City Research Online

City, University of London Institutional Repository

Citation: Brocklehurst, P. (1995). Software reliability prediction : a multi-modelling approach. (Unpublished Doctoral thesis, City University London)

This is the accepted version of the paper.

This version of the publication may differ from the final published version.

Permanent repository link: https://openaccess.city.ac.uk/id/eprint/7461/

Link to published version:

Copyright: City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

Reuse: Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

City Research Online: http://openaccess.city.ac.uk/ publications@city.ac.uk

Software Reliability Prediction: A Multi-Modelling Approach

Volume II

Sarah Brocklehurst

Thesis Submitted for the Degree of Doctor of Philosophy in Computer Science

City University

Centre for Software Reliability
City University
London EC1V OHB

February 1995

Contents

Volume I

List of Tables and Illustrations 4
Acknowledgements 7
Abstract 8
Key to Abbreviations 9
1 Introduction 10
2 Raw Reliability Models 19
2.1 Parametric Models 23
3 Analysis of Predictive Quality Techniques 26
3.1 The u-plot 26
3.2 The y-plot 28
3.3 The Prequential Likelihood Ratio 29
4 The Recalibration Technique 32
4.1 Further Investigation of the Effectiveness of Recalibration 36
4.2 Application of Recalibration 65
5 Non-Parametric Reliability Models 67
5.1 Completely Monotone Model 67
5.2 Capturing the Trend using the y-plot 69
5.3 Capturing the Trend using the Laplace Statistic 73
5.4 Extension to the OTL Model 78
6 Automating the Choice of Best Model 81
7 The Data Collection Activity 83
8 Analyses of Resulting Prediction Systems 91
8.1 Data set CISI1 93
8.2 Data set CISI2 100
8.3 Data set USBAR 108
8.4 Data set USROFF 113
8.5 Data set USPSCL 119
8.6 Data set TSW 123
8.7 Data set TUSAB 127
8.8 General Comments on Data Analyses 132
9 Conclusions and Future Work 147
9.1 Recommendations for Use of Multi-Modelling Techniques 147
9.2 Suggestions for Future Work 149
References 158
Appendix A Non-Parametric Model Details 165
A.1 OTY Model 165
A.2 OTL Model 172
A.3 Extension to OTL Model 181

Contents

Volume II

Appendix B Tables and Plots for Analysis of Software Failure Data 4
B.1 Data Set CISI1 4
B.2 Data Set CISI2 32
B.3 Data Set USCOM 68
B.4 Data Set USBAR 70
B.5 Data Set USROFF 101
B.6 Data Set USPSCL 132
B.7 Data Set USGENL 163
B.8 Data Set PV200 165
B.9 Data Set PV220 167
B.10 Data Set PV400 169
B.11 Data Set PV502 171
B.12 Data Set TSW 173
B.13 Data Set THW 199
B.14 Data Set TDOC 201
B.15 Data Set TUSER 203
B.16 Data Set TUSAB 205
B.17 Data Set SMA 240
B.18 Data Set SMI 242
B.19 Data Set SNE 244

Appendix B Tables and Plots for Analysis of Software Failure Data

B.1 Data Set CISI1

20.	32.	14.	40.	40.	43.	42.	22.	33.	23.
6.	8.	9.	5.	40.	69.	14.	73.	14.	31.
50.	28.	63.	20.	1.	39.	13.	10.	8.	38.
4.	11.	9.	149.	19.	3.	18.	26.	38.	53.
2.	11.	1.	4.	16.	3.	5.	1.	39.	1.
1.	29.	12.	28.	39.	5.	19.	12.	30.	1.
15.	8.	4.	17.	1.	12.	2.	1.	7.	19.
10.	1.	2.	2.	1.	13.	66.	95.	37.	17.
6.	83.	15.	59.	33.	31.	21.	14.	11.	13.
9.	79.	2.	9.	47.	54.	49.	2.	10.	9.
440.	101.	24.	71.	57.	1.	12.	19.	7.	2.
97.	2.	55.	825.	108.	44.	8.	11.	7.	82.
2.	2.	2.	77.	92.	98.	119.	133.	154.	38.
163.	119.	316.	76.	25.	32.	39.	51.	198.	291.
279.	159.	150.	125.	69.	356.	109.	26.	30.	29.
397.	81.	71.	805.	50.	161.	76.	309.	147.	176.
135.	76.	150.	86.	97.	144.	465.	187.		

Table B.1-1. Data set *CISI1*; 168 inter-failure times (read from left to right).

	RAW		*S*		*S20*		*S30*		*S40*		*S50*	
	y	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***
JM	F	C	F	A	D	A	F	A	F	A	F	A
GO	F	C	F	A	D	A	F	A	F	A	F	A
MO	A	B	A	E	C	A	D	A	E	A	D	A
DU	A	F	A	F	C	A	C	A	D	A	B	B
LM	F	B	F	A	D	A	E	A	F	A	F	A
LNHPP	F	A	F	A	D	A	E	A	F	A	F	A
LV	A	F	D	F	D	A	D	A	E	A	F	C
KL	A	F	E	F	D	A	E	A	F	A	F	D
CM1	A	F	A	A	A	A	A	A	A	A	A	A
CM2	D	A	D	E	C	A	D	A	F	A	F	A
CM3	F	A	F	B	B	A	D	A	F	A	F	A
OTY20	A	A	A	A	A	A	A	A	B	A	A	A
OTY50	A	A	A	B	A	A	A	A	A	A	A	B
OTL	A	B	A	B	A	A	A	A	B	A	C	A
OTL20	A	B	A	A	B	A	A	A	A	A	A	A
OTL50	A	B	B	A	B	A	A	A	B	A	C	A

Table B.1-2.1. *u*- and *y*-plot significance levels for data set *CISI1* for predictions of $T_{66}, T_{67}, \ldots$.

M1		*M2*		*M5*		*M10*		*M20*		*M30*		*M40*		*M50*	
y	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***
A	A	C	B	B	A	D	A	A	A	C	A	C	A	B	A

Table B.1-2.2. *u*- and *y*-plot significance levels for data set *CISI1* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

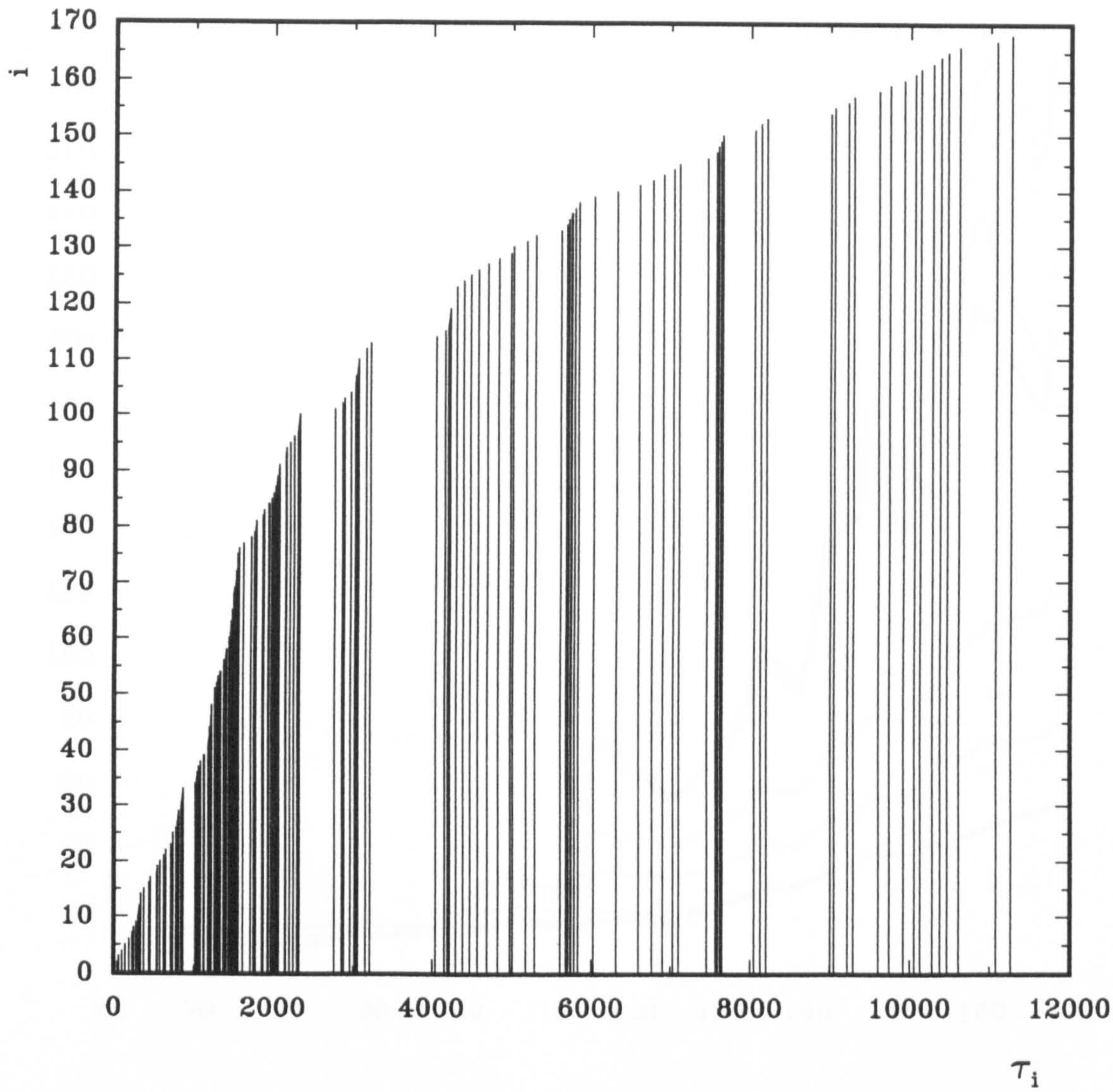
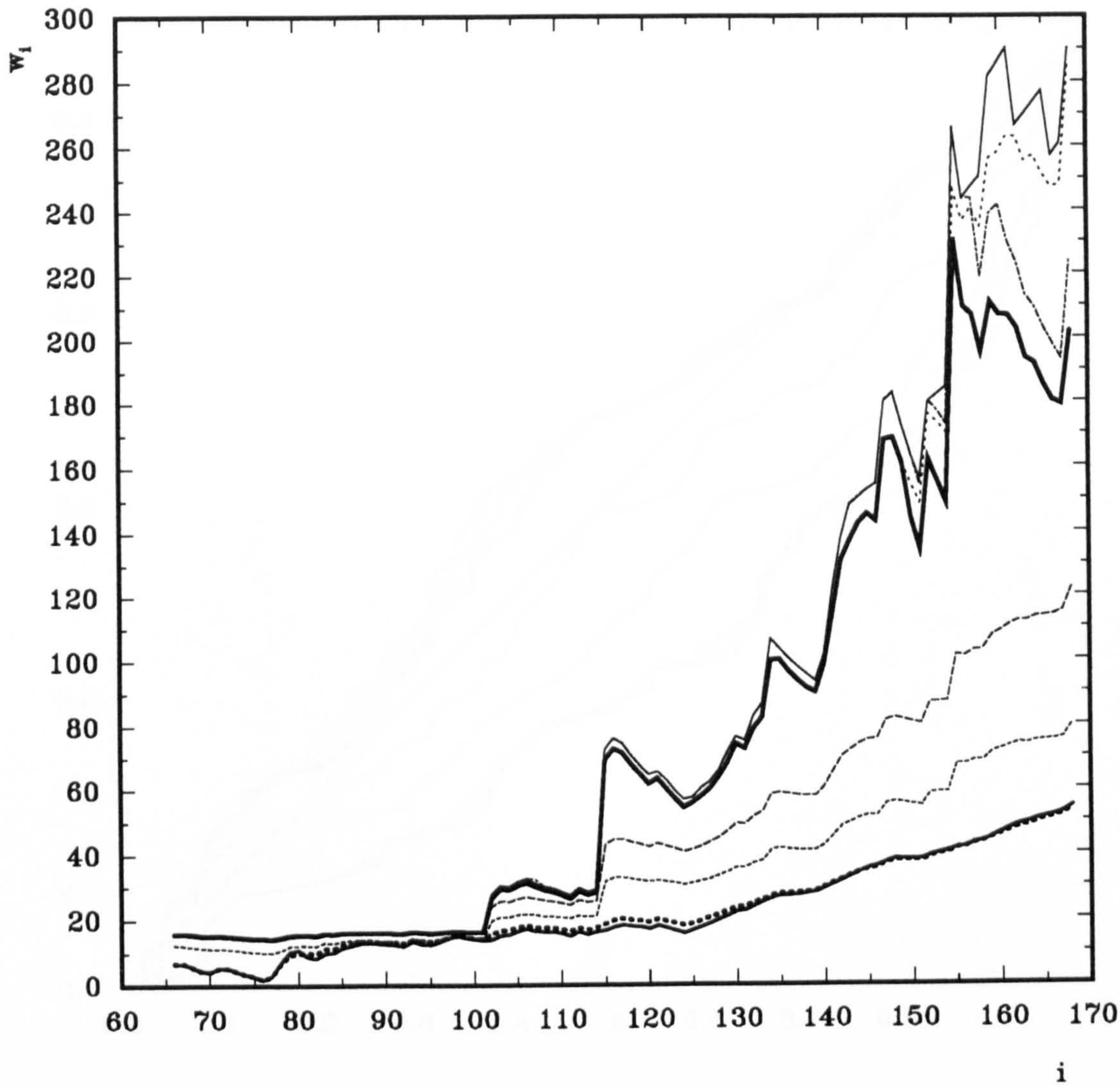
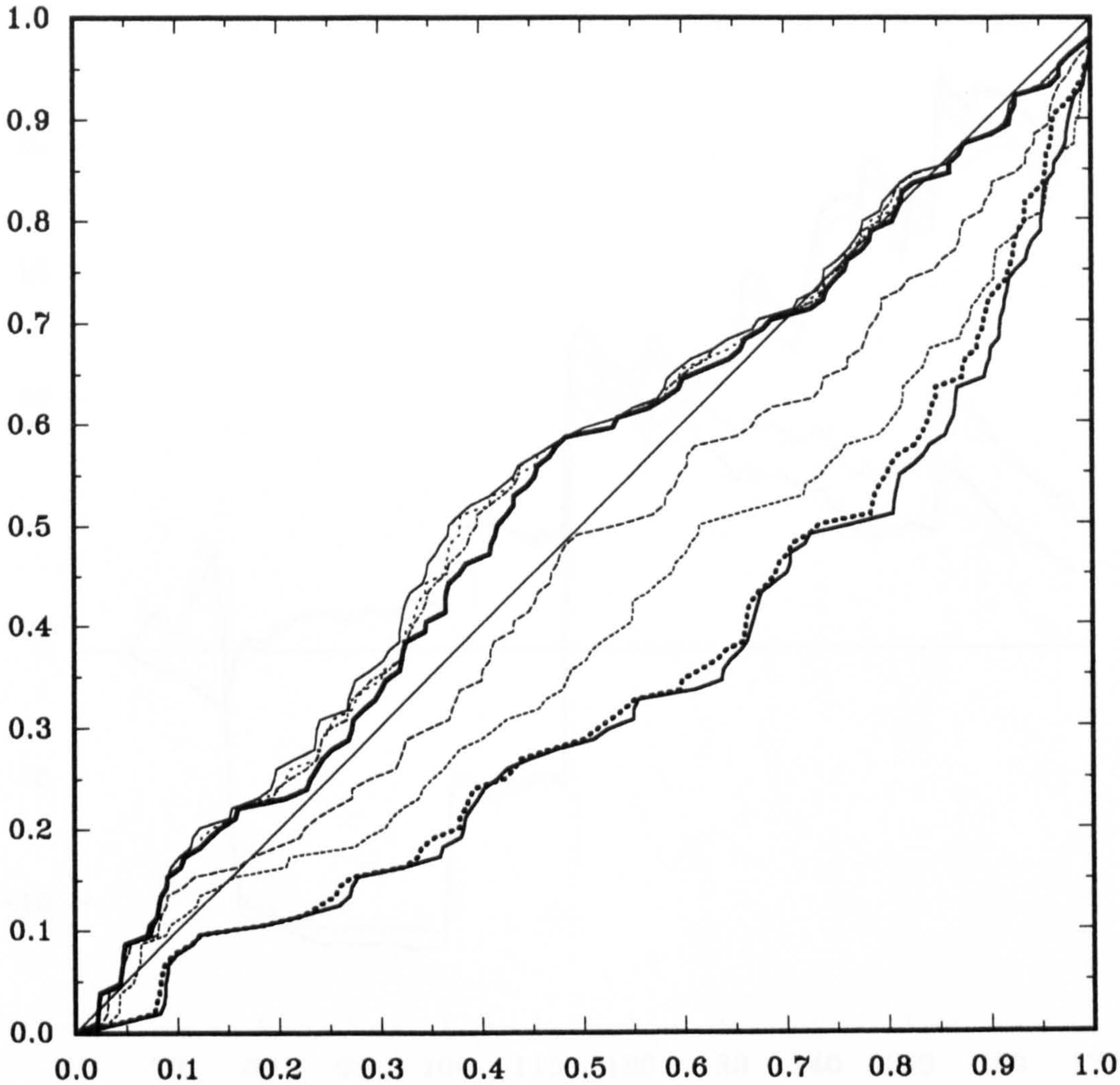


Figure B.1-3. Cumulative number of failures plotted against total elapsed time for data set *CISI1*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.1-4. Median predictions from the raw parametric predictors plotted against failure number for data set *CISI1*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.1-5. *u*-plots for the raw parametric predictors for data set *CISI1*.

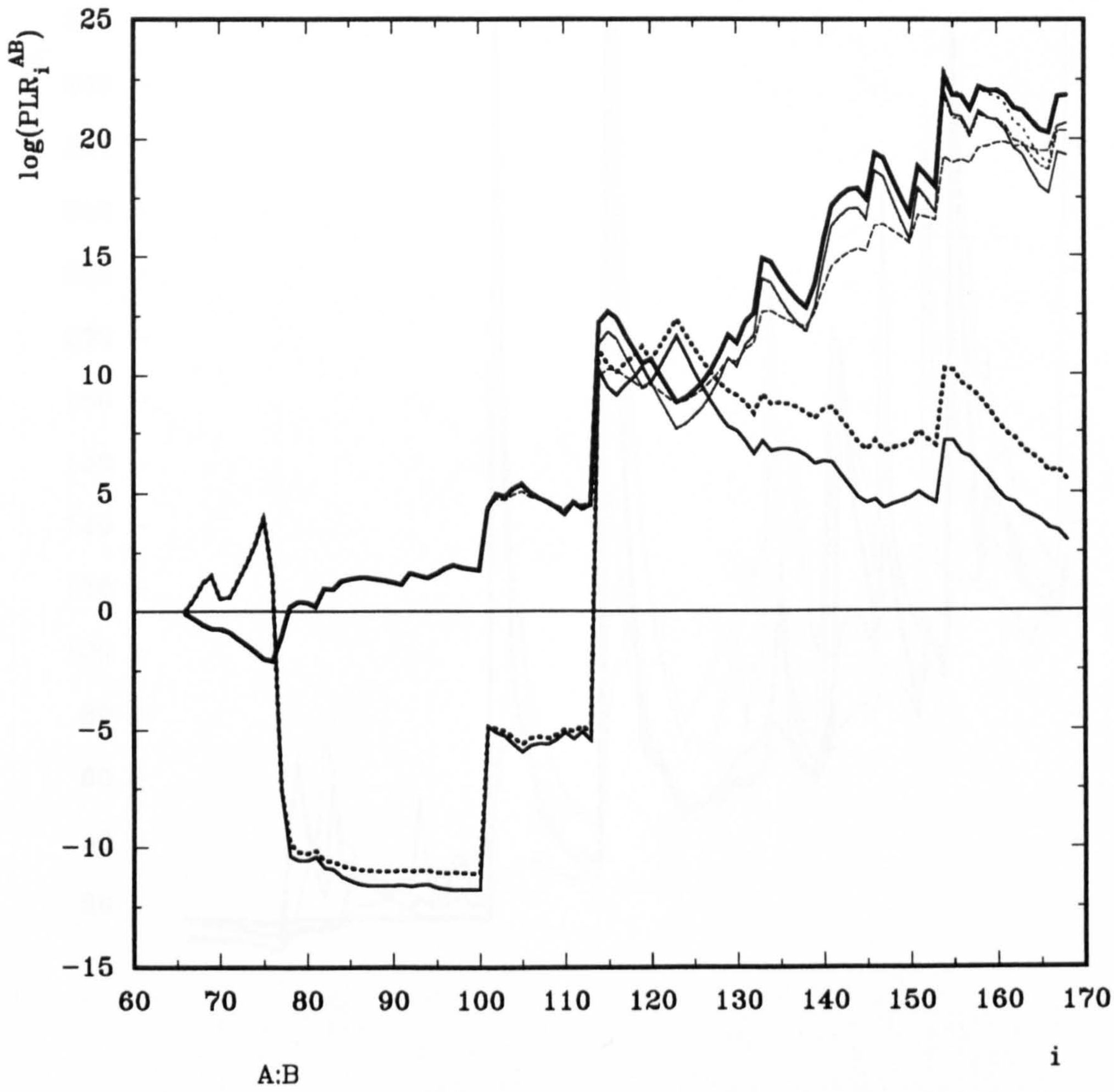


Figure B.1-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *CISI1*.

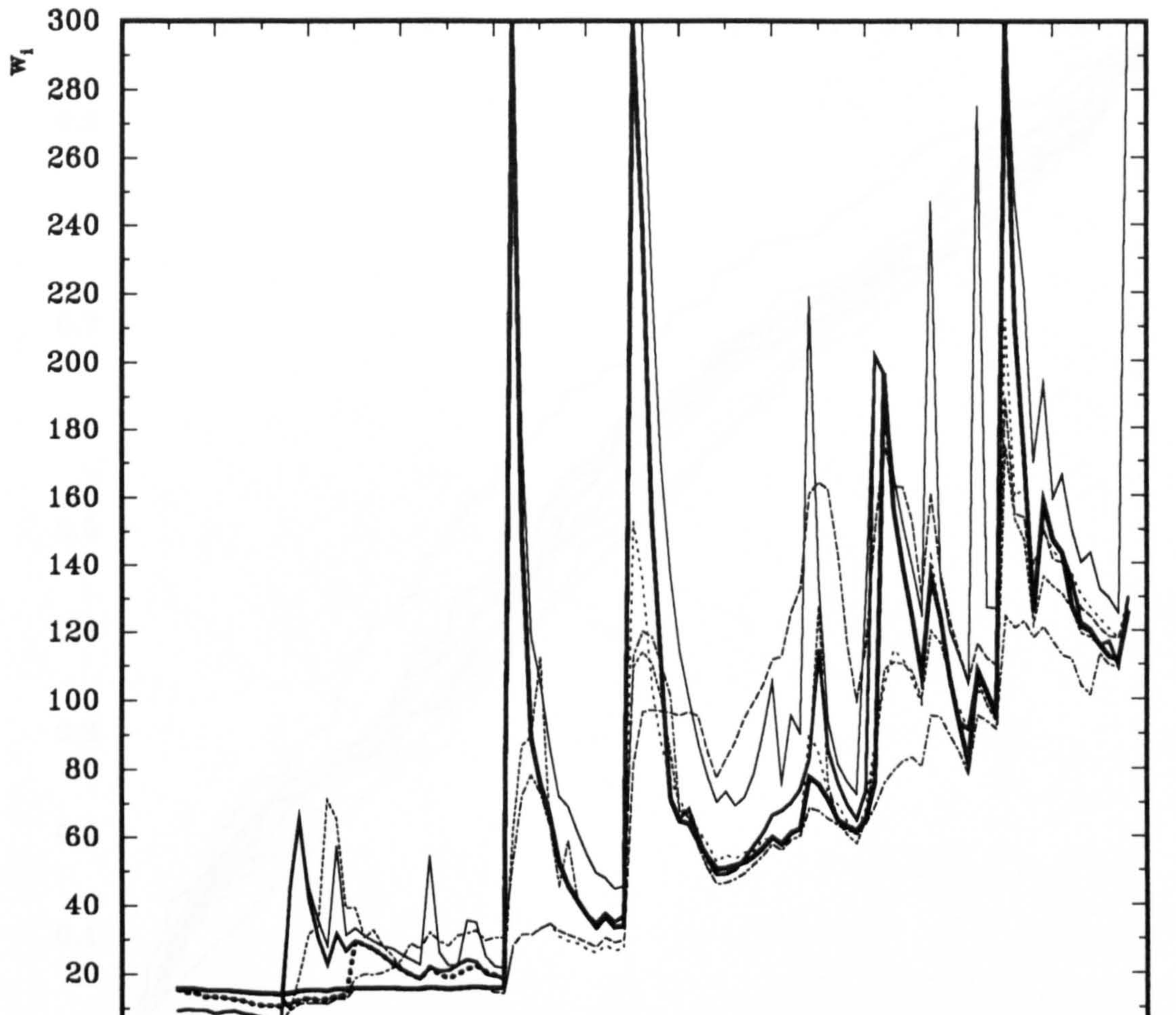
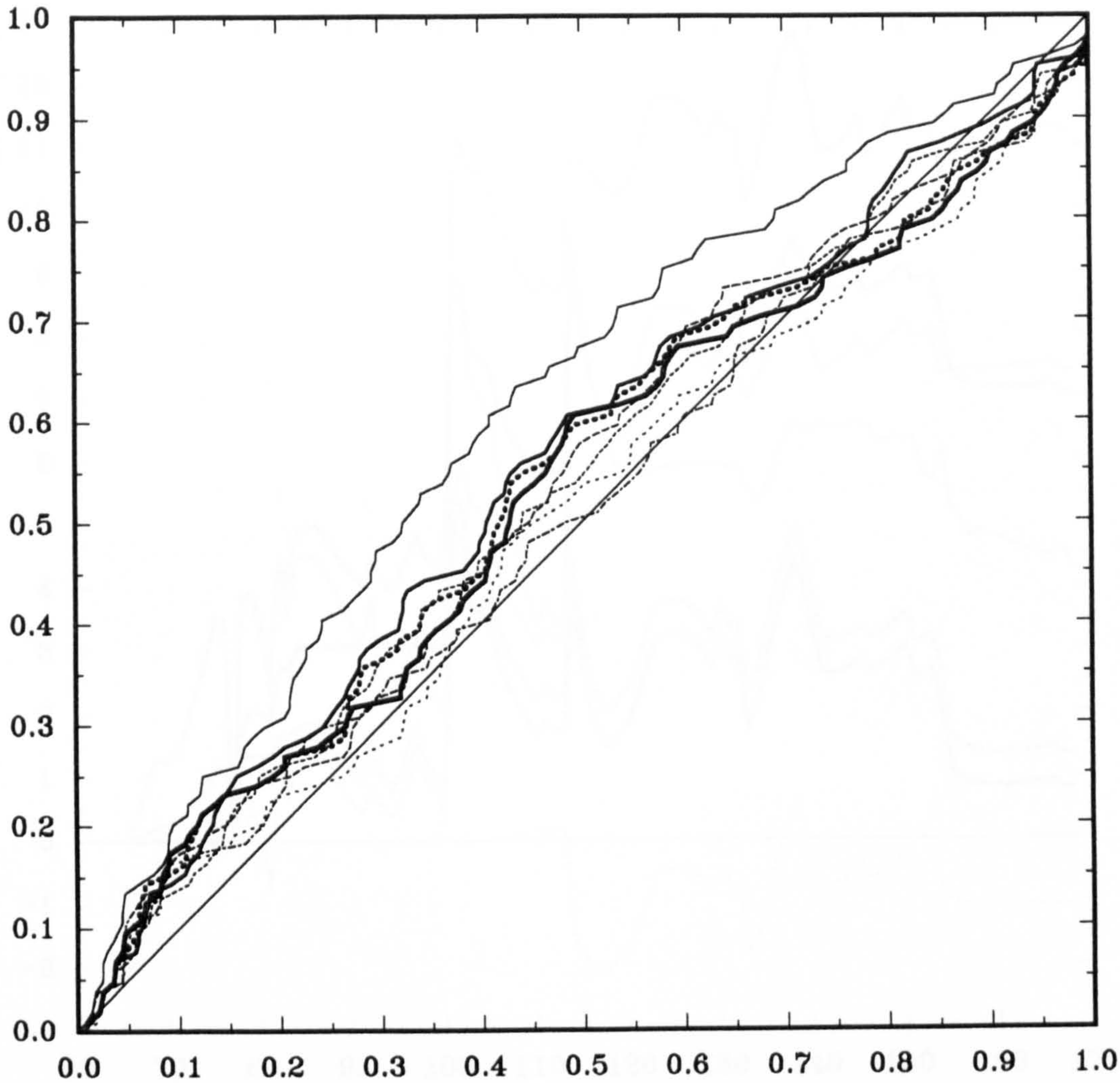


Figure B.1-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *CISI1*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.1-8. *u*-plots for the raw non-parametric predictors for data set *CISI1*.

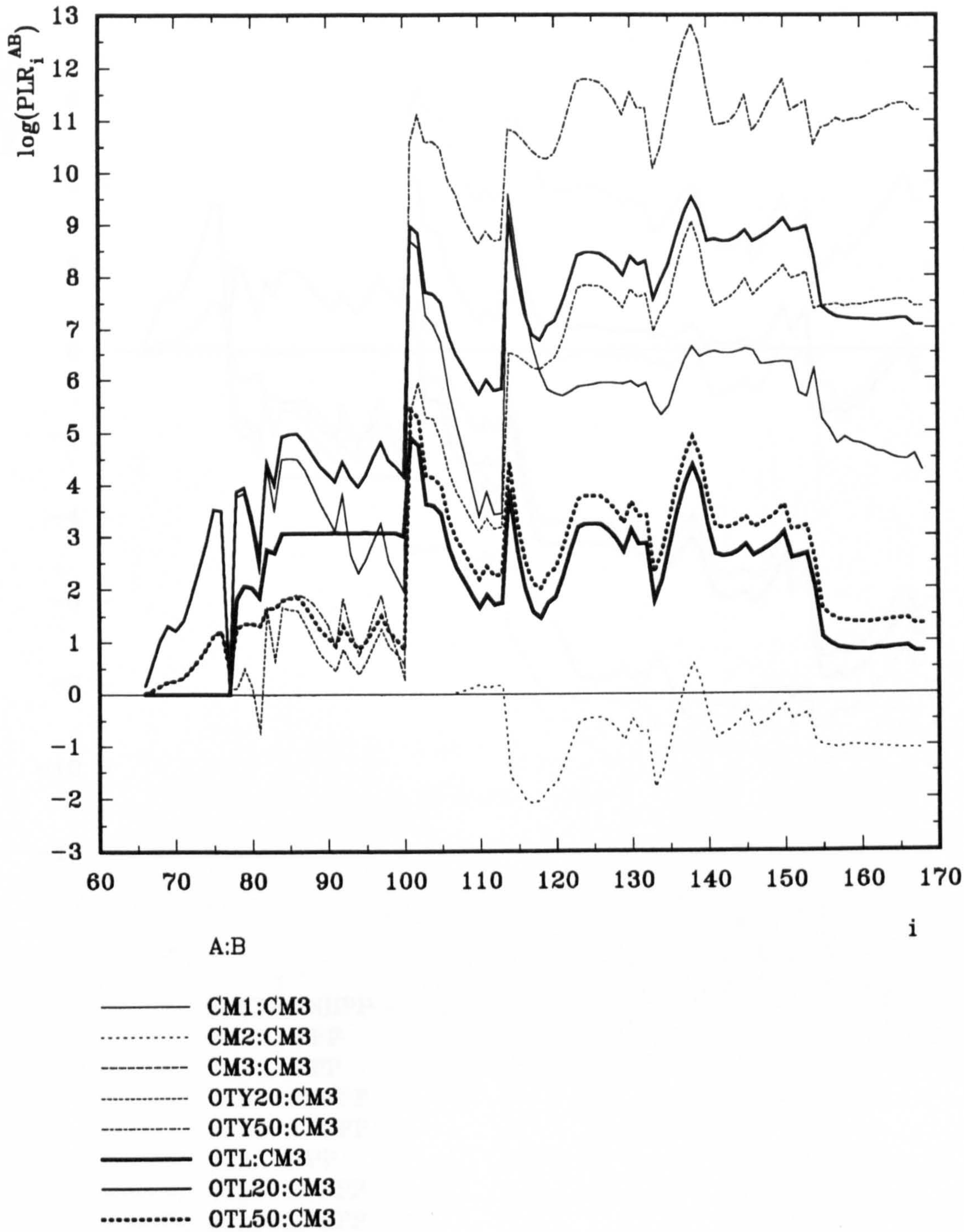


Figure B.1-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *CISI1*.

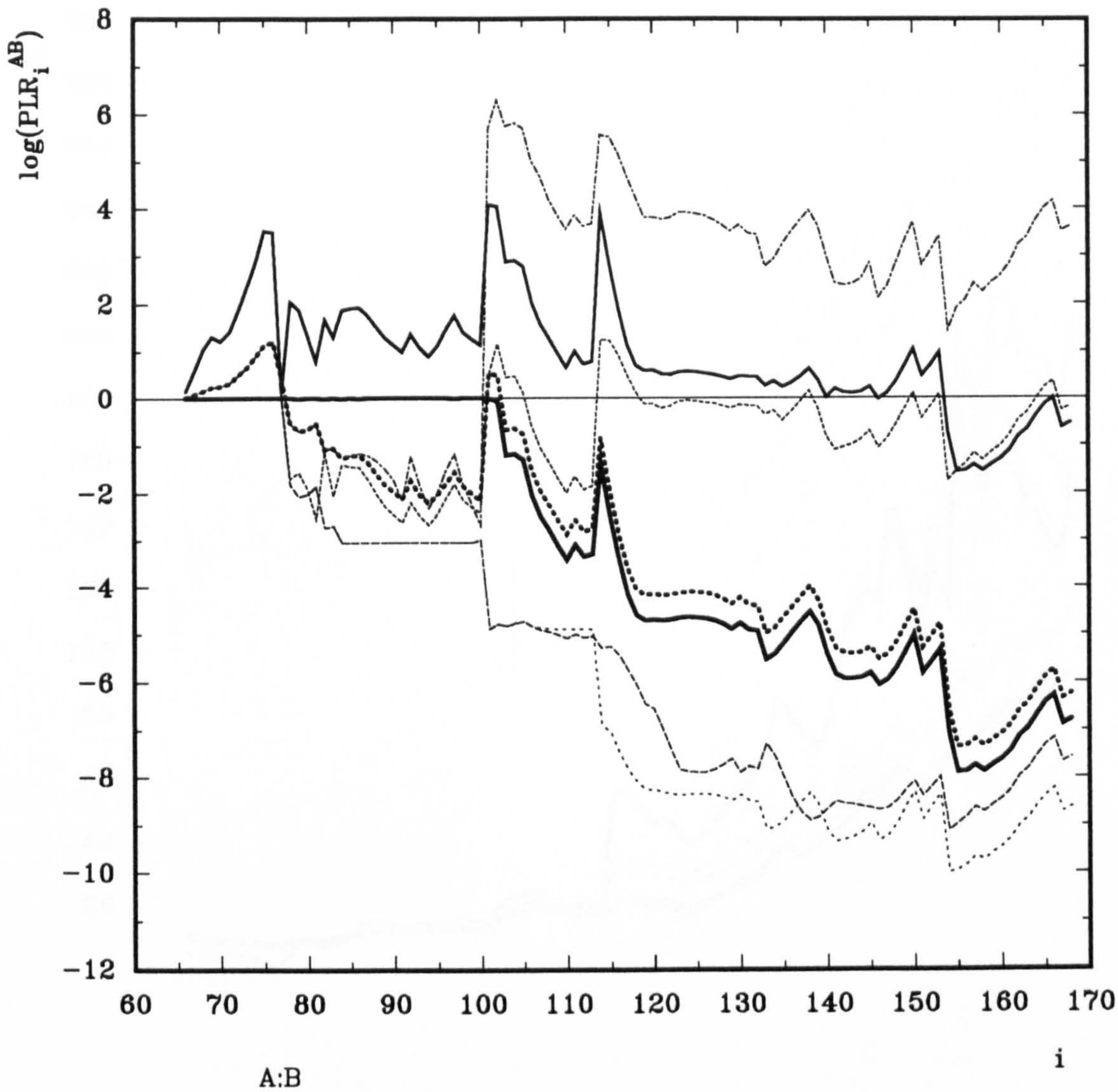
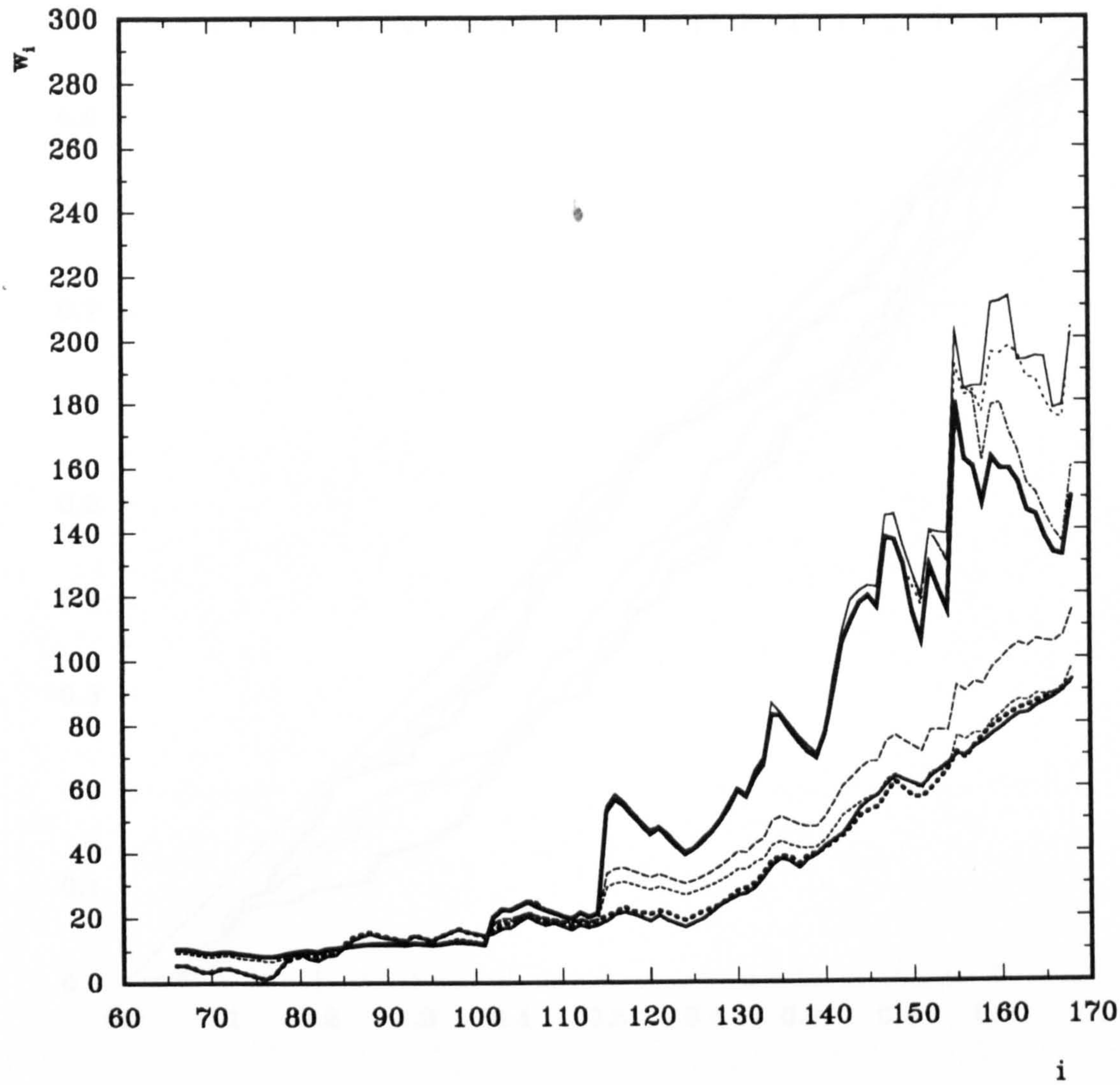
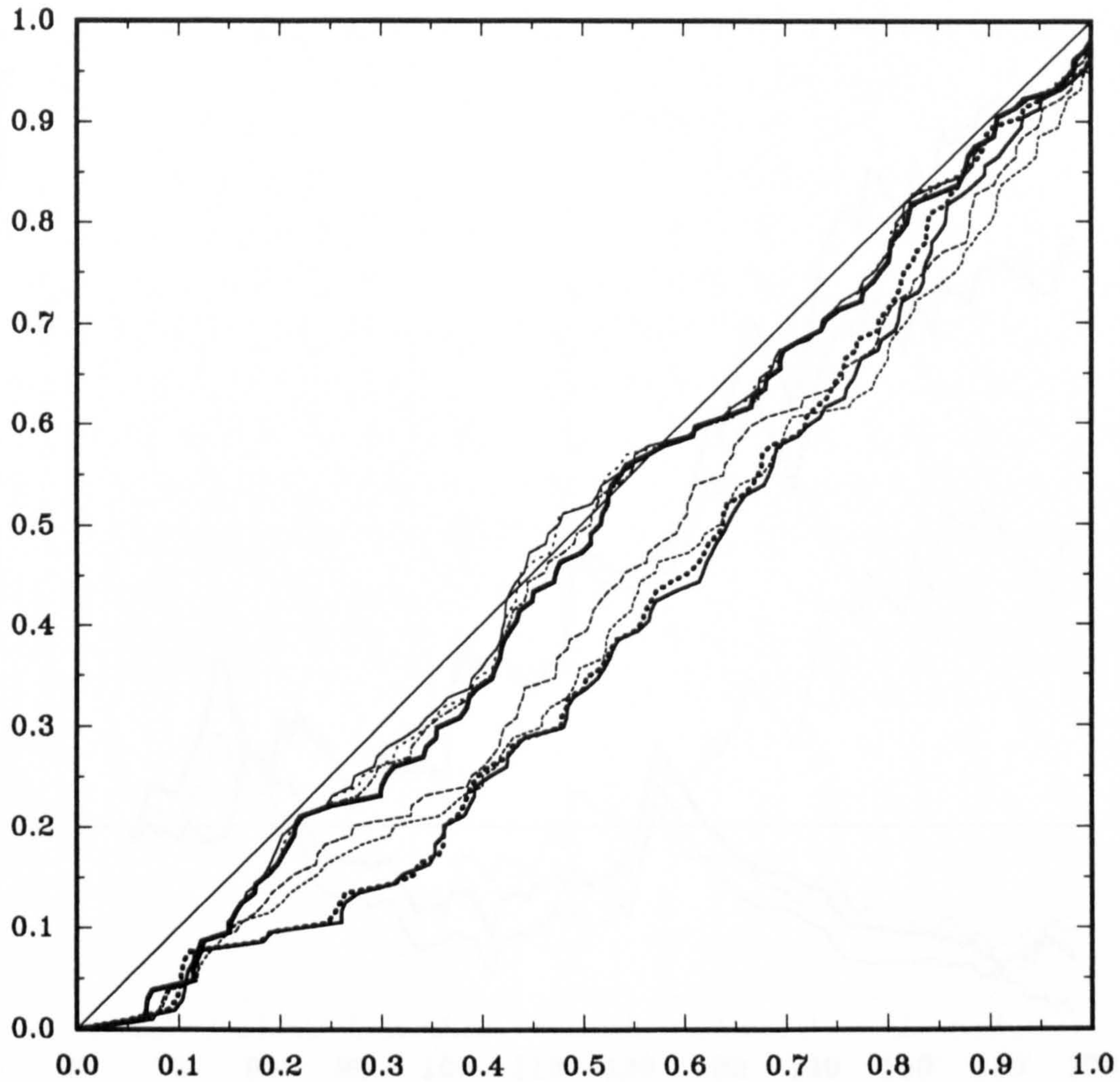


Figure B.1-10. *log(PLR)*-plots for the raw non-parametric predictors versus *LNHPP* for data set *CISI1*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.1-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *CISI1*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.1-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *CISI1*.

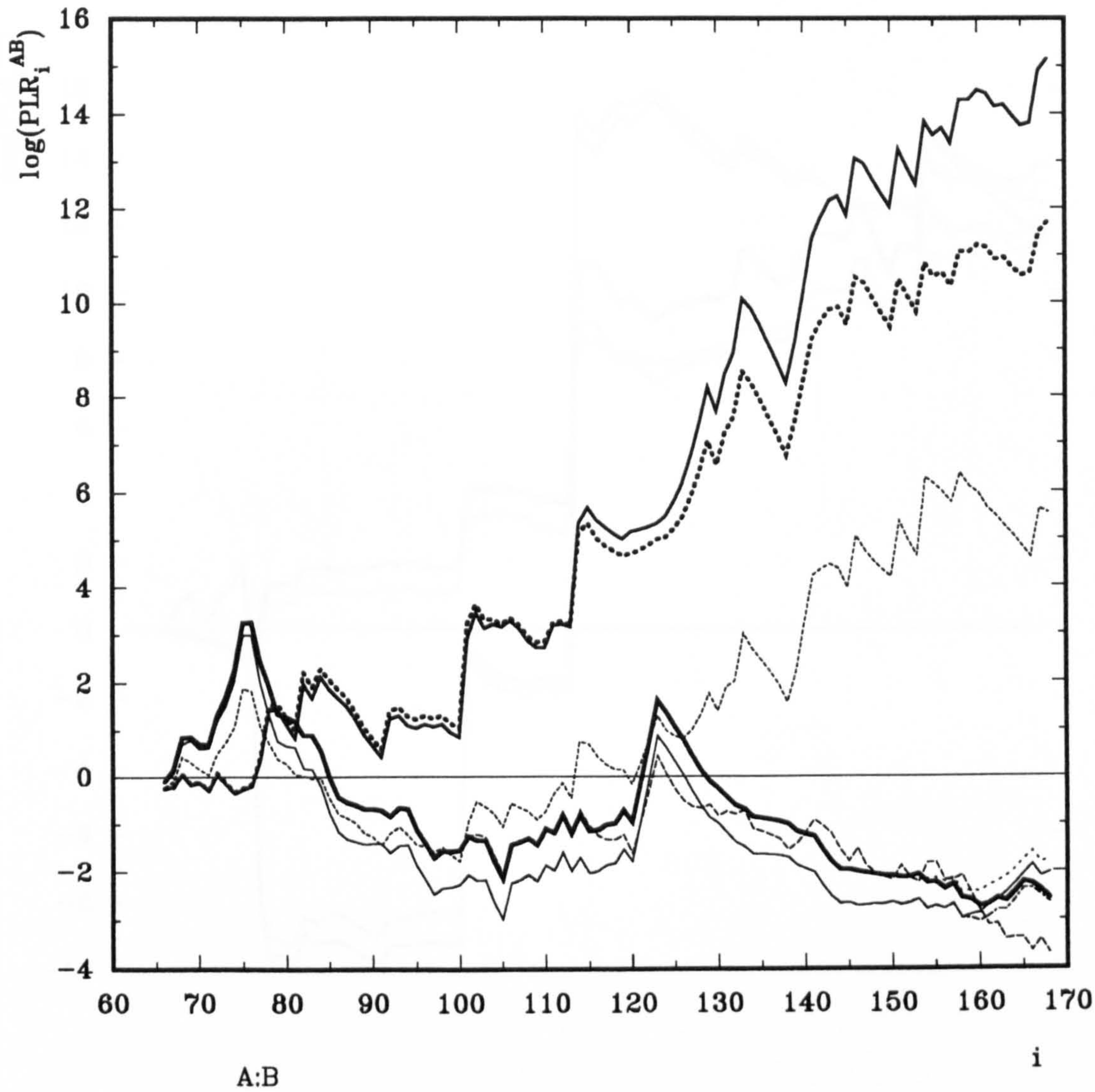


Figure B.1-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *CISI1*.

