A.26c. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/22	0.1586596	0.0664278	-	-	-	-	-	-	-	-	-	-
2004/12/23	0.2439995	0.0736232	-	-	-	-	-	-	-	-	-	-
2004/12/24	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	0.2682276	0.1149909	-	-	-	-	-	-	-	-	-	-
2004/12/29	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.1579703</b>	0.1148377	-	-	-	-	-	-	-	-	-	-
2004/12/31	0.620138	0.2758803	<b>0.3373049</b>	0.1762299	<b>0.1577265</b>	0.2165362	<b>0.4315763</b>	0.2510202	-	-	-	-
2005/01/03	0.7659798	0.2199923	-	-	-	-	-	-	-	-	-	-
2005/01/04	0.3160527	0.1152016	-	-	-	-	-	-	-	-	-	-
2005/01/05	0.1477476	0.0652325	-	-	-	-	-	-	-	-	-	-
2005/01/06	0.3603386	0.1218982	-	-	-	-	-	-	-	-	-	-
2005/01/07	0.4111371	0.1216769	-	-	-	-	-	-	-	-	-	-
2005/01/10	0.1744361	0.0666892	-	-	-	-	-	-	-	-	-	-
2005/01/11	0.514943	0.1270545	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.2520435</b>	0.1506809	-	-	-	-	-	-	-	-	-	-
2005/01/13	0.2469697	0.04795	-	-	-	-	-	-	-	-	-	-
2005/01/14	0.3232306	0.0636291	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>0.215773</b>	0.1272654	-	-	-	-	-	-	-	-	-	-
2005/01/18	0.2122507	0.0509071	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.0207151</b>	0.2050413	<b>-0.01062</b>	0.5115883	-	-	-	-	-	-	-	-
2005/01/20	0.2474231	0.0644954	-	-	-	-	-	-	-	-	-	-
2005/01/21	0.4852546	0.0859028	-	-	-	-	-	-	-	-	-	-
2005/01/24	0.3170077	0.0654402	-	-	-	-	-	-	-	-	-	-
2005/01/25	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/26	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/27	0.3096808	0.0598646	-	-	-	-	-	-	-	-	-	-
2005/01/28	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.055085</b>	0.3656934	-	-	-	-	-	-	-	-	-	-
2005/02/01	<b>0.2291833</b>	0.2333055	-	-	-	-	-	-	-	-	-	-
2005/02/02	0.3142536	0.0527322	-	-	-	-	-	-	-	-	-	-
2005/02/03	0.3348418	0.0825566	-	-	-	-	-	-	-	-	-	-
2005/02/04	0.20483	0.0848124	-	-	-	-	-	-	-	-	-	-
2005/02/07	0.30309	0.0672396	-	-	-	-	-	-	-	-	-	-
2005/02/08	0.14949	0.063301	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>0.42474</b>	0.2547368	-	-	-	-	-	-	-	-	-	-

Table A.26b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/10	0.2457331	0.0433956	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>-0.049534</b>	0.0588615	0.5253888	0.1378599	-	-	-	-	-	-	-	-
2005/02/14	<b>0.5050894</b>	0.4785508	-	-	-	-	-	-	-	-	-	-
2005/02/15	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/16	0.2816006	0.0743858	-	-	-	-	-	-	-	-	-	-
2005/02/17	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	0.2850065	0.0680151	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.1133519</b>	0.1738278	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.0817051</b>	0.5111824	<b>-0.022741</b>	0.3470726	<b>0.1177407</b>	0.1187124	-	-	-	-	-	-
2005/02/23	0.262625	0.0746828	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.2988825</b>	0.4107963	<b>-0.398986</b>	0.3315251	0.3021303	0.1251179	-	-	-	-	-	-
2005/02/25	<b>0.504224</b>	0.3004185	-	-	-	-	-	-	-	-	-	-
2005/02/28	0.2719071	0.0510999	-	-	-	-	-	-	-	-	-	-

**Table A.26c.** Variance related parameters for standardized dynamic returns of the MTN Group Ltd with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	0.001529	0.0050214	0.5477399	0.2540431	0.4507056	0.2991132	1.213E-12	0.0958	
2004/11/02	-	-	0.0341004	0.0080054	0.2418054	0.4174341	1.421E-10	-	5E-15	0.9981	
2004/11/03	0.0155686	0.0098743	-	-	-	-	-	-	0.0662365	0.6719	
2004/11/04	-	-	0.0007214	0.0009921	0.0988063	0.2307565	0.8097883	0.3199358	0.0122785	0.5178	
2004/11/05	-	-	0.0103302	0.0018502	0.1728985	0.2499817	7.122E-08	7.651E-05	0.0237084	0.4264	
2004/11/08	0.0213422	0.0108209	-	-	-	-	-	-	0.5	0.8684	
2004/11/09	0.0130742	0.0088963	-	-	-	-	-	-	0.3564999	0.1376	
2004/11/10	0.0229254	0.0043767	-	-	-	-	-	-	0.5	0.8715	
2004/11/11	-	-	0.0067152	0.0035322	0.915636	0.3657619	8.481E-10	0.0670431	0	0.5469	
2004/11/12	-	-	0.0045658	0.0011416	0.6053975	0.2443883	2.904E-10	-	9.105E-10	0.6326	
2004/11/15	-	-	0.0007426	0.0015034	0.2651005	0.2526743	0.7186805	0.3042299	4.188E-12	0.3091	
2004/11/16	0.0063856	0.0014061	-	-	-	-	-	-	0.5	0.2208	
2004/11/17	0.0051025	0.0010595	-	-	-	-	-	-	0.3801435	0.8124	
2004/11/18	0.0121946	0.0026765	-	-	-	-	-	-	0.5	0.093	
2004/11/19	0.0147704	0.0029389	-	-	-	-	-	-	0.115393	0	reject
2004/11/22	-	-	0.0058211	0.0008589	0.3210295	0.13522	0.035932	0.1453977	4.151E-05	0.4503	
2004/11/23	0.0071431	0.0198554	-	-	-	-	-	-	0.5	0.0872	
2004/11/24	-	-	0.0063297	0.0119211	0.9141305	0.2407642	0.0738813	0.2028451	0.0006158	0.0109	
2004/11/25	0.0306458	0.0120999	-	-	-	-	-	-	0.5	0.0001	reject
2004/11/26	-	-	0.0334905	0.0308177	0.2051408	0.3279686	0.4414391	0.2625221	0	0.8839	
2004/11/29	-	-	0.0068883	0.0057954	0.9806383	0.3352542	4.3E-14	-	0	0.0208	
2004/11/30	-	-	0.0001986	0.0070327	0.0666693	0.0704559	0.9331022	0.0765689	2.69E-06	0.9276	
2004/12/03	-	-	0.0067678	0.0097404	0.8312547	0.2631936	0.1439574	0.2698448	0.0232592	0.6001	
2004/12/06	0.0092315	0.0024497	-	-	-	-	-	-	0.2675481	0.4755	
2004/12/07	-	-	0.0052672	0.0029151	0.3406412	0.2200028	0.4639357	0.2806002	0.0415476	0.7074	
2004/12/08	-	-	0.0003813	0.0009743	0.0694232	0.2006353	0.8941409	0.2983973	0.0336852	0.3649	
2004/12/09	0.0073396	0.0014246	-	-	-	-	-	-	0.5	0.269	
2004/12/10	0.0153932	0.0071619	-	-	-	-	-	-	0.5	0.9813	
2004/12/13	0.1250295	0.0462619	-	-	-	-	-	-	0.4061133	0.8875	
2004/12/14	0.0054924	0.0011578	-	-	-	-	-	-	0.1443356	0.8606	
2004/12/15	0.0107017	0.0014217	-	-	-	-	-	-	0.0608552	0.095	
2004/12/17	-	-	0.002055	0.001742	0.7291586	0.2612996	5.117E-08	0.0444407	9.56E-12	0.8107	

Table A.26c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/20	0.0012841	0.0006176	-	-	-	-	-	-	0.5	0.9745	
2004/12/21	0.0014231	0.0004867	-	-	-	-	-	-	0.5	0.2017	
2004/12/22	0.0108193	0.0023541	-	-	-	-	-	-	0.5	0.5217	
2004/12/23	0.0072167	0.0023066	-	-	-	-	-	-	0.5	0.0315	
2004/12/24	0.0023929	0.1499901	-	-	-	-	-	-	0.3937396	0.8891	
2004/12/28	0.0085916	0.0039566	-	-	-	-	-	-	0.2622549	0.5476	
2004/12/29	-	-	0.0009261	0.0011972	0.2554615	0.2507083	0.6265146	0.3277851	0.0218405	0.8481	
2004/12/30	0.043729	0.019537	-	-	-	-	-	-	0.5	0.0402	
2004/12/31	-	-	0.0001263	0.000291	1.672E-07	0.0502612	0.9444882	0.1489558	0.0223463	0.3734	
2005/01/03	-	-	0.0084342	0.0084971	0.8879138	0.3325887	3.823E-11	1.049E-07	0.0072116	0.076	
2005/01/04	-	-	0.0074661	0.0019123	0.183231	0.2646171	0.2137778	0.2444284	0.0074419	0.8522	
2005/01/05	0.0038839	0.0011118	-	-	-	-	-	-	0.5	0.8241	
2005/01/06	-	-	0.0645627	0.0154182	0.0804653	0.3691707	2.279E-07	0.0496388	0.0251205	0.7074	
2005/01/07	-	-	0.0034607	0.0058572	0.697326	0.2119268	0.1895066	0.2088076	8.506E-07	0.7361	
2005/01/10	0.0091661	0.002218	-	-	-	-	-	-	0.209927	0.6975	
2005/01/11	-	-	0.000108	0.000712	0.1226118	0.1653616	0.8674419	0.2609728	1.147E-07	0.4202	
2005/01/12	-	-	0.0041599	0.009267	0.7522928	0.2329479	0.1929031	0.2571164	5.821E-08	0.0065	
2005/01/13	0.0084725	0.0011998	-	-	-	-	-	-	0.395487	0.5142	
2005/01/14	0.0087932	0.0018798	-	-	-	-	-	-	0.0858544	0.5705	
2005/01/17	-	-	0.0069948	0.0018939	0.5090422	0.3262413	7.067E-10	7.071E-08	1.378E-08	0.4221	
2005/01/18	0.0144097	0.0028618	-	-	-	-	-	-	0.0804855	0.0585	
2005/01/19	-	-	0.0176966	0.0145902	0.3768101	0.3183357	0.0004035	0.1373699	0.0468882	0.1193	
2005/01/20	0.0116542	0.0038089	-	-	-	-	-	-	0.5	0.1033	
2005/01/21	-	-	0.0024979	0.0010689	0.5410529	0.2026754	0.0667653	0.2308685	0.0003175	0.2071	
2005/01/24	0.0131105	0.0030467	-	-	-	-	-	-	0.4597352	0.0899	
2005/01/25	-	-	0.0160536	0.0219445	0.9600581	0.2838109	0.0364104	0.226735	9.15E-11	0.0123	
2005/01/26	-	-	0.0139979	0.0082052	0.8361653	0.3017469	2.07E-10	0.0168088	0.0194466	0.3543	
2005/01/27	0.0113847	0.0025728	-	-	-	-	-	-	0.2594555	0.0263	
2005/01/28	-	-	0.0010257	0.0029518	0.1653464	0.1638703	0.8298159	0.240002	0.026763	0.216	
2005/01/31	0.0413241	0.0165067	-	-	-	-	-	-	0.4307187	0.514	
2005/02/01	0.0139499	0.0032337	-	-	-	-	-	-	0.4254022	0.3667	
2005/02/02	0.0112896	0.0031946	-	-	-	-	-	-	0.4725203	0.0849	
2005/02/03	0.0115953	0.0033314	-	-	-	-	-	-	0.5	0.6085	
2005/02/04	0.0013538	0.0004139	-	-	-	-	-	-	0.158255	0.4003	
2005/02/07	0.0295957	0.0097873	-	-	-	-	-	-	0.084826	0.4693	

Table A.26c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/08	0.0250654	0.0066776	-	-	-	-	-	-	0.5	0.518	
2005/02/09	-	-	0.0016027	0.0024441	0.205503	0.1154865	0.7887517	0.1675462	3.168E-08	0.9055	
2005/02/10	0.02086	0.0055687	-	-	-	-	-	-	0.1310194	0.3975	
2005/02/11	0.0688607	0.0647746	-	-	-	-	-	-	0.5	0.9979	
2005/02/14	-	-	0.0048281	0.0050916	0.9527543	0.3643735	4.027E-12	4.472E-08	0.0365285	0.8972	
2005/02/15	0.0154727	0.0149403	-	-	-	-	-	-	0.3500664	0.8075	
2005/02/16	0.0133586	0.0023521	-	-	-	-	-	-	0.1252109	0.2603	
2005/02/17	0.0208602	0.011866	-	-	-	-	-	-	0.1558218	0.1412	
2005/02/18	0.009653	0.001846	-	-	-	-	-	-	0.1158501	0.1701	
2005/02/21	-	-	0.0019706	0.0009367	0.7773151	0.3083299	4.574E-09	4.796E-07	7.585E-08	0.3712	
2005/02/22	-	-	0.0008871	0.0007012	0.7168125	0.2532001	0.1274377	0.2459265	1.762E-06	0.9828	
2005/02/23	0.0091224	0.0037964	-	-	-	-	-	-	0.1722239	0.8086	
2005/02/24	0.0209399	0.0225956	-	-	-	-	-	-	0.3814682	0.0351	
2005/02/25	0.0502086	0.1008315	-	-	-	-	-	-	0.5	0.0002	reject
2005/02/28	0.0077298	0.0012757	-	-	-	-	-	-	0.2909802	0.2697	

**Table A.27a.** Estimates of mean and standardized AR parameters for standardized dynamic returns of Harmony Gold. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>0.002826</b>	0.048182	<b>-0.22429</b>	0.530352	<b>0.000958</b>	0.090769	<b>-0.06896</b>	0.086025	-	-	-	-	-	-
2004/11/02	<b>-0.03142</b>	0.034972	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.030985</b>	0.049016	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>-0.00348</b>	0.035439	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>0.003178</b>	0.092679	-0.40368	0.132433	<b>-0.09594</b>	0.075231	<b>-0.04138</b>	0.05991	<b>-0.04197</b>	0.052452	-	-	-	-
2004/11/08	<b>0.017528</b>	0.137326	<b>-0.21209</b>	0.113788	-0.36509	0.076034	-0.35249	0.065796	-0.13914	0.061	-	-	-	-
2004/11/09	<b>-0.02697</b>	0.10255	<b>0.057391</b>	0.594239	<b>-0.0494</b>	0.127433	-	-	-	-	-	-	-	-
2004/11/10	<b>0.006591</b>	0.033785	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>-0.0338</b>	0.077288	<b>-0.10722</b>	0.112709	<b>0.008022</b>	0.134188	<b>0.049787</b>	0.091772	<b>0.037598</b>	0.072941	<b>0.004971</b>	0.077622	-	-
2004/11/12	<b>-0.00303</b>	0.081342	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>-0.02441</b>	0.03328	<b>-0.20867</b>	0.412359	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>0.007072</b>	0.027298	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>-0.1927</b>	15.34605	<b>0.14541</b>	0.49987	<b>0.128934</b>	1.006773	<b>0.042392</b>	0.650783	<b>-0.00294</b>	0.704632	-	-	-	-
2004/11/18	<b>-0.01242</b>	0.092832	<b>-0.22511</b>	0.121045	-0.24515	0.05792	<b>-0.07347</b>	0.051164	-0.13976	0.047682	<b>-0.07816</b>	0.045911	<b>-0.05539</b>	0.046659
2004/11/19	<b>-0.03304</b>	0.065776	-0.73829	0.230824	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.052516</b>	0.109612	<b>0.803714</b>	0.481989	<b>0.143548</b>	0.444394	-	-	-	-	-	-	-	-
2004/11/23	<b>0.004621</b>	0.026503	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/24	<b>0.041016</b>	1.925847	1	0.254223	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.01023</b>	0.023362	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>-0.00939</b>	0.028899	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.00085</b>	0.025313	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.00857</b>	0.018945	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>0.030036</b>	0.019969	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>0.011677</b>	0.023571	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.0296</b>	0.03749	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.00931</b>	0.042324	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.03889</b>	0.062049	-0.34684	0.152847	<b>-0.06619</b>	0.068069	<b>-0.03052</b>	0.066783	<b>-0.07632</b>	0.060362	<b>-0.09094</b>	0.059064	-	-
2004/12/10	<b>0.027118</b>	0.038775	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.002385</b>	0.040983	<b>-0.1212</b>	0.398908	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>0.027624</b>	0.03518	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/15	<b>-0.01388</b>	0.033712	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>-0.07632</b>	0.038537	-	-	-	-	-	-	-	-	-	-	-	-

