

Figure 1. Experiment 1. The upper row shows results for  $\beta_c = 1$  and the lower row for  $\beta_c = 2$ . The three graphs in each row show  $\Delta_{KL}^s(f, \tilde{f})$ ,  $CR^s(\tilde{\boldsymbol{\beta}}; \boldsymbol{\beta})$  and the model dimension respectively.

Procedure		0 //00		$\alpha_{1}$	111 / /00	1/19		1 (179 (4)			нап (1000)	21
riocedure	Dreas	Cancel (0)	00/9	Clever	nulleart (48	HV 10		EU (11)/4		Gen	nan (1000)	44)
		CIT S (OT )	1	7 20	CI \$/07\	1		CD 3 (07 )	Dim	7.00	CIDS OF V	1000
		CIC (70)	D m	- 6101	CIC (70)			OIC (70)	Dim -		OIC (70)	$\mathbf{D}_{\mathbf{m}}$
NAT.	17 7	04 5	1.0	TO P	00 0	Chicago and Chicag	FOO	70	Constitution of the Constitution of the	4	700	0:0
IV 1	14.0	30.1	10.0	0.7.0	00.0	14.0		70.4	JU	4.7.4	14 (1.8)	Z0.U
ATC	4.6 4	04	0.0	46 4	00 1		50.8	CC C	0.0	44 0	P7.0 P	1 0
AIC	10.1	90.4	O.C	427.4	04.1	9.4	00.4 Fa F	057.0	D.U	437.0	6.01	14.2
BC	1 1	00 1	40	4.5 1	0.	P 0	FOF	CH P	0 1	F 0		0.1
BIG	14.1	90.1	王氏	生().1	01.4	<b>0.0</b>	037.0	01.1		01.4	14:.0	O. I
	10 0	00 5		90.0	0.0	10 0	P P 1	CT C	M E	F ( 1	700	10 0
CIC	140	90.1	9.1	09.9	00.1	10.0	D1.4	01.0	11	J(1.1	10.2	10.9
$\mathbb{R}^{\mathbb{C}}$	10 0	000	F 4	4 0	05	F	F 0 1		O F	F4 180	7	C 2
NIC.	10.9	90.0	0.4	44.C	01.0	D.4	057.4	00.1		0.10	12:.0	0.0
New	10 7	Of C	OF	20 7	00.0	100	FOO	cos	4 7	40 -	70 0	20 2
INGW	12.4	90.0	0.0	35 . 1	00.4	D.C	00.0	199.4	±.1	49.0	1000	20.0
SCHOOL STATE OF THE SCHOOL	[onos   19] [22]		Divos (760 /0)		Charles (ECO/E7)		MANOR ICENSIN					
	onos	Shows 19	1331		1760 /0 V	10		bage ( CO)	d relayab	TA A	SOC COL	307
10	lono	Strend (non	(33)		$\frac{(768/8)}{}$	-	DP8.	HOUSE LOOK	57)	W	<b>XSC</b> (56)/	30)
	lono	Strend (non	(33)		mia (100/0)	D:	bpa.	HOUSE LOOK	57)	7.37	THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAME	30)
	lono	CR*(%)	301	PO	CR (%)		bpa.	CR*(%)	57) Dim	10	CR (%)	
N/T	13	CR (%)	Dim	PO	CR (%)	Dim-	D D B	CR*(%)	Dim	13	CR*(%)	Dim
MI	lono 1494 37.8	Stierd (991)	331	7 3 T	114 (100/0)	D:	bpa.	CD S (147)	01)	101	CID S (OY )	1
MI	2/2	CR*(%)	Dim 34.0	20.7	CIC (%)	Din	500 52.6	CR*(%)	58.0	101	CR*(%)	Dim
MH AIC	10110	CR (%)	Dim 34.0 10.6	70	CIC (%)  71.4  70.8	Dim 9.0	500 52.6	CR*(%)	Dim	1.2	CR*(%)	Dim 3 .0
AC	24.8	CR (%)	Dim 34.0	70	CR (%) - 77.4 - 76.8	Dini - 9.0	32.6	CR*(%)	Dim 58.0	16.2 16.5	CR*(%)	10 7
	36.9 40.1	CR (%)	Dim 34.0 10.6	49.6 49.6	CR (%) - 77.4 - 76.8	Dini 9.0 6.7 4.5	33.6 37.2	CR*(%)	58.0 10.4	16.2 16.5	CR*(%) 90.7 90.0 90.6	Dim 31.0 10.7
AIC BC	36.9 40.1	CR*(%)	Dim 34.0 10.6	49.6 49.6	CIC (%)  77.4  70.4	Dini 9.0 6.7 4.5	32.6 37.2	CR*(%)	56.0 19.4	16.2 16.5 16.6	CR*(%)	10.7 10.7
AC BC CC	30.3 40.1 30.3	CR (%)	Dim 34.0 14.6 73	49.6 48.6 48.7	Tital (100/0)  CIC (%)  77.4  76.4  77.4	Dini 90 45 8	37.6 37.6 37.9	CR*(%)	58.0 10.4 2.6	16.2 16.5 16.6 16.8	CR*(%) 95.7 96.0 95.6 95.5	10.7 46 44
AC BC CC	36.9 40.1	CR (%)	Dim 34.0 10.0 73	40.7 40.7 40.6 40.7	CIC (%)		37.6 37.9 37.9 37.9	CR*(%)	56.0 10.4 27.7	16.2 16.5 16.6 16.8	96.0 96.0 96.0 96.5	10.7 16.4 44
AIC BC	36.9 40.1 37.3	CR*(%)	Dim 3-1.0 10.6 73 80 6.0	46.7 46.7 46.6 46.7 46.7	CIC (%)		376 376 379 379	CR*(%)	56.0 10.4 8.6 7.7	16.2 16.5 16.6 16.8 16.7	CR*(%)  90.7  90.0  91.5  91.5	10.7 46 44 44
AC BC CC RC	36.9 40.1 2.5	CR (%)	Dim 3-1.0 10.6 73 80 6.0	46.7 46.7 46.7 46.7	CIC (%)  77.4  76.5  76.5  76.5	TO COT TO THE TOP COT TO THE TOT TO THE TOP COT TO THE TOP COT TO THE TOP COT TO THE TOP COT TO	37.6 37.6 37.2 37.2 37.2	CR*(%)	58.0 10.4 8.6 7.4	16.2 16.5 16.6 16.8	CR (%)  90.7  90.6  90.5  90.5	10.7 10.7 46 44 44
AC BC CC	36.9 40.1 37.3	CR*(%)	Dim 3-1.0 10.6 73 80 6.0	46.7 46.7 46.6 46.7 46.7	CIC (%)		376 376 379 379	CR*(%)	56.0 10.4 8.6 7.7	16.2 16.5 16.6 16.8 16.7	CR*(%)  90.7  90.0  91.5  91.5	10.7 46 44 44

Table 1. Results for practical datasets in Experiment 2.

high-dimensional parameter spaces. The ideas resemble the empirical Bayes methodology, although we do not adopt a Bayesian perspective nor even assume the existence of a *random* prior distribution.

We conducted a case study on the use of this general approach to fit logistic regression models. Although all our theoretical conclusions are asymptotic, simulation results on finite datasets (both artificial and practical) are promising: the new method is nearly always