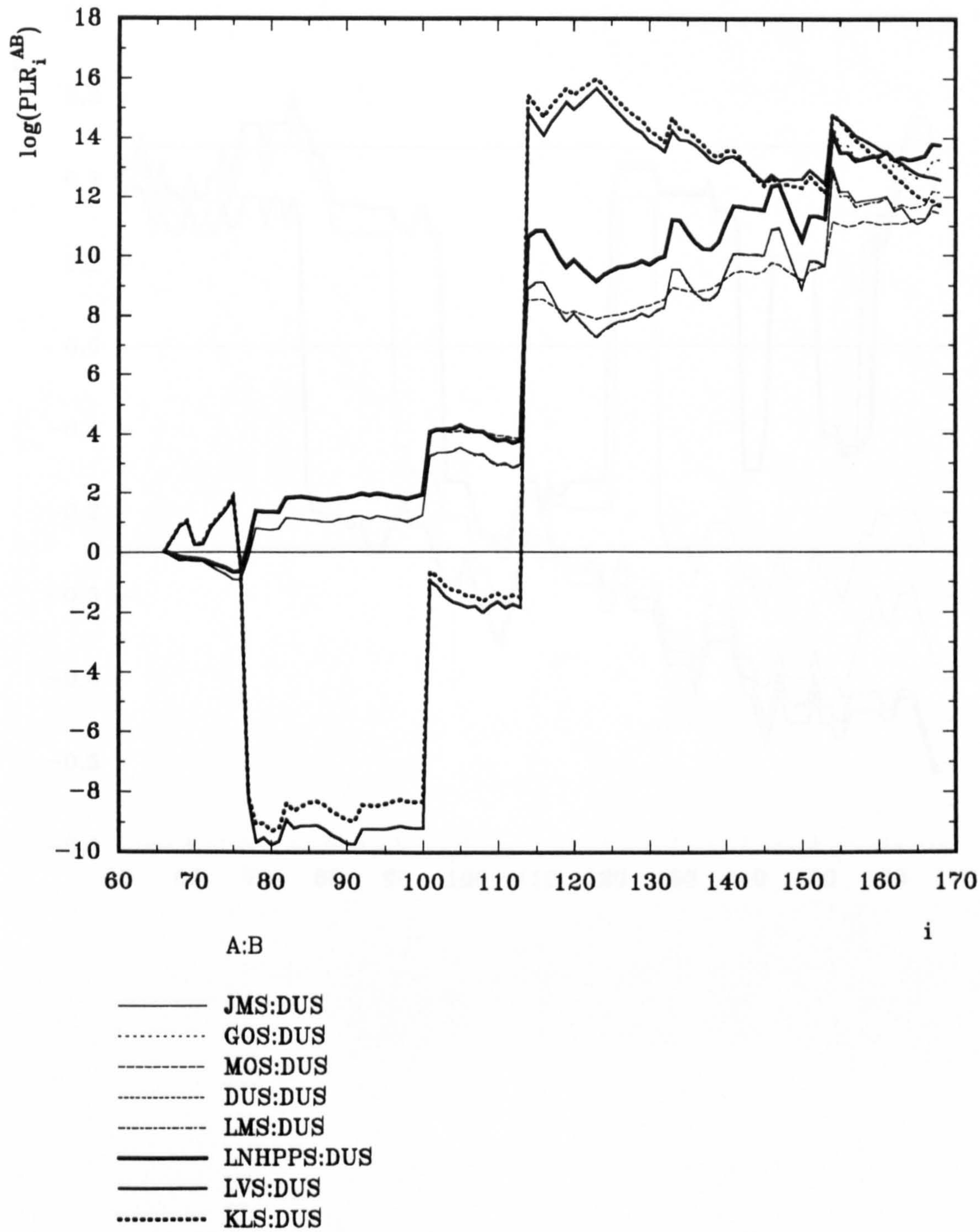
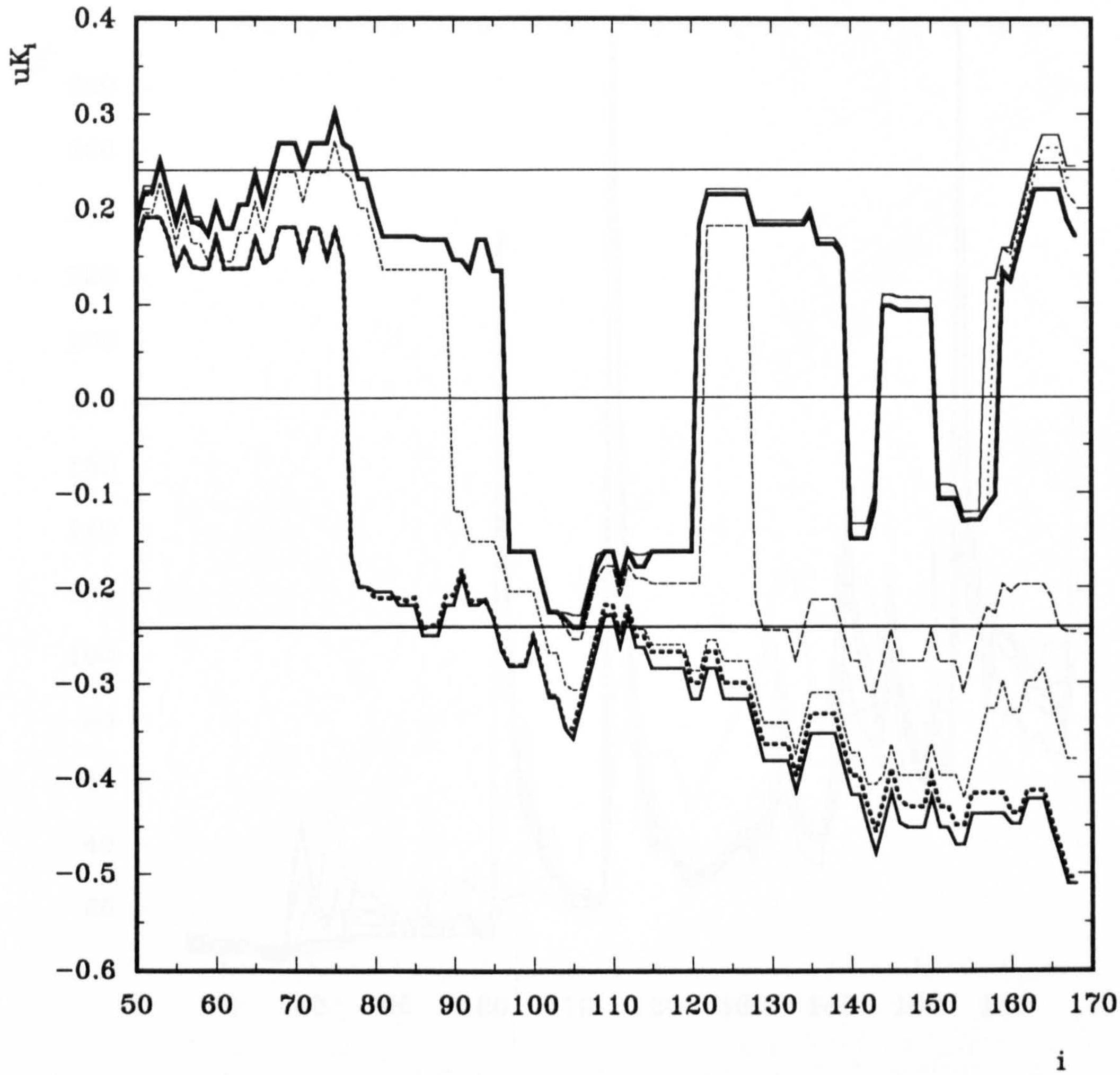
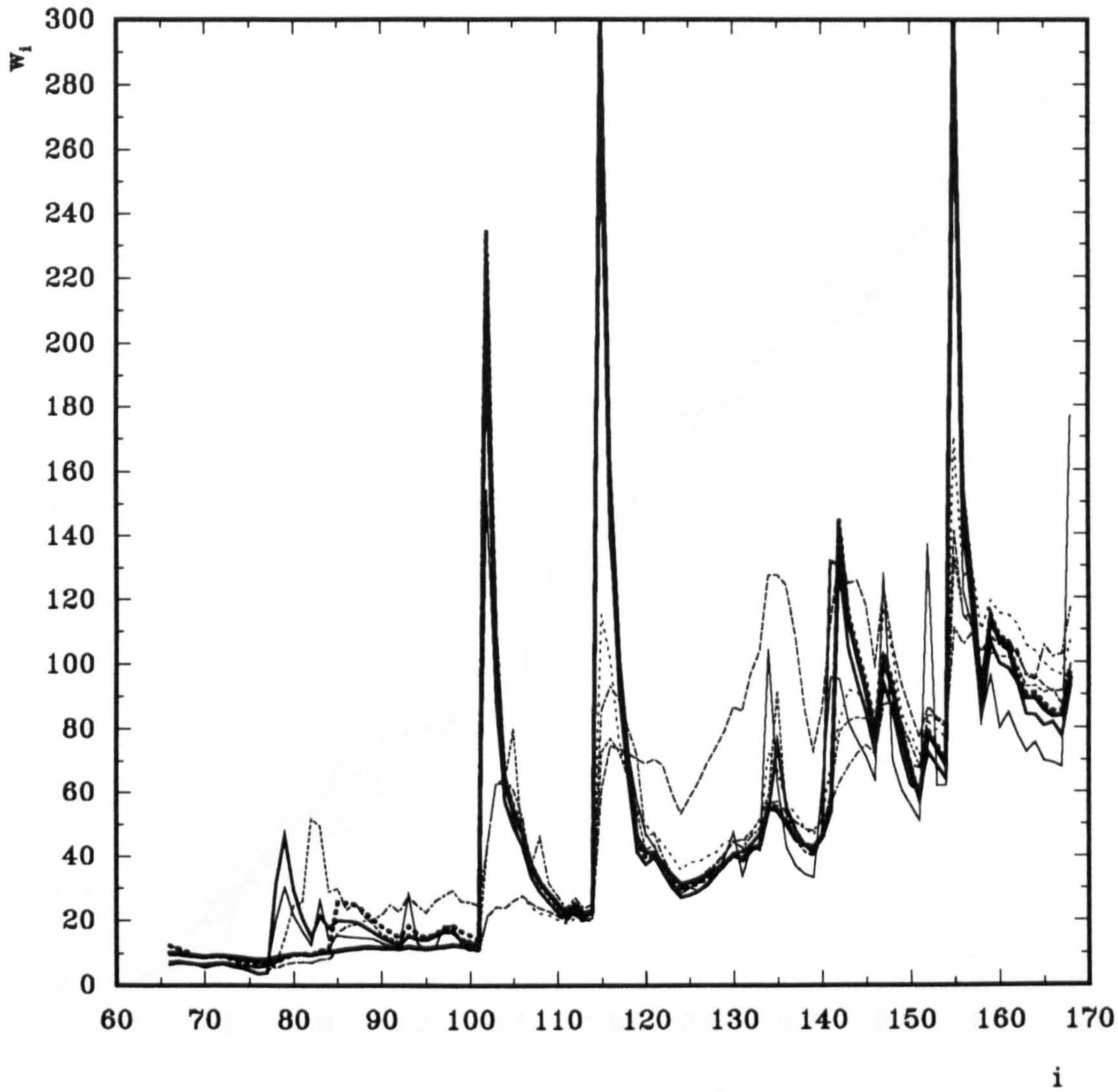


Figure B.1-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *CISI1*.



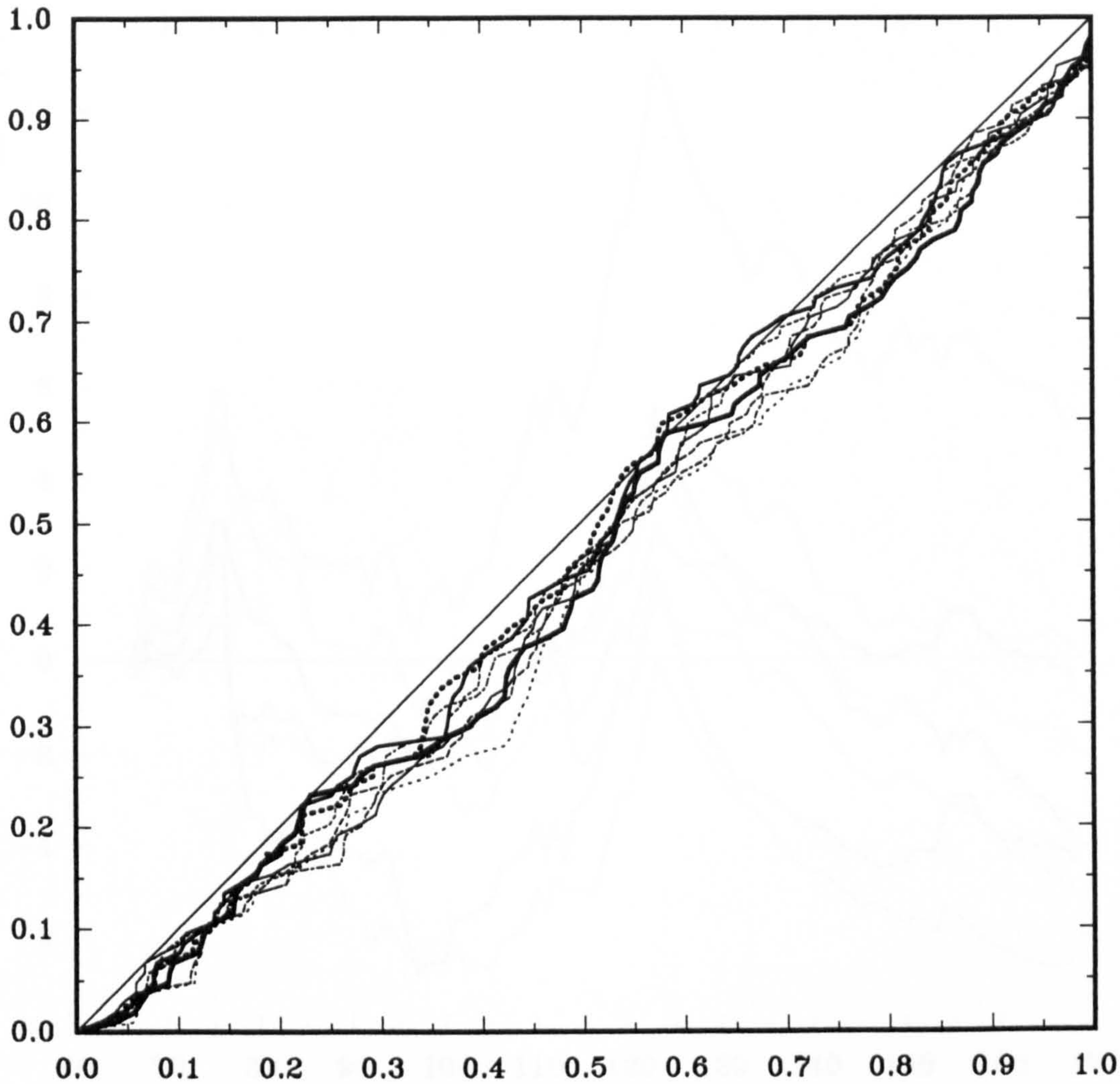
JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.1-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *CISI1*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.1-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *CISI1*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.1-17. *u*-plots for the recalibrated (no window) non-parametric predictors for data set *CISI1*.

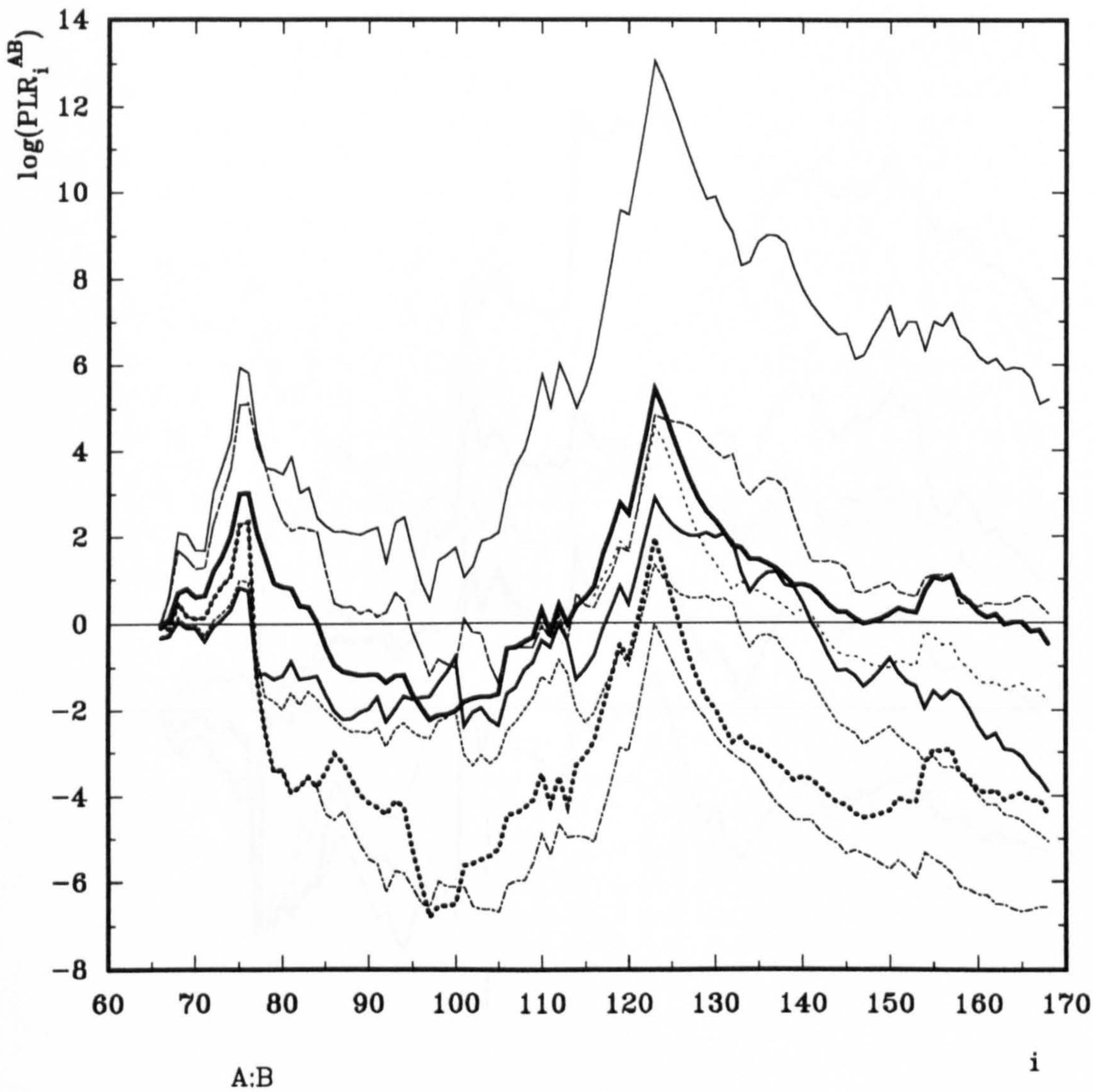


Figure B.1-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *CISI1*.

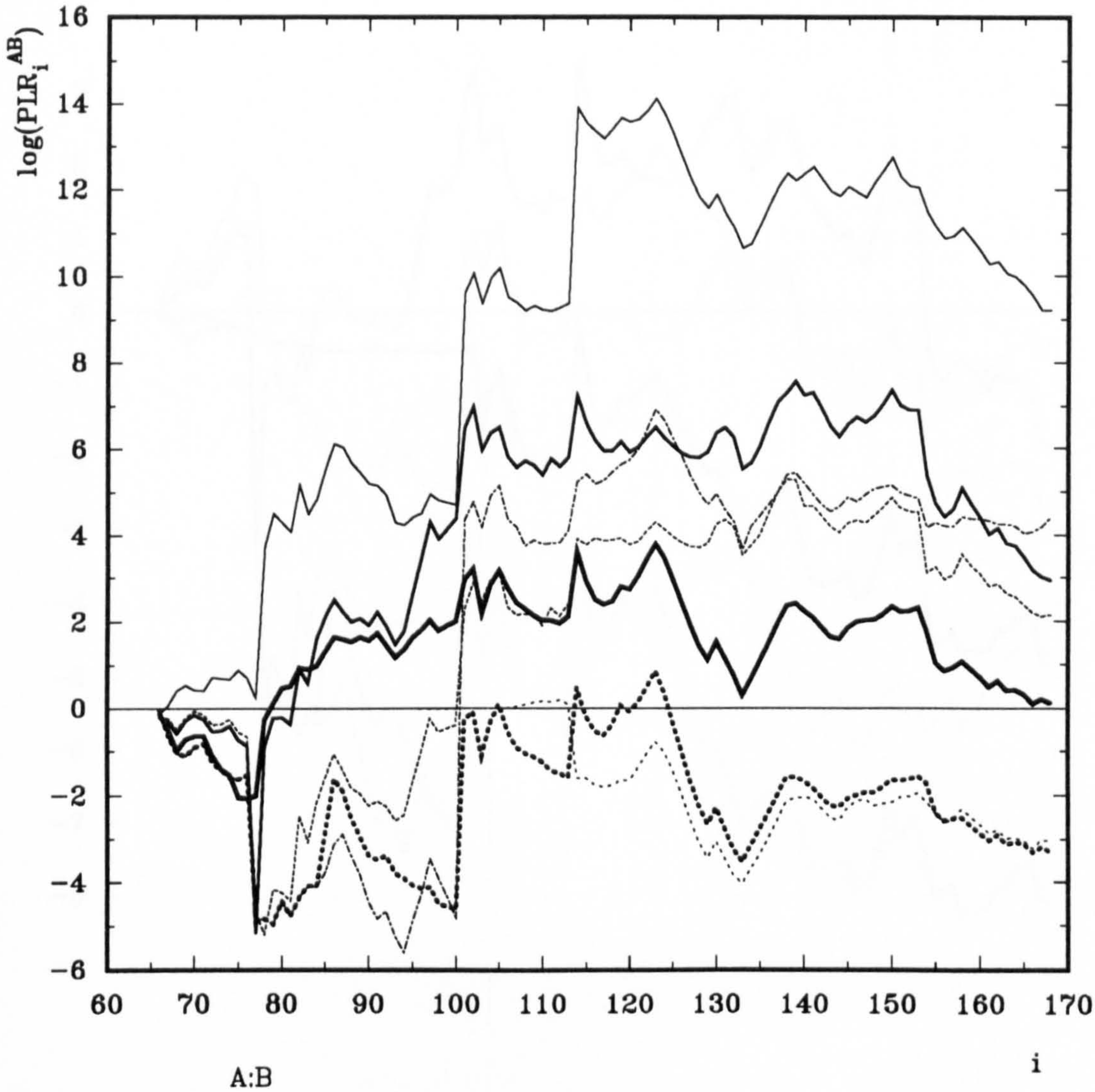


Figure B.1-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *CISI1*.

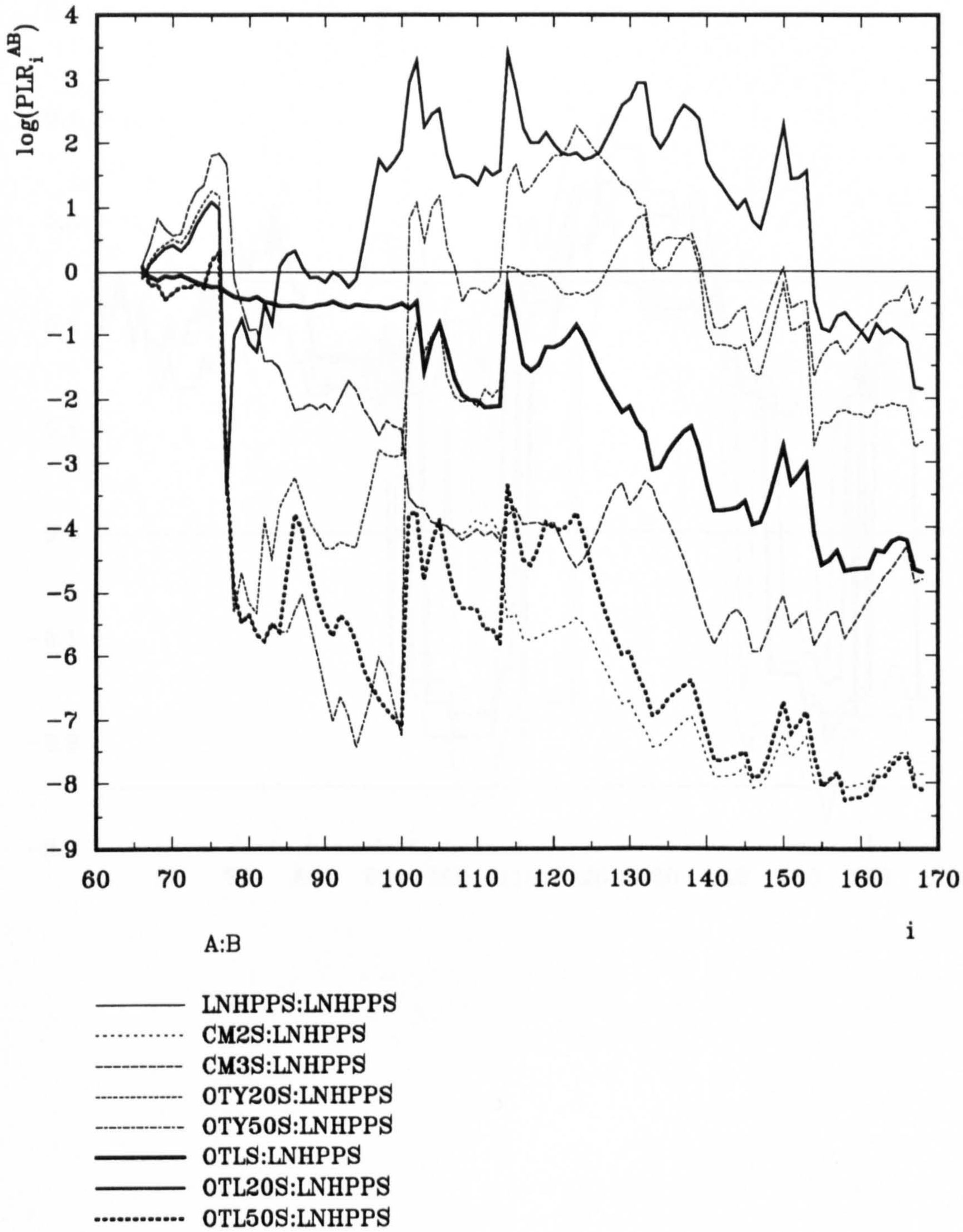


Figure B.1-20. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *LNHPPS* for data set *CISI1*.

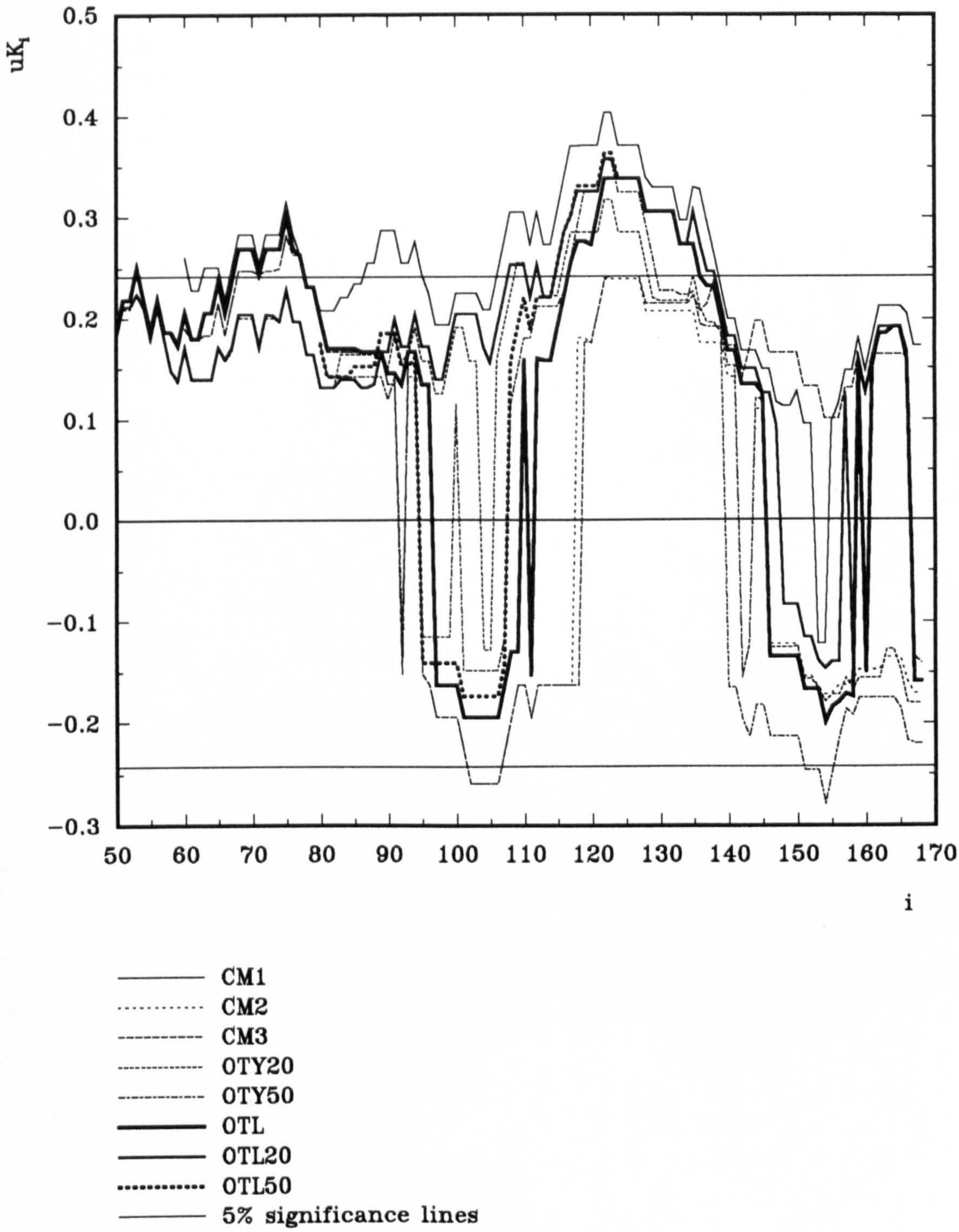


Figure B.1-21. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *CISI1*.

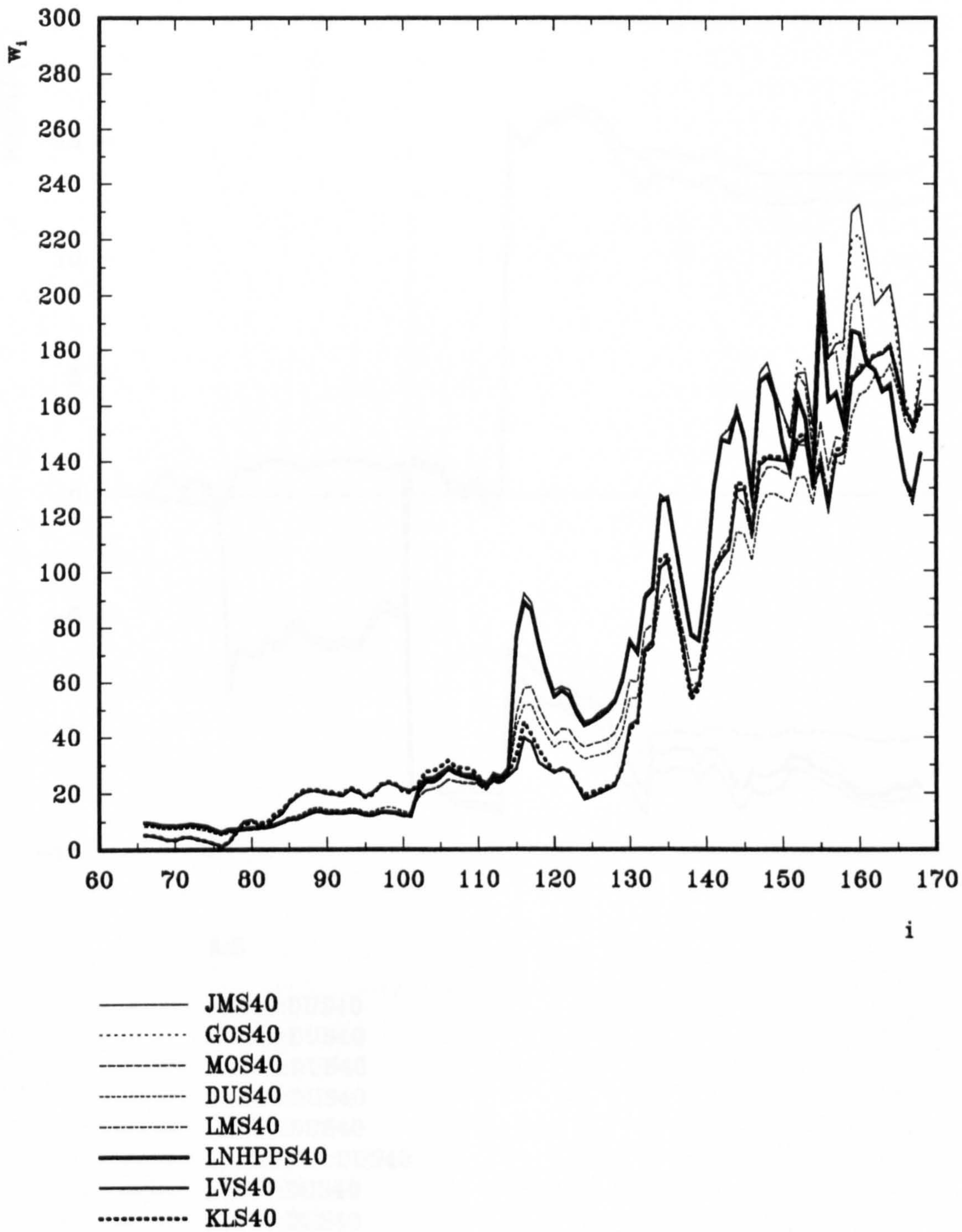


Figure B.1-22. Median predictions from the recalibrated (window = *40*) parametric predictors plotted against failure number for data set *CISI1*.

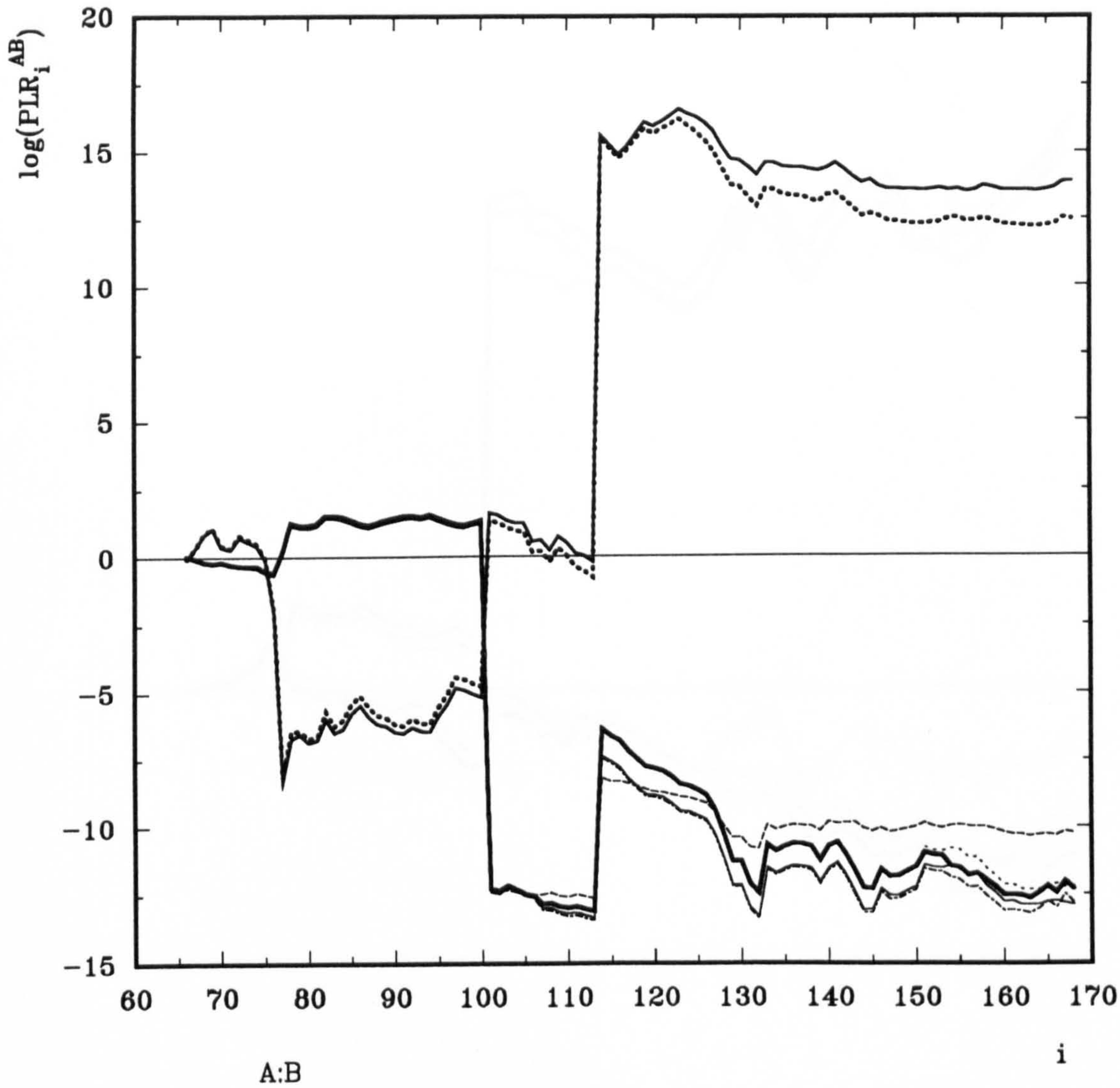


Figure B.1-23. *log(PLR)*-plots for the recalibrated (window = *40*) parametric predictors versus *DUS40* for data set *CISI1*.

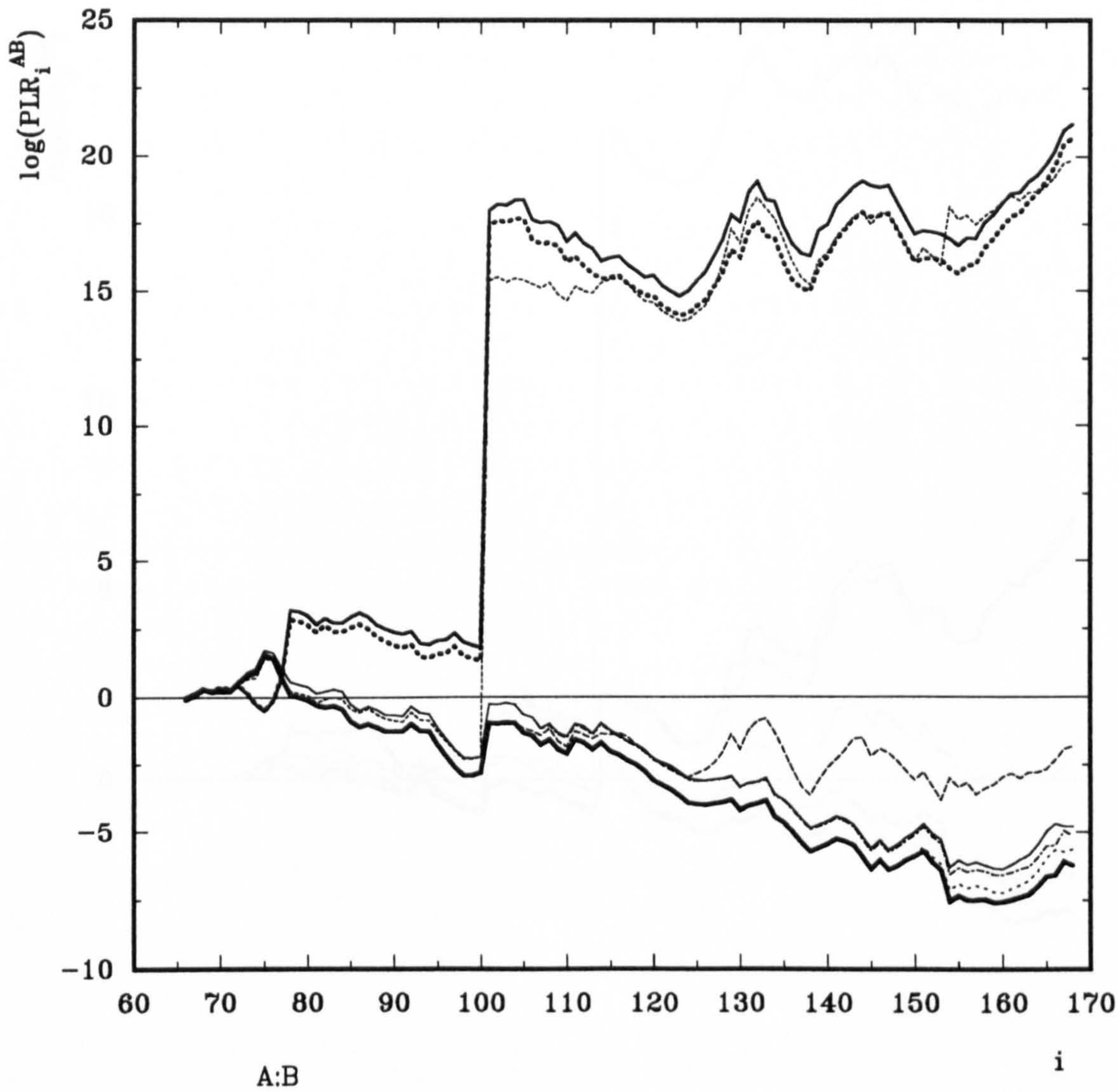


Figure B.1-24. *log(PLR)*-plots for the recalibrated (window = *40*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *CISI1*.

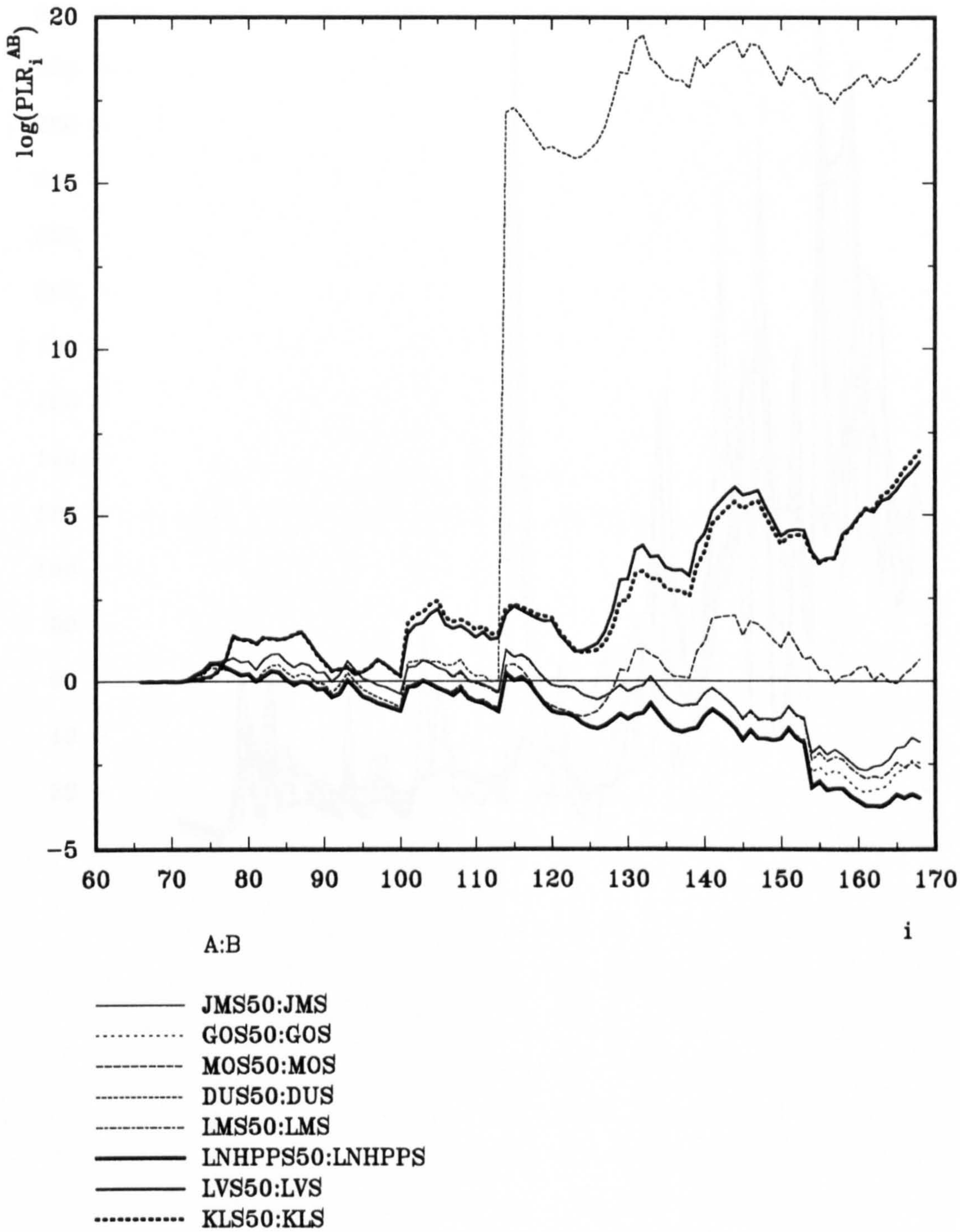
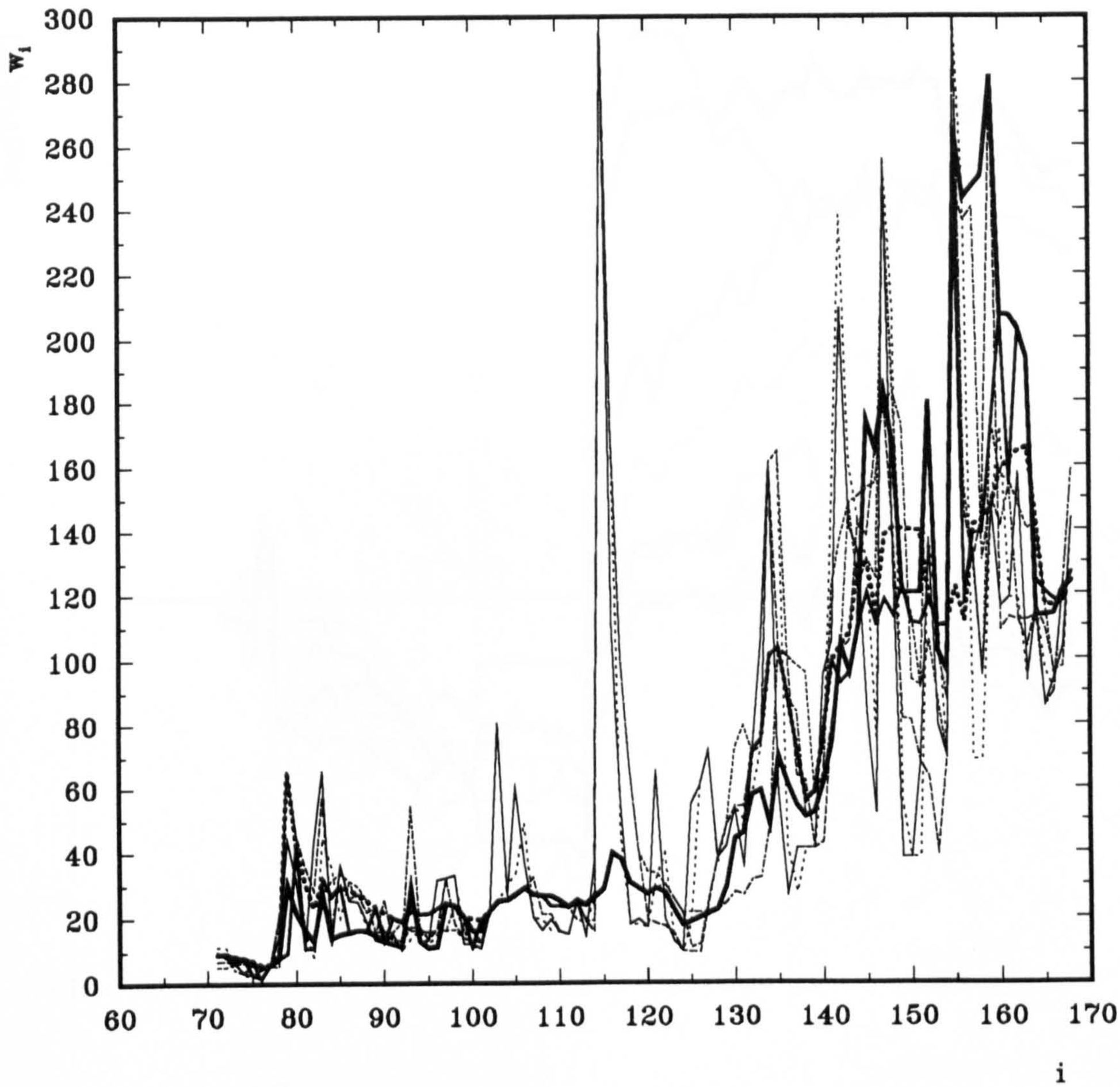


Figure B.1-25. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *CISI1*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.1-26. Median predictions from the meta-predictors plotted against failure number for data set *CISI1*.

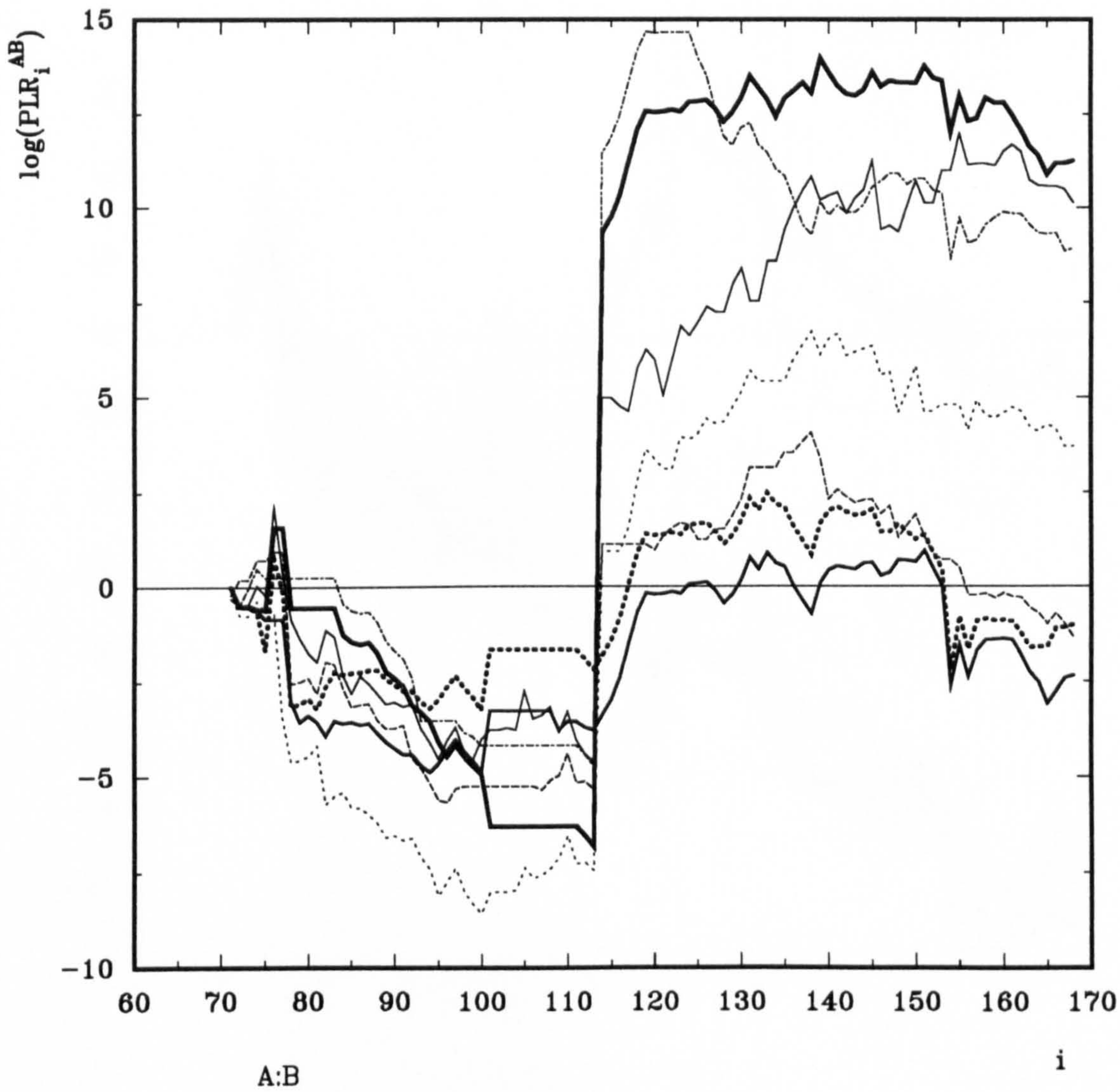


Figure B.1-27. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *CISI1*.

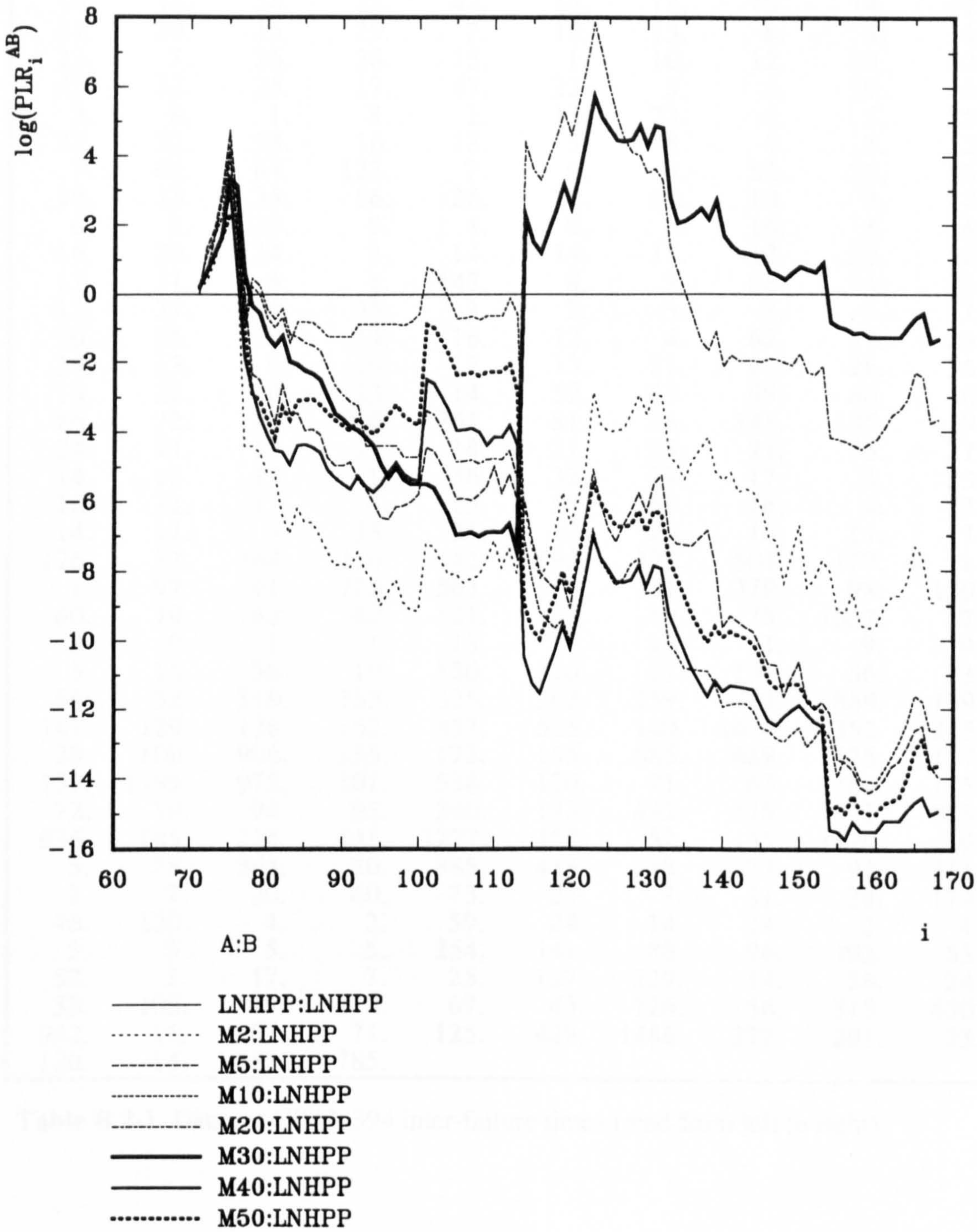


Figure B.1-28. *log(PLR)*-plots for the meta-predictors versus *LNHPP* for data set *CISI1*.

B.2 Data Set CISI2

10.	11.	11.	2.	23.	1.	21.	27.	38.	12.
14.	14.	24.	22.	42.	14.	18.	10.	14.	47.
21.	29.	15.	29.	7.	10.	13.	8.	5.	4.
23.	7.	26.	38.	15.	1.	10.	12.	23.	42.
43.	32.	25.	17.	47.	22.	5.	6.	19.	4.
3.	8.	1.	8.	1.	13.	23.	6.	5.	25.
27.	22.	53.	16.	18.	3.	8.	6.	3.	12.
7.	68.	64.	123.	7.	9.	3.	52.	75.	55.
18.	15.	35.	16.	26.	34.	62.	10.	3.	17.
6.	2.	13.	9.	4.	8.	8.	16.	3.	4.
16.	30.	34.	3.	14.	14.	17.	12.	23.	12.
11.	11.	6.	1.	147.	8.	3.	68.	74.	33.
11.	37.	4.	55.	3.	2.	3.	3.	2.	7.
20.	15.	19.	14.	16.	12.	4.	62.	17.	23.
14.	13.	6.	19.	12.	13.	31.	81.	26.	35.
14.	22.	20.	23.	14.	52.	43.	99.	66.	46.
86.	72.	74.	270.	261.	81.	28.	141.	135.	19.
24.	11.	18.	27.	14.	21.	25.	21.	73.	27.
14.	13.	13.	1.	36.	32.	19.	17.	3.	23.
16.	11.	11.	4.	15.	55.	57.	16.	4.	13.
14.	11.	3.	35.	25.	12.	20.	10.	11.	17.
126.	57.	164.	310.	42.	195.	123.	504.	177.	1.
1.	97.	91.	723.	563.	669.	131.	379.	98.	150.
60.	79.	82.	82.	121.	195.	19.	75.	1337.	17.
8.	9.	1.	1.	13.	11.	13.	31.	9.	9.
3.	14.	36.	19.	120.	120.	23.	134.	36.	23.
56.	32.	319.	155.	325.	262.	139.	434.	889.	139.
141.	129.	128.	152.	357.	563.	140.	1474.	352.	1345.
28.	100.	906.	155.	173.	155.	585.	689.	125.	137.
139.	1199.	975.	101.	538.	120.	91.	63.	1164.	175.
72.	19.	94.	95.	240.	173.	492.	155.	1041.	968.
636.	185.	225.	153.	1277.	457.	52.	35.	1120.	79.
5.	78.	305.	20.	385.	413.	48.	373.	93.	311.
3.	7.	20.	60.	73.	23.	7.	31.	28.	174.
46.	120.	4.	2.	59.	24.	14.	34.	2.	4.
5.	5.	5.	5.	254.	141.	88.	96.	192.	55.
52.	2.	17.	7.	25.	127.	229.	14.	36.	24.
33.	105.	19.	110.	67.	45.	126.	56.	315.	430.
942.	16.	103.	71.	125.	429.	1486.	272.	201.	23.
120.	14.	585.	785.						

