Chapter VI 09.11.11

Table 1. Characteristics of Return series for the Norwegian Equity Market

	Obs.	Mean /	Daily	Kurtosis	K-S			ARCH	RESET	SET BDS test statistic		
Series	Prop	Std.dev.	Max.	Skew	Z-stat	Q(6)	$Q^2(6)$	(6)	(12;6)	m=2;ε=1	m=3;ε=1	m=4;ε=1
VP-1	2611	15.196	13.041	8.405	3.150	50.241	347.021	303.73	43.452	1.920	2.837	3.251
	1.00	32.417	-20.270	-0.311	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.063}	{0.007}	{0.002}
VP-2	2611	25.140	13.436	9.163	2.962	29.844	79.235	144.41	42.199	2.531	2.000	1.598
	1.00	33.153	-23.435	-0.374	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.016}	{0.054}	{0.111}
VP-3	2611	8.598	26.756	30.219	3.448	12.561	240.207	255.07	37.374	3.479	3.337	2.900
	0.97	46.407	-46.978	-1.314	{0.000}	{0.049}	{0.000}	{0.000}	{0.000}	{0.001}	{0.002}	{0.006}
VP-4	2577	12.645	24.413	11.892	5.352	54.31	449.57	292.88	73.327	9.391	10.152	10.350
	0.83	57.556	-33.691	-0.623	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}
VP-5	2515	42.318	81.202	95.67	8.731	264.1	240.478	205.66	79.693	15.533	18.822	21.057
	0.57	130.70	-167.94	-3.984	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}
VP-6	2499	34.618	53.591	17.440	10.813	233.91	374.174	350.16	38.454	20.608	23.900	30.789
	0.43	108.42	-56.571	-0.562	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}
VP-FT	2611	5.502	13.318	26.146	3.809	70.671	403.173	406.65	74.951	16.194	19.102	21.166
	1.00	25.127	-23.063	-1.315	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}
VP-TT	2611	21.456	10.800	5.7203	2.574	103.75	115.374	112.46	25.727	7.472	8.143	8.819
	0.91	32.553	-15.906	-0.116	{0.000}	{0.000}	{0.000}	{0.000}	{0.012}	{0.000}	{0.000}	{0.000}
VP-VW	2611	13.278	10.481	36.143	3.800	67.039	292.262	308.05	68.810	12.653	14.908	15.746
	1.00	20.581	-21.2188	-2.004	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}	{0.000}

VP-1 is the series containing the most frequently traded series (100%) and VP-7 is the series containing the most thinly traded assets (43%). VP-FT (VP-TT) is a portfolio series containing only equally weighted frequently (thinly) traded assets. VP-VW is the value-weighted all assets market index. Mean is daily mean multiplied by 252 trading days and standard deviation is daily standard deviation multiplied by the square root of 252 trading days. Skew is a measure of heavy tails and asymmetry of a distribution (normal) and kurtosis is measure of too many observations around the mean for a distribution (normal). K-S Z-test: Used to test the hypothesis that a sample comes from a normal distribution. The value of the Kolmogorov-Smirnov Z-test is based on the largest absolute difference between the observed and the theoretical cumulative distributions. ARCH (6): ARCH (6) is a test for conditional heteroscedasticity in returns. Low {.} indicates significant values. We employ the OLS-regression $y^2 = a_0 + a_1$. $y^2_{t-1} + \dots + a_6$. y^2_{t-6} . T \mathbb{R}^2 is χ^2 distributed with 6 degrees of freedom. T is the number of observations, y is returns and \mathbb{R}^2 is the explained over total variation. a_0 , a_1 ... a_6 are parameters.

RESET (12,6): A sensitivity test for mainly linearity in the mean equation. 12 is number of lags and 6 is the number of moments that is chosen in our implementation of the test statistic. TR² is χ^2 distributed with 12 degrees of freedom.

BDS (m=2, ϵ =1): A test statistic for general non-linearity in a time series. The test statistic BDS = $T^{1/2}$.[$C_m(\sigma\epsilon)$ - $C_1(\sigma\epsilon)^m$], where C is based on the correlation-integral, m is the dimension and ϵ is the number of standard deviations. Under the null hypothesis of identically and independently distributed (i.i.d.) series, the BDS-test statistic is asymptotic normally distributed with a zero mean and with a known but complicated variance.

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