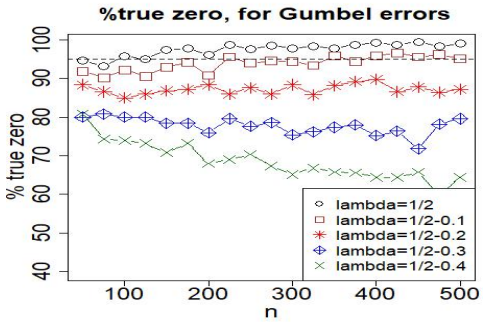
n	$\lambda_n = n^{1/2}$				$\lambda_n = n^{1/2-0.1}$				$\lambda_n = n^{1/2-0.2}$			
	L2	*SD*	% true 0	% false 0	*L2*	*SD*	% true 0	% false 0	*L2*	*SD*	% true 0	% false 0
150	0.56	0.16	99	7.6	0.48	0.15	98	4.5	0.43	0.13	97	2.2
200	0.47	0.13	99	4.9	0.40	0.12	99	2.2	0.37	0.11	98	1.2
400	0.34	0.08	100	1	0.28	0.08	99	0.04	0.25	0.08	99	0.04
1500	0.23	0.08	100	0	0.21	0.08	100	0	0.20	0.07	99	0
2000	0.24	0.10	100	0	0.22	0.10	100	0	0.21	0.10	99	0
4000	0.31	0.13	100	0	0.29	0.13	100	0	0.29	0.13	100	0

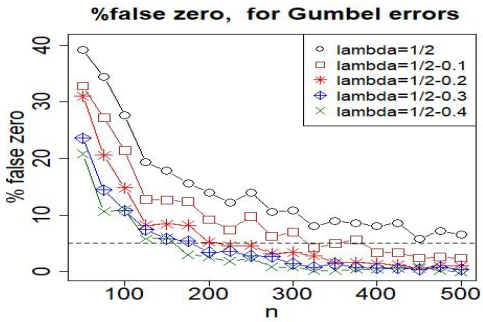
Table 9 Accuracy results ($L2 \equiv \|\widehat{\boldsymbol{\beta}}_n - \boldsymbol{\beta}^0\|$, $SD \equiv sd((\widehat{\boldsymbol{\beta}}_n - \boldsymbol{\beta}^{\mathbf{0}})_{\mathcal{A}})$), automatic selection (% true 0 and % false 0) of $\widehat{\boldsymbol{\beta}}_n$ obtained by 500 Monte Carlo replications for censored adaptive LASSO expectile method, when $\varepsilon \sim \mathcal{G}(0,1)$, $p = 50$, $\beta_0^0 = 0$, $\mathcal{A} = \{1,2,3,4,5\}$, censoring rate 25%, models estimated without intercept.

Supplementary Material: additional simulation results

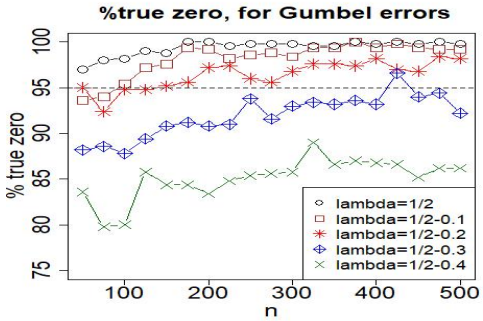
Here we provide additional simulation results to complement those in Section 4.



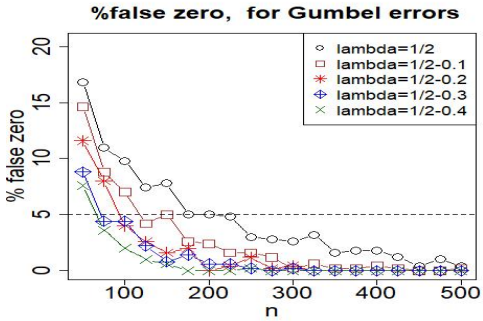
(a) % of true zeros, supposition with intercept.



(b) % of false zeros, supposition with intercept.

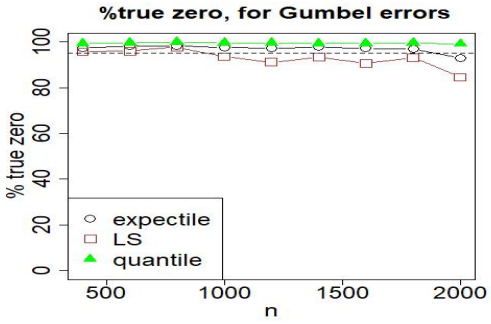


(c) % of true zeros, supposition without intercept.