Table A.27a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>-0.02904</b>	0.032735	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>-0.02828</b>	4.990836	<b>0.330495</b>	0.511829	<b>0.146101</b>	0.170792	<b>-0.05813</b>	0.136249	-	-	-	-	-	-
2004/12/22	<b>0.013555</b>	0.016383	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.01712</b>	0.108732	<b>-0.11684</b>	0.137661	<b>-0.01672</b>	0.093681	<b>-0.00369</b>	0.071961	-	-	-	-	-	-
2004/12/24	<b>0.005495</b>	0.00807	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>-0.00975</b>	0.021989	<b>-0.16792</b>	0.159243	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>-0.00822</b>	0.013656	<b>0.266501</b>	0.178181	-0.50011	0.132341	-	-	-	-	-	-	-	-
2004/12/30	<b>0.011549</b>	0.019932	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>0.006115</b>	0.008021	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>-0.04982</b>	0.052409	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.03748</b>	0.037876	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.032312</b>	0.031237	-0.25681	0.124292	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>-0.1035</b>	0.072187	<b>-0.64463</b>	0.429336	-0.22591	0.074548	-0.17472	0.063764	<b>0.04526</b>	0.060701	-	-	-	-
2005/01/07	<b>-0.04061</b>	0.039675	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.02755</b>	0.029493	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/11	<b>-0.01398</b>	0.024669	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.051832</b>	0.029491	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>-0.02526</b>	0.065278	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.076949</b>	0.041244	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>0.007255</b>	0.155946	<b>-0.04975</b>	0.104046	<b>0.00184</b>	0.094866	<b>-0.05366</b>	0.075806	<b>0.039203</b>	0.085298	-	-	-	-
2005/01/18	<b>0.036674</b>	0.027265	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.008096</b>	0.020814	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>-0.02951</b>	0.023426	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>0.04281</b>	0.06382	<b>-0.06427</b>	0.506867	<b>0.06349</b>	0.094333	<b>-0.08331</b>	0.074261	<b>0.034129</b>	0.070457	-	-	-	-
2005/01/24	<b>-0.01695</b>	0.111013	<b>-0.14366</b>	0.138774	<b>-0.18034</b>	0.134326	<b>0.093238</b>	0.123951	<b>-0.00084</b>	0.138335	<b>0.180067</b>	0.12811	<b>-0.01089</b>	0.12268
2005/01/25	<b>-0.01119</b>	0.045902	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>-0.02359</b>	0.046134	<b>-0.11397</b>	0.540615	<b>-0.09643</b>	0.09058	<b>-0.01134</b>	0.064955	-	-	-	-	-	-
2005/01/27	<b>0.03328</b>	0.016689	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>0.00237</b>	0.039886	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>0.035909</b>	0.087251	<b>0.594483</b>	0.426269	<b>0.198767</b>	0.387668	<b>0.022274</b>	0.086764	<b>0.134295</b>	0.077468	-	-	-	-
2005/02/01	0.027136	0.012868	-0.26529	0.093461	-0.24926	0.093587	<b>0.022166</b>	0.076447	<b>0.00388</b>	0.085141	<b>-0.02865</b>	0.084807	<b>0.085762</b>	0.092992
2005/02/02	<b>-0.01507</b>	0.028034	-0.28553	0.074005	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.04801</b>	0.072977	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/04	<b>0.00229</b>	0.018682	<b>-0.15205</b>	0.082955	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.01429</b>	0.05919	-	-	-	-	-	-	-	-	-	-	-	-

Table A.27a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/08	<b>-0.02329</b>	0.022179	<b>-0.26535</b>	0.419225	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>0.026251</b>	0.028769	<b>0.022946</b>	0.238984	-	-	-	-	-	-	-	-	-	-
2005/02/10	<b>0.003519</b>	0.011884	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>0.013854</b>	0.046524	<b>-0.12004</b>	0.380655	-	-	-	-	-	-	-	-	-	-
2005/02/14	<b>-0.00909</b>	0.032742	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>-0.00415</b>	0.011731	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>-0.0015</b>	0.031742	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.001169</b>	0.012442	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>0.015256</b>	0.091534	<b>-0.12035</b>	0.489241	<b>-0.06293</b>	0.116242	<b>-0.05119</b>	0.099305	<b>-0.02131</b>	0.100597	<b>0.006289</b>	0.095507	-	-
2005/02/21	<b>0.013421</b>	0.067451	<b>0.298684</b>	0.524413	<b>0.085587</b>	0.099466	<b>-0.11929</b>	0.107434	-	-	-	-	-	-
2005/02/22	<b>-0.01383</b>	0.034272	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/23	<b>-0.00881</b>	0.026879	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>-0.01535</b>	0.009049	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>0.007387</b>	0.046933	<b>-0.1719</b>	0.126939	<b>-0.01717</b>	0.082942	-	-	-	-	-	-	-	-
2005/02/28	<b>0.035454</b>	0.031746	-	-	-	-	-	-	-	-	-	-	-	-



**Table A.27b.** Estimates of MA parameters for standardized dynamic returns of Harmony Gold. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	<b>-0.13716</b>	0.5396439	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.1227531</b>	0.0887809	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.2124728</b>	0.1479757	-	-	-	-	-	-	-	-	-	-
2004/11/04	0.283965	0.0643998	-	-	-	-	-	-	-	-	-	-
2004/11/05	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/08	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.764953</b>	0.6215567	-	-	-	-	-	-	-	-	-	-
2004/11/10	0.3997678	0.1003912	-	-	-	-	-	-	-	-	-	-
2004/11/11	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	0.2096097	0.0771428	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>0.2693441</b>	0.4248156	<b>-0.168786</b>	0.1156224	<b>-0.010435</b>	0.0643804	<b>-0.030418</b>	0.0519417	<b>-0.051517</b>	0.0441033	-	-
2004/11/16	0.3185933	0.0758979	-	-	-	-	-	-	-	-	-	-
2004/11/17	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/18	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/19	<b>-0.238974</b>	0.2626247	-	-	-	-	-	-	-	-	-	-
2004/11/22	1.0097052	0.4683074	<b>0.0650062</b>	0.5046557	-	-	-	-	-	-	-	-
2004/11/23	0.3943288	0.069554	-	-	-	-	-	-	-	-	-	-
2004/11/24	0.999998	0.3010712	-	-	-	-	-	-	-	-	-	-
2004/11/25	0.2629959	0.1003313	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.3493987</b>	0.1775673	<b>-0.090896</b>	0.1251282	-	-	-	-	-	-	-	-
2004/11/29	0.2594317	0.0961288	-	-	-	-	-	-	-	-	-	-
2004/11/30	0.2960303	0.0892483	-	-	-	-	-	-	-	-	-	-
2004/12/03	0.269523	0.0810617	-	-	-	-	-	-	-	-	-	-
2004/12/06	0.1773107	0.0689151	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>0.1696081</b>	0.1122935	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>0.1858095</b>	0.124964	-	-	-	-	-	-	-	-	-	-
2004/12/09	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/10	0.2582747	0.1108015	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>0.4259332</b>	0.4187018	-	-	-	-	-	-	-	-	-	-
2004/12/14	0.2599892	0.0950866	-	-	-	-	-	-	-	-	-	-
2004/12/15	0.3688091	0.0448789	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.0418206</b>	0.1956713	-	-	-	-	-	-	-	-	-	-

Table A.27b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	<b>0.0762386</b>	0.1089952	<b>0.1229571</b>	0.1068609	<b>-0.067131</b>	0.1022973	<b>-0.225581</b>	0.1131065	0.4198038	0.1291471	-	-
2004/12/21	<b>0.5459819</b>	0.5646832	-	-	-	-	-	-	-	-	-	-
2004/12/22	<b>-0.086811</b>	0.1025857	-	-	-	-	-	-	-	-	-	-
2004/12/23	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	<b>0.3244245</b>	0.2524042	-	-	-	-	-	-	-	-	-	-
2004/12/28	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/29	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.410089</b>	0.2530366	-	-	-	-	-	-	-	-	-	-
2004/12/31	<b>1.4928928</b>	0.7483304	<b>0.7520503</b>	0.4255113	-	-	-	-	-	-	-	-
2005/01/03	0.4358555	0.1745216	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>0.2018111</b>	0.1233992	-	-	-	-	-	-	-	-	-	-
2005/01/05	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>-0.494086</b>	0.4312117	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.0968135</b>	0.0809878	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>0.0784601</b>	0.1521494	-	-	-	-	-	-	-	-	-	-
2005/01/11	0.1994501	0.0722758	-	-	-	-	-	-	-	-	-	-
2005/01/12	0.2091906	0.0877709	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>0.1494878</b>	0.1289321	-	-	-	-	-	-	-	-	-	-
2005/01/14	0.2637064	0.0961294	-	-	-	-	-	-	-	-	-	-
2005/01/17	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	0.1690701	0.0592732	<b>0.0141651</b>	0.0527999	0.2130887	0.0702859	-	-	-	-	-	-
2005/01/19	0.3181964	0.1097034	-	-	-	-	-	-	-	-	-	-
2005/01/20	0.2294527	0.0820573	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>0.1817024</b>	0.4906885	-	-	-	-	-	-	-	-	-	-
2005/01/24	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/25	0.446149	0.0769591	-	-	-	-	-	-	-	-	-	-
2005/01/26	<b>0.2707506</b>	0.5269584	-	-	-	-	-	-	-	-	-	-
2005/01/27	0.2471861	0.0678498	-	-	-	-	-	-	-	-	-	-
2005/01/28	0.3135061	0.0837326	-	-	-	-	-	-	-	-	-	-
2005/01/31	0.8953146	0.3877091	<b>0.1497569</b>	0.395051	-	-	-	-	-	-	-	-
2005/02/01	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/02	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	0.2678615	0.1044928	-	-	-	-	-	-	-	-	-	-
2005/02/04	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	0.355612	0.0880687	-	-	-	-	-	-	-	-	-	-

Table A.27b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/08	<b>-0.23393</b>	0.4245886	<b>-0.003775</b>	0.0960446	-0.314446	0.1003814	-	-	-	-	-	-
2005/02/09	<b>0.4909218</b>	0.2696711	-	-	-	-	-	-	-	-	-	-
2005/02/10	<b>0.0159506</b>	0.0856213	-	-	-	-	-	-	-	-	-	-
2005/02/11	<b>0.1505256</b>	0.4007532	<b>-0.118389</b>	0.0928588	0.2950114	0.0894315	-	-	-	-	-	-
2005/02/14	0.2350049	0.0867882	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>0.2454981</b>	0.1244674	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>0.0642588</b>	0.1023696	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.0974028</b>	0.0897224	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>0.2150974</b>	0.4842661	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>0.5773645</b>	0.5001806	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.1249761</b>	0.0900471	-	-	-	-	-	-	-	-	-	-
2005/02/23	<b>0.001976</b>	0.1082747	0.2655838	0.1254463	-	-	-	-	-	-	-	-
2005/02/24	<b>0.0468909</b>	0.1266578	<b>-0.191887</b>	0.0964438	-	-	-	-	-	-	-	-
2005/02/25	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	0.2454438	0.0980862	0.4092502	0.115652	-	-	-	-	-	-	-	-

**Table A.27c.** Variance related parameters for standardized dynamic returns of Harmony Gold with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates when the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	0.0157743	0.0141107	-	-	-	-	-	-	0.5	0.7792	
2004/11/02	0.0313705	0.0146207	-	-	-	-	-	-	0.5	0.6883	
2004/11/03	-	-	0.0756489	0.0421569	0.2057274	0.3872722	9.581E-07	0.0770699	0	0.9778	
2004/11/04	0.0656939	0.0242645	-	-	-	-	-	-	0.3262847	0.9068	
2004/11/05	0.0072441	0.0121921	-	-	-	-	-	-	0.3327388	0.0013	
2004/11/08	0.039299	0.0540808	-	-	-	-	-	-	0.4534479	0.3237	
2004/11/09	0.0222718	0.0242596	-	-	-	-	-	-	0.1247009	0.9762	
2004/11/10	0.0292073	0.0100748	-	-	-	-	-	-	0.1135867	0.115	
2004/11/11	-	-	0.0043983	0.0052782	0.7137733	0.255582	0.2466686	0.2676278	9.091E-05	0.672	
2004/11/12	0.1774226	0.1243933	-	-	-	-	-	-	0.5	0.8918	
2004/11/15	0.022162	0.0076096	-	-	-	-	-	-	0.1084673	0.0055	
2004/11/16	0.0243107	0.0088167	-	-	-	-	-	-	0.5	0.1654	
2004/11/17	-	-	9.194E-05	22.113583	0.1372589	0.1583406	0.8626267	0.1613206	0.0084537	0.5156	
2004/11/18	0.0111986	0.0143777	-	-	-	-	-	-	0.3551757	0.2642	
2004/11/19	0.0188494	0.0115354	-	-	-	-	-	-	0.5	0.2759	
2004/11/22	0.0111632	0.044353	-	-	-	-	-	-	0.444538	0.8497	
2004/11/23	0.0175181	0.0043736	-	-	-	-	-	-	0.3288647	0.162	
2004/11/24	-	-	0.0048877	0.1930769	0.3203296	0.1704482	0.6789692	0.1868716	6.05E-06	0.249	
2004/11/25	0.0156776	0.004556	-	-	-	-	-	-	0.5	0.8114	
2004/11/26	-	-	0.0245902	0.0117502	0.8226203	0.3139766	0.1546011	0.2634433	0.0024772	0.446	
2004/11/29	0.0120734	0.0055737	-	-	-	-	-	-	0.5	0.4725	
2004/11/30	-	-	0.0219238	0.0041879	0.109734	0.197937	0.0002032	0.154583	0.001211	0.6454	
2004/12/03	0.0131987	0.0036172	-	-	-	-	-	-	0.0864488	0.7434	
2004/12/06	0.0226478	0.0056646	-	-	-	-	-	-	0.5	0.7983	
2004/12/07	-	-	0.0887602	0.0385504	0.1951803	0.3498021	3.04E-08	0.0340479	0.0283191	0.9881	
2004/12/08	-	-	0.0461208	0.1228663	0.9422364	0.2538948	0.0083172	0.1827162	0	0.6588	
2004/12/09	-	-	0.0541243	0.0140248	0.1080253	0.3370507	1.491E-06	0.1128198	0.0103368	0.8306	
2004/12/10	0.0231943	0.009342	-	-	-	-	-	-	0.2196075	0.0074	
2004/12/13	0.0108896	0.0040144	-	-	-	-	-	-	0.0728606	0.2643	
2004/12/14	0.0350947	0.0172587	-	-	-	-	-	-	0.2940751	0.9898	
2004/12/15	0.0841739	0.0160911	-	-	-	-	-	-	0.0819656	0.0007	

