Supplement to the Paper
"*Iterative plug-in algorithms for SEMIFAR models* – definition, convergence and asymptotic properties"
Detailed Simulation Results

Jan Beran and Yuanhua Feng
University of Konstanz

Abstract

This paper is written as a supplement to our paper *Iterative plug-in algorithms for SEMIFAR models – definition, convergence and asymptotic properties* (Beran and Feng, 2001). The purpose of this supplement is to report the detailed simulation results, because it is impossible to include all of them in the original paper. Some technical details about programming are also described. For the theoretical and methodical background we refer the reader to the original paper.

Key Words: SEMIFAR models, data-driven algorithms, simulation results.

1 Introduction

The SEMIFAR (semiparametric fractional autoregressive) model introduced by Beran (1999) provides a unified approach that allows for simultaneous modelling of deterministic trends, stochastic trends due to nonstationarity and stationary short-memory, long-memory and antipersistent components. One of the crucial problems for fitting a SEMIFAR model is the development of data-driven algorithms. Beran and Feng (2001) propose several algorithms and carry out a large simulation study to investigate the practical performance. However, only a very small part of the simulation results is reported, due to lack of space. Here we provide a supplement to Beran and Feng (2001) to report detailed simulation results.

2 Data-driven algorithms for SEMIFAR models

A SEMIFAR model is a Gaussian process $\tilde{Y}_i$ with an existing smallest integer $m \in \{0, 1\}$ such that

$$\phi(B)(1-B)^{\delta}\{(1-B)^m \tilde{Y}_i - g(t_i)\} = \epsilon_i, \tag{1}$$

where $t_i = (i/n)$, $\delta \in (-0.5, 0.5)$, g is a smooth function on $[0,1]$, B is the backshift operator, $\phi(x) = 1 - \sum_{j=1}^{p} \phi_j x^j$ is a polynomial with roots outside the unit circle and ϵ_i $(i = ..., -1, 0, 1, 2, ...)$ are iid zero mean normal with $\mathrm{var}(\epsilon_i) = \sigma_\epsilon^2$. For the definition of the fractional difference $(1-B)^\delta$ see Beran (1994).

Denote by $Y_i = \tilde{Y}_i$ for $m = 0$ or $Y_i = \tilde{Y}_i - \tilde{Y}_{i-1}$ for $m = 1$ (in this case define $Y_1 := 0$), and define $X_i = Y_i - g(t_i)$. Then we have

$$Y_i = g(t_i) + X_i. \tag{2}$$

Equation (2) defines a nonparametric regression model with a time series error process X_i and that has long-memory ($\delta > 0$), short-memory ($\delta = 0$) and antipersistence ($\delta < 0$), respectively.

In Beran and Feng (2001) g is estimated by the kernel estimator

$$\hat{g}(t; h) = \frac{1}{nh} \sum_{i=1}^{n} K(\frac{t - t_i}{h}) Y_i, \tag{3}$$

where K is a second order kernel and h is the bandwidth. The asymptotically optimal bandwidth which minimizes the approximation of the mean integrated error (MISE) on the interval $[\Delta, 1-\Delta]$ is

$$h_{\mathrm{A}} = C \cdot n^{(2\delta-1)/(5-2\delta)}, \tag{4}$$

where $\Delta > 0$ is introduced to avoid the so-called boundary effect of a kernel estimate and C is an unknown constant. For the uniform kernel we have

$$C = \left(\frac{9(1-2\delta)\nu(\delta)(1-2\Delta)c_f}{I(g'')} \right)^{1/(5-2\delta)}, \tag{5}$$

where c_f is as defined in Beran and Feng (2001) and

$$\nu(\delta) = \frac{2^{2\delta}\Gamma(1-2\delta)\sin(\pi\delta)}{\delta(2\delta+1)} \tag{6}$$

for all $-0.5 < \delta < 0.5$ (see Beran, 1999).

Let $\theta^0 = (\sigma^2_{\epsilon,0}, d^0, \phi_1^0, ..., \phi_{p_0}^0)^{\mathrm{T}}$ denote the true unknown parameter vector in (1) where $d^0 = m^0 + \delta^0$. Let h be a bandwidth such that $h \to 0$, and $nh \to \infty$ and let $e_i$be estimates of ϵ_i obtained using the residuals $Y_i - \hat{g}(t_i, h)$ (see Beran, 1999 and Beran and Feng, 2001). Then, based on Beran (1995), the approximate maximum-likelihood estimation of $\eta = (d, \phi_1, ..., \phi_{p_0})^{\mathrm{T}}$ is obtained by minimizing

$$S_n(\eta) = \frac{1}{n} \sum_{i=m+2}^{n} e_i^2(\eta) \tag{7}$$

with respect to η and the corresponding estimate of σ_ϵ^2 is

$$\hat{\sigma}_\epsilon^2 = \frac{1}{n} \sum_{i=m+2}^{n} e_i^2(\hat{\eta}). \tag{8}$$

Based on a variation of the iterative plug-in idea in Gasser et al. (1991) (see also Ray and Tsay, 1997), Beran (1999) proposed a data-driven algorithm (AlgA) for estimating the SEMIFAR model (see also Beran and Ocker, 1999). In Beran and Feng (2001) two improved algorithms (AlgB and AlgC) are proposed. AlgB works better than AlgC when $m^0 = 0$, while AlgC works better for $m^0 = 1$. As an example, **algorithm B** (AlgB) will be represented in the following. Here, the order p is selected by the Bayesian information criterion (BIC) (see Beran et al., 1998).

Step 1: Obtain a bandwidth for selecting m:

- Step 1a: Set $m = 1$. Calculate $U_i(m)$. Estimate g from $U_i(m)$ with the starting bandwidth $h_0 = n^{-1/3}$. Calculate the residuals.
- Step 1b: For each $p = 0, 1, ..., L$, where L is the maximal order of $\phi(B)$ that will be tried, estimate a FARIMA model from the residuals using the S-PLUS function *arima.fracdiff*, where the order of the MA part is set equal to zero.
- Step 1c: Select the best AR order p following the BIC. Now we obtain an estimate of all parameters except m^0.
- Step 1d: Calculate the bandwidth h_1 following the procedure in Beran and Feng (2001).
- Step 1e: Set $L = \hat{p}_0$.

Step 2: Estimate m^0:

- Step 2a: Carry out steps 1a to 1c with h_1 for $m = 0$ and $m = 1$ separately.
- Step 2b: Select the best pair of m and p following the BIC. Now we obtain an estimation of all parameters, especially $\hat{m}^0$.
- Step 2c: Set $m = \hat{m}^0$.

Step 3: Further iterations: Carry out further iterations with L in step 1e, $m = \hat{m}^0$ and a new starting bandwidth $h_2 := n^{-5/7}$ until convergence is reached or a given number of iterations has been done.

3 Design of the simulation study

A large simulation study has been carried out to investigate the practical performance of the proposed data-driven algorithms. Here, the uniform kernel, $\Delta = 0.1$ and the following three trend functions are used:

$$\begin{aligned} g_1(t) &= 2\tanh(5(t-0.5)), \\ g_2(t) &= 4\sin^2((t-0.5)\pi), \\ g_3(t) &= 2\sin(5(t-0.5)\pi) \end{aligned}$$

for $t \in [0,1]$ (see Figures 1k through 3k). The difference between the maximum and the minimum of these trends is kept the same. These trends are chosen as "*orthogonal*" as possible. The case without trend ($g_0 :\equiv 0$) is also included for comparison.

Fifty parameter combinations with $m^0 \in \{0,1\}$, $\delta^0 \in \{-0.4, -0.2, 0, 0.2, 0.4\}$, $\phi_1^0 \in \{-0.7, -0.3, 0, 0.3, 0.7\}$ were used. Here we have $p_0 = 0$ for $\phi_1^0 = 0$ and $p_0 = 1$ otherwise. The error process is standardized so that $\mathrm{var}\,(X_i) = 1$ in all cases. For each parameter combination 200 replications were simulated with sample sizes $n = 500$, $n = 1000$. The simulations for AlgB and AlgC were carried out, separately. No simulations for AlgA were done, because of excessive computing time.

In the programs, the bandwidth $h_{\min} = n^{-5/7}$ was used as the smallest one to avoid numerical problems. Note that $h_{\min}$ is 0.012 for $n = 500$ and 0.0072 for $n = 1000$ and hence is practically zero. In the case $m^0 = 1$ with $\hat{m}^0 = 0$, the bandwidth is usually of a very small order. This causes $\hat{h} \doteq 0$ for finite samples. Hence $\hat{m}^0 = 0$ and $\hat{h} \doteq h_{\min}$ indicates that $\hat{m}^0$ is not correct. In this case, a finite sample correction for $\hat{m}^0$ could therefore improve the practical performance. That is, if $\hat{m}^0 = 0$ and $\hat{h} < h_{\min} + 1/n$, then the procedure is run again setting $\hat{m}^0 = 1$. All replications were carried out without and with this correction, separately. It is shown that, although $\hat{m}^0$ could not always be corrected, the correction was never applied incorrectly. That is, if this correction is applied, then $\hat{m}^0$ without this correction is certainly wrong. By using the correction, the estimates of other parameters, especially $\hat{h}$, can also be improved. The simulation results show that, the case $m^0 = 1$ with $\hat{m}^0 = 0$ and $\hat{h} < h_{\min} + 1/n$ almost only occurred for g_1 and g_3 using AlgB. Hence it is only applied in these cases.

The computing time for AlgC is longer than that for AlgB. Hence, a technique to reduce the computing time for AlgC is introduced. That is, for AlgC, $\hat{p}$ selected in an iteration is used as the maximal order that is tried in the next iteration. Both, the correction for $\hat{m}^0$ and the technical change for $\hat{p}$, do not affect the asymptotic properties of the estimates. In addition, a test for the significance of a trend is also carried out (see Beran, 1999).

4 Detailed simulation results

In the following, a detailed report of the simulation results is given in tables and figures. Tables 1 - 12, 13 - 24, 25 - 36 and 37 - 48 show results for AlgB with $n = 500$, AlgB with $n = 1000$, AlgC with $n = 500$ and AlgC with $n = 1000$, respectively. The results for g_1 and g_3 with $m^0 = 1$ using AlgB are those with the above mentioned correction for $\hat{m}^0$. These tables may be divided into two groups. The first group, tables 1, 4, 7, ..., 22, consists of tables on frequencies from the 200 replications, which are frequencies of $\hat{m}^0 = m^0$ (the third column for $m^0 = 0$ and the eleventh column for $m^0 = 1$), the frequencies when the test for the trend is significant (denoted by $gSig$, the fourth column for $m^0 = 0$ and the twelfth column for $m^0 = 1$) and those of $\hat{p} = 0$, 1, ..., or 5 (the fifth to tenth columns for $m^0 = 0$ and the thirteenth to eighteenth columns for $m^0 = 0$). Another group, the other tables, consists of tables of statistics on the estimated parameters, where the mean, median and standard deviation of $\hat{h}$, $\hat{d}$ and $\hat{\phi}_1$ are listed. Also listed are the true asymptotically optimal bandwidth h_{A} for all cases. Here, results for $m^0 = 0$ and $m^0 = 1$ in each case are given in separate tables.

Figures 1 to 12 show the kernel density estimates of $\log(\hat{h}/h_{\mathrm{A}})$ for all of the parameter combinations, trend functions g_1, g_2 and g_3, $n = 500$, $n = 1000$ and the two algorithms, respectively. The kernel densities for g_1 and g_3 with AlgB and $m^0 = 1$ are calculated from the results with the correction for $\hat{m}^0$. In each figure, entries a to e show the estimates for $\phi_1^0 = -0.7, ..., 0.7$ with $m^0 = 0$ and the results for $\phi_1^0 = -0.7, ..., 0.7$ with $m^0 = 1$ are shown in entries f to j. Curves in each entry correspond to kernel density estimates of $\log(\hat{h}/h_{\mathrm{A}})$ for $\delta^0 = -0.4$ (solid line), $\delta^0 = -0.2$ (points), $\delta^0 = 0$ (short dashes), $\delta^0 = 0.2$ (middle dashes) and $\delta^0 = 0.4$) (long dashes). Note that, the ranges of the supports for the kernel densities are often different. The three trend functions are shown in Figures 1k to 3k. Kernel densities for the selected bandwidths in the case without trend are not calculated, since there $\hat{h}$ is not consistent.

From these figures we can see that, the proposed bandwidth selector works well in general. However, its practical performance differs from case to case. The bandwidth selector performs badly, when m^0 is not selected correctly (for this see e.g. Figures 9a to 9e). On one hand, as mentioned above, $\hat{h}$ will be much smaller than h_{A} for $m^0 = 1$ with $\hat{m} = 0$. On the other hand, $\hat{h}$ will be much larger than h_{A} for $m^0 = 0$ with $\hat{m} = 1$. The simulation results show that, if $\hat{m} = m^0$, then AlgB and AglC perform quite the same. They differ mainly by the selection of m^0. In general, AlgB (with the correction for $\hat{m}$) performs better than AlgC for small n. For large n, AlgC seems to be better.

References

Beran, J. 1994. Statistics for Long-Memory Processes. Chapman & Hall, New York.

Beran, J. 1995. Maximum likelihood of estimation of the differencing parameter for invertible short- and long-memory autoregressive integrated moving average models. J. Roy. Statist. Soc. Ser. B 57, 659–672.

Beran, J. 1999. SEMIFAR models – A semiparametric framework for modelling trends, long range dependence and nonstationarity. Discussion paper No. 99/16, Center of Finance and Econometrics, University of Konstanz.

Beran, J., Bhansali, R.J. and Ocker, D. 1998. On unified model selection for stationary and nonstationary short- and long-memory autoregressive processes. Biometrika 85, 921–934.

Beran, J. and Feng, Y. 2001. Iterative plug-in algorithms for SEMIFAR models – definition, convergence and asymptotic properties. Preprint, University of Konstanz.

Beran, J. and Ocker, D. 1999. Volatility of stock market indices - An analysis based on SEMIFAR models. Discussion paper No. 99/14, Center of Finance and Econometrics, University of Konstanz.

Gasser, T., Kneip, A. and Köhler, W. 1991. A flexible and fast method for automatic smoothing. J. Amer. Statist. Assoc. 86, 643–652.

Ray, B.K. and Tsay, R.S. 1997. Bandwidth selection for kernel regression with long-range dependence. Biometrika 84, 791–802.

Table 1: *Frequencies of* $\hat{m} = m^0$, *gSig and of* $\hat{p}$ *in 200 replications for the case with* g_1 *(hyperbolic tangent trend) and* $n = 500$ *(for AlgB, with correction for* $\hat{m}$ *in the case* $m^0 = 1$*).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	194	5	1	0	0	200	200	0	193	7	0	0	0
-0.4	-0.3	200	200	0	194	6	0	0	0	200	200	0	195	4	1	0	0
-0.4	0	200	200	197	2	1	0	0	0	200	200	199	1	0	0	0	0
-0.4	0.3	200	200	28	170	2	0	0	0	200	200	138	59	2	0	1	0
-0.4	0.7	200	198	96	101	2	1	0	0	200	200	8	188	4	0	0	0
-0.2	-0.7	200	200	0	190	6	3	1	0	200	200	0	199	1	0	0	0
-0.2	-0.3	200	200	28	160	10	1	1	0	199	200	37	163	0	0	0	0
-0.2	0	200	200	179	19	2	0	0	0	200	200	197	3	0	0	0	0
-0.2	0.3	200	200	14	185	1	0	0	0	197	200	38	160	2	0	0	0
-0.2	0.7	102	62	174	19	7	0	0	0	199	200	0	189	11	0	0	0
0	-0.7	200	200	0	159	34	7	0	0	200	200	0	196	3	1	0	0
0	-0.3	200	200	61	111	28	0	0	0	200	200	68	129	2	1	0	0
0	0	200	200	169	31	0	0	0	0	200	200	193	6	0	0	1	0
0	0.3	200	200	40	155	4	1	0	0	199	200	29	167	3	1	0	0
0	0.7	192	195	8	191	1	0	0	0	200	200	0	171	23	4	1	1
0.2	-0.7	200	200	0	166	31	3	0	0	200	200	0	180	17	3	0	0
0.2	-0.3	200	200	58	131	11	0	0	0	200	199	59	123	14	4	0	0
0.2	0	200	199	172	27	1	0	0	0	200	200	185	9	5	1	0	0
0.2	0.3	158	108	180	19	1	0	0	0	200	197	11	184	5	0	0	0
0.2	0.7	197	191	3	195	2	0	0	0	200	190	0	156	39	4	1	0
0.4	-0.7	196	196	0	195	4	1	0	0	200	194	0	158	31	11	0	0
0.4	-0.3	185	178	50	148	2	0	0	0	200	190	50	108	31	9	2	0
0.4	0	196	178	199	1	0	0	0	0	200	184	178	12	8	2	0	0
0.4	0.3	150	179	50	150	0	0	0	0	200	199	1	190	8	1	0	0
0.4	0.7	187	174	0	199	1	0	0	0	200	170	0	140	58	1	1	0

Table 2: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 0$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.053	0.050	0.050	0.0039	-0.374	-0.372	0.031	-0.702	-0.704	0.039
-0.4	-0.3	0.065	0.061	0.061	0.0048	-0.394	-0.396	0.040	-0.308	-0.308	0.057
-0.4	0	0.075	0.068	0.067	0.0059	-0.408	-0.408	0.032	—	—	—
-0.4	0.3	0.086	0.081	0.080	0.0094	-0.386	-0.414	0.094	0.276	0.309	0.122
-0.4	0.7	0.114	0.139	0.123	0.0563	-0.048	-0.053	0.317	0.319	0.316	0.322
-0.2	-0.7	0.059	0.054	0.054	0.0046	-0.255	-0.254	0.054	-0.678	-0.685	0.051
-0.2	-0.3	0.074	0.066	0.065	0.0074	-0.303	-0.297	0.083	-0.221	-0.248	0.112
-0.2	0	0.084	0.072	0.071	0.0080	-0.263	-0.25	0.074	—	—	—
-0.2	0.3	0.097	0.089	0.084	0.0145	-0.339	-0.373	0.129	0.421	0.441	0.144
-0.2	0.7	0.125	0.176	0.136	0.1076	0.371	0.463	0.247	0.097	0.000	0.255
0	-0.7	0.075	0.066	0.065	0.0083	-0.123	-0.084	0.129	-0.613	-0.668	0.134
0	-0.3	0.094	0.079	0.076	0.0126	-0.165	-0.122	0.145	-0.146	-0.219	0.161
0	0	0.106	0.091	0.09	0.0144	-0.080	-0.047	0.111	—	—	—
0	0.3	0.120	0.120	0.108	0.0493	-0.159	-0.179	0.252	0.427	0.456	0.260
0	0.7	0.150	0.128	0.125	0.0267	-0.079	-0.106	0.152	0.732	0.763	0.160
0.2	-0.7	0.102	0.086	0.083	0.0164	0.080	0.134	0.167	-0.616	-0.678	0.172
0.2	-0.3	0.126	0.104	0.101	0.0226	0.069	0.122	0.146	-0.175	-0.245	0.168
0.2	0	0.140	0.125	0.120	0.0385	0.117	0.155	0.138	—	—	—
0.2	0.3	0.154	0.208	0.177	0.1157	0.366	0.406	0.198	0.064	0.000	0.201
0.2	0.7	0.180	0.179	0.161	0.0757	0.101	0.085	0.137	0.758	0.771	0.130
0.4	-0.7	0.141	0.118	0.111	0.0423	0.326	0.340	0.119	-0.661	-0.676	0.109
0.4	-0.3	0.164	0.139	0.124	0.0666	0.304	0.335	0.130	-0.212	-0.261	0.142
0.4	0	0.173	0.185	0.157	0.0913	0.366	0.369	0.048	—	—	—
0.4	0.3	0.181	0.105	0.102	0.0293	0.034	-0.128	0.327	0.591	0.776	0.351
0.4	0.7	0.193	0.197	0.168	0.0923	0.273	0.259	0.109	0.781	0.790	0.083

Table 3: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 1$, $n = 500$ (for AlgB with correction for $\hat{m}$).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.053	0.050	0.050	0.0036	0.625	0.621	0.036	-0.703	-0.700	0.043
0.6	-0.3	0.065	0.062	0.061	0.0060	0.598	0.600	0.037	-0.300	-0.303	0.048
0.6	0	0.075	0.068	0.068	0.0057	0.590	0.589	0.032	—	—	—
0.6	0.3	0.086	0.079	0.079	0.0106	0.729	0.786	0.123	0.113	0.000	0.172
0.6	0.7	0.114	0.108	0.104	0.0221	0.650	0.599	0.159	0.633	0.689	0.168
0.8	-0.7	0.059	0.053	0.053	0.0042	0.743	0.739	0.052	-0.681	-0.682	0.038
0.8	-0.3	0.074	0.065	0.064	0.0066	0.705	0.714	0.085	-0.219	-0.253	0.113
0.8	0	0.084	0.070	0.069	0.0073	0.750	0.755	0.051	—	—	—
0.8	0.3	0.097	0.091	0.090	0.0139	0.671	0.617	0.172	0.393	0.463	0.203
0.8	0.7	0.125	0.109	0.106	0.0215	0.685	0.685	0.106	0.764	0.753	0.086
1	-0.7	0.075	0.061	0.060	0.0064	0.928	0.932	0.061	-0.672	-0.678	0.048
1	-0.3	0.094	0.073	0.071	0.0112	0.860	0.881	0.117	-0.181	-0.235	0.140
1	0	0.106	0.084	0.082	0.0124	0.936	0.943	0.074	—	—	—
1	0.3	0.120	0.110	0.103	0.0268	0.806	0.793	0.227	0.459	0.486	0.242
1	0.7	0.15	0.136	0.132	0.0355	0.842	0.863	0.135	0.812	0.769	0.142
1.2	-0.7	0.102	0.082	0.079	0.0167	1.086	1.121	0.158	-0.624	-0.670	0.168
1.2	-0.3	0.126	0.100	0.092	0.047	1.046	1.098	0.170	-0.160	-0.24	0.179
1.2	0	0.140	0.123	0.116	0.0323	1.125	1.154	0.147	—	—	—
1.2	0.3	0.154	0.124	0.111	0.0547	0.793	0.687	0.250	0.653	0.753	0.245
1.2	0.7	0.180	0.193	0.171	0.0883	0.992	1.049	0.229	0.875	0.791	0.236
1.4	-0.7	0.141	0.133	0.115	0.0707	1.222	1.325	0.280	-0.553	-0.666	0.282
1.4	-0.3	0.164	0.105	0.129	0.0820	1.147	1.281	0.297	-0.058	-0.202	0.298
1.4	0	0.173	0.196	0.163	0.1036	1.301	1.368	0.221	—	—	—
1.4	0.3	0.181	0.120	0.108	0.0562	0.830	0.804	0.158	0.802	0.818	0.145
1.4	0.7	0.193	0.230	0.183	0.1311	1.096	1.205	0.299	0.971	0.820	0.308

Table 4: *Frequencies of* $\hat{m} = m^0$, *gSig and of* $\hat{p}$ *in 200 replications for the case with* g_2 *(squared sinus trend) and* $n = 500$ *(for AlgB).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	184	14	1	0	1	200	200	0	187	11	1	1	0
-0.4	-0.3	200	200	0	188	11	1	0	0	200	200	0	196	4	0	0	0
-0.4	0	200	200	199	1	0	0	0	0	200	200	198	1	1	0	0	0
-0.4	0.3	200	200	54	141	4	1	0	0	200	200	194	6	0	0	0	0
-0.4	0.7	200	200	97	101	2	0	0	0	200	200	15	179	6	0	0	0
-0.2	-0.7	200	200	0	196	3	1	0	0	200	200	0	194	6	0	0	0
-0.2	-0.3	200	200	14	181	5	0	0	0	200	200	13	186	1	0	0	0
-0.2	0	200	200	187	12	1	0	0	0	200	200	200	0	0	0	0	0
-0.2	0.3	200	200	20	175	5	0	0	0	200	200	165	34	1	0	0	0
-0.2	0.7	110	56	183	14	2	1	0	0	200	200	4	194	2	0	0	0
0	-0.7	200	200	0	180	17	3	0	0	200	200	0	192	8	0	0	0
0	-0.3	200	200	69	120	11	0	0	0	200	200	62	135	3	0	0	0
0	0	200	200	186	13	1	0	0	0	200	200	199	1	0	0	0	0
0	0.3	200	200	61	138	1	0	0	0	200	200	49	149	1	1	0	0
0	0.7	182	189	18	180	2	0	0	0	200	200	0	197	3	0	0	0
0.2	-0.7	200	200	0	172	25	3	0	0	200	200	0	196	4	0	0	0
0.2	-0.3	200	200	58	129	13	0	0	0	200	200	88	107	5	0	0	0
0.2	0	200	200	180	18	1	1	0	0	200	200	198	1	1	0	0	0
0.2	0.3	159	107	176	22	2	0	0	0	200	199	16	182	2	0	0	0
0.2	0.7	199	199	0	198	2	0	0	0	200	195	4	167	27	1	1	0
0.4	-0.7	196	196	0	196	4	0	0	0	200	200	0	190	9	1	0	0
0.4	-0.3	193	190	68	127	5	0	0	0	200	195	76	109	13	2	0	0
0.4	0	197	188	198	2	0	0	0	0	200	197	187	8	5	0	0	0
0.4	0.3	152	186	48	151	1	0	0	0	200	197	3	195	2	0	0	0
0.4	0.7	184	176	2	195	3	0	0	0	200	185	3	138	54	4	1	0

