

Table 2. Bivariate Estimation for Norwegian Series**Panel A: Mean equation**

	VP-1		VP-2		VP-3		VP-4		VP-5		VP-6		VP-FT		VP-TT	
LL/PP	-8391		-8808.6		-9966		-10197		-11729		-11556		-6068		-9315	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
μ_i	0.0983	{2.79}	0.1415	{3.84}	0.0364	{0.73}	0.0578	{1.06}	0.1672	{2.04}	0.2253	{2.38}	0.0766	{3.32}	0.0909	{2.45}
μ_M	0.1010	{5.28}	0.1026	{5.21}	0.0757	{3.64}	0.0787	{3.76}	0.0567	{2.58}	0.0602	{2.70}	0.1157	{6.07}	0.0612	{2.86}
λ_i	-0.0041	−{0.05}	-0.0912	−{1.00}	0.0763	{0.75}	0.0507	{1.21}	-0.0920	−{1.83}	-0.0043	−{0.10}	0.0068	{0.11}	-0.1126	−{1.27}
$\lambda_{i,i,M}$	0.0098	{0.57}	-0.0110	−{1.77}	-0.0015	−{0.06}	0.0240	{0.82}	0.0007	{0.01}	-0.0969	−{0.88}	0.0054	{1.03}	0.0694	{0.97}
$\lambda_{i,M}$	-0.0096	−{0.08}	-0.0366	−{0.32}	-0.2771	−{1.70}	-0.2019	−{1.01}	-0.3817	−{2.51}	-0.0868	−{0.41}	-0.0088	{0.11}	-0.0590	−{0.54}
$\lambda_{M,M}$	-0.0590	−{0.73}	0.0127	{0.14}	-0.1013	−{1.13}	-0.1403	−{1.56}	-0.1303	−{1.34}	-0.2504	−{2.33}	-0.0430	−{0.46}	-0.1029	−{1.04}
θ_i	-0.1120	−{5.89}	-0.0928	−{5.09}	-0.0237	−{1.14}	0.0782	{3.88}	0.3073	{14.9}	0.3604	{22.0}	-0.0612	−{3.23}	0.2361	{11.6}
θ_M	-0.2645	−{11.7}	-0.2371	−{10.4}	-0.2425	−{10.8}	-0.2595	−{11.6}	-0.2624	−{11.2}	-0.2596	−{11.5}	-0.2259	−{11.5}	-0.2665	−{11.2}
$\phi_{M,i}$	0.0691	{1.95}	0.1323	{3.32}	0.1979	{4.08}	0.3042	{6.22}	0.3452	{4.56}	0.1279	{2.29}	0.2122	{8.86}	0.1939	{6.64}

Panel B: Volatility equation

	VP-1		VP-2		VP-3		VP-4		VP-5		VP-6		VP-FT		VP-TT	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
$m_{i,i}$	0.5649	{14.9}	0.6500	{12.8}	1.9341	{32.2}	0.8127	{23.2}	0.8167	{34.7}	0.7388	{26.2}	0.5381	{27.5}	0.4112	{13.8}
$m_{i,M}$	0.3476	{12.8}	0.4058	{17.2}	0.1369	{3.59}	0.4208	{20.2}	0.2276	{6.95}	0.1245	{2.45}	0.4422	{23.5}	0.1290	{2.14}
$m_{M,M}$	0.3143	{17.5}	0.2560	{12.7}	0.2704	{4.32}	0.2089	{10.5}	0.3780	{15.1}	0.4197	{20.2}	0.1142	{20.0}	0.4900	{17.7}
$a_{i,i}$	0.2053	{10.2}	0.1705	{8.92}	0.4361	{14.5}	0.3435	{22.7}	0.2143	{30.6}	0.3707	{47.8}	0.4235	{9.89}	0.2038	{13.5}
$a_{i,M}$	-0.0438	−{3.11}	0.0007	{0.05}	0.0644	{8.30}	0.0056	{1.00}	-0.0020	−{0.79}	0.0060	{2.42}	0.0923	{2.64}	0.0026	{0.15}
$a_{M,i}$	0.2780	{13.7}	0.3884	{19.2}	0.3322	{7.66}	0.2219	{5.47}	0.0070	{0.13}	0.0535	{2.39}	0.0928	{1.70}	0.1216	{6.07}
$a_{M,M}$	0.5368	{30.6}	0.4958	{21.8}	0.2971	{11.9}	0.3917	{25.1}	0.2942	{13.4}	0.1398	{5.44}	0.3916	{8.78}	0.3605	{19.3}
$b_{i,i}$	0.9593	{67.1}	0.9485	{63.2}	0.4222	{7.66}	0.9252	{184}	0.9666	{1142}	0.9531	{765}	0.8669	{31.8}	0.9487	{169}
$b_{i,M}$	0.0415	{3.44}	-0.0051	−{0.44}	-0.1030	−{5.06}	-0.0055	−{1.94}	0.0001	{0.09}	-0.0020	−{1.90}	-0.0366	−{1.50}	0.0008	{0.09}
$b_{M,i}$	-0.1554	−{5.80}	-0.2118	−{8.32}	0.3572	{4.04}	-0.2385	−{9.11}	-0.0777	−{2.55}	-0.0203	−{0.74}	-0.0993	−{2.92}	-0.0456	−{1.81}
$b_{M,M}$	0.7345	{37.2}	0.7900	{42.0}	0.9415	{36.0}	0.8204	{74.9}	0.8330	{65.9}	0.8538	{80.8}	0.8352	{29.2}	0.7822	{47.7}
γ_i	0.0079	{1.10}	0.0189	{3.98}	0.0383	{1.43}	-0.0097	−{0.78}	0.0233	{5.85}	-0.0834	−{11.8}	0.0160	{3.64}	0.0259	{2.71}
γ_M	0.0190	{1.76}	-0.0117	−{2.33}	0.0993	{5.06}	0.0594	{4.69}	0.1678	{6.62}	0.2319	{11.6}	-0.0104	−{2.49}	0.1678	{5.62}