Table B.2-1. Data set *CISI2*; 394 inter-failure times (read from left to right).

	RAW		*S*		*S20*		*S30*		*S40*		*S50*	
	y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
JM	F	F	F	F	A	A	C	C	D	B	F	B
GO	F	F	F	F	A	A	C	B	D	C	E	B
MO	F	F	F	F	C	A	C	A	B	B	C	B
DU	F	F	F	D	D	A	D	A	D	A	D	A
LM	F	F	F	F	A	A	B	B	B	C	D	A
LNHPP	F	F	F	F	A	A	A	B	B	C	D	A
LV	F	F	F	C	B	A	B	A	B	A	B	A
KL	F	F	F	B	B	A	B	A	B	A	C	A
CM1	B	F	A	F	A	A	B	A	B	A	C	A
CM2	F	F	F	F	A	A	A	A	C	A	D	A
CM3	F	F	F	F	A	A	A	A	C	A	D	A
OTY20	B	F	A	C	A	A	A	A	B	A	B	A
OTY50	C	F	C	D	A	A	B	A	C	A	D	A
OTL	D	F	D	F	A	A	B	A	C	A	D	A
OTL20	A	F	A	D	A	A	B	A	A	A	A	A
OTL50	A	F	A	D	A	A	C	A	C	A	C	A

Table B.2-2.1. *u*- and *y*-plot significance levels for data set *CISI2* for predictions of $T_{66}, T_{67}, \ldots$.

M1		*M2*		*M5*		*M10*		*M20*		*M30*		*M40*		*M50*	
y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
A	A	A	A	B	A	A	A	A	B	B	B	A	A	A	B

Table B.2-2.2. *u*- and *y*-plot significance levels for data set *CISI2* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

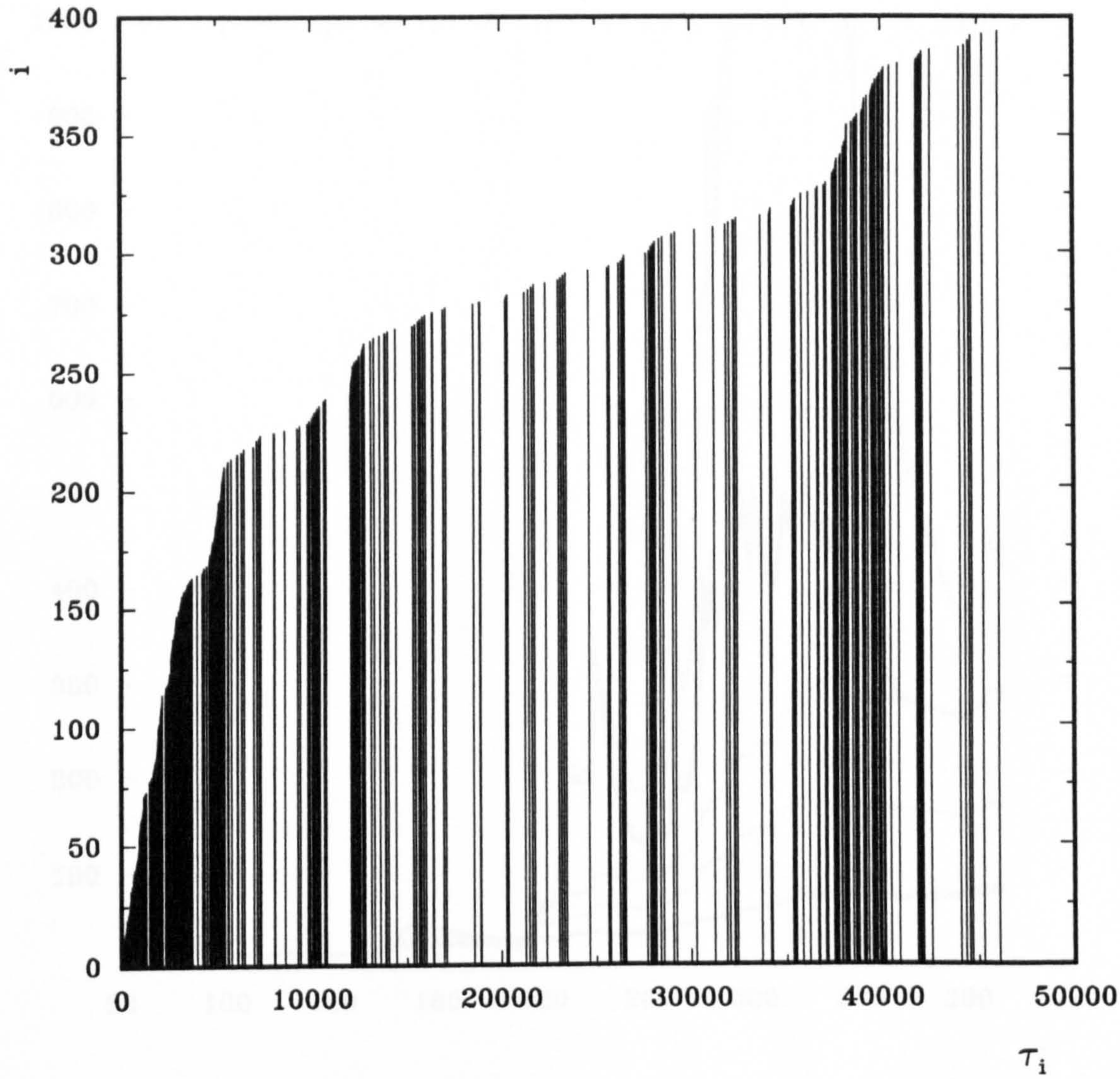


Figure B.2-3. Cumulative number of failures plotted against total elapsed time for data set *CISI2*.

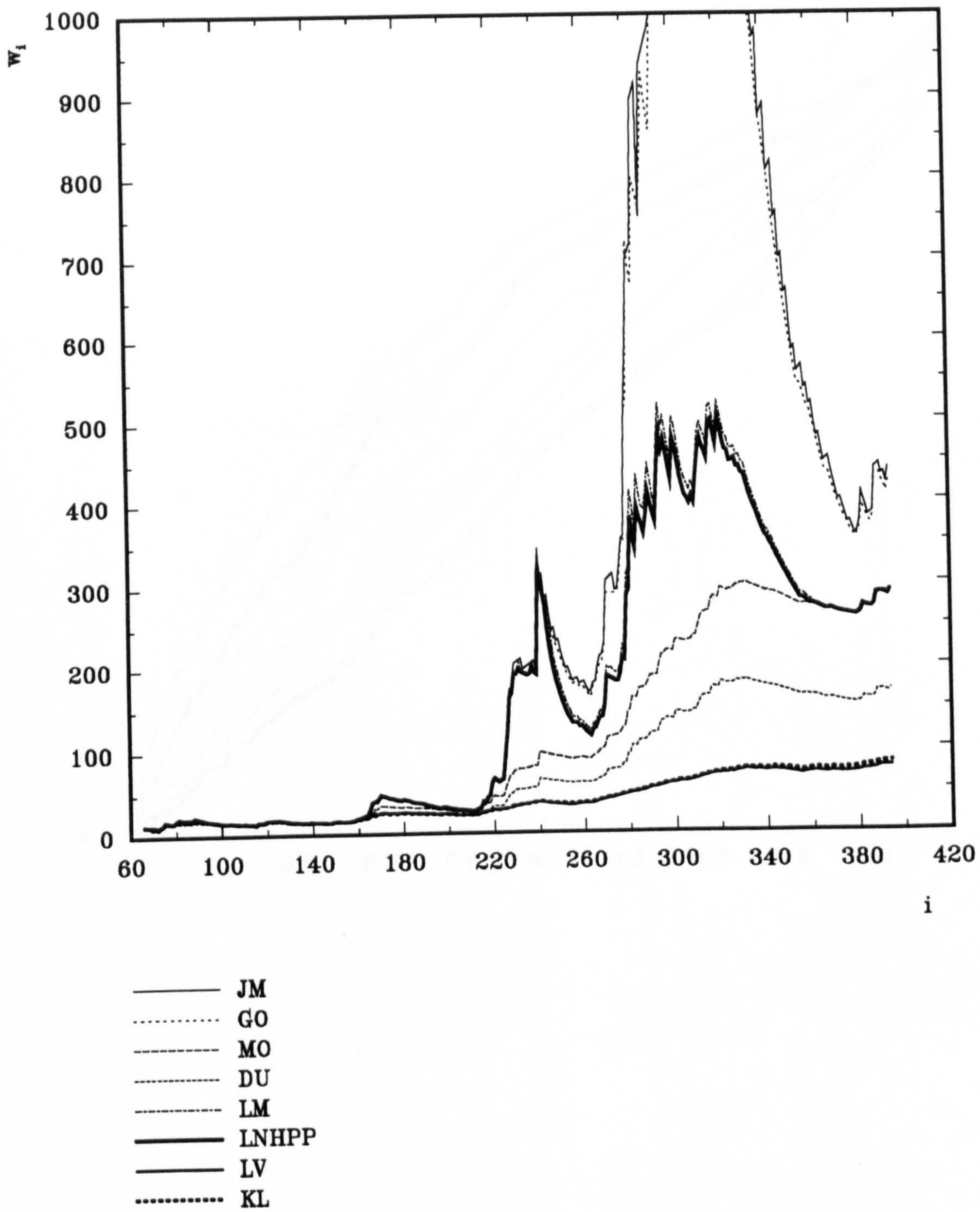


Figure B.2-4. Median predictions from the raw parametric predictors plotted against failure number for data set *CISI2*.

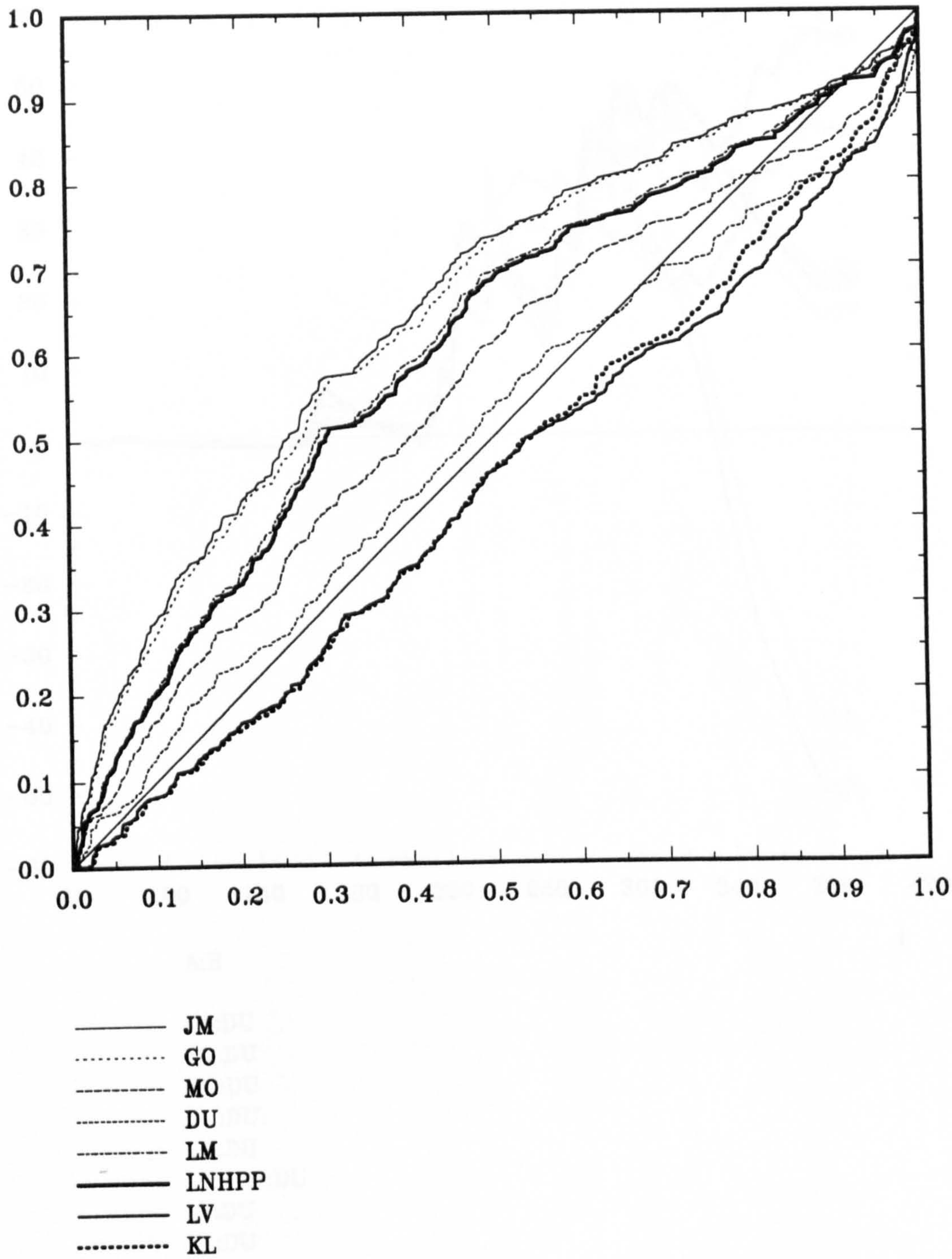


Figure B.2-5. *u*-plots for the raw parametric predictors for data set *CISI2*.

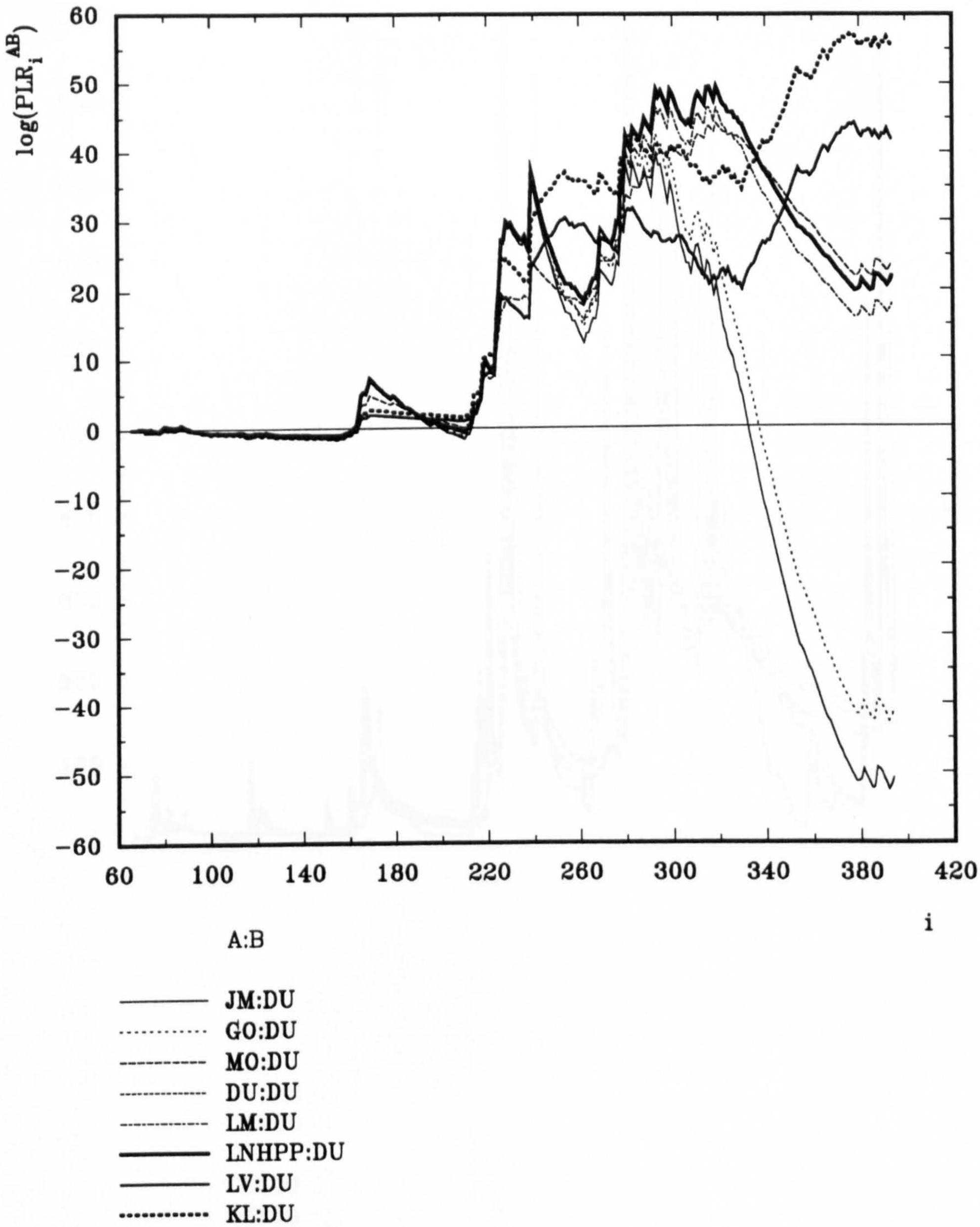
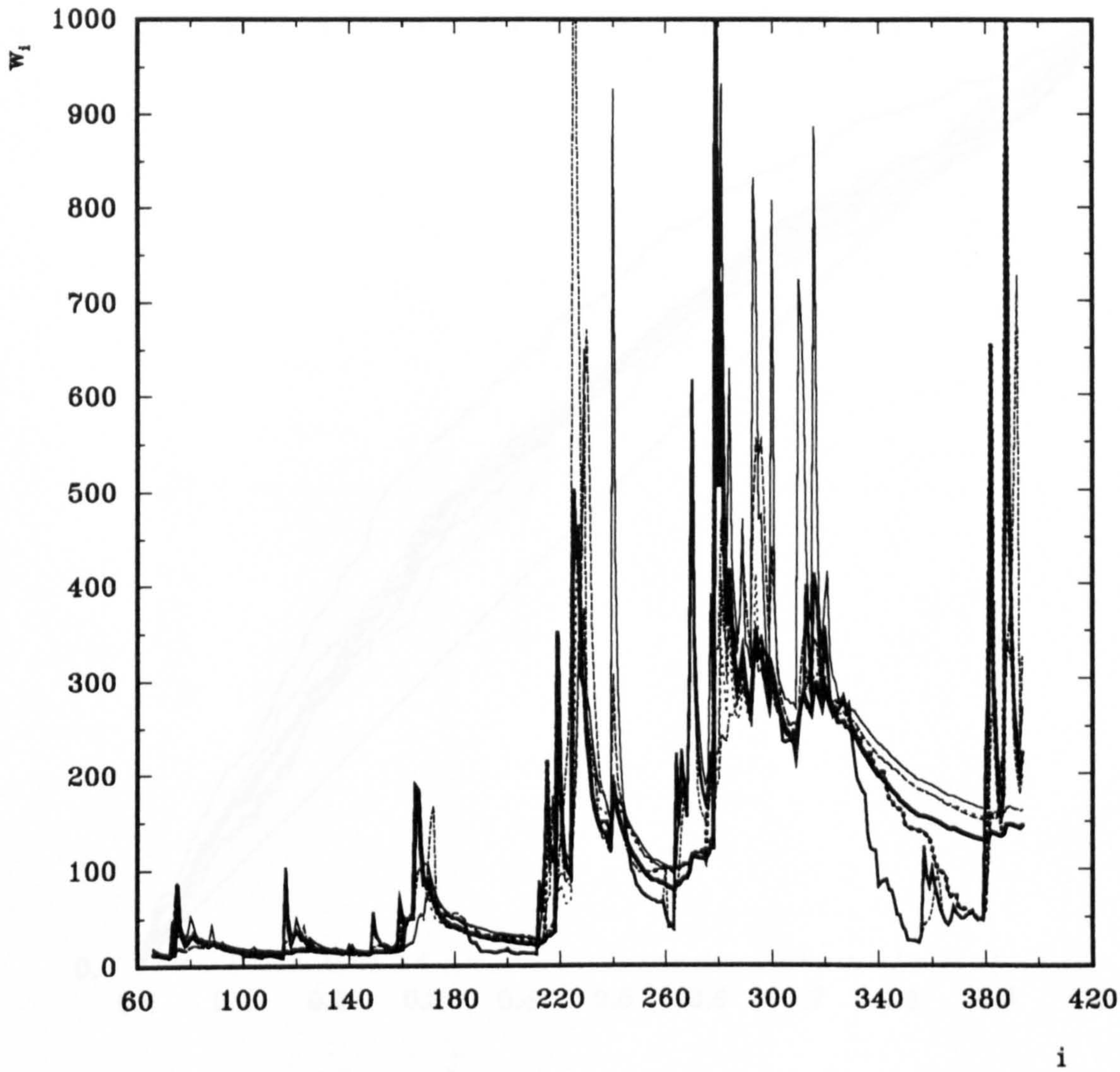
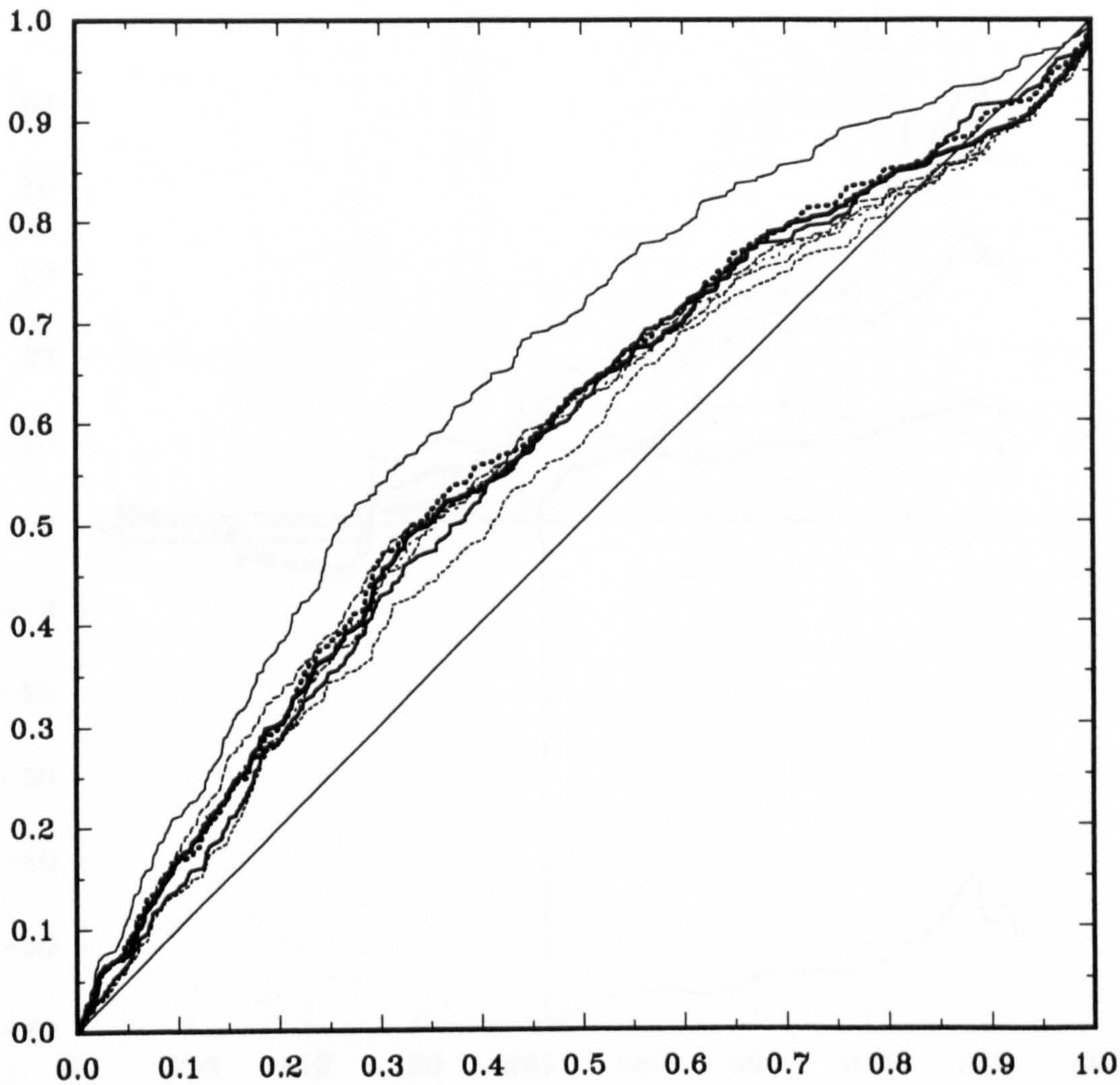


Figure B.2-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *CISI2*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.2-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *CISI2*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.2-8. *u*-plots for the raw non-parametric predictors for data set *CISI2*.

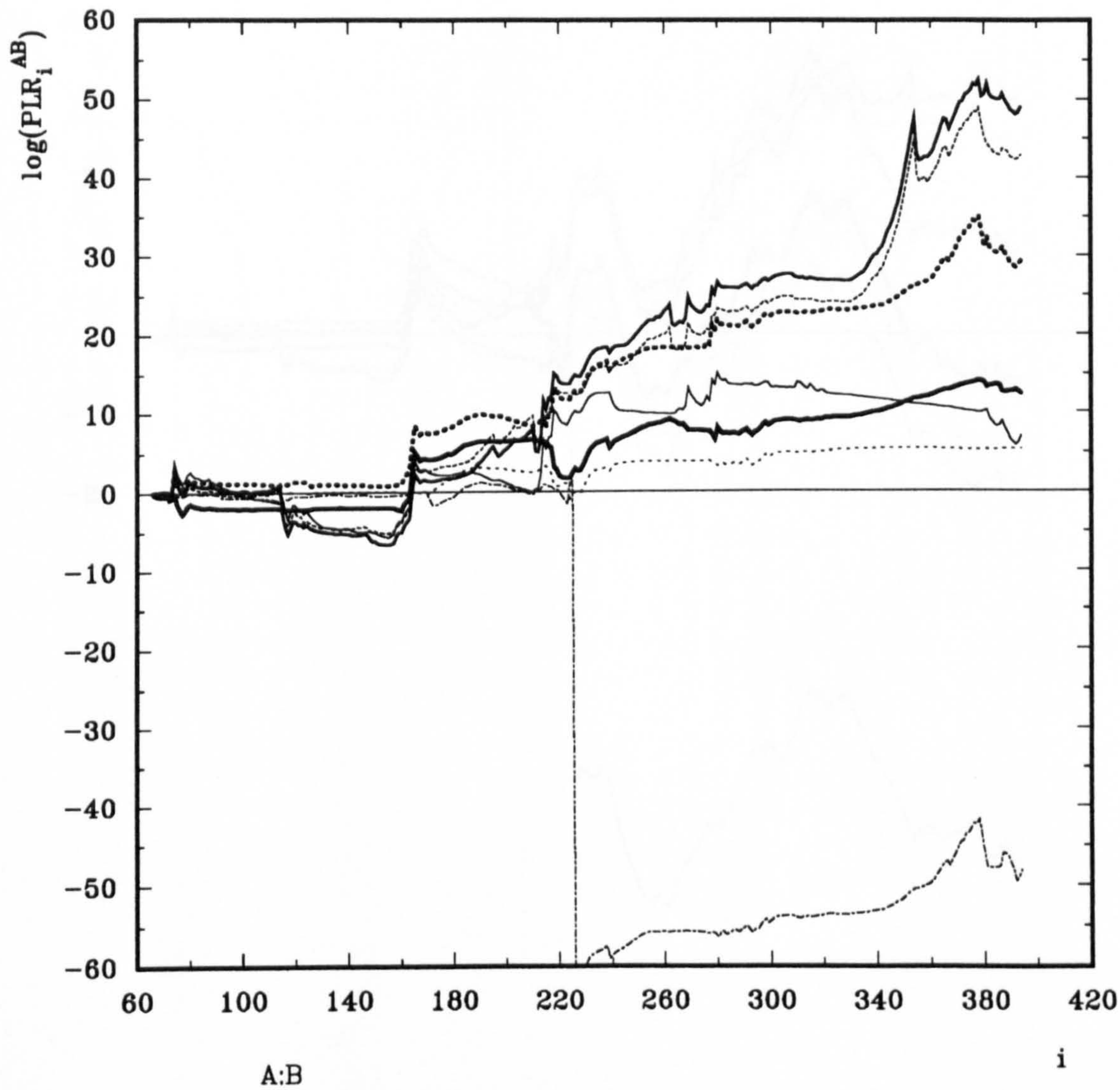


Figure B.2-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *CISI2*.

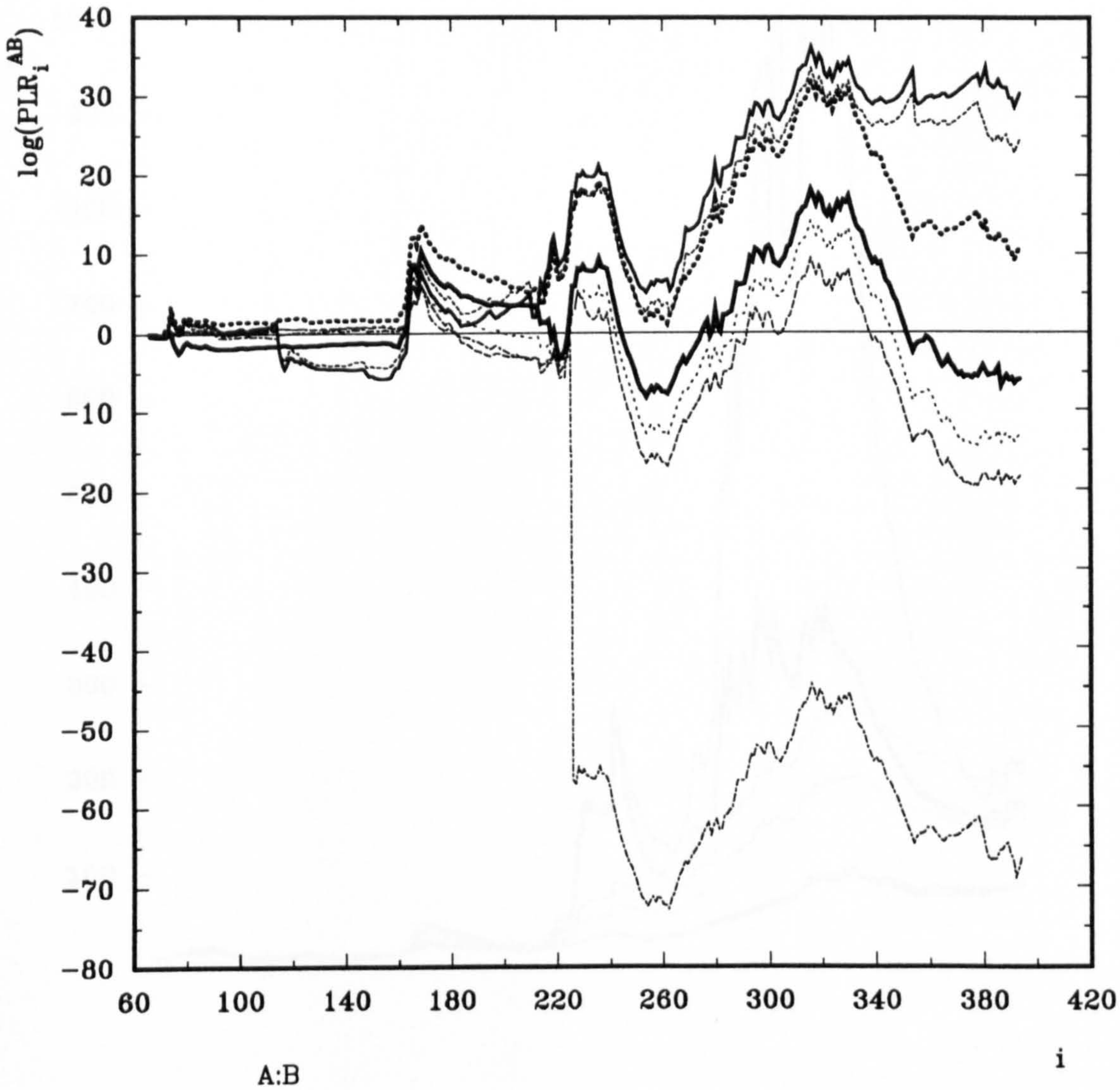


Figure B.2-10. *log(PLR)*-plots for the raw non-parametric predictors versus *KL* for data set *CISI2*.

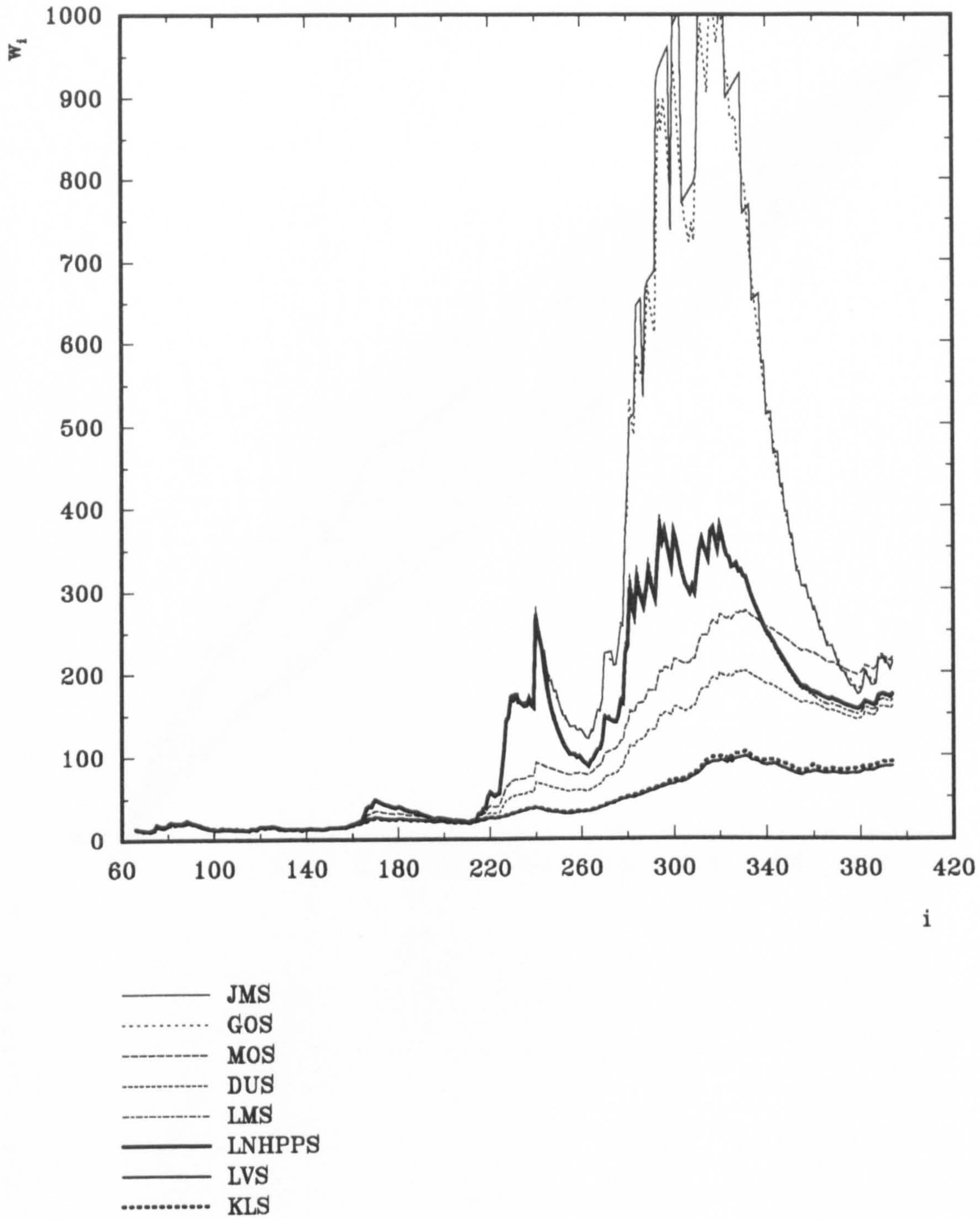
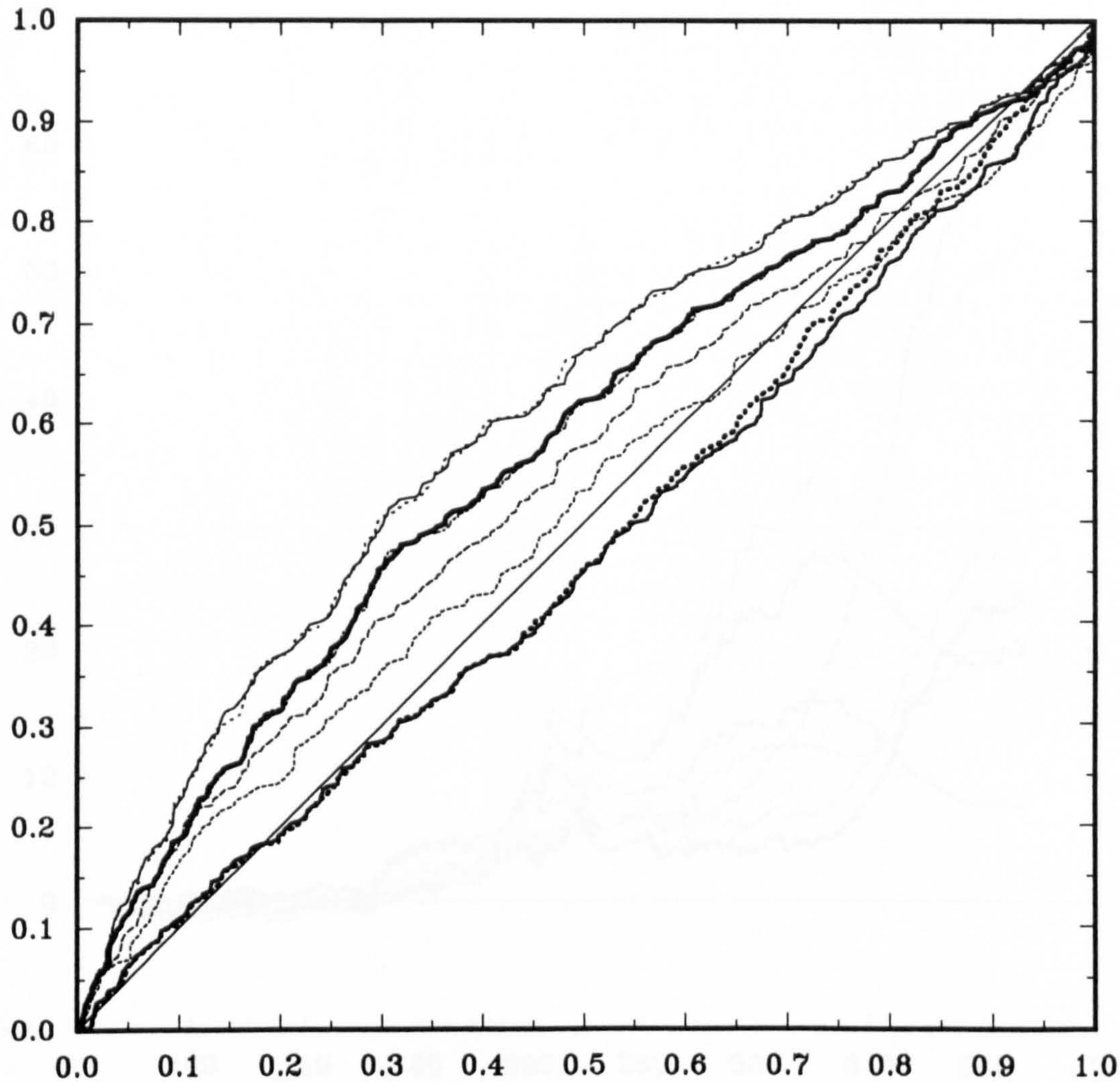


Figure B.2-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *CISI2*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.2-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *CISI2*.

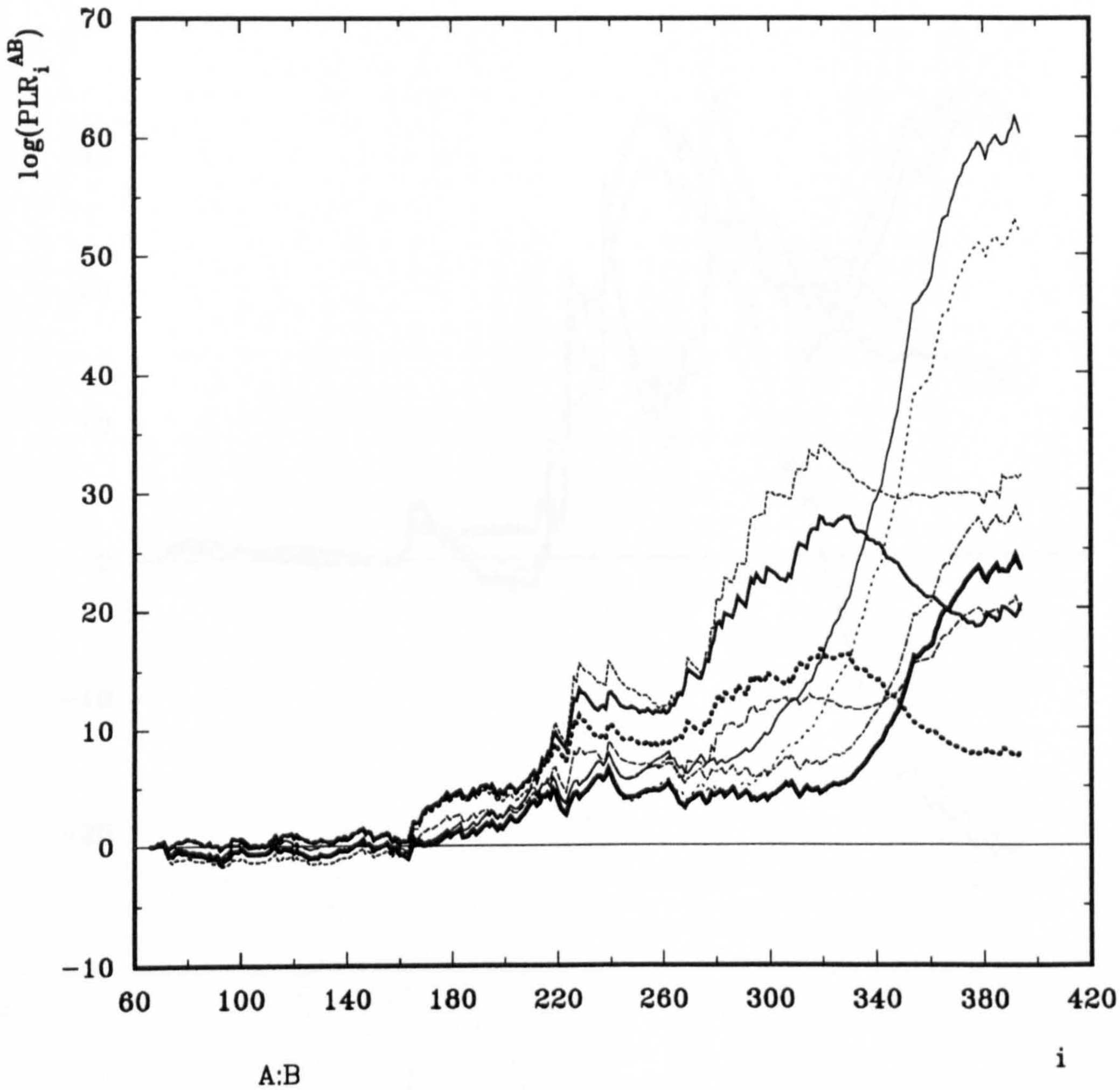


Figure B.2-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *CISI2*.

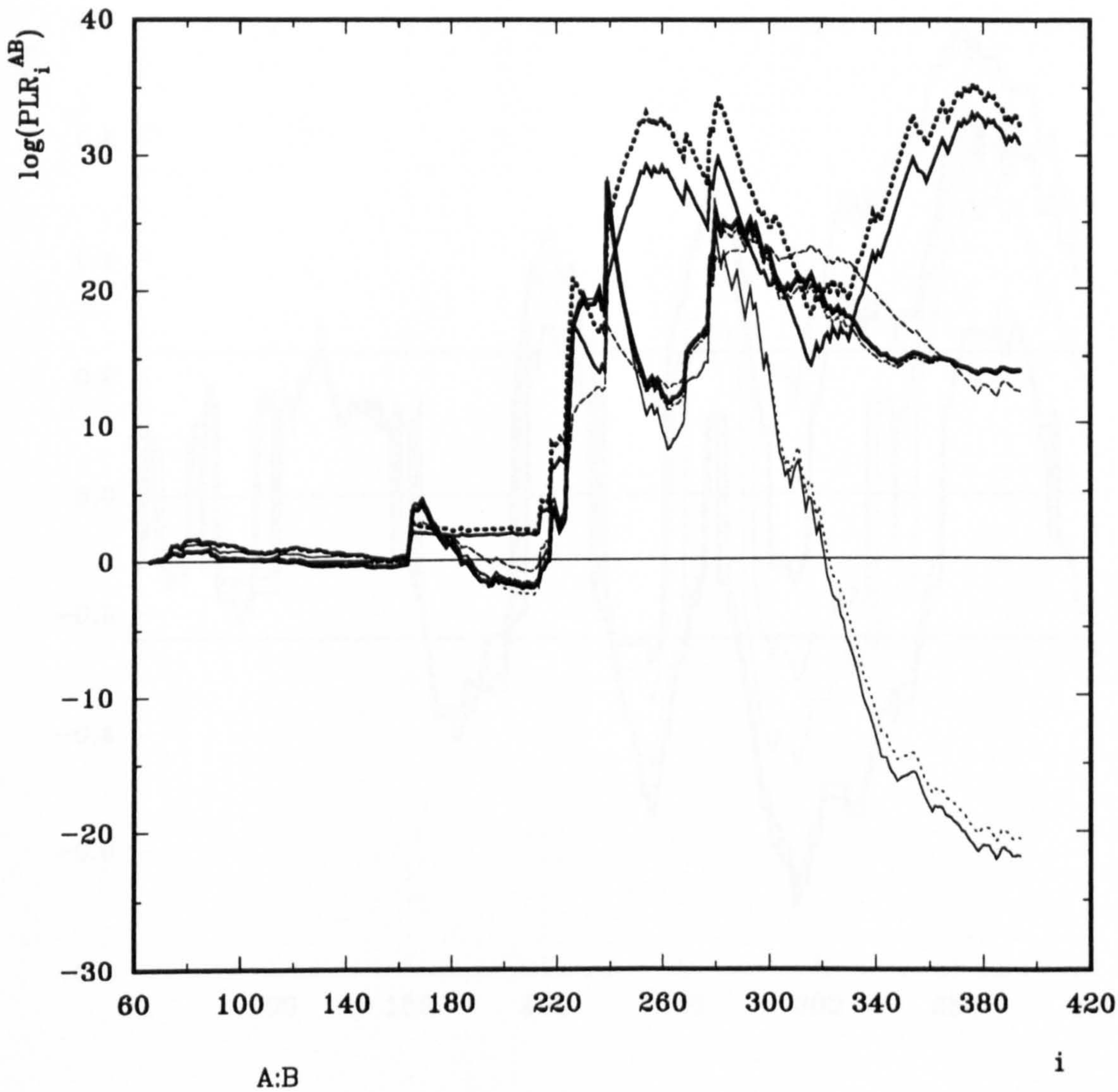
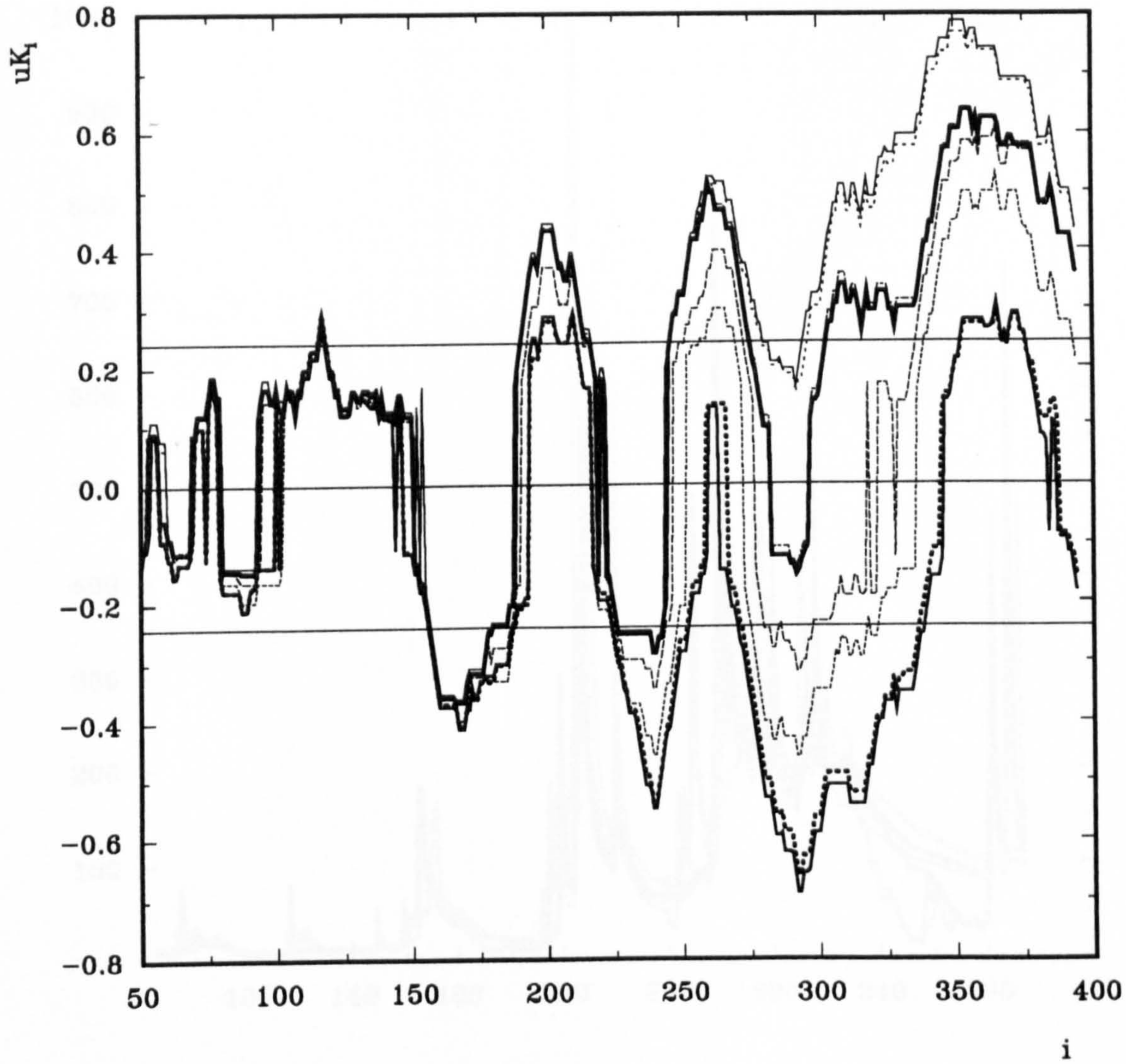
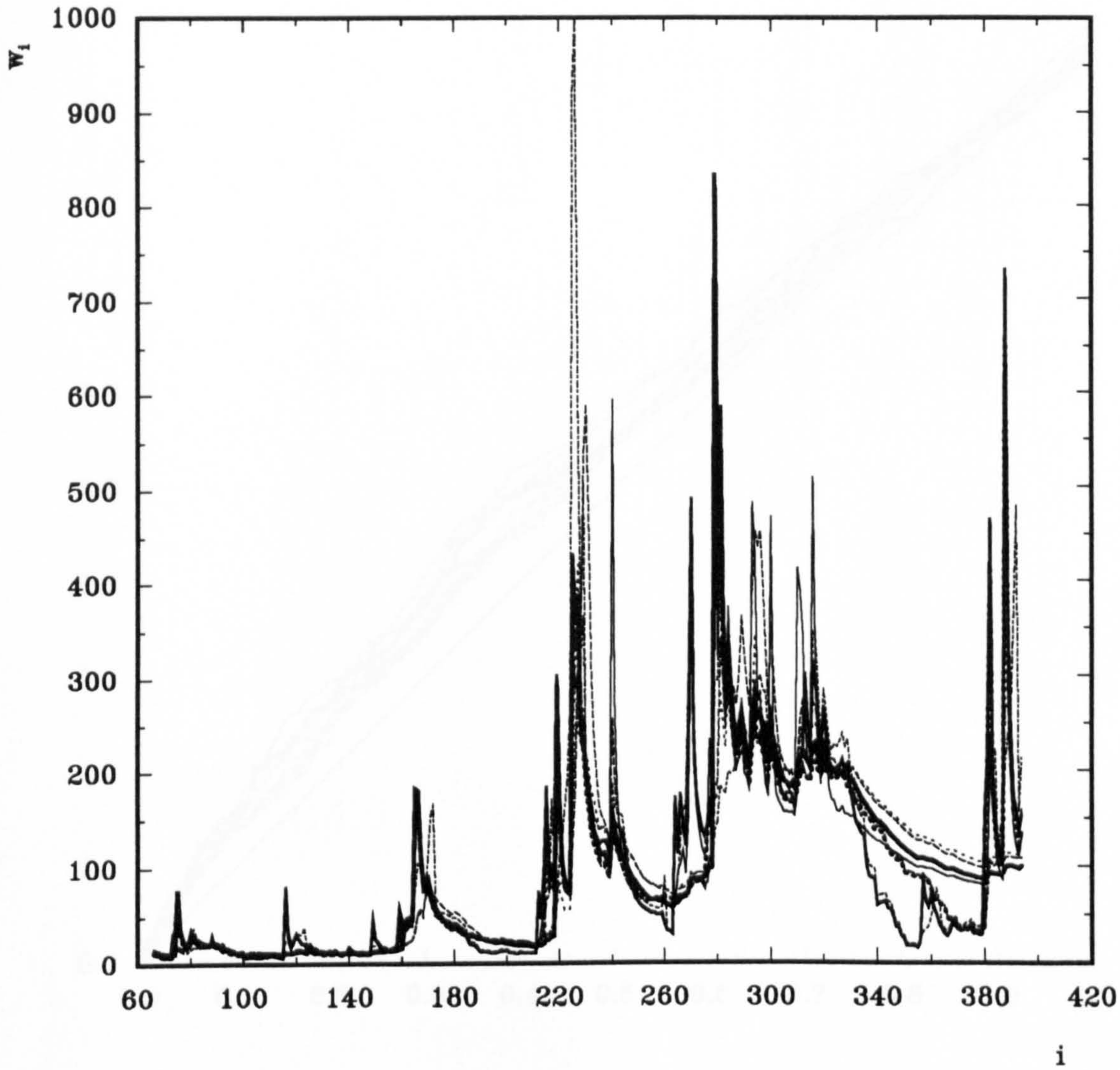


Figure B.2-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *CISI2*.



JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.2-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *CISI2*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.2-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *CISI2*.

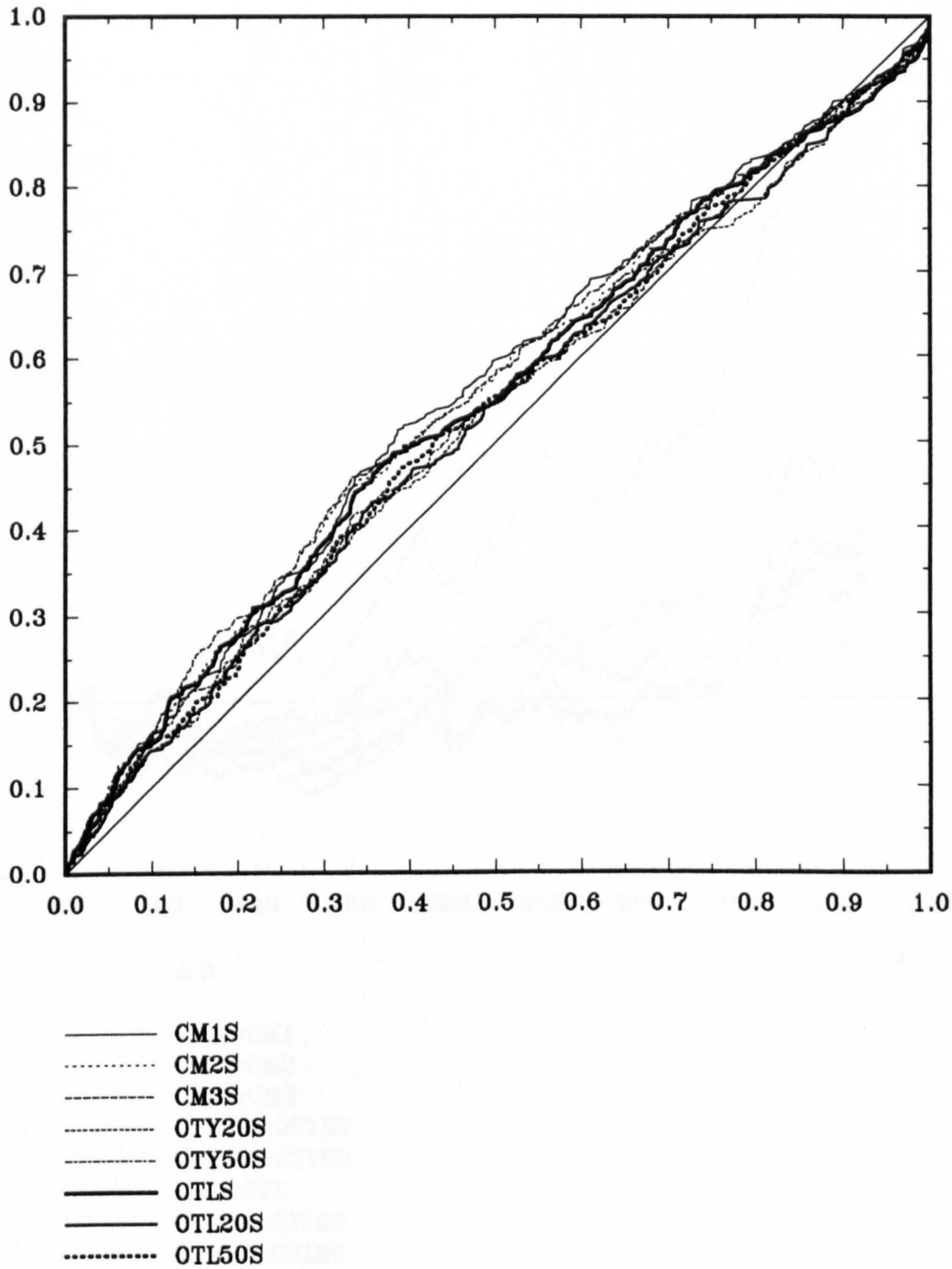


Figure B.2-17. *u*-plots for the recalibrated (no window) non-parametric predictors for data set *CISI2*.

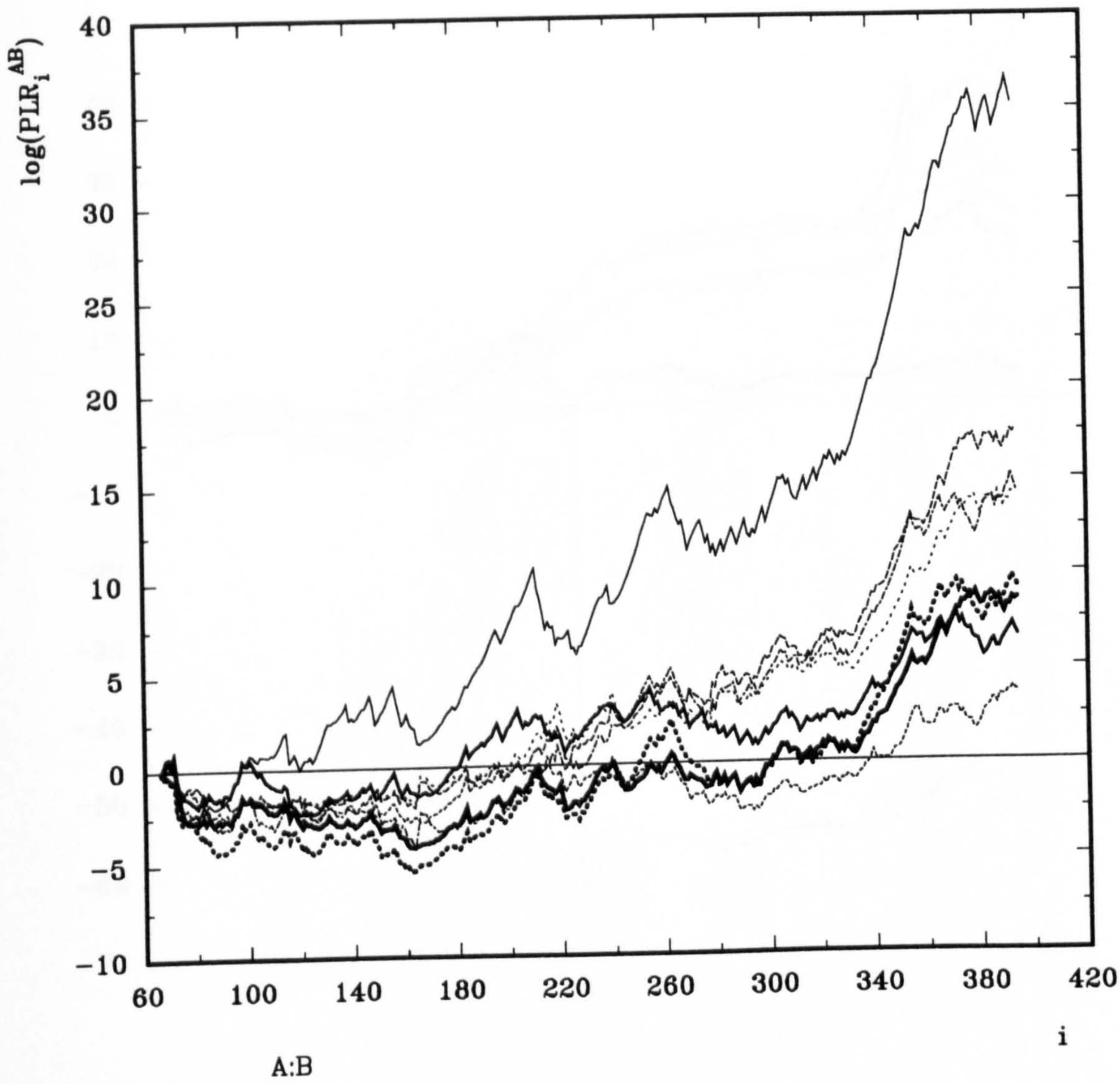


Figure B.2-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *CISI2*.

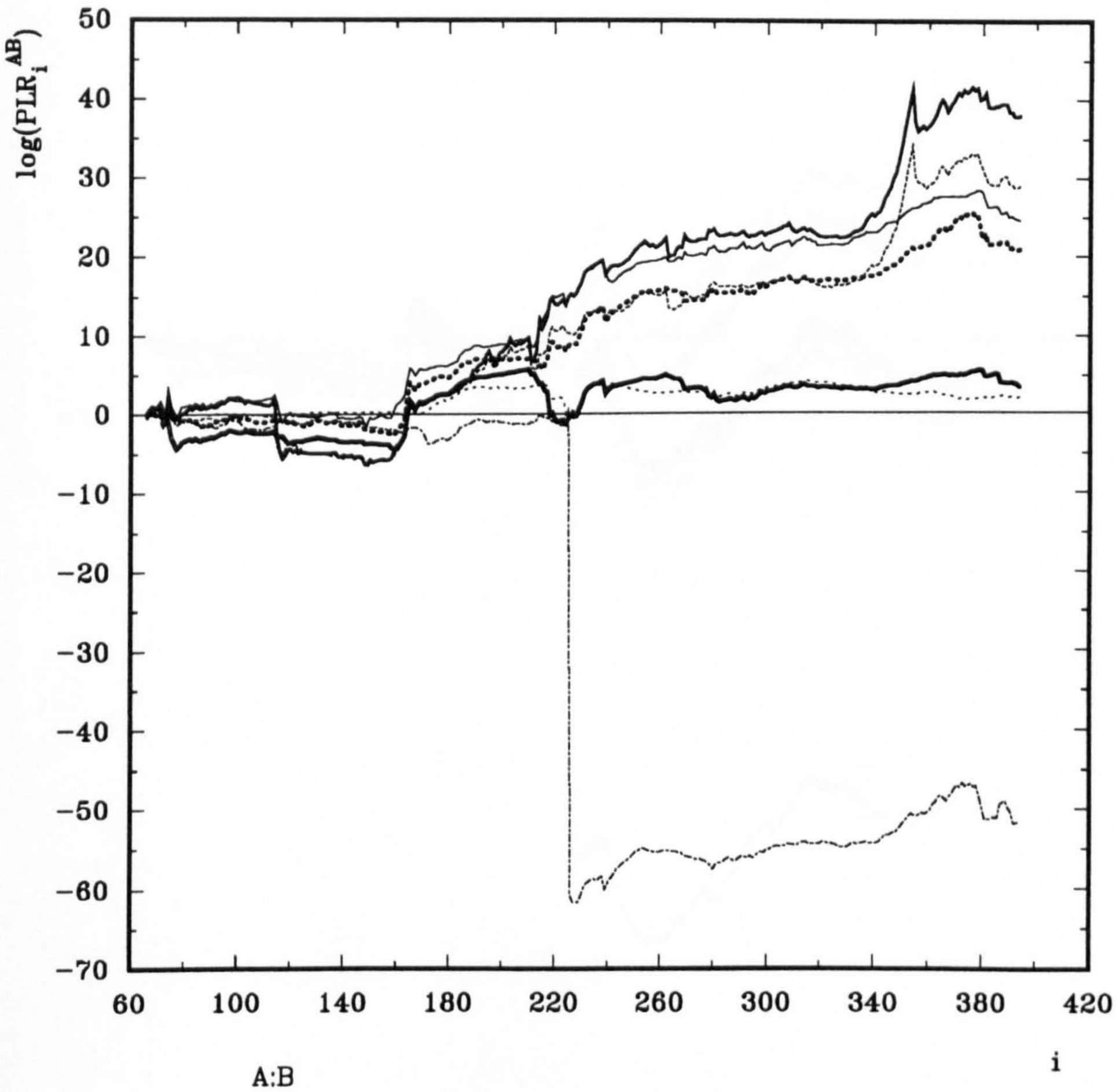


Figure B.2-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *CISI2*.

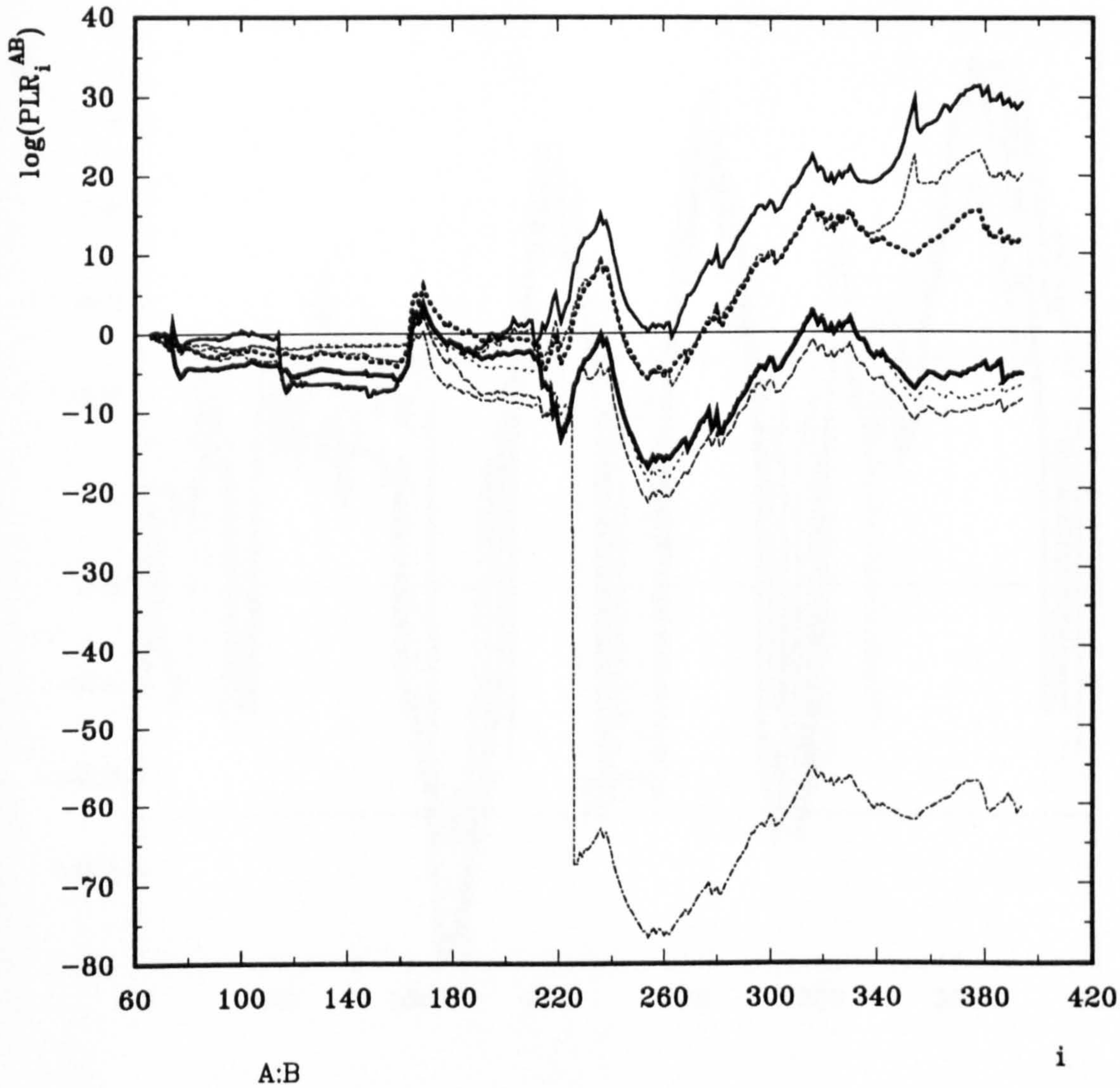
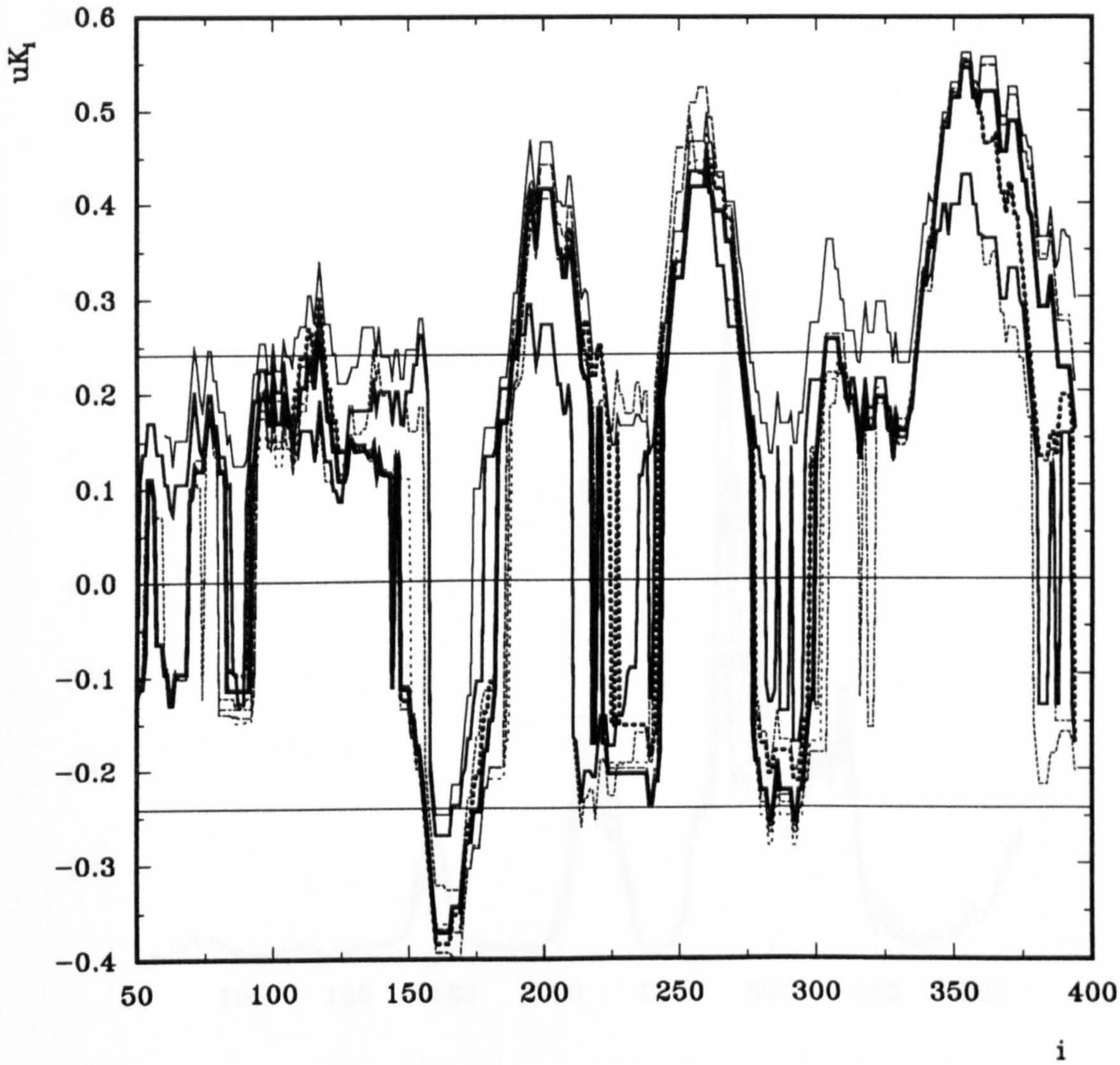
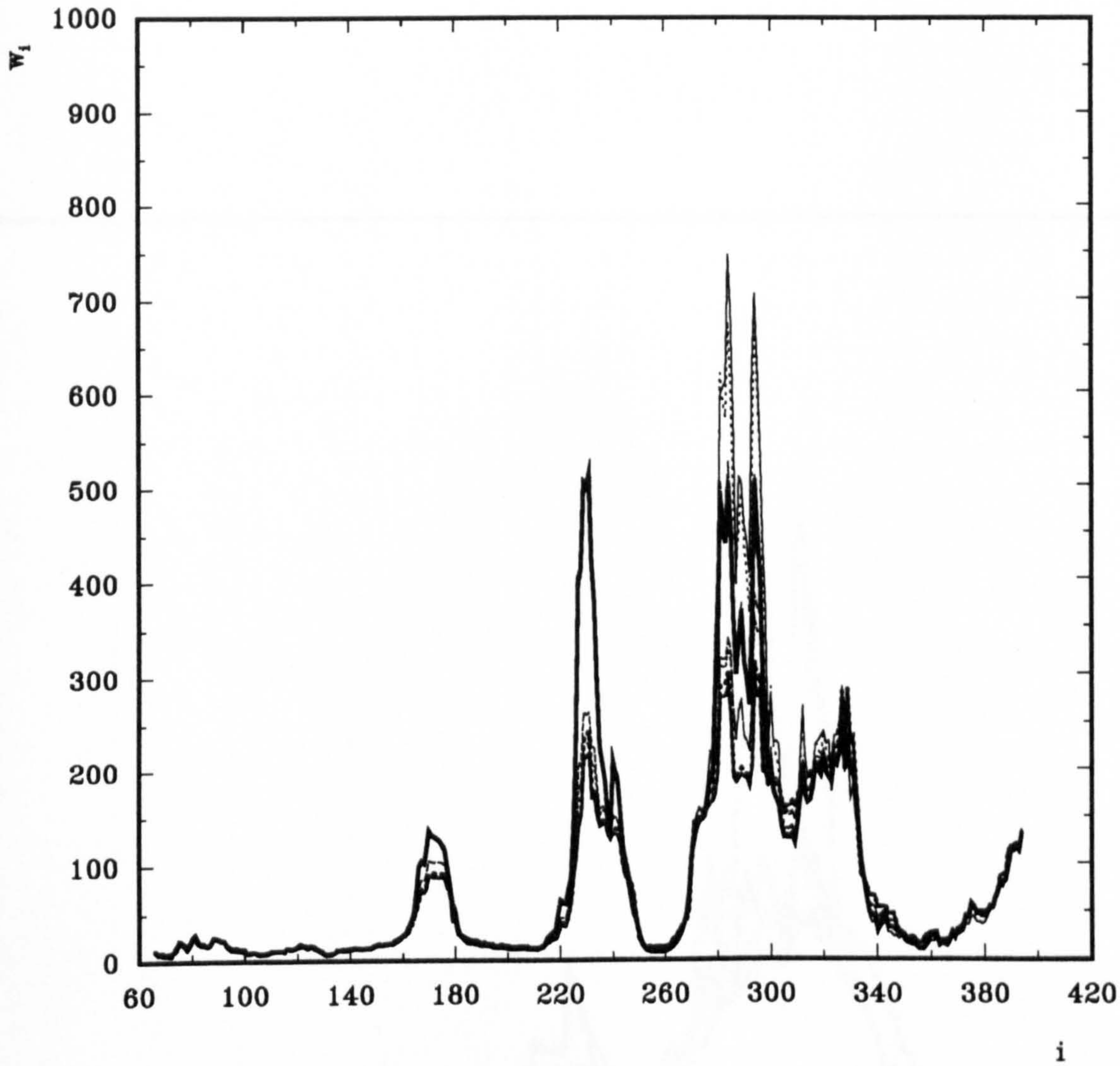


Figure B.2-20. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *KLS* for data set *CISI2*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50
5% significance lines

Figure B.2-21. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *CISI2*.



JMS20
GOS20
MOS20
DUS20
LMS20
LNHPPS20
LVS20
KLS20

Figure B.2-22. Median predictions from the recalibrated (window = *20*) parametric predictors plotted against failure number for data set *CISI2*.

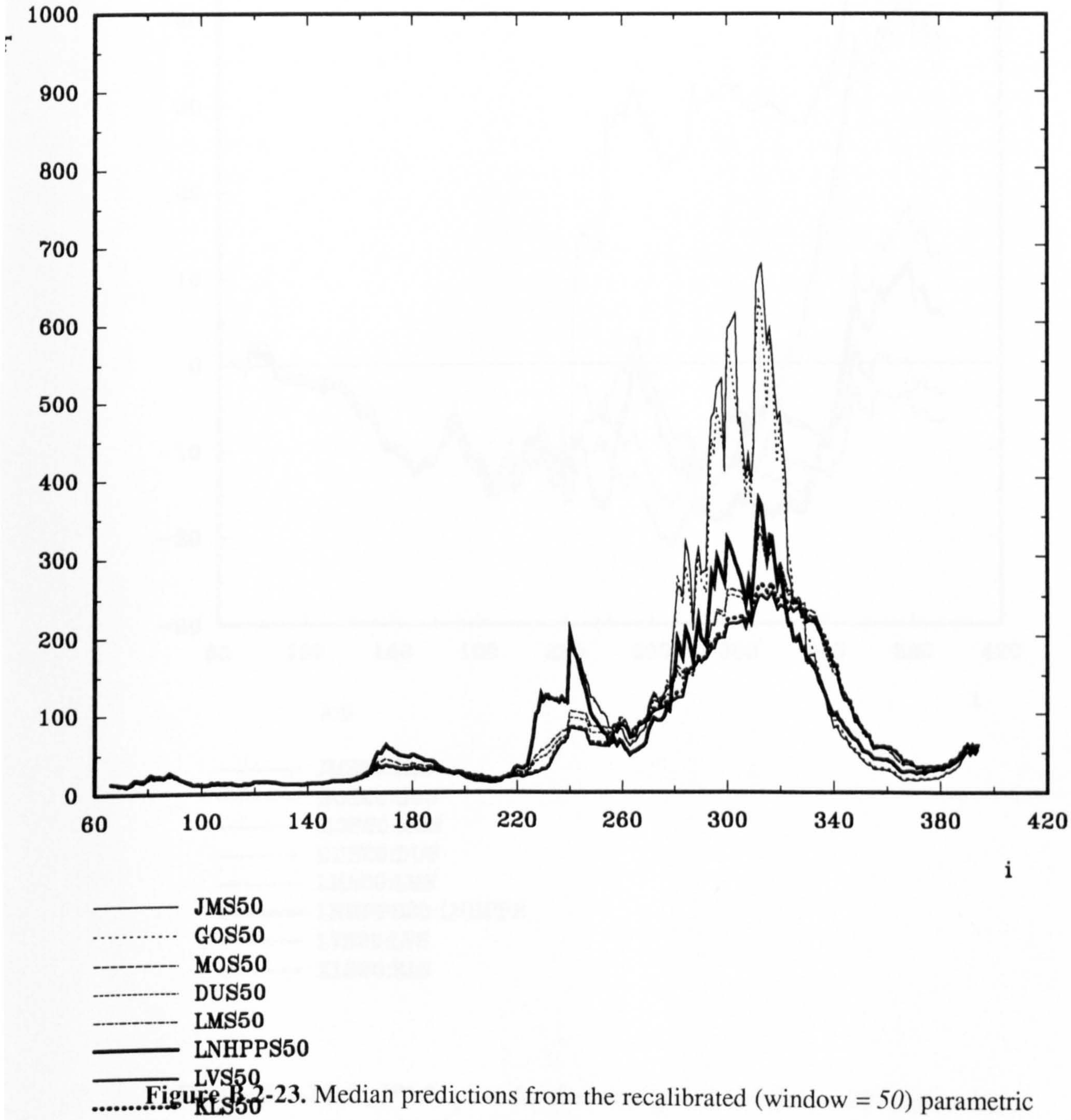


Figure B.2-23. Median predictions from the recalibrated (window = *50*) parametric predictors plotted against failure number for data set *CISI2*.

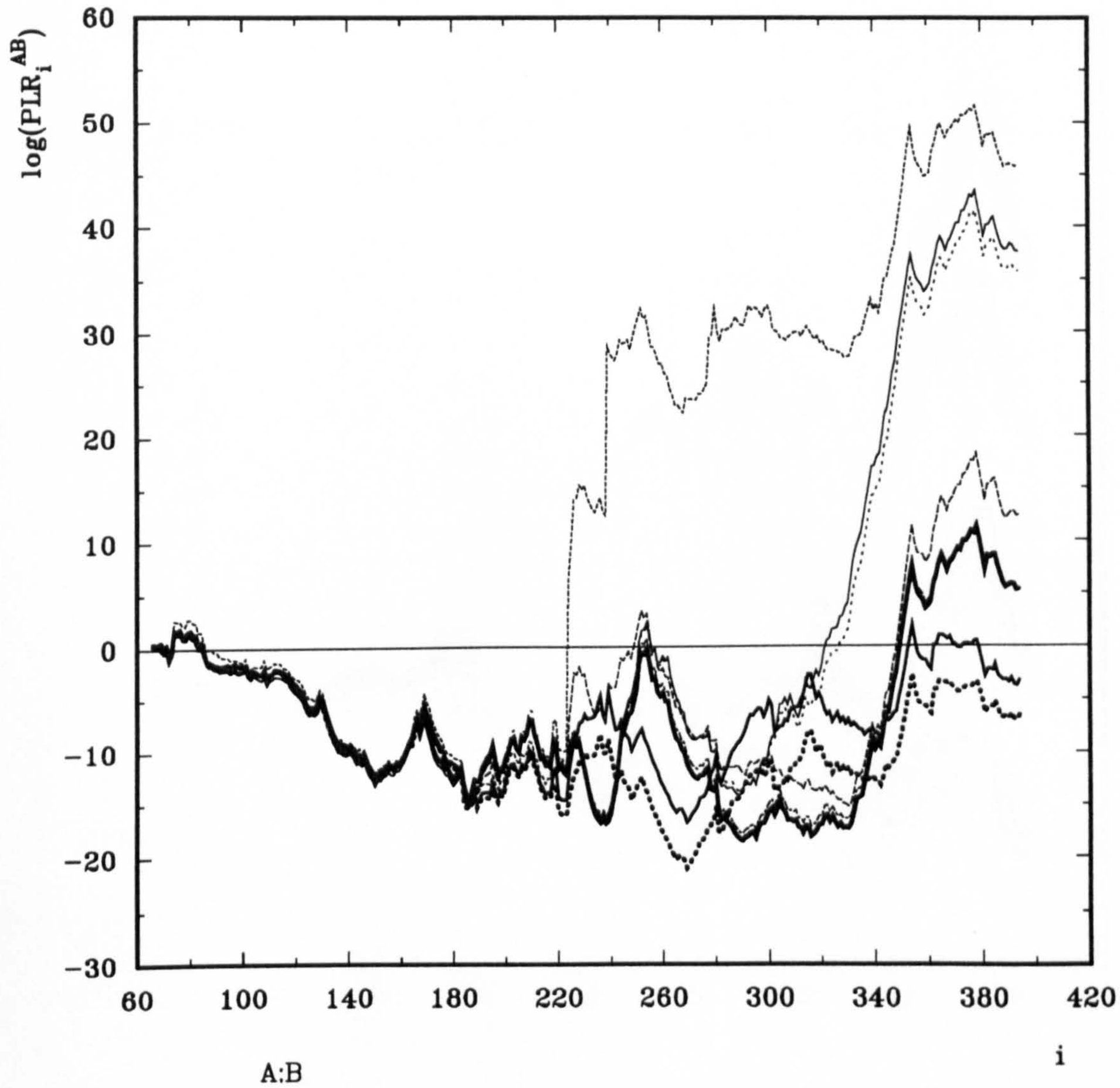


Figure B.2-24. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *CISI2*.

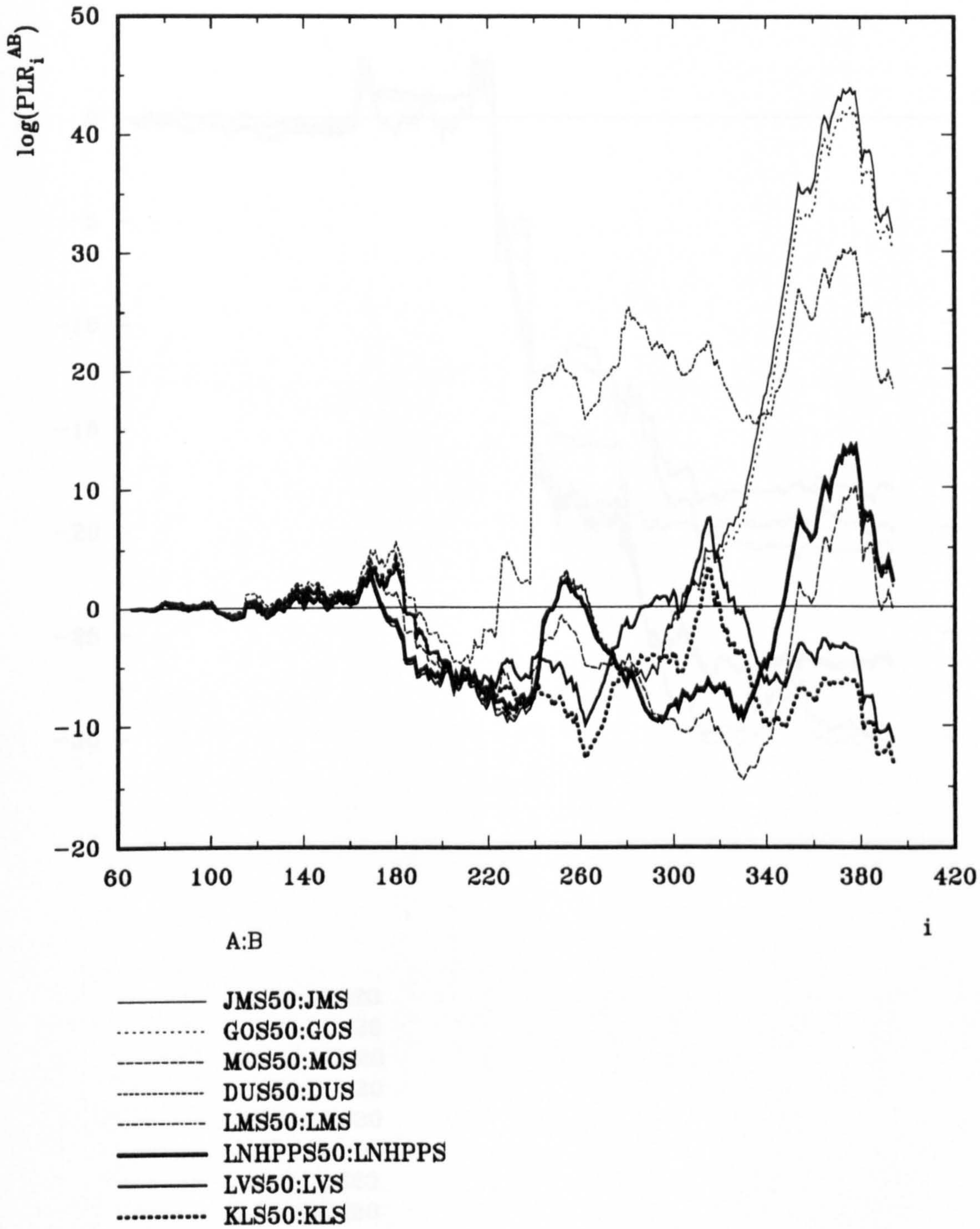


Figure B.2-25. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *CISI2*.

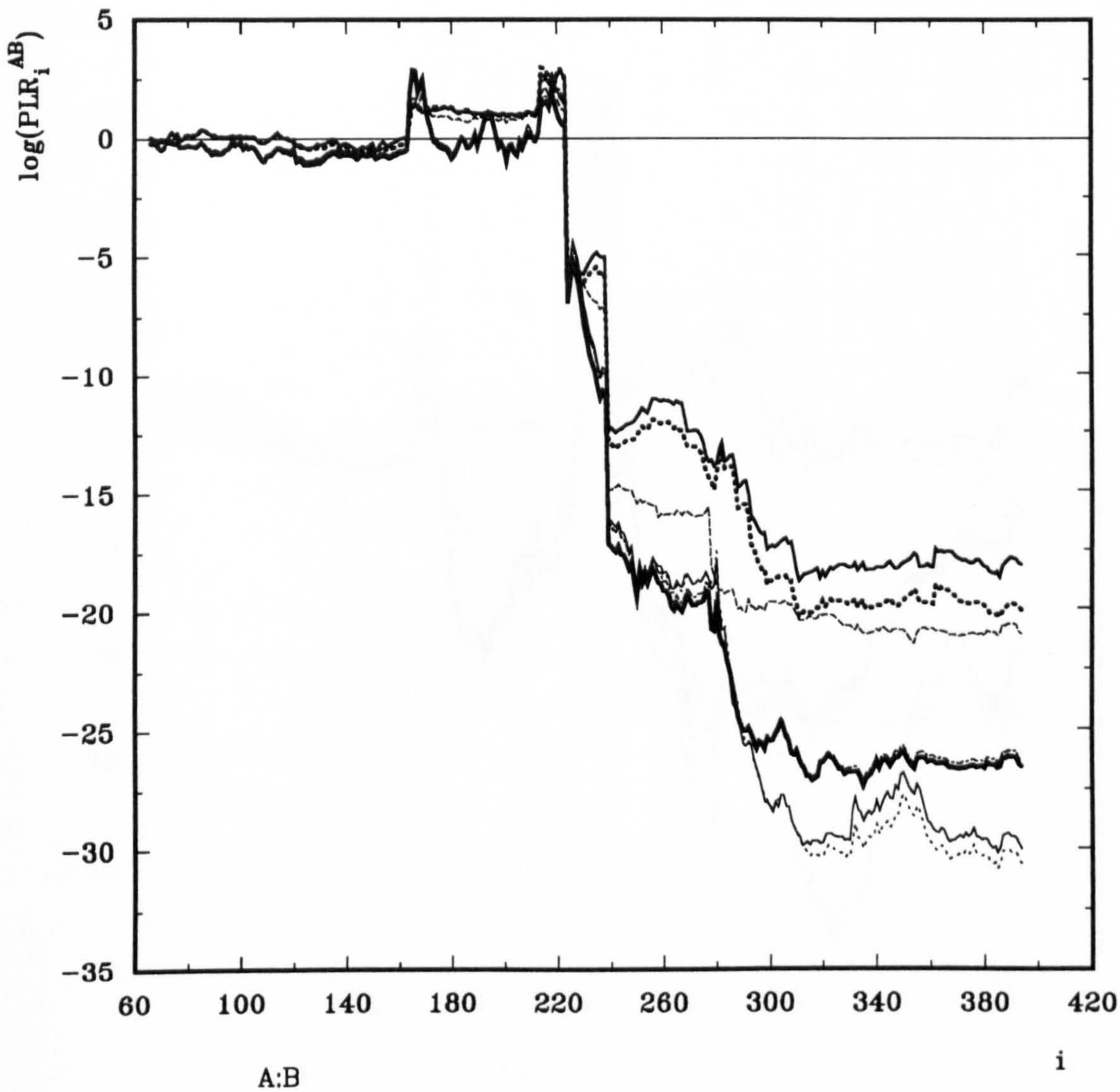


Figure B.2-26. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus *DUS20* for data set *CISI2*.

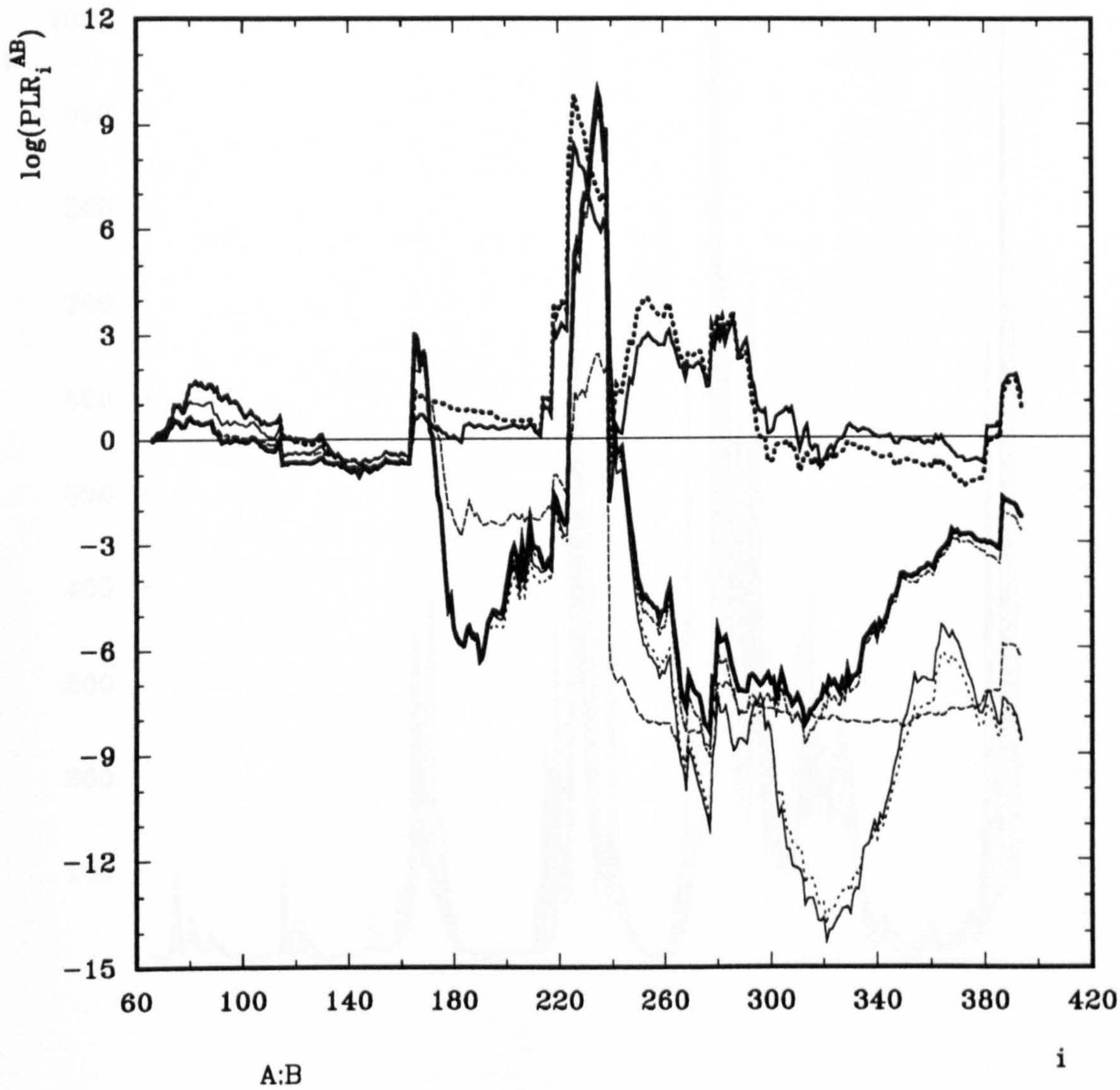
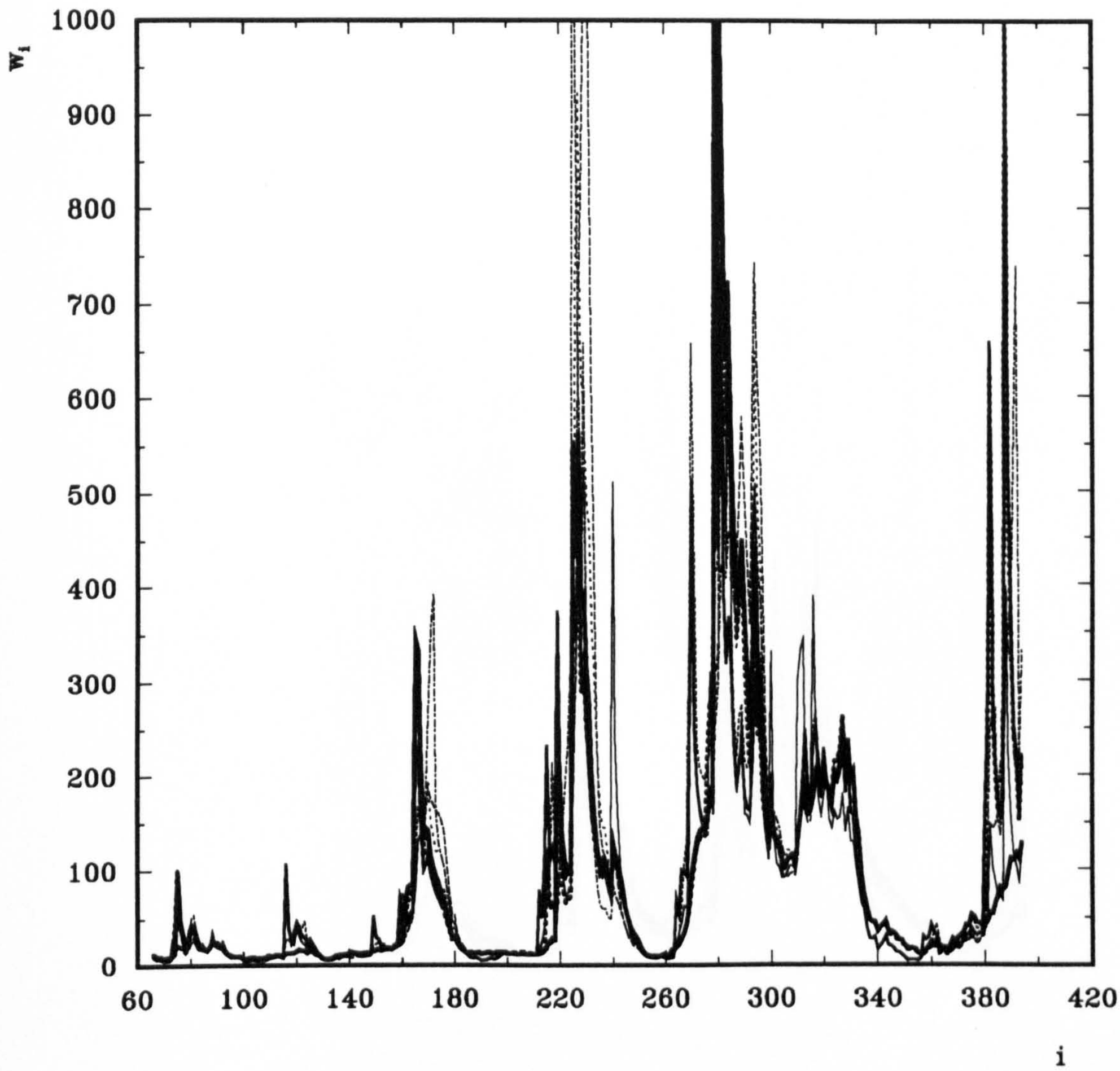
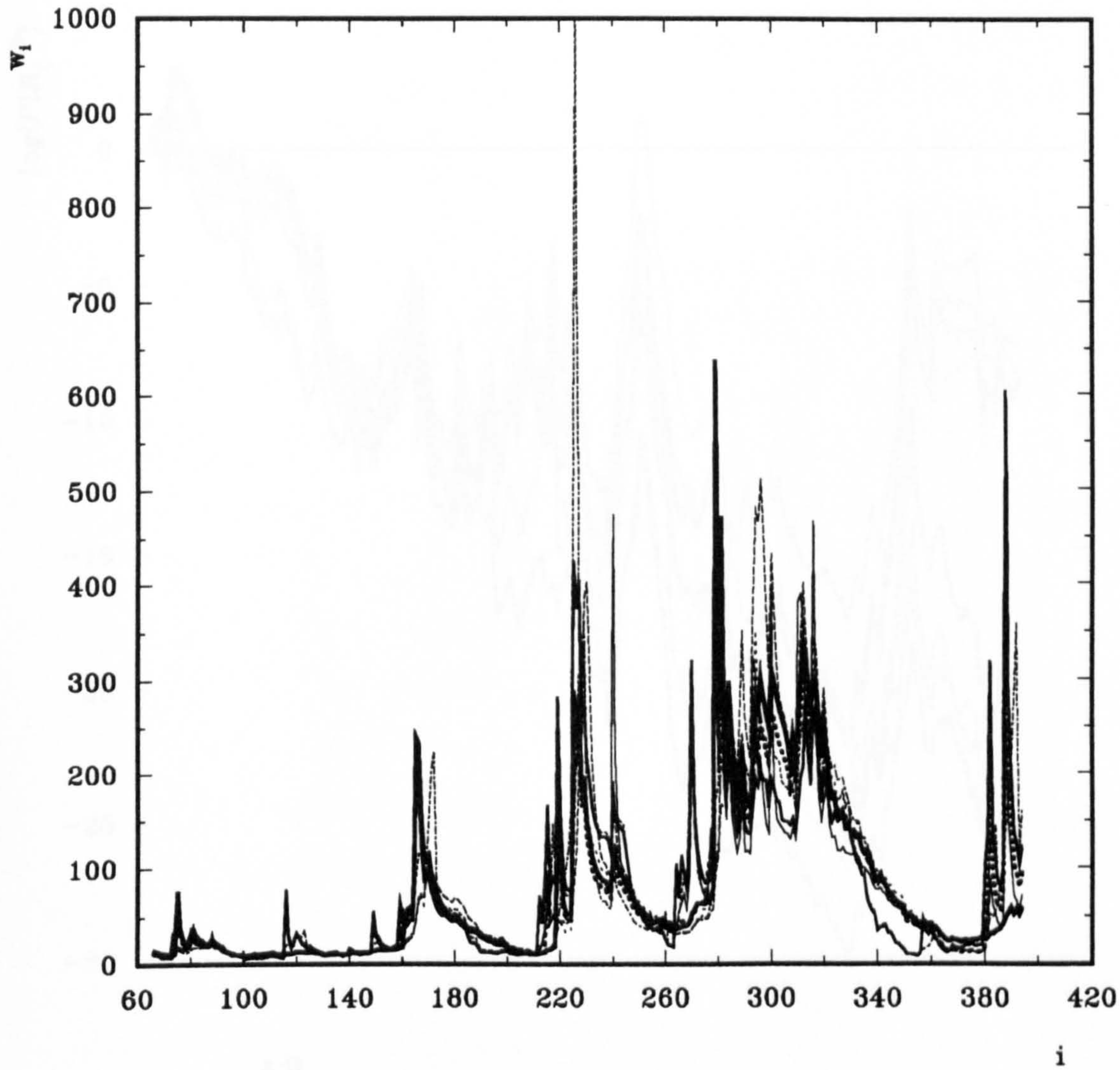


Figure B.2-27. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus *DUS50* for data set *CISI2*.



CM1S20
CM2S20
CM3S20
OTY20S20
OTY50S20
OTLS20
OTL20S20
OTL50S20

Figure B.2-28. Median predictions from the recalibrated (window = *20*) non-parametric predictors plotted against failure number for data set *CISI2*.



CM1S50
CM2S50
CM3S50
OTY20S50
OTY50S50
OTLS50
OTL20S50
OTL50S50

Figure B.2-29. Median predictions from the recalibrated (window = *50*) non-parametric predictors plotted against failure number for data set *CISI2*.