Table 5: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 0$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.039	0.040	0.041	0.0015	-0.336	-0.339	0.030	-0.719	-0.715	0.051
-0.4	-0.3	0.048	0.051	0.051	0.0013	-0.344	-0.348	0.032	-0.339	-0.347	0.051
-0.4	0	0.055	0.058	0.058	0.0017	-0.375	-0.375	0.029	—	—	—
-0.4	0.3	0.063	0.066	0.066	0.0036	-0.323	-0.362	0.099	0.212	0.266	0.136
-0.4	0.7	0.084	0.106	0.104	0.0214	-0.050	0.023	0.327	0.328	0.262	0.333
-0.2	-0.7	0.043	0.044	0.044	0.0018	-0.233	-0.235	0.045	-0.685	-0.689	0.044
-0.2	-0.3	0.053	0.055	0.054	0.0023	-0.256	-0.254	0.060	-0.254	-0.266	0.088
-0.2	0	0.061	0.062	0.061	0.0038	-0.237	-0.232	0.058	—	—	—
-0.2	0.3	0.070	0.073	0.072	0.0064	-0.305	-0.327	0.123	0.384	0.420	0.149
-0.2	0.7	0.090	0.131	0.133	0.0365	0.395	0.431	0.201	0.063	0.000	0.209
0	-0.7	0.053	0.054	0.053	0.0037	-0.080	-0.070	0.080	-0.655	-0.677	0.084
0	-0.3	0.066	0.065	0.064	0.0076	-0.139	-0.107	0.125	-0.166	-0.232	0.147
0	0	0.075	0.076	0.075	0.0089	-0.053	-0.043	0.072	—	—	—
0	0.3	0.084	0.095	0.089	0.0208	-0.109	-0.151	0.267	0.372	0.444	0.276
0	0.7	0.106	0.105	0.104	0.0147	-0.046	-0.105	0.211	0.694	0.753	0.227
0.2	-0.7	0.069	0.068	0.068	0.0089	0.095	0.133	0.140	-0.630	-0.677	0.143
0.2	-0.3	0.086	0.083	0.082	0.0139	0.051	0.102	0.156	-0.164	-0.238	0.167
0.2	0	0.095	0.096	0.095	0.0137	0.133	0.157	0.112	—	—	—
0.2	0.3	0.105	0.134	0.132	0.0311	0.361	0.406	0.184	0.068	0.000	0.192
0.2	0.7	0.123	0.125	0.126	0.0193	0.087	0.081	0.086	0.770	0.768	0.066
0.4	-0.7	0.093	0.090	0.089	0.0141	0.330	0.339	0.085	-0.670	-0.676	0.083
0.4	-0.3	0.107	0.100	0.099	0.0222	0.265	0.316	0.151	-0.174	-0.242	0.165
0.4	0	0.114	0.122	0.121	0.0200	0.364	0.367	0.049	—	—	—
0.4	0.3	0.119	0.092	0.089	0.0157	0.031	-0.131	0.322	0.595	0.773	0.346
0.4	0.7	0.126	0.133	0.131	0.0250	0.278	0.268	0.138	0.775	0.778	0.131

Table 6: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 1$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.039	0.041	0.041	0.0013	0.666	0.662	0.031	-0.721	-0.716	0.042
0.6	-0.3	0.048	0.051	0.051	0.0013	0.656	0.655	0.032	-0.331	-0.329	0.047
0.6	0	0.055	0.058	0.058	0.0019	0.625	0.622	0.025	—	—	—
0.6	0.3	0.063	0.065	0.065	0.0045	0.821	0.824	0.057	0.011	0.000	0.064
0.6	0.7	0.084	0.092	0.089	0.0159	0.700	0.627	0.196	0.595	0.673	0.210
0.8	-0.7	0.043	0.044	0.044	0.0019	0.770	0.774	0.047	-0.685	-0.690	0.041
0.8	-0.3	0.053	0.055	0.054	0.0023	0.747	0.748	0.057	-0.263	-0.274	0.084
0.8	0	0.061	0.061	0.060	0.0033	0.760	0.761	0.044	—	—	—
0.8	0.3	0.070	0.077	0.077	0.0078	0.934	0.991	0.150	0.086	0.000	0.189
0.8	0.7	0.090	0.095	0.094	0.0142	0.720	0.701	0.125	0.740	0.761	0.129
1	-0.7	0.053	0.052	0.052	0.0029	0.923	0.924	0.058	-0.666	-0.672	0.056
1	-0.3	0.066	0.062	0.061	0.0060	0.870	0.898	0.114	-0.189	-0.244	0.133
1	0	0.075	0.073	0.073	0.0069	0.957	0.956	0.045	—	—	—
1	0.3	0.084	0.092	0.086	0.0186	0.836	0.775	0.247	0.428	0.493	0.277
1	0.7	0.106	0.107	0.105	0.0162	0.872	0.880	0.099	0.780	0.773	0.080
1.2	-0.7	0.069	0.066	0.065	0.0075	1.124	1.127	0.072	-0.668	-0.673	0.066
1.2	-0.3	0.086	0.076	0.073	0.0121	1.040	1.061	0.131	-0.150	-0.233	0.154
1.2	0	0.095	0.094	0.095	0.0121	1.157	1.164	0.061	—	—	—
1.2	0.3	0.105	0.099	0.093	0.0238	0.815	0.712	0.254	0.631	0.728	0.254
1.2	0.7	0.123	0.140	0.128	0.0633	1.017	1.045	0.184	0.838	0.794	0.222
1.4	-0.7	0.093	0.088	0.088	0.0140	1.302	1.334	0.143	-0.648	-0.678	0.146
1.4	-0.3	0.107	0.108	0.098	0.0636	1.224	1.285	0.185	-0.130	-0.218	0.193
1.4	0	0.114	0.124	0.115	0.0508	1.336	1.362	0.126	—	—	—
1.4	0.3	0.119	0.096	0.090	0.0439	0.831	0.815	0.121	0.794	0.814	0.126
1.4	0.7	0.126	0.155	0.126	0.0949	1.084	1.195	0.277	0.973	0.830	0.316

Table 7: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_3 (sinus trend) and $n = 500$ (for AlgB, with correction for $\hat{m}$ in the case $m^0 = 1$).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	173	24	1	2	0	200	200	0	200	0	0	0	0
-0.4	-0.3	200	200	0	187	12	1	0	0	200	200	0	192	8	0	0	0
-0.4	0	200	200	195	4	1	0	0	0	200	200	192	8	0	0	0	0
-0.4	0.3	200	200	77	117	5	0	1	0	200	200	88	110	2	0	0	0
-0.4	0.7	200	199	167	33	0	0	0	0	200	199	190	9	1	0	0	0
-0.2	-0.7	200	200	0	195	4	1	0	0	200	200	0	200	0	0	0	0
-0.2	-0.3	200	200	13	181	6	0	0	0	200	200	13	186	1	0	0	0
-0.2	0	200	200	198	2	0	0	0	0	200	200	196	3	1	0	0	0
-0.2	0.3	200	200	24	175	0	1	0	0	200	200	164	33	3	0	0	0
-0.2	0.7	112	61	176	21	2	1	0	0	200	108	116	81	3	0	0	0
0	-0.7	200	200	0	162	37	1	0	0	200	200	0	200	0	0	0	0
0	-0.3	200	200	95	81	24	0	0	0	200	200	100	96	4	0	0	0
0	0	200	200	179	20	1	0	0	0	200	200	169	31	0	0	0	0
0	0.3	200	200	113	86	1	0	0	0	200	200	192	7	1	0	0	0
0	0.7	158	199	42	153	3	2	0	0	199	145	55	141	4	0	0	0
0.2	-0.7	200	198	0	94	102	4	0	0	200	200	0	200	0	0	0	0
0.2	-0.3	200	199	112	75	13	0	0	0	200	200	161	39	0	0	0	0
0.2	0	200	200	167	31	2	0	0	0	200	200	200	0	0	0	0	0
0.2	0.3	153	98	190	9	1	0	0	0	200	136	157	42	1	0	0	0
0.2	0.7	187	198	13	186	1	0	0	0	200	195	5	191	4	0	0	0
0.4	-0.7	200	186	5	183	11	1	0	0	200	200	0	200	0	0	0	0
0.4	-0.3	200	187	145	52	3	0	0	0	200	199	167	33	0	0	0	0
0.4	0	199	194	198	1	1	0	0	0	200	198	200	0	0	0	0	0
0.4	0.3	56	196	149	49	2	0	0	0	200	11	191	9	0	0	0	0
0.4	0.7	186	192	10	188	1	1	0	0	200	188	13	185	2	0	0	0

Table 8: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 0$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.021	0.021	0.021	0.0009	-0.300	-0.308	0.036	-0.738	-0.725	0.059
-0.4	-0.3	0.026	0.027	0.027	0.0008	-0.320	-0.323	0.029	-0.346	-0.348	0.047
-0.4	0	0.029	0.031	0.031	0.0007	-0.349	-0.349	0.023	—	—	—
-0.4	0.3	0.034	0.035	0.035	0.0014	-0.274	-0.308	0.083	0.161	0.227	0.131
-0.4	0.7	0.045	0.055	0.055	0.0063	0.171	0.250	0.208	0.092	0.000	0.212
-0.2	-0.7	0.022	0.022	0.022	0.0009	-0.251	-0.252	0.044	-0.681	-0.685	0.039
-0.2	-0.3	0.027	0.028	0.028	0.0011	-0.271	-0.268	0.046	-0.249	-0.261	0.078
-0.2	0	0.031	0.032	0.032	0.0010	-0.248	-0.248	0.039	—	—	—
-0.2	0.3	0.035	0.039	0.039	0.0023	-0.270	-0.307	0.121	0.355	0.385	0.142
-0.2	0.7	0.046	0.082	0.080	0.0210	0.381	0.440	0.227	0.085	0.000	0.231
0	-0.7	0.025	0.025	0.025	0.0013	-0.161	-0.151	0.076	-0.616	-0.650	0.100
0	-0.3	0.032	0.032	0.032	0.0016	-0.228	-0.260	0.090	-0.106	-0.001	0.124
0	0	0.036	0.038	0.038	0.0029	-0.093	-0.078	0.088	—	—	—
0	0.3	0.041	0.050	0.050	0.0080	0.009	0.177	0.265	0.23	0.000	0.271
0	0.7	0.051	0.061	0.058	0.0113	0.052	-0.082	0.304	0.596	0.737	0.312
0.2	-0.7	0.031	0.036	0.031	0.0339	-0.101	-0.190	0.223	-0.452	-0.407	0.219
0.2	-0.3	0.039	0.042	0.038	0.0258	-0.026	-0.073	0.165	-0.100	0.000	0.157
0.2	0	0.043	0.047	0.047	0.0056	0.077	0.139	0.169	—	—	—
0.2	0.3	0.047	0.074	0.069	0.0184	0.393	0.414	0.146	0.033	0.000	0.145
0.2	0.7	0.055	0.065	0.063	0.0101	0.119	0.074	0.194	0.717	0.758	0.197
0.4	-0.7	0.039	0.066	0.041	0.0942	0.280	0.309	0.173	-0.617	-0.666	0.184
0.4	-0.3	0.045	0.066	0.039	0.1029	0.145	0.097	0.157	-0.065	0.000	0.136
0.4	0	0.048	0.057	0.052	0.0453	0.324	0.333	0.081	—	—	—
0.4	0.3	0.050	0.069	0.067	0.0341	0.422	0.588	0.318	0.187	0.000	0.321
0.4	0.7	0.053	0.064	0.060	0.0140	0.289	0.252	0.187	0.737	0.771	0.185

Table 9: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 1$, $n = 500$ (for AlgB with correction for $\hat{m}$).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.021	0.021	0.021	0.0008	0.699	0.698	0.027	-0.720	-0.724	0.029
0.6	-0.7	0.021	0.021	0.021	0.0008	0.699	0.698	0.027	-0.720	-0.724	0.029
0.6	-0.3	0.026	0.027	0.027	0.0007	0.684	0.683	0.029	-0.348	-0.342	0.049
0.6	0.0	0.029	0.031	0.031	0.0005	0.655	0.653	0.026	—	—	—
0.6	0.3	0.034	0.035	0.035	0.0013	0.737	0.693	0.094	0.147	0.215	0.134
0.6	0.7	0.045	0.055	0.055	0.0054	1.222	1.243	0.126	0.031	0.000	0.135
0.8	-0.7	0.022	0.023	0.023	0.0009	0.761	0.764	0.036	-0.691	-0.692	0.033
0.8	-0.3	0.027	0.029	0.029	0.0009	0.744	0.752	0.049	-0.264	-0.279	0.084
0.8	0.0	0.031	0.032	0.032	0.0008	0.750	0.750	0.034	—	—	—
0.8	0.3	0.035	0.040	0.040	0.0025	0.960	0.995	0.125	0.063	0.000	0.136
0.8	0.7	0.046	0.064	0.066	0.0140	1.141	1.382	0.334	0.298	0.000	0.353
1	-0.7	0.025	0.025	0.025	0.0010	0.887	0.891	0.045	-0.668	-0.670	0.035
1	-0.3	0.032	0.031	0.031	0.0012	0.792	0.777	0.087	-0.120	-0.025	0.126
1	0.0	0.036	0.037	0.036	0.0021	0.882	0.900	0.092	—	—	—
1	0.3	0.041	0.051	0.050	0.0047	1.188	1.200	0.098	0.019	0.000	0.097
1	0.7	0.051	0.063	0.059	0.0102	1.056	0.930	0.287	0.553	0.727	0.351
1.2	-0.7	0.031	0.029	0.029	0.0020	1.042	1.037	0.064	-0.646	-0.648	0.044
1.2	-0.3	0.039	0.035	0.034	0.0031	0.909	0.882	0.102	-0.053	0.000	0.111
1.2	0.0	0.043	0.045	0.045	0.0036	1.124	1.127	0.048	—	—	—
1.2	0.3	0.047	0.063	0.064	0.0107	1.259	1.384	0.269	0.148	0.000	0.285
1.2	0.7	0.055	0.063	0.062	0.0067	1.070	1.069	0.104	0.757	0.761	0.147
1.4	-0.7	0.039	0.038	0.037	0.0041	1.259	1.265	0.074	-0.652	-0.652	0.042
1.4	-0.3	0.045	0.039	0.038	0.0058	1.105	1.080	0.118	-0.048	0.000	0.111
1.4	0.0	0.048	0.051	0.051	0.0063	1.329	1.332	0.051	—	—	—
1.4	0.3	0.050	0.062	0.061	0.0054	1.464	1.492	0.126	0.035	0.000	0.161
1.4	0.7	0.053	0.059	0.059	0.0095	1.262	1.253	0.099	0.727	0.769	0.207

Table 10: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_0 (no trend) and $n = 500$ (for AlgB).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	112	0	192	8	0	0	0	165	119	0	190	10	0	0	0
-0.4	-0.3	200	44	4	190	6	0	0	0	91	55	61	135	3	1	0	0
-0.4	0	200	68	193	6	1	0	0	0	191	84	194	6	0	0	0	0
-0.4	0.3	200	3	16	183	1	0	0	0	15	162	12	187	0	1	0	0
-0.4	0.7	200	9	78	119	3	0	0	0	183	24	1	191	8	0	0	0
-0.2	-0.7	200	142	0	149	39	11	1	0	187	198	0	187	12	1	0	0
-0.2	-0.3	200	132	64	113	22	1	0	0	50	50	171	11	18	0	0	0
-0.2	0	200	139	182	14	4	0	0	0	187	177	187	13	0	0	0	0
-0.2	0.3	200	48	12	183	4	1	0	0	38	138	9	191	0	0	0	0
-0.2	0.7	110	8	172	23	5	0	0	0	158	122	0	158	41	1	0	0
0	-0.7	200	101	0	132	55	13	0	0	175	177	2	170	25	2	1	0
0	-0.3	200	110	59	115	23	3	0	0	45	70	146	25	29	0	0	0
0	0	200	69	176	18	6	0	0	0	178	138	176	24	0	0	0	0
0	0.3	200	51	39	157	4	0	0	0	172	90	11	185	4	0	0	0
0	0.7	185	78	15	180	3	2	0	0	132	142	0	131	69	0	0	0
0.2	-0.7	200	43	0	175	20	5	0	0	171	130	4	157	29	9	1	0
0.2	-0.3	200	61	38	139	21	2	0	0	80	101	91	55	46	7	1	0
0.2	0	200	30	179	19	2	0	0	0	182	92	176	22	2	0	0	0
0.2	0.3	161	10	180	19	1	0	0	0	190	160	5	188	7	0	0	0
0.2	0.7	199	61	1	198	1	0	0	0	102	147	0	96	103	1	0	0
0.4	-0.7	196	20	0	190	9	0	1	0	176	89	1	133	38	26	2	0
0.4	-0.3	191	50	55	137	6	2	0	0	146	136	47	106	38	8	1	0
0.4	0	195	13	198	2	0	0	0	0	180	83	155	24	20	1	0	0
0.4	0.3	152	150	48	150	2	0	0	0	179	195	4	172	24	0	0	0
0.4	0.7	185	24	1	196	3	0	0	0	136	157	0	87	105	7	1	0

Table 11: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 0$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.5	0.075	0.071	0.0179	-0.462	-0.472	0.034	-0.672	-0.674	0.044
-0.4	-0.3	0.5	0.092	0.086	0.0305	-0.469	-0.483	0.035	-0.251	-0.257	0.061
-0.4	0	0.5	0.086	0.080	0.0247	-0.449	-0.454	0.039	—	—	—
-0.4	0.3	0.5	0.139	0.129	0.0457	-0.465	-0.495	0.085	0.345	0.377	0.112
-0.4	0.7	0.5	0.211	0.192	0.0917	-0.189	-0.459	0.361	0.448	0.699	0.362
-0.2	-0.7	0.5	0.074	0.070	0.0169	-0.326	-0.291	0.104	-0.615	-0.661	0.112
-0.2	-0.3	0.5	0.086	0.081	0.0283	-0.354	-0.347	0.108	-0.160	-0.217	0.141
-0.2	0	0.5	0.087	0.081	0.0207	-0.275	-0.257	0.077	—	—	—
-0.2	0.3	0.5	0.134	0.126	0.0485	-0.392	-0.449	0.138	0.474	0.507	0.156
-0.2	0.7	0.5	0.207	0.156	0.1283	0.351	0.415	0.257	0.106	0.000	0.268
0	-0.7	0.5	0.087	0.081	0.0284	-0.192	-0.106	0.187	-0.540	-0.645	0.199
0	-0.3	0.5	0.098	0.087	0.0351	-0.178	-0.122	0.159	-0.141	-0.226	0.173
0	0	0.5	0.120	0.108	0.0446	-0.074	-0.042	0.125	—	—	—
0	0.3	0.5	0.169	0.158	0.0689	-0.205	-0.225	0.281	0.471	0.484	0.285
0	0.7	0.5	0.159	0.142	0.0655	-0.066	-0.109	0.204	0.717	0.767	0.221
0.2	-0.7	0.5	0.124	0.113	0.0437	0.077	0.145	0.209	-0.601	-0.674	0.217
0.2	-0.3	0.5	0.149	0.122	0.0873	0.050	0.121	0.196	-0.163	-0.250	0.205
0.2	0	0.5	0.174	0.156	0.0703	0.118	0.171	0.172	—	—	—
0.2	0.3	0.5	0.270	0.236	0.1393	0.355	0.398	0.195	0.065	0.000	0.203
0.2	0.7	0.5	0.225	0.195	0.1010	0.075	0.079	0.098	0.773	0.772	0.085
0.4	-0.7	0.5	0.179	0.150	0.0948	0.317	0.351	0.171	-0.649	-0.681	0.168
0.4	-0.3	0.5	0.185	0.156	0.1034	0.270	0.327	0.183	-0.173	-0.251	0.193
0.4	0	0.5	0.245	0.201	0.1186	0.364	0.371	0.076	—	—	—
0.4	0.3	0.5	0.119	0.110	0.0409	0.017	-0.142	0.329	0.611	0.790	0.353
0.4	0.7	0.5	0.262	0.235	0.1177	0.269	0.269	0.141	0.781	0.787	0.130

Table 12: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 1$, $n = 500$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.5	0.094	0.074	0.0740	0.490	0.525	0.186	-0.635	-0.676	0.191
0.6	-0.3	0.5	0.184	0.110	0.1504	0.463	0.487	0.124	-0.165	-0.217	0.154
0.6	0	0.5	0.088	0.079	0.0364	0.528	0.552	0.147	—	—	—
0.6	0.3	0.5	0.139	0.123	0.0668	0.070	0.002	0.220	0.765	0.832	0.215
0.6	0.7	0.5	0.179	0.166	0.0702	0.500	0.505	0.164	0.764	0.747	0.169
0.8	-0.7	0.5	0.067	0.060	0.0277	0.671	0.715	0.205	-0.619	-0.670	0.211
0.8	-0.3	0.5	0.358	0.500	0.1966	0.471	0.495	0.185	0.027	0.000	0.175
0.8	0	0.5	0.083	0.076	0.0202	0.688	0.742	0.217	—	—	—
0.8	0.3	0.5	0.151	0.133	0.0688	0.267	0.185	0.213	0.769	0.842	0.2031
0.8	0.7	0.5	0.132	0.120	0.0587	0.480	0.637	0.377	0.961	0.793	0.375
1	-0.7	0.5	0.084	0.070	0.0466	0.816	0.913	0.280	-0.562	-0.669	0.282
1	-0.3	0.5	0.308	0.343	0.1846	0.483	0.495	0.271	0.090	0.000	0.286
1	0	0.5	0.106	0.095	0.0388	0.852	0.951	0.285	—	—	—
1	0.3	0.5	0.152	0.142	0.0569	0.614	0.537	0.253	0.641	0.724	0.247
1	0.7	0.5	0.120	0.123	0.0808	0.470	0.799	0.540	1.084	0.825	0.420
1.2	-0.7	0.5	0.109	0.088	0.0612	0.962	1.110	0.352	-0.512	-0.659	0.324
1.2	-0.3	0.5	0.127	0.121	0.0699	0.522	0.495	0.408	0.228	0.000	0.379
1.2	0	0.5	0.161	0.137	0.0894	1.075	1.159	0.275	—	—	—
1.2	0.3	0.5	0.141	0.121	0.0701	0.730	0.660	0.305	0.704	0.776	0.281
1.2	0.7	0.5	0.115	0.100	0.1194	0.427	0.524	0.603	1.167	1.362	0.357
1.4	-0.7	0.5	0.175	0.151	0.1007	1.064	1.321	0.486	-0.408	-0.655	0.441
1.4	-0.3	0.5	0.175	0.147	0.1415	0.817	1.134	0.604	0.161	0.000	0.427
1.4	0	0.5	0.237	0.206	0.1269	1.151	1.350	0.463	—	—	—
1.4	0.3	0.5	0.126	0.114	0.0800	0.705	0.784	0.351	0.870	0.844	0.246
1.4	0.7	0.5	0.189	0.167	0.1637	0.690	0.688	0.550	1.203	1.400	0.367