Table A.27c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/17	-	-	0.019838	0.0215047	0.9387609	0.3854104	2.173E-09	1.204E-06	0.0052423	0.3904	
2004/12/20	0.0160244	0.0051484	-	-	-	-	-	-	0.5	0.0674	
2004/12/21	-	-	0.0305261	0.0617288	0.9206997	0.4195649	5.853E-12	1.327E-06	1.543E-05	0.8418	
2004/12/22	0.0027983	0.0009684	-	-	-	-	-	-	0.0960577	0.9619	
2004/12/23	0.014824	0.0126242	-	-	-	-	-	-	0.4097424	0.7453	
2004/12/24	0.0004145	0.0001399	-	-	-	-	-	-	0.2998791	0.9708	
2004/12/28	0.0028296	0.001951	-	-	-	-	-	-	0.5	0.8909	
2004/12/29	-	-	0.0001166	0.000725	0.4736049	0.29098	0.5231432	0.3172337	0.0027368	0.0092	
2004/12/30	-	-	9.847E-06	8.356E-05	0.1922551	0.313241	0.8057614	0.3197665	0.006138	0.8428	
2004/12/31	0.000207	0.0002321	-	-	-	-	-	-	0.2214647	0.1806	
2005/01/03	0.0308078	0.0235326	-	-	-	-	-	-	0.5	0.9819	
2005/01/04	0.0339305	0.0155087	-	-	-	-	-	-	0.5	0.7948	
2005/01/05	0.0110784	0.0039846	-	-	-	-	-	-	0.0860312	0.3237	
2005/01/06	0.0326868	0.0145757	-	-	-	-	-	-	0.5	0.2915	
2005/01/07	0.0548209	0.0140275	-	-	-	-	-	-	0.1786311	0.8938	
2005/01/10	-	-	0.0082492	4.9824158	0.9759535	0.3269629	2.689E-09	0.0273159	2.551E-06	0.887	
2005/01/11	0.0185637	0.0056994	-	-	-	-	-	-	0.5	0.9109	
2005/01/12	0.0534522	0.0116094	-	-	-	-	-	-	0.4666618	0.4943	
2005/01/13	0.0817523	0.0555137	-	-	-	-	-	-	0.5	0.9745	
2005/01/14	0.0582807	0.0159665	-	-	-	-	-	-	0.4582309	0.0955	
2005/01/17	0.032716	0.0495389	-	-	-	-	-	-	0.1509629	0.6864	
2005/01/18	0.0456382	0.0153439	-	-	-	-	-	-	0.4589607	0.8528	
2005/01/19	-	-	0.0157189	0.0045638	0.2009234	0.2413846	0.202697	0.2572326	0.0305913	0.0676	
2005/01/20	0.0225631	0.0068884	-	-	-	-	-	-	0.5	0.1627	
2005/01/21	0.0278075	0.0091515	-	-	-	-	-	-	0.3325346	0.9275	
2005/01/24	0.010208	0.0905052	-	-	-	-	-	-	0.336644	0.6981	
2005/01/25	0.0466199	0.0151619	-	-	-	-	-	-	0.3774579	0.7694	
2005/01/26	0.02765	0.0144851	-	-	-	-	-	-	0.1187247	0.4115	
2005/01/27	0.0135578	0.0040691	-	-	-	-	-	-	0.5	0.6684	
2005/01/28	0.0209575	0.0068001	-	-	-	-	-	-	0.4084162	0.9126	
2005/01/31	0.0101818	0.0329446	-	-	-	-	-	-	0.5	0.7735	
2005/02/01	-	-	0.0002728	0.0004509	0.2451904	0.1448474	0.7275049	0.2807209	2.995E-06	0.0358	
2005/02/02	0.0110079	0.0037701	-	-	-	-	-	-	0.5	0.5359	
2005/02/03	0.0572222	0.0246186	-	-	-	-	-	-	0.4741383	0.4819	
2005/02/04	0.0029831	0.00089	-	-	-	-	-	-	0.5	0.4842	

Table A.27c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/07	0.0376994	0.0154538	-	-	-	-	-	-	0.3527348	0.8846	
2005/02/08	0.0065248	0.0031431	-	-	-	-	-	-	0.2495763	0.9982	
2005/02/09	0.0509904	0.0327765	-	-	-	-	-	-	0.4405359	0.9827	
2005/02/10	0.0031645	0.00107	-	-	-	-	-	-	0.5	0.9991	
2005/02/11	0.0315848	0.010086	-	-	-	-	-	-	0.3225039	0.1258	
2005/02/14	0.0364682	0.0173431	-	-	-	-	-	-	0.3419585	0.9296	
2005/02/15	0.0037177	0.0017112	-	-	-	-	-	-	0.4011811	0.9491	
2005/02/16	0.0174572	0.0090091	-	-	-	-	-	-	0.5	0.9964	
2005/02/17	0.0029394	0.0014495	-	-	-	-	-	-	0.5	0.9337	
2005/02/18	0.0034603	0.0090486	-	-	-	-	-	-	0.5	0.657	
2005/02/21	0.0027949	0.0059953	-	-	-	-	-	-	0.5	0.1902	
2005/02/22	0.0462356	0.0342918	-	-	-	-	-	-	0.5	0.9839	
2005/02/23	0.0141553	0.0064656	-	-	-	-	-	-	0.5	0.9861	
2005/02/24	-	-	0.0012388	0.0007344	0.4445785	0.2764574	0.247278	0.2418461	0	0.0844	
2005/02/25	0.0031349	0.0062871	-	-	-	-	-	-	0.4013277	0.6052	
2005/02/28	0.0289337	0.0148818	-	-	-	-	-	-	0.2896709	0.9314	

**Table A.28a.** Estimates of mean and AR parameters for standardized dynamic returns of Tiger Brands Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/11/01	<b>0.003919</b>	0.005927	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.01071</b>	0.016745	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.00336</b>	0.008124	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/04	<b>-0.00301</b>	0.010782	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>-0.01188</b>	0.067495	<b>-0.10079</b>	0.506397	<b>-0.00075</b>	0.126426	<b>0.012866</b>	0.114901	<b>-0.05679</b>	0.10885	<b>0.005208</b>	0.102706	-	-
2004/11/08	<b>-0.01041</b>	0.042628	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>-0.00572</b>	0.012713	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/10	<b>-0.0039</b>	0.016845	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/11	<b>0.000438</b>	0.024807	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/12	<b>0.001294</b>	0.014802	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/15	<b>0.008995</b>	0.020918	<b>-0.12816</b>	0.116604	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>0.002192</b>	0.085313	<b>-0.04865</b>	0.555354	<b>0.037674</b>	0.153078	<b>-0.08678</b>	0.162498	-	-	-	-	-	-
2004/11/17	<b>-0.07664</b>	7.779953	<b>0.811326</b>	0.53773	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>-0.00481</b>	0.033936	<b>-0.36528</b>	0.512053	<b>-0.04033</b>	0.087447	-	-	-	-	-	-	-	-
2004/11/19	<b>-0.0335</b>	0.035212	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.005352</b>	0.008077	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>-0.00493</b>	0.015244	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/24	<b>0.013379</b>	0.014656	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/25	<b>0.039889</b>	0.028635	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/26	<b>0.011902</b>	0.012232	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>-0.00382</b>	0.021561	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/30	<b>-0.00427</b>	0.013767	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>-0.00658</b>	0.036071	<b>0.841139</b>	0.549005	-	-	-	-	-	-	-	-	-	-
2004/12/06	<b>-0.01946</b>	0.010266	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-0.00557</b>	0.00714	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/08	<b>-0.00165</b>	0.007095	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>0.012347</b>	0.011767	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>-0.00931</b>	0.005534	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/13	<b>-0.00209</b>	0.015117	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>-0.00931</b>	0.043436	<b>-0.18159</b>	0.486785	<b>-0.15466</b>	0.365537	-	-	-	-	-	-	-	-
2004/12/15	<b>-0.00616</b>	0.033493	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.001763</b>	0.007898	-	-	-	-	-	-	-	-	-	-	-	-

Table A.28a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2004/12/20	<b>0.00953</b>	0.014201	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>0.003082</b>	0.009036	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/22	<b>-0.00387</b>	0.007376	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>-0.00026</b>	0.005737	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/24	<b>-0.00914</b>	0.020668	<b>-0.05809</b>	0.203681	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>-0.01208</b>	0.630856	<b>0.521468</b>	0.515087	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>0.01154</b>	0.006055	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/30	<b>0.010679</b>	0.01345	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/31	-0.02276	-*	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/03	<b>-0.01234</b>	0.022797	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>0.001321</b>	0.004806	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>-1.3E-05</b>	0.004594	<b>0.186559</b>	0.518821	-	-	-	-	-	-	-	-	-	-
2005/01/06	-0.01816	0.007973	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>-0.00773</b>	0.051082	<b>-0.24069</b>	0.57351	<b>4.4E-05</b>	0.123238	<b>-0.00528</b>	0.119091	-	-	-	-	-	-
2005/01/10	<b>-0.02346</b>	0.049436	<b>-0.03793</b>	0.459894	<b>0.153704</b>	0.097696	-	-	-	-	-	-	-	-
2005/01/11	<b>0.003057</b>	0.005116	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>-0.02055</b>	0.014284	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>-0.0066</b>	0.006573	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.010764</b>	0.020681	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/17	<b>-0.00827</b>	0.006189	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/18	<b>-0.00179</b>	0.009378	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>0.001225</b>	0.017273	<b>-0.43666</b>	0.328306	-	-	-	-	-	-	-	-	-	-
2005/01/20	<b>0.006402</b>	0.008845	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/21	<b>-0.00421</b>	0.008588	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>-0.00628</b>	0.00497	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.03774</b>	0.046877	<b>-0.29193</b>	0.486085	<b>0.155807</b>	0.112141	-	-	-	-	-	-	-	-
2005/01/26	<b>0.004527</b>	0.134708	-0.43018	0.180171	-0.33688	0.101732	<b>-0.08742</b>	0.088996	<b>-0.13547</b>	0.085311	<b>-0.08204</b>	0.083837	-	-
2005/01/27	<b>0.006723</b>	0.01217	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>-0.01452</b>	0.014199	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>-0.0016</b>	0.010133	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/01	<b>-0.00703</b>	0.010321	-0.46353	0.161831	<b>-0.09716</b>	0.130268	<b>0.036103</b>	0.096183	<b>0.018274</b>	0.107413	<b>0.08598</b>	0.071639	<b>0.019898</b>	0.078301
2005/02/02	<b>-0.02371</b>	0.019375	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.00182</b>	0.008008	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/04	<b>0.008521</b>	0.013203	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>-0.00731</b>	0.008379	-	-	-	-	-	-	-	-	-	-	-	-



Table A.28a. (continued)

Date	mu		AR1		AR2		AR3		AR4		AR5		AR6	
2005/02/08	<b>-0.00508</b>	0.009124	-0.31724	0.141365	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>-0.01839</b>	0.048048	<b>-0.32149</b>	0.507441	<b>0.216813</b>	0.13075	-	-	-	-	-	-	-	-
2005/02/10	0.006628	0	-0.54806	0	0.117579	0	-0.11913	0	0.116142	0	-0.10258	0	0.193305	0
2005/02/11	<b>0.007166</b>	0.056657	<b>-0.06454</b>	0.149697	<b>-0.02932</b>	0.06999	-	-	-	-	-	-	-	-
2005/02/14	<b>-0.00632</b>	0.010487	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/15	<b>-0.00797</b>	0.063888	<b>0.567929</b>	0.527902	<b>0.053087</b>	0.135535	<b>0.161215</b>	0.129177	-	-	-	-	-	-
2005/02/16	<b>0.009458</b>	0.019075	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>0.034474</b>	0.051458	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/18	<b>-0.00529</b>	0.01334	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>-0.03715</b>	0.063796	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/22	<b>0.001152</b>	0.007726	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/23	<b>0.02325</b>	0.025219	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.001235</b>	0.010035	<b>-0.05207</b>	0.468429	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>0.009026</b>	0.013005	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>0.02232</b>	0.024259	-	-	-	-	-	-	-	-	-	-	-	-

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.

**Table A.28b.** Estimates of MA parameters for standardized dynamic returns of Tiger Brands Ltd. Associated bootstrap standard errors are in the adjacent columns. Estimates in bold are insignificant.

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/11/01	<b>-0.081364</b>	0.1417843	-	-	-	-	-	-	-	-	-	-
2004/11/02	<b>0.0517503</b>	0.0871259	-	-	-	-	-	-	-	-	-	-
2004/11/03	<b>0.0546078</b>	0.1130847	<b>0.2101908</b>	0.1254579	-	-	-	-	-	-	-	-
2004/11/04	<b>0.2547839</b>	0.1496769	-	-	-	-	-	-	-	-	-	-
2004/11/05	<b>0.1641646</b>	0.5182637	-	-	-	-	-	-	-	-	-	-
2004/11/08	0.6311318	0.1257251	-	-	-	-	-	-	-	-	-	-
2004/11/09	<b>0.054282</b>	0.1214931	0.4264421	0.1462073	-	-	-	-	-	-	-	-
2004/11/10	<b>0.1609238</b>	0.0889187	-	-	-	-	-	-	-	-	-	-
2004/11/11	0.217205	0.1083199	-	-	-	-	-	-	-	-	-	-
2004/11/12	-0.3790459	0.1489576	-	-	-	-	-	-	-	-	-	-
2004/11/15	-	-	-	-	-	-	-	-	-	-	-	-
2004/11/16	<b>0.0647941</b>	0.5695101	-	-	-	-	-	-	-	-	-	-
2004/11/17	<b>0.8909994</b>	0.558163	-	-	-	-	-	-	-	-	-	-
2004/11/18	<b>-0.476486</b>	0.5296436	-	-	-	-	-	-	-	-	-	-
2004/11/19	<b>0.3274031</b>	0.1687709	-	-	-	-	-	-	-	-	-	-
2004/11/22	<b>0.0255914</b>	0.11319	-	-	-	-	-	-	-	-	-	-
2004/11/23	<b>0.1441969</b>	0.084597	-	-	-	-	-	-	-	-	-	-
2004/11/24	0.4047676	0.1619365	-	-	-	-	-	-	-	-	-	-
2004/11/25	0.1996392	0.0990294	0.3294399	0.1208314	-	-	-	-	-	-	-	-
2004/11/26	0.4541475	0.1182807	-	-	-	-	-	-	-	-	-	-
2004/11/29	<b>0.1482544</b>	0.1068761	-	-	-	-	-	-	-	-	-	-
2004/11/30	0.4455746	0.1466482	-	-	-	-	-	-	-	-	-	-
2004/12/03	<b>1</b>	0.5548791	-	-	-	-	-	-	-	-	-	-
2004/12/06	0.2189996	0.08019	-	-	-	-	-	-	-	-	-	-
2004/12/07	<b>-3.54E-05</b>	0.0913757	-	-	-	-	-	-	-	-	-	-
2004/12/08	0.1828967	0.0664091	-	-	-	-	-	-	-	-	-	-
2004/12/09	<b>-0.210541</b>	0.1072844	-	-	-	-	-	-	-	-	-	-
2004/12/10	<b>0.1711485</b>	0.1980614	-	-	-	-	-	-	-	-	-	-
2004/12/13	0.6211934	0.1328599	-	-	-	-	-	-	-	-	-	-
2004/12/14	<b>0.0885537</b>	0.4429773	<b>-0.565596</b>	0.4342272	-	-	-	-	-	-	-	-
2004/12/15	0.2417486	0.0553802	-	-	-	-	-	-	-	-	-	-
2004/12/17	<b>0.1883168</b>	0.1159404	-	-	-	-	-	-	-	-	-	-

Table A.28b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2004/12/20	<b>0.1636619</b>	0.1104553	-	-	-	-	-	-	-	-	-	-
2004/12/21	<b>0.0003626</b>	0.1473483	-	-	-	-	-	-	-	-	-	-
2004/12/22	<b>0.2323283</b>	0.1225811	-	-	-	-	-	-	-	-	-	-
2004/12/23	<b>0.067487</b>	0.1994747	0.4941058	0.2168097	0.5158206	0.232877	<b>0.2236167</b>	0.1669572	-	-	-	-
2004/12/24	-	-	-	-	-	-	-	-	-	-	-	-
2004/12/28	<b>0.7249669</b>	0.6666966	-	-	-	-	-	-	-	-	-	-
2004/12/29	<b>0.1951861</b>	0.1585535	-	-	-	-	-	-	-	-	-	-
2004/12/30	0.3430587	0.1503736	-	-	-	-	-	-	-	-	-	-
2004/12/31	1.5110981	-*	0.5110985	-*	-	-	-	-	-	-	-	-
2005/01/03	<b>0.0481115</b>	0.142597	-	-	-	-	-	-	-	-	-	-
2005/01/04	<b>-0.08682</b>	0.1356826	-	-	-	-	-	-	-	-	-	-
2005/01/05	<b>0.4315733</b>	0.5837468	-	-	-	-	-	-	-	-	-	-
2005/01/06	<b>0.0487537</b>	0.1743597	-	-	-	-	-	-	-	-	-	-
2005/01/07	<b>0.3916957</b>	0.5480345	-	-	-	-	-	-	-	-	-	-
2005/01/10	<b>-0.168702</b>	0.4847148	-	-	-	-	-	-	-	-	-	-
2005/01/11	<b>0.0667103</b>	0.1115138	-	-	-	-	-	-	-	-	-	-
2005/01/12	<b>0.0484145</b>	0.06866	-	-	-	-	-	-	-	-	-	-
2005/01/13	<b>0.0804906</b>	0.0962357	-	-	-	-	-	-	-	-	-	-
2005/01/14	<b>0.066654</b>	0.1322466	-	-	-	-	-	-	-	-	-	-
2005/01/17	0.2429801	0.1158807	-	-	-	-	-	-	-	-	-	-
2005/01/18	0.1405757	0.0658309	-	-	-	-	-	-	-	-	-	-
2005/01/19	<b>-0.073735</b>	0.3408261	<b>-0.05683</b>	0.1103405	<b>0.0471079</b>	0.0780074	<b>-0.104623</b>	0.0724679	0.2873526	0.0860558	-	-
2005/01/20	<b>0.1753988</b>	0.0961632	-	-	-	-	-	-	-	-	-	-
2005/01/21	0.2988941	0.1224962	-	-	-	-	-	-	-	-	-	-
2005/01/24	<b>0.194978</b>	0.1079815	-	-	-	-	-	-	-	-	-	-
2005/01/25	<b>0.0483311</b>	0.4837006	-	-	-	-	-	-	-	-	-	-
2005/01/26	-	-	-	-	-	-	-	-	-	-	-	-
2005/01/27	<b>0.145316</b>	0.1165148	-	-	-	-	-	-	-	-	-	-
2005/01/28	<b>0.0831383</b>	0.0769444	-	-	-	-	-	-	-	-	-	-
2005/01/31	<b>0.0966937</b>	0.0882528	-	-	-	-	-	-	-	-	-	-
2005/02/01	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/02	<b>0.0320391</b>	0.1813851	-	-	-	-	-	-	-	-	-	-
2005/02/03	<b>-0.069891</b>	0.1425285	-	-	-	-	-	-	-	-	-	-
2005/02/04	0.5013451	0.153705	-	-	-	-	-	-	-	-	-	-
2005/02/07	<b>0.0405207</b>	0.0840631	-	-	-	-	-	-	-	-	-	-