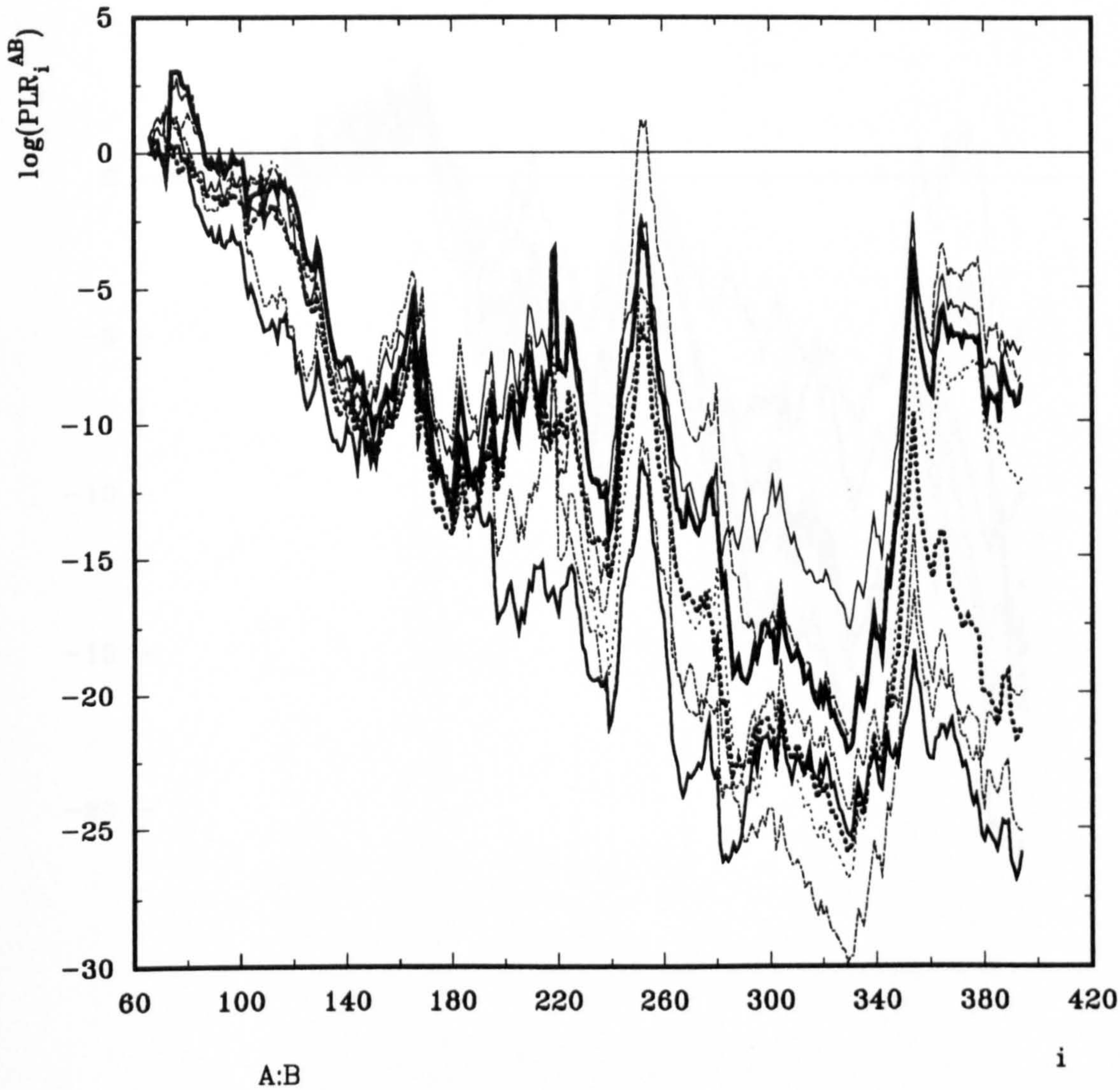


Figure B.2-30. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *CISI2*.

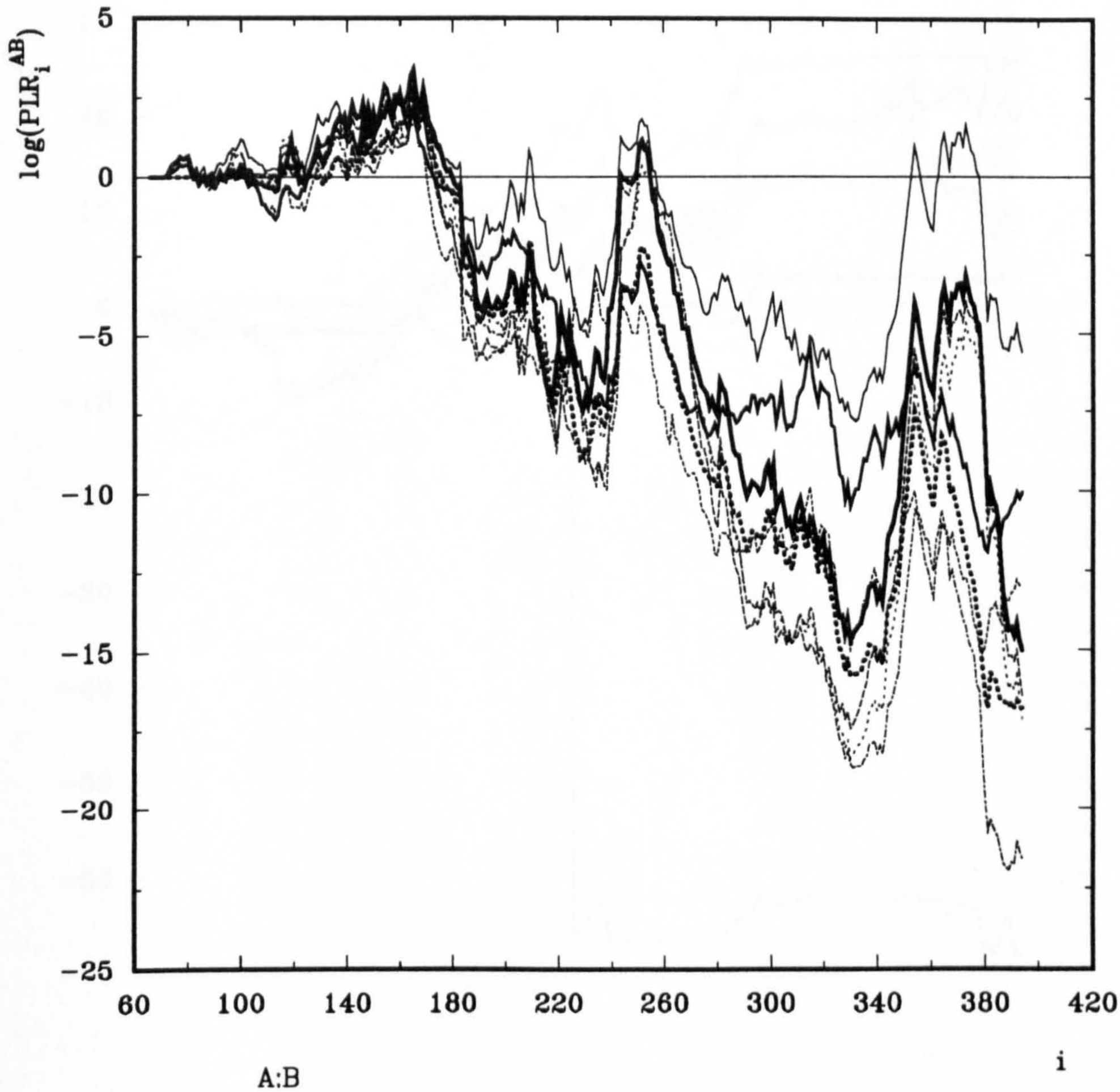


Figure B.2-31. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *CISI2*.

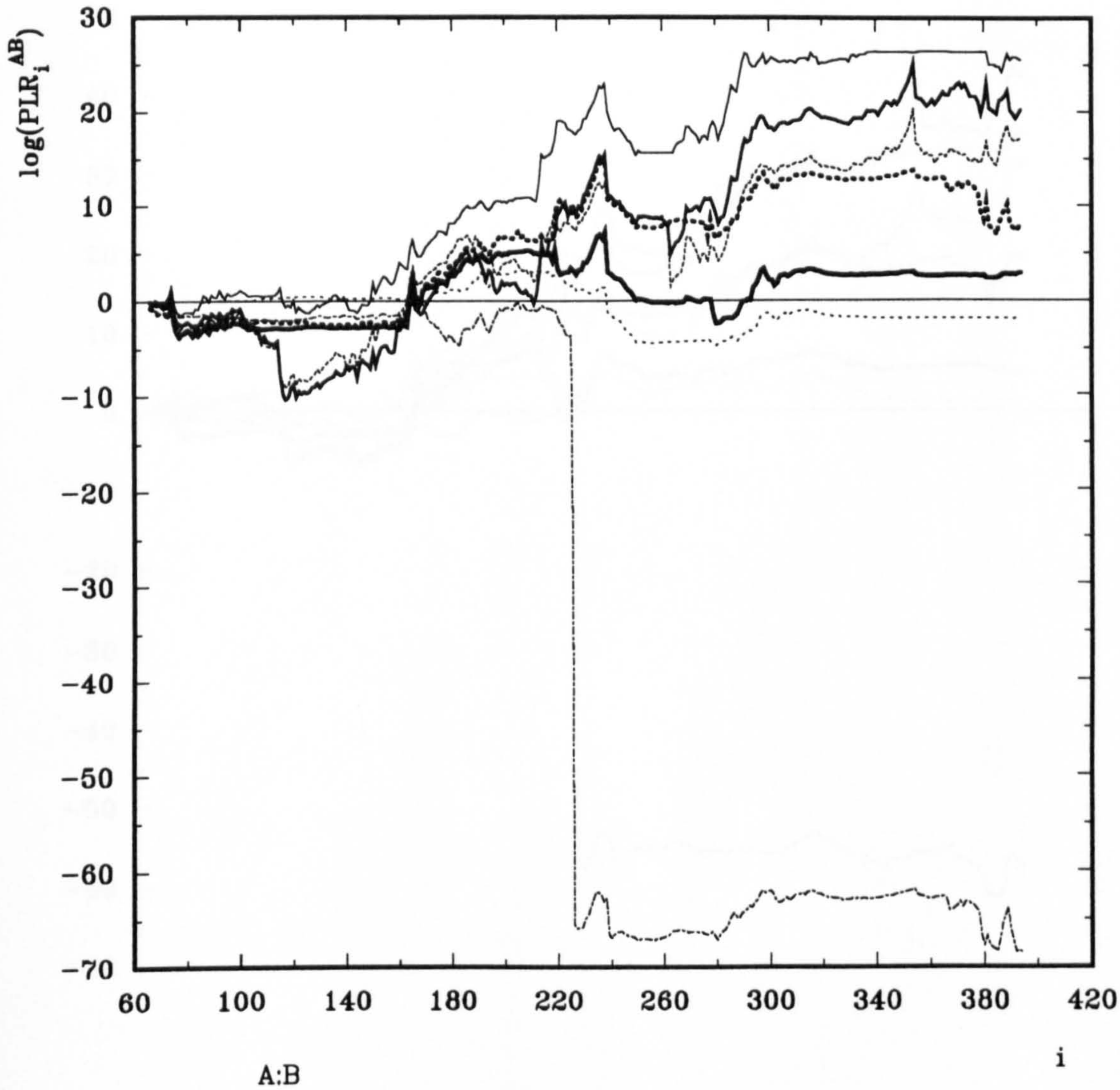


Figure B.2-32. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus *CM3S20* for data set *CISI2*.

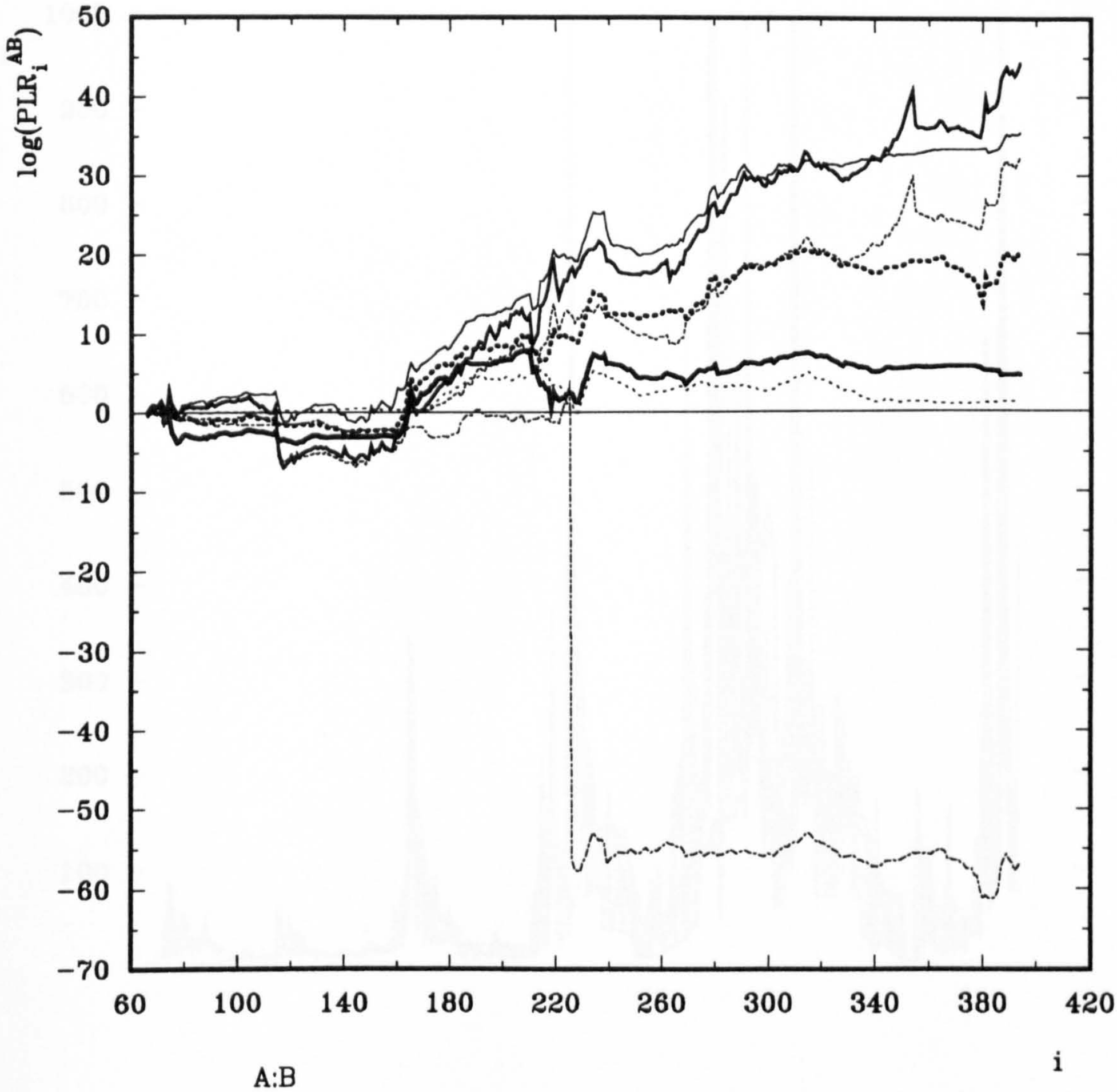
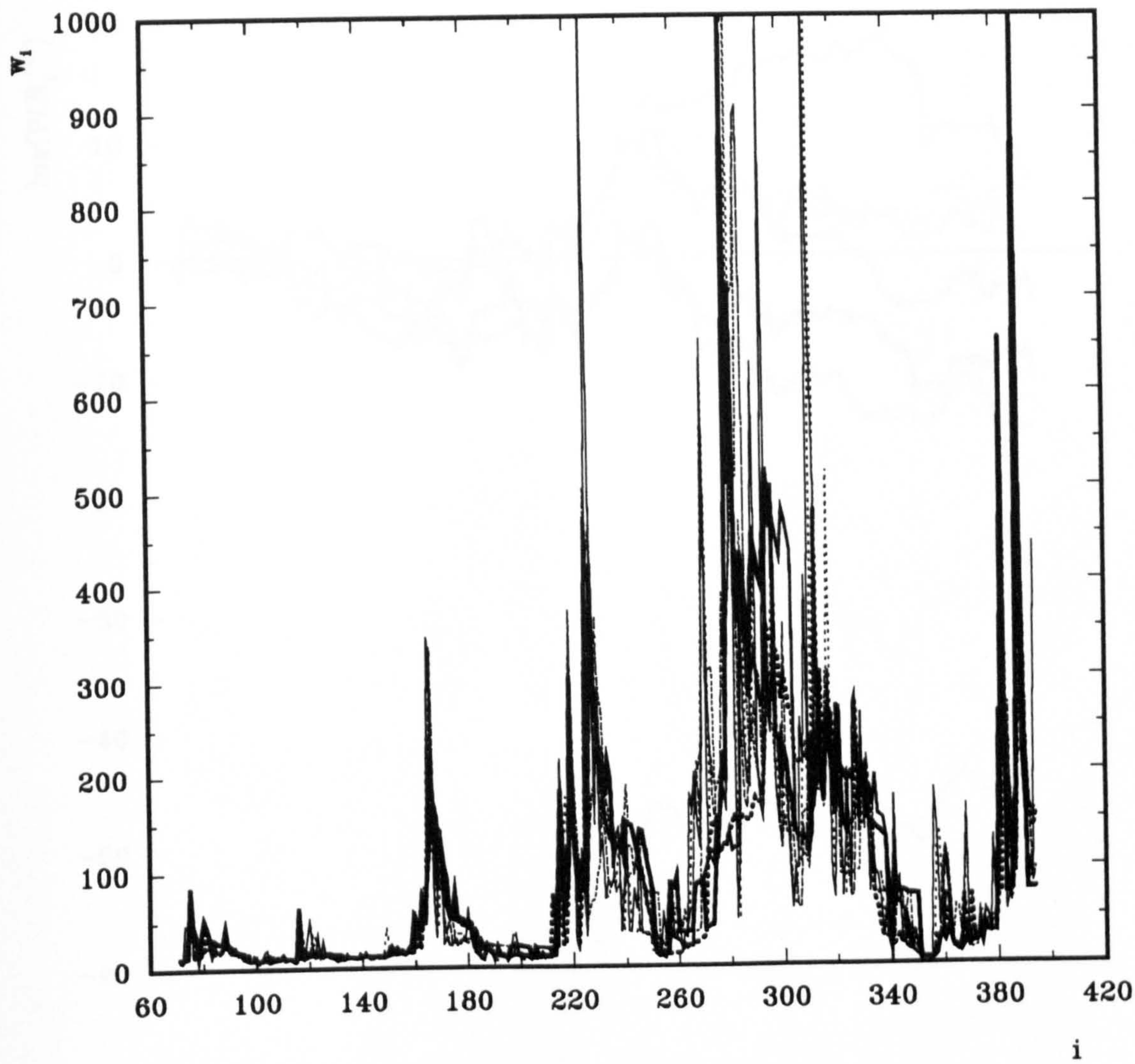


Figure B.2-33. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus *CM3S50* for data set *CISI2*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.2-34. Median predictions from the meta-predictors plotted against failure number for data set *CISI2*.

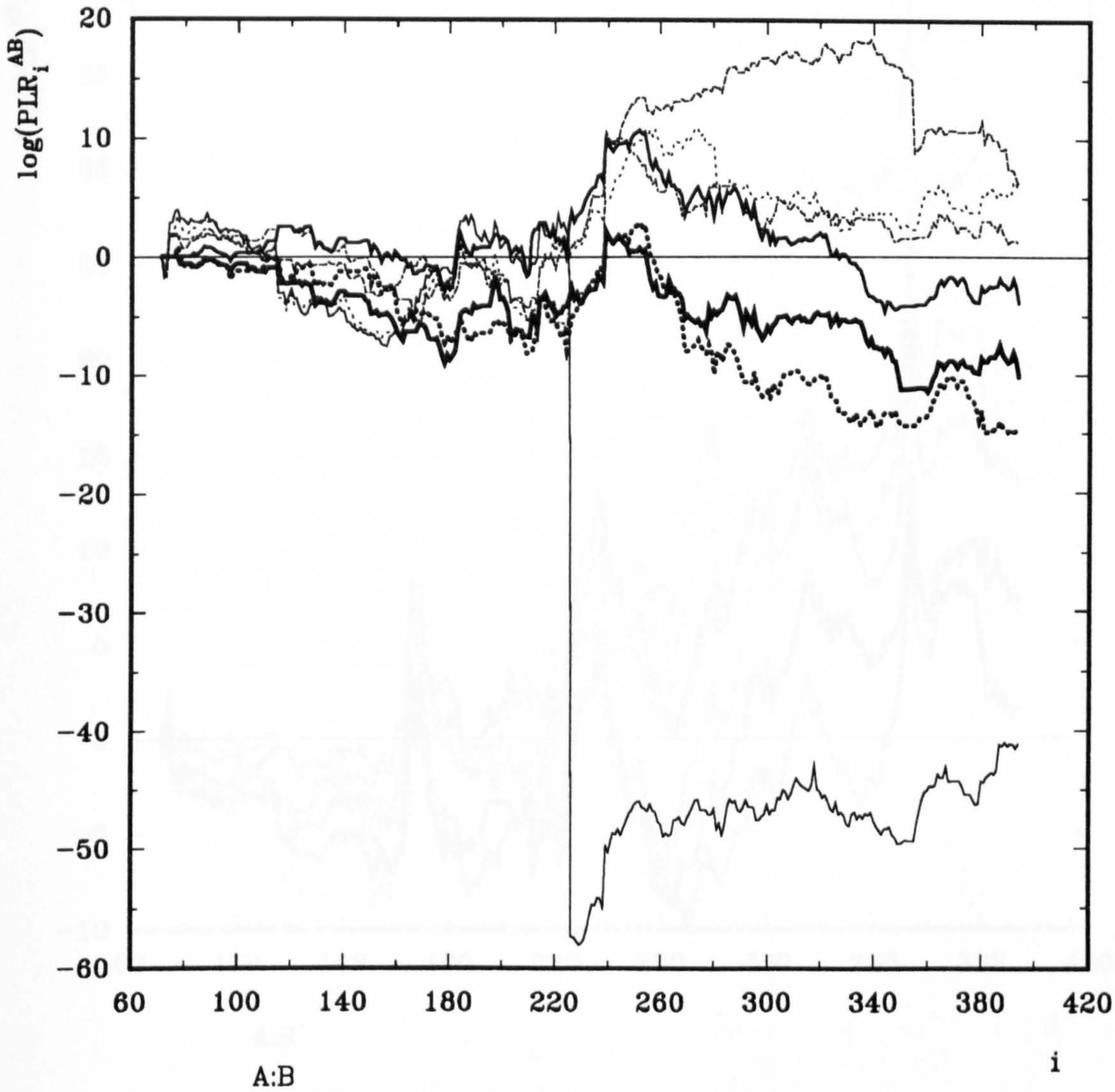


Figure B.2-35. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *CISI2*.

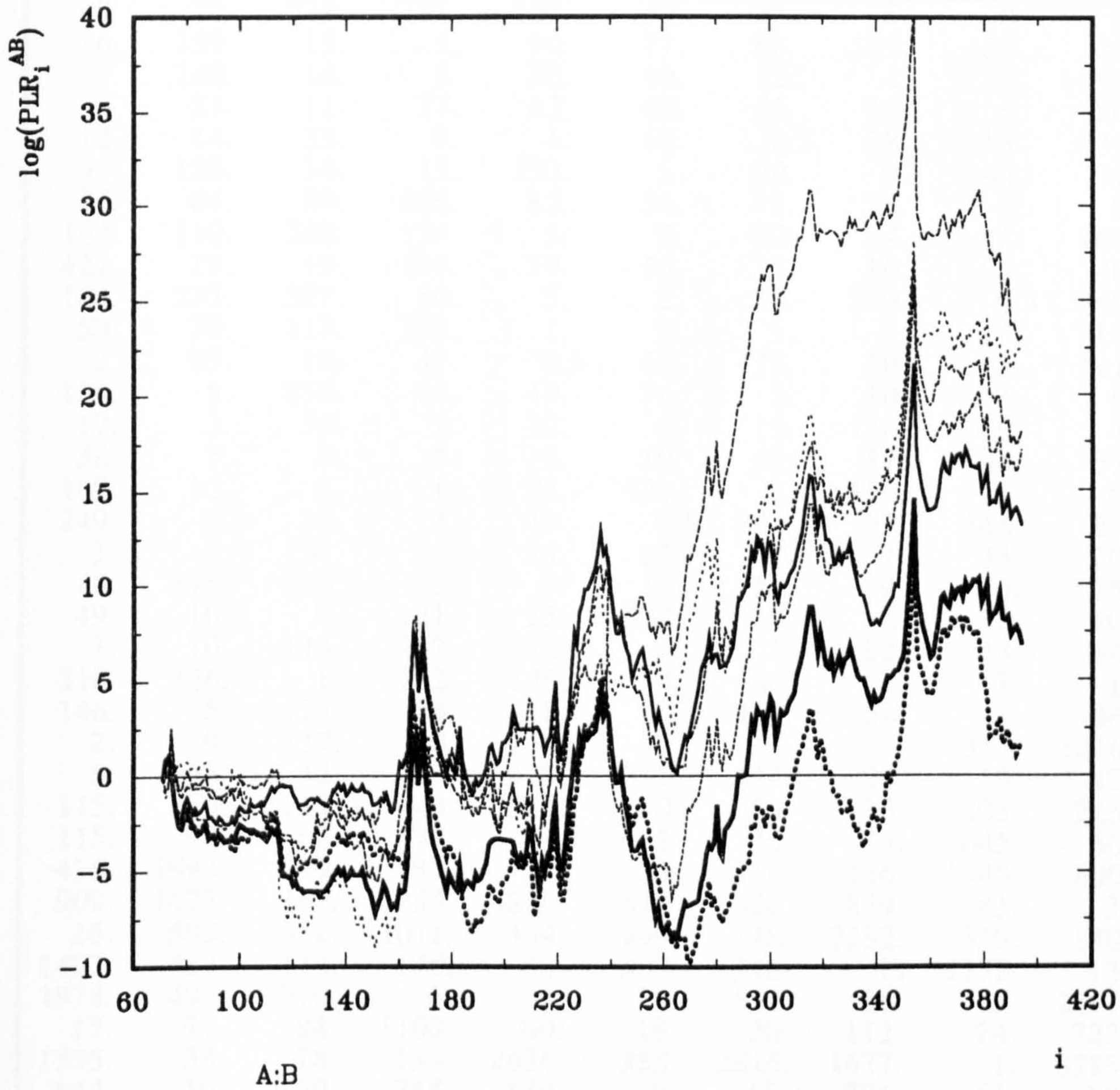


Figure B.2-36. *log(PLR)*-plots for the meta-predictors versus *KLS* for data set *CISI2*.

B.3 Data Set USCOM

90.	30.	575.	191.	160.	40.	23.	5.	90.	4.
16.	159.	15.	5.	90.	77.	68.	157.	137.	23.
1.	140.	16.	5.	30.	10.	12.	4.	10.	394.
6.	51.	11.	77.	43.	40.	55.	23.	6.	10.
12.	14.	33.	9.	4.	66.	0.5	18.	18.	531.
30.	129.	14.	15.	133.	1.	99.	9.	45.	71.
36.	64.	84.	486.	85.	54.	3.	15.	6.	8.
167.	110.	340.	124.	5.	9.	60.	34.	47.	167.
421.	19.	19.	183.	39.	54.	15.	16.	195.	88.
144.	273.	327.	60.	5.	2.	84.	210.	0.5	269.
50.	70.	117.	272.	1.	2.	5.	1.	17.	14.
2.	99.	19.	47.	0.5	61.	173.	20.	3.	111.
128.	5.	255.	28.	49.	74.	3.	10.	3.	8.
17.	3.	55.	7.	12.	6.	19.	178.	30.	4.
38.	7.	4.	4.	13.	10.	40.	57.	44.	37.
162.	12.	8.	1.	21.	131.	8.	156.	1.	6.
249.	3.	21.	3.	49.	0.5	244.	92.	146.	29.
3.	2.	158.	34.	24.	27.	92.	7.	33.	20.
16.	176.	399.	3.	9.	12.	18.	9.	75.	15.
49.	10.	9.	121.	25.	328.	30.	12.	52.	70.
3.	10.	114.	282.	212.	4.	5.	82.	38.	264.
316.	336.	1.	232.	138.	39.	160.	1.	7.	1.
146.	5.	124.	56.	18.	10.	267.	66.	1.	146.
2.	19.	117.	30.	158.	81.	28.	4.	313.	1016.
5.	63.	42.	159.	423.	312.	414.	128.	13.	47.
115.	280.	213.	240.	514.	90.	255.	35.	205.	225.
115.	98.	60.	179.	84.	5.	30.	35.	645.	66.
436.	1983.	779.	33.	72.	35.	116.	1126.	1940.	800.
909.	1473.	161.	254.	4230.	877.	326.	829.	83.	2.
26.	595.	352.	1071.	334.	999.	148.	2292.	319.	130.
1492.	437.	114.	175.	88.	553.	316.	1.	1172.	13.
1978.	494.	970.	6.	4.	55.	558.	36.	15.	2591.
17.	71.	84.	1108.	60.	19.	20.	112.	24.	722.
1535.	38.	78.	134.	2636.	355.	2815.	1637.	1.	3729.
644.	10.	20.	348.	330.	28.	56.	791.	65.	199.
212.	501.	53.	3.	8361.	366.	4210.	2697.	59.	
108.	2707.	233.	415.	1736.	1090.	78.	33.	1106.	2895.
7590.	1746.	818.	1638.	43.	189.	224.	30.	2879.	2075.
646.	55.	1347.	7606.	81.	134.	967.	335.	3.	3.
62.	1.	44.	3930.	2473.	121.	2131.	3101.	2494.	6833.
76.	4457.	6912.	4396.	4207.	212.	4536.	4710.	2398.	1859.
6215.	323.	1953.	2470.						

Table B.3-1. Data set *USCOM*; 414 inter-failure times (read from left to right).

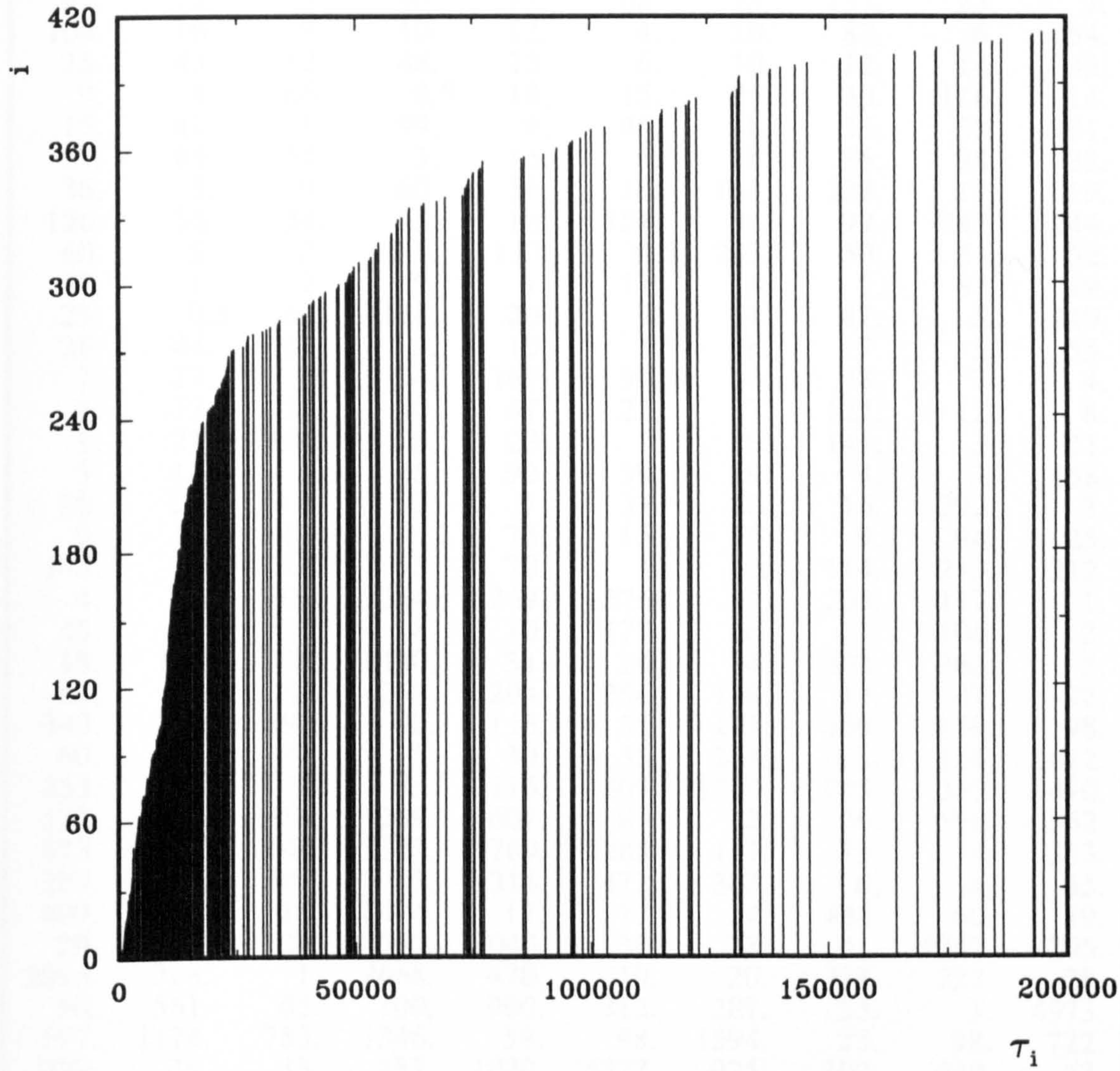


Figure B.3-2. Cumulative number of failures plotted against total elapsed time for data set *USCOM*.

B.4 Data Set USBAR

60.	30.	540.	67.	40.	23.	5.	53.	4.	16.
94.	15.	5.	90.	77.	68.	15.	137.	23.	1.
104.	16.	9.	10.	12.	4.	10.	82.	6.	54.
25.	43.	12.	48.	23.	6.	10.	12.	14.	33.
9.	4.	66.	0.5	18.	15.	75.	30.	116.	14.
15.	41.	1.	99.	9.	45.	68.	36.	50.	81.
89.	85.	54.	3.	15.	6.	8.	36.	98.	32.
36.	5.	9.	60.	34.	16.	164.	123.	19.	19.
126.	36.	54.	15.	16.	154.	84.	92.	247.	244.
60.	5.	2.	5.	130.	0.5	233.	50.	54.	52.
57.	1.	2.	5.	1.	17.	14.	2.	87.	19.
29.	0.5	61.	118.	20.	3.	11.	87.	5.	249.
28.	44.	31.	3.	10.	3.	8.	17.	3.	55.
7.	12.	6.	4.	169.	30.	4.	38.	7.	4.
4.	13.	10.	40.	57.	22.	37.	127.	12.	8.
1.	21.	104.	8.	23.	1.	6.	141.	3.	21.
3.	18.	0.5	75.	92.	39.	29.	3.	2.	158.
30.	24.	5.	92.	7.	33.	20.	16.	292.	3.
9.	12.	18.	9.	75.	15.	46.	9.	94.	25.
175.	5.	12.	18.	70.	3.	10.	114.	213.	212.
4.	5.	106.	264.	269.	276.	1.	203.	117.	1.
45.	5.	110.	18.	10.	179.	66.	1.	106.	2.
19.	117.	30.	130.	31.	28.	4.	302.	362.	5.
63.	42.	86.	258.	294.	256.	118.	13.	47.	92.
343.	128.	392.	90.	116.	35.	171.	139.	110.	98.
60.	90.	82.	5.	30.	35.	231.	62.	158.	1622.
353.	33.	70.	35.	116.	809.	1710.	745.	350.	470.
122.	244.	2384.	249.	607.	83.	2.	26.	586.	352.
673.	330.	649.	123.	1789.	1288.	111.	75.	74.	333.
287.	1.	881.	13.	1314.	472.	363.	6.	4.	55.
409.	36.	15.	1404.	17.	71.	34.	434.	60.	19.
20.	79.	24.	540.	1040.	38.	78.	41.	1757.	205.
2095.	788.	1.	2668.	470.	10.	20.	338.	222.	28.
56.	561.	65.	100.	900.	212.	287.	53.	3.	4973.
197.	1174.	783.	1346.	59.	98.	1594.	25.	98.	722.
228.	78.	33.	453.	1020.	4327.	925.	302.	649.	43.
185.	157.	30.	1771.	1088.	556.	55.	4892.	81.	61.
476.	63.	3.	3.	62.	1.	44.	1236.	1406.	109.
1471.	1797.	1749.	2096.	76.	2167.	2059.	2177.	1893.	198.
3326.	3100.	586.	2686.	124.	229.	1008.			

Table B.4-1. Data set *USBAR*; 397 inter-failure times (read from left to right).

	RAW		*S*		*S20*		*S30*		*S40*		*S50*	
	y	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***
JM	F	F	F	F	B	A	B	A	C	A	E	A
GO	F	F	F	F	B	A	B	A	C	A	E	A
MO	F	F	D	D	A	A	A	A	A	A	A	A
DU	F	F	F	D	E	A	E	A	D	A	D	A
LM	F	F	F	E	A	A	A	A	A	A	A	A
LNHPP	F	F	F	D	A	A	A	A	A	A	A	A
LV	F	F	F	D	A	A	A	A	A	A	A	A
KL	F	F	D	A	A	A	A	A	A	A	A	A
CM1	A	F	A	C	A	A	A	A	A	A	A	A
CM2	C	F	A	B	A	A	A	A	A	A	A	A
CM3	C	F	B	B	A	A	A	A	B	A	B	A
OTY20	A	F	A	C	A	A	A	A	A	A	A	A
OTY50	B	F	B	B	A	A	A	A	B	A	B	A
OTL	C	F	A	A	A	A	A	A	A	A	A	A
OTL20	A	F	A	D	A	A	A	A	A	A	A	A
OTL50	B	F	B	A	A	A	A	A	A	A	A	A

Table B.4-2.1. *u*- and *y*-plot significance levels for data set *USBAR* for predictions of $T_{66}, T_{67}, \ldots$.

M1		*M2*		*M5*		*M10*		*M20*		*M30*		*M40*		*M50*	
y	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***	***y***	***u***
B	B	B	B	C	C	B	B	A	A	A	A	A	A	A	A

Table B.4-2.2. *u*- and *y*-plot significance levels for data set *USBAR* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

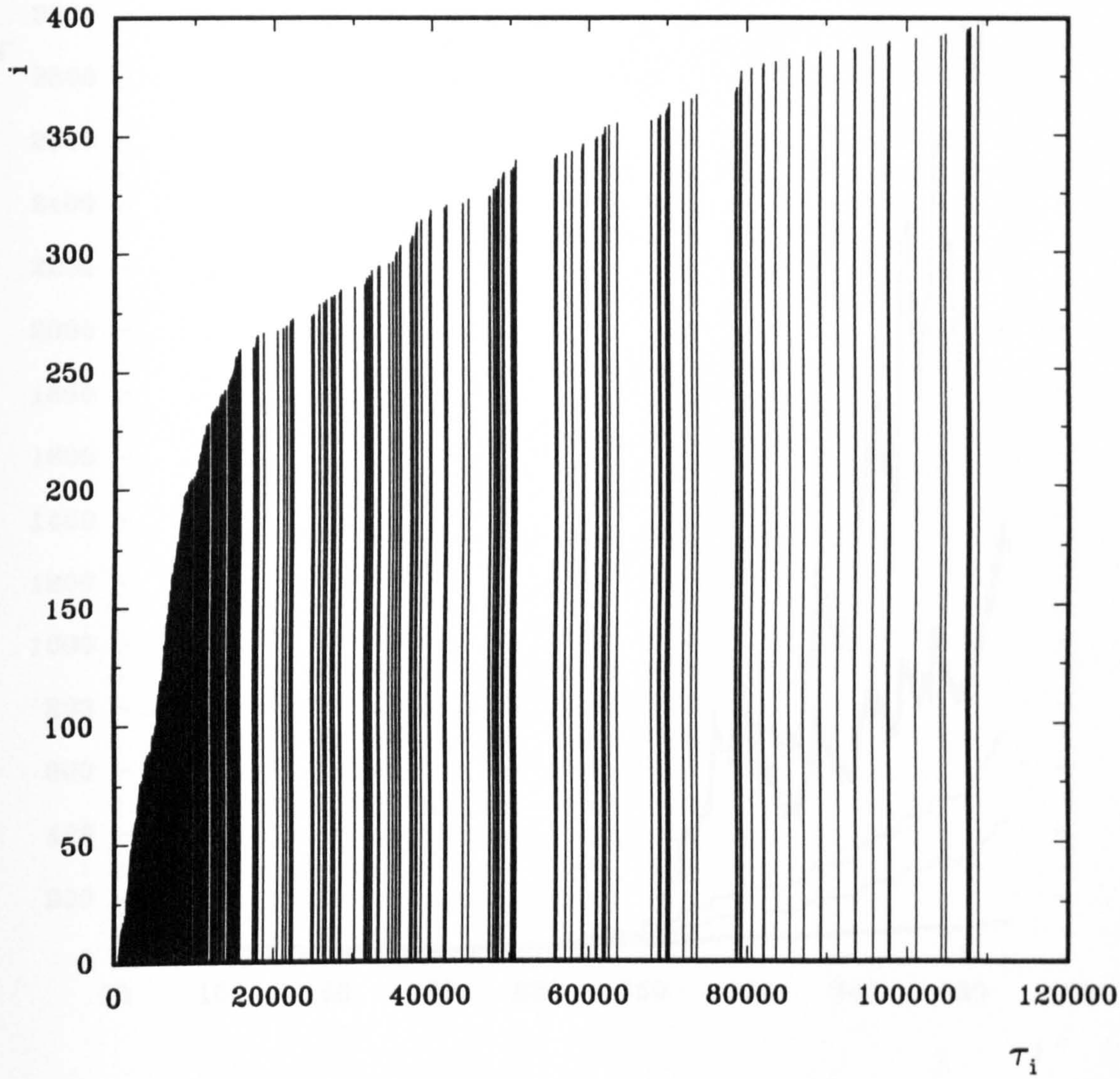


Figure B.4-3. Cumulative number of failures plotted against total elapsed time for data set *USBAR*.

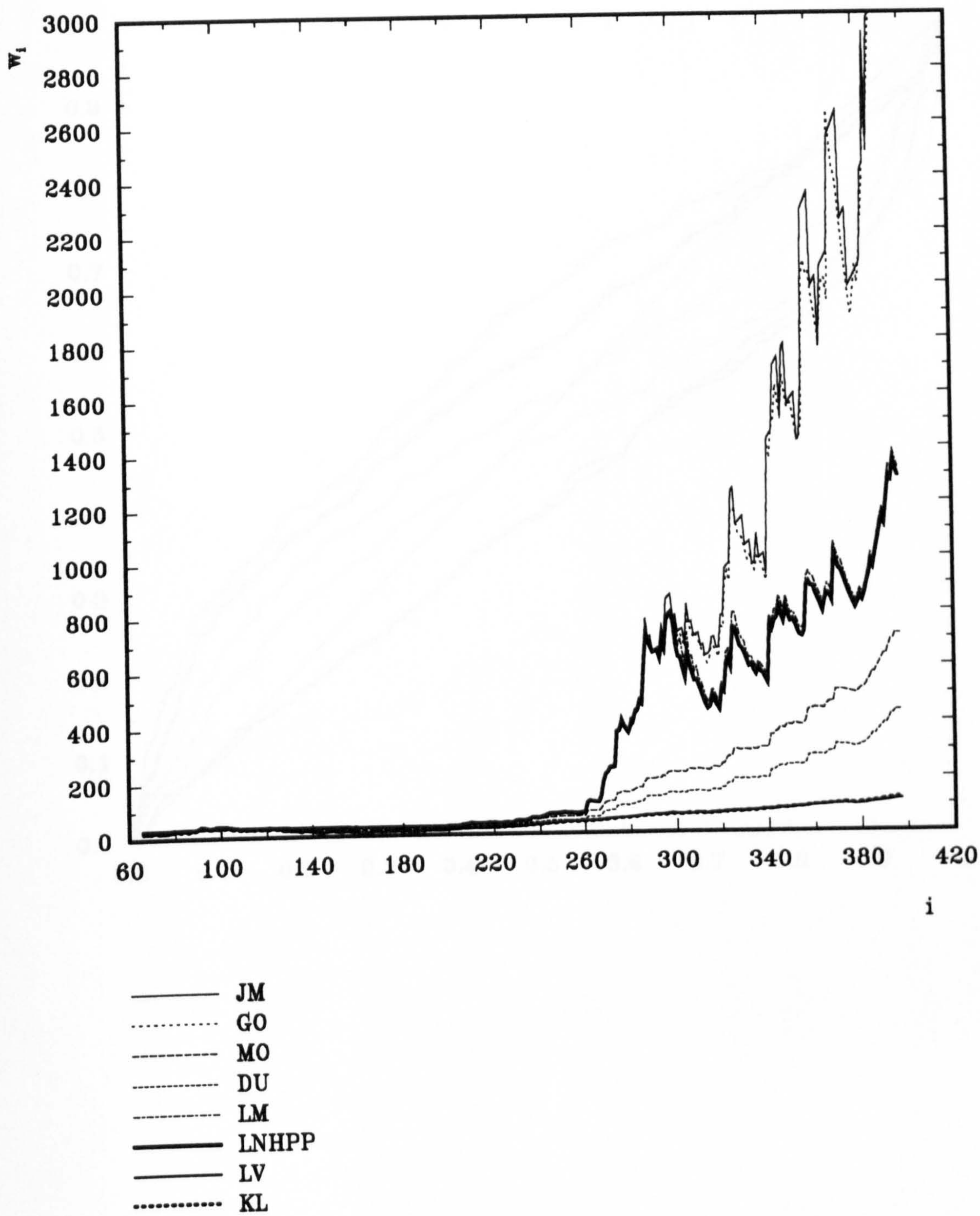
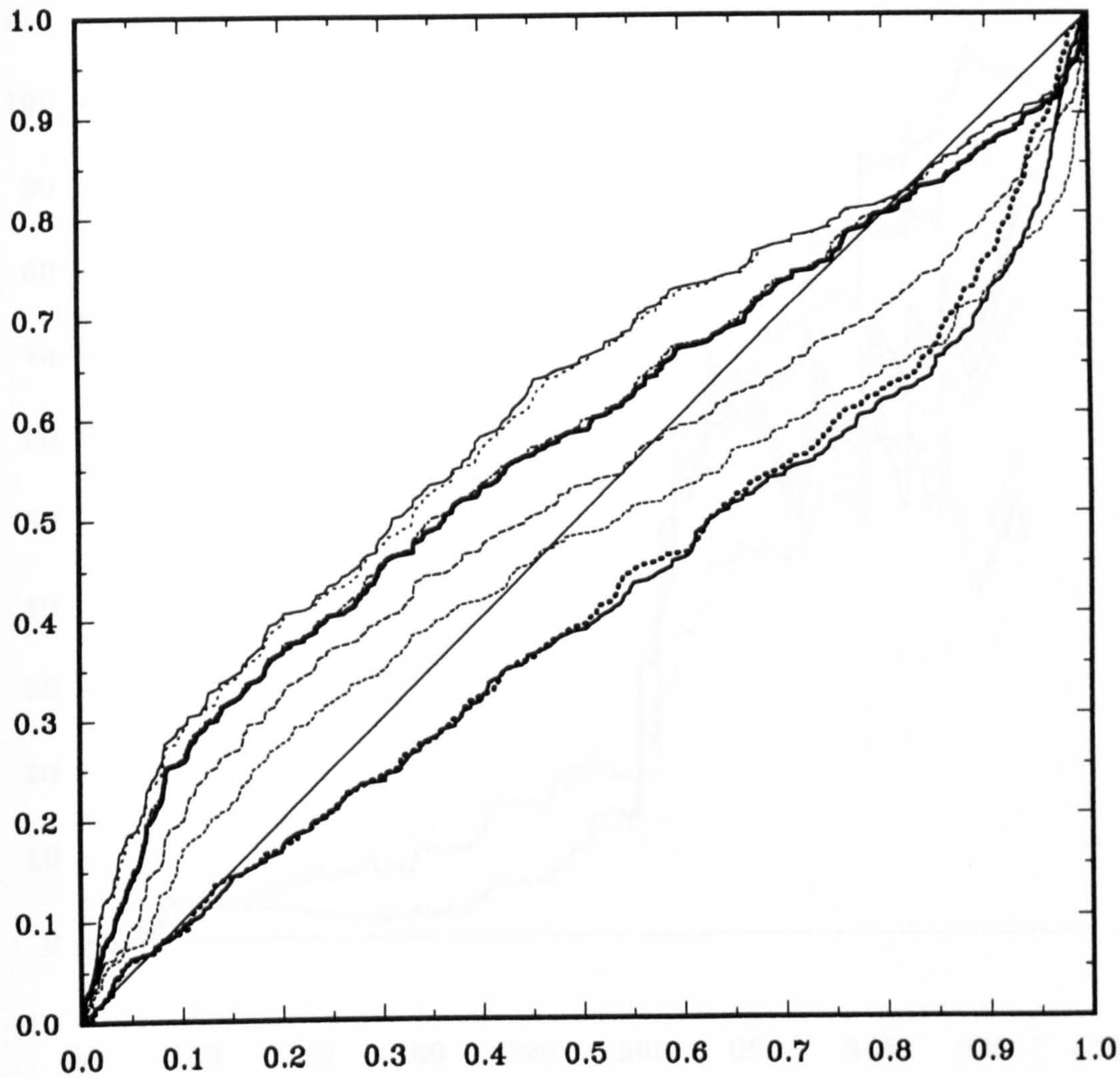


Figure B.4-4. Median predictions from the raw parametric predictors plotted against failure number for data set *USBAR*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.4-5. *u*-plots for the raw parametric predictors for data set *USBAR*.