Table 13: *Frequencies of* $\hat{m} = m^0$, *gSig and of* $\hat{p}$ *in 200 replications for the case with* g_1 *(hyperbolic tangent trend) and* $n = 1000$ *(for AlgB, with correction for* $\hat{m}$ *in the case* $m^0 = 1$*).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	193	7	0	0	0	200	200	0	191	8	1	0	0
-0.4	-0.3	200	200	0	197	3	0	0	0	200	200	0	199	1	0	0	0
-0.4	0	200	200	199	1	0	0	0	0	200	200	198	2	0	0	0	0
-0.4	0.3	200	200	1	196	2	1	0	0	199	200	34	161	4	1	0	0
-0.4	0.7	200	200	6	188	6	0	0	0	200	200	0	199	1	0	0	0
-0.2	-0.7	200	200	0	191	7	2	0	0	200	200	0	199	1	0	0	0
-0.2	-0.3	200	200	1	186	13	0	0	0	200	200	1	198	1	0	0	0
-0.2	0	200	200	192	8	0	0	0	0	200	200	199	1	0	0	0	0
-0.2	0.3	200	200	5	189	5	1	0	0	195	200	4	193	3	0	0	0
-0.2	0.7	166	83	149	46	5	0	0	0	199	200	0	192	7	1	0	0
0	-0.7	200	200	0	170	25	5	0	0	200	200	0	199	1	0	0	0
0	-0.3	200	200	0	183	14	3	0	0	199	200	3	194	3	0	0	0
0	0	200	200	190	9	1	0	0	0	200	200	196	4	0	0	0	0
0	0.3	200	200	1	196	3	0	0	0	198	200	0	198	1	1	0	0
0	0.7	200	199	0	199	1	0	0	0	200	200	0	171	28	1	0	0
0.2	-0.7	200	200	0	182	14	4	0	0	200	200	0	188	12	0	0	0
0.2	-0.3	200	200	1	187	11	1	0	0	194	200	1	187	11	1	0	0
0.2	0	200	200	193	7	0	0	0	0	200	200	191	6	2	1	0	0
0.2	0.3	193	114	153	44	3	0	0	0	199	198	1	194	3	2	0	0
0.2	0.7	200	197	0	199	0	1	0	0	200	195	0	153	44	3	0	0
0.4	-0.7	199	196	0	194	5	1	0	0	200	196	0	175	12	11	2	0
0.4	-0.3	198	193	0	197	3	0	0	0	199	193	3	169	15	12	1	0
0.4	0	200	187	200	0	0	0	0	0	200	186	184	10	5	1	0	0
0.4	0.3	194	193	11	188	1	0	0	0	200	187	12	184	4	0	0	0
0.4	0.7	187	174	0	199	1	0	0	0	200	183	0	129	64	6	1	0

Table 14: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 0$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_{A}	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.042	0.042	0.042	0.0027	-0.375	-0.375	0.026	-0.708	-0.705	0.028
-0.4	-0.3	0.053	0.051	0.051	0.0019	-0.386	-0.387	0.026	-0.313	-0.310	0.035
-0.4	0	0.060	0.057	0.057	0.0024	-0.402	-0.402	0.023	—	—	—
-0.4	0.3	0.069	0.066	0.065	0.0069	-0.407	-0.413	0.042	0.306	0.308	0.053
-0.4	0.7	0.092	0.085	0.084	0.0167	-0.359	-0.401	0.136	0.653	0.688	0.135
-0.2	-0.7	0.049	0.047	0.047	0.0024	-0.233	-0.229	0.040	-0.683	-0.686	0.037
-0.2	-0.3	0.062	0.056	0.056	0.0031	-0.250	-0.245	0.050	-0.262	-0.267	0.056
-0.2	0	0.070	0.062	0.062	0.0042	-0.232	-0.229	0.0370	—	—	—
-0.2	0.3	0.081	0.070	0.070	0.0071	-0.311	-0.319	0.087	0.404	0.416	0.098
-0.2	0.7	0.105	0.195	0.176	0.1227	0.267	0.422	0.309	0.189	0.000	0.328
0	-0.7	0.065	0.059	0.058	0.0062	-0.066	-0.041	0.090	-0.652	-0.684	0.095
0	-0.3	0.082	0.071	0.070	0.0082	-0.057	-0.044	0.083	-0.251	-0.268	0.087
0	0	0.092	0.080	0.079	0.0106	-0.032	-0.023	0.057	—	—	—
0	0.3	0.105	0.088	0.085	0.0166	-0.181	-0.154	0.154	0.477	0.445	0.158
0	0.7	0.131	0.114	0.111	0.0328	-0.088	-0.095	0.083	0.758	0.764	0.070
0.2	-0.7	0.093	0.079	0.079	0.0115	0.153	0.171	0.080	-0.671	-0.689	0.079
0.2	-0.3	0.115	0.098	0.097	0.0184	0.142	0.156	0.106	-0.252	-0.266	0.107
0.2	0	0.128	0.112	0.107	0.0266	0.171	0.178	0.043	—	—	—
0.2	0.3	0.140	0.212	0.183	0.1183	0.325	0.410	0.196	0.113	0.000	0.220
0.2	0.7	0.165	0.154	0.137	0.0620	0.110	0.108	0.084	0.759	0.761	0.072
0.4	-0.7	0.137	0.124	0.113	0.0579	0.368	0.371	0.048	-0.685	-0.69	0.039
0.4	-0.3	0.158	0.149	0.131	0.0630	0.359	0.363	0.048	-0.275	-0.278	0.049
0.4	0	0.168	0.181	0.160	0.0793	0.385	0.387	0.030	—	—	—
0.4	0.3	0.175	0.116	0.100	0.0733	-0.091	-0.189	0.245	0.745	0.854	0.251
0.4	0.7	0.186	0.187	0.160	0.0947	0.313	0.305	0.095	0.76	0.768	0.076

Table 15: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 1$, $n = 1000$ (for AlgB with correction for $\hat{m}$).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.042	0.042	0.042	0.0026	0.627	0.625	0.025	-0.713	-0.709	0.031
0.6	-0.3	0.053	0.051	0.051	0.0026	0.613	0.611	0.025	-0.312	-0.309	0.031
0.6	0	0.060	0.057	0.057	0.0031	0.599	0.601	0.023	—	—	—
0.6	0.3	0.069	0.068	0.066	0.0100	0.611	0.585	0.100	0.274	0.313	0.134
0.6	0.7	0.092	0.083	0.082	0.0086	0.608	0.591	0.066	0.687	0.702	0.067
0.8	-0.7	0.049	0.047	0.047	0.0025	0.771	0.771	0.032	-0.691	-0.693	0.026
0.8	-0.3	0.062	0.056	0.055	0.0030	0.754	0.755	0.042	-0.273	-0.277	0.046
0.8	0	0.070	0.062	0.061	0.0041	0.776	0.776	0.029	—	—	—
0.8	0.3	0.081	0.069	0.069	0.0107	0.668	0.673	0.106	0.418	0.415	0.111
0.8	0.7	0.105	0.090	0.089	0.0109	0.696	0.696	0.080	0.768	0.766	0.064
1	-0.7	0.065	0.057	0.057	0.0044	0.955	0.955	0.037	-0.683	-0.687	0.035
1	-0.3	0.082	0.067	0.066	0.0072	0.945	0.947	0.059	-0.265	-0.272	0.059
1	0	0.092	0.077	0.076	0.0097	0.967	0.969	0.046	—	—	—
1	0.3	0.105	0.086	0.083	0.0186	0.795	0.837	0.192	0.493	0.461	0.183
1	0.7	0.131	0.116	0.113	0.0215	0.867	0.89	0.132	0.810	0.775	0.136
1.2	-0.7	0.093	0.076	0.076	0.0106	1.157	1.161	0.051	-0.677	-0.687	0.055
1.2	-0.3	0.115	0.092	0.091	0.0226	1.112	1.156	0.218	-0.228	-0.274	0.203
1.2	0	0.128	0.109	0.106	0.0211	1.160	1.176	0.099	—	—	—
1.2	0.3	0.140	0.105	0.097	0.0411	0.926	1.016	0.258	0.554	0.477	0.245
1.2	0.7	0.165	0.158	0.141	0.068	1.015	1.081	0.227	0.867	0.779	0.237
1.4	-0.7	0.137	0.127	0.120	0.0483	1.314	1.366	0.201	-0.629	-0.688	0.202
1.4	-0.3	0.158	0.153	0.136	0.0727	1.291	1.362	0.223	-0.207	-0.269	0.213
1.4	0	0.168	0.192	0.159	0.0972	1.354	1.380	0.144	—	—	—
1.4	0.3	0.175	0.131	0.100	0.0988	0.927	0.815	0.257	0.723	0.839	0.267
1.4	0.7	0.186	0.177	0.149	0.097	1.103	1.247	0.292	0.98	0.810	0.301

Table 16: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_2 (squared sinus trend) and $n = 1000$ (for AlgB).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	188	11	1	0	0	200	200	0	177	21	2	0	0
-0.4	-0.3	200	200	0	194	6	0	0	0	200	200	0	193	6	0	0	1
-0.4	0	200	200	196	4	0	0	0	0	200	200	197	2	1	0	0	0
-0.4	0.3	200	200	8	186	6	0	0	0	200	200	172	25	3	0	0	0
-0.4	0.7	200	200	4	191	5	0	0	0	200	200	0	198	2	0	0	0
-0.2	-0.7	200	200	0	196	3	1	0	0	200	200	0	199	1	0	0	0
-0.2	-0.3	200	200	0	198	2	0	0	0	200	200	0	198	2	0	0	0
-0.2	0	200	200	199	1	0	0	0	0	200	200	199	1	0	0	0	0
-0.2	0.3	200	200	0	190	10	0	0	0	200	200	32	166	2	0	0	0
-0.2	0.7	171	77	151	46	3	0	0	0	200	200	0	197	3	0	0	0
0	-0.7	200	200	0	193	6	0	1	0	200	200	0	197	3	0	0	0
0	-0.3	200	200	1	183	12	4	0	0	200	200	4	195	1	0	0	0
0	0	200	200	184	15	1	0	0	0	200	200	200	0	0	0	0	
0	0.3	200	200	1	195	4	0	0	0	200	200	7	185	8	0	0	0
0	0.7	200	200	0	200	0	0	0	0	197	200	0	190	9	1	0	0
0.2	-0.7	200	200	0	184	11	5	0	0	200	200	0	199	1	0	0	0
0.2	-0.3	200	200	0	183	14	3	0	0	200	200	2	191	6	1	0	0
0.2	0	200	200	186	9	5	0	0	0	200	200	195	5	0	0	0	0
0.2	0.3	185	119	134	64	2	0	0	0	200	200	0	197	3	0	0	0
0.2	0.7	200	200	0	198	1	1	0	0	200	199	1	158	40	1	0	0
0.4	-0.7	199	199	0	197	3	0	0	0	200	199	0	180	17	3	0	0
0.4	-0.3	199	196	1	196	3	0	0	0	200	198	4	177	13	5	1	0
0.4	0	200	194	197	2	0	1	0	0	200	200	187	7	4	1	1	0
0.4	0.3	197	193	9	190	1	0	0	0	200	194	6	190	3	1	0	0
0.4	0.7	191	189	0	198	2	0	0	0	200	198	2	134	57	7	0	0

Table 17: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 0$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.031	0.033	0.033	0.0009	-0.341	-0.344	0.023	-0.723	-0.719	0.034
-0.4	-0.3	0.039	0.042	0.042	0.0007	-0.347	-0.348	0.021	-0.331	-0.331	0.035
-0.4	0	0.044	0.048	0.048	0.0007	-0.372	-0.373	0.020	—	—	—
-0.4	0.3	0.051	0.054	0.054	0.0015	-0.351	-0.360	0.043	0.253	0.260	0.069
-0.4	0.7	0.068	0.072	0.070	0.0111	-0.355	-0.377	0.118	0.656	0.678	0.118
-0.2	-0.7	0.036	0.038	0.038	0.0014	-0.213	-0.212	0.032	-0.696	-0.699	0.029
-0.2	-0.3	0.044	0.047	0.047	0.0016	-0.218	-0.217	0.036	-0.292	-0.287	0.041
-0.2	0	0.051	0.053	0.053	0.0018	-0.218	-0.219	0.026	—	—	—
-0.2	0.3	0.058	0.059	0.059	0.0026	-0.282	-0.29	0.060	0.374	0.378	0.070
-0.2	0.7	0.075	0.130	0.143	0.0402	0.276	0.420	0.288	0.174	0.000	0.309
0	-0.7	0.046	0.047	0.047	0.0022	-0.044	-0.041	0.042	-0.679	-0.685	0.044
0	-0.3	0.057	0.058	0.057	0.0043	-0.056	-0.045	0.063	-0.257	-0.264	0.065
0	0	0.065	0.066	0.066	0.0057	-0.036	-0.031	0.051	—	—	—
0	0.3	0.073	0.073	0.071	0.0111	-0.152	-0.126	0.147	0.442	0.419	0.152
0	0.7	0.092	0.092	0.092	0.0095	-0.090	-0.098	0.071	0.759	0.762	0.054
0.2	-0.7	0.063	0.064	0.064	0.0068	0.148	0.167	0.081	-0.669	-0.687	0.079
0.2	-0.3	0.078	0.077	0.077	0.0097	0.141	0.159	0.094	-0.252	-0.271	0.091
0.2	0	0.087	0.090	0.091	0.0116	0.164	0.182	0.089	—	—	—
0.2	0.3	0.096	0.124	0.132	0.0352	0.292	0.398	0.214	0.152	0.000	0.236
0.2	0.7	0.112	0.114	0.114	0.0156	0.104	0.106	0.088	0.765	0.768	0.072
0.4	-0.7	0.090	0.089	0.089	0.0126	0.363	0.365	0.042	-0.686	-0.691	0.033
0.4	-0.3	0.104	0.109	0.104	0.0323	0.360	0.361	0.047	-0.272	-0.277	0.052
0.4	0	0.110	0.118	0.118	0.0159	0.376	0.380	0.056	—	—	—
0.4	0.3	0.115	0.099	0.083	0.0731	-0.113	-0.199	0.227	0.765	0.852	0.231
0.4	0.7	0.122	0.126	0.125	0.0213	0.296	0.293	0.095	0.773	0.766	0.085

Table 18: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 1$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.031	0.033	0.033	0.0010	0.659	0.657	0.026	-0.727	-0.720	0.040
0.6	-0.3	0.039	0.042	0.042	0.0008	0.655	0.653	0.023	-0.334	-0.331	0.036
0.6	0	0.044	0.048	0.048	0.0007	0.624	0.622	0.019	—	—	—
0.6	0.3	0.051	0.055	0.055	0.0020	0.798	0.818	0.074	0.040	0	0.102
0.6	0.7	0.068	0.070	0.069	0.0072	0.635	0.617	0.080	0.664	0.680	0.080
0.8	-0.7	0.036	0.038	0.038	0.0013	0.788	0.786	0.030	-0.695	-0.697	0.028
0.8	-0.3	0.044	0.047	0.047	0.0015	0.771	0.772	0.034	-0.281	-0.280	0.039
0.8	0	0.051	0.053	0.052	0.0017	0.781	0.780	0.026	—	—	—
0.8	0.3	0.058	0.061	0.060	0.0046	0.762	0.725	0.120	0.324	0.366	0.154
0.8	0.7	0.075	0.078	0.077	0.0060	0.707	0.708	0.060	0.764	0.760	0.050
1	-0.7	0.046	0.047	0.047	0.0018	0.961	0.961	0.030	-0.684	-0.686	0.026
1	-0.3	0.057	0.057	0.056	0.0038	0.948	0.950	0.050	-0.263	-0.271	0.058
1	0	0.065	0.065	0.065	0.0052	0.976	0.974	0.031	—	—	—
1	0.3	0.073	0.071	0.068	0.0092	0.836	0.856	0.157	0.452	0.440	0.164
1	0.7	0.092	0.089	0.090	0.0129	0.865	0.885	0.162	0.795	0.775	0.138
1.2	-0.7	0.063	0.063	0.062	0.0056	1.162	1.165	0.034	-0.687	-0.687	0.027
1.2	-0.3	0.078	0.075	0.074	0.0087	1.141	1.151	0.073	-0.250	-0.257	0.078
1.2	0	0.087	0.088	0.088	0.0103	1.178	1.183	0.037	—	—	—
1.2	0.3	0.096	0.087	0.085	0.0155	0.931	1.025	0.235	0.553	0.464	0.227
1.2	0.7	0.112	0.117	0.111	0.0336	1.012	1.083	0.198	0.860	0.781	0.211
1.4	-0.7	0.090	0.093	0.091	0.0316	1.349	1.369	0.102	-0.664	-0.687	0.105
1.4	-0.3	0.104	0.111	0.106	0.0432	1.318	1.367	0.180	-0.224	-0.271	0.187
1.4	0	0.110	0.117	0.118	0.0195	1.350	1.378	0.129	—	—	—
1.4	0.3	0.115	0.094	0.083	0.0607	0.874	0.794	0.215	0.778	0.856	0.213
1.4	0.7	0.122	0.122	0.114	0.0418	1.110	1.244	0.269	0.962	0.815	0.298

Table 19: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_3 (sinus trend) and $n = 1000$ (for AlgB, with correction for $\hat{m}$ in the case $m^0 = 1$).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	147	46	5	2	0	200	200	0	148	52	0	0	0
-0.4	-0.3	200	200	0	180	20	0	0	0	200	200	0	185	14	1	0	0
-0.4	0	200	200	193	6	1	0	0	0	200	200	184	14	2	0	0	0
-0.4	0.3	200	200	13	184	3	0	0	0	146	200	12	160	17	7	4	0
-0.4	0.7	200	200	17	176	5	1	1	0	196	200	142	54	4	0	0	0
-0.2	-0.7	200	200	0	198	1	1	0	0	200	200	0	200	0	0	0	0
-0.2	-0.3	200	200	0	195	2	3	0	0	200	200	0	198	2	0	0	0
-0.2	0	200	200	197	3	0	0	0	0	183	200	183	14	2	0	1	0
-0.2	0.3	200	200	3	193	3	1	0	0	161	200	108	53	33	4	2	0
-0.2	0.7	154	46	170	26	4	0	0	0	196	199	2	194	4	0	0	0
0	-0.7	200	200	0	136	60	4	0	0	200	200	0	128	72	0	0	0
0	-0.3	200	200	5	177	14	2	2	0	200	200	9	162	27	1	1	0
0	0	200	200	184	14	2	0	0	0	136	200	116	73	8	3	0	0
0	0.3	200	200	1	193	6	0	0	0	184	200	164	20	14	1	1	0
0	0.7	200	200	0	200	0	0	0	0	194	200	0	194	6	0	0	0
0.2	-0.7	200	200	0	149	44	7	0	0	200	200	0	144	56	0	0	0
0.2	-0.3	200	200	6	161	31	2	0	0	181	200	13	179	8	0	0	0
0.2	0	200	200	185	12	3	0	0	0	193	200	188	12	0	0	0	0
0.2	0.3	193	101	152	47	1	0	0	0	196	188	24	172	4	0	0	0
0.2	0.7	200	200	0	199	1	0	0	0	199	200	0	198	2	0	0	0
0.4	-0.7	200	199	0	197	3	0	0	0	200	200	0	200	0	0	0	0
0.4	-0.3	200	200	9	190	1	0	0	0	198	200	22	177	1	0	0	0
0.4	0	200	196	196	4	0	0	0	0	200	197	199	0	1	0	0	0
0.4	0.3	188	200	12	186	2	0	0	0	200	71	129	69	2	0	0	0
0.4	0.7	197	197	0	199	0	1	0	0	200	200	0	200	0	0	0	0

Table 20: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 0$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.017	0.017	0.017	0.0006	-0.297	-0.303	0.037	-0.754	-0.731	0.062
-0.4	-0.3	0.021	0.022	0.022	0.0006	-0.325	-0.327	0.027	-0.346	-0.341	0.040
-0.4	0	0.024	0.025	0.025	0.0004	-0.354	-0.355	0.020	—	—	—
-0.4	0.3	0.027	0.028	0.028	0.0006	-0.314	-0.323	0.042	0.222	0.236	0.069
-0.4	0.7	0.036	0.040	0.038	0.0057	-0.231	-0.319	0.208	0.541	0.62	0.212
-0.2	-0.7	0.018	0.019	0.019	0.0006	-0.226	-0.223	0.026	-0.688	-0.690	0.028
-0.2	-0.3	0.023	0.024	0.024	0.0007	-0.244	-0.246	0.034	-0.274	-0.273	0.041
-0.2	0	0.026	0.027	0.027	0.0008	-0.225	-0.222	0.029	—	—	—
-0.2	0.3	0.029	0.032	0.032	0.0010	-0.259	-0.267	0.060	0.354	0.361	0.076
-0.2	0.7	0.038	0.072	0.074	0.0161	0.344	0.435	0.250	0.110	0.000	0.264
0	-0.7	0.022	0.022	0.022	0.0011	-0.124	-0.101	0.080	-0.617	-0.660	0.088
0	-0.3	0.028	0.028	0.028	0.0015	-0.096	-0.083	0.073	-0.230	-0.244	0.079
0	0	0.031	0.033	0.033	0.0019	-0.047	-0.034	0.056	—	—	—
0	0.3	0.035	0.037	0.037	0.0034	-0.180	-0.198	0.123	0.468	0.485	0.123
0	0.7	0.044	0.048	0.048	0.0027	-0.109	-0.106	0.054	0.763	0.763	0.039
0.2	-0.7	0.029	0.029	0.029	0.0034	0.075	0.124	0.128	-0.611	-0.668	0.131
0.2	-0.3	0.035	0.037	0.037	0.0044	0.073	0.119	0.140	-0.195	-0.240	0.140
0.2	0	0.039	0.044	0.043	0.0039	0.151	0.171	0.086	—	—	—
0.2	0.3	0.043	0.065	0.066	0.0305	0.294	0.405	0.241	0.142	0.000	0.265
0.2	0.7	0.051	0.056	0.055	0.0048	0.084	0.081	0.052	0.770	0.771	0.039
0.4	-0.7	0.037	0.042	0.040	0.0327	0.335	0.342	0.080	-0.669	-0.679	0.076
0.4	-0.3	0.043	0.046	0.046	0.0052	0.320	0.325	0.063	-0.246	-0.253	0.070
0.4	0	0.046	0.053	0.053	0.0057	0.363	0.365	0.041	—	—	—
0.4	0.3	0.048	0.044	0.043	0.0078	-0.121	-0.177	0.200	0.757	0.812	0.204
0.4	0.7	0.051	0.057	0.057	0.0066	0.268	0.265	0.076	0.777	0.779	0.060

Table 21: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 1$, $n = 1000$ (for AlgB with correction for $\hat{m}$).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.017	0.017	0.017	0.0007	0.702	0.696	0.034	-0.752	-0.735	0.056
0.6	-0.3	0.021	0.022	0.022	0.0005	0.681	0.681	0.027	-0.351	-0.347	0.039
0.6	0	0.024	0.025	0.025	0.0005	0.647	0.642	0.024	—	—	—
0.6	0.3	0.027	0.024	0.028	0.0078	0.520	0.672	0.295	0.367	0.245	0.267
0.6	0.7	0.036	0.045	0.047	0.007	1.062	1.219	0.298	0.197	0.000	0.326
0.8	-0.7	0.018	0.019	0.019	0.0006	0.786	0.786	0.027	-0.693	-0.693	0.025
0.8	-0.3	0.023	0.023	0.023	0.0006	0.757	0.753	0.031	-0.272	-0.272	0.041
0.8	0	0.026	0.026	0.027	0.0042	0.703	0.764	0.216	—	—	—
0.8	0.3	0.029	0.030	0.034	0.0089	0.750	0.997	0.395	0.289	0.000	0.390
0.8	0.7	0.038	0.042	0.042	0.0050	0.704	0.717	0.152	0.763	0.750	0.145
1	-0.7	0.022	0.022	0.022	0.0007	0.877	0.894	0.069	-0.617	-0.660	0.090
1	-0.3	0.028	0.028	0.028	0.0014	0.888	0.899	0.071	-0.215	-0.235	0.080
1	0	0.031	0.026	0.031	0.0097	0.659	0.934	0.417	—	—	—
1	0.3	0.035	0.043	0.046	0.0099	1.063	1.203	0.373	0.155	0.000	0.367
1	0.7	0.044	0.047	0.047	0.0064	0.858	0.888	0.196	0.794	0.767	0.171
1.2	-0.7	0.029	0.028	0.029	0.0026	1.068	1.132	0.138	-0.600	-0.667	0.141
1.2	-0.3	0.035	0.033	0.035	0.0075	0.997	1.111	0.331	-0.128	-0.231	0.314
1.2	0	0.039	0.041	0.042	0.0061	1.122	1.158	0.190	—	—	—
1.2	0.3	0.043	0.046	0.043	0.0101	0.854	0.741	0.302	0.603	0.718	0.300
1.2	0.7	0.051	0.056	0.057	0.0062	1.080	1.083	0.099	0.775	0.772	0.076
1.4	-0.7	0.037	0.039	0.039	0.0034	1.338	1.342	0.042	-0.679	-0.676	0.029
1.4	-0.3	0.043	0.045	0.045	0.0061	1.294	1.325	0.141	-0.213	-0.244	0.133
1.4	0	0.046	0.052	0.052	0.0052	1.364	1.363	0.034	—	—	—
1.4	0.3	0.048	0.056	0.058	0.0102	1.284	1.495	0.297	0.265	0.000	0.365
1.4	0.7	0.051	0.058	0.058	0.0060	1.275	1.274	0.053	0.776	0.773	0.036