Table A.28b. (continued)

Date	MA1		MA2		MA3		MA4		MA5		MA6	
2005/02/08	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/09	<b>0.0083353</b>	0.5121172	-	-	-	-	-	-	-	-	-	-
2005/02/10	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/11	-	-	-	-	-	-	-	-	-	-	-	-
2005/02/14	0.57626	0.1739665	<b>-0.084998</b>	0.1091242	<b>0.0072846</b>	0.089916	-	-	-	-	-	-
2005/02/15	<b>1</b>	0.5462175	-	-	-	-	-	-	-	-	-	-
2005/02/16	<b>0.4388376</b>	0.2307846	-	-	-	-	-	-	-	-	-	-
2005/02/17	<b>-0.050141</b>	0.2059224	-	-	-	-	-	-	-	-	-	-
2005/02/18	0.4352112	0.1171566	-	-	-	-	-	-	-	-	-	-
2005/02/21	<b>-0.19616</b>	0.1710345	-	-	-	-	-	-	-	-	-	-
2005/02/22	0.4242846	0.1840974	-	-	-	-	-	-	-	-	-	-
2005/02/23	0.2850758	0.1087158	-	-	-	-	-	-	-	-	-	-
2005/02/24	<b>0.0469386</b>	0.4794885	-	-	-	-	-	-	-	-	-	-
2005/02/25	<b>0.0296763</b>	0.1170521	-	-	-	-	-	-	-	-	-	-
2005/02/28	<b>-0.018745</b>	0.0746188	-	-	-	-	-	-	-	-	-	-

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.

**Table A.28c.** Variance related parameters for standardized dynamic returns of Tiger Brands Ltd. with bootstrap standard errors in the adjacent columns. The "ARCH" and "Fit" columns contains p-values for ARCH and white noise tests respectively. The "H<sub>0</sub> Fit" column indicates whether the null hypothesis is rejected under the FDR method.

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	H <sub>0</sub> Fit
2004/11/01	-	-	0.0005071	0.000333	0.4568436	0.244869	0.2622777	0.2774561	0.0016642	0.8907	
2004/11/02	0.0075656	0.004108	-	-	-	-	-	-	0.5	0.5293	
2004/11/03	0.0005105	0.0002219	-	-	-	-	-	-	0.5	0.1361	
2004/11/04	0.000661	0.0002656	-	-	-	-	-	-	0.5	0.8492	
2004/11/05	0.0007175	0.009844	-	-	-	-	-	-	0.4006381	0.3924	
2004/11/08	0.0242486	0.0138525	-	-	-	-	-	-	0.3168119	0	reject
2004/11/09	0.0010766	0.000854	-	-	-	-	-	-	0.5	0.9128	
2004/11/10	0.0036391	0.0016297	-	-	-	-	-	-	0.5	0.8452	
2004/11/11	0.0139179	0.004466	-	-	-	-	-	-	0.5	0.0658	
2004/11/12	0.0007442	0.0003664	-	-	-	-	-	-	0.0668069	0.9214	
2004/11/15	0.0059267	2.217E-05	-	-	-	-	-	-	0.5	0.5195	
2004/11/16	0.0002021	0.0084704	-	-	-	-	-	-	0.5	0.3735	
2004/11/17	-	-	0.0082875	0.0269137	0.9730497	0.3757082	2.295E-05	0.1353392	8.422E-12	0.7409	
2004/11/18	0.0025944	0.0050587	-	-	-	-	-	-	0.5	0.0432	
2004/11/19	-	-	0.0260731	0.0152524	0.2106839	0.3904556	1.481E-08	0.0477957	1.216E-05	0.8217	
2004/11/22	0.0011153	0.0004401	-	-	-	-	-	-	0.5	0.5277	
2004/11/23	0.004785	0.0018989	-	-	-	-	-	-	0.4878847	0.5107	
2004/11/24	0.0038637	0.001379	-	-	-	-	-	-	0.5	0.896	
2004/11/25	0.0124536	0.0073916	-	-	-	-	-	-	0.4544037	0.2456	
2004/11/26	0.0022329	0.0011014	-	-	-	-	-	-	0.367369	0.9125	
2004/11/29	0.009822	0.0044395	-	-	-	-	-	-	0.5	0.289	
2004/11/30	-	-	0.001421	0.0027309	0.6119854	0.2524054	0.0763997	0.2285888	8.901E-09	0.0619	
2004/12/03	0.0067215	0.0045938	-	-	-	-	-	-	0.5	0.1532	
2004/12/06	0.0016013	0.0003732	-	-	-	-	-	-	0.5	0.0902	
2004/12/07	0.0009273	0.0003123	-	-	-	-	-	-	0.5	0.9734	
2004/12/08	0.0011999	0.0003311	-	-	-	-	-	-	0.3097598	0.2637	
2004/12/09	0.001688	0.0009861	-	-	-	-	-	-	0.5	0.9928	
2004/12/10	0.0004473	0.000185	-	-	-	-	-	-	0.5	0.8565	
2004/12/13	0.0019528	0.0010461	-	-	-	-	-	-	0.4503725	0.825	
2004/12/14	0.0023375	0.0116627	-	-	-	-	-	-	0.5	0.9227	

Table A.28c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2004/12/15	0.0754581	0.0219495	-	-	-	-	-	-	0.4402287	0	reject
2004/12/17	0.000559	0.0001975	-	-	-	-	-	-	0.4441362	0.6165	
2004/12/20	0.0017291	0.0011865	-	-	-	-	-	-	0.5	0.8239	
2004/12/21	0.0009436	0.0004697	-	-	-	-	-	-	0.5	0.9757	
2004/12/22	0.0003648	0.0001825	-	-	-	-	-	-	0.5	0.9996	
2004/12/23	-	-	0.0003687	0.0001723	0.4311121	0.3479958	0.0001542	0.1099782	0.0188179	0.6889	
2004/12/24	0.0008836	1.049E-06	-	-	-	-	-	-	0.5	0.683	
2004/12/28	-	-	1.458E-05	0.0004417	0.681039	0.3695374	0.2967535	0.3243685	0.0005358	0.4409	
2004/12/29	0.0004408	0.0001306	-	-	-	-	-	-	0.4581934	0.668	
2004/12/30	0.0012278	0.0006949	-	-	-	-	-	-	0.5	0.5547	
2004/12/31	0.0002121	-*	-	-	-	-	-	-	0.49692	0.3745	
2005/01/03	0.002576	0.0013707	-	-	-	-	-	-	0.4497634	0.5354	
2005/01/04	0.0001995	6.114E-05	-	-	-	-	-	-	0.2685338	0.5723	
2005/01/05	0.0001969	8.421E-05	-	-	-	-	-	-	0.5	0.9854	
2005/01/06	-	-	0.0002019	0.0003852	0.9180615	0.3397932	3.4E-14	-	5.898E-06	0.6419	
2005/01/07	0.0060814	0.0112686	-	-	-	-	-	-	0.5	0.892	
2005/01/10	0.0004488	0.0022835	-	-	-	-	-	-	0.5	0.105	
2005/01/11	-	-	0.0010523	0.0001804	0.1358999	0.2365896	5.693E-06	0.1006095	0.0033261	0.935	
2005/01/12	0.0067903	0.0043963	-	-	-	-	-	-	0.5	0.9358	
2005/01/13	0.0004029	0.000161	-	-	-	-	-	-	0.5	0.3839	
2005/01/14	0.0080809	0.003166	-	-	-	-	-	-	0.4481369	0.2173	
2005/01/17	0.0006637	0.0003175	-	-	-	-	-	-	0.5	0.9747	
2005/01/18	0.0026811	0.0006321	-	-	-	-	-	-	0.1364442	0.8212	
2005/01/19	0.0059296	0.0018445	-	-	-	-	-	-	0.5	0.0124	
2005/01/20	0.0014382	0.0004587	-	-	-	-	-	-	0.5	0.6446	
2005/01/21	0.0022726	0.0006885	-	-	-	-	-	-	0.5	0.8509	
2005/01/24	0.0002859	9.03E-05	-	-	-	-	-	-	0.3607289	0.9431	
2005/01/25	0.0027788	0.0046705	-	-	-	-	-	-	0.5	0.4817	
2005/01/26	0.0009089	0.0011926	-	-	-	-	-	-	0.5	0.0395	
2005/01/27	0.003365	0.0015926	-	-	-	-	-	-	0.5	0.9534	
2005/01/28	0.0076094	0.0041435	-	-	-	-	-	-	0.5	0.9717	
2005/01/31	0.0013936	0.0008209	-	-	-	-	-	-	0.5	0.6057	
2005/02/01	-	-	0.0005175	0.000625	0.7220421	0.3254506	0.0403069	0.183248	0.049453	0.4053	
2005/02/02	-	-	0.0059157	0.0050283	0.9294179	0.3620951	3.485E-11	-	0.0314456	0.5641	
2005/02/03	0.0004071	0.0002095	-	-	-	-	-	-	0.5	0.4015	

Table A.28c. (continued)

Date	$\sigma^2$		$\alpha_0$		$\alpha_1$		$\beta_1$		ARCH	Fit	$H_0$ Fit
2005/02/04	-	-	0.0044612	0.0019874	0.3106445	0.2935943	0.1396467	0.2307411	0.0422355	0.879	
2005/02/07	0.0019242	0.0008683	-	-	-	-	-	-	0.5	0.9911	
2005/02/08	-	-	0.0006031	0.0003579	0.4192628	0.2281081	0.4096964	0.2955616	0.0003798	0.0724	
2005/02/09	0.0005372	0.0035036	-	-	-	-	-	-	0.1595611	0.0705	
2005/02/10	-	-	8.645E-05	-	0.9769282	-	8.646E-07	-	9.94E-08	0.8765	
2005/02/11	0.0003421	3.923E-05	-	-	-	-	-	-	0.5	0.8513	
2005/02/14	-	-	0.002692	0.0007978	0.4435317	0.3161934	1.312E-11	-	7.306E-05	0.1864	
2005/02/15	0.0007764	0.0099882	-	-	-	-	-	-	0.1249277	0.217	
2005/02/16	-	-	0.0019657	0.0012403	0.8710468	0.355078	5.381E-11	-	5.4E-14	0.9777	
2005/02/17	-	-	0.0650675	0.1300335	0.7790065	0.4140431	7.238E-12	-	5.905E-06	0.948	
2005/02/18	0.0017248	0.000578	-	-	-	-	-	-	0.2952267	0.9927	
2005/02/21	0.0231273	0.0149816	-	-	-	-	-	-	0.5	0.8864	
2005/02/22	-	-	0.0006808	0.0002111	0.7091419	0.3372872	1.527E-09	0.027112	0.0030727	0.8916	
2005/02/23	0.0088063	0.0045762	-	-	-	-	-	-	0.5	0.8924	
2005/02/24	0.0002108	0.0001723	-	-	-	-	-	-	0.5	0.0278	
2005/02/25	0.0013523	0.0005841	-	-	-	-	-	-	0.4852705	0.9967	
2005/02/28	0.0151921	0.0108273	-	-	-	-	-	-	0.5	0.9722	

\* With only four "observed" values meaningful inference is not possible, since realizations with no "observed" values occur.

**Table A.29.** Characteristics (defined in section 5.4) for Anglo American PLC with corresponding categories in adjacent columns. We use *a* and *b* to denote measurements based on non-standardized and standardized returns respectively.

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/11/01	-175.59	H	-5.5657	H	2.18926	M	0.19455	L	0.12923	L	-0.0111	M	0.01171	H	3.16643	H	0.04737	H	0.51031	M
2004/11/02	-187.51	L	-2.0846	H	2.06092	L	0.45037	M	0.32244	M	-0.0171	L	-0.0025	M	1.92472	M	0.00619	M	0.5052	M
2004/11/03	-180.01	M	4.1186	L	2.77953	H	0.52401	M	0.36299	M	-0.3066	L	-0.0024	M	3.52406	M	0.00717	H	0.51258	M
2004/11/04	-188.76	L	-2.7539	H	1.89983	L	0.64546	H	0.53237	H	-0.014	M	-0.0182	L	3.64685	H	0.22732	H	0.47897	L
2004/11/05	-186.17	L	-7.7652	H	2.10556	M	0.4371	M	0.17457	L	0.324	H	-0.01	L	2.27679	H	0.02107	M	0.43515	L
2004/11/08	-181.97	M	5.62464	L	1.98585	L	0.3227	L	0.14808	L	0.00468	M	-0.0029	M	1.57331	L	0.00547	L	0.53323	M
2004/11/09	-187.2	L	1.23261	M	2.45519	H	0.56946	M	0.502	H	0.38119	H	-0.0131	L	3.36819	M	0.01114	H	0.57143	H
2004/11/10	-193.05	L	7.67431	L	1.6617	L	0.59889	H	0.27599	M	-0.485	L	-0.0227	L	2.65129	H	0.01765	H	0.47116	L
2004/11/11	-182.66	M	3.50011	L	2.35978	H	0.48935	M	0.2875	M	0.22401	H	0.00375	H	4.04218	M	0.006	H	0.55232	H
2004/11/12	-186.76	L	-2.8313	H	2.38087	H	0.23642	L	0.39923	M	-0.1152	L	-0.009	L	1.26031	M	0.00738	L	0.50775	M
2004/11/15	-183.98	M	2.21563	L	2.33656	M	0.34008	L	0.31238	M	-0.5641	L	-0.0096	L	2.66164	M	0.00791	H	0.50584	M
2004/11/16	-189.29	L	-6.7665	H	2.33773	M	0.63854	H	0.39236	M	0.34028	H	-0.0103	L	0.96683	H	0.01884	L	0.46795	L
2004/11/17	-188.27	L	-0.9384	M	2.29486	M	0.33234	L	0.33615	M	0.24594	H	0.00586	H	1.39316	L	0.00463	L	0.55408	H
2004/11/18	-184.06	M	1.10871	M	2.14977	M	0.4358	L	0.45376	H	0.22071	H	0.0021	M	2.45217	H	0.17284	M	0.54329	H
2004/11/19	-182.01	M	1.74479	M	2.23548	M	0.32856	L	0.29851	M	0.00031	M	-0.0025	M	1.42814	H	0.02525	L	0.50611	M
2004/11/22	-182.5	M	1.03719	M	2.27508	M	0.73121	H	0.79523	H	-0.0614	L	0.01636	H	3.68375	H	0.0205	H	0.52347	M
2004/11/23	-188.89	L	0.37399	M	2.07545	L	0.49375	M	0.50919	H	0.03405	M	-0.0023	M	1.32961	L	0.00582	L	0.52519	M
2004/11/24	-191.06	L	1.22359	M	2.45658	H	0.56944	M	0.30087	M	-0.0522	L	0.00069	M	2.05653	H	3.67049	M	0.57676	H
2004/11/25	-189.84	L	0.19502	M	1.79163	L	0.45055	M	0.12761	L	0.00359	M	-0.0027	M	2.79066	H	0.01184	H	0.52255	M
2004/11/26	-185.85	M	-1.0349	H	1.93044	L	0.63861	H	0.49522	H	0.03305	M	-0.0064	L	4.92168	H	947.778	H	0.55	H
2004/11/29	-186.96	L	1.26913	M	2.00645	L	0.45372	M	0.29846	M	-0.5923	L	-0.0086	L	2.60021	M	0.0099	H	0.53684	H
2004/11/30	-202.63	L	-2.8602	H	1.52385	L	0.72916	H	0.40081	H	0.06544	H	0.00366	H	1.8696	H	0.0131	M	0.51633	M
2004/12/03	-183.58	M	-4.6609	H	2.31063	M	0.81385	H	0.37094	M	0.27707	H	0.02112	H	2.20945	M	0.00854	M	0.5211	M
2004/12/06	-197.37	L	-1.3899	H	1.69215	L	0.63698	H	0.48406	H	0.01506	M	0.0032	M	2.87194	H	0.12428	H	0.47691	L
2004/12/07	-197.97	L	-2.3342	H	1.8387	L	0.01147	L	0.28243	M	-0.3741	L	-0.0059	L	20.5468	H	0.04313	H	0.55141	H
2004/12/08	-191.67	L	0.74191	M	1.72912	L	0.56823	M	0.72709	H	-0.2071	L	-0.0197	L	3.62738	H	0.06803	H	0.50858	M
2004/12/09	-185.13	M	2.41415	L	2.06808	L	0.36465	L	0.20688	L	0.43895	H	-0.012	L	8.07283	H	0.52469	H	0.45874	L
2004/12/10	-185.91	M	1.97984	M	2.20604	M	0.67342	H	0.50102	H	-0.9089	L	-0.0053	L	2.87702	L	0.00566	H	0.59174	H
2004/12/13	-187.9	L	3.32691	L	2.23135	M	0.33925	L	0.13412	L	-0.0132	M	-0.0033	M	2.0943	M	0.00841	M	0.52941	M