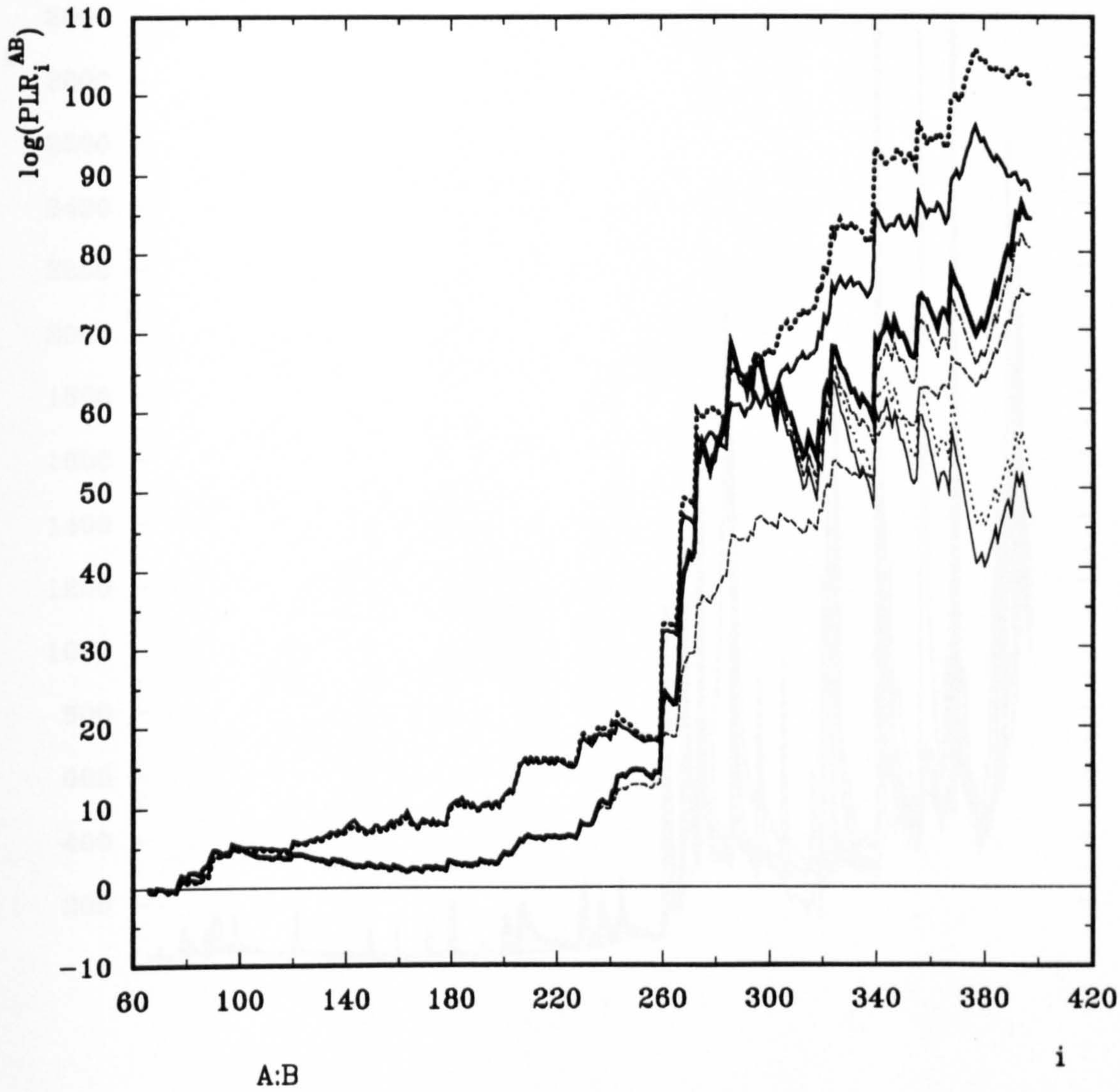
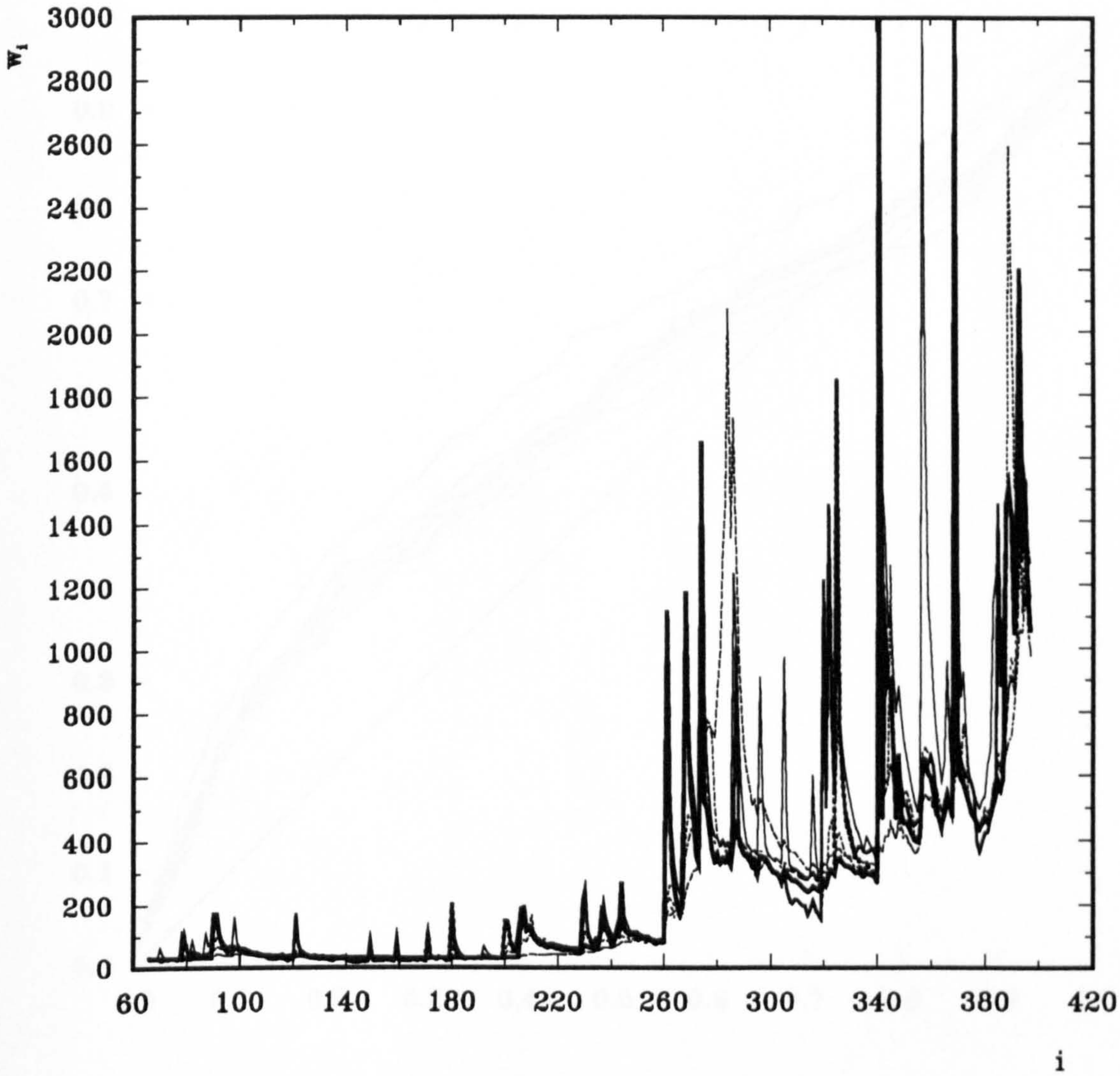
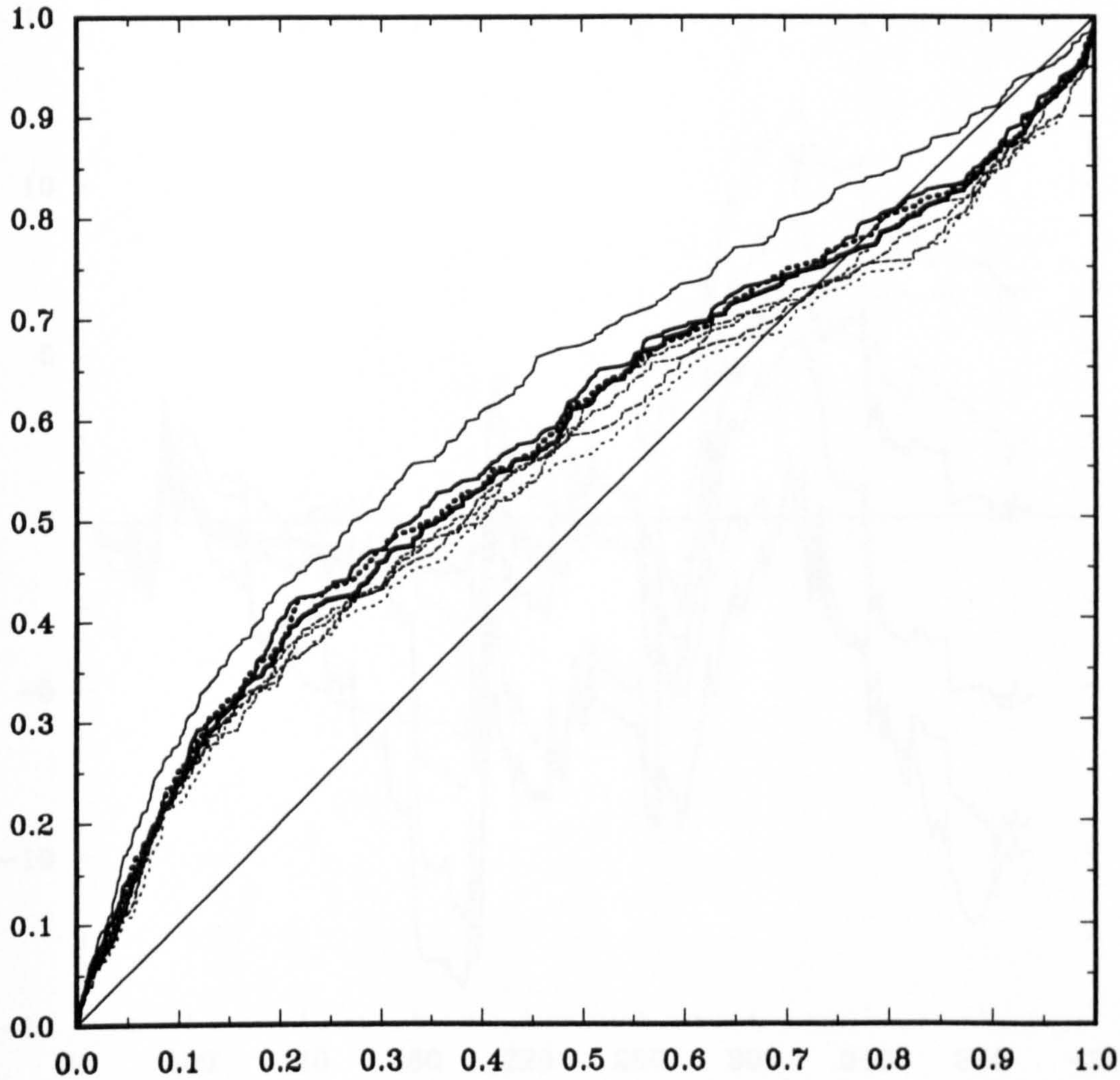


Figure B.4-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *USBAR*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.4-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *USBAR*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.4-8. *u*-plots for the raw non-parametric predictors for data set *USBAR*.

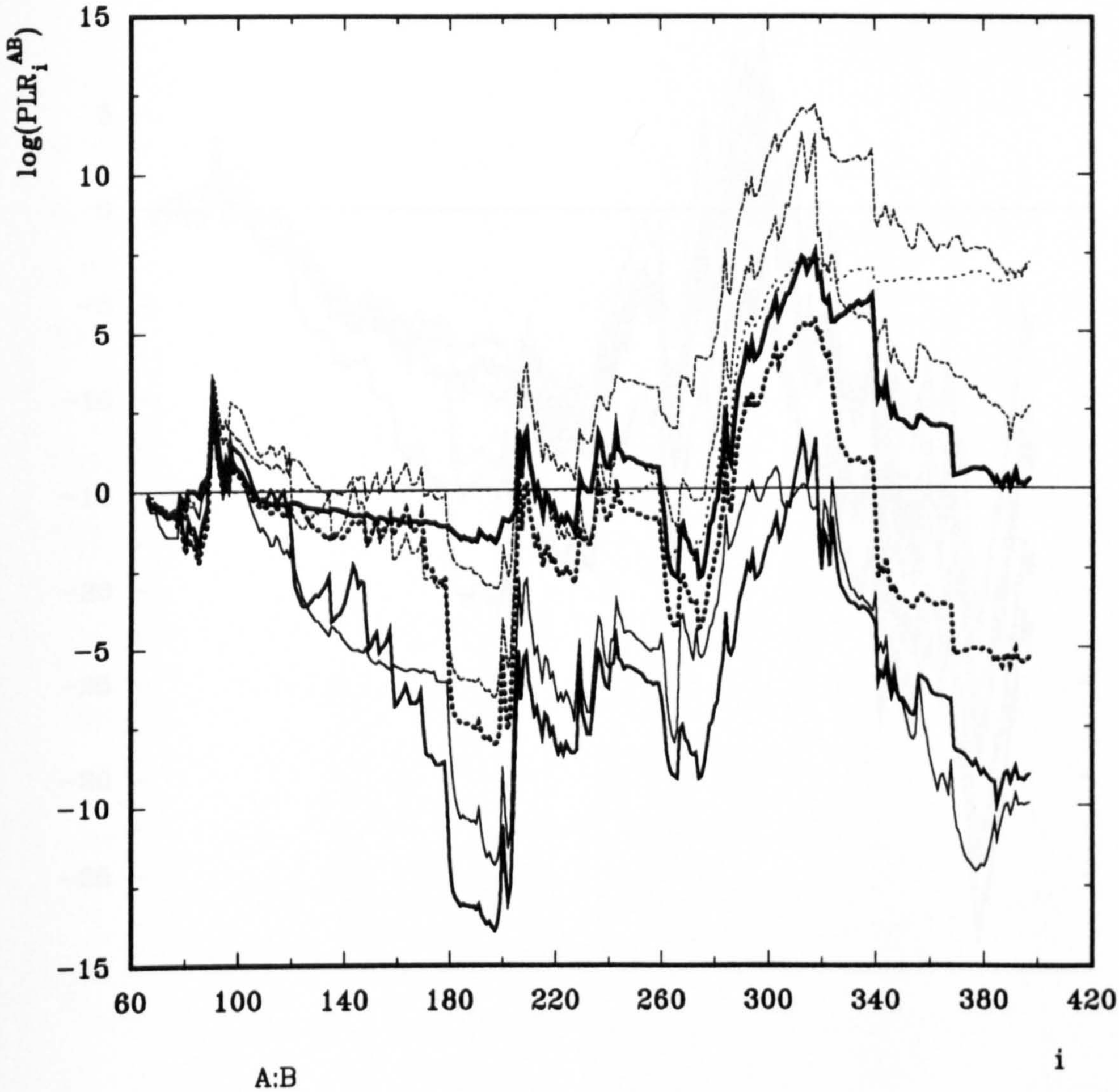


Figure B.4-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *USBAR*.

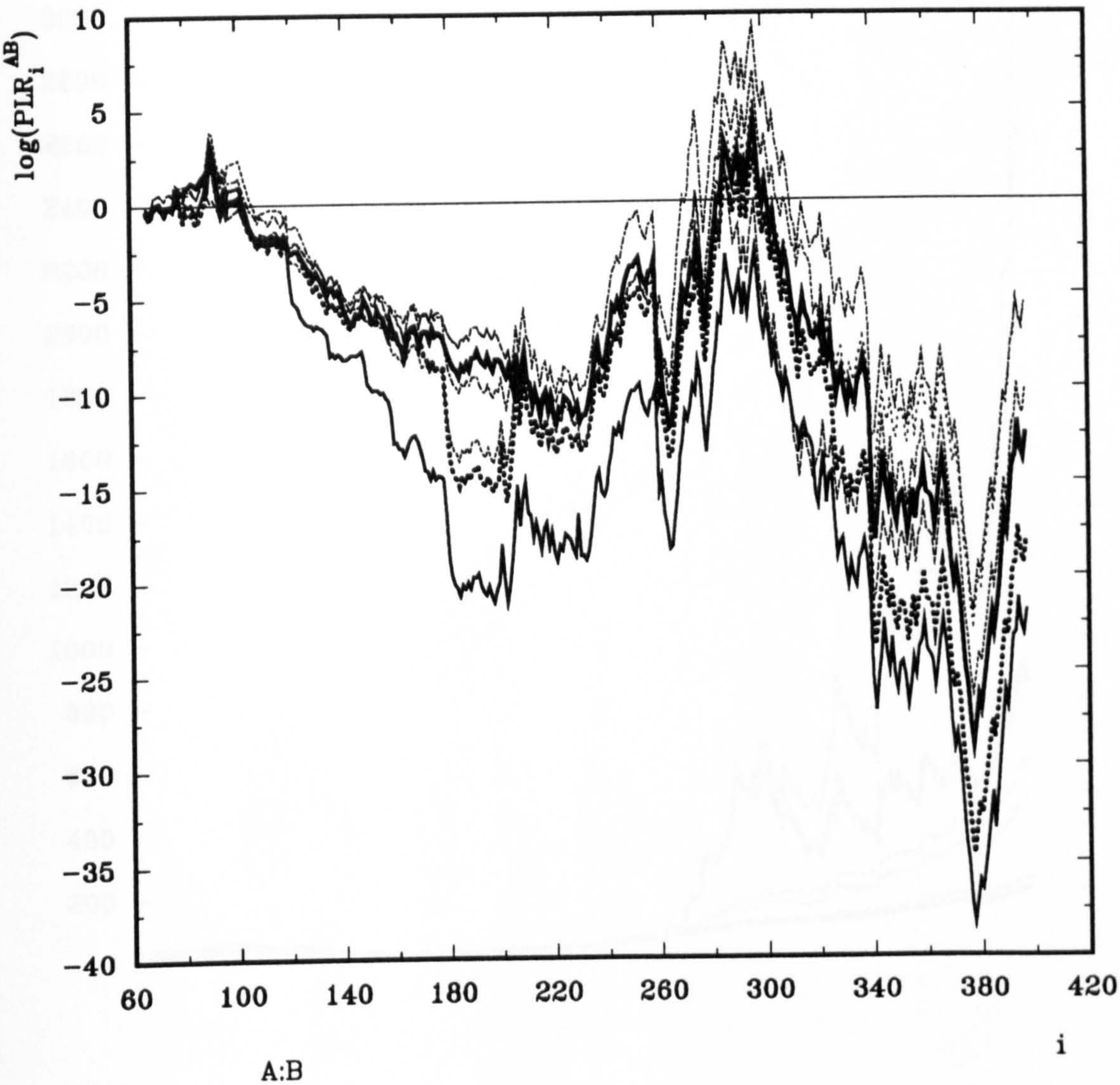
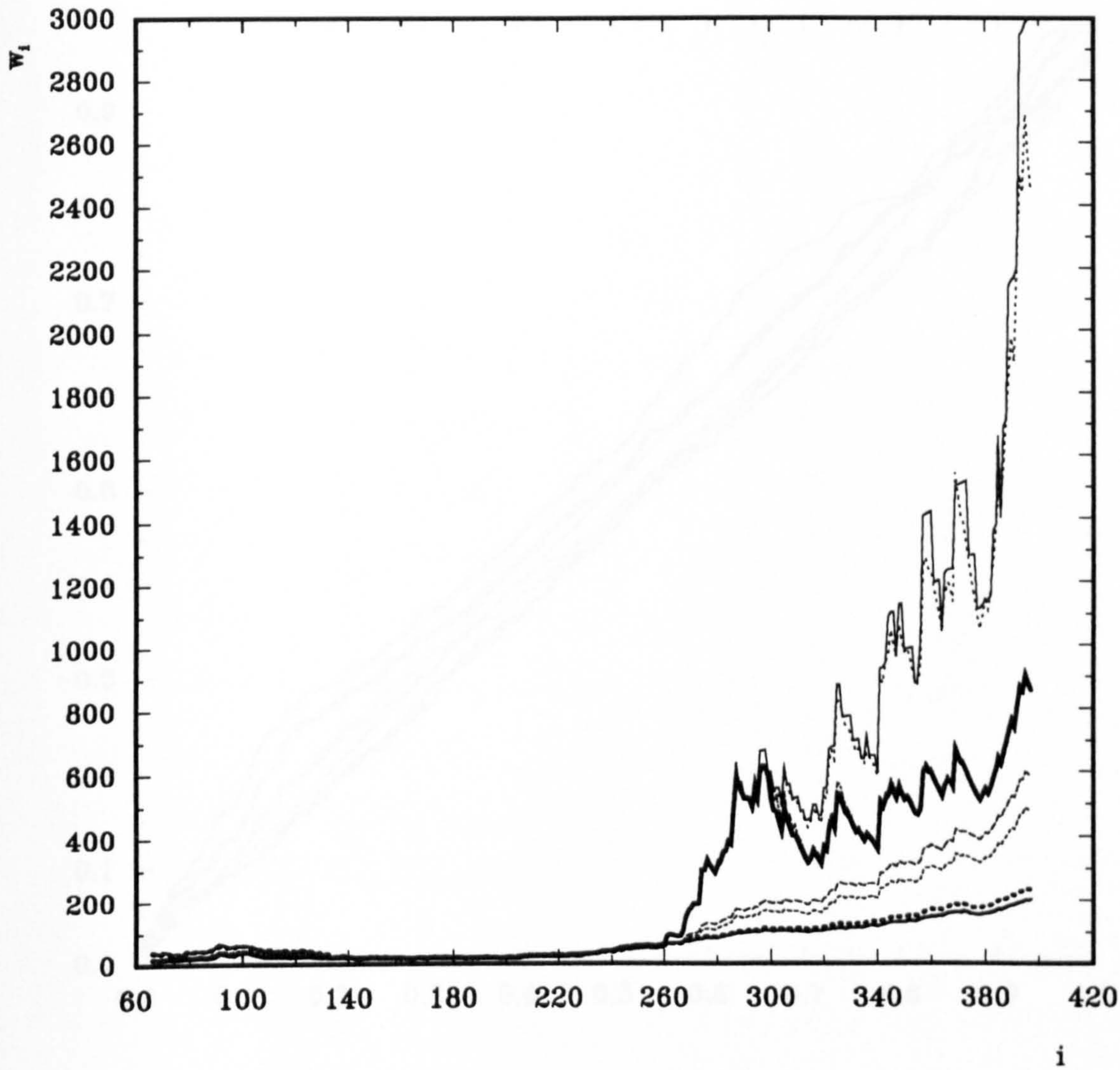
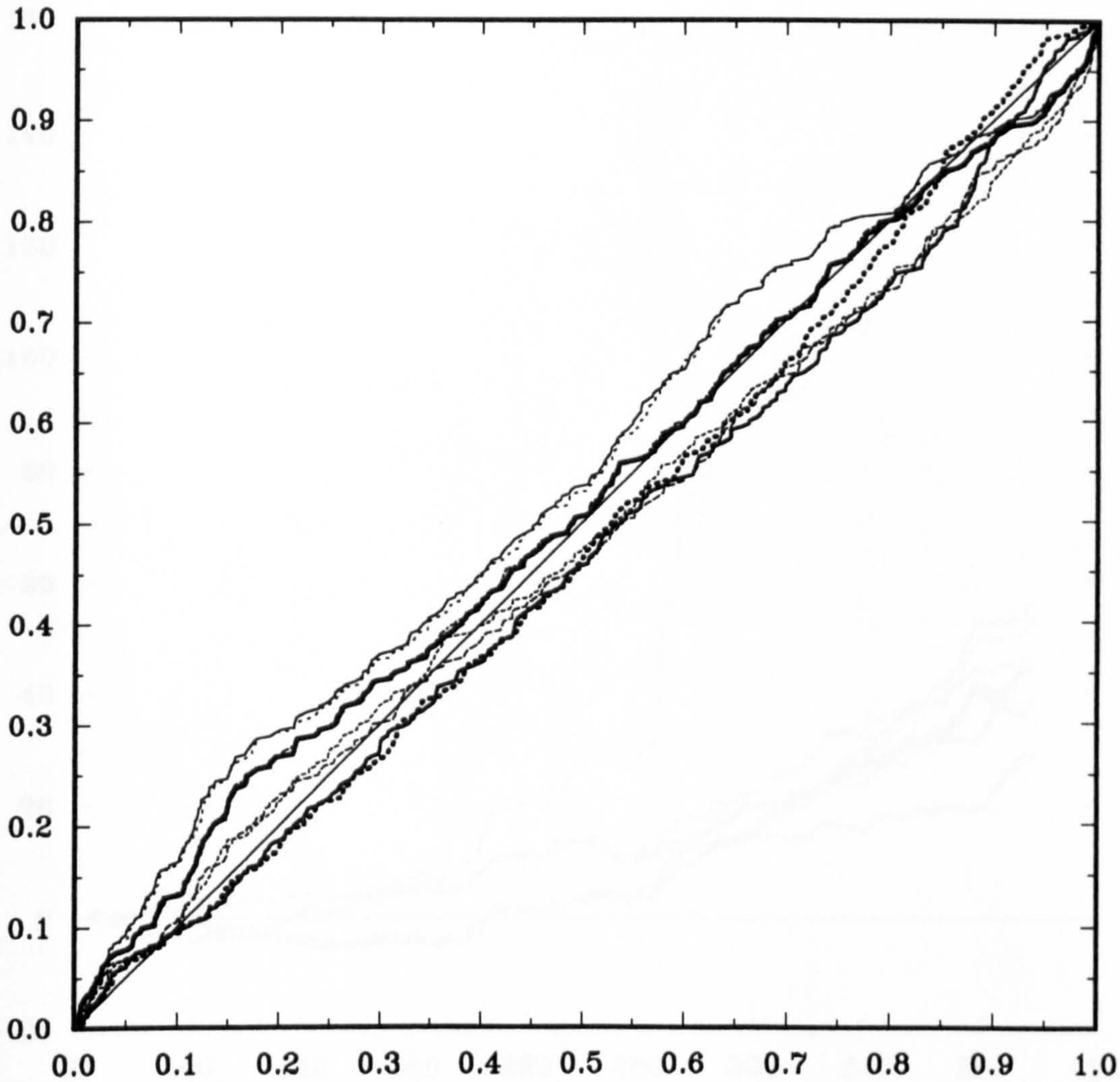


Figure B.4-10. *log(PLR)*-plots for the raw non-parametric predictors versus *KL* for data set *USBAR*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.4-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *USBAR*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.4-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *USBAR*.

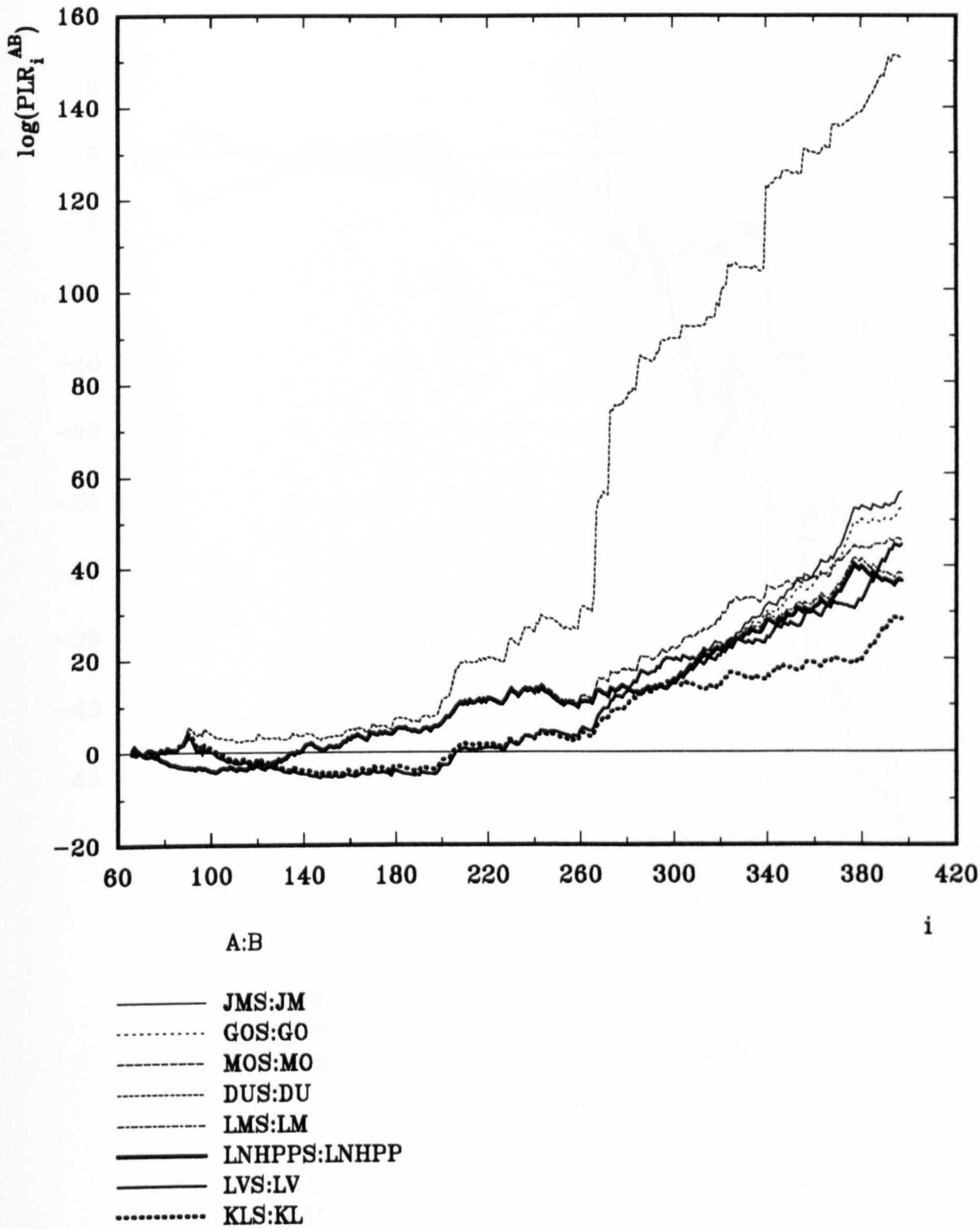


Figure B.4-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *USBAR*.

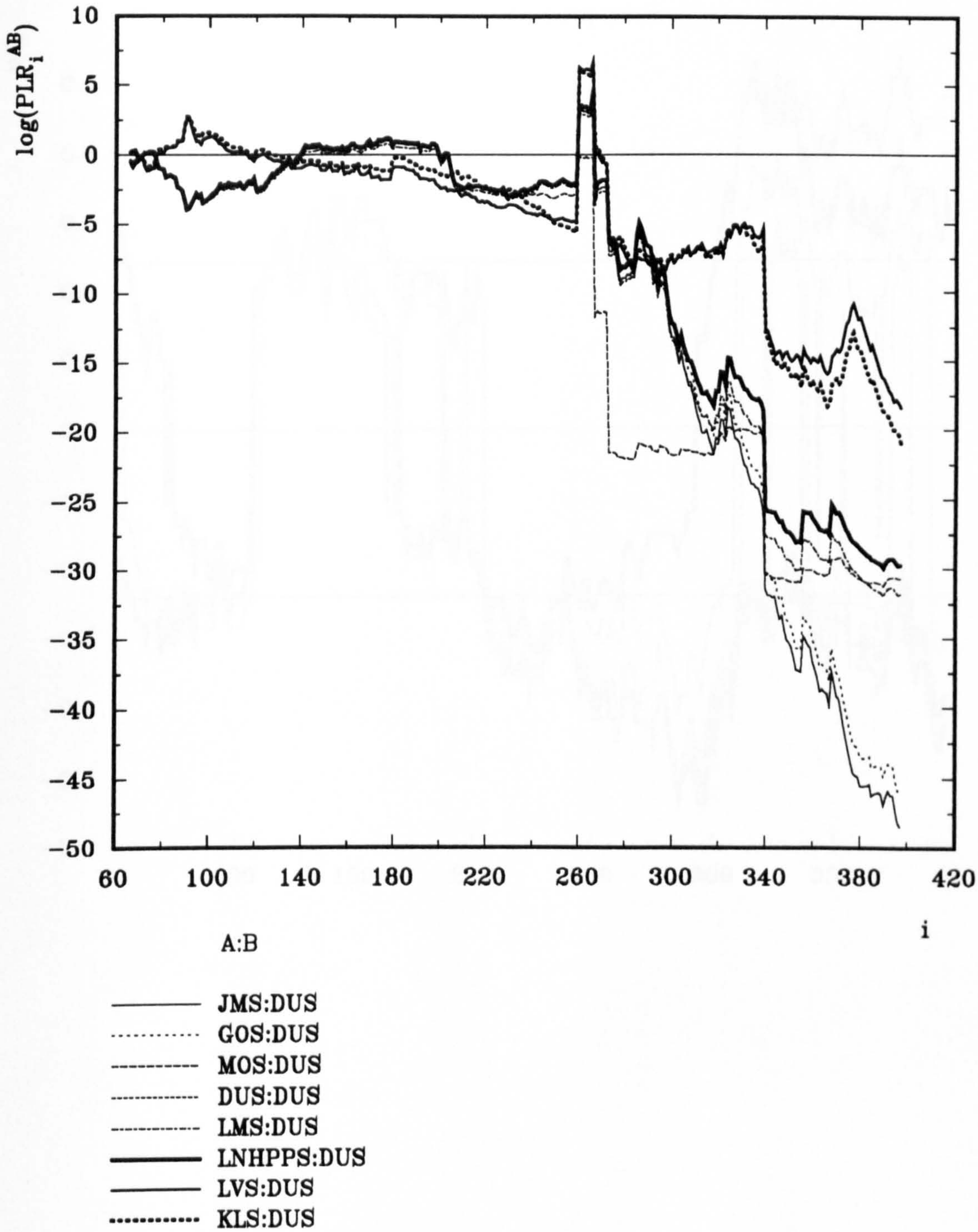
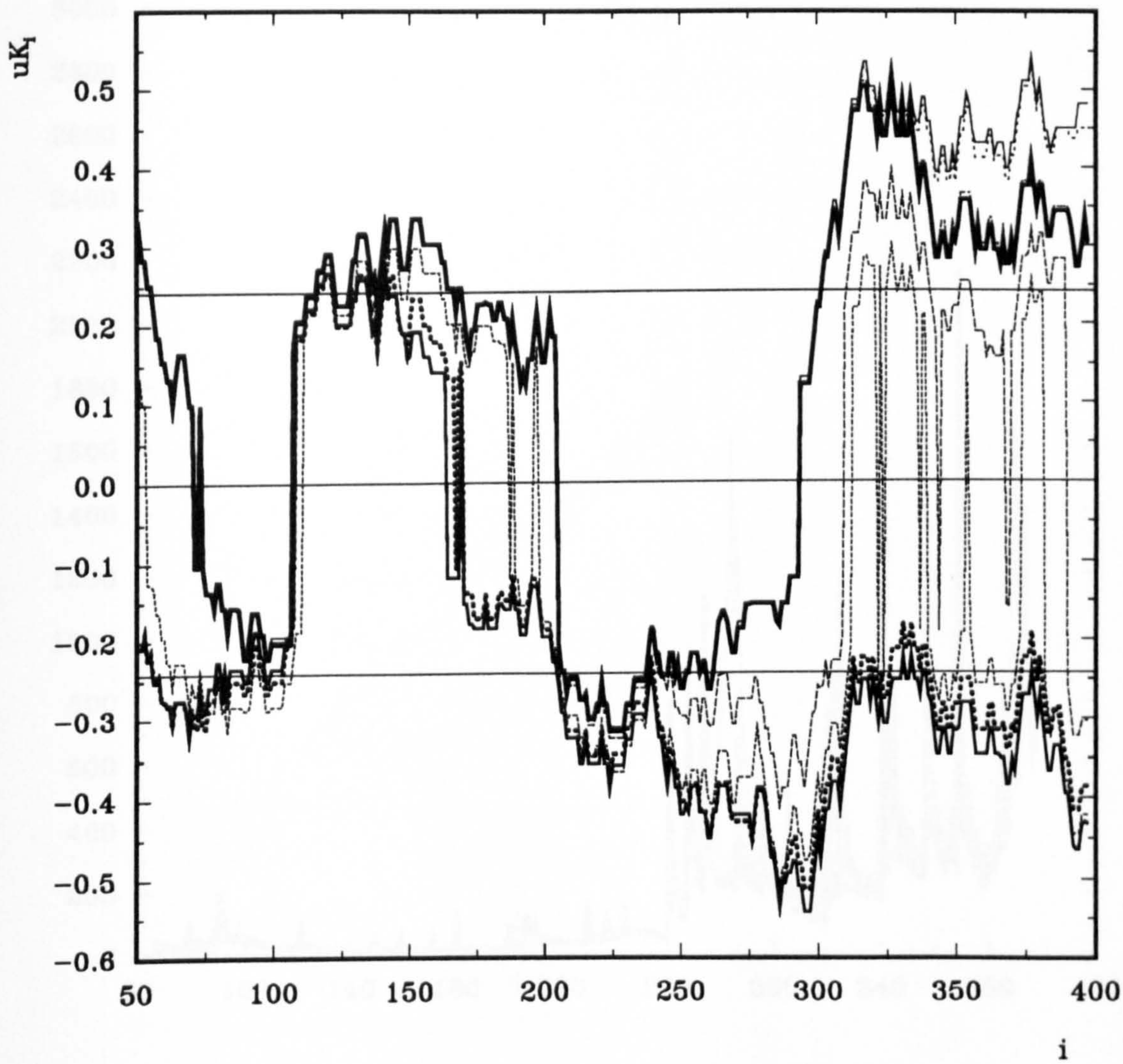
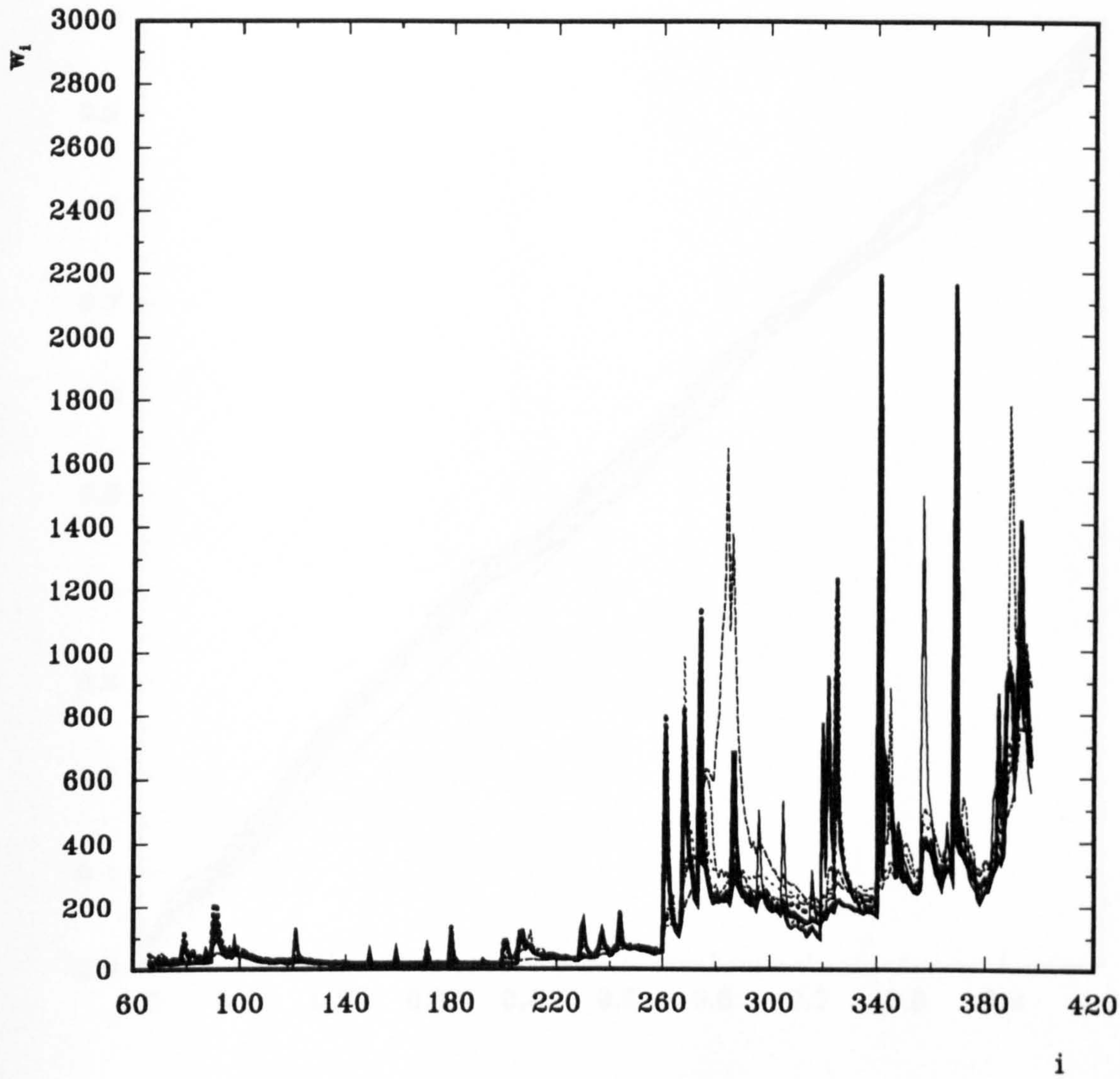


Figure B.4-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *USBAR*.



JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.4-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *USBAR*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.4-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *USBAR*.

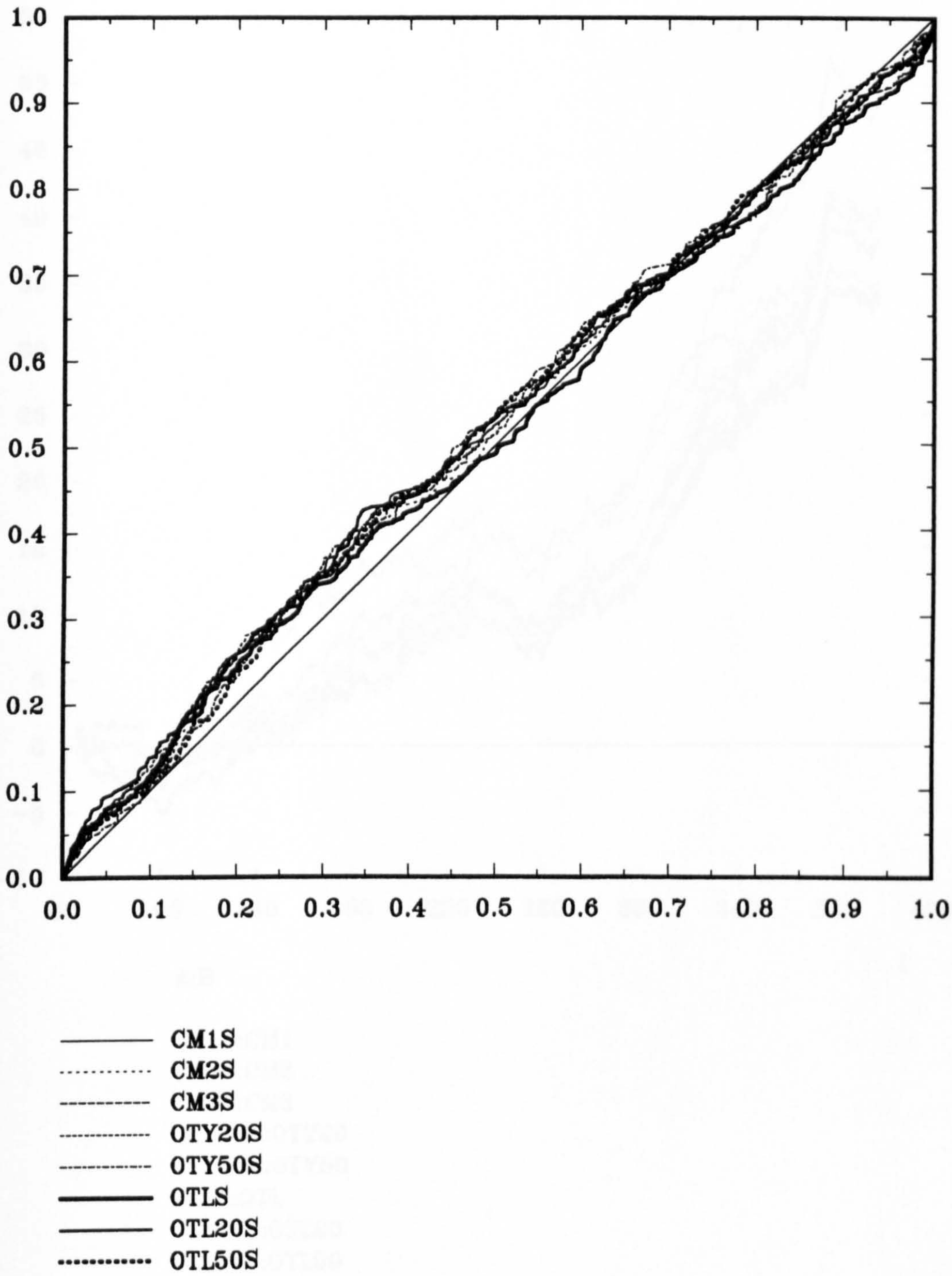


Figure B.4-17. *u*-plots for the recalibrated (no window) non-parametric predictors for data set *USBAR*.

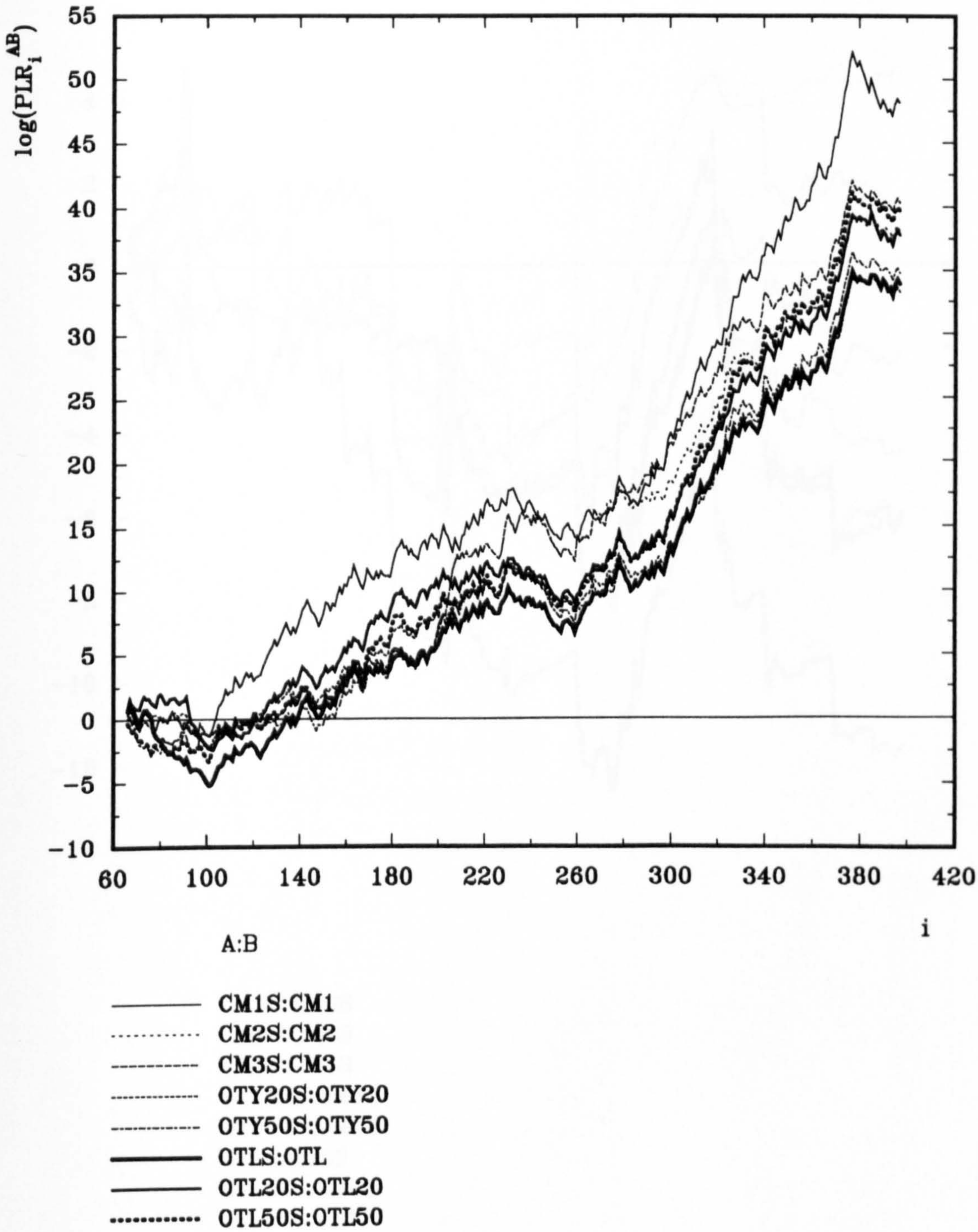


Figure B.4-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *USBAR*.

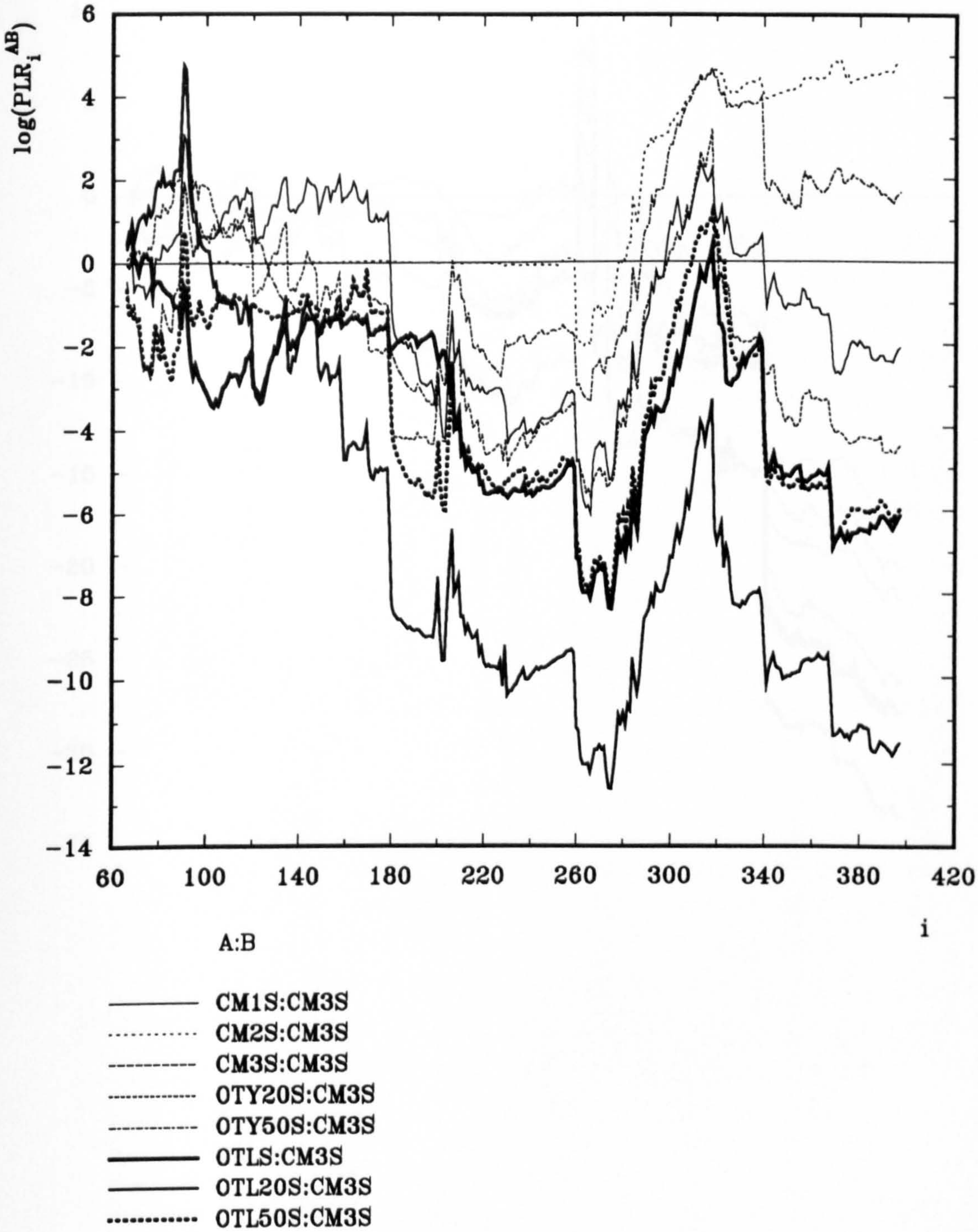


Figure B.4-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *USBAR*.

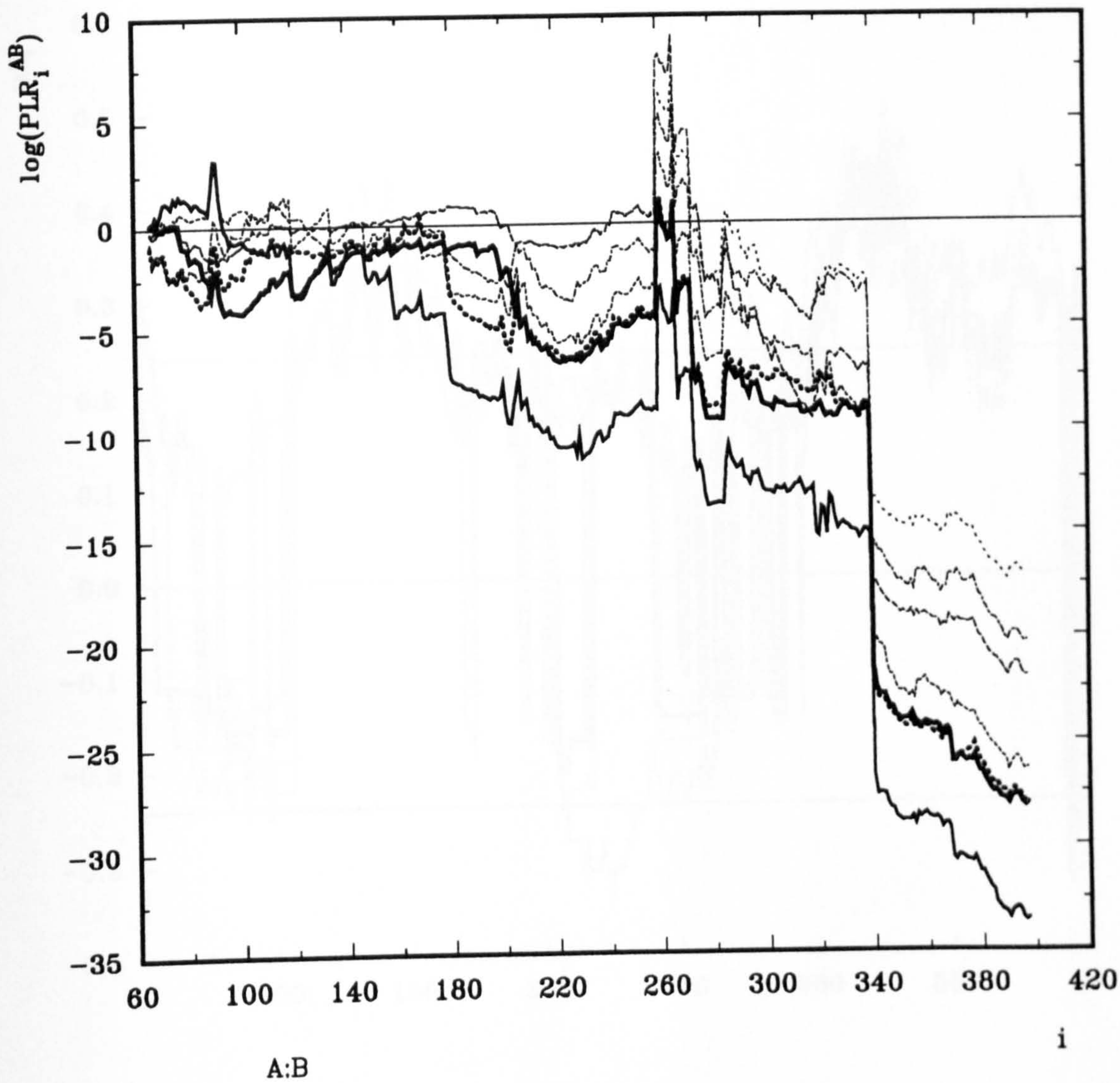


Figure B.4-20. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *DUS* for data set *USBAR*.