Table 22: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_0 (no trend) and $n = 1000$ (for AlgB).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	137	0	190	9	1	0	0	186	161	0	197	3	0	0	0
-0.4	-0.3	200	122	0	192	8	0	0	0	170	115	1	199	0	0	0	0
-0.4	0	200	134	193	7	0	0	0	0	196	121	199	1	0	0	0	0
-0.4	0.3	200	26	1	193	4	2	0	0	2	159	13	187	0	0	0	0
-0.4	0.7	200	13	10	187	3	0	0	0	174	37	0	194	5	1	0	0
-0.2	-0.7	200	179	0	163	33	4	0	0	186	173	1	189	9	1	0	0
-0.2	-0.3	200	173	1	182	15	2	0	0	43	41	153	42	5	0	0	0
-0.2	0	200	161	183	17	0	0	0	0	191	174	194	4	2	0	0	0
-0.2	0.3	200	113	0	195	5	0	0	0	11	160	12	188	0	0	0	0
-0.2	0.7	172	27	131	58	11	0	0	0	158	142	0	174	25	1	0	0
0	-0.7	200	99	0	179	15	5	1	0	184	172	5	184	8	3	0	0
0	-0.3	200	101	0	171	18	10	1	0	24	29	163	24	13	0	0	0
0	0	200	61	187	8	4	1	0	0	184	143	186	12	2	0	0	0
0	0.3	200	117	2	191	6	1	0	0	131	155	8	190	1	1	0	0
0	0.7	200	82	0	199	1	0	0	0	107	144	16	116	68	0	0	0
0.2	-0.7	200	47	0	172	18	10	0	0	173	106	6	170	19	4	1	0
0.2	-0.3	200	52	2	176	17	5	0	0	45	65	119	52	18	10	1	0
0.2	0	200	34	183	11	6	0	0	0	185	82	186	8	6	0	0	0
0.2	0.3	187	28	141	58	1	0	0	0	182	141	3	192	4	1	0	0
0.2	0.7	200	47	0	197	2	1	0	0	90	158	0	87	108	4	1	0
0.4	-0.7	199	8	0	194	5	1	0	0	175	70	6	151	24	15	4	0
0.4	-0.3	198	9	0	199	1	0	0	0	112	111	26	144	22	7	1	0
0.4	0	200	5	197	3	0	0	0	0	191	42	184	12	4	0	0	0
0.4	0.3	197	161	9	190	1	0	0	0	175	171	8	167	24	1	0	0
0.4	0.7	191	16	0	198	2	0	0	0	138	126	0	122	71	7	0	0

Table 23: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 0$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.5	0.057	0.055	0.013	-0.436	-0.437	0.031	-0.682	-0.686	0.032
-0.4	-0.3	0.5	0.071	0.067	0.0192	-0.450	-0.452	0.034	-0.265	-0.265	0.040
-0.4	0	0.5	0.070	0.067	0.0176	-0.431	-0.431	0.030	—	—	—
-0.4	0.3	0.5	0.094	0.091	0.0247	-0.468	-0.486	0.037	0.359	0.362	0.050
-0.4	0.7	0.5	0.127	0.116	0.0518	-0.420	-0.473	0.172	0.698	0.739	0.168
-0.2	-0.7	0.5	0.062	0.060	0.0114	-0.271	-0.253	0.074	-0.652	-0.675	0.080
-0.2	-0.3	0.5	0.069	0.064	0.0182	-0.272	-0.259	0.063	-0.247	-0.258	0.070
-0.2	0	0.5	0.076	0.069	0.0221	-0.247	-0.235	0.054	—	—	—
-0.2	0.3	0.5	0.089	0.080	0.0276	-0.346	-0.338	0.091	0.440	0.435	0.098
-0.2	0.7	0.5	0.242	0.194	0.1567	0.192	0.406	0.341	0.260	0.000	0.364
0	-0.7	0.5	0.078	0.073	0.0211	-0.062	-0.039	0.096	-0.658	-0.685	0.104
0	-0.3	0.5	0.088	0.080	0.0299	-0.087	-0.053	0.118	-0.230	-0.263	0.120
0	0	0.5	0.111	0.098	0.0488	-0.039	-0.023	0.087	—	—	—
0	0.3	0.5	0.113	0.100	0.0476	-0.167	-0.119	0.164	0.460	0.409	0.168
0	0.7	0.5	0.143	0.135	0.0491	-0.084	-0.092	0.072	0.756	0.762	0.055
0.2	-0.7	0.5	0.113	0.098	0.0589	0.129	0.167	0.131	-0.646	-0.687	0.132
0.2	-0.3	0.5	0.130	0.118	0.0515	0.124	0.160	0.136	-0.203	-0.259	0.137
0.2	0	0.5	0.154	0.129	0.0811	0.157	0.176	0.099	—	—	—
0.2	0.3	0.5	0.266	0.233	0.1446	0.301	0.404	0.214	0.141	0.000	0.239
0.2	0.7	0.5	0.211	0.184	0.0942	0.108	0.107	0.090	0.766	0.764	0.079
0.4	-0.7	0.5	0.175	0.136	0.1066	0.367	0.371	0.071	-0.684	-0.692	0.068
0.4	-0.3	0.5	0.217	0.181	0.1143	0.366	0.368	0.041	-0.278	-0.281	0.046
0.4	0	0.5	0.251	0.215	0.1129	0.381	0.384	0.033	—	—	—
0.4	0.3	0.5	0.139	0.109	0.0885	-0.099	-0.208	0.246	0.750	0.868	0.249
0.4	0.7	0.5	0.266	0.220	0.1249	0.313	0.311	0.094	0.760	0.763	0.079

Table 24: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 1$, $n = 1000$ (for AlgB).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.5	0.065	0.056	0.0561	0.548	0.564	0.113	-0.672	-0.683	0.113
0.6	-0.3	0.5	0.096	0.070	0.0763	0.545	0.541	0.042	-0.262	-0.266	0.050
0.6	0	0.5	0.077	0.065	0.0565	0.564	0.567	0.072	—	—	—
0.6	0.3	0.5	0.154	0.116	0.1039	0.053	-0.021	0.195	0.780	0.876	0.243
0.6	0.7	0.5	0.141	0.109	0.0930	0.512	0.526	0.141	0.765	0.745	0.143
0.8	-0.7	0.5	0.066	0.057	0.0636	0.714	0.759	0.195	-0.637	-0.684	0.201
0.8	-0.3	0.5	0.394	0.500	0.1874	0.540	0.495	0.162	-0.051	0.000	0.166
0.8	0	0.5	0.079	0.068	0.0525	0.740	0.766	0.152	—	—	—
0.8	0.3	0.5	0.143	0.124	0.0758	0.219	0.170	0.155	0.806	0.891	0.229
0.8	0.7	0.5	0.129	0.098	0.0989	0.566	0.664	0.285	0.890	0.787	0.286
1	-0.7	0.5	0.071	0.065	0.0292	0.903	0.964	0.212	-0.624	-0.687	0.225
1	-0.3	0.5	0.387	0.500	0.1632	0.523	0.495	0.208	0.006	0.000	0.204
1	0	0.5	0.097	0.084	0.0425	0.905	0.970	0.235	—	—	—
1	0.3	0.5	0.116	0.098	0.0556	0.638	0.660	0.271	0.607	0.588	0.263
1	0.7	0.5	0.127	0.117	0.0688	0.511	0.774	0.442	1.038	0.823	0.529
1.2	-0.7	0.5	0.107	0.088	0.0581	1.046	1.159	0.305	-0.566	-0.681	0.301
1.2	-0.3	0.5	0.123	0.105	0.0811	0.579	0.495	0.358	0.054	0.000	0.306
1.2	0	0.5	0.137	0.117	0.0609	1.107	1.176	0.239	—	—	—
1.2	0.3	0.5	0.131	0.112	0.0632	0.876	0.995	0.281	0.581	0.477	0.265
1.2	0.7	0.5	0.094	0.050	0.0989	0.414	0.021	0.607	1.284	1.582	0.460
1.4	-0.7	0.5	0.179	0.148	0.1023	1.176	1.363	0.421	-0.498	-0.677	0.402
1.4	-0.3	0.5	0.144	0.124	0.1310	0.82	1.282	0.609	0.126	-0.166	0.492
1.4	0	0.5	0.256	0.225	0.1273	1.321	1.381	0.222	—	—	—
1.4	0.3	0.5	0.135	0.108	0.1094	0.776	0.788	0.459	0.835	0.865	0.375
1.4	0.7	0.5	0.190	0.175	0.164	0.855	1.228	0.606	1.099	0.823	0.441

Table 25: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_1 (hyperbolic tangent trend) and $n = 500$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	198	2	0	0	0	200	200	0	199	1	0	0	0
-0.4	-0.3	200	200	0	198	2	0	0	0	200	200	0	197	2	1	0	0
-0.4	0	200	200	199	0	1	0	0	0	200	200	200	0	0	0	0	0
-0.4	0.3	200	200	69	131	0	0	0	0	200	200	44	153	2	0	1	0
-0.4	0.7	200	200	107	92	1	0	0	0	200	200	7	190	3	0	0	0
-0.2	-0.7	200	200	0	194	4	1	1	0	200	200	0	192	8	0	0	0
-0.2	-0.3	200	200	40	159	1	0	0	0	200	200	114	79	7	0	0	0
-0.2	0	200	200	193	7	0	0	0	0	200	200	191	9	0	0	0	0
-0.2	0.3	200	200	22	178	0	0	0	0	200	200	22	178	0	0	0	0
-0.2	0.7	108	89	175	20	5	0	0	0	200	200	0	191	9	0	0	0
0	-0.7	200	200	0	180	18	2	0	0	200	200	0	169	29	2	0	0
0	-0.3	200	200	65	121	14	0	0	0	200	200	112	80	7	1	0	0
0	0	200	200	174	26	0	0	0	0	200	200	176	23	1	0	0	0
0	0.3	200	200	53	143	3	1	0	0	200	200	29	171	0	0	0	0
0	0.7	193	199	7	192	1	0	0	0	200	200	0	182	14	3	1	0
0.2	-0.7	200	200	0	184	15	1	0	0	200	200	0	174	25	1	0	0
0.2	-0.3	200	200	60	136	4	0	0	0	200	200	62	123	14	1	0	0
0.2	0	200	200	179	20	1	0	0	0	200	200	189	10	1	0	0	0
0.2	0.3	147	123	180	20	0	0	0	0	200	199	10	186	4	0	0	0
0.2	0.7	197	194	3	196	1	0	0	0	200	199	0	163	34	2	1	0
0.4	-0.7	193	194	0	198	2	0	0	0	200	199	0	175	23	2	0	0
0.4	-0.3	181	177	56	142	2	0	0	0	200	195	49	124	24	2	1	0
0.4	0	194	187	199	1	0	0	0	0	200	195	185	12	2	1	0	0
0.4	0.3	142	193	56	144	0	0	0	0	200	197	3	193	4	0	0	0
0.4	0.7	158	153	1	199	0	0	0	0	200	195	0	141	58	0	1	0

Table 26: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 0$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_{A}	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.053	0.050	0.050	0.0031	-0.374	-0.375	0.030	-0.701	-0.705	0.037
-0.4	-0.3	0.065	0.060	0.060	0.004	-0.388	-0.391	0.035	-0.311	-0.313	0.054
-0.4	0	0.075	0.068	0.067	0.0055	-0.406	-0.409	0.030	—	—	—
-0.4	0.3	0.086	0.078	0.077	0.0106	-0.329	-0.350	0.108	0.205	0.263	0.158
-0.4	0.7	0.114	0.141	0.128	0.0567	-0.022	0.193	0.316	0.289	0	0.324
-0.2	-0.7	0.059	0.054	0.054	0.0037	-0.251	-0.253	0.047	-0.682	-0.686	0.046
-0.2	-0.3	0.074	0.065	0.064	0.0054	-0.299	-0.291	0.080	-0.220	-0.254	0.118
-0.2	0	0.084	0.070	0.069	0.0071	-0.248	-0.247	0.051	—	—	—
-0.2	0.3	0.097	0.087	0.085	0.0120	-0.312	-0.358	0.138	0.390	0.423	0.163
-0.2	0.7	0.125	0.180	0.141	0.1111	0.374	0.451	0.237	0.091	0.000	0.243
0	-0.7	0.075	0.063	0.062	0.0070	-0.092	-0.077	0.088	-0.649	-0.672	0.090
0	-0.3	0.094	0.074	0.073	0.0105	-0.148	-0.117	0.123	-0.163	-0.228	0.144
0	0	0.106	0.087	0.085	0.0143	-0.071	-0.046	0.098	—	—	—
0	0.3	0.120	0.119	0.104	0.056	-0.110	-0.119	0.250	0.375	0.401	0.262
0	0.7	0.150	0.131	0.127	0.0253	-0.008	-0.103	0.144	0.736	0.763	0.152
0.2	-0.7	0.102	0.081	0.079	0.0144	0.113	0.129	0.104	-0.655	-0.681	0.103
0.2	-0.3	0.126	0.098	0.094	0.0226	0.078	0.117	0.120	-0.186	-0.247	0.147
0.2	0	0.140	0.119	0.113	0.0281	0.125	0.156	0.121	—	—	—
0.2	0.3	0.154	0.198	0.165	0.1106	0.376	0.406	0.179	0.058	0.000	0.180
0.2	0.7	0.180	0.184	0.164	0.0765	0.108	0.090	0.133	0.753	0.771	0.125
0.4	-0.7	0.141	0.115	0.109	0.0319	0.339	0.341	0.063	-0.674	-0.679	0.046
0.4	-0.3	0.164	0.138	0.122	0.0656	0.301	0.331	0.142	-0.205	-0.262	0.156
0.4	0	0.173	0.186	0.158	0.0919	0.367	0.368	0.051	—	—	—
0.4	0.3	0.181	0.109	0.106	0.0293	0.071	-0.111	0.338	0.560	0.763	0.364
0.4	0.7	0.193	0.197	0.170	0.0891	0.311	0.265	0.135	0.749	0.780	0.105

Table 27: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 1$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.053	0.050	0.050	0.0035	0.623	0.625	0.030	-0.699	-0.700	0.038
0.6	-0.3	0.065	0.062	0.061	0.0057	0.598	0.598	0.037	-0.299	-0.302	0.049
0.6	0	0.075	0.068	0.067	0.0051	0.590	0.589	0.031	—	—	—
0.6	0.3	0.086	0.079	0.079	0.0080	0.635	0.601	0.099	0.248	0.298	0.139
0.6	0.7	0.114	0.107	0.103	0.0227	0.652	0.604	0.156	0.633	0.684	0.165
0.8	-0.7	0.059	0.054	0.054	0.0036	0.740	0.739	0.054	-0.675	-0.681	0.049
0.8	-0.3	0.074	0.065	0.065	0.0054	0.644	0.609	0.086	-0.120	0.000	0.145
0.8	0	0.084	0.070	0.069	0.0073	0.746	0.754	0.057	—	—	—
0.8	0.3	0.097	0.086	0.085	0.0111	0.694	0.663	0.134	0.385	0.423	0.156
0.8	0.7	0.125	0.110	0.107	0.0183	0.697	0.689	0.086	0.755	0.751	0.073
1	-0.7	0.075	0.061	0.060	0.0061	0.897	0.926	0.101	-0.636	-0.669	0.103
1	-0.3	0.094	0.072	0.069	0.0109	0.817	0.775	0.129	-0.119	0.000	0.150
1	0	0.106	0.084	0.082	0.0129	0.918	0.939	0.097	—	—	—
1	0.3	0.120	0.111	0.103	0.0284	0.811	0.812	0.221	0.457	0.481	0.246
1	0.7	0.150	0.133	0.132	0.0275	0.867	0.873	0.107	0.788	0.763	0.104
1.2	-0.7	0.102	0.081	0.079	0.0146	1.092	1.123	0.135	-0.627	-0.669	0.142
1.2	-0.3	0.126	0.100	0.095	0.0381	1.062	1.102	0.142	-0.171	-0.238	0.157
1.2	0	0.140	0.122	0.117	0.031	1.146	1.160	0.096	—	—	—
1.2	0.3	0.154	0.123	0.113	0.0519	0.795	0.685	0.247	0.652	0.752	0.241
1.2	0.7	0.180	0.185	0.164	0.0788	1.006	1.065	0.214	0.859	0.789	0.220
1.4	-0.7	0.141	0.124	0.115	0.0467	1.291	1.333	0.185	-0.623	-0.672	0.186
1.4	-0.3	0.164	0.144	0.125	0.0756	1.208	1.308	0.247	-0.116	-0.227	0.255
1.4	0	0.173	0.191	0.163	0.0986	1.331	1.370	0.170	—	—	—
1.4	0.3	0.181	0.121	0.113	0.0476	0.851	0.812	0.169	0.785	0.818	0.161
1.4	0.7	0.193	0.201	0.168	0.0988	1.086	1.211	0.285	0.977	0.820	0.299

Table 28: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_2 (squared sinus trend) and $n = 500$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	187	11	1	0	1	200	200	0	197	2	1	0	0
-0.4	-0.3	200	200	0	190	9	1	0	0	200	200	0	197	3	0	0	0
-0.4	0	200	200	199	1	0	0	0	0	200	200	199	0	1	0	0	0
-0.4	0.3	200	200	91	104	4	1	0	0	200	200	78	122	0	0	0	0
-0.4	0.7	198	199	122	75	2	1	0	0	200	200	23	172	4	0	0	1
-0.2	-0.7	200	200	0	198	1	1	0	0	200	200	0	197	3	0	0	0
-0.2	-0.3	200	200	15	182	3	0	0	0	200	200	85	114	1	0	0	0
-0.2	0	200	200	194	6	0	0	0	0	200	200	200	0	0	0	0	0
-0.2	0.3	200	200	57	140	3	0	0	0	200	200	28	168	3	1	0	0
-0.2	0.7	102	86	184	14	1	1	0	0	200	200	5	193	2	0	0	0
0	-0.7	200	200	0	188	10	2	0	0	200	200	0	188	12	0	0	0
0	-0.3	200	200	60	135	5	0	0	0	200	200	104	79	17	0	0	0
0	0	199	200	189	9	1	0	1	0	200	200	182	16	1	0	1	0
0	0.3	200	200	82	118	0	0	0	0	200	200	50	149	1	0	0	0
0	0.7	178	195	19	180	1	0	0	0	200	200	0	197	3	0	0	0
0.2	-0.7	200	200	0	184	14	2	0	0	200	200	0	171	29	0	0	0
0.2	-0.3	200	200	59	136	5	0	0	0	200	200	68	122	9	1	0	0
0.2	0	200	200	195	5	0	0	0	0	200	200	192	6	2	0	0	0
0.2	0.3	142	133	178	21	1	0	0	0	200	200	13	185	2	0	0	0
0.2	0.7	178	178	1	197	2	0	0	0	200	200	0	172	27	1	0	0
0.4	-0.7	195	196	0	197	3	0	0	0	200	200	0	183	17	0	0	0
0.4	-0.3	182	185	66	130	4	0	0	0	200	199	48	135	16	1	0	0
0.4	0	191	189	197	2	1	0	0	0	200	200	188	11	1	0	0	0
0.4	0.3	138	181	48	150	2	0	0	0	200	197	3	195	2	0	0	0
0.4	0.7	121	128	2	195	3	0	0	0	200	200	0	126	67	7	0	0

Table 29: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 0$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.039	0.040	0.041	0.0014	-0.337	-0.341	0.030	-0.718	-0.715	0.045
-0.4	-0.3	0.048	0.050	0.050	0.0013	-0.345	-0.349	0.031	-0.338	-0.344	0.051
-0.4	0	0.055	0.058	0.058	0.0016	-0.374	-0.375	0.030	—	—	—
-0.4	0.3	0.063	0.066	0.066	0.0035	-0.285	-0.337	0.112	0.161	0.244	0.151
-0.4	0.7	0.084	0.110	0.108	0.0408	0.036	0.230	0.306	0.237	0.00	0.314
-0.2	-0.7	0.043	0.044	0.044	0.0014	-0.228	-0.230	0.042	-0.688	-0.691	0.042
-0.2	-0.3	0.053	0.055	0.054	0.0023	-0.254	-0.246	0.061	-0.255	-0.268	0.091
-0.2	0	0.061	0.061	0.061	0.0035	-0.231	-0.227	0.049	—	—	—
-0.2	0.3	0.070	0.074	0.073	0.0072	-0.234	-0.304	0.172	0.301	0.390	0.203
-0.2	0.7	0.090	0.131	0.131	0.0363	0.403	0.442	0.194	0.058	0	0.199
0	-0.7	0.053	0.053	0.052	0.0034	-0.073	-0.065	0.069	-0.664	-0.677	0.069
0	-0.3	0.066	0.063	0.062	0.0057	-0.123	-0.089	0.110	-0.184	-0.237	0.135
0	0	0.075	0.075	0.072	0.0228	-0.048	-0.039	0.080	—	—	—
0	0.3	0.084	0.096	0.090	0.0191	-0.050	-0.065	0.265	0.307	0.354	0.279
0	0.7	0.106	0.111	0.107	0.0352	-0.023	-0.098	0.221	0.677	0.745	0.237
0.2	-0.7	0.069	0.067	0.067	0.0075	0.118	0.140	0.101	-0.657	-0.680	0.097
0.2	-0.3	0.086	0.078	0.077	0.0121	0.070	0.101	0.116	-0.185	-0.241	0.134
0.2	0	0.095	0.095	0.095	0.0125	0.153	0.161	0.077	—	—	—
0.2	0.3	0.105	0.137	0.132	0.0403	0.374	0.410	0.180	0.062	0.000	0.184
0.2	0.7	0.123	0.143	0.129	0.0601	0.134	0.101	0.159	0.731	0.759	0.130
0.4	-0.7	0.093	0.090	0.090	0.0158	0.335	0.341	0.063	-0.674	-0.678	0.056
0.4	-0.3	0.107	0.104	0.097	0.0344	0.283	0.316	0.133	-0.188	-0.242	0.153
0.4	0	0.114	0.123	0.123	0.0236	0.364	0.368	0.074	—	—	—
0.4	0.3	0.119	0.105	0.096	0.0398	0.091	-0.093	0.337	0.549	0.751	0.355
0.4	0.7	0.126	0.157	0.143	0.0525	0.350	0.315	0.165	0.720	0.741	0.146

Table 30: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 1$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.039	0.040	0.041	0.0012	0.662	0.658	0.028	-0.714	-0.713	0.032
0.6	-0.3	0.048	0.051	0.051	0.0013	0.655	0.654	0.032	-0.329	-0.326	0.047
0.6	0	0.055	0.058	0.058	0.0017	0.624	0.623	0.025	—	—	—
0.6	0.3	0.063	0.066	0.066	0.0040	0.695	0.653	0.105	0.188	0.256	0.155
0.6	0.7	0.084	0.091	0.088	0.0148	0.722	0.634	0.214	0.573	0.663	0.235
0.8	-0.7	0.043	0.044	0.044	0.0018	0.771	0.772	0.045	-0.686	-0.690	0.039
0.8	-0.3	0.053	0.055	0.055	0.0024	0.697	0.698	0.084	-0.176	-0.261	0.155
0.8	0	0.061	0.061	0.061	0.0034	0.764	0.767	0.045	—	—	—
0.8	0.3	0.070	0.073	0.071	0.0082	0.704	0.657	0.143	0.368	0.414	0.165
0.8	0.7	0.090	0.096	0.094	0.0144	0.726	0.706	0.134	0.736	0.759	0.138
1	-0.7	0.053	0.052	0.052	0.0027	0.918	0.923	0.061	-0.66	-0.67	0.071
1	-0.3	0.066	0.061	0.060	0.0058	0.816	0.774	0.127	-0.114	0.000	0.147
1	0	0.075	0.072	0.072	0.0065	0.937	0.950	0.080	—	—	—
1	0.3	0.084	0.090	0.085	0.0165	0.867	0.817	0.238	0.399	0.467	0.264
1	0.7	0.106	0.110	0.108	0.0162	0.877	0.888	0.095	0.780	0.772	0.075
1.2	-0.7	0.069	0.066	0.065	0.0082	1.089	1.126	0.134	-0.626	-0.669	0.135
1.2	-0.3	0.086	0.078	0.077	0.0120	1.057	1.102	0.140	-0.167	-0.239	0.154
1.2	0	0.095	0.095	0.096	0.0128	1.147	1.165	0.089	—	—	—
1.2	0.3	0.105	0.098	0.093	0.0212	0.814	0.711	0.246	0.636	0.726	0.242
1.2	0.7	0.123	0.132	0.130	0.0181	1.016	1.049	0.168	0.848	0.795	0.177
1.4	-0.7	0.093	0.091	0.090	0.0143	1.282	1.334	0.196	-0.624	-0.676	0.199
1.4	-0.3	0.107	0.104	0.105	0.0221	1.232	1.308	0.211	-0.149	-0.236	0.216
1.4	0	0.114	0.120	0.118	0.0204	1.342	1.363	0.110	—	—	—
1.4	0.3	0.119	0.096	0.095	0.0172	0.851	0.814	0.142	0.783	0.821	0.142
1.4	0.7	0.126	0.131	0.128	0.0259	1.035	1.185	0.279	1.031	0.844	0.298