Table A.29. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/12/14	-181.85	M	-4.0721	H	2.36503	H	0.54199	M	0.27654	M	1.19103	H	0.01158	H	1.56666	L	0.00534	L	0.51527	M
2004/12/15	-189.03	L	6.52849	L	1.93078	L	0.79474	H	0.66778	H	0.07522	H	0.05515	H	1.04018	H	1.0265	L	0.46343	L
2004/12/17	-190.73	L	-2.0698	H	2.23409	M	0.59808	H	0.97963	H	0.00094	M	0.0116	H	2.74292	H	0.0121	H	0.60323	H
2004/12/20	-182.04	M	-0.9878	H	2.39244	H	0.48904	M	0.39753	M	-0.0572	L	-0.0066	L	0.52123	L	0.00324	L	0.57447	H
2004/12/21	-173.81	H	-0.5231	M	2.22376	M	0.54693	M	0.39037	M	0.12729	H	0.06239	H	0.90245	M	0.01084	L	0.50633	M
2004/12/22	-163.89	H	0.68729	M	2.27335	M	1.04799	H	0.44037	H	-0.1945	L	0.01077	H	2.95099	L	0.00248	H	0.54274	H
2004/12/23	-162.57	H	3.52881	L	2.29438	M	1.01068	H	0.33225	M	0.40236	H	-0.0036	M	2.15168	L	0.00177	M	0.50189	L
2004/12/24	-145.89	H	-1.4635	H	4.69216	H	1.37949	H	2.03973	H	0.55914	H	0.00134	M	6.43266	L	0.00388	H	0.62857	H
2004/12/28	-146.39	H	1.58853	M	4.57078	H	1.14138	H	0.82625	H	0.06611	H	0.00584	H	1.82019	L	0.00171	M	0.475	L
2004/12/29	-159.79	H	-5.0088	H	3.16515	H	0.55587	M	0.13294	L	0.63587	H	0.00424	H	4.85049	M	0.00826	H	0.53254	M
2004/12/30	-160.12	H	7.3703	L	2.77151	H	1.01734	H	1.06361	H	0.18671	H	0.01243	H	2.3557	H	0.04477	M	0.51364	M
2004/12/31	-138.88	H	15.9939	L	3.58481	H	0.68517	H	0.27521	L	0.35754	H	0.01948	H	0.74166	L	0.00276	L	0.53191	M
2005/01/03	-147.09	H	-0.9037	M	2.75559	H	0.29181	L	0.20015	L	1.41556	H	0.01015	H	6.18028	L	0.00481	H	0.48148	L
2005/01/04	-167.13	H	-1.894	H	2.93234	H	0.6857	H	0.2049	L	-0.0907	L	0.00224	M	1.85193	M	0.01028	M	0.54044	H
2005/01/05	-175.08	H	-3.5208	H	2.82065	H	0.40402	L	0.32075	M	0.08279	H	0.00554	H	3.02466	L	0.00551	H	0.49117	L
2005/01/06	-178.47	H	6.72848	L	2.00119	L	0.22427	L	0.23256	L	0.04483	M	2.5E-05	M	2.32581	L	0.00546	M	0.55	H
2005/01/07	-174.49	H	2.0243	M	2.99964	H	0.43852	M	0.10606	L	0.44323	H	0.00242	M	3.51763	M	0.01153	H	0.5092	M
2005/01/10	-175.76	H	3.77088	L	2.5976	H	0.25406	L	0.22114	L	-0.8745	L	-0.0253	L	2.10027	L	0.00441	M	0.63427	H
2005/01/11	-177.26	H	0.55694	M	2.47105	H	0.47181	M	0.71587	H	0.03471	M	0.01975	H	2.5358	M	0.0117	M	0.53472	M
2005/01/12	-181.46	M	5.39658	L	2.02835	L	2.25691	H	1.69607	H	-0.4599	L	0.06027	H	413.803	H	175.784	H	0.47335	L
2005/01/13	-181.38	M	-0.9626	H	2.27918	M	0.78415	H	0.54453	H	0.02915	M	0.00495	H	1.94678	L	0.00441	M	0.56042	H
2005/01/14	-182.05	M	2.29408	L	2.72897	H	0.52421	M	0.22309	L	0.02173	M	-0.0059	L	2.03642	M	0.00601	M	0.53846	H
2005/01/17	-182.77	M	0.33569	M	2.73053	H	0.54125	M	0.3707	M	0.00566	M	0.00446	H	1.6778	L	0.00513	M	0.45309	L
2005/01/18	-193.09	L	-0.1585	M	1.86055	L	0.89024	H	0.33401	M	-0.2386	L	-0.0209	L	1.31826	L	0.00492	L	0.56955	H
2005/01/19	-190.03	L	-0.4555	M	2.08777	L	0.33775	L	0.34809	M	0.05789	H	-0.0103	L	1.66952	M	0.00718	L	0.45082	L
2005/01/20	-184.02	M	0.136	M	1.86856	L	0.27241	L	0.12806	L	0.0117	M	0.00784	H	1.26008	L	0.00433	L	0.46567	L
2005/01/21	-178.45	H	-3.5217	H	3.04068	H	0.34831	L	0.30411	M	2.31023	H	0.01243	H	2.84354	M	0.00843	H	0.43109	L
2005/01/24	-178.58	M	-0.466	M	2.34504	M	0.44024	M	0.4907	H	-0.0974	L	0.00319	M	0.7327	H	0.16589	L	0.50824	M
2005/01/25	-176.02	H	1.4852	M	2.32786	M	0.65238	H	0.18599	L	-0.3425	L	-0.008	L	2.021	H	0.02378	M	0.37799	L
2005/01/26	-177.44	H	-2.5935	H	2.85956	H	0.38145	L	0.2156	L	0.01135	M	-0.0098	L	1.1652	M	0.00804	L	0.375	L

Table A.29. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2005/01/27	-178.52	M	6.25404	L	2.22894	M	0.43831	M	0.38267	M	0.04628	M	0.00833	H	2.40319	H	0.01185	M	0.39703	L
2005/01/28	-174.3	H	-5.9023	H	2.36951	H	0.43738	M	0.1977	L	-0.2058	L	-0.0101	L	1.83395	M	0.00723	M	0.44578	L
2005/01/31	-181.84	M	0.10332	M	2.0277	L	0.43673	M	0.30481	M	-0.1442	L	-0.0043	M	0.84611	L	0.00334	L	0.43212	L
2005/02/01	-191.22	L	6.11171	L	1.65996	L	0.47597	M	0.24751	L	0.0477	H	0.01331	H	2.42524	M	0.01122	M	0.47232	L
2005/02/02	-186.49	L	3.76864	L	1.75357	L	0.01533	L	0.16745	L	-0.0099	M	-0.005	L	3.69575	M	0.00704	H	0.48786	L
2005/02/03	-190.63	L	2.75539	L	1.79126	L	0.23131	L	0.22009	L	-0.0931	L	-0.013	L	1.26396	M	0.00638	L	0.40312	L
2005/02/04	-181.41	M	2.843	L	2.319	M	0.7796	H	0.4469	H	-0.2499	L	-0.0299	L	1.34493	H	0.12775	L	0.61154	H
2005/02/07	-176.77	H	6.61126	L	1.98992	L	0.31442	L	0.21475	L	0.18167	H	0.01052	H	0.51781	L	0.00367	L	0.53604	H
2005/02/08	-186.25	L	2.59406	L	1.98706	L	0.31936	L	0.21534	L	0.0307	M	-0.0052	L	2.5764	H	0.01262	M	0.5049	M
2005/02/09	-176.56	H	7.71376	L	2.11033	M	0.45348	M	0.33455	M	-0.0097	M	-0.0105	L	1.30114	L	0.00395	L	0.46026	L
2005/02/10	-187.52	L	-5.0878	H	1.85968	L	0.39774	L	0.25077	L	-0.2835	L	-0.0009	M	1.94835	M	0.00948	M	0.50769	M
2005/02/11	-176.78	H	0.12589	M	2.55208	H	0.53334	M	0.46125	H	-0.2385	L	0.01795	H	1.68757	L	0.00446	M	0.56743	H
2005/02/14	-178.51	H	4.75595	L	2.23933	M	0.58048	H	0.45658	H	0.07891	H	-0.0068	L	1.89851	M	0.00689	M	0.45168	L
2005/02/15	-173.47	H	-0.9621	M	2.16437	M	0.99284	H	0.55933	H	-0.0035	M	-0.0017	M	1.85133	M	0.00596	M	0.46475	L
2005/02/16	-182.44	M	4.32439	L	2.24754	M	0.20663	L	0.14852	L	-0.0144	M	-0.0025	M	0.93558	L	0.00464	L	0.47692	L
2005/02/17	-186.77	L	-4.0587	H	2.35063	H	0.29314	L	0.2743	L	0.02035	M	-0.0038	M	1.29366	M	0.00638	L	0.5351	H
2005/02/18	-180.17	M	3.21643	L	2.16322	M	0.67793	H	0.57498	H	-0.1214	L	-0.0031	M	4.05859	L	0.00443	H	0.53816	H
2005/02/21	-179.78	M	-5.3462	H	2.79543	H	0.46852	M	0.08979	L	0.01657	M	-0.0109	L	1.39058	L	0.00403	L	0.59645	H
2005/02/22	-183.37	M	5.19403	L	2.21194	M	0.29985	L	0.2611	L	-0.0844	L	0.00053	M	1.21899	H	0.05283	L	0.53268	M
2005/02/23	-188.96	L	-4.0224	H	1.87098	L	0.57163	M	0.36844	M	-0.009	M	-0.0025	M	1.5344	H	0.78351	L	0.50549	M
2005/02/24	-183.18	M	-2.4782	H	2.43813	H	0.63283	H	0.57573	H	0.1666	H	0.00089	M	2.53389	M	0.00776	M	0.62446	H
2005/02/25	-173.97	H	-3.2591	H	2.21618	M	0.32084	L	0.41251	H	0.00748	M	-0.0042	M	0.85619	L	0.00191	L	0.58481	H
2005/02/28	-177.28	H	1.61383	M	1.83136	L	0.22605	L	0.32001	M	-0.0632	L	-0.0012	M	1.13274	L	0.00301	L	0.52533	M

**Table A.30.** Characteristics (defined in section 5.4) for the MTN Group Ltd. with corresponding categories in adjacent columns. We use  $a$  and  $b$  to denote measurements based on non-standardized and standardized returns respectively.

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/11/01	-178.19	M	-5.7385	H	2.98596	H	2.57957	H	0.87255	H	-0.1128	M	0.00381	H	8.54402	H	0.98355	H	0.62424	H
2004/11/02	-172.85	M	5.09445	L	2.71215	H	0.57928	M	0.82504	H	-2.1945	L	0.02292	H	34.5196	H	0.04498	H	0.65664	H
2004/11/03	-172.21	H	-0.6972	M	2.55199	M	0.38124	L	0.28949	M	-0.2536	L	0.01079	H	10.0628	H	0.01557	M	0.47975	L
2004/11/04	-178.6	M	-1.2418	M	2.16945	L	0.89083	H	0.72808	H	0.08242	H	-0.0046	M	6.20237	M	0.00789	L	0.55769	H
2004/11/05	-171.23	H	-0.5226	M	2.46474	M	0.37114	L	0.36727	M	-0.7282	L	-0.042	L	8.4947	H	0.01249	M	0.57622	H
2004/11/08	-175.02	M	0.05548	M	2.52719	M	0.61561	M	0.32973	M	0.5182	H	0.03041	H	3.08456	L	0.02134	M	0.56443	H
2004/11/09	-181.65	L	5.67706	L	2.30187	M	0.93244	H	0.27149	L	0.0012	M	0.01958	H	2.98577	L	0.01307	M	0.56688	H
2004/11/10	-171.58	H	-0.0513	M	2.19582	L	0.45309	L	0.22909	L	-0.1379	L	0.00281	M	4.46862	M	0.02293	M	0.49081	L
2004/11/11	-179.75	M	-10.558	H	2.27501	L	0.50129	M	0.38736	M	0.02323	M	0.02713	H	5.20598	M	0.0796	H	0.60363	H
2004/11/12	-181.1	L	6.01187	L	2.81492	H	0.5678	M	0.28951	M	0.02373	M	-0.0078	L	5.39679	M	0.01157	M	0.59513	H
2004/11/15	-171.09	H	-1.5013	H	2.03899	L	0.39264	L	0.33472	M	0.15732	H	-0.012	L	4.54282	M	0.04579	H	0.53541	M
2004/11/16	-178.04	M	2.45915	L	2.37332	M	0.52541	M	0.33985	M	-0.0306	M	-0.0018	M	3.17658	L	0.00639	L	0.59709	H
2004/11/17	-175.97	M	-0.2078	M	2.31162	M	0.50094	M	0.26948	L	0.02531	M	-0.0019	M	0.76946	L	0.0051	L	0.56959	H
2004/11/18	-171.44	H	-4.6369	H	2.37775	M	1.24852	H	0.59955	H	-0.0566	M	0.00187	M	6.17191	M	0.01219	M	0.50621	L
2004/11/19	-188.34	L	-4.1228	H	1.92131	L	0.18418	L	0.34703	M	0.05557	H	0.00086	M	2.65675	L	0.01477	M	0.53343	M
2004/11/22	-183.87	L	1.81329	L	1.87742	L	0.19016	L	0.42264	M	0.06631	H	0.01155	H	3.99683	M	0.00905	L	0.55456	M
2004/11/23	-189.47	L	-0.4512	M	2.01314	L	0.22507	L	0.1867	L	-0.0748	M	0.00741	H	3.35784	L	0.00714	L	0.59091	H
2004/11/24	-187.65	L	-2.0013	H	2.07938	L	0.8678	H	0.46787	H	0.70945	H	0.01331	H	35.2724	H	0.528	H	0.58382	H
2004/11/25	-184.53	L	2.86559	L	1.78575	L	0.97274	H	0.78739	H	-0.098	M	0.00624	H	12.6956	H	0.03065	H	0.44877	L
2004/11/26	-200.24	L	-2.787	H	1.68259	L	0.65019	H	0.6595	H	0.02478	M	0.00348	H	12.0716	H	0.09476	H	0.49854	L
2004/11/29	-181.27	L	-4.7365	H	1.99543	L	0.5042	M	0.09007	L	-0.5302	L	-0.0271	L	11.1375	H	0.35577	H	0.5332	M
2004/11/30	-192.01	L	-3.4887	H	1.74823	L	0.70493	H	0.55647	H	-0.3637	L	-0.0013	M	6.3254	M	0.86922	H	0.52433	M
2004/12/03	-181.76	L	4.39663	L	2.3204	M	0.41677	L	0.26711	L	0.1183	H	0.01393	H	13.7967	H	0.27303	H	0.55447	M
2004/12/06	-178.4	M	0.55949	M	2.43035	M	0.33994	L	0.25723	L	-0.1426	L	-0.0053	L	1.89441	L	0.00923	L	0.55635	M
2004/12/07	-180.75	L	-4.8326	H	2.55756	H	0.52318	M	0.45444	H	0.10767	H	-0.0378	L	8.0565	H	0.02695	H	0.5288	M
2004/12/08	-187.35	L	-3.6689	H	2.51451	M	0.85942	H	0.65903	H	-0.2826	L	-0.0034	M	4.82505	M	0.01047	L	0.63454	H
2004/12/09	-179.46	M	1.07857	M	2.37901	M	0.51671	M	0.27804	L	0.22359	H	0.0185	H	3.67219	L	0.00734	L	0.53139	M
2004/12/10	-176.29	M	0.03153	M	4.0864	H	0.31055	L	0.10204	L	-0.3437	L	0.00108	M	5.43626	M	0.01539	M	0.58036	H
2004/12/13	-177.21	M	-6.1733	H	2.6471	H	1.16591	H	0.41595	M	-0.5572	L	-0.0284	L	7.67502	H	0.12503	H	0.55728	M