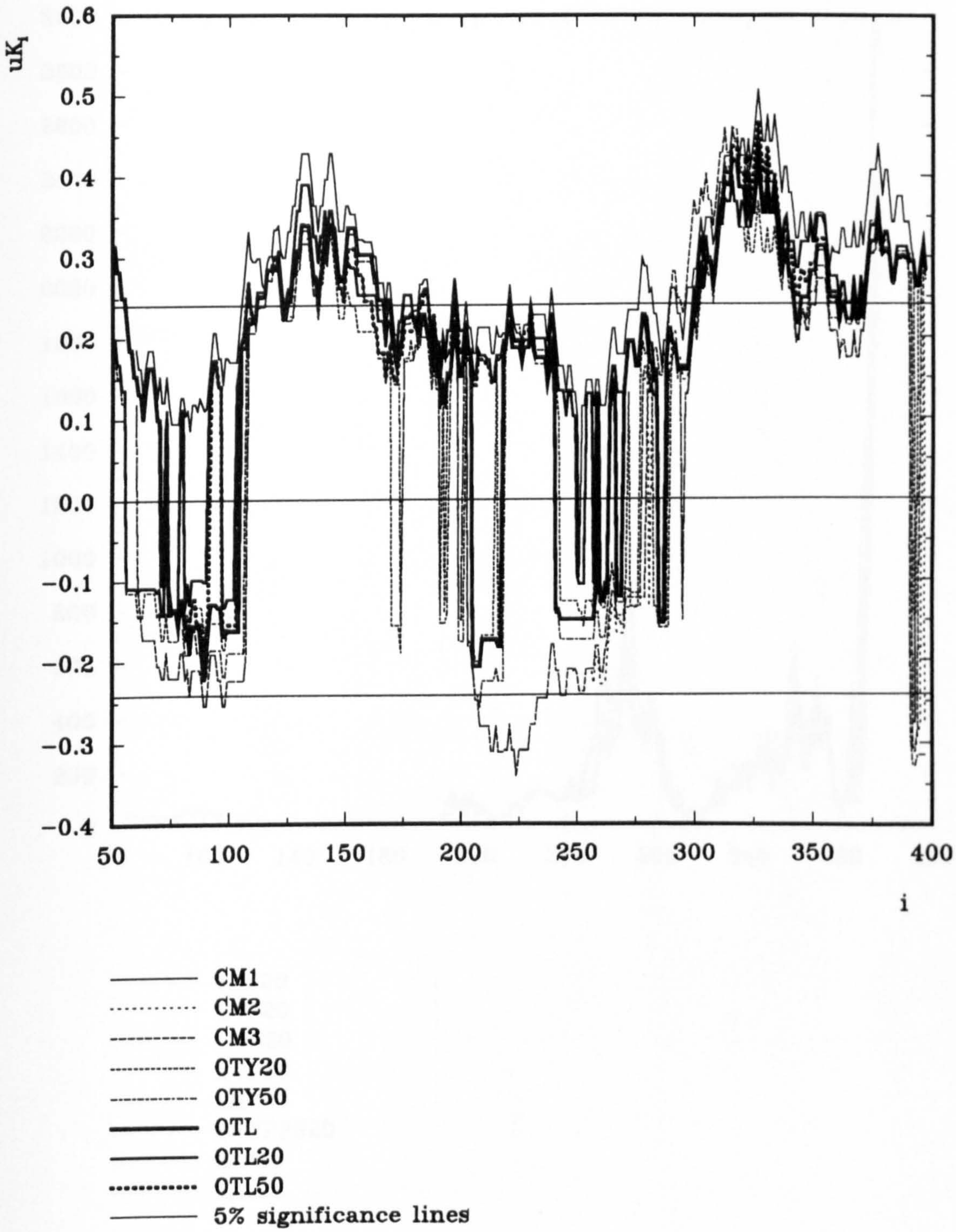
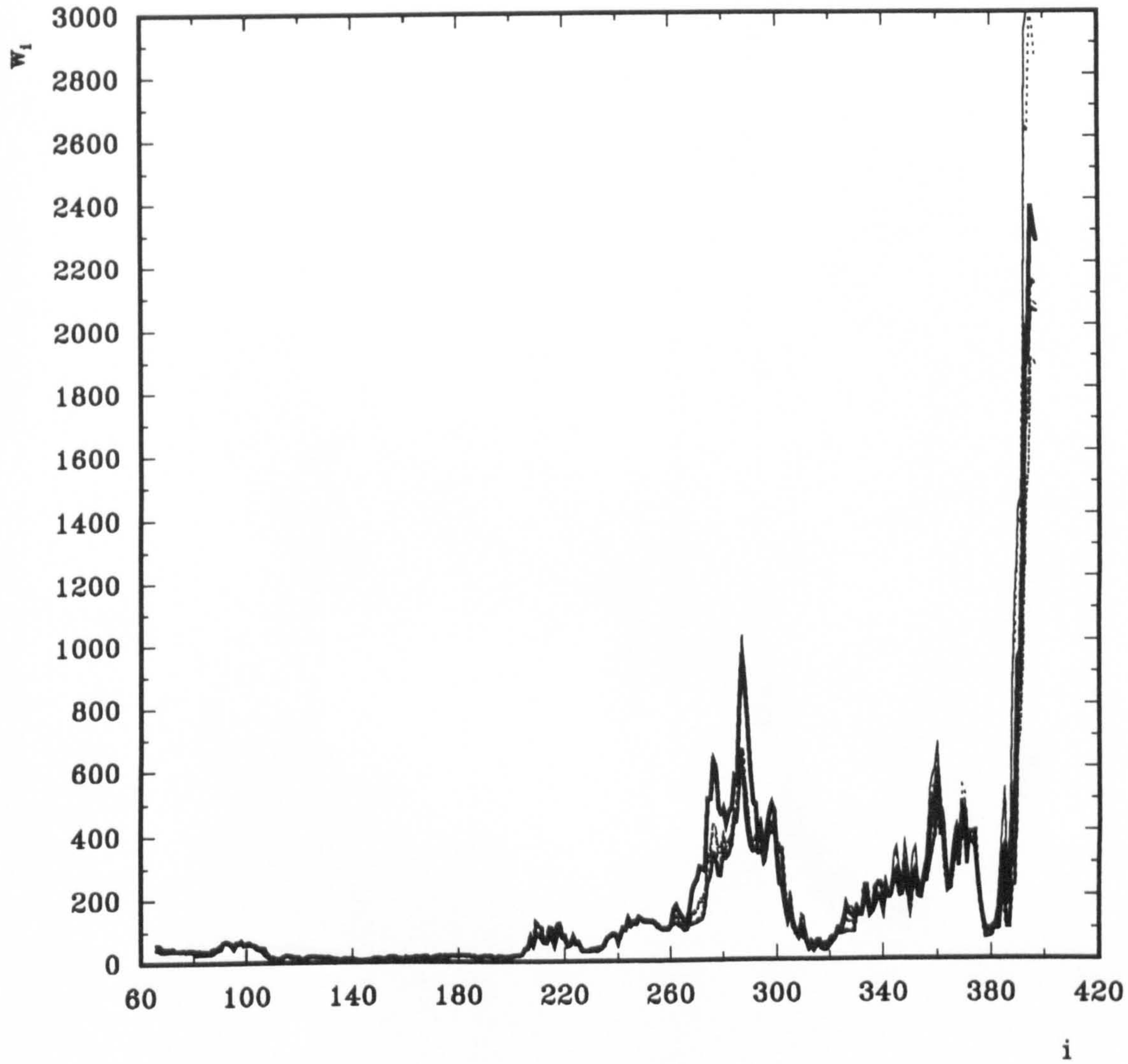
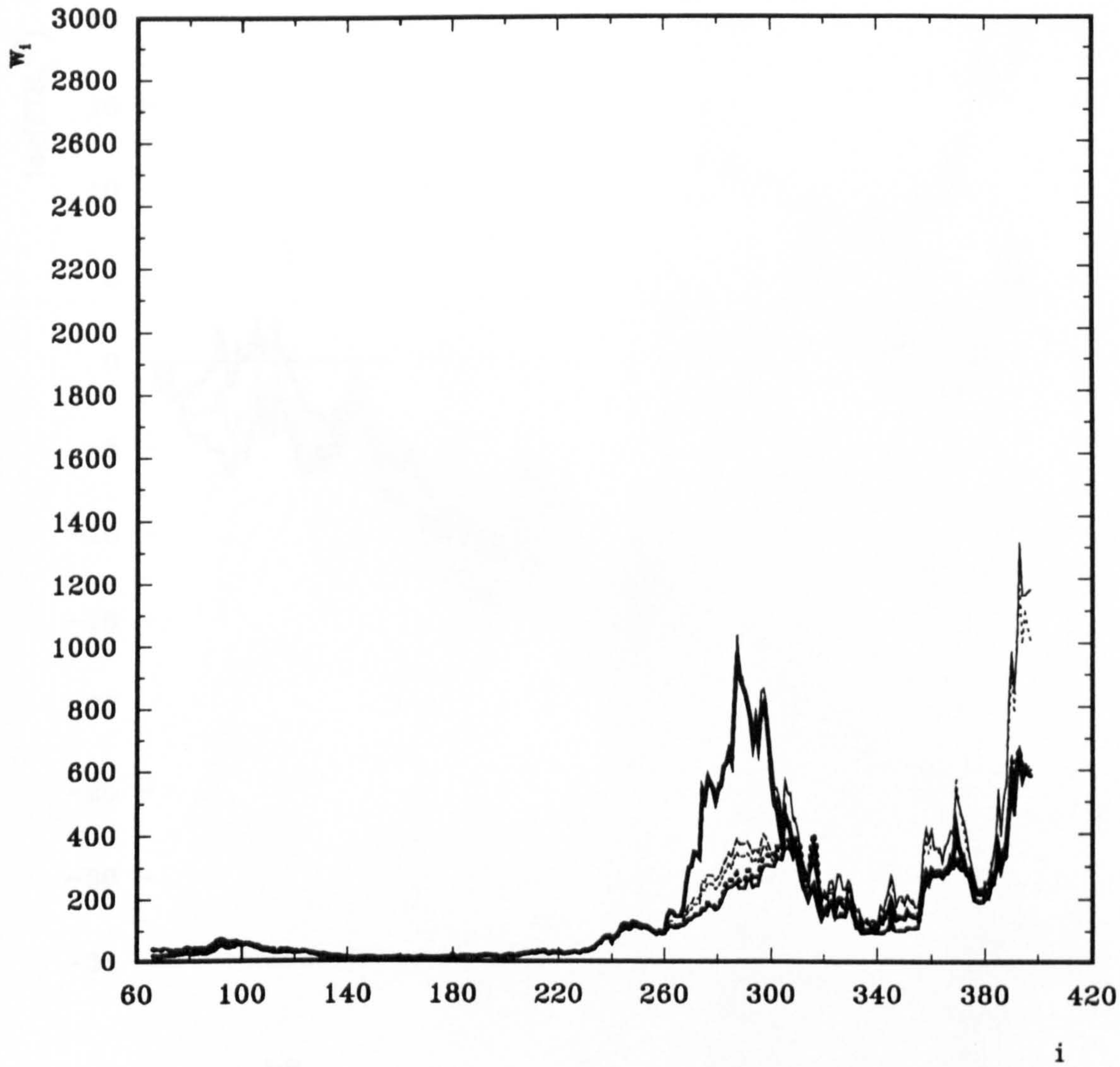


Figure B.4-21. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *USBAR*.



JMS20
GOS20
MOS20
DUS20
LMS20
LNHPPS20
LVS20
KLS20

Figure B.4-22. Median predictions from the recalibrated (window = *20*) parametric predictors plotted against failure number for data set *USBAR*.



JMS50
GOS50
MOS50
DUS50
LMS50
LNHPPS50
LVS50
KLS50

Figure B.4-23. Median predictions from the recalibrated (window = *50*) parametric predictors plotted against failure number for data set *USBAR*.

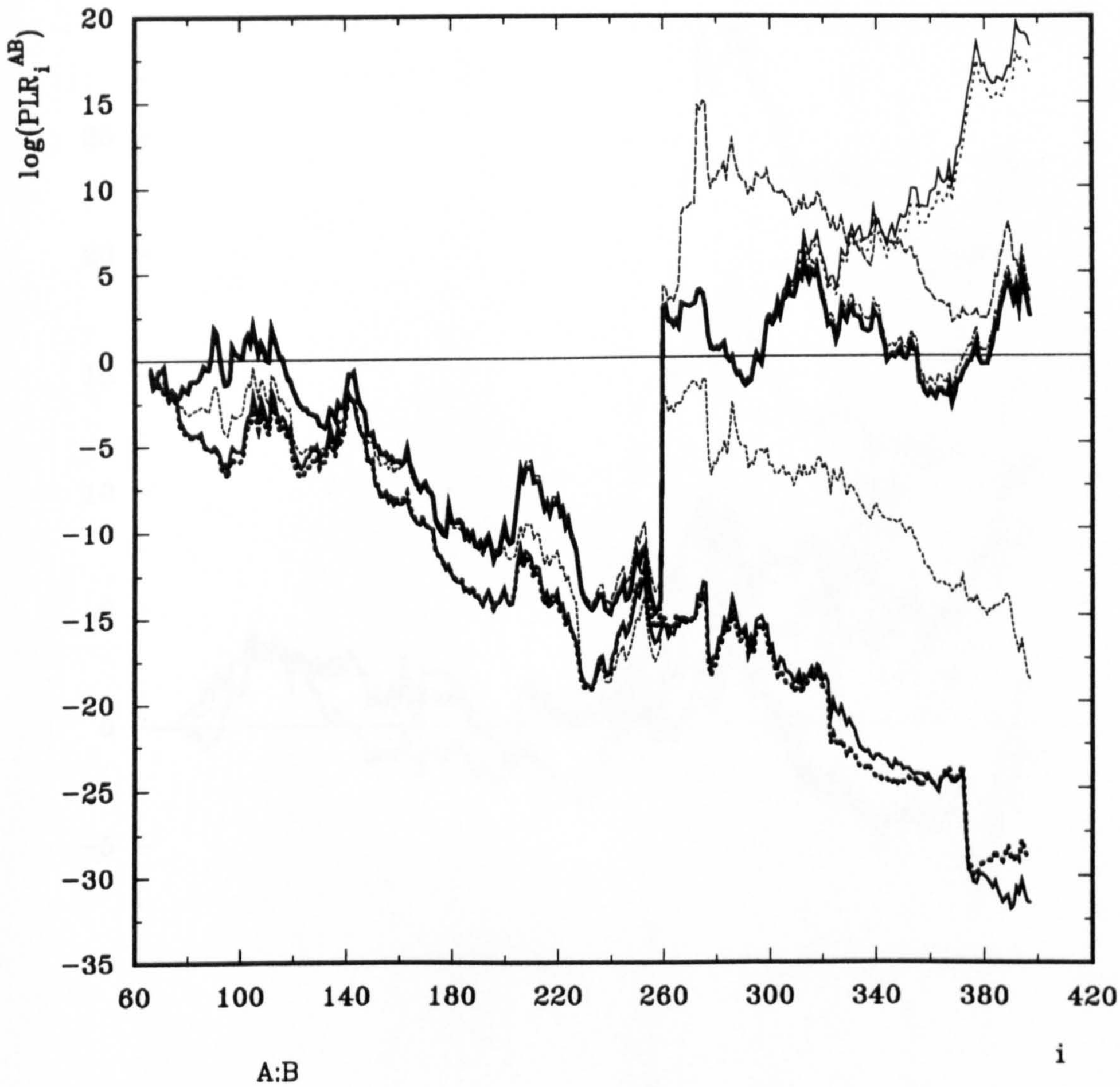


Figure B.4-24. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USBAR*.

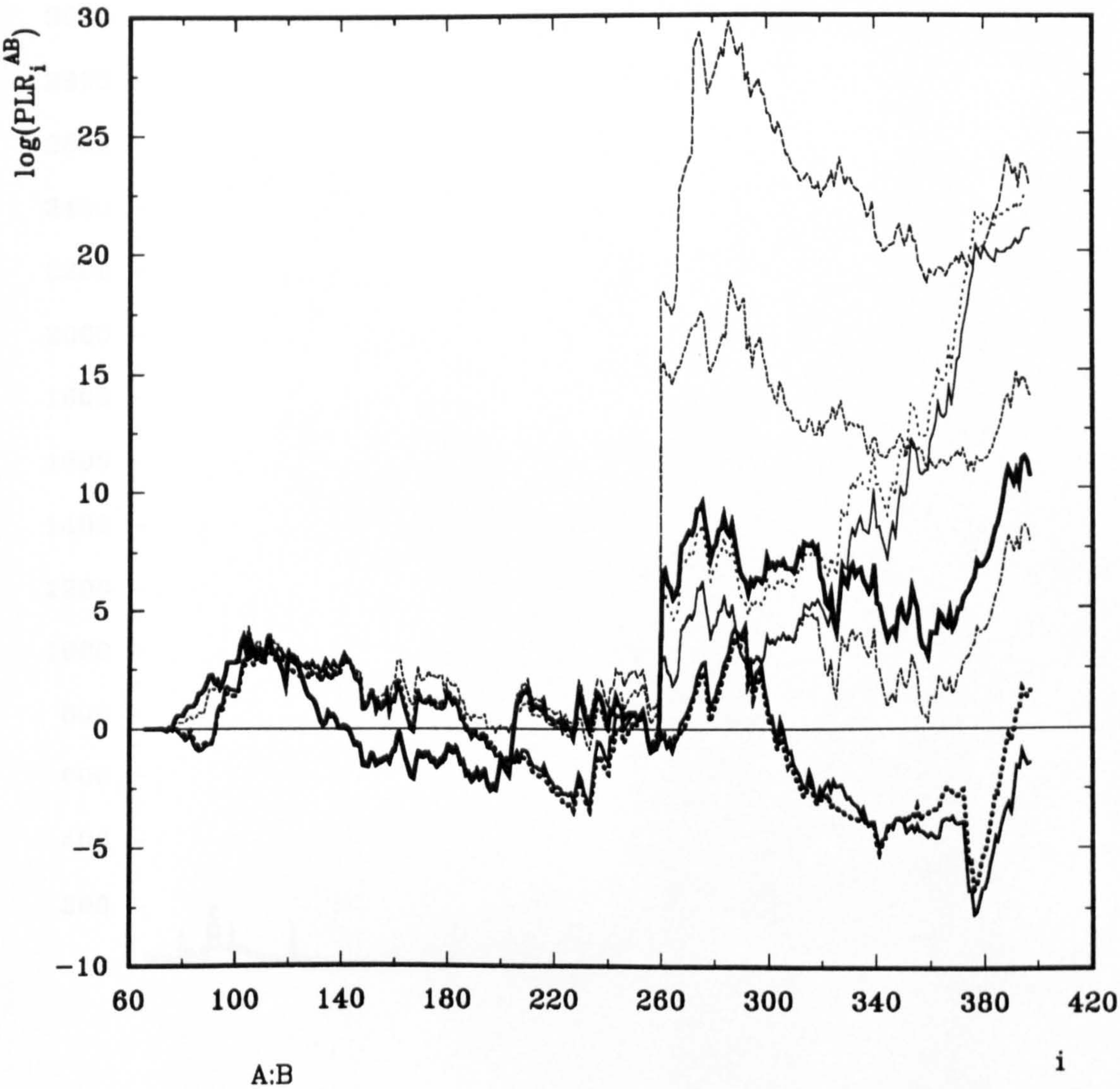
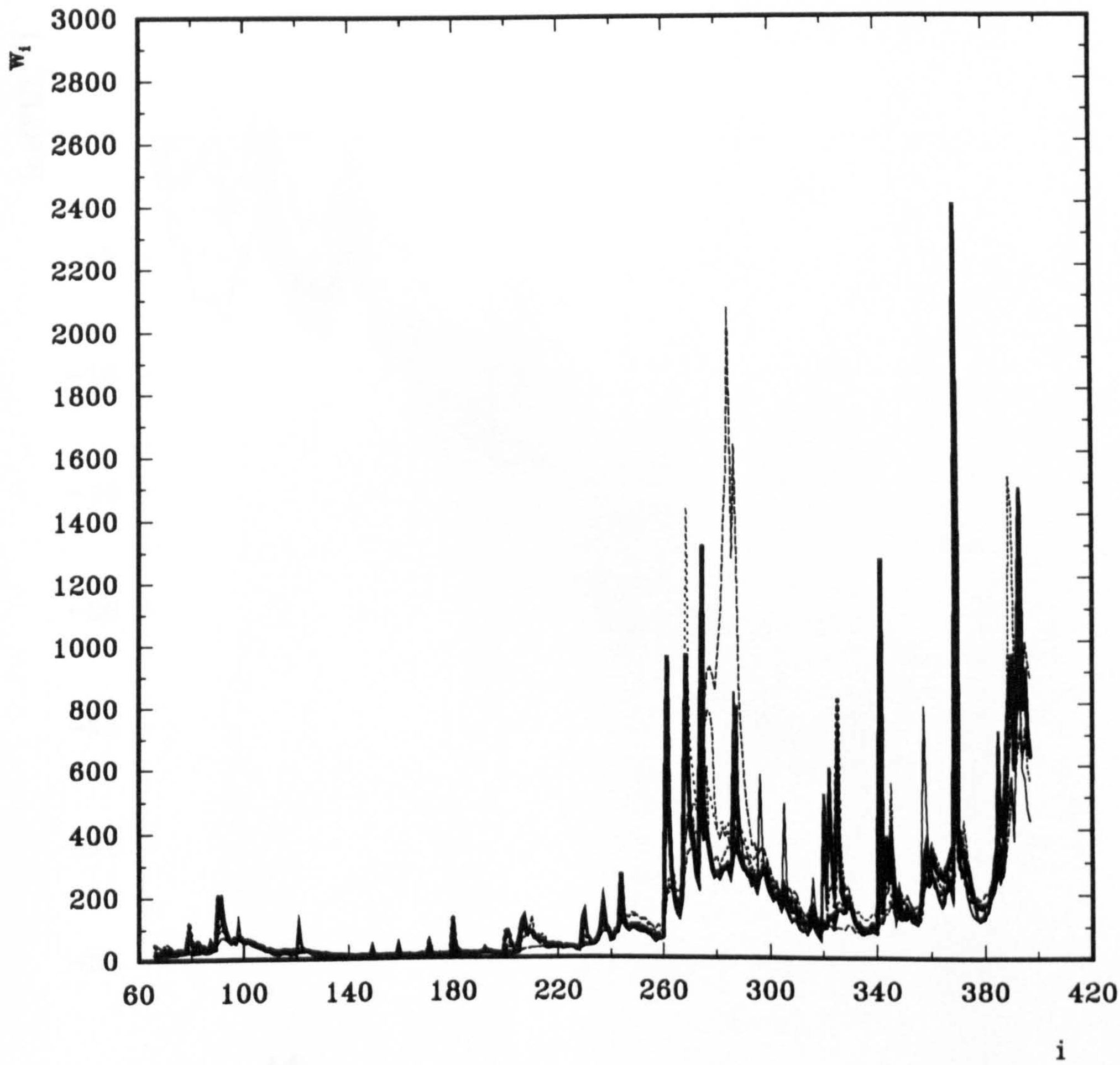


Figure B.4-25. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USBAR*.



CM1S50
CM2S50
CM3S50
OTY20S50
OTY50S50
OTLS50
OTL20S50
OTL50S50

Figure B.4-26. Median predictions from the recalibrated (window = *50*) non-parametric predictors plotted against failure number for data set *USBAR*.

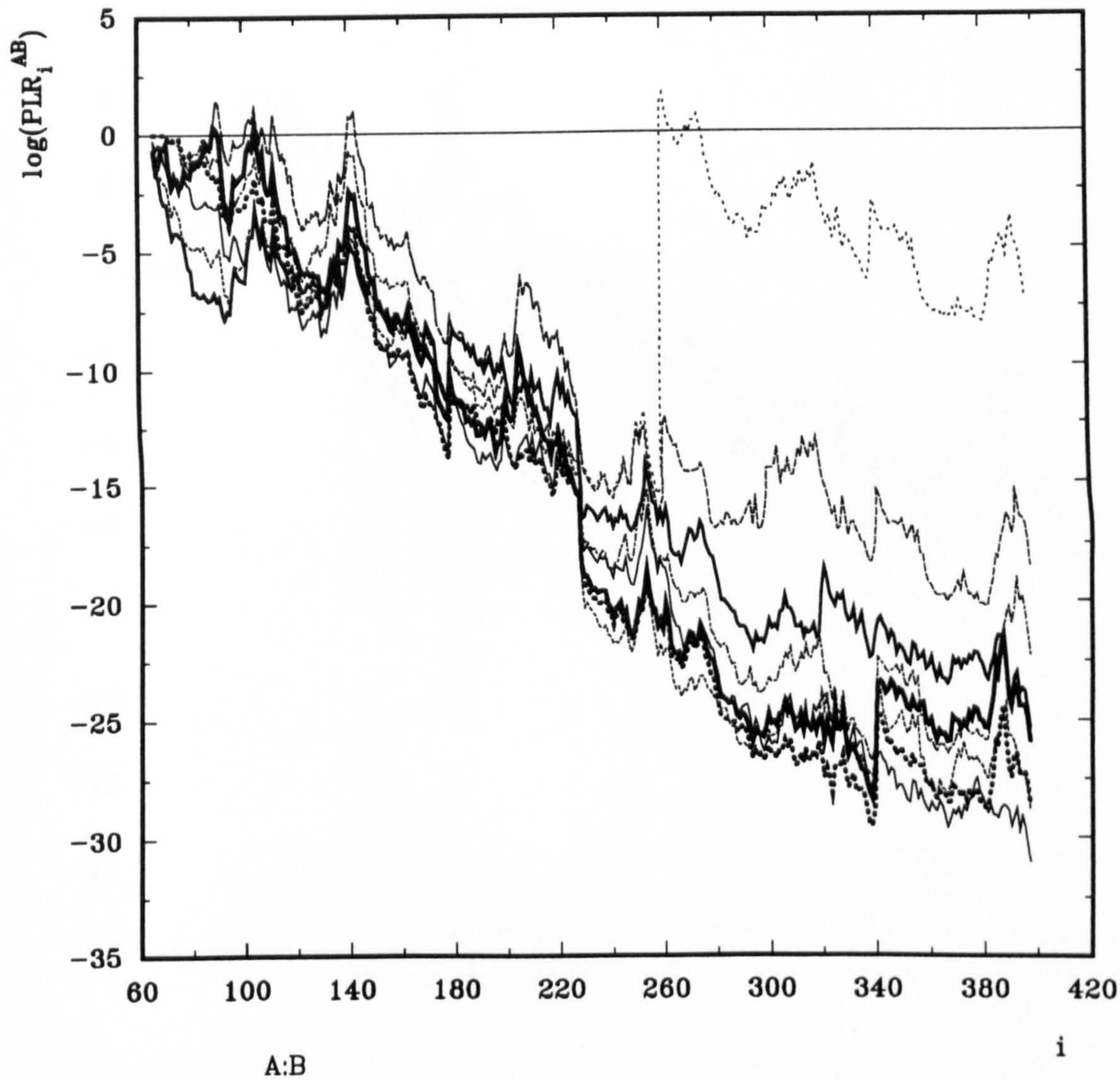


Figure B.4-27. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USBAR*.

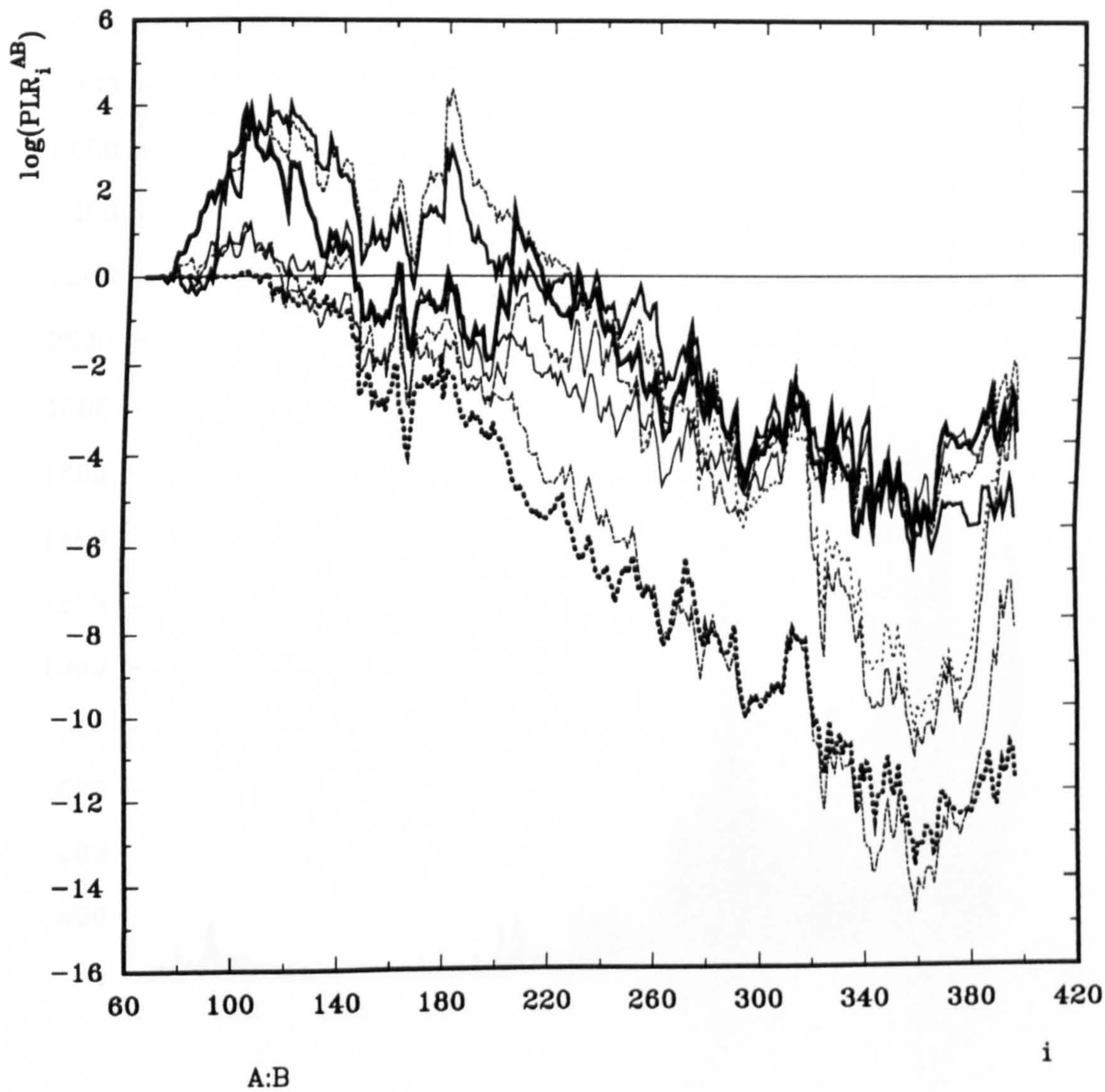
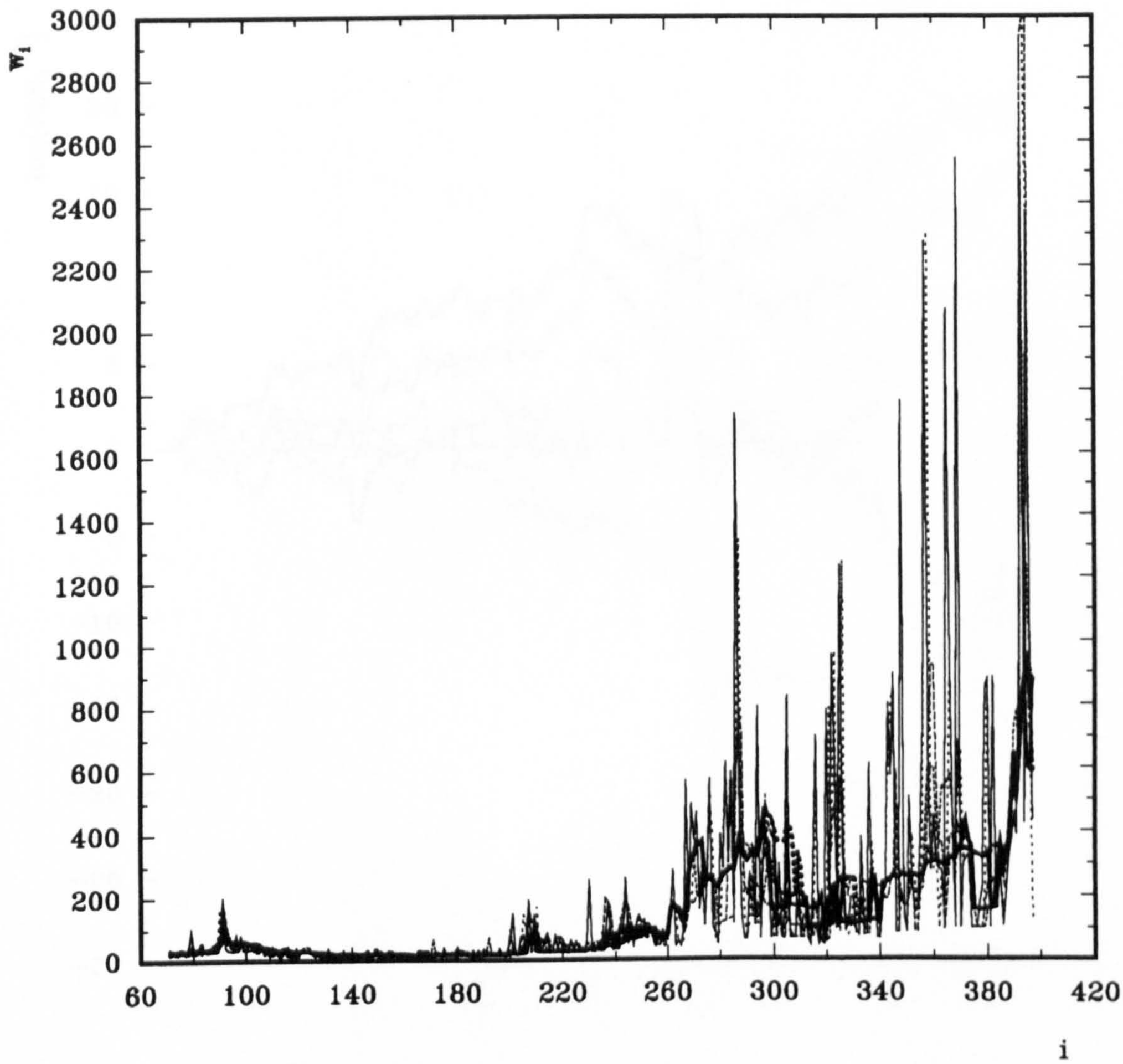


Figure B.4-28. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USBAR*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.4-29. Median predictions from the meta-predictors plotted against failure number for data set *USBAR*.

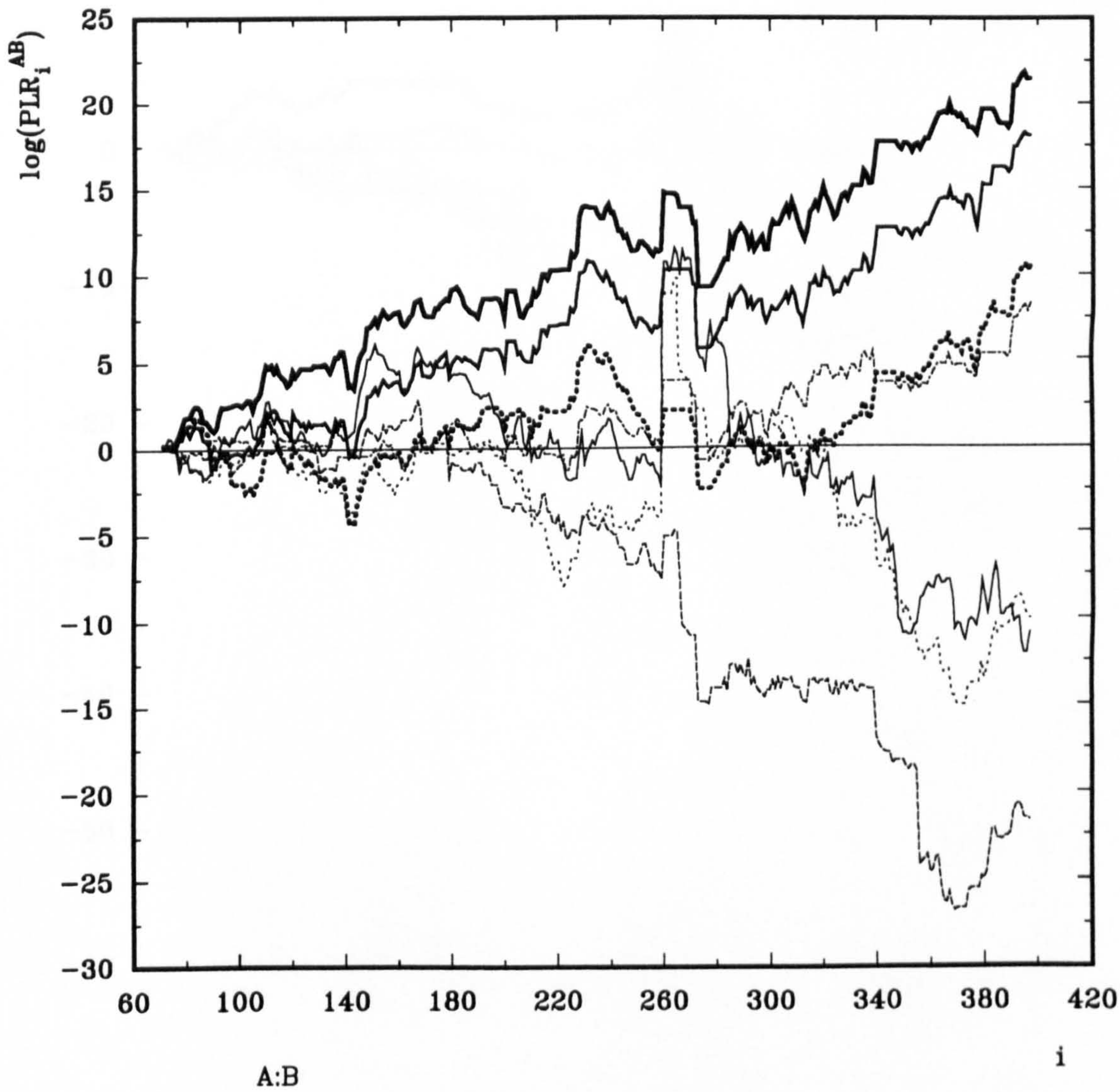


Figure B.4-30. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *USBAR*.

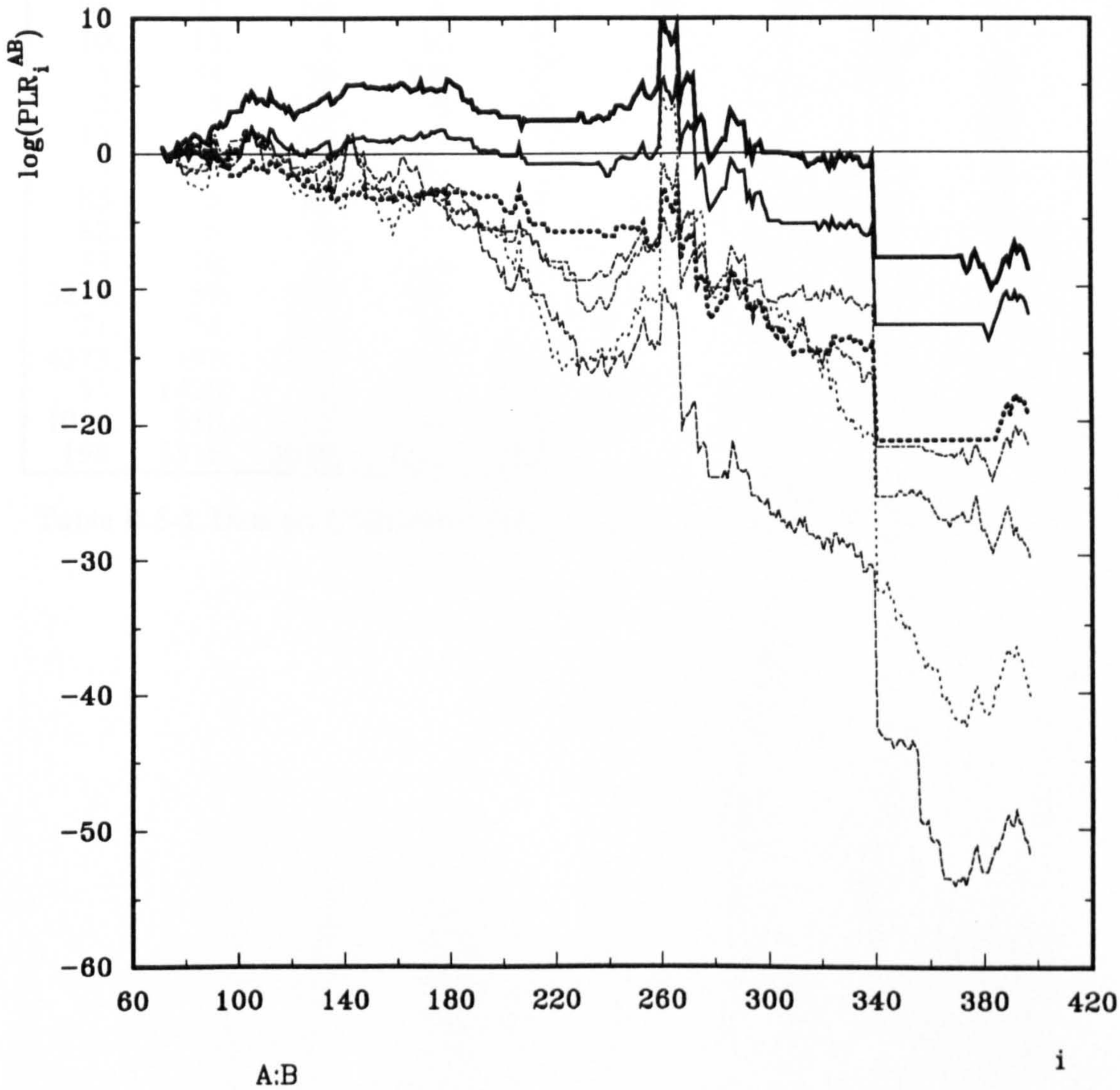


Figure B.4-31. *log(PLR)*-plots for the meta-predictors versus *DUS* for data set *USBAR*.

B.5 Data Set USROFF

25.	40.	23.	5.	53.	4.	16.	94.	15.	5.
90.	77.	68.	8.	137.	23.	1.	104.	16.	9.
10.	12.	4.	10.	57.	78.	36.	60.	11.	5.
5.	34.	16.	164.	102.	77.	247.	244.	60.	5.
2.	5.	130.	0.5	334.	24.	145.	37.	133.	5.
12.	18.	70.	3.	10.	114.	104.	1.	30.	15.
5.	104.	265.	290.	5.	63.	42.	357.	128.	388.
85.	5.	96.	35.	151.	139.	110.	98.	60.	90.
82.	5.	30.	35.	231.	62.	158.	1613.	117.	236.
33.	70.	35.	116.	806.	880.	745.	309.	624.	2264.
3218.	59.	333.	287.	1.	881.	13.	1968.	11.	17.
71.	34.	761.	38.	78.	1647.	205.	936.	2605.	376.
4373.	197.	1174.	783.	2761.	25.	98.	722.	222.	78.
33.	1420.	6.	4283.	803.	297.	571.	140.	30.	1436.
1044.	556.	55.	4698.	1706.	2459.	3357.	2976.	2177.	1865.
198.	3316.	3086.	3012.	783.					

Table B.5-1. Data set *USROFF*; 155 inter-failure times (read from left to right).

	RAW		S		S20		S30		S40		S50	
	y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
JM	F	F	F	F	B	A	D	A	E	A	F	B
GO	F	F	F	F	A	A	C	A	D	A	F	A
MO	D	A	D	A	C	A	C	A	D	A	E	A
DU	B	F	D	A	D	A	E	A	E	A	F	A
LM	E	F	B	A	A	A	A	A	A	A	A	A
LNHPP	E	D	C	A	A	A	A	A	A	A	B	A
LV	A	F	A	E	B	A	B	B	B	B	B	D
KL	A	F	A	D	B	A	B	B	B	C	B	C
CM1	A	F	A	A	A	A	A	A	A	A	A	A
CM2	A	B	A	A	A	A	B	A	B	A	A	A
CM3	A	C	A	A	A	A	B	A	A	A	A	A
OTY20	A	B	B	A	A	A	B	A	B	A	B	A
OTY50	A	B	A	A	A	A	A	A	A	A	A	A
OTL	A	D	A	A	A	A	B	A	B	A	A	A
OTL20	A	D	A	A	A	A	A	A	A	A	B	A
OTL50	A	D	A	A	A	A	A	A	A	A	A	A

Table B.5-2.1. *u*- and *y*-plot significance levels for data set *USROFF* for predictions of $T_{66}, T_{67}, \ldots$.

M1		M2		M5		M10		M20		M30		M40		M50	
y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
A	A	A	A	A	A	B	A	A	A	C	A	A	A	A	A

Table B.5-2.2. *u*- and *y*-plot significance levels for data set *USROFF* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

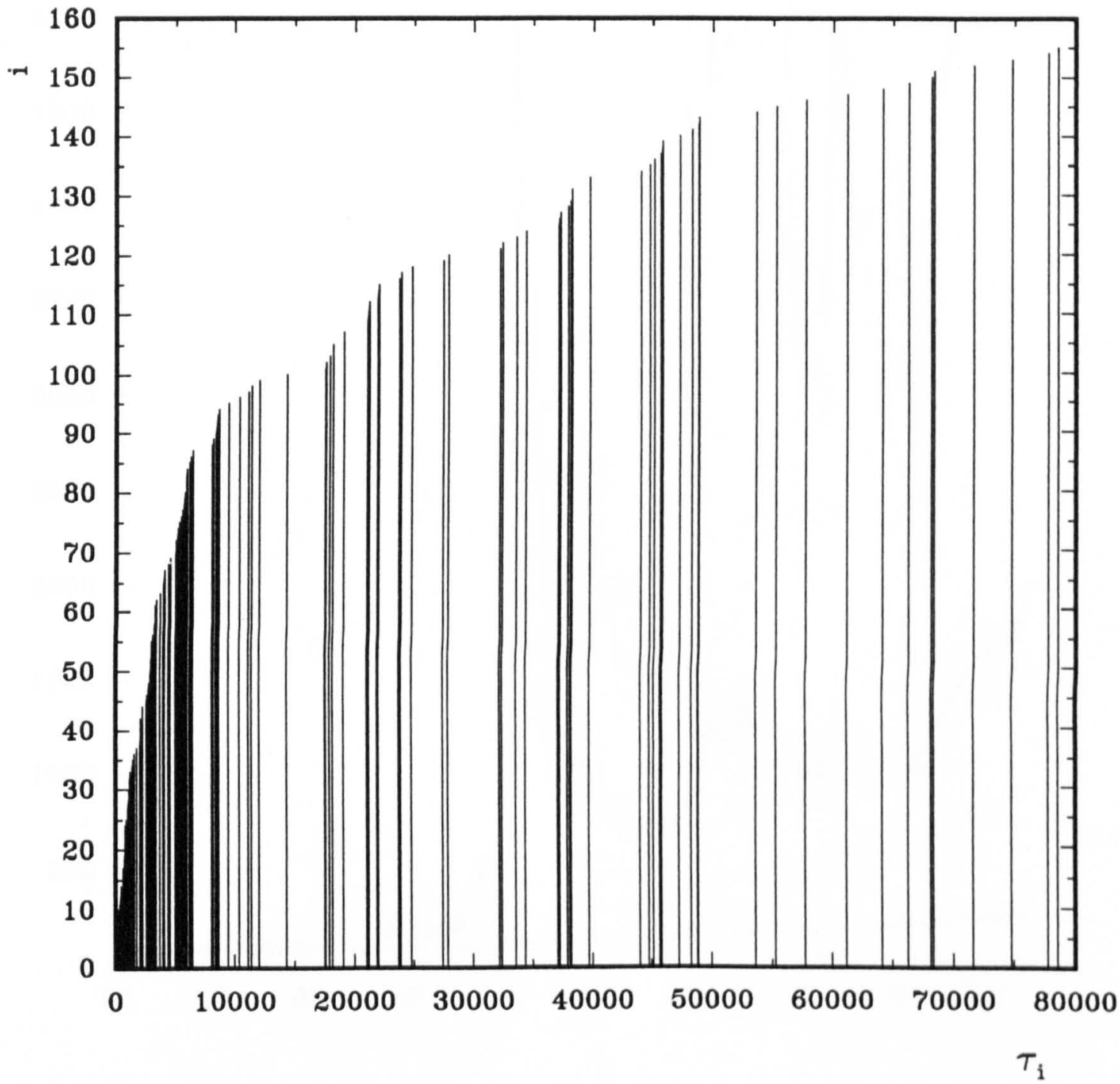
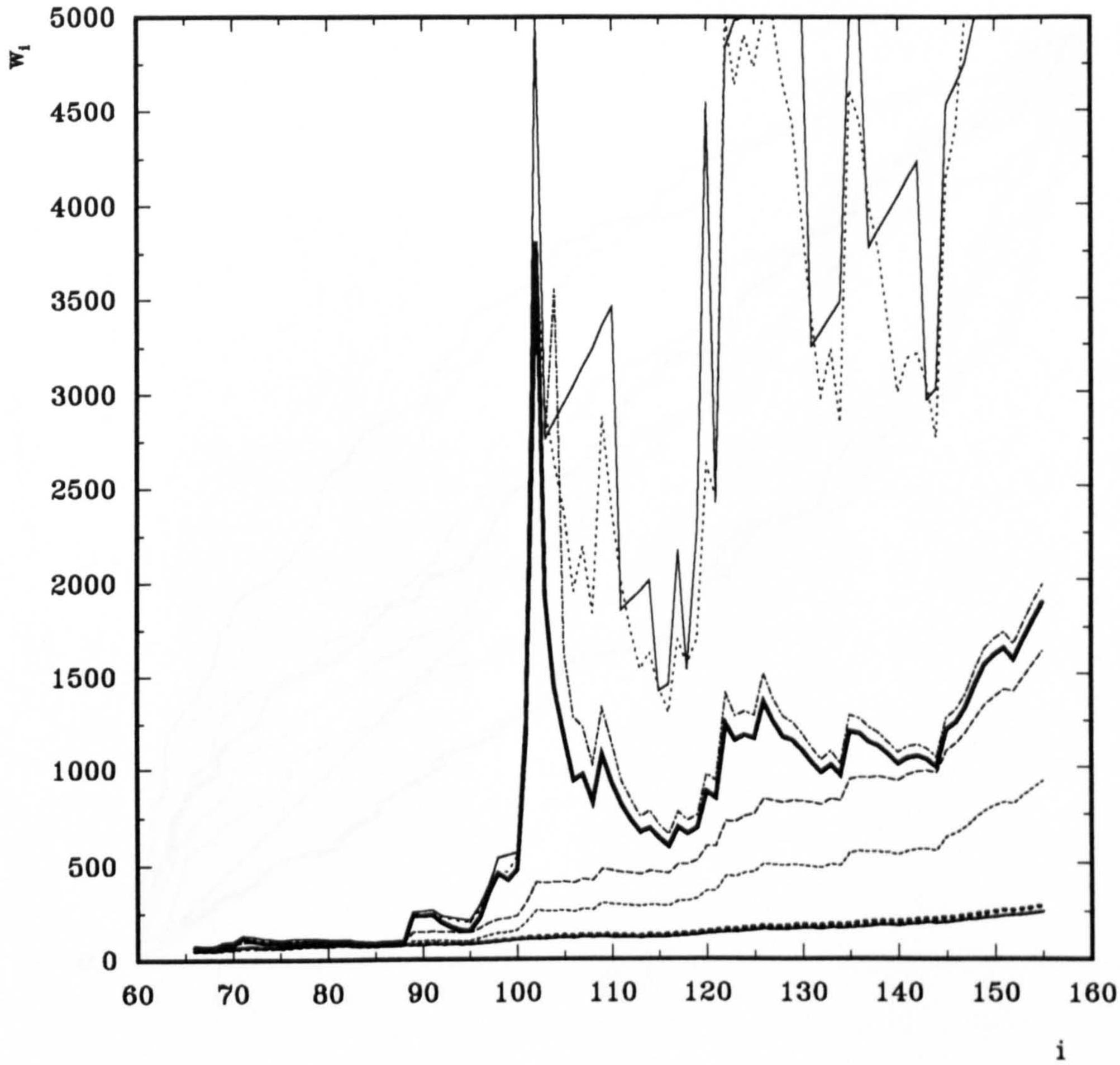
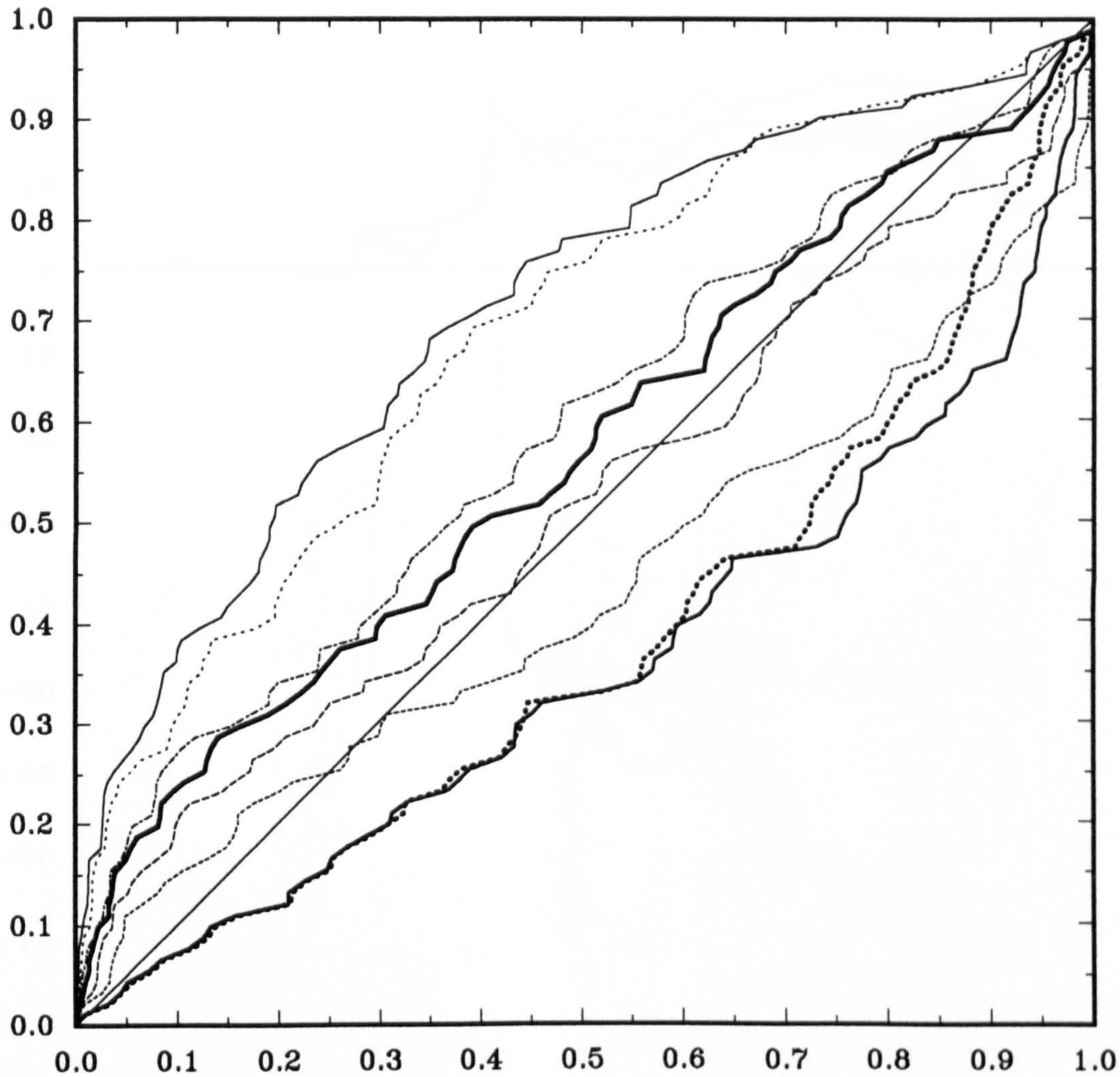


Figure B.5-3. Cumulative number of failures plotted against total elapsed time for data set *USROFF*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.5-4. Median predictions from the raw parametric predictors plotted against failure number for data set *USROFF*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.5-5. *u*-plots for the raw parametric predictors for data set *USROFF*.