Table 31: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_3 (sinus trend) and $n = 500$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	143	200	0	126	15	7	20	32	200	200	0	183	16	1	0	0
-0.4	-0.3	162	200	0	148	13	6	16	17	200	200	0	190	7	3	0	0
-0.4	0	156	200	155	1	1	1	21	21	200	200	197	3	0	0	0	0
-0.4	0.3	166	194	159	3	7	11	14	6	200	200	192	7	1	0	0	0
-0.4	0.7	152	155	179	18	3	0	0	0	200	200	49	150	1	0	0	0
-0.2	-0.7	131	200	0	130	0	14	39	17	200	200	0	199	1	0	0	0
-0.2	-0.3	156	200	9	144	3	8	22	14	200	200	44	155	1	0	0	0
-0.2	0	156	197	156	0	7	11	20	6	200	200	197	1	1	1	0	0
-0.2	0.3	174	190	162	13	6	12	6	1	200	200	153	45	2	0	0	0
-0.2	0.7	24	66	178	20	1	1	0	0	200	196	5	193	2	0	0	0
0	-0.7	145	200	0	145	6	32	15	2	200	200	0	156	41	3	0	0
0	-0.3	156	197	66	90	9	21	11	3	200	200	127	72	1	0	0	0
0	0	171	188	170	2	10	13	5	0	200	200	199	1	0	0	0	0
0	0.3	170	173	163	27	6	3	1	0	200	200	74	125	1	0	0	0
0	0.7	53	103	46	150	2	2	0	0	200	200	0	188	10	1	1	0
0.2	-0.7	163	200	0	163	29	8	0	0	200	200	0	169	29	2	0	0
0.2	-0.3	156	176	84	76	31	8	1	0	200	200	115	83	2	0	0	0
0.2	0	164	174	162	23	14	0	1	0	200	200	198	2	0	0	0	0
0.2	0.3	21	55	189	5	4	2	0	0	200	193	35	165	0	0	0	0
0.2	0.7	71	123	17	182	1	0	0	0	199	197	2	170	24	3	1	0
0.4	-0.7	84	171	0	186	12	2	0	0	200	200	0	174	24	2	0	0
0.4	-0.3	58	93	36	148	15	1	0	0	200	195	114	64	21	1	0	0
0.4	0	58	79	185	13	2	0	0	0	200	198	190	6	2	2	0	0
0.4	0.3	11	141	122	74	4	0	0	0	200	194	6	193	1	0	0	0
0.4	0.7	59	171	17	183	0	0	0	0	200	198	0	123	71	6	0	0

Table 32: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 0$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.021	0.032	0.022	0.0165	-0.063	-0.28	0.366	-0.923	-0.748	0.294
-0.4	-0.3	0.026	0.036	0.027	0.0201	-0.155	-0.301	0.322	-0.476	-0.361	0.261
-0.4	0	0.029	0.043	0.031	0.0229	-0.160	-0.343	0.355	—	—	—
-0.4	0.3	0.034	0.048	0.035	0.0293	-0.053	-0.152	0.259	-0.063	0.000	0.172
-0.4	0.7	0.045	0.078	0.058	0.0437	0.266	0.268	0.210	0.051	0.000	0.172
-0.2	-0.7	0.022	0.037	0.023	0.0199	0.024	-0.210	0.354	-0.883	-0.72	0.269
-0.2	-0.3	0.027	0.041	0.029	0.0235	-0.086	-0.239	0.318	-0.392	-0.293	0.258
-0.2	0	0.031	0.048	0.033	0.0295	-0.071	-0.218	0.309	—	—	—
-0.2	0.3	0.035	0.052	0.041	0.0281	0.063	0.021	0.194	-0.012	0.000	0.145
-0.2	0.7	0.046	0.100	0.097	0.0244	0.452	0.505	0.192	0.057	0.000	0.187
0	-0.7	0.025	0.039	0.026	0.0224	0.053	-0.093	0.283	-0.780	-0.680	0.201
0	-0.3	0.032	0.046	0.032	0.0278	-0.034	-0.141	0.299	-0.268	-0.233	0.258
0	0	0.036	0.048	0.038	0.0278	0.014	-0.056	0.208	—	—	—
0	0.3	0.041	0.066	0.053	0.0367	0.191	0.213	0.202	0.065	0.000	0.203
0	0.7	0.051	0.099	0.100	0.0337	0.377	0.505	0.291	0.331	0.263	0.278
0.2	-0.7	0.031	0.041	0.031	0.0227	0.152	0.101	0.180	-0.705	-0.675	0.114
0.2	-0.3	0.039	0.053	0.038	0.0305	0.098	0.047	0.246	-0.206	-0.225	0.210
0.2	0	0.043	0.060	0.047	0.0322	0.203	0.150	0.151	—	—	—
0.2	0.3	0.047	0.102	0.101	0.024	0.479	0.505	0.125	0.020	0.000	0.117
0.2	0.7	0.055	0.103	0.106	0.0312	0.384	0.505	0.261	0.515	0.451	0.242
0.4	-0.7	0.039	0.062	0.069	0.0221	0.409	0.505	0.125	-0.706	-0.709	0.061
0.4	-0.3	0.045	0.076	0.081	0.0258	0.401	0.505	0.182	-0.290	-0.354	0.158
0.4	0	0.048	0.095	0.101	0.0317	0.450	0.505	0.095	—	—	—
0.4	0.3	0.050	0.084	0.082	0.0187	0.537	0.577	0.174	0.117	0.000	0.189
0.4	0.7	0.053	0.096	0.092	0.0317	0.524	0.552	0.239	0.576	0.596	0.222

Table 33: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 1$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.021	0.021	0.021	0.0008	0.695	0.688	0.030	-0.73	-0.724	0.053
0.6	-0.3	0.026	0.027	0.027	0.0008	0.676	0.674	0.026	-0.344	-0.342	0.045
0.6	0	0.029	0.031	0.031	0.0006	0.649	0.648	0.020	—	—	—
0.6	0.3	0.034	0.035	0.035	0.0013	0.835	0.841	0.054	0.011	0.000	0.057
0.6	0.7	0.045	0.050	0.048	0.0061	0.812	0.676	0.264	0.483	0.625	0.286
0.8	-0.7	0.022	0.022	0.022	0.0009	0.751	0.751	0.037	-0.688	-0.688	0.034
0.8	-0.3	0.027	0.029	0.028	0.0013	0.711	0.719	0.058	-0.220	-0.261	0.124
0.8	0	0.031	0.032	0.032	0.0009	0.748	0.747	0.042	—	—	—
0.8	0.3	0.035	0.041	0.040	0.0023	0.933	0.995	0.157	0.105	0.000	0.192
0.8	0.7	0.046	0.055	0.053	0.0069	0.741	0.726	0.138	0.724	0.741	0.141
1	-0.7	0.025	0.025	0.025	0.0013	0.838	0.846	0.080	-0.616	-0.648	0.090
1	-0.3	0.032	0.032	0.031	0.0014	0.778	0.728	0.110	-0.099	0.000	0.134
1	0	0.036	0.037	0.037	0.0019	0.926	0.924	0.048	—	—	—
1	0.3	0.041	0.048	0.046	0.0054	0.883	0.736	0.261	0.367	0.526	0.295
1	0.7	0.051	0.060	0.059	0.0046	0.873	0.881	0.090	0.780	0.764	0.090
1.2	-0.7	0.031	0.031	0.030	0.0044	1.016	1.056	0.144	-0.596	-0.648	0.154
1.2	-0.3	0.039	0.037	0.036	0.0038	0.972	0.948	0.128	-0.110	0.000	0.137
1.2	0	0.043	0.046	0.046	0.0039	1.130	1.133	0.059	—	—	—
1.2	0.3	0.047	0.056	0.054	0.0135	0.860	0.749	0.280	0.579	0.690	0.300
1.2	0.7	0.055	0.071	0.067	0.0151	1.019	1.057	0.187	0.833	0.787	0.195
1.4	-0.7	0.039	0.039	0.039	0.0046	1.232	1.272	0.174	-0.604	-0.651	0.175
1.4	-0.3	0.045	0.050	0.042	0.042	1.123	1.119	0.201	-0.048	0.000	0.196
1.4	0	0.048	0.053	0.053	0.0062	1.309	1.336	0.147	—	—	—
1.4	0.3	0.050	0.052	0.052	0.0071	0.861	0.843	0.139	0.756	0.777	0.148
1.4	0.7	0.053	0.066	0.064	0.0149	1.018	1.171	0.276	1.034	0.838	0.302

Table 34: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_0 (no trend) and $n = 500$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	134	0	195	5	0	0	0	184	152	0	195	5	0	0	0
-0.4	-0.3	200	90	4	190	6	0	0	0	160	105	37	161	2	0	0	0
-0.4	0	200	132	195	4	1	0	0	0	192	146	193	7	0	0	0	0
-0.4	0.3	200	22	18	181	1	0	0	0	35	167	13	187	0	0	0	0
-0.4	0.7	200	17	92	107	1	0	0	0	183	46	1	194	5	0	0	0
-0.2	-0.7	200	180	0	172	21	6	1	0	182	200	0	181	18	1	0	0
-0.2	-0.3	200	167	80	102	17	1	0	0	172	169	122	64	14	0	0	0
-0.2	0	200	189	190	8	2	0	0	0	186	200	186	14	0	0	0	0
-0.2	0.3	200	87	14	181	4	1	0	0	109	120	12	188	0	0	0	0
-0.2	0.7	115	14	175	20	5	0	0	0	188	157	0	175	23	1	1	0
0	-0.7	200	172	0	157	40	3	0	0	163	193	3	157	39	1	0	0
0	-0.3	200	169	69	111	18	2	0	0	175	170	106	68	24	2	0	0
0	0	200	159	179	18	3	0	0	0	183	179	183	16	1	0	0	0
0	0.3	200	82	44	153	3	0	0	0	178	111	15	182	3	0	0	0
0	0.7	185	138	15	183	1	1	0	0	193	150	0	180	18	2	0	0
0.2	-0.7	200	123	0	185	15	0	0	0	188	167	2	173	23	2	0	0
0.2	-0.3	200	122	49	134	16	1	0	0	187	157	66	108	25	1	0	0
0.2	0	200	89	179	20	1	0	0	0	189	132	183	16	1	0	0	0
0.2	0.3	152	18	178	21	1	0	0	0	199	180	5	191	3	1	0	0
0.2	0.7	197	96	3	196	1	0	0	0	193	143	0	147	50	3	0	0
0.4	-0.7	197	48	0	195	4	0	1	0	200	120	0	166	32	2	0	0
0.4	-0.3	187	82	65	131	4	0	0	0	200	142	49	122	28	1	0	0
0.4	0	196	21	198	2	0	0	0	0	199	106	177	22	1	0	0	0
0.4	0.3	148	171	52	147	1	0	0	0	199	196	3	187	10	0	0	0
0.4	0.7	171	41	2	195	3	0	0	0	196	169	0	115	80	4	1	0

Table 35: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 0$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.5	0.071	0.068	0.0193	-0.457	-0.463	0.034	-0.675	-0.678	0.043
-0.4	-0.3	0.5	0.090	0.085	0.0311	-0.465	-0.478	0.036	-0.253	-0.258	0.061
-0.4	0	0.5	0.085	0.078	0.0248	-0.447	-0.452	0.039	—	—	—
-0.4	0.3	0.5	0.139	0.129	0.0459	-0.462	-0.495	0.089	0.342	0.376	0.117
-0.4	0.7	0.5	0.214	0.193	0.0943	-0.138	-0.417	0.367	0.395	0.674	0.367
-0.2	-0.7	0.5	0.069	0.063	0.0155	-0.302	-0.283	0.084	-0.643	-0.671	0.091
-0.2	-0.3	0.5	0.084	0.080	0.0257	-0.362	-0.373	0.106	-0.147	-0.184	0.144
-0.2	0	0.5	0.084	0.078	0.0193	-0.267	-0.256	0.065	—	—	—
-0.2	0.3	0.5	0.131	0.124	0.0479	-0.386	-0.445	0.141	0.467	0.505	0.163
-0.2	0.7	0.5	0.213	0.171	0.1317	0.360	0.417	0.244	0.095	0.000	0.257
0	-0.7	0.5	0.080	0.071	0.0278	-0.151	-0.102	0.154	-0.588	-0.658	0.172
0	-0.3	0.5	0.091	0.081	0.0296	-0.175	-0.139	0.145	-0.142	-0.222	0.163
0	0	0.5	0.109	0.098	0.0425	-0.068	-0.043	0.106	—	—	—
0	0.3	0.5	0.169	0.156	0.0735	-0.197	-0.206	0.288	0.461	0.494	0.293
0	0.7	0.5	0.160	0.142	0.0638	-0.058	-0.103	0.197	0.710	0.765	0.214
0.2	-0.7	0.5	0.110	0.103	0.0408	0.112	0.145	0.142	-0.640	-0.674	0.147
0.2	-0.3	0.5	0.137	0.112	0.0850	0.055	0.114	0.174	-0.167	-0.245	0.188
0.2	0	0.5	0.160	0.147	0.0651	0.126	0.168	0.151	—	—	—
0.2	0.3	0.5	0.260	0.225	0.1398	0.356	0.399	0.199	0.068	0.000	0.203
0.2	0.7	0.5	0.227	0.201	0.1016	0.085	0.082	0.123	0.764	0.772	0.115
0.4	-0.7	0.5	0.177	0.149	0.0952	0.336	0.351	0.110	-0.669	-0.681	0.103
0.4	-0.3	0.5	0.180	0.154	0.0988	0.281	0.319	0.150	-0.179	-0.250	0.171
0.4	0	0.5	0.244	0.199	0.1170	0.364	0.372	0.076	—	—	—
0.4	0.3	0.5	0.125	0.117	0.0433	0.037	-0.139	0.335	0.594	0.796	0.363
0.4	0.7	0.5	0.258	0.232	0.1164	0.288	0.274	0.160	0.766	0.785	0.148

Table 36: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 1$, $n = 500$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.5	0.081	0.069	0.0490	0.516	0.530	0.132	-0.659	-0.680	0.142
0.6	-0.3	0.5	0.115	0.088	0.0844	0.497	0.511	0.102	-0.210	-0.248	0.134
0.6	0	0.5	0.085	0.078	0.0226	0.524	0.552	0.161	—	—	—
0.6	0.3	0.5	0.146	0.134	0.0578	0.117	0.023	0.253	0.726	0.832	0.251
0.6	0.7	0.5	0.183	0.166	0.0769	0.510	0.505	0.124	0.754	0.746	0.126
0.8	-0.7	0.5	0.069	0.061	0.0274	0.647	0.714	0.245	-0.595	-0.668	0.249
0.8	-0.3	0.5	0.089	0.077	0.0393	0.561	0.567	0.192	-0.058	0.000	0.204
0.8	0	0.5	0.084	0.077	0.0203	0.683	0.743	0.228	—	—	—
0.8	0.3	0.5	0.154	0.139	0.0648	0.389	0.505	0.250	0.667	0.639	0.238
0.8	0.7	0.5	0.154	0.132	0.0807	0.622	0.652	0.190	0.828	0.777	0.195
1	-0.7	0.5	0.085	0.071	0.0424	0.766	0.912	0.333	-0.511	-0.667	0.335
1	-0.3	0.5	0.098	0.082	0.0504	0.738	0.757	0.258	-0.043	0	0.248
1	0	0.5	0.107	0.097	0.0391	0.879	0.954	0.253	—	—	—
1	0.3	0.5	0.159	0.148	0.0704	0.634	0.540	0.238	0.620	0.727	0.245
1	0.7	0.5	0.175	0.158	0.069	0.825	0.866	0.185	0.829	0.781	0.186
1.2	-0.7	0.5	0.110	0.091	0.0588	1.050	1.127	0.240	-0.589	-0.672	0.240
1.2	-0.3	0.5	0.125	0.109	0.0631	0.992	1.065	0.252	-0.102	-0.221	0.251
1.2	0	0.5	0.163	0.138	0.0877	1.098	1.162	0.225	—	—	—
1.2	0.3	0.5	0.146	0.124	0.0719	0.784	0.671	0.234	0.668	0.770	0.222
1.2	0.7	0.5	0.219	0.211	0.0864	0.909	1.028	0.284	0.949	0.815	0.284
1.4	-0.7	0.5	0.171	0.144	0.0897	1.265	1.343	0.231	-0.590	-0.666	0.237
1.4	-0.3	0.5	0.202	0.164	0.1115	1.214	1.295	0.240	-0.118	-0.232	0.245
1.4	0	0.5	0.245	0.210	0.1226	1.306	1.361	0.190	—	—	—
1.4	0.3	0.5	0.149	0.126	0.0780	0.823	0.791	0.183	0.813	0.836	0.181
1.4	0.7	0.5	0.244	0.211	0.1173	0.970	1.154	0.338	1.090	0.863	0.341

Table 37: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_1 (hyperbolic tangent trend) and $n = 1000$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	195	5	0	0	0	200	200	0	199	1	0	0	0
-0.4	-0.3	200	200	0	198	2	0	0	0	200	200	0	200	0	0	0	0
-0.4	0	200	200	200	0	0	0	0	0	200	200	199	1	0	0	0	0
-0.4	0.3	200	200	2	197	1	0	0	0	200	200	1	195	3	1	0	0
-0.4	0.7	200	200	9	189	2	0	0	0	200	200	0	200	0	0	0	0
-0.2	-0.7	200	200	0	197	2	1	0	0	200	200	0	193	6	1	0	0
-0.2	-0.3	200	200	1	195	4	0	0	0	200	200	30	161	9	0	0	0
-0.2	0	200	200	194	6	0	0	0	0	200	200	190	9	1	0	0	0
-0.2	0.3	200	200	4	192	4	0	0	0	200	200	2	196	2	0	0	0
-0.2	0.7	161	118	154	45	1	0	0	0	200	200	0	198	2	0	0	0
0	-0.7	200	200	0	179	18	3	0	0	200	200	0	180	18	2	0	0
0	-0.3	200	200	1	188	10	1	0	0	200	200	41	143	16	0	0	0
0	0	200	200	192	7	1	0	0	0	200	200	189	11	0	0	0	0
0	0.3	200	200	2	196	2	0	0	0	200	200	0	200	0	0	0	0
0	0.7	200	200	0	200	0	0	0	0	200	200	0	177	22	1	0	0
0.2	-0.7	200	200	0	187	13	0	0	0	200	200	0	177	23	0	0	0
0.2	-0.3	200	200	4	184	11	1	0	0	200	200	2	184	14	0	0	0
0.2	0	200	200	192	7	1	0	0	0	200	200	187	12	1	0	0	0
0.2	0.3	188	154	155	42	3	0	0	0	200	199	1	196	2	1	0	0
0.2	0.7	200	197	0	199	0	1	0	0	200	198	0	150	48	2	0	0
0.4	-0.7	200	198	0	196	4	0	0	0	200	198	0	180	18	2	0	0
0.4	-0.3	197	196	1	197	2	0	0	0	200	197	5	178	16	1	0	0
0.4	0	200	196	200	0	0	0	0	0	200	195	188	11	0	1	0	0
0.4	0.3	194	192	12	187	1	0	0	0	200	187	13	185	2	0	0	0
0.4	0.7	173	167	0	198	2	0	0	0	200	193	0	131	64	5	0	0

Table 38: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 0$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_{A}	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.042	0.042	0.042	0.0028	-0.373	-0.373	0.024	-0.708	-0.706	0.025
-0.4	-0.3	0.053	0.052	0.052	0.0020	-0.386	-0.388	0.026	-0.313	-0.310	0.035
-0.4	0	0.060	0.057	0.057	0.0025	-0.402	-0.402	0.022	—	—	—
-0.4	0.3	0.069	0.065	0.065	0.0073	-0.397	-0.406	0.045	0.297	0.298	0.058
-0.4	0.7	0.092	0.087	0.085	0.0190	-0.358	-0.407	0.159	0.650	0.692	0.157
-0.2	-0.7	0.049	0.047	0.047	0.0024	-0.230	-0.230	0.035	-0.687	-0.687	0.028
-0.2	-0.3	0.062	0.056	0.056	0.0032	-0.243	-0.243	0.044	-0.269	-0.268	0.048
-0.2	0	0.070	0.062	0.061	0.0044	-0.231	-0.228	0.035	—	—	—
-0.2	0.3	0.081	0.070	0.069	0.0068	-0.311	-0.316	0.084	0.404	0.412	0.095
-0.2	0.7	0.105	0.190	0.173	0.1218	0.286	0.424	0.294	0.168	0.000	0.309
0	-0.7	0.065	0.057	0.057	0.0049	-0.057	-0.040	0.075	-0.663	-0.685	0.077
0	-0.3	0.082	0.068	0.067	0.0077	-0.053	-0.044	0.067	-0.256	-0.268	0.073
0	0	0.092	0.077	0.076	0.0101	-0.031	-0.024	0.055	—	—	—
0	0.3	0.105	0.085	0.083	0.0150	-0.176	-0.140	0.151	0.472	0.446	0.158
0	0.7	0.131	0.115	0.112	0.0327	-0.083	-0.092	0.081	0.753	0.762	0.066
0.2	-0.7	0.093	0.077	0.076	0.0110	0.159	0.170	0.051	-0.678	-0.69	0.054
0.2	-0.3	0.115	0.093	0.093	0.0182	0.147	0.156	0.068	-0.258	-0.266	0.074
0.2	0	0.128	0.110	0.105	0.0271	0.169	0.178	0.052	—	—	—
0.2	0.3	0.140	0.210	0.180	0.1204	0.329	0.411	0.202	0.110	0	0.223
0.2	0.7	0.165	0.156	0.139	0.0628	0.112	0.110	0.085	0.758	0.759	0.073
0.4	-0.7	0.137	0.124	0.113	0.0569	0.369	0.371	0.044	-0.686	-0.691	0.038
0.4	-0.3	0.158	0.147	0.131	0.058	0.359	0.362	0.046	-0.275	-0.279	0.050
0.4	0	0.168	0.181	0.158	0.0789	0.385	0.387	0.030	—	—	—
0.4	0.3	0.175	0.120	0.106	0.0586	-0.059	-0.187	0.265	0.716	0.855	0.269
0.4	0.7	0.186	0.178	0.160	0.0854	0.325	0.314	0.103	0.750	0.760	0.083

Table 39: *Statistics from the 200 replications for all models with g_1 (hyperbolic tangent trend), $m^0 = 1$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.042	0.042	0.043	0.0026	0.625	0.623	0.024	-0.708	-0.707	0.022
0.6	-0.3	0.053	0.051	0.051	0.0023	0.614	0.613	0.025	-0.312	-0.310	0.031
0.6	0	0.060	0.057	0.057	0.0024	0.600	0.600	0.022	—	—	—
0.6	0.3	0.069	0.065	0.064	0.0069	0.597	0.593	0.041	0.300	0.302	0.053
0.6	0.7	0.092	0.083	0.083	0.0094	0.607	0.586	0.066	0.688	0.703	0.067
0.8	-0.7	0.049	0.047	0.047	0.0024	0.769	0.769	0.036	-0.687	-0.690	0.035
0.8	-0.3	0.062	0.056	0.056	0.0030	0.731	0.751	0.072	-0.236	-0.274	0.109
0.8	0	0.070	0.062	0.062	0.0042	0.770	0.774	0.039	—	—	—
0.8	0.3	0.081	0.069	0.068	0.0060	0.688	0.681	0.077	0.408	0.409	0.090
0.8	0.7	0.105	0.091	0.090	0.0105	0.708	0.704	0.069	0.758	0.760	0.054
1	-0.7	0.065	0.056	0.056	0.0041	0.938	0.946	0.065	-0.663	-0.680	0.070
1	-0.3	0.082	0.065	0.065	0.0066	0.901	0.933	0.094	-0.203	-0.258	0.125
1	0	0.092	0.077	0.076	0.0100	0.962	0.969	0.056	—	—	—
1	0.3	0.105	0.084	0.082	0.0146	0.841	0.866	0.140	0.449	0.426	0.145
1	0.7	0.131	0.113	0.112	0.0189	0.880	0.895	0.111	0.796	0.769	0.114
1.2	-0.7	0.093	0.076	0.076	0.0111	1.148	1.160	0.064	-0.667	-0.686	0.070
1.2	-0.3	0.115	0.093	0.092	0.0165	1.148	1.158	0.066	-0.261	-0.274	0.069
1.2	0	0.128	0.109	0.105	0.0214	1.163	1.175	0.075	—	—	—
1.2	0.3	0.140	0.105	0.098	0.0296	0.929	1.012	0.242	0.551	0.490	0.232
1.2	0.7	0.165	0.154	0.137	0.0666	1.010	1.081	0.230	0.872	0.781	0.239
1.4	-0.7	0.137	0.126	0.119	0.0478	1.356	1.367	0.088	-0.670	-0.689	0.086
1.4	-0.3	0.158	0.154	0.136	0.0759	1.337	1.365	0.137	-0.248	-0.274	0.142
1.4	0	0.168	0.189	0.158	0.0921	1.371	1.380	0.072	—	—	—
1.4	0.3	0.175	0.130	0.103	0.0841	0.949	0.820	0.264	0.703	0.840	0.273
1.4	0.7	0.186	0.167	0.151	0.0800	1.099	1.248	0.291	0.982	0.809	0.301