Table A.30. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/12/14	-165.03	H	-0.5986	M	2.03438	L	0.42816	L	0.41351	M	0.07284	H	0.00148	M	2.95628	L	0.00549	L	0.50719	M
2004/12/15	-181.44	L	4.53073	L	3.66965	H	0.38468	L	0.1763	L	0.01198	M	0.00516	H	2.66506	L	0.0107	M	0.49112	L
2004/12/17	-179.6	M	-10.02	H	2.93767	H	0.54062	M	0.36379	M	0.27087	H	0.02105	H	5.97676	M	0.00759	L	0.67516	H
2004/12/20	-160.02	H	-2.1147	H	3.01773	H	0.2596	L	0.2059	L	-0.3386	L	0.00638	H	0.49642	L	0.00128	L	0.6519	H
2004/12/21	-157.72	H	-6.5396	H	3.41137	H	0.98249	H	0.77186	H	0.04159	H	0.00255	M	0.83282	L	0.00142	L	0.5042	L
2004/12/22	-181.11	L	3.40241	L	2.5211	M	0.37096	L	0.18841	L	0.0571	H	0.00456	H	4.96511	M	0.01082	M	0.58057	H
2004/12/23	-163.05	H	2.36676	L	2.73181	H	0.73616	H	0.51567	H	0.78963	H	-0.0049	L	4.06173	M	0.00722	L	0.48198	L
2004/12/24	-155.82	H	5.45378	L	3.44389	H	1.07372	H	0.68746	H	0.16434	H	0.00611	H	1.93269	L	0.00239	L	0.61905	H
2004/12/28	-165.08	H	6.84905	L	3.98758	H	0.92634	H	0.5265	H	-0.1373	L	0.01761	H	13.1357	H	0.00859	L	0.68263	H
2004/12/29	-160.82	H	3.40671	L	3.1094	H	0.54651	M	0.30424	M	-0.4357	L	-0.0154	L	4.62952	M	0.00785	L	0.55612	M
2004/12/30	-150.36	H	8.03715	L	4.87986	H	1.20848	H	0.76919	H	-0.2995	L	-0.0367	L	18.0879	H	0.04373	H	0.45455	L
2004/12/31	-143.18	H	-1.4345	M	2.9678	H	0.31782	L	0.53199	H	-0.0156	M	0.03188	H	2.40073	L	0.00227	L	0.38298	L
2005/01/03	-167.26	H	5.56475	L	3.12492	H	0.47971	M	1.16054	H	0.29459	H	-0.0001	M	17.2956	H	0.07525	H	0.54198	M
2005/01/04	-172.39	H	-1.1135	M	2.52346	M	0.43357	L	0.39674	M	-0.2745	L	-0.0103	L	6.98813	H	0.01238	M	0.50168	L
2005/01/05	-162.18	H	-3.5918	H	2.70339	H	0.45406	M	0.1328	L	0.09709	H	-0.0053	L	2.47896	L	0.00388	L	0.55189	M
2005/01/06	-183.34	L	5.39706	L	2.16248	L	0.74591	H	0.51909	H	-0.1576	L	-0.0073	L	11.1843	H	0.07021	H	0.53971	M
2005/01/07	-180.89	L	-4.779	H	2.16681	L	0.49967	M	0.34433	M	-0.2416	L	-0.0016	M	10.9415	H	0.03058	H	0.50228	L
2005/01/10	-163.54	H	1.54571	M	2.18317	L	0.27777	L	0.15786	L	-0.0083	M	-0.0061	L	6.89294	M	0.00917	L	0.49627	L
2005/01/11	-175.21	M	1.78407	L	2.42588	M	0.901	H	0.7302	H	-0.0661	M	-0.0021	M	4.39385	M	0.01086	M	0.58308	H
2005/01/12	-172.9	M	0.76273	M	2.13944	L	0.48818	M	0.48569	H	-0.0308	M	0.00085	M	5.044	M	0.07591	H	0.51263	M
2005/01/13	-187.28	L	0.82596	M	2.03735	L	0.33076	L	0.18253	L	0.07181	H	0.01165	H	3.9701	L	0.00847	L	0.57622	H
2005/01/14	-171.24	H	0.67495	M	2.28216	M	0.56851	M	0.25787	L	-0.0803	M	-0.0037	M	9.02166	H	0.00879	L	0.46418	L
2005/01/17	-173.2	M	1.56302	M	2.67821	H	0.89845	H	0.37062	M	-0.2189	L	-0.0107	L	5.79368	M	0.01425	M	0.59412	H
2005/01/18	-179.13	M	-3.2038	H	2.0594	L	0.49802	M	0.14715	L	0.06224	H	-0.0261	L	3.51279	L	0.01441	M	0.43487	L
2005/01/19	-186.92	L	-0.6219	M	1.92235	L	1.18535	H	0.35099	M	0.33271	H	-0.0118	L	8.09711	H	0.02842	H	0.52352	M
2005/01/20	-175.55	M	-1.683	H	2.68372	H	0.50851	M	0.32188	M	-0.0199	M	0.00293	M	2.40686	L	0.01165	M	0.49107	L
2005/01/21	-171.58	H	-0.2728	M	2.31119	M	0.2927	L	0.38713	M	0.01637	M	0.00209	M	2.0427	L	0.00637	L	0.52698	M
2005/01/24	-178.39	M	-4.9048	H	2.40481	M	0.60936	M	0.29933	M	0.35484	H	0.02222	H	4.41997	M	0.01311	M	0.52494	M
2005/01/25	-181.98	L	-0.2019	M	2.25993	L	0.5663	M	0.43953	H	-0.0001	M	0.05662	H	10.4959	H	4.54579	H	0.37365	L
2005/01/26	-167.09	H	-1.3173	M	3.25501	H	0.62262	M	0.31971	M	-0.8286	L	0.00101	M	9.31743	H	0.08544	H	0.42174	L

Table A.30. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2005/01/27	-176.71	M	2.53201	L	2.35292	M	1.87665	H	0.50352	H	0.13576	H	-0.0008	M	6.1363	M	0.01138	M	0.53652	M
2005/01/28	-177.25	M	-6.7414	H	2.45732	M	0.70975	H	0.53417	H	0.09546	H	0.00671	H	9.99642	H	0.21202	H	0.507	M
2005/01/31	-175.39	M	-2.1186	H	2.08809	L	0.98143	H	0.1316	L	-1.8606	L	-0.0444	L	8.14472	H	0.04132	H	0.44192	L
2005/02/01	-186.34	L	-0.7677	M	1.80083	L	0.47579	M	0.21746	L	-0.3157	L	-0.0048	M	2.85085	L	0.01395	M	0.46732	L
2005/02/02	-180.97	L	4.3674	L	2.19385	L	0.93166	H	0.39106	M	-0.277	L	-0.0116	L	3.38737	L	0.01129	M	0.50265	L
2005/02/03	-162.2	H	4.69498	L	2.59415	H	1.43587	H	0.41766	M	-0.019	M	-0.0156	L	5.25392	M	0.0116	M	0.55762	H
2005/02/04	-151.72	H	3.54885	L	2.389	M	0.56175	M	0.3974	M	0.03679	M	-0.008	L	0.60552	L	0.00135	L	0.53571	M
2005/02/07	-184.4	L	-1.4369	H	2.28758	M	0.55598	M	0.21024	L	-0.2596	L	-0.0053	L	12.5775	H	0.0296	H	0.51163	M
2005/02/08	-179.97	L	-7.2605	H	2.78179	H	0.43254	L	0.12701	L	0.03332	M	-0.0057	L	3.5329	L	0.02507	M	0.48494	L
2005/02/09	-189.98	L	9.45573	L	1.87924	L	0.30531	L	0.26055	L	-0.218	L	-0.0233	L	7.86628	H	0.27895	H	0.47357	L
2005/02/10	-188.98	L	1.84825	L	2.23565	L	0.18338	L	0.20128	L	0.00071	M	-0.0017	M	6.03137	M	0.02086	M	0.56449	H
2005/02/11	-179.87	L	-3.9454	H	2.6023	H	0.66615	H	0.95115	H	-0.1692	L	0.0194	H	4.77024	M	0.06886	H	0.63483	H
2005/02/14	-174.5	M	-8.9209	H	2.41223	M	0.35775	L	0.22429	L	-0.0975	M	-0.0044	M	7.64981	H	0.10219	H	0.55873	H
2005/02/15	-176.83	M	2.22567	L	2.51874	M	0.87202	H	0.4601	H	-0.2333	L	-0.0256	L	2.51773	L	0.01547	M	0.51445	M
2005/02/16	-169.61	H	3.62986	L	2.41221	M	0.60443	M	0.33201	M	-0.0929	M	-0.0072	L	6.29987	M	0.01336	M	0.5	L
2005/02/17	-179.54	M	0.70864	M	2.4538	M	0.4258	L	0.29218	M	-0.0394	M	-6E-05	M	5.29678	M	0.02086	M	0.53713	M
2005/02/18	-169.03	H	5.2051	L	2.41665	M	0.36566	L	0.30442	M	0.61288	H	-0.0029	M	2.87229	L	0.00965	L	0.43175	L
2005/02/21	-169.83	H	-4.9758	H	2.66338	H	0.28531	L	0.19812	L	0.05843	H	0.00095	M	3.58139	L	0.00885	L	0.48052	L
2005/02/22	-173.74	M	6.83062	L	3.28101	H	0.09861	L	0.10264	L	0.0007	M	0.0021	M	1.87042	L	0.0057	L	0.57508	H
2005/02/23	-175.1	M	1.69871	M	2.81359	H	0.60019	M	0.28109	L	-0.2408	L	-0.0087	L	5.77931	M	0.00912	L	0.54704	M
2005/02/24	-186.69	L	-6.4976	H	2.21538	L	0.93854	H	1.62427	H	-0.7513	L	-0.0098	L	4.72644	M	0.02094	M	0.4862	L
2005/02/25	-171.28	H	0.35709	M	2.502	M	0.63814	M	0.4805	H	0.62986	H	0.01749	H	7.63672	H	0.05021	H	0.48624	L
2005/02/28	-178.81	M	-1.398	M	1.94472	L	0.34826	L	0.26404	L	0.09258	H	0.00382	H	3.6709	L	0.00773	L	0.51991	M

**Table A.31.** Characteristics (defined in section 5.4) for the Harmony Gold with corresponding categories in adjacent columns. We use  $a$  and  $b$  to denote measurements based on non-standardized and standardized returns respectively.

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/11/01	-160.63	M	-3.1629	M	3.53998	H	0.47743	L	0.12837	L	-0.589	L	0.00283	M	9.85307	M	0.01577	M	0.49143	L
2004/11/02	-172.01	L	-1.8275	M	3.42014	H	0.42243	L	0.21659	L	-0.05	M	-0.0314	L	20.2075	H	0.03137	M	0.6371	H
2004/11/03	-160.86	M	8.55415	L	2.5872	M	0.61385	M	0.59725	H	-0.0776	M	0.03098	H	16.0523	H	0.09524	H	0.57317	M
2004/11/04	-176.18	L	-1.7432	M	2.29009	L	0.49421	L	0.20036	L	0.12282	H	-0.0035	M	9.92306	M	0.06569	H	0.47989	L
2004/11/05	-175.91	L	-1.4295	M	3.63746	H	1.46415	H	1.08589	H	-0.1044	L	0.00318	M	29.0354	H	0.00724	L	0.60227	H
2004/11/08	-164.72	M	5.12413	L	3.1602	H	0.57454	M	0.90676	H	-0.4306	L	0.01753	H	19.0681	H	0.0393	H	0.58498	M
2004/11/09	-145.94	H	2.59403	L	2.88487	M	0.92917	H	0.64289	H	0.02691	M	-0.027	L	48.865	H	0.02227	M	0.58416	M
2004/11/10	-167.76	L	6.49842	L	2.70323	M	1.34029	H	0.73136	H	-0.3337	L	0.00659	M	12.7928	H	0.02921	M	0.63669	H
2004/11/11	-183.42	L	-15.435	H	2.04651	L	0.49399	L	0.41093	M	0.02578	M	-0.0338	L	14.2478	H	0.11119	H	0.56667	M
2004/11/12	-177.05	L	-0.5102	M	1.85682	L	0.5606	M	0.11648	L	-0.5404	L	-0.003	M	55.4886	H	0.17742	H	0.60474	H
2004/11/15	-177.37	L	0.62865	L	2.06504	L	1.47876	H	1.12353	H	-0.9893	L	-0.0244	L	7.9439	M	0.02216	M	0.58696	M
2004/11/16	-162.13	M	-3.2851	M	2.17919	L	0.74329	M	0.28487	L	-0.0101	M	0.00707	M	11.6687	M	0.02431	M	0.41697	L
2004/11/17	-182.56	L	-2.0672	M	2.48733	L	0.50121	L	0.92904	H	-1.2828	L	-0.1927	L	9.20964	M	0.80382	H	0.58099	M
2004/11/18	-179.07	L	-6.7448	H	2.37069	L	0.2818	L	0.19037	L	-0.0962	M	-0.0124	M	8.81529	M	0.0112	L	0.56829	M
2004/11/19	-166.9	L	-5.6702	H	2.52306	L	1.30177	H	2.11393	H	0.0025	M	-0.033	L	3.50849	L	0.01885	M	0.58364	M
2004/11/22	-160.97	M	1.08036	L	3.01495	H	0.35035	L	0.34804	M	0.31753	H	0.05252	H	7.7749	M	0.01116	L	0.61585	H
2004/11/23	-164.15	M	-0.5157	M	2.12327	L	1.07032	H	0.82189	H	-0.1111	L	0.00462	M	4.62137	L	0.01752	M	0.57823	M
2004/11/24	-175.01	L	-0.8446	M	2.10499	L	0.40649	L	0.29331	M	-0.6349	L	0.04102	H	17.4552	H	6.97082	H	0.49431	L
2004/11/25	-145.76	H	11.1155	L	2.66462	M	0.36053	L	0.50911	H	0.08054	M	0.01023	H	17.0706	H	0.01568	M	0.55263	M
2004/11/26	-160.07	M	2.32951	L	2.35653	L	0.78638	M	0.79382	H	0.16076	H	-0.0094	M	37.7165	H	1.07953	H	0.47414	L
2004/11/29	-155.48	H	-3.2424	M	3.00637	H	0.59982	M	0.40156	M	-0.119	L	-0.0009	M	3.67538	L	0.01207	L	0.55714	M
2004/11/30	-162.25	M	-5.7665	H	2.02677	L	0.81976	M	0.36299	M	-2.3561	L	-0.0086	M	26.4241	H	0.02463	M	0.5214	L
2004/12/03	-157.12	H	8.64488	L	2.61127	M	0.60152	M	0.33419	M	0.18417	H	0.03004	H	6.72285	L	0.0132	L	0.47594	L
2004/12/06	-162.82	M	-1.0098	M	2.61547	M	0.2333	L	0.18542	L	0.21839	H	0.01168	H	6.07955	L	0.02265	M	0.54237	M
2004/12/07	-168.91	L	10.4912	L	1.83869	L	0.74131	M	0.35999	M	-0.0728	M	-0.0296	L	90.1123	H	0.11029	H	0.54361	M
2004/12/08	-171.2	L	3.94047	L	2.16872	L	0.69642	M	0.29495	M	-1.7675	L	-0.0093	M	121.714	H	0.93274	H	0.50465	L
2004/12/09	-173.83	L	6.20097	L	2.64129	M	0.64506	M	0.33221	M	0.1084	H	-0.0389	L	33.2057	H	0.06068	H	0.616	H
2004/12/10	-150.07	H	-1.2873	M	2.87435	M	1.17715	H	1.73093	H	0.05017	M	0.02712	H	18.9369	H	0.02319	M	0.64815	H
2004/12/13	-158.83	H	-5.1336	H	3.70845	H	0.84584	H	0.92055	H	0.33252	H	0.00238	M	20.0419	H	0.01089	L	0.63194	H