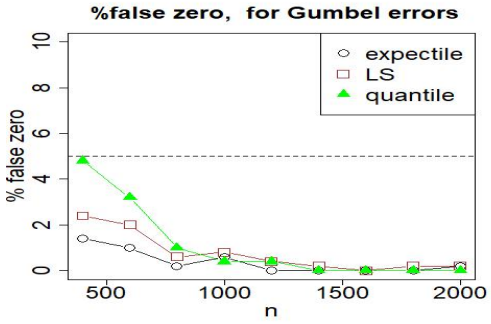


(d) % of false zeros, supposition without intercept.

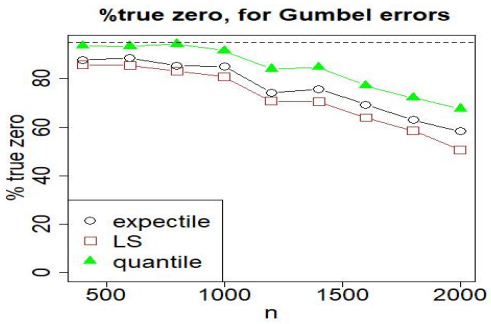
Fig. 8 Percentage evolution of the true and false zeros with respect to n for five sequences λ_n by censored adaptive LASSO expectile method, for model without intercept ($\beta_0^0 = 0$), when $p = 10$, censoring rate 25%, $\varepsilon \sim \mathcal{G}(0,1)$.



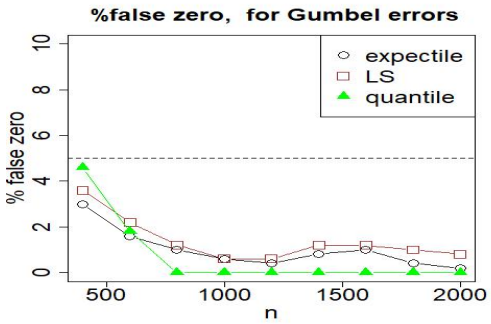
(a) % of true zeros for censoring rate 25%.



(b) % of false zeros for censoring rate 25%.



(c) % of true zeros for censoring rate 10%.



(d) % of false zeros for censoring rate 10%.

Fig. 9 Percentage evolution of the true and false zeros by three censored adaptive LASSO estimation methods, for model without intercept ($\beta_0^0 = 0$), supposition with intercept, when $\varepsilon \sim \mathcal{G}(0,1)$ and $p = 10$.

β_0^0	ε	n	$\hat{\tau}$ of (4)	(7) starting with ε			(7) starting with $\eta^{(0)}(y_i)$		
				$\widehat{\tau}^{(1)}$	% true 0	% false 0	$\widehat{\tau}^{(1)}$	% true 0	% false 0
2	$\mathcal{G}(0,1)$	100	0.21	0.21	94	0.6	0.56	92	0.4
	$\mathcal{U}(0,1) - 1/6$	100	0.29	0.29	98	0	0.57	98	0
	$\mathcal{N}(0,1)$	50	0.49	0.49	93	2.5	0.57	93	2.2
		100	0.50	0.50	95	0.1	0.56	95	0.1
		500	0.50	0.56	98	0	0.63	98	0
0	$\mathcal{G}(0,1)$	100	0.22	0.21	93	0.1	0.55	90	0.1
	$\mathcal{U}(0,1) - 1/6$	100	0.28	0.28	97	0	0.55	97	0
	$\mathcal{N}(0,1)$	50	0.50	0.50	90	1.9	0.57	90	1.8
		100	0.49	0.48	94	0.05	0.55	94	0.05
		500	0.50	0.56	99.6	0	0.62	99.5	0

Table 10 Estimation of τ by 1000 Monte Carlo replications, for model without intercept ($\beta_0^0 = 0$) and with intercept ($\beta_0^0 = 2$), when $p = 48$, $\mathcal{A} = \{1, 2\}$, $\beta_1^0 = 5$, $\beta_2^0 = 1$, $\lambda_n = n^{1/2-0.1}$, censoring rate 25%.

β_0^0	ε	n	(7) starting with ε			(7) starting with $\eta^{(0)}(y_i)$		
			$\widehat{\beta}_1^0$	$\widehat{\beta}_2^0$	$\widehat{\beta}_3^0$	$\widehat{\beta}_1^0$	$\widehat{\beta}_2^0$	$\widehat{\beta}_3^0$
2	$\mathcal{G}(0,1)$	100	4.55	0.91	-0.005	4.46	0.88	-0.01
	$\mathcal{U}(0,1) - 1/6$	100	4.54	0.90	0.001	4.48	0.89	0.004
0	$\mathcal{G}(0,1)$	100	5.03	1	-0.004	4.9	0.98	-0.003
	$\mathcal{U}(0,1) - 1/6$	100	5.03	1	-0.002	4.95	0.99	-0.0008

Table 11 Censored expectile estimation of $\boldsymbol{\beta}$ by 1000 Monte Carlo replications, for model without intercept ($\beta_0^0 = 0$) and with intercept ($\beta_0^0 = 2$), when $p = 3$, $\beta_1^0 = 5$, $\beta_2^0 = 1$, $\beta_3^0 = 0$, censoring rate 25%.