Table 40: *Frequencies of $\hat{m} = m^0$, $gSig$ and of $\hat{p}$ in 200 replications for the case with g_2 (squared sinus trend) and $n = 1000$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	200	0	185	14	1	0	0	200	200	0	197	3	0	0	0
-0.4	-0.3	200	200	0	194	6	0	0	0	200	200	0	198	2	0	0	0
-0.4	0	200	200	198	2	0	0	0	0	200	200	199	1	0	0	0	0
-0.4	0.3	200	200	33	163	4	0	0	0	200	200	11	186	3	0	0	0
-0.4	0.7	199	199	8	189	3	0	0	0	200	200	0	199	1	0	0	0
-0.2	-0.7	200	200	0	195	4	1	0	0	200	200	0	199	1	0	0	0
-0.2	-0.3	200	200	0	198	2	0	0	0	200	200	29	169	2	0	0	0
-0.2	0	200	200	200	0	0	0	0	0	200	200	196	4	0	0	0	0
-0.2	0.3	200	200	6	186	8	0	0	0	200	200	0	198	2	0	0	0
-0.2	0.7	167	106	153	46	1	0	0	0	200	200	0	197	3	0	0	0
0	-0.7	200	200	0	198	2	0	0	0	200	200	0	185	14	1	0	0
0	-0.3	200	200	1	187	9	3	0	0	200	200	45	135	20	0	0	0
0	0	200	200	189	10	1	0	0	0	200	200	189	6	5	0	0	0
0	0.3	199	200	1	196	2	0	1	0	200	200	1	196	3	0	0	0
0	0.7	200	200	0	200	0	0	0	0	200	200	0	192	8	0	0	0
0.2	-0.7	200	200	0	188	10	2	0	0	200	200	0	176	22	2	0	0
0.2	-0.3	200	200	0	187	13	0	0	0	200	200	12	172	16	0	0	0
0.2	0	200	200	191	7	2	0	0	0	200	200	187	13	0	0	0	0
0.2	0.3	174	151	138	61	1	0	0	0	200	200	1	198	1	0	0	0
0.2	0.7	196	196	0	198	1	1	0	0	200	200	0	156	42	2	0	0
0.4	-0.7	199	200	0	196	4	0	0	0	200	200	0	167	31	1	1	0
0.4	-0.3	195	195	0	196	4	0	0	0	200	200	4	178	17	1	0	0
0.4	0	198	199	196	3	0	1	0	0	200	200	191	8	1	0	0	0
0.4	0.3	185	186	6	194	0	0	0	0	200	195	5	193	2	0	0	0
0.4	0.7	170	170	0	199	1	0	0	0	200	200	0	139	61	0	0	0

Table 41: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 0$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.031	0.033	0.033	0.0007	-0.335	-0.336	0.025	-0.726	-0.721	0.036
-0.4	-0.3	0.039	0.041	0.042	0.0008	-0.349	-0.351	0.022	-0.330	-0.329	0.035
-0.4	0	0.044	0.048	0.048	0.0006	-0.371	-0.371	0.020	—	—	—
-0.4	0.3	0.051	0.054	0.054	0.0017	-0.329	-0.356	0.073	0.224	0.257	0.108
-0.4	0.7	0.068	0.074	0.070	0.0321	-0.334	-0.374	0.161	0.634	0.679	0.161
-0.2	-0.7	0.036	0.038	0.038	0.0012	-0.211	-0.209	0.032	-0.698	-0.700	0.027
-0.2	-0.3	0.044	0.047	0.047	0.0015	-0.219	-0.218	0.036	-0.291	-0.287	0.041
-0.2	0	0.051	0.053	0.053	0.0018	-0.218	-0.219	0.026	—	—	—
-0.2	0.3	0.058	0.060	0.060	0.0035	-0.267	-0.278	0.078	0.358	0.365	0.094
-0.2	0.7	0.075	0.132	0.143	0.0478	0.285	0.423	0.282	0.166	0.000	0.301
0	-0.7	0.046	0.047	0.047	0.0021	-0.040	-0.039	0.037	-0.683	-0.686	0.035
0	-0.3	0.057	0.057	0.057	0.0037	-0.052	-0.045	0.059	-0.260	-0.266	0.061
0	0	0.065	0.065	0.065	0.0052	-0.032	-0.029	0.045	—	—	—
0	0.3	0.073	0.073	0.069	0.0318	-0.137	-0.121	0.143	0.427	0.411	0.147
0	0.7	0.092	0.093	0.093	0.0097	-0.083	-0.092	0.075	0.755	0.762	0.059
0.2	-0.7	0.063	0.063	0.063	0.0060	0.154	0.167	0.066	-0.675	-0.688	0.063
0.2	-0.3	0.078	0.076	0.076	0.0089	0.147	0.156	0.073	-0.259	-0.270	0.074
0.2	0	0.087	0.089	0.089	0.0107	0.172	0.182	0.061	—	—	—
0.2	0.3	0.096	0.125	0.130	0.0417	0.313	0.402	0.189	0.134	0.000	0.211
0.2	0.7	0.112	0.118	0.116	0.0281	0.117	0.112	0.098	0.754	0.763	0.079
0.4	-0.7	0.090	0.089	0.088	0.0120	0.363	0.365	0.042	-0.686	-0.69	0.033
0.4	-0.3	0.104	0.106	0.105	0.017	0.363	0.363	0.050	-0.276	-0.278	0.050
0.4	0	0.110	0.120	0.119	0.0289	0.377	0.380	0.056	—	—	—
0.4	0.3	0.115	0.097	0.090	0.0363	-0.038	-0.177	0.275	0.701	0.839	0.266
0.4	0.7	0.122	0.130	0.125	0.0366	0.318	0.303	0.105	0.754	0.762	0.088

Table 42: *Statistics from the 200 replications for all models with g_2 (squared sinus trend), $m^0 = 1$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.031	0.033	0.033	0.0010	0.651	0.651	0.019	-0.715	-0.715	0.023
0.6	-0.3	0.039	0.041	0.042	0.0008	0.653	0.653	0.019	-0.332	-0.33	0.030
0.6	0	0.044	0.048	0.048	0.0006	0.623	0.622	0.017	—	—	—
0.6	0.3	0.051	0.054	0.054	0.0013	0.649	0.639	0.048	0.248	0.263	0.069
0.6	0.7	0.068	0.070	0.069	0.0052	0.637	0.620	0.080	0.663	0.679	0.080
0.8	-0.7	0.036	0.038	0.038	0.0012	0.787	0.785	0.031	-0.695	-0.696	0.028
0.8	-0.3	0.044	0.047	0.047	0.0015	0.754	0.769	0.065	-0.248	-0.28	0.107
0.8	0	0.051	0.053	0.053	0.0018	0.781	0.783	0.030	—	—	—
0.8	0.3	0.058	0.059	0.059	0.0026	0.719	0.712	0.060	0.377	0.378	0.070
0.8	0.7	0.075	0.078	0.077	0.0055	0.713	0.711	0.063	0.760	0.760	0.049
1	-0.7	0.046	0.047	0.047	0.0020	0.953	0.960	0.049	-0.674	-0.684	0.052
1	-0.3	0.057	0.055	0.055	0.0043	0.901	0.926	0.088	-0.197	-0.247	0.122
1	0	0.065	0.065	0.065	0.0053	0.966	0.971	0.056	—	—	—
1	0.3	0.073	0.070	0.069	0.0077	0.848	0.875	0.145	0.443	0.415	0.148
1	0.7	0.092	0.092	0.092	0.0094	0.894	0.893	0.086	0.774	0.771	0.081
1.2	-0.7	0.063	0.062	0.062	0.0063	1.138	1.161	0.082	-0.66	-0.682	0.081
1.2	-0.3	0.078	0.074	0.073	0.0092	1.128	1.152	0.089	-0.232	-0.253	0.102
1.2	0	0.087	0.088	0.088	0.011	1.172	1.182	0.049	—	—	—
1.2	0.3	0.096	0.088	0.086	0.0155	0.942	1.032	0.235	0.543	0.472	0.227
1.2	0.7	0.112	0.113	0.111	0.0157	1.005	1.082	0.201	0.871	0.785	0.208
1.4	-0.7	0.090	0.091	0.091	0.0135	1.346	1.366	0.087	-0.659	-0.682	0.088
1.4	-0.3	0.104	0.108	0.106	0.0189	1.335	1.366	0.134	-0.242	-0.272	0.143
1.4	0	0.110	0.118	0.119	0.0188	1.368	1.380	0.066	—	—	—
1.4	0.3	0.115	0.091	0.089	0.0196	0.899	0.792	0.233	0.758	0.860	0.222
1.4	0.7	0.122	0.121	0.119	0.0222	1.117	1.250	0.274	0.962	0.811	0.287

Table 43: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_3 (sinus trend) and $n = 1000$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	180	200	0	135	40	4	2	19	200	200	0	162	33	5	0	0
-0.4	-0.3	196	200	0	175	21	0	0	4	200	200	0	195	5	0	0	0
-0.4	0	195	200	187	7	1	0	0	5	200	200	197	3	0	0	0	0
-0.4	0.3	196	200	169	25	2	0	0	4	200	200	164	33	3	0	0	0
-0.4	0.7	198	198	57	140	3	0	0	0	200	200	2	194	4	0	0	0
-0.2	-0.7	179	200	0	177	1	1	1	20	200	200	0	198	1	1	0	0
-0.2	-0.3	198	200	0	196	1	1	0	2	200	200	2	196	2	0	0	0
-0.2	0	193	200	192	1	0	0	1	6	200	200	199	1	0	0	0	0
-0.2	0.3	197	200	155	41	0	2	0	2	200	200	31	166	3	0	0	0
-0.2	0.7	110	67	172	28	0	0	0	0	200	200	0	198	2	0	0	0
0	-0.7	186	200	0	185	1	2	3	9	200	200	0	135	63	2	0	0
0	-0.3	197	200	3	193	1	1	0	2	200	200	44	153	2	0	1	0
0	0	190	200	190	0	0	3	7	0	200	200	197	3	0	0	0	0
0	0.3	196	198	71	125	2	0	2	0	200	200	5	194	1	0	0	0
0	0.7	167	169	0	200	0	0	0	0	200	200	0	188	11	1	0	0
0.2	-0.7	193	200	0	189	4	6	1	0	200	200	0	191	7	2	0	0
0.2	-0.3	195	200	10	184	5	1	0	0	200	200	8	188	4	0	0	0
0.2	0	194	197	194	0	4	1	1	0	200	200	189	11	0	0	0	0
0.2	0.3	143	113	155	41	2	1	1	0	200	200	0	199	1	0	0	0
0.2	0.7	124	130	0	199	1	0	0	0	200	200	0	154	42	4	0	0
0.4	-0.7	182	197	0	196	4	0	0	0	200	200	0	178	22	0	0	0
0.4	-0.3	169	174	1	192	7	0	0	0	200	200	5	179	16	0	0	0
0.4	0	174	182	190	10	0	0	0	0	200	200	172	27	1	0	0	0
0.4	0.3	72	101	16	180	4	0	0	0	200	193	7	189	4	0	0	0
0.4	0.7	84	141	0	200	0	0	0	0	200	199	0	109	82	9	0	0

Table 44: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 0$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.017	0.022	0.017	0.0133	-0.214	-0.296	0.243	-0.818	-0.735	0.204
-0.4	-0.3	0.021	0.023	0.022	0.0090	-0.296	-0.314	0.117	-0.366	-0.347	0.102
-0.4	0	0.024	0.027	0.025	0.0105	-0.324	-0.345	0.135	—	—	—
-0.4	0.3	0.027	0.031	0.029	0.0128	-0.167	-0.162	0.117	0.025	0.000	0.110
-0.4	0.7	0.036	0.043	0.038	0.0151	-0.127	-0.296	0.273	0.426	0.599	0.290
-0.2	-0.7	0.018	0.024	0.019	0.0136	-0.139	-0.212	0.223	-0.754	-0.697	0.180
-0.2	-0.3	0.023	0.024	0.024	0.0059	-0.218	-0.228	0.080	-0.292	-0.283	0.071
-0.2	0	0.026	0.030	0.027	0.0134	-0.190	-0.215	0.135	—	—	—
-0.2	0.3	0.029	0.036	0.035	0.0118	-0.034	0.012	0.146	0.079	0.000	0.169
-0.2	0.7	0.038	0.080	0.077	0.0233	0.373	0.449	0.240	0.098	0.000	0.243
0	-0.7	0.022	0.026	0.022	0.0133	-0.028	-0.065	0.151	-0.708	-0.68	0.118
0	-0.3	0.028	0.029	0.028	0.0093	-0.067	-0.072	0.086	-0.256	-0.253	0.076
0	0	0.031	0.037	0.033	0.0184	-0.007	-0.030	0.124	—	—	—
0	0.3	0.035	0.042	0.038	0.0164	-0.058	-0.138	0.240	0.324	0.435	0.271
0	0.7	0.044	0.063	0.050	0.0337	0.006	-0.079	0.230	0.668	0.746	0.200
0.2	-0.7	0.029	0.031	0.029	0.0112	0.139	0.134	0.089	-0.680	-0.680	0.075
0.2	-0.3	0.035	0.038	0.036	0.0148	0.122	0.122	0.090	-0.244	-0.245	0.086
0.2	0	0.039	0.046	0.043	0.0155	0.180	0.172	0.065	—	—	—
0.2	0.3	0.043	0.077	0.070	0.0407	0.326	0.420	0.253	0.129	0.000	0.261
0.2	0.7	0.051	0.084	0.064	0.0367	0.252	0.148	0.208	0.632	0.728	0.179
0.4	-0.7	0.037	0.044	0.040	0.0142	0.356	0.346	0.065	-0.682	-0.681	0.044
0.4	-0.3	0.043	0.053	0.048	0.0167	0.357	0.343	0.078	-0.275	-0.266	0.066
0.4	0	0.046	0.063	0.055	0.0236	0.387	0.377	0.056	—	—	—
0.4	0.3	0.048	0.077	0.081	0.0299	0.289	0.505	0.317	0.390	0.215	0.298
0.4	0.7	0.051	0.083	0.084	0.0261	0.421	0.505	0.150	0.665	0.631	0.115

Table 45: *Statistics from the 200 replications for all models with g_3 (sinus trend), $m^0 = 1$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.017	0.017	0.017	0.0007	0.700	0.695	0.032	-0.745	-0.732	0.052
0.6	-0.3	0.021	0.022	0.022	0.0005	0.669	0.665	0.023	-0.342	-0.341	0.034
0.6	0	0.024	0.025	0.025	0.0004	0.643	0.641	0.018	—	—	—
0.6	0.3	0.027	0.029	0.029	0.0008	0.813	0.837	0.071	0.044	0.000	0.096
0.6	0.7	0.036	0.040	0.038	0.0063	0.695	0.657	0.144	0.613	0.641	0.141
0.8	-0.7	0.018	0.019	0.019	0.0005	0.775	0.774	0.025	-0.69	-0.69	0.026
0.8	-0.3	0.023	0.023	0.023	0.0006	0.757	0.754	0.035	-0.271	-0.270	0.048
0.8	0	0.026	0.027	0.027	0.0008	0.768	0.767	0.029	—	—	—
0.8	0.3	0.029	0.032	0.032	0.0015	0.765	0.725	0.110	0.321	0.366	0.145
0.8	0.7	0.038	0.043	0.043	0.0024	0.732	0.735	0.059	0.748	0.743	0.052
1	-0.7	0.022	0.022	0.022	0.0010	0.883	0.904	0.078	-0.623	-0.665	0.089
1	-0.3	0.028	0.028	0.028	0.0015	0.885	0.915	0.089	-0.200	-0.242	0.114
1	0	0.031	0.033	0.033	0.0014	0.962	0.966	0.035	—	—	—
1	0.3	0.035	0.037	0.036	0.0038	0.812	0.810	0.123	0.474	0.477	0.131
1	0.7	0.044	0.050	0.050	0.0030	0.883	0.890	0.082	0.782	0.772	0.081
1.2	-0.7	0.029	0.029	0.029	0.0016	1.125	1.139	0.073	-0.664	-0.676	0.073
1.2	-0.3	0.035	0.036	0.036	0.0027	1.112	1.124	0.076	-0.234	-0.244	0.080
1.2	0	0.039	0.042	0.042	0.0031	1.153	1.159	0.058	—	—	—
1.2	0.3	0.043	0.045	0.044	0.0051	0.848	0.786	0.208	0.626	0.683	0.197
1.2	0.7	0.051	0.059	0.058	0.0082	0.996	1.064	0.192	0.875	0.790	0.198
1.4	-0.7	0.037	0.040	0.040	0.0041	1.311	1.339	0.132	-0.646	-0.676	0.139
1.4	-0.3	0.043	0.046	0.046	0.0052	1.293	1.322	0.146	-0.210	-0.244	0.147
1.4	0	0.046	0.051	0.050	0.006	1.335	1.354	0.095	—	—	—
1.4	0.3	0.048	0.046	0.045	0.0065	0.866	0.820	0.176	0.774	0.826	0.185
1.4	0.7	0.051	0.059	0.058	0.0085	1.024	1.196	0.285	1.049	0.831	0.300

Table 46: *Frequencies of $\hat{m} = m^0$, gSig and of $\hat{p}$ in 200 replications for the case with g_0 (no trend) and $n = 1000$ (for AlgC).*

		Results for $m^0 = 0$								Results for $m^0 = 1$							
		$\hat{m} =$		$\hat{p}$						$\hat{m} =$		$\hat{p}$					
δ	ϕ_1	m^0	$gSig$	0	1	2	3	4	5	m^0	$gSig$	0	1	2	3	4	5
-0.4	-0.7	200	176	0	190	9	1	0	0	191	173	0	198	2	0	0	0
-0.4	-0.3	200	135	0	193	7	0	0	0	191	159	1	199	0	0	0	0
-0.4	0	200	180	195	5	0	0	0	0	196	181	198	2	0	0	0	0
-0.4	0.3	200	56	1	193	4	2	0	0	46	147	8	191	1	0	0	0
-0.4	0.7	200	57	15	182	3	0	0	0	184	78	0	195	5	0	0	0
-0.2	-0.7	200	198	0	172	26	2	0	0	179	188	1	189	9	1	0	0
-0.2	-0.3	200	195	3	187	10	0	0	0	187	191	40	155	5	0	0	0
-0.2	0	200	198	186	14	0	0	0	0	190	196	193	6	1	0	0	0
-0.2	0.3	200	155	0	196	4	0	0	0	82	173	7	193	0	0	0	0
-0.2	0.7	173	53	134	58	8	0	0	0	192	180	0	181	18	1	0	0
0	-0.7	200	191	0	179	15	5	1	0	181	192	8	176	14	2	0	0
0	-0.3	200	178	2	174	16	7	1	0	182	194	46	140	13	1	0	0
0	0	200	166	191	8	1	0	0	0	185	185	187	12	1	0	0	0
0	0.3	200	171	3	194	3	0	0	0	157	175	13	186	0	1	0	0
0	0.7	200	137	0	199	1	0	0	0	195	157	2	159	35	4	0	0
0.2	-0.7	200	121	0	176	16	8	0	0	186	150	4	181	14	1	0	0
0.2	-0.3	200	111	4	175	19	2	0	0	199	151	7	183	8	1	1	0
0.2	0	200	87	187	10	3	0	0	0	194	121	192	6	2	0	0	0
0.2	0.3	189	35	143	56	1	0	0	0	191	164	3	197	0	0	0	0
0.2	0.7	200	83	0	198	1	1	0	0	197	149	0	153	40	5	2	0
0.4	-0.7	198	31	0	192	6	2	0	0	198	91	0	176	23	1	0	0
0.4	-0.3	197	20	0	199	1	0	0	0	200	89	5	183	11	1	0	0
0.4	0	200	14	199	1	0	0	0	0	200	63	193	6	1	0	0	0
0.4	0.3	195	164	13	186	1	0	0	0	200	171	8	189	3	0	0	0
0.4	0.7	178	32	0	199	1	0	0	0	200	135	0	145	54	1	0	0

Table 47: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 0$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
-0.4	-0.7	0.5	0.059	0.059	0.0124	-0.439	-0.441	0.031	-0.681	-0.684	0.032
-0.4	-0.3	0.5	0.066	0.062	0.0214	-0.445	-0.445	0.032	-0.268	-0.267	0.041
-0.4	0	0.5	0.069	0.066	0.0184	-0.429	-0.429	0.029	—	—	—
-0.4	0.3	0.5	0.094	0.091	0.0247	-0.469	-0.490	0.037	0.360	0.364	0.051
-0.4	0.7	0.5	0.130	0.115	0.0585	-0.402	-0.469	0.202	0.680	0.736	0.199
-0.2	-0.7	0.5	0.062	0.060	0.0099	-0.267	-0.255	0.066	-0.658	-0.677	0.073
-0.2	-0.3	0.5	0.066	0.062	0.0182	-0.266	-0.258	0.057	-0.253	-0.259	0.065
-0.2	0	0.5	0.074	0.068	0.0211	-0.244	-0.236	0.049	—	—	—
-0.2	0.3	0.5	0.088	0.080	0.0271	-0.350	-0.343	0.093	0.444	0.441	0.100
-0.2	0.7	0.5	0.245	0.200	0.1563	0.205	0.410	0.332	0.245	0.000	0.353
0	-0.7	0.5	0.073	0.069	0.0200	-0.063	-0.042	0.094	-0.658	-0.685	0.102
0	-0.3	0.5	0.083	0.075	0.0301	-0.081	-0.054	0.105	-0.236	-0.259	0.107
0	0	0.5	0.104	0.089	0.0483	-0.032	-0.024	0.058	—	—	—
0	0.3	0.5	0.108	0.094	0.0469	-0.164	-0.120	0.159	0.458	0.421	0.164
0	0.7	0.5	0.145	0.135	0.0506	-0.082	-0.091	0.073	0.755	0.761	0.056
0.2	-0.7	0.5	0.105	0.089	0.0584	0.137	0.166	0.110	-0.654	-0.686	0.111
0.2	-0.3	0.5	0.125	0.109	0.0531	0.132	0.159	0.108	-0.237	-0.259	0.111
0.2	0	0.5	0.149	0.126	0.0789	0.163	0.176	0.082	—	—	—
0.2	0.3	0.5	0.269	0.235	0.1443	0.306	0.405	0.207	0.134	0.000	0.233
0.2	0.7	0.5	0.213	0.186	0.0931	0.113	0.109	0.082	0.761	0.764	0.069
0.4	-0.7	0.5	0.174	0.136	0.1061	0.363	0.371	0.093	-0.681	-0.692	0.090
0.4	-0.3	0.5	0.215	0.181	0.1134	0.366	0.367	0.042	-0.278	-0.281	0.047
0.4	0	0.5	0.253	0.217	0.1131	0.382	0.384	0.028	—	—	—
0.4	0.3	0.5	0.145	0.114	0.0822	-0.051	-0.195	0.274	0.704	0.849	0.281
0.4	0.7	0.5	0.259	0.218	0.1276	0.329	0.315	0.089	0.745	0.760	0.0710

Table 48: *Statistics from the 200 replications for all models with g_0 (no trend), $m^0 = 1$, $n = 1000$ (for AlgC).*