Table A.31. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/12/14	-165.67	L	-2.8402	M	2.80736	M	1.34076	H	0.30326	M	-0.0839	M	0.02762	H	8.75991	M	0.03509	M	0.59833	H
2004/12/15	-159.82	M	10.1167	L	2.87175	M	0.60295	M	0.4524	M	0.02078	M	-0.0139	L	7.151	M	0.08417	H	0.37456	L
2004/12/17	-159.39	M	-2.6673	M	2.57208	M	0.83978	M	0.35042	M	-0.0934	M	-0.0763	L	22.208	H	0.32394	H	0.54144	M
2004/12/20	-148.52	H	3.38219	L	3.04719	H	0.95751	H	2.07872	H	0.01389	M	-0.029	L	26.2151	H	0.01602	M	0.61864	H
2004/12/21	-163.83	M	0.97482	L	2.78136	M	1.58099	H	2.07799	H	-0.3098	L	-0.0283	L	7.52689	M	0.38494	H	0.56696	M
2004/12/22	-156.81	H	-7.0438	H	3.54052	H	0.79734	M	0.2748	L	0.10755	H	0.01355	H	2.60082	L	0.0028	L	0.68504	H
2004/12/23	-157.02	H	-3.9579	M	3.54059	H	0.56174	M	0.37068	M	-0.4503	L	-0.0171	L	5.35347	L	0.01482	L	0.63415	H
2004/12/24	-137.45	H	19.8724	L	3.00504	H	0.55057	M	0.6904	H	0.33728	H	0.0055	M	2.71074	L	0.00041	L	0.59459	M
2004/12/28	-117.17	H	-10.066	H	2.53755	L	1.35572	H	0.28463	L	0.77181	H	-0.0098	M	3.58613	L	0.00283	L	0.46667	L
2004/12/29	-159.28	M	1.14613	L	3.45987	H	1.20824	H	0.68732	H	-0.0906	M	-0.0082	M	10.3289	M	0.03586	H	0.65089	H
2004/12/30	-163.2	M	-5.4292	H	2.9414	H	2.07011	H	0.79301	H	0.00419	M	0.01155	H	1.36171	L	0.00496	L	0.81818	H
2004/12/31	-108.65	H	8.22088	L	1.7967	L	1.00111	H	1.28606	H	0.43448	H	0.00611	M	1.16338	L	0.00021	L	0.36842	L
2005/01/03	-138.24	H	0.06939	L	3.74783	H	1.36013	H	0.43628	M	1.36905	H	-0.0498	L	4.15073	L	0.03081	M	0.54167	M
2005/01/04	-138.58	H	-0.6299	M	2.64353	M	1.18469	H	0.30089	M	-0.0895	M	-0.0375	L	12.6858	M	0.03393	M	0.42857	L
2005/01/05	-138.8	H	-2.3678	M	3.04073	H	0.30032	L	0.77817	H	0.34309	H	0.03231	H	4.96593	L	0.01108	L	0.44118	L
2005/01/06	-163.49	M	-5.7234	H	4.09362	H	0.99204	H	0.30452	M	0.57596	H	-0.1035	L	18.7082	H	0.03269	M	0.55895	M
2005/01/07	-169.82	L	-5.0404	H	3.4654	H	0.52043	M	0.18381	L	0.07928	M	-0.0406	L	15.7937	H	0.05482	H	0.53684	L
2005/01/10	-159.24	H	0.84912	L	2.81131	M	0.36361	L	0.12147	L	0.65655	H	-0.0276	L	12.1827	M	0.34305	H	0.45455	L
2005/01/11	-163.79	M	-6.1865	H	2.3354	L	0.34675	L	0.19145	L	0.36721	H	-0.014	L	6.72565	M	0.01856	M	0.54187	M
2005/01/12	-154.02	H	-1.7615	M	2.79929	M	0.49467	L	0.17013	L	0.00856	M	0.05183	H	14.7365	H	0.05345	H	0.36986	L
2005/01/13	-138.21	H	-7.9163	H	4.02646	H	0.61271	M	0.05932	L	1.49598	H	-0.0253	L	17.1762	H	0.08175	H	0.55294	M
2005/01/14	-158.13	H	-2.0229	M	3.66814	H	0.42322	L	0.6102	H	0.47072	H	0.07695	H	18.2802	H	0.05828	H	0.48592	L
2005/01/17	-157.73	H	-0.1372	M	3.14776	H	0.72269	M	0.2114	L	-0.6825	L	0.00725	H	12.4988	M	0.03272	M	0.54762	M
2005/01/18	-173.22	L	-7.2945	H	2.45037	L	0.45213	L	0.32547	M	-0.2045	L	0.03667	H	6.45011	L	0.04564	H	0.4375	L
2005/01/19	-173.06	L	-11.855	H	2.53983	L	0.52037	L	0.38657	M	-0.0649	M	0.0081	H	4.55007	L	0.02636	M	0.46014	L
2005/01/20	-167.11	L	-6.8996	H	2.64561	M	0.26779	L	0.48708	M	-0.4523	L	-0.0295	L	10.4113	M	0.02256	M	0.49774	L
2005/01/21	-166.76	L	-6.8666	H	3.00465	H	0.79298	M	0.82746	H	-0.5717	L	0.04281	H	8.57944	M	0.02781	M	0.58108	M
2005/01/24	-134.01	H	-10.467	H	3.05057	H	0.58212	M	0.11627	L	-1.0451	L	-0.017	L	6.03353	L	0.01021	L	0.3	L
2005/01/25	-178.17	L	-7.6961	H	2.62636	M	0.59827	M	0.496	M	0.32348	H	-0.0112	M	10.0881	M	0.04662	H	0.48276	L
2005/01/26	-181.87	L	-6.3544	H	2.31445	L	0.25285	L	0.27162	L	-1.4807	L	-0.0236	L	12.07	M	0.02765	M	0.59677	M

Table A.31. (continued)

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2005/01/27	-163.33	M	-4.3692	H	2.38653	L	0.71682	M	0.21569	L	1.21172	H	0.03328	H	8.4696	M	0.01356	L	0.48707	L
2005/01/28	-167.04	L	-5.433	H	2.79235	M	0.92003	H	0.54111	H	-0.2265	L	0.00237	M	11.2208	M	0.02096	M	0.67157	H
2005/01/31	-168.87	L	1.01198	L	2.877	M	0.45877	L	0.21984	L	0.02102	M	0.03591	H	10.6044	M	0.01018	L	0.63028	H
2005/02/01	-169.53	L	0.50247	L	2.57435	M	0.78363	M	0.30568	M	1.12525	H	0.02714	H	2.67862	L	0.00999	L	0.63636	H
2005/02/02	-165.81	L	-6.5456	H	2.25383	L	0.84158	M	0.29061	L	-0.0471	M	-0.0151	L	10.2644	M	0.01101	L	0.57377	M
2005/02/03	-168.72	L	-5.0845	H	3.22419	H	1.54698	H	0.49012	M	-0.3602	L	-0.048	L	25.3323	H	0.05722	H	0.68421	H
2005/02/04	-159.8	M	-5.1456	H	3.31973	H	0.88998	H	0.47235	M	-0.4887	L	0.00229	M	5.0292	L	0.00298	L	0.63415	H
2005/02/07	-159.45	M	-3.5789	M	2.29153	L	1.45912	H	0.79386	H	-0.0654	M	-0.0143	L	15.5834	H	0.0377	H	0.67355	H
2005/02/08	-163.01	M	0.5154	L	2.87054	M	0.39441	L	0.29344	M	0.1114	H	-0.0233	L	3.37885	L	0.00652	L	0.58929	M
2005/02/09	-161.33	M	7.2824	L	2.32507	L	0.3437	L	0.37019	M	0.46102	H	0.02625	H	8.98362	M	0.05099	H	0.54167	M
2005/02/10	-163.96	M	-3.8319	M	2.63579	M	0.29164	L	0.05552	L	-0.1313	L	0.00352	M	1.19068	L	0.00316	L	0.64069	H
2005/02/11	-160.77	M	-5.3228	H	2.65784	M	1.67643	H	1.15746	H	1.49839	H	0.01385	H	13.5695	H	0.03158	M	0.63964	H
2005/02/14	-160.96	M	0.99786	L	2.59097	M	0.65016	M	0.23039	L	0.0388	M	-0.0091	M	11.0205	M	0.03647	H	0.49074	L
2005/02/15	-140.27	H	-4.3453	M	2.66768	M	0.85198	H	0.11438	L	-0.272	L	-0.0041	M	1.78714	L	0.00372	L	0.46	L
2005/02/16	-148.89	H	-4.2179	M	4.09196	H	0.41133	L	0.13205	L	0.02333	M	-0.0015	M	3.60992	L	0.01746	M	0.60526	H
2005/02/17	-162.5	M	-0.5193	M	2.34534	L	0.91452	H	0.22046	L	-0.471	L	0.00117	M	3.07736	L	0.00294	L	0.70563	H
2005/02/18	-160.61	M	-2.9	M	2.63541	M	0.32197	L	0.49338	M	-46.053	L	0.01526	H	9.38968	M	0.00346	L	0.60452	H
2005/02/21	-141.33	H	7.81357	L	2.139	L	1.12702	H	1.28054	H	0.91727	H	0.01342	H	4.5164	L	0.00279	L	0.66906	H
2005/02/22	-163.68	M	-7.519	H	2.56184	L	0.44641	L	0.08447	L	-0.313	L	-0.0138	M	10.2345	M	0.04624	H	0.5283	L
2005/02/23	-144.39	H	0.96856	L	3.26251	H	1.45675	H	0.28404	L	-0.0253	M	-0.0088	M	4.1899	L	0.01416	L	0.53398	L
2005/02/24	-170.31	L	-3.8119	M	3.05353	H	0.04318	L	1.63931	H	-0.0349	M	-0.0154	L	2.40139	L	0.00402	L	0.64957	H
2005/02/25	-152.16	H	-6.1637	H	2.82347	M	0.38017	L	0.08207	L	0.79467	H	0.00739	H	3.59646	L	0.00313	L	0.49306	L
2005/02/28	-157.6	H	-5.4538	H	2.54168	L	0.54215	M	0.49489	M	0.26726	H	0.03545	H	3.1828	L	0.02893	M	0.5614	M



**Table A.32.** Characteristics (defined in section 5.4) for the Tiger Brands Ltd. with corresponding categories in adjacent columns. We use a and b to denote measurements based on non-standardized and standardized returns respectively.

Date	1		2		3		4a		4b		5a		5b		6a		6b		7	
2004/11/01	-156.05	M	4.26351	L	4.17524	H	0.24976	L	0.18334	L	0.1714	H	0.00392	H	1.89813	M	0.00181	M	0.51282	L
2004/11/02	-151.09	M	-1.8944	M	3.5652	H	0.63341	M	0.08392	L	0.19965	H	0.01071	H	0.81623	L	0.00757	H	0.57031	L
2004/11/03	-154.83	M	0.04896	M	4.70307	H	1.37296	H	1.34147	H	0.20638	H	0.00336	H	0.94841	M	0.00051	L	0.71	H
2004/11/04	-138.72	H	-5.3309	H	3.0156	M	1.11401	H	1.20858	H	-0.3986	L	-0.003	M	0.1937	L	0.00066	L	0.7037	H
2004/11/05	-140.62	H	-0.6178	M	2.97817	M	4.01433	H	2.02768	H	-1.3101	L	-0.0119	L	1.91145	H	0.00072	L	0.62602	M
2004/11/08	-145.51	M	4.74145	L	1.8862	L	3.52836	H	2.02661	H	-0.0071	M	-0.0104	L	9.10894	H	0.02425	H	0.57931	L
2004/11/09	-142.38	H	-0.6304	M	2.78604	L	1.50019	H	0.88006	H	-0.2362	L	-0.0057	M	0.81447	L	0.00108	L	0.63736	M
2004/11/10	-151.73	M	3.48124	L	3.24677	M	3.23989	H	0.71257	M	-0.1057	L	-0.0039	M	2.76581	H	0.00364	M	0.69388	H
2004/11/11	-145.1	M	-11.266	H	2.45632	L	0.50788	L	0.74872	M	-0.0292	M	0.00044	M	4.28697	H	0.01392	H	0.48214	L
2004/11/12	-138.81	H	3.50945	L	3.36764	M	0.96695	H	0.96981	H	-0.921	L	0.00129	M	0.55861	L	0.00074	L	0.74227	H
2004/11/15	-143.11	H	-1.4764	M	3.61382	H	1.39646	H	0.19776	L	-0.43	L	0.00899	H	4.83784	H	0.00593	H	0.5	L
2004/11/16	-141.21	H	-10.258	H	3.40199	M	1.82712	H	1.74032	H	0.36909	H	0.00219	M	0.7629	L	0.0002	L	0.67105	H
2004/11/17	-168.91	L	-2.7934	H	3.8011	H	0.69115	M	0.7786	M	0.071	M	-0.0766	L	1.90366	M	0.30777	H	0.62048	M
2004/11/18	-144.52	H	2.32417	L	2.55774	L	0.98307	H	0.51198	M	0.97988	H	-0.0048	M	2.09924	H	0.00259	M	0.5814	L
2004/11/19	-156.11	M	1.63737	M	2.62474	L	0.8488	M	0.83107	H	0.03617	M	-0.0335	L	12.102	H	0.03303	H	0.58382	M
2004/11/22	-141.95	H	0.54095	M	2.98892	M	0.5264	L	0.34171	L	0.2475	H	0.00535	H	0.80754	L	0.00112	M	0.52632	L
2004/11/23	-160	L	-1.3696	M	2.89445	L	0.51542	L	0.63924	M	-0.6758	L	-0.0049	M	56.3034	H	0.00479	H	0.64045	M
2004/11/24	-139.07	H	4.07107	L	3.20776	M	2.13289	H	0.4712	M	-0.157	L	0.01338	H	2.10638	H	0.00386	H	0.5	L
2004/11/25	-154.16	M	-2.7889	H	3.54684	H	0.69721	M	2.02158	H	0.50276	H	0.03989	H	5.51091	H	0.01245	H	0.63415	M
2004/11/26	-156.51	L	-1.5094	M	2.51637	L	0.81225	M	0.78862	H	0.10649	M	0.0119	H	0.82047	L	0.00223	M	0.6213	M
2004/11/29	-146.04	M	-2.2859	M	3.02845	M	0.5176	L	0.78812	M	0.41713	H	-0.0038	M	5.93129	H	0.00982	H	0.50459	L
2004/11/30	-138.46	H	2.37851	L	2.58635	L	0.46828	L	0.77194	M	-0.0184	M	-0.0043	M	3.08679	H	0.00456	H	0.47287	L
2004/12/03	-149.61	M	-3.757	H	2.47417	L	1.35112	H	1.16469	H	-0.6979	L	-0.0066	L	3.26271	H	0.00672	H	0.66667	H
2004/12/06	-162.79	L	-2.4419	H	3.15477	M	0.61096	M	0.52848	M	-0.3104	L	-0.0195	L	1.51742	M	0.0016	M	0.59322	M
2004/12/07	-161.56	L	-2.0786	M	2.79674	L	0.20303	L	0.17759	L	-0.0899	L	-0.0056	M	0.42424	L	0.00093	L	0.64458	H
2004/12/08	-161.3	L	-2.0258	M	2.18485	L	0.3451	L	0.20424	L	-0.0315	M	-0.0017	M	0.85514	M	0.0012	M	0.53608	L
2004/12/09	-155.52	M	-9.8929	H	4.33735	H	0.47341	L	0.12364	L	-0.0626	M	0.01235	H	1.70402	M	0.00169	M	0.6	M
2004/12/10	-129.08	H	-2.9539	H	4.01442	H	0.26583	L	0.36711	L	-0.542	L	-0.0093	L	1.36958	M	0.00045	L	0.39535	L
2004/12/13	-166.98	L	1.54395	M	3.41955	M	0.94313	H	0.77957	M	0.09793	M	-0.0021	M	1.45104	M	0.00195	M	0.64242	H

Table A.32. (continued)