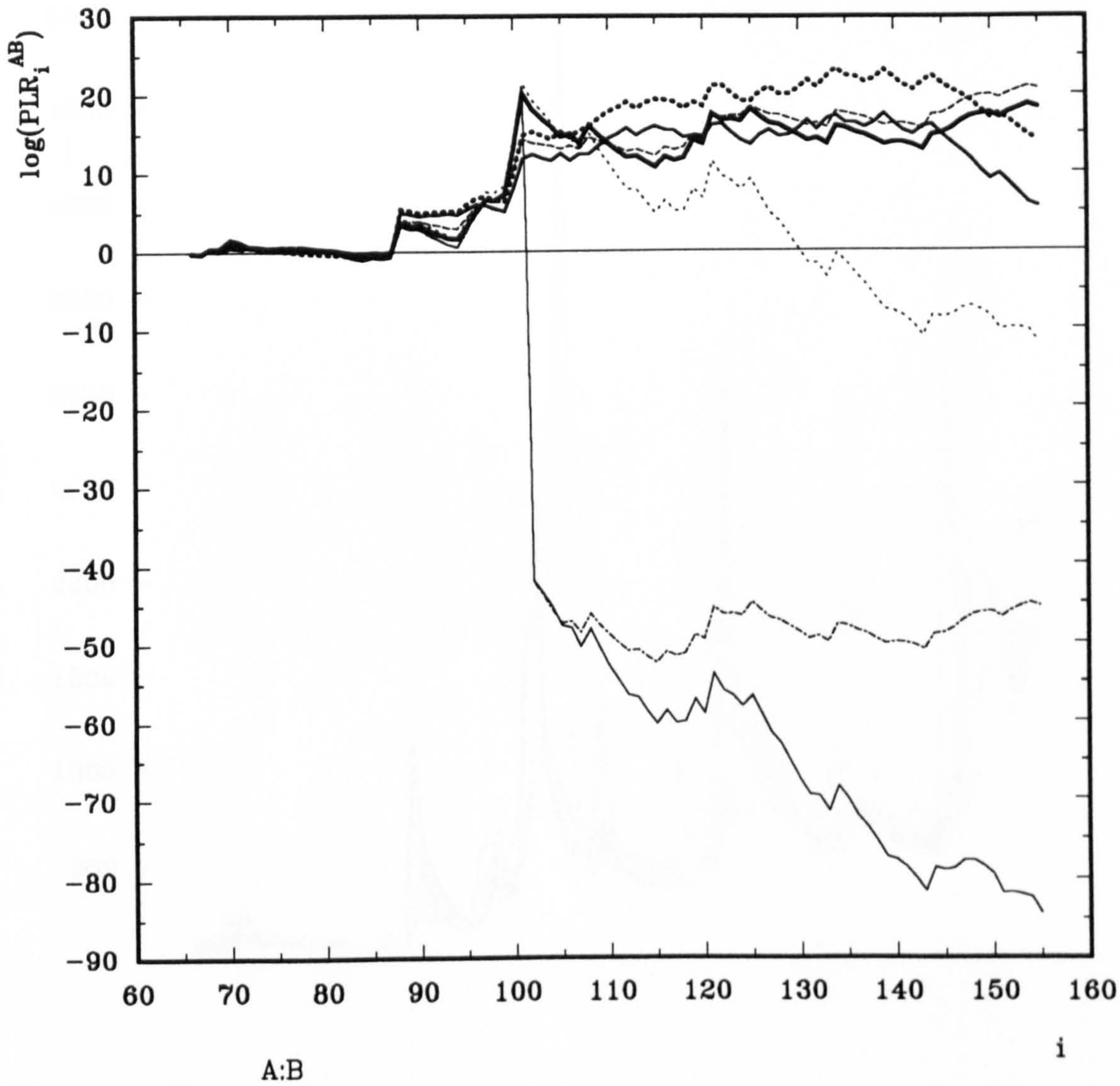
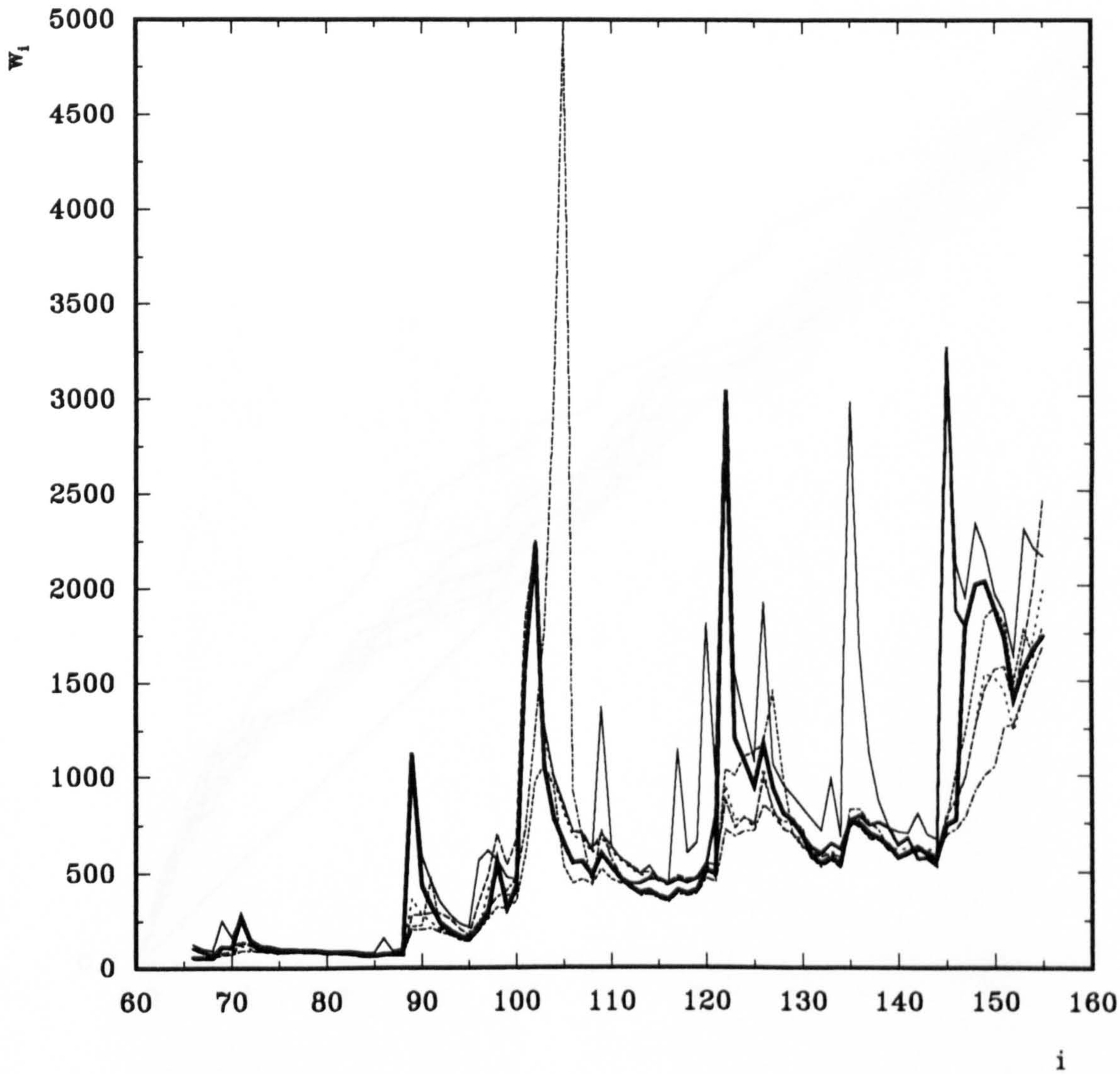
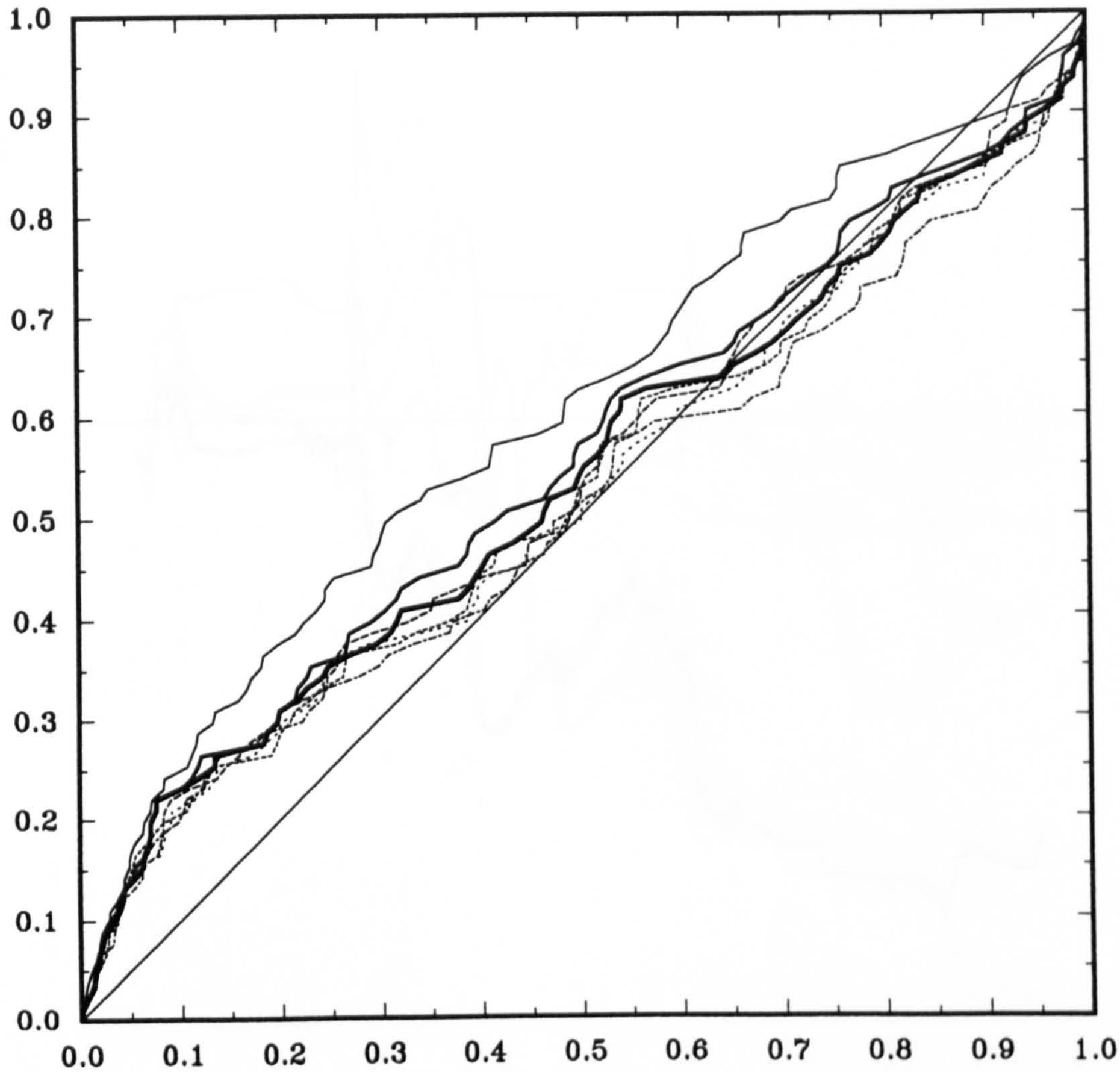


Figure B.5-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *USROFF*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.5-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *USROFF*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.5-8. *u*-plots for the raw non-parametric predictors for data set *USROFF*.

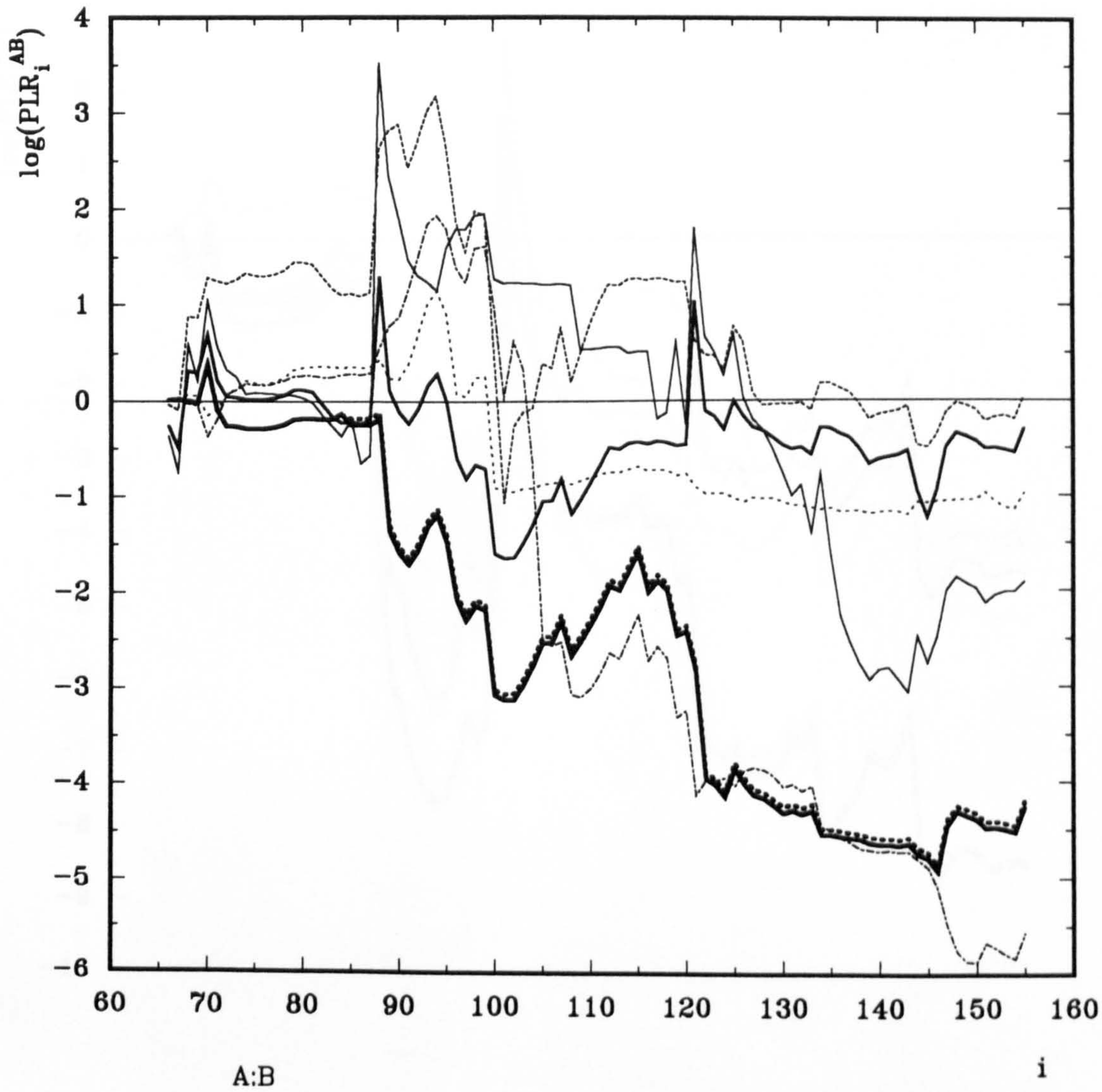


Figure B.5-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *USROFF*.

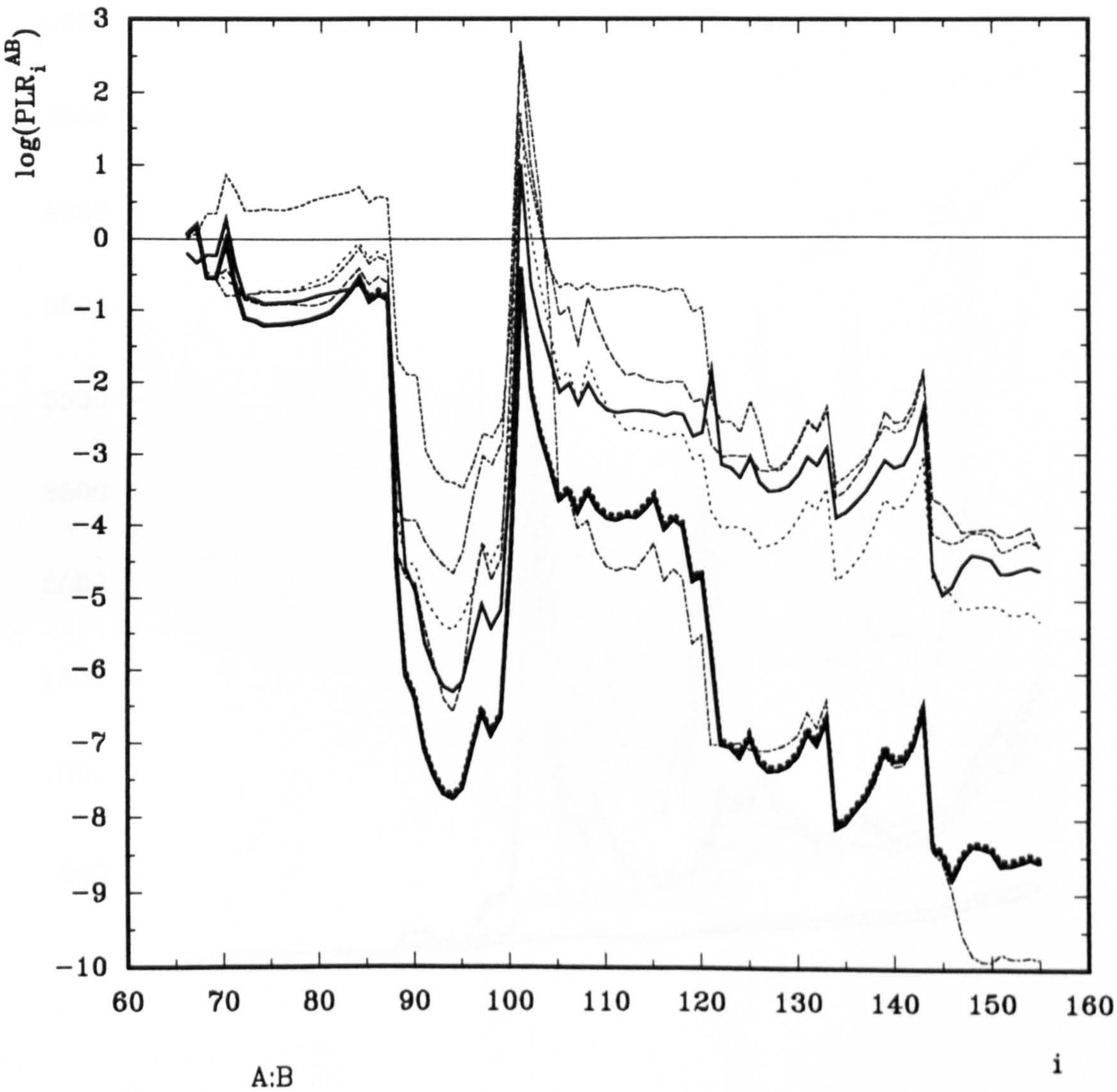
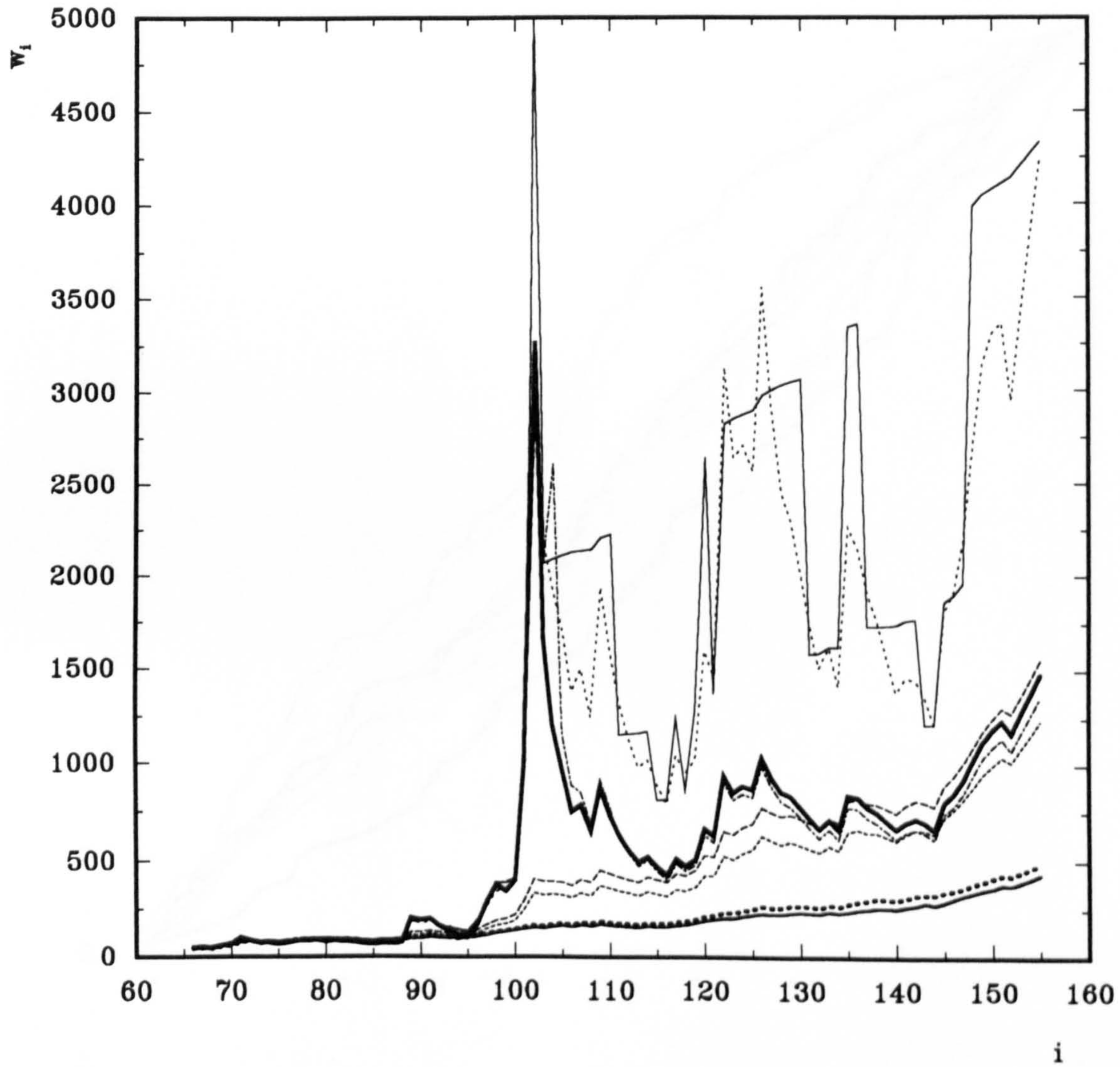
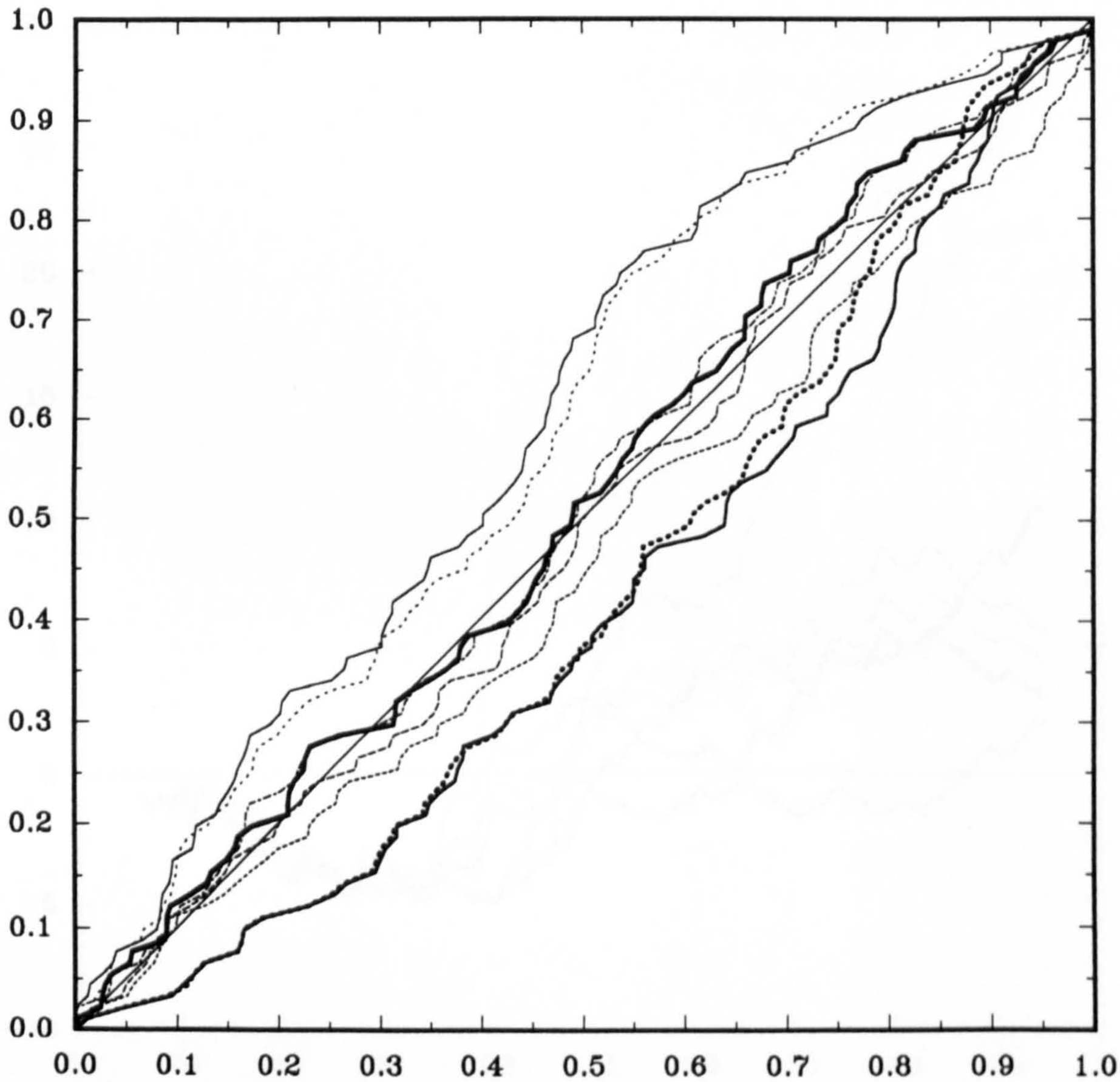


Figure B.5-10. *log(PLR)*-plots for the raw non-parametric predictors versus *MO* for data set *USROFF*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.5-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *USROFF*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.5-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *USROFF*.

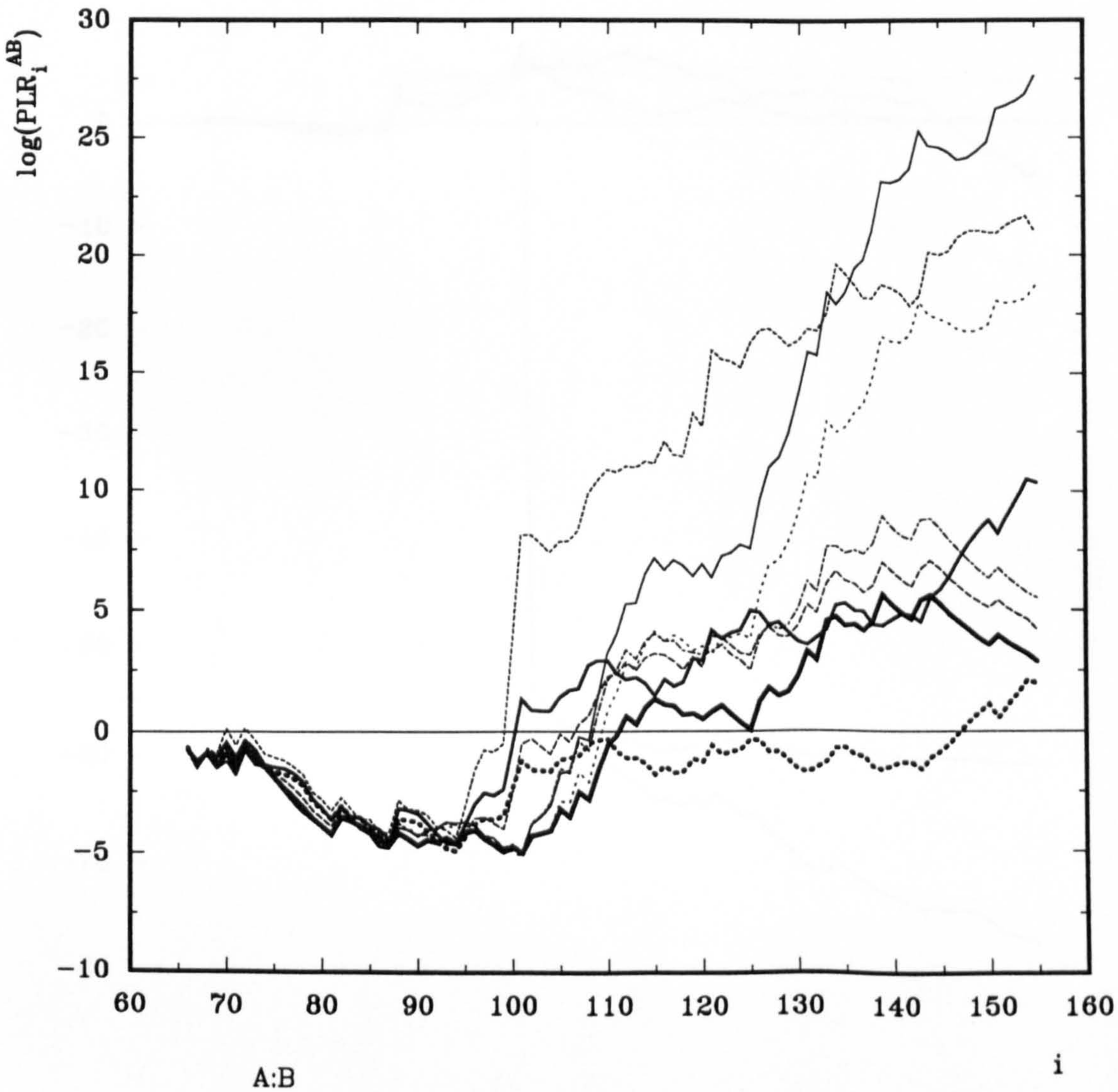
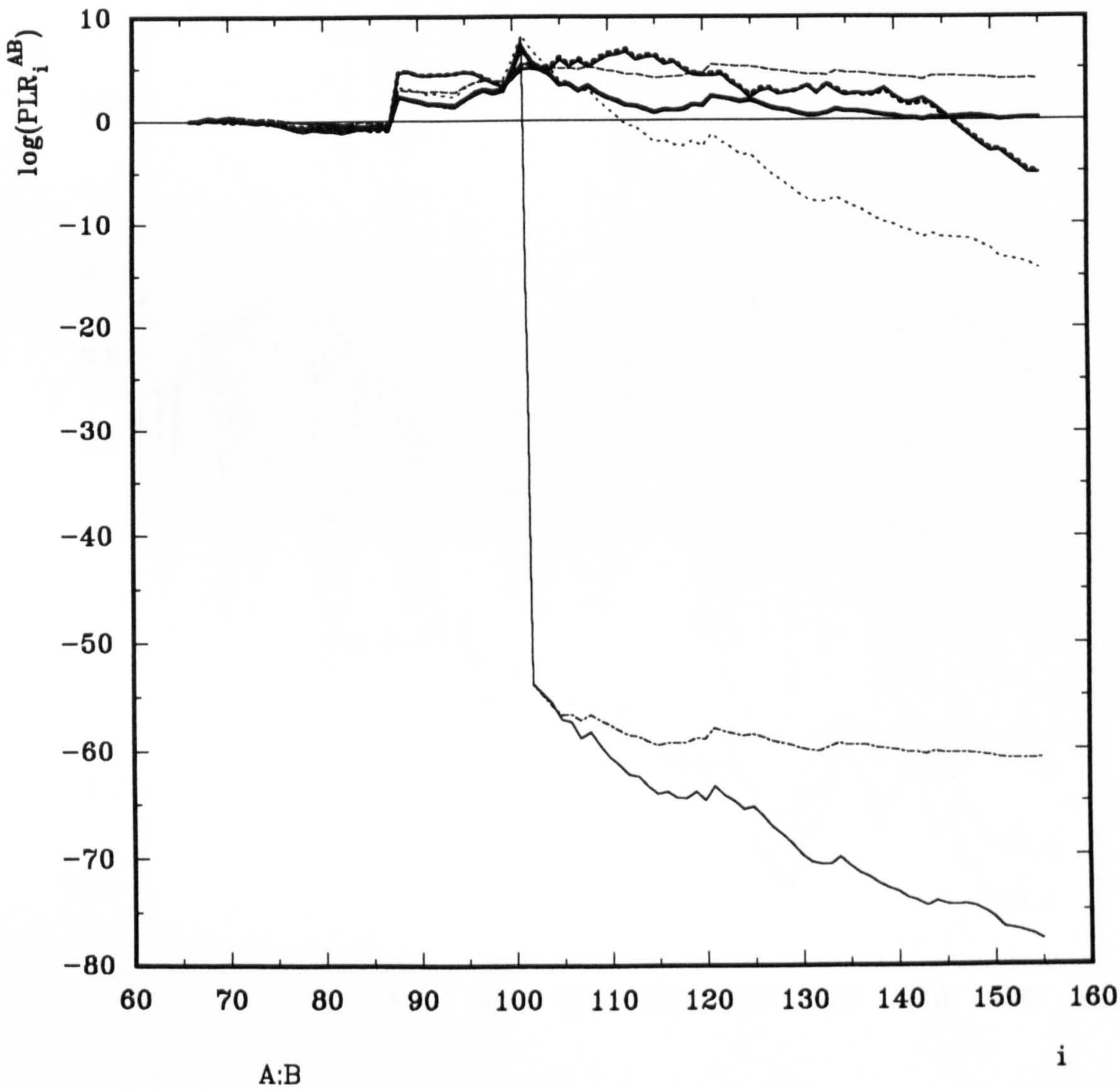


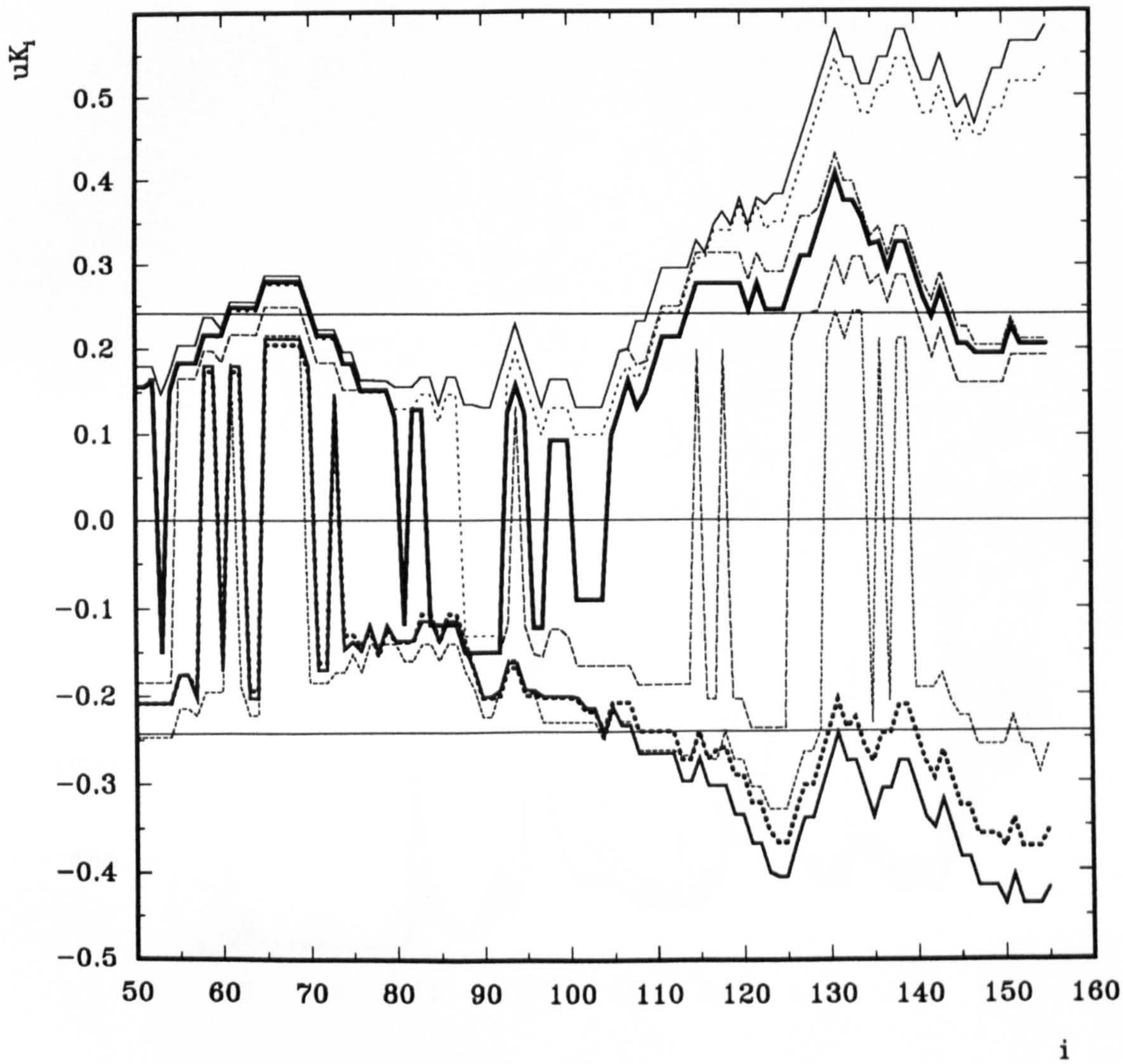
Figure B.5-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *USROFF*.



A:B

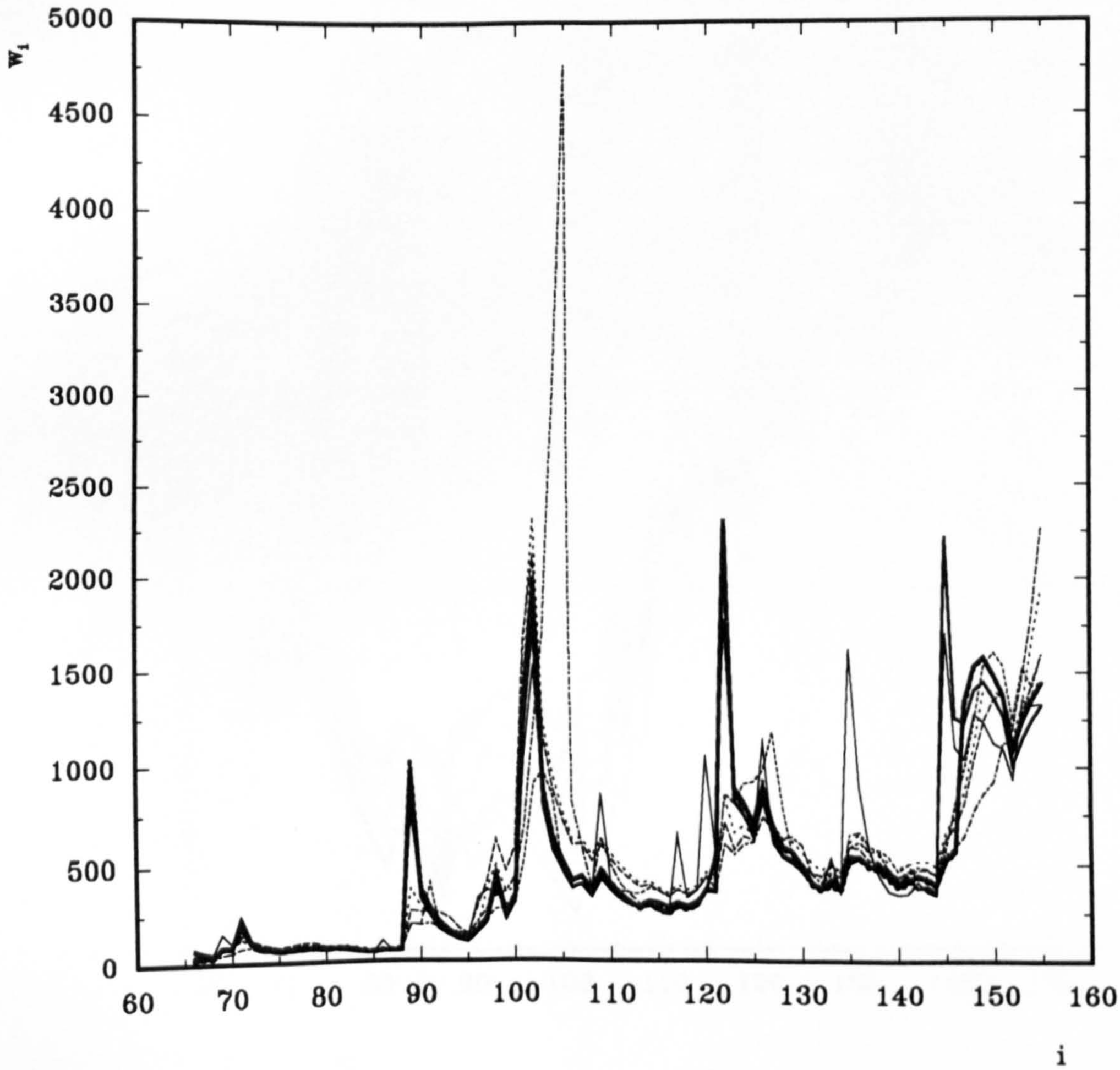
JMS:DUS
GOS:DUS
MOS:DUS
DUS:DUS
LMS:DUS
LNHPPS:DUS
LVS:DUS
KLS:DUS

Figure B.5-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *USROFF*.



JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.5-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *USROFF*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.5-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *USROFF*.

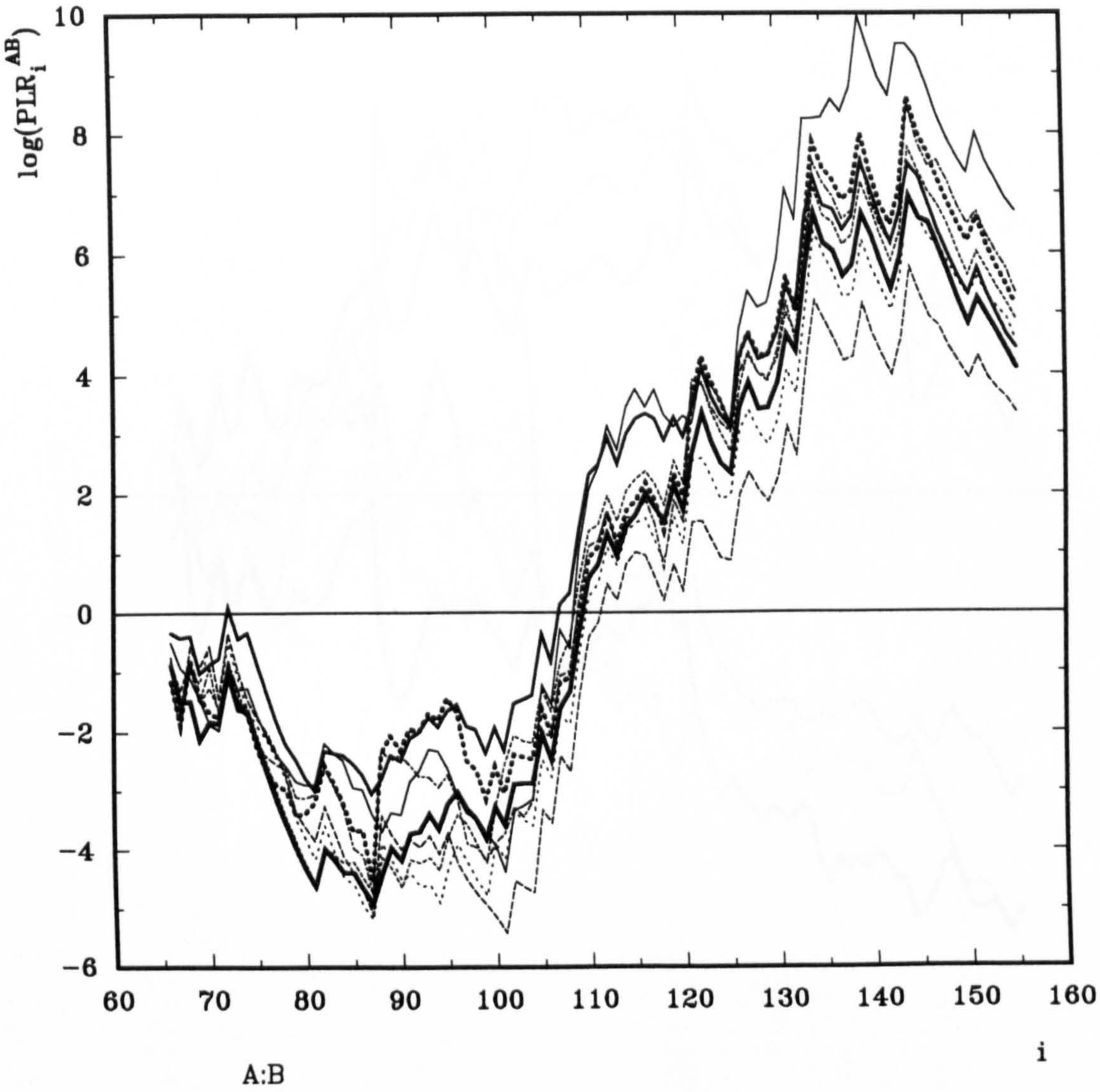


Figure B.5-17. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *USROFF*.

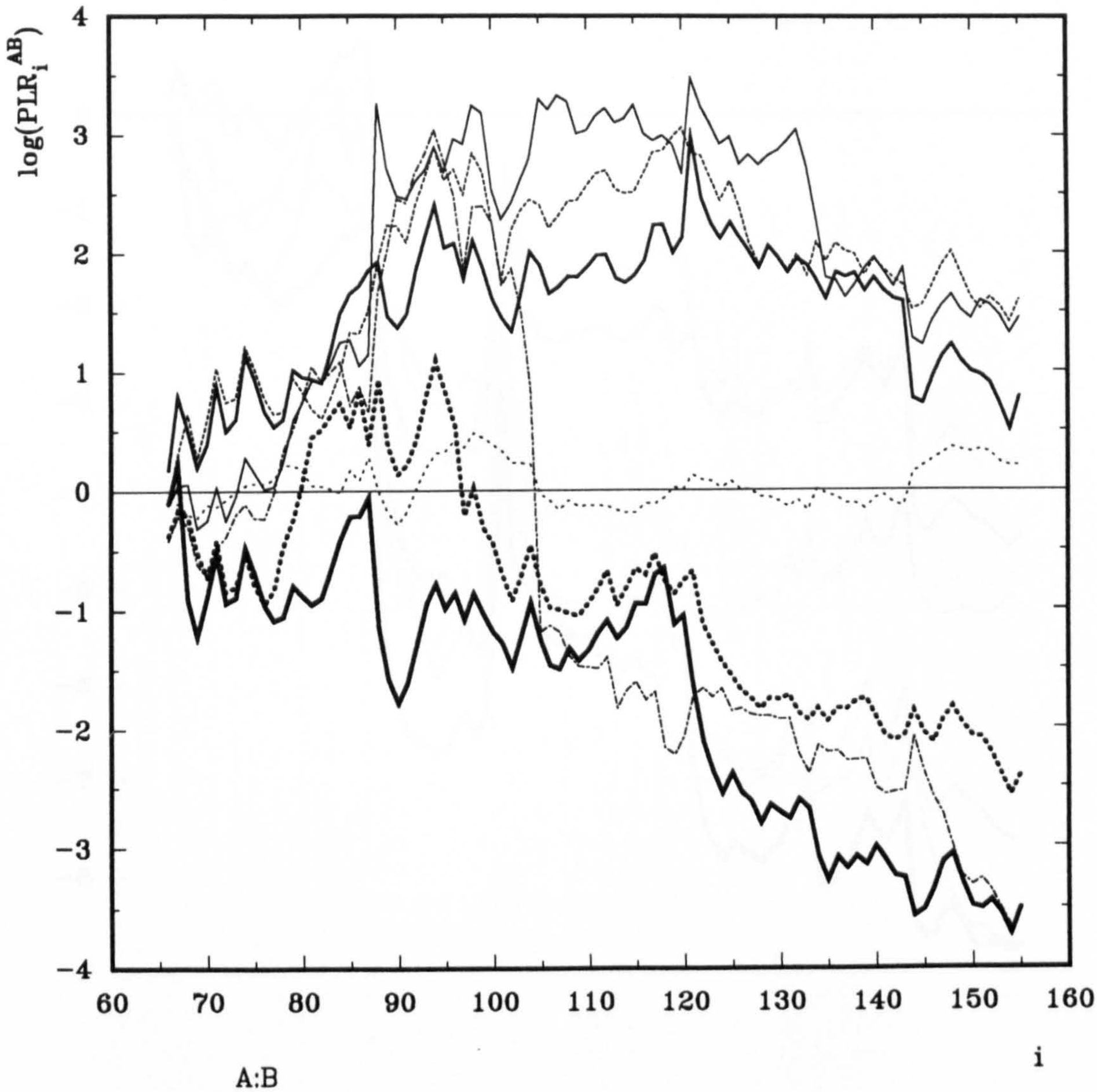


Figure B.5-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *USROFF*.