			$\hat{h}$			$\hat{d}$			$\hat{\phi}_1$		
d	ϕ_1	h_A	Mean	Med	SD	Mean	Med	SD	Mean	Med	SD
0.6	-0.7	0.5	0.056	0.049	0.0255	0.556	0.566	0.091	-0.677	-0.685	0.092
0.6	-0.3	0.5	0.075	0.067	0.0316	0.550	0.544	0.039	-0.266	-0.269	0.047
0.6	0	0.5	0.076	0.065	0.0491	0.563	0.567	0.072	—	—	—
0.6	0.3	0.5	0.135	0.114	0.0691	0.141	-0.002	0.265	0.709	0.863	0.266
0.6	0.7	0.5	0.137	0.109	0.0884	0.525	0.530	0.116	0.753	0.740	0.117
0.8	-0.7	0.5	0.066	0.060	0.0225	0.704	0.755	0.191	-0.633	-0.680	0.194
0.8	-0.3	0.5	0.069	0.064	0.0190	0.686	0.726	0.158	-0.197	-0.258	0.175
0.8	0	0.5	0.075	0.068	0.0213	0.738	0.766	0.157	—	—	—
0.8	0.3	0.5	0.118	0.106	0.0588	0.361	0.226	0.244	0.693	0.849	0.249
0.8	0.7	0.5	0.114	0.099	0.051	0.657	0.678	0.158	0.808	0.776	0.161
1	-0.7	0.5	0.070	0.065	0.0178	0.892	0.963	0.223	-0.608	-0.686	0.244
1	-0.3	0.5	0.082	0.072	0.0316	0.850	0.927	0.226	-0.155	-0.254	0.225
1	0	0.5	0.097	0.085	0.0423	0.911	0.972	0.229	—	—	—
1	0.3	0.5	0.116	0.101	0.0576	0.720	0.794	0.240	0.516	0.460	0.251
1	0.7	0.5	0.153	0.134	0.0655	0.828	0.872	0.169	0.834	0.786	0.193
1.2	-0.7	0.5	0.108	0.088	0.0583	1.104	1.165	0.230	-0.622	-0.684	0.225
1.2	-0.3	0.5	0.129	0.110	0.0648	1.145	1.158	0.087	-0.253	-0.268	0.086
1.2	0	0.5	0.141	0.122	0.0599	1.148	1.179	0.149	—	—	—
1.2	0.3	0.5	0.134	0.112	0.0711	0.924	1.053	0.256	0.539	0.438	0.245
1.2	0.7	0.5	0.192	0.167	0.0812	0.986	1.072	0.247	0.890	0.796	0.255
1.4	-0.7	0.5	0.186	0.149	0.1039	1.347	1.371	0.116	-0.659	-0.684	0.120
1.4	-0.3	0.5	0.209	0.184	0.1050	1.344	1.364	0.117	-0.250	-0.272	0.126
1.4	0	0.5	0.254	0.220	0.1190	1.376	1.385	0.064	—	—	—
1.4	0.3	0.5	0.159	0.121	0.0968	0.960	0.816	0.270	0.704	0.849	0.266
1.4	0.7	0.5	0.245	0.210	0.1261	1.148	1.268	0.273	0.931	0.796	0.280

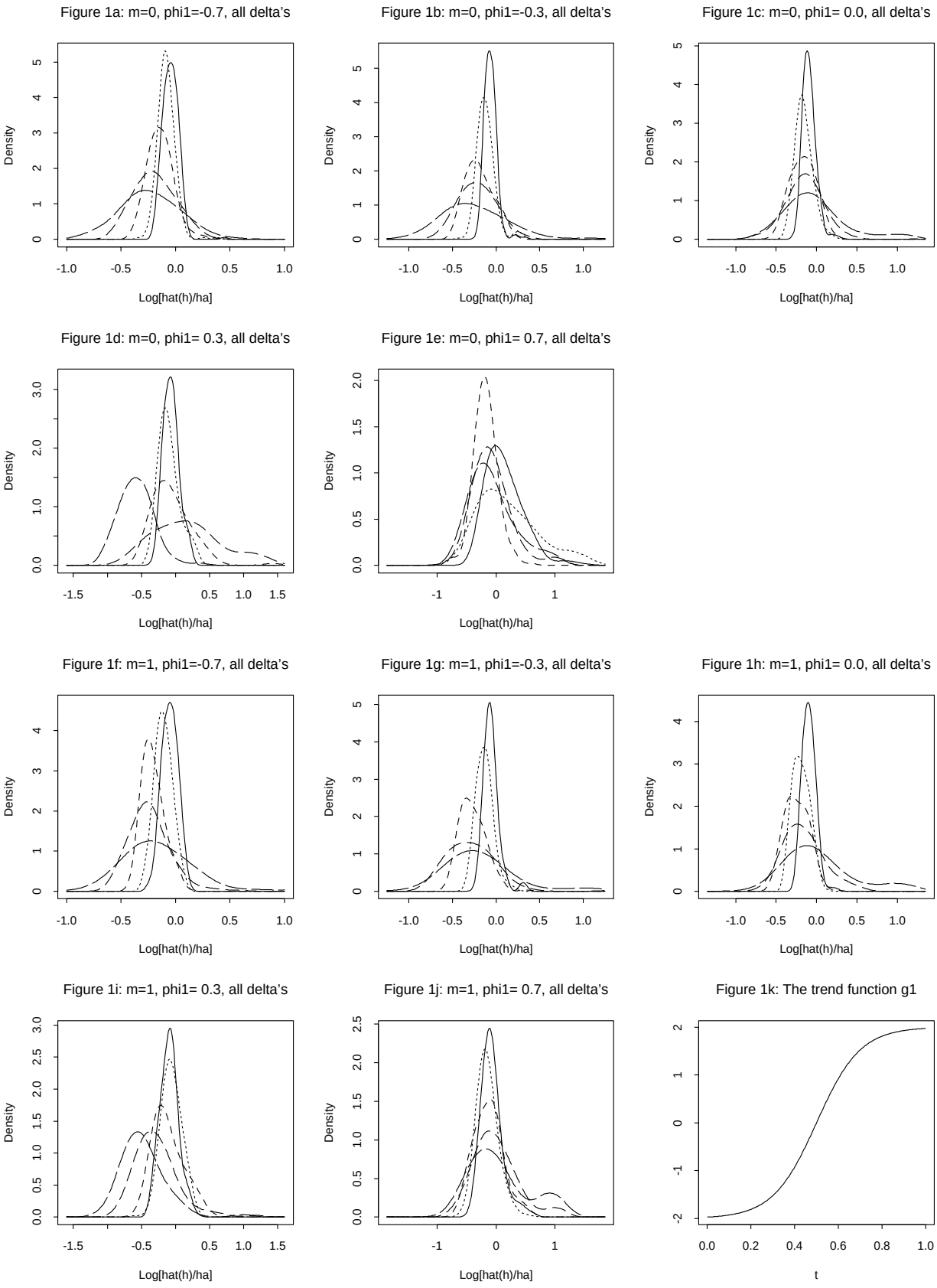

Figure 1: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_1 & $n = 500$ (g_1 is shown in Fig. 1k).

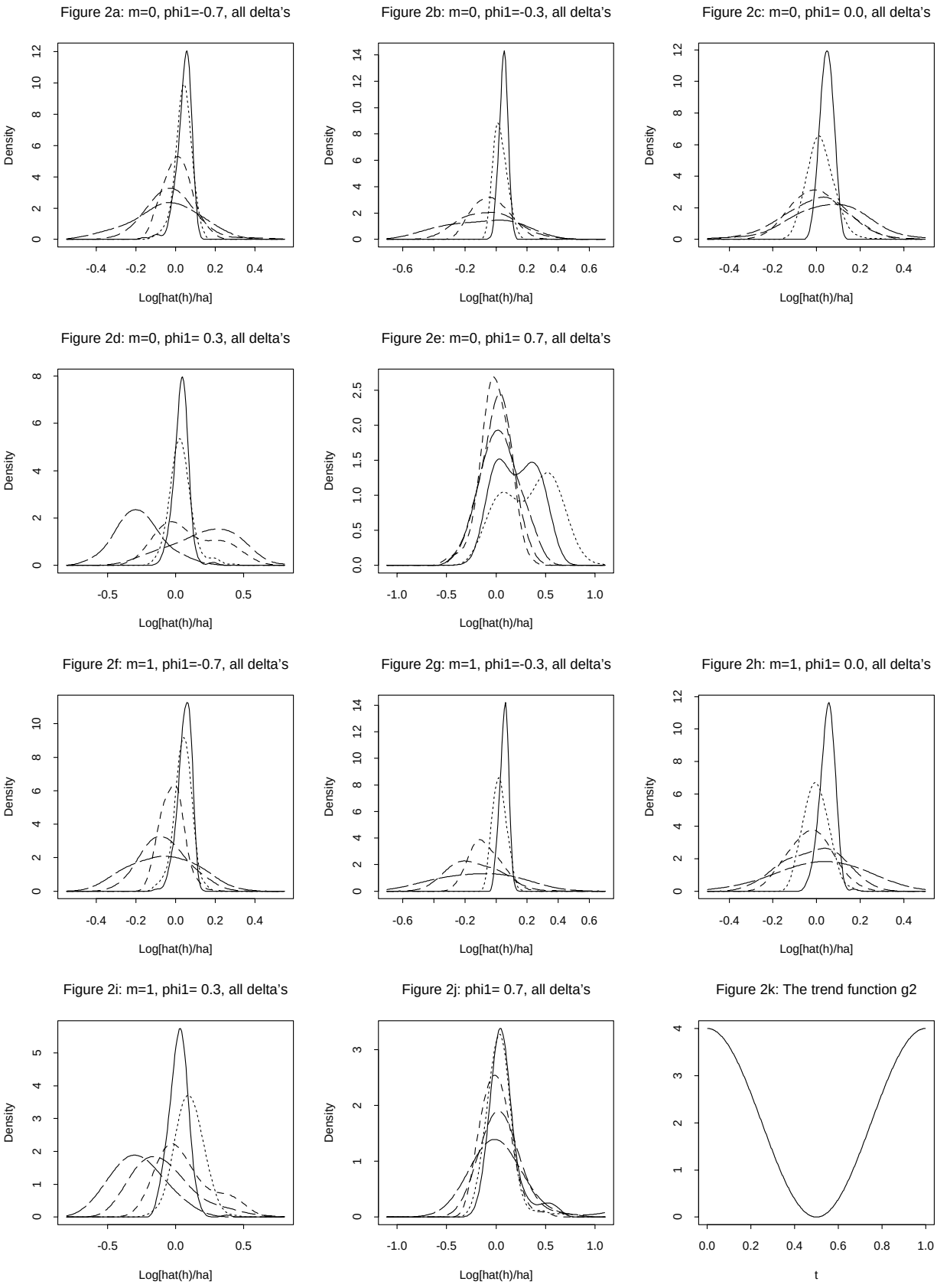

Figure 2: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_2 & $n = 500$ (g_2 is shown in Fig. 2k).

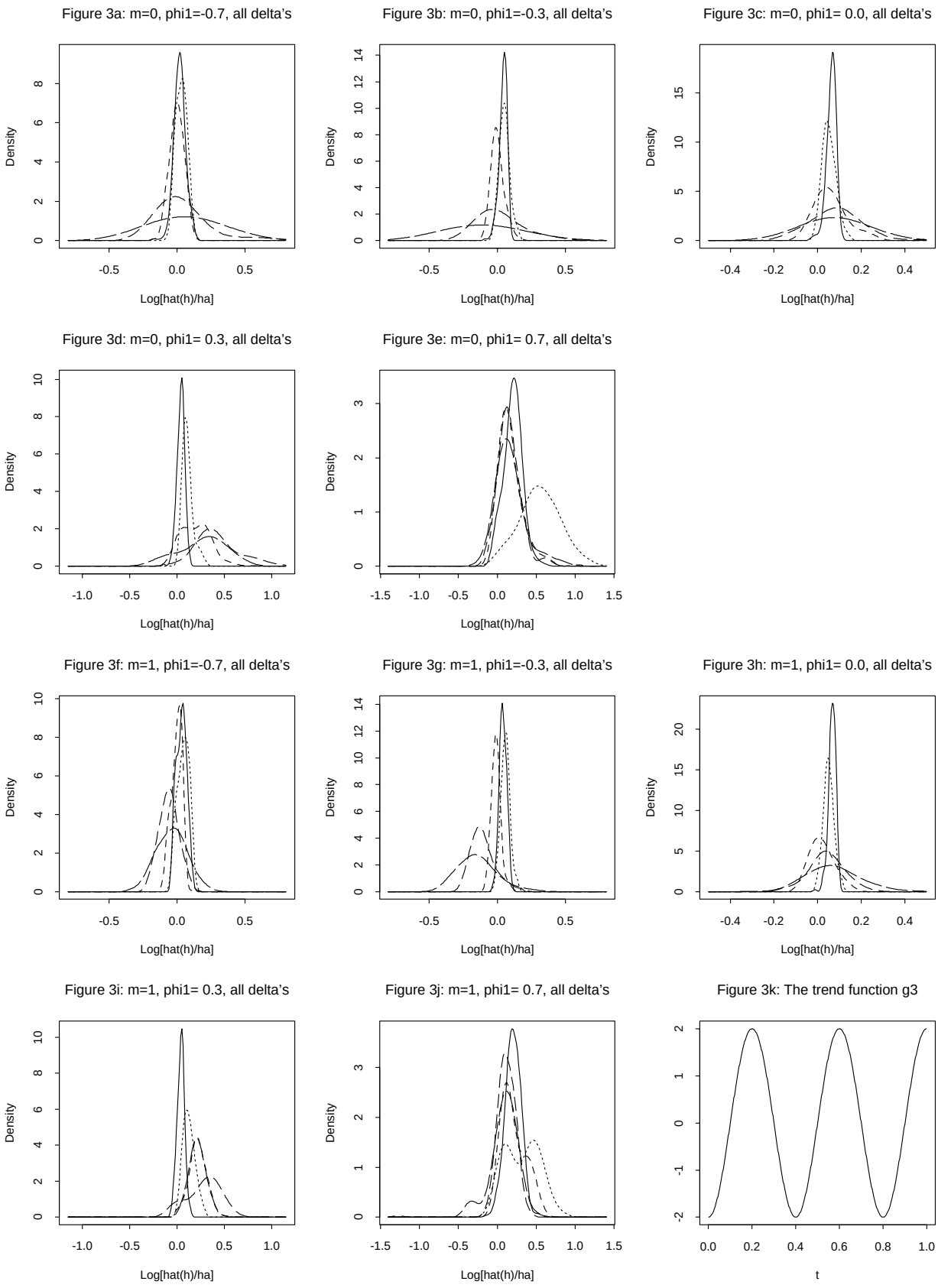

Figure 3: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_3 & $n = 500$ (g_3 is shown in Fig. 3k).

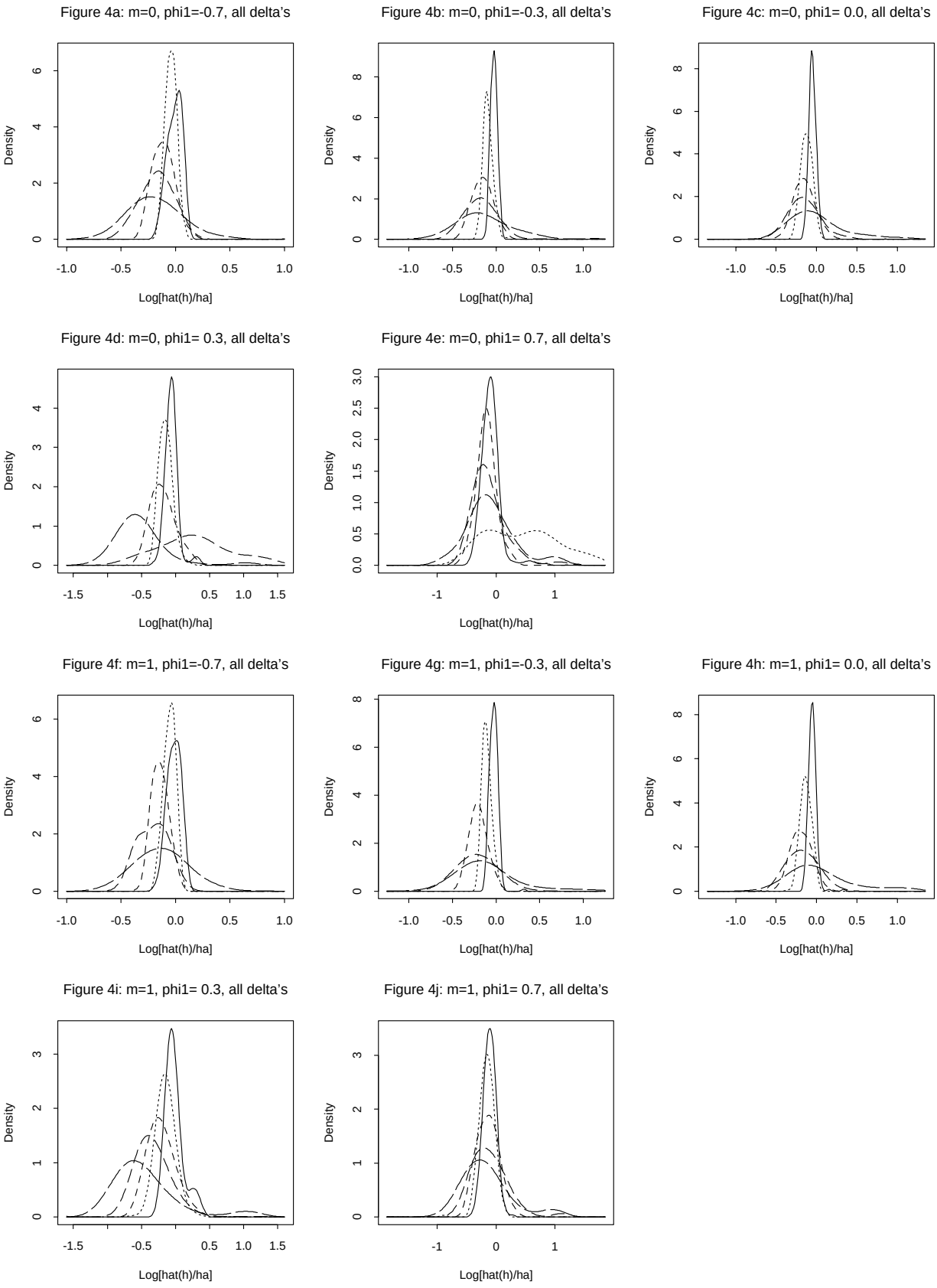

Figure 4: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_1 and $n = 1000$.

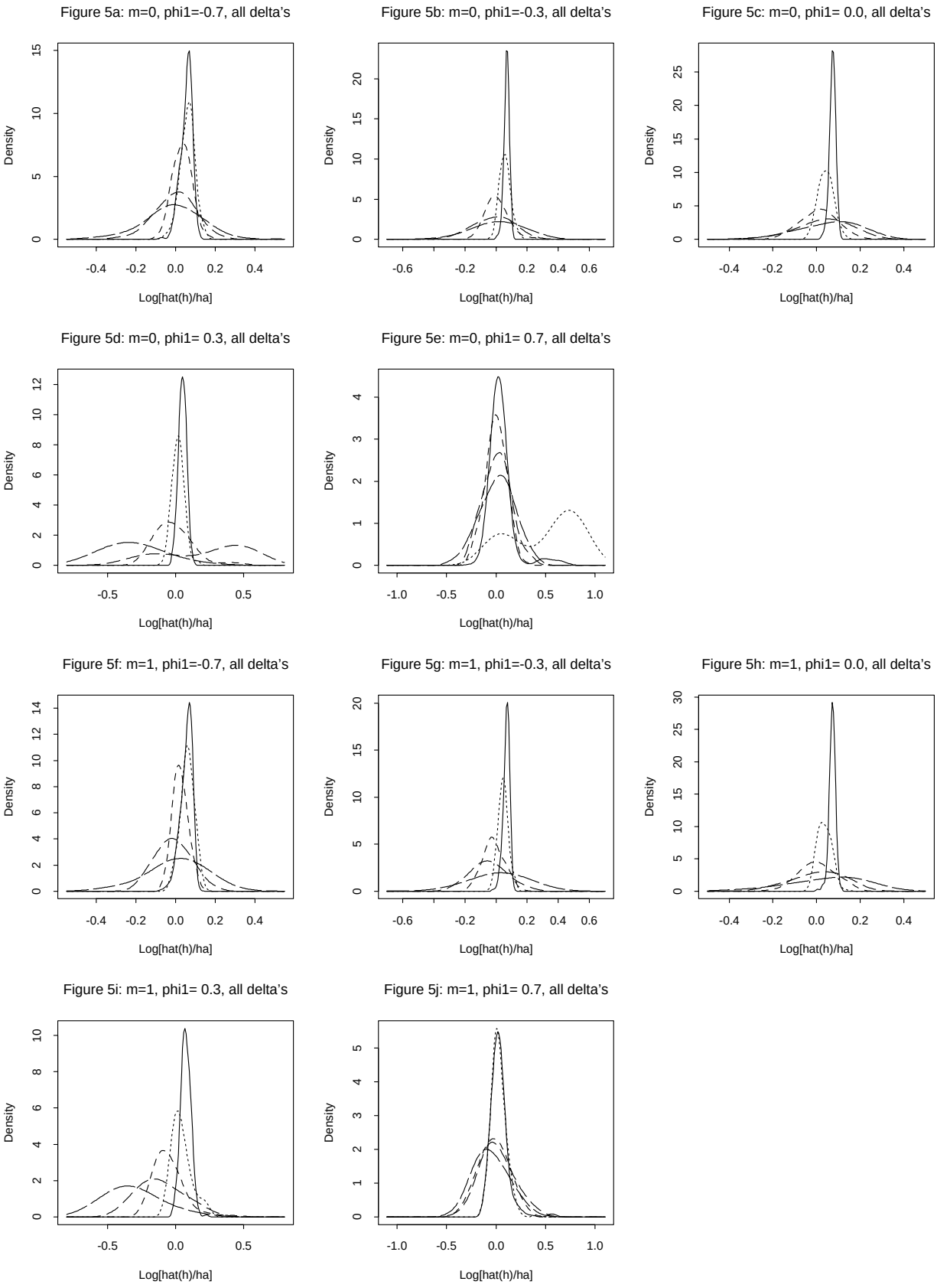

Figure 5: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_2 and $n = 1000$.

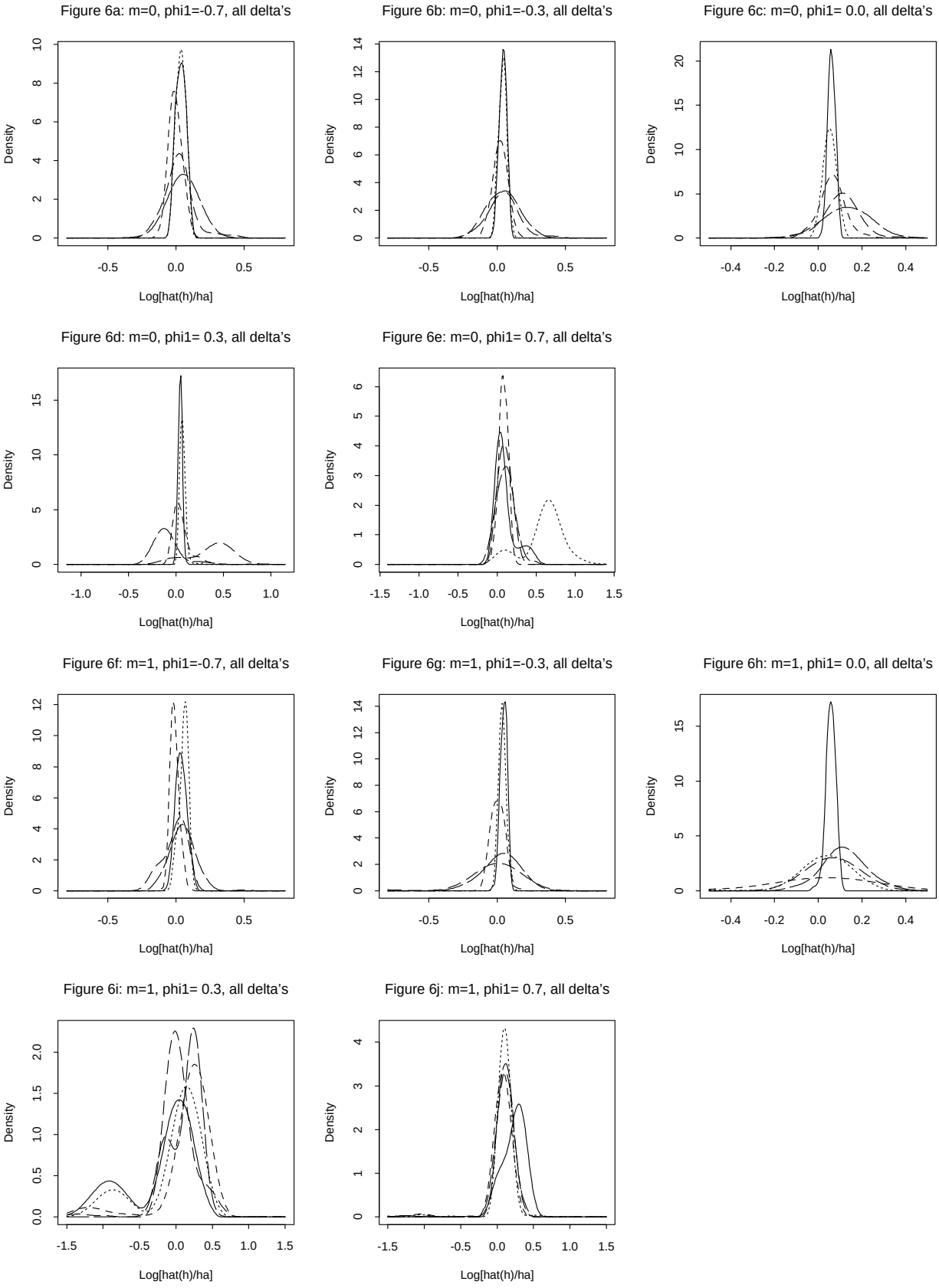

Figure 6: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgB with g_3 and $n = 1000$.