Table 3. Specification Tests for Model mis-specification

	VP-1		VP-2		VP-3		VP-4		VP-5		VP-6		VP-FT		VP-TT	
	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t	Coeff	C-p/t
$Q_i(6)$	7.343	{0.29}	9.041	{0.17}	8.359	{0.21}	4.1020	{0.66}	0.9010	{0.99}	4.853	{0.56}	12.9820	{0.04}	3.4550	{0.75}
$Q_M(6)$	9.626	{0.14}	9.779	{0.13}	10.823	{0.09}	11.4720	{0.07}	7.6100	{0.27}	13.01	{0.04}	12.3260	{0.06}	7.2110	{0.30}
$Q_i^2(6)$	7.236	{0.30}	8.860	{0.18}	1.083	{0.98}	2.0590	{0.91}	8.7310	{0.19}	4.452	{0.62}	14.2070	{0.03}	9.2610	{0.16}
$Q_M^2(6)$	10.501	{0.11}	12.623	{0.05}	11.645	{0.07}	13.8720	{0.03}	9.4070	{0.15}	5.953	{0.43}	14.6910	{0.02}	11.7410	{0.07}
Kurt /Skew(i)	3.64451	0.015	3.532	0.196	4.563	-0.195	4.6525	-0.215	20.3089	-1.559	14.0319	-0.241	5.5997	-0.577	2.6863	-0.089
Kurt /Skew(M)	5.8093	-0.595	5.84226	-0.615	5.30441	-0.585	6.4837	-0.678	7.1310	-0.774	7.6444	-0.803	5.8348	-0.609	6.3221	-0.643
K-S Z-test(i;M)	2.1942	1.8866	2.5094	1.9069	2.8411	1.8703	3.1301	1.8938	5.1550	1.9198	7.8543	1.9899	1.8235	1.8377	1.8596	1.8671
$ARCH_i(6)$	10.506	{0.57}	12.500	{0.05}	3.239	{0.78}	18.3556	{0.01}	7.0697	{0.31}	11.6715	{0.07}	13.9844	{0.03}	10.0873	{0.12}
$ARCH_M(6)$	11.918	{0.45}	13.456	{0.04}	16.735	{0.01}	9.4614	{0.15}	9.7748	{0.13}	7.1013	{0.31}	15.5346	{0.02}	12.4258	{0.05}
$Reset_i(12;6)$	12.719	{0.39}	12.921	{0.37}	15.205	{0.23}	11.0530	{0.52}	13.4778	{0.34}	8.4312	{0.75}	7.23637	{0.84}	10.299	{0.59}
$Reset_M(12;6)$	12.027	{0.44}	11.435	{0.49}	12.489	{0.41}	12.7593	{0.39}	10.9170	{0.54}	14.4687	{0.27}	10.1111	{0.61}	10.728	{0.55}
BDS m=2; (i;M)	-0.3597	-0.863	-0.6827	0.035	-0.7723	0.963	3.3077	-0.786	8.59662	-1.001	23.3621	-0.910	0.6693	-1.137	-0.8400	-0.712
BDS m=3; (i;M)	0.1733	-1.644	-1.5157	-0.012	-1.6658	0.530	3.9467	-1.672	7.8729	-2.001	21.8691	-1.840	0.0906	-1.823	-1.8335	-1.676
BDS m=4; (i;M)	0.3663	-1.951	-1.9400	0.064	-1.9121	0.555	3.9801	-2.226	7.9742	-2.469	21.7570	-2.349	-1.0181	-1.554	-2.0969	-2.228
BDS m=5; (i;M)	0.4998	-1.915	-1.8140	0.429	-1.9026	0.530	4.5807	-2.273	8.1282	-2.111	21.3724	-2.027	-1.4027	-1.701	-2.1950	-2.065
BDS m=6; (i;M)	0.9338	-1.950	-1.8767	1.033	-1.9505	0.360	4.4237	-2.418	9.4077	-2.269	21.6228	-1.795	-1.4696	-1.831	-2.3355	-2.159

 * See Table 1 for a definition of test statistics.