2004/12/14	-147.36	M	3.79827	L	2.74057	L	0.88705	M	0.6878	M	-0.0027	M	-0.0093	L	2.45002	H	0.00234	M	0.53548	L
2004/12/15	-165.66	L	14.4005	L	1.57548	L	0.67909	M	0.33836	L	-0.1654	L	-0.0062	L	6.29371	H	0.07546	H	0.44197	L
2004/12/17	-156.36	L	3.35506	L	2.98187	M	0.57962	L	0.38537	M	-0.054	M	0.00176	M	0.81472	L	0.00056	L	0.63699	M
2004/12/20	-137.65	H	2.32294	L	3.3678	M	1.12203	H	0.9096	H	-0.2618	L	0.00953	H	0.10267	L	0.00173	M	0.70408	H
2004/12/21	-137.63	H	0.57752	M	2.80075	L	0.31291	L	0.19236	L	-0.14	L	0.00308	H	0.83584	M	0.00094	L	0.6	M
2004/12/22	-158.76	L	-2.6807	H	3.58418	H	2.14999	H	0.34713	L	-0.1013	L	-0.0039	M	0.57735	L	0.00036	L	0.7156	H
2004/12/23	-131.66	H	2.12513	L	2.35531	L	0.44028	L	0.29311	L	-0.066	M	-0.0003	M	1.60688	M	0.00065	L	0.5493	L
2004/12/24	-129.62	H	0.74763	M	1.73505	L	0.83394	M	0.32977	L	-0.1386	L	-0.0091	L	1.69658	M	0.00088	L	0.58333	M
2004/12/28	-121.89	H	-6.4809	H	4.02254	H	0.74751	M	0.7816	M	0.61727	H	-0.0121	L	0.90637	M	0.00066	L	0.65854	H
2004/12/29	-134.64	H	-0.2636	M	2.93959	L	0.52848	L	0.40624	M	0.56233	H	0.01154	H	0.95981	M	0.00044	L	0.54795	L
2004/12/30	-134.56	H	5.80365	L	4.28109	H	0.88606	M	1.2048	H	0.14619	H	0.01068	H	1.16061	M	0.00123	M	0.61404	M
2004/12/31	-124.13	H	-11.296	H	3.04925	M	1.14411	H	118.217	H	-0.2604	L	-0.0228	L	0.34979	L	0.00021	L	0.80952	H
2005/01/03	-146.86	M	5.29625	L	3.88869	H	0.68743	M	0.5039	M	0.61044	H	-0.0123	L	1.62373	M	0.00258	M	0.71765	H
2005/01/04	-144.31	H	-5.2622	H	3.13645	M	0.58092	L	0.37333	L	-0.1073	L	0.00132	M	0.47178	L	0.0002	L	0.61972	M
2005/01/05	-142.83	H	-6.1309	H	3.13871	M	1.00107	H	0.44711	M	0.23751	H	-1E-05	M	0.05074	L	0.0002	L	0.53731	L
2005/01/06	-146.09	M	-2.1158	M	3.52329	H	0.93398	M	0.51672	M	-0.7736	L	-0.0182	L	0.2105	L	0.00246	M	0.69608	H
2005/01/07	-143.56	H	-1.3988	M	2.62619	L	0.48026	L	1.01349	H	0.02942	M	-0.0077	L	2.67299	H	0.00608	H	0.57522	L
2005/01/10	-153.49	M	4.62477	L	3.33146	M	2.51712	H	0.56103	M	-0.1185	L	-0.0235	L	0.39801	L	0.00045	L	0.74167	H
2005/01/11	-159.36	L	4.56794	L	3.65405	H	0.56918	L	0.26837	L	0.12529	H	0.00306	H	1.18422	M	0.00122	M	0.57857	L
2005/01/12	-159.11	L	7.01807	L	3.24439	M	0.41864	L	0.07418	L	-0.0394	M	-0.0206	L	0.87689	M	0.00679	H	0.59239	M
2005/01/13	-162.67	L	-5.3355	H	3.72454	H	1.72437	H	1.45747	H	-0.0266	M	-0.0066	L	0.16114	L	0.0004	L	0.7234	H
2005/01/14	-147.55	M	-4.2201	H	2.99391	M	1.17634	H	0.33525	L	0.55317	H	0.01076	H	3.2243	H	0.00808	H	0.61864	M
2005/01/17	-143.16	H	3.35156	L	2.95266	M	0.32607	L	0.37552	L	-0.0789	M	-0.0083	L	0.64825	L	0.00066	L	0.58621	M
2005/01/18	-163.89	L	4.38394	L	2.13611	L	0.57176	L	0.28049	L	-0.1443	L	-0.0018	M	1.63583	M	0.00268	M	0.60976	M
2005/01/19	-162.93	L	1.61152	M	2.18427	L	0.78223	M	1.83729	H	0.07678	M	0.00123	M	1.27226	M	0.00593	H	0.49799	L
2005/01/20	-156.64	L	-8.6755	H	2.67824	L	0.82555	M	0.37918	M	0.01129	M	0.0064	H	0.53955	L	0.00144	M	0.62092	M
2005/01/21	-146.62	M	-6.2262	H	2.94821	L	0.52767	L	0.22421	L	-0.0226	M	-0.0042	M	1.09208	M	0.00227	M	0.43434	L
2005/01/24	-152.88	M	0.38275	M	4.30841	H	0.67222	M	0.48455	M	-0.2706	L	-0.0063	L	0.37763	L	0.00029	L	0.66116	H
2005/01/25	-144.7	H	13.7493	L	2.81351	L	0.79246	M	1.07418	H	0.1217	H	0.03774	H	1.4371	M	0.00278	M	0.57407	L
2005/01/26	-162.95	L	-0.8338	M	4.42579	H	1.30956	H	1.26571	H	-0.0224	M	0.00453	H	0.96682	M	0.00091	L	0.69286	H

Table A.32. (continued)

2005/01/27	-146.3	M	2.23351	L	3.73751	H	0.56729	L	0.19751	L	0.14383	H	0.00672	H	0.66636	L	0.00336	M	0.56557	L
2005/01/28	-164.46	L	-3.0849	H	3.87337	H	0.74196	M	0.10964	L	-0.0499	M	-0.0145	L	0.84431	M	0.00761	H	0.48649	L
2005/01/31	-156.27	M	-3.42	H	2.68209	L	0.93114	M	0.93461	H	-0.1276	L	-0.0016	M	0.47354	L	0.00139	M	0.72396	H
2005/02/01	-165.05	L	2.35918	L	3.45761	H	2.40666	H	0.98235	H	0.10037	M	-0.007	L	2.38494	H	0.00218	M	0.68145	H
2005/02/02	-153.77	M	-4.1555	H	8.5915	H	0.57651	L	0.15202	L	-0.081	M	-0.0237	L	11.1955	H	0.08381	H	0.62016	M
2005/02/03	-118.53	H	0.57006	M	3.89572	H	1.06213	H	1.34416	H	0.13115	H	-0.0018	M	1.95914	H	0.00041	L	0.63333	M
2005/02/04	-138.66	H	2.36992	L	3.32213	M	0.52569	L	0.50015	M	0.24593	H	0.00852	H	4.46014	H	0.00812	H	0.39604	L
2005/02/07	-159.35	L	3.09487	L	3.18878	M	0.10775	L	0.02958	L	-0.0297	M	-0.0073	L	0.65785	L	0.00192	M	0.58929	M
2005/02/08	-159.16	L	0.46942	M	3.42938	M	1.70689	H	1.14705	H	-0.2977	L	-0.0051	M	2.39322	H	0.00353	M	0.6125	M
2005/02/09	-156.61	L	-0.0439	M	3.49093	H	1.8664	H	3.51847	H	-0.3063	L	-0.0184	L	0.36633	L	0.00054	L	0.64706	H
2005/02/10	-153.17	M	-8.5602	H	2.50951	L	0.7746	M	0.58334	M	0.11964	H	0.00663	H	0.45461	L	0.00375	H	0.57746	L
2005/02/11	-165.54	L	-5.2918	H	3.05322	M	0.85805	M	0.24478	L	-0.0333	M	0.00717	H	0.21537	L	0.00034	L	0.70157	H
2005/02/14	-154.7	M	2.79706	L	3.18902	M	0.67144	M	0.56471	M	0.14761	H	-0.0063	L	1.94208	H	0.00484	H	0.50273	L
2005/02/15	-153.67	M	-14.463	H	5.0606	H	1.19326	H	0.9751	H	0.09354	M	-0.008	L	0.91392	M	0.00078	L	0.59341	M
2005/02/16	-165.83	L	0.94676	M	4.12081	H	0.71468	M	0.91891	H	0.53747	H	0.00946	H	5.35282	H	0.01524	H	0.68156	H
2005/02/17	-154.53	M	-9.2703	H	3.02218	M	0.35825	L	0.25172	L	0.84154	H	0.03447	H	10.7066	H	0.29443	H	0.55882	L
2005/02/18	-147.52	M	6.2927	L	3.34635	M	0.3973	L	0.70081	M	-0.1259	L	-0.0053	M	2.10494	H	0.00172	M	0.61789	M
2005/02/21	-167.35	L	-2.5926	H	5.73059	H	1.12291	H	0.52868	M	0.23644	H	-0.0372	L	2.56636	H	0.02313	H	0.6125	M
2005/02/22	-160.72	L	-0.7922	M	6.72262	H	0.76109	M	0.52045	M	0.21189	H	0.00115	M	0.65545	L	0.00234	M	0.67262	H
2005/02/23	-164.58	L	-7.5103	H	2.53764	L	0.86507	M	0.38255	M	0.69689	H	0.02325	H	1.135	M	0.00881	H	0.73333	H
2005/02/24	-150.07	M	0.23485	M	1.9995	L	0.90806	M	1.04074	H	0.33893	H	0.00123	M	0.11624	L	0.00021	L	0.76316	H
2005/02/25	-141.78	H	15.9091	L	3.20821	M	0.42672	L	0.31898	L	-0.1789	L	0.00903	H	0.86462	M	0.00135	M	0.70642	H
2005/02/28	-163.14	L	-8.1941	H	2.81492	L	0.66521	M	0.19658	L	-0.0133	M	0.02232	H	1.80597	M	0.01519	H	0.63842	M

**Table A.33.** Correlation matrix for the characteristics of Anglo American PLC. All correlations larger than 0.3 in absolute value are in bold.

	1	2	3	4a	4b	5a	5b	6a	6b	7
1	1	0.20419	<b>0.77331</b>	0.29326	0.23072	<b>0.31156</b>	0.22248	-0.01119	-0.0537	0.0514
2	0.20419	1	-0.01602	0.10147	0.06542	-0.19371	0.12615	0.12576	-0.02281	-0.03743
3	<b>0.77331</b>	-0.01602	1	0.2888	<b>0.33822</b>	<b>0.3235</b>	0.10231	-0.05979	-0.09165	0.16291
4a	0.29326	0.10147	0.2888	1	<b>0.75041</b>	-0.05212	<b>0.37577</b>	<b>0.61771</b>	0.14995	0.08099
4b	0.23072	0.06542	<b>0.33822</b>	<b>0.75041</b>	1	-0.03141	<b>0.34329</b>	<b>0.48364</b>	0.12262	0.21907
5a	<b>0.31156</b>	-0.19371	<b>0.3235</b>	-0.05212	-0.03141	1	0.21881	-0.13167	-0.02768	-0.16896
5b	0.22248	0.12615	0.10231	<b>0.37577</b>	<b>0.34329</b>	0.21881	1	<b>0.42808</b>	0.02684	-0.07662
6a	-0.01119	0.12576	-0.05979	<b>0.61771</b>	<b>0.48364</b>	-0.13167	<b>0.42808</b>	1	0.17608	-0.07515
6b	-0.0537	-0.02281	-0.09165	0.14995	0.12262	-0.02768	0.02684	0.17608	1	0.0614
7	0.0514	-0.03743	0.16291	0.08099	0.21907	-0.16896	-0.07662	-0.07515	0.0614	1

**Table A.34.** Correlation matrix for the characteristics of the MTN Group Ltd. All correlations larger than 0.3 in absolute value are in bold.

	1	2	3	4a	4b	5a	5b	6a	6b	7
1	1	0.18604	<b>0.5755</b>	0.06155	0.05491	0.00656	-0.04741	-0.13496	-0.14951	-0.10662
2	0.18604	1	0.2184	-0.02662	-0.04338	0.00198	-0.07118	0.1157	-0.05791	-0.00499
3	<b>0.5755</b>	0.2184	1	0.15504	0.11595	-0.05961	-0.00483	0.04994	-0.0851	0.18355
4a	0.06155	-0.02662	0.15504	1	<b>0.47307</b>	-0.05784	-0.12742	0.16861	0.10397	0.11093
4b	0.05491	-0.04338	0.11595	<b>0.47307</b>	1	-0.09466	0.08932	0.27704	0.06625	0.08037
5a	0.00656	0.00198	-0.05961	-0.05784	-0.09466	1	<b>0.30432</b>	-0.27967	0.01516	-0.0429
5b	-0.04741	-0.07118	-0.00483	-0.12742	0.08932	<b>0.30432</b>	1	0.05937	<b>0.37281</b>	0.12472
6a	-0.13496	0.1157	0.04994	0.16861	0.27704	-0.27967	0.05937	1	0.17047	0.08516
6b	-0.14951	-0.05791	-0.0851	0.10397	0.06625	0.01516	<b>0.37281</b>	0.17047	1	-0.24961
7	-0.10662	-0.00499	0.18355	0.11093	0.08037	-0.0429	0.12472	0.08516	-0.24961	1

**Table A.35.** Correlation matrix for the characteristics of Harmony Gold. All correlations larger than 0.3 in absolute value are in bold.

	1	2	3	4a	4b	5a	5b	6a	6b	7
1	1	0.21523	0.19865	0.18475	0.0672	0.04605	0.13716	-0.20622	-0.16304	<b>-0.30193</b>
2	0.21523	1	-0.13195	0.0187	0.18906	0.03456	0.10872	0.24401	0.04165	0.01145
3	0.19865	-0.13195	1	0.04566	-0.03543	0.05944	-0.05745	-0.19841	-0.18489	0.18524
4a	0.18475	0.0187	0.04566	1	<b>0.43212</b>	0.12894	-0.11487	0.01398	-0.09896	<b>0.331</b>
4b	0.0672	0.18906	-0.03543	<b>0.43212</b>	1	0.01178	-0.07126	-0.03632	-0.03726	0.26542
5a	0.04605	0.03456	0.05944	0.12894	0.01178	1	-0.03951	-0.00699	0.002	-0.05943
5b	0.13716	0.10872	-0.05745	-0.11487	-0.07126	-0.03951	1	-0.13175	0.05252	-0.05628
6a	-0.20622	0.24401	-0.19841	0.01398	-0.03632	-0.00699	-0.13175	1	0.14055	-0.01816
6b	-0.16304	0.04165	-0.18489	-0.09896	-0.03726	0.002	0.05252	0.14055	1	-0.1109
7	<b>-0.30193</b>	0.01145	0.18524	<b>0.331</b>	0.26542	-0.05943	-0.05628	-0.01816	-0.1109	1

**Table A.36.** Correlation matrix for the characteristics of Tiger Brands Ltd. All correlations larger than 0.3 in absolute value are in bold.

	1	2	3	4a	4b	5a	5b	6a	6b	7
1	1	0.01183	-0.11195	0.02256	0.25892	-0.08263	0.10775	-0.11634	-0.21557	-0.10934
2	0.01183	1	-0.15316	0.0175	-0.2189	-0.09177	0.00799	0.00144	-0.11544	-0.10529
3	-0.11195	-0.15316	1	-0.02754	-0.03101	0.06245	-0.17595	-0.00245	0.0885	0.15134
4a	0.02256	0.0175	-0.02754	1	0.0509	-0.28073	-0.13374	-0.04425	-0.10376	<b>0.3077</b>
4b	0.25892	-0.2189	-0.03101	0.0509	1	-0.08735	-0.14963	-0.04026	-0.0333	0.27432
5a	-0.08263	-0.09177	0.06245	-0.28073	-0.08735	1	0.27615	-0.12683	0.19636	-0.0814
5b	0.10775	0.00799	-0.17595	-0.13374	-0.14963	0.27615	1	-0.02798	-0.24531	-0.06538
6a	-0.11634	0.00144	-0.00245	-0.04425	-0.04026	-0.12683	-0.02798	1	0.15198	-0.06933
6b	-0.21557	-0.11544	0.0885	-0.10376	-0.0333	0.19636	-0.24531	0.15198	1	-0.09053
7	-0.10934	-0.10529	0.15134	<b>0.3077</b>	0.27432	-0.0814	-0.06538	-0.06933	-0.09053	1