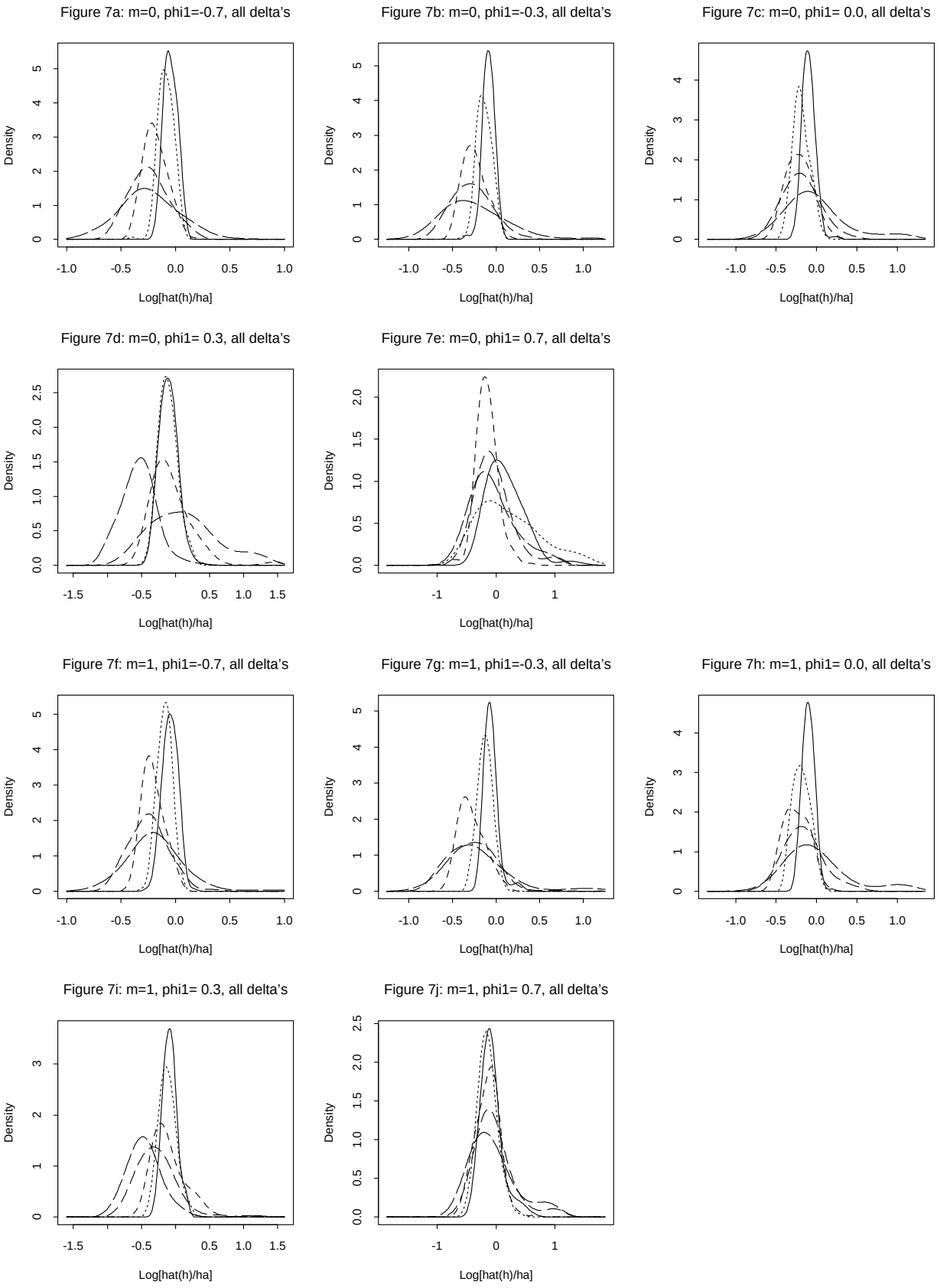

Figure 7: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_1 and $n = 500$.

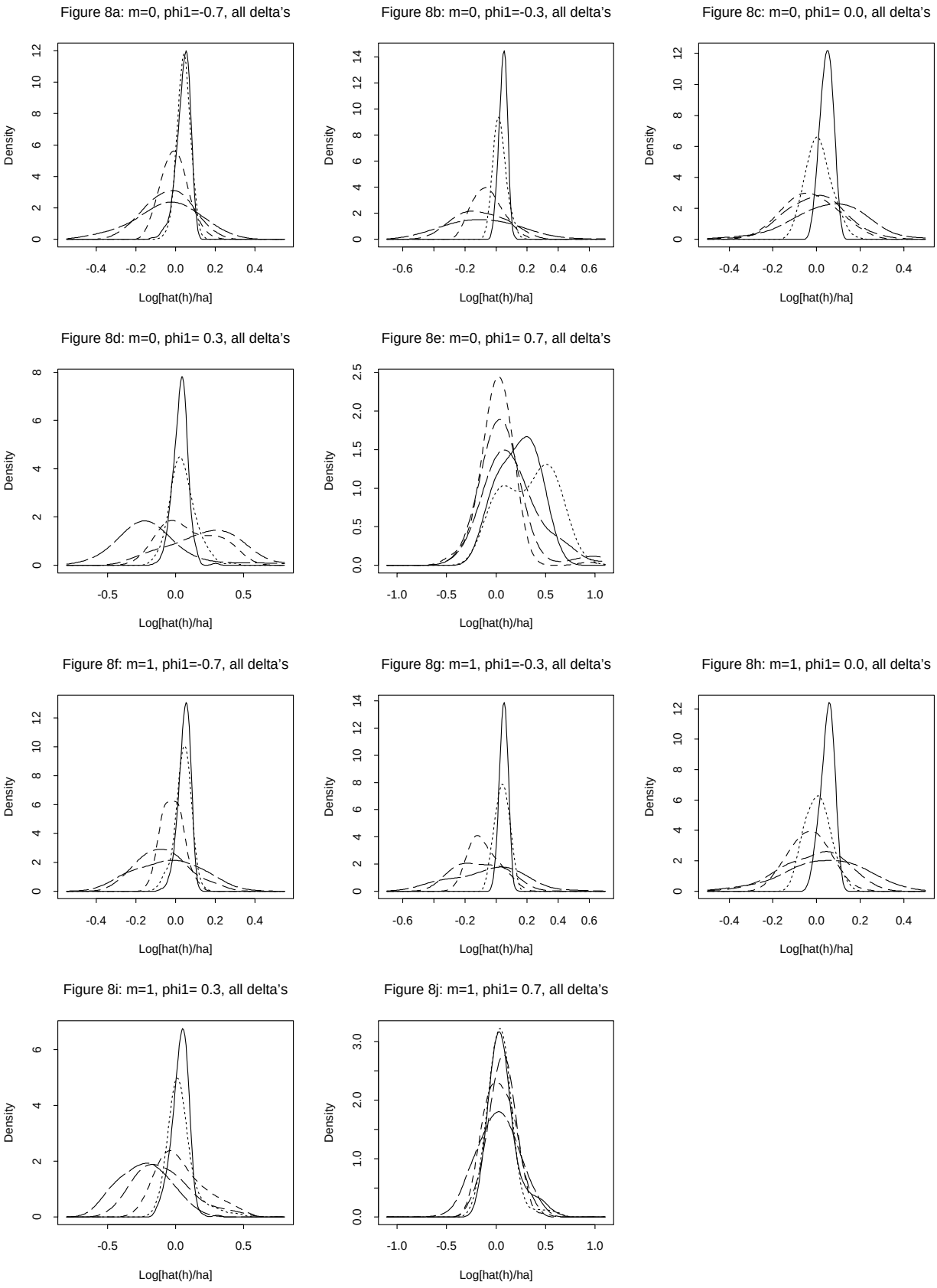

Figure 8: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_2 and $n = 500$.

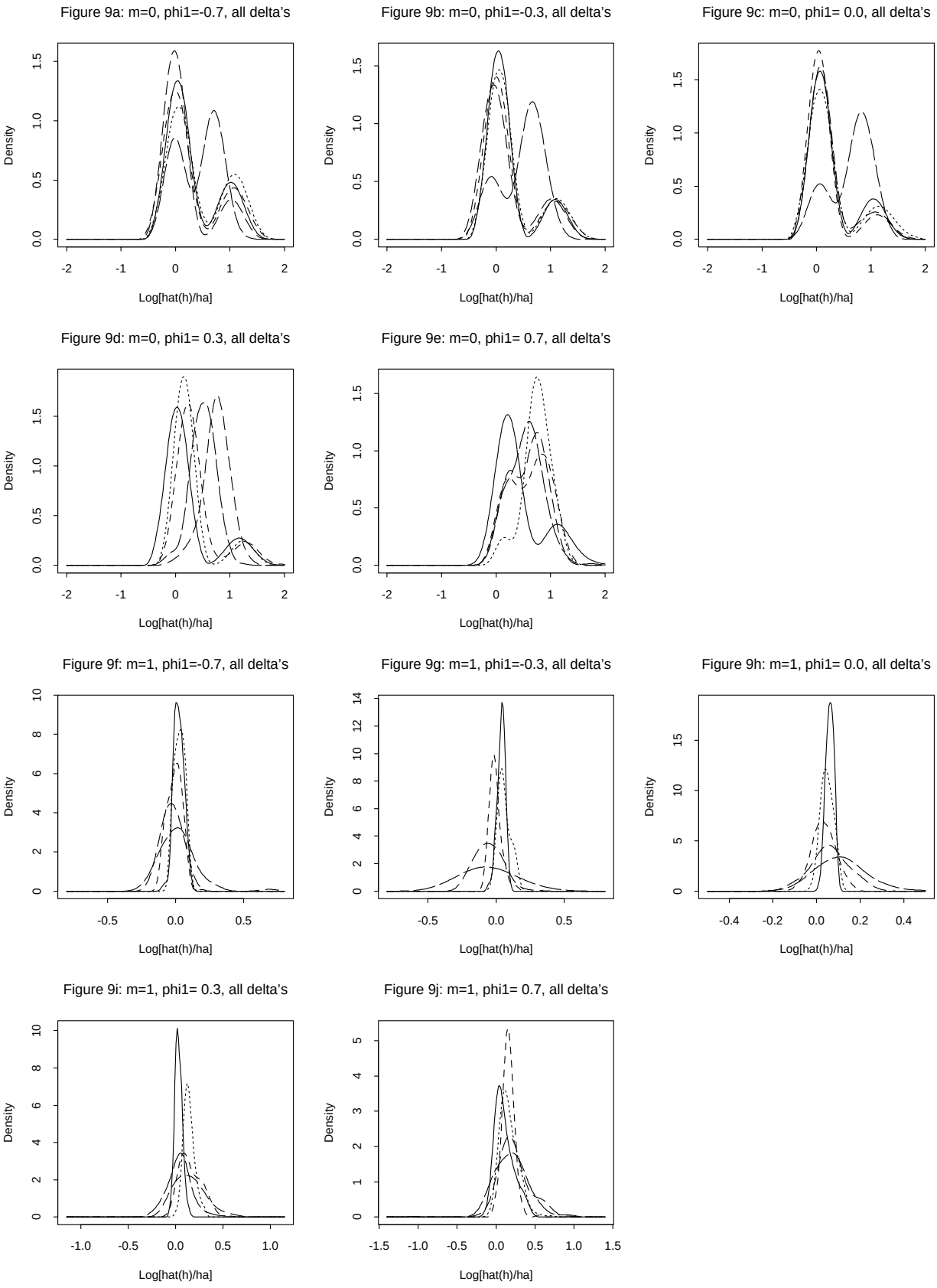

Figure 9: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_3 and $n = 500$.

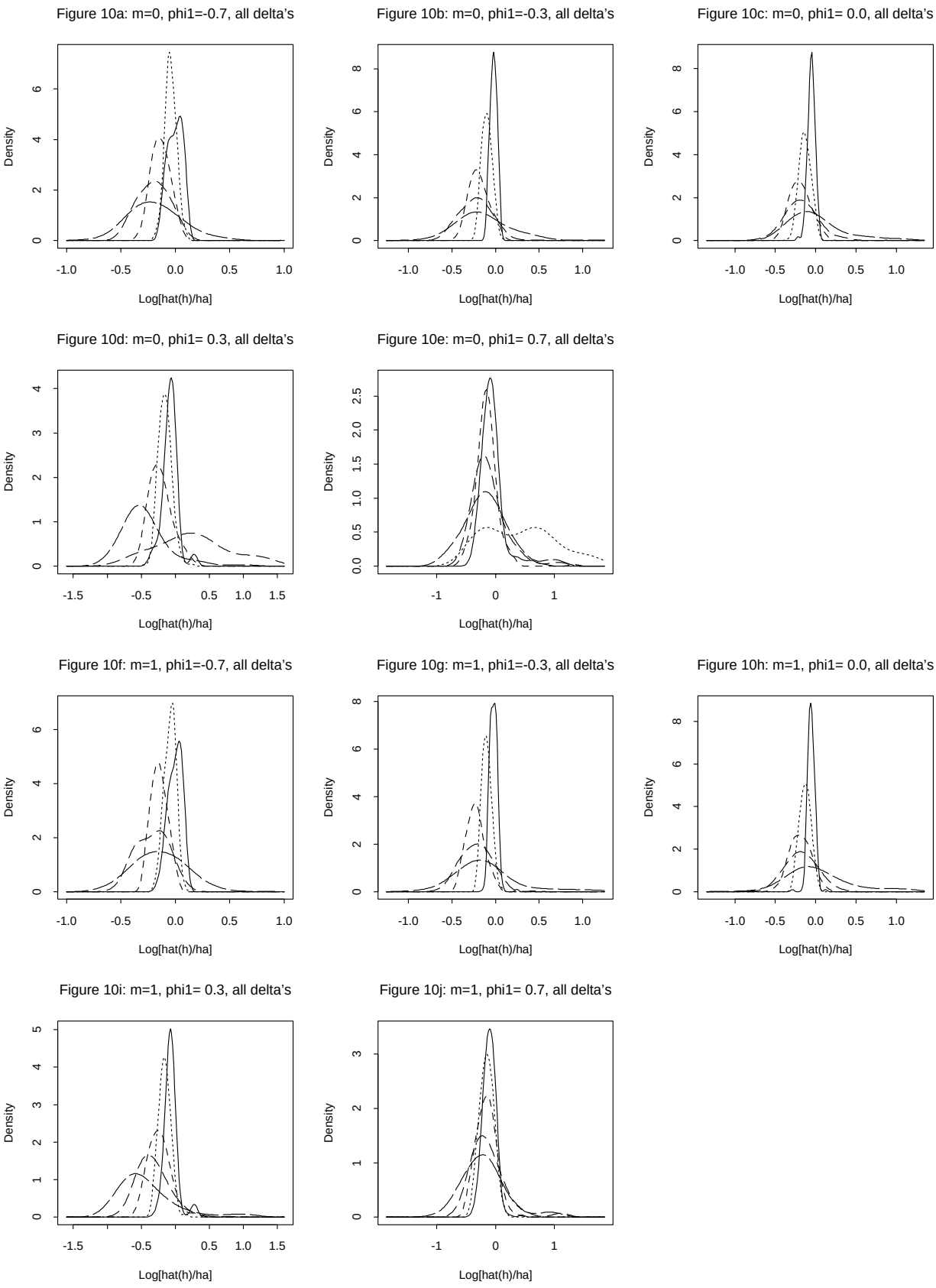

Figure 10: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_1 and $n = 1000$.

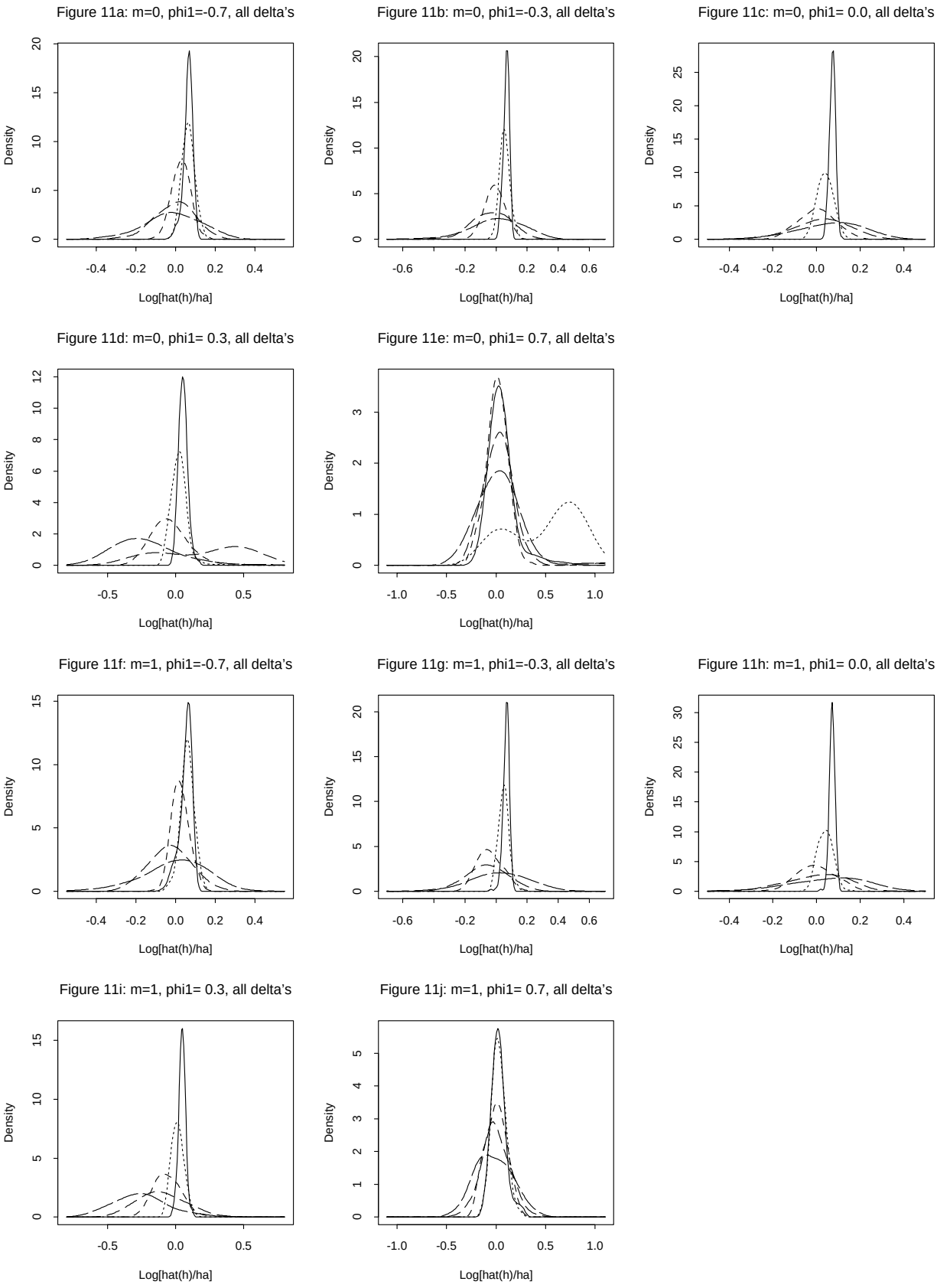

Figure 11: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_2 and $n = 1000$.

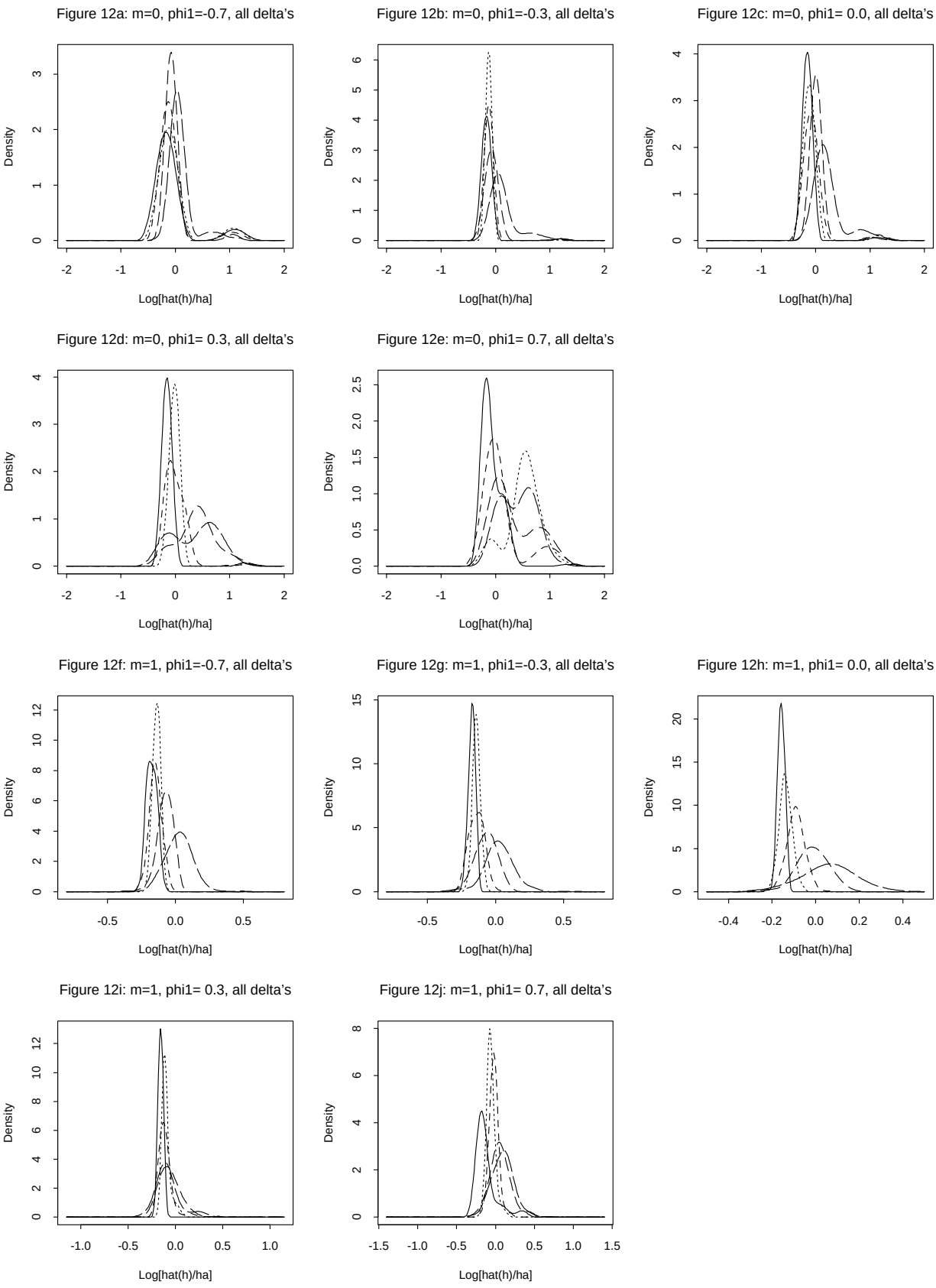

Figure 12: Kernel densities of $\log(\hat{h}/h_{\mathrm{A}})$ for AlgC with g_3 and $n = 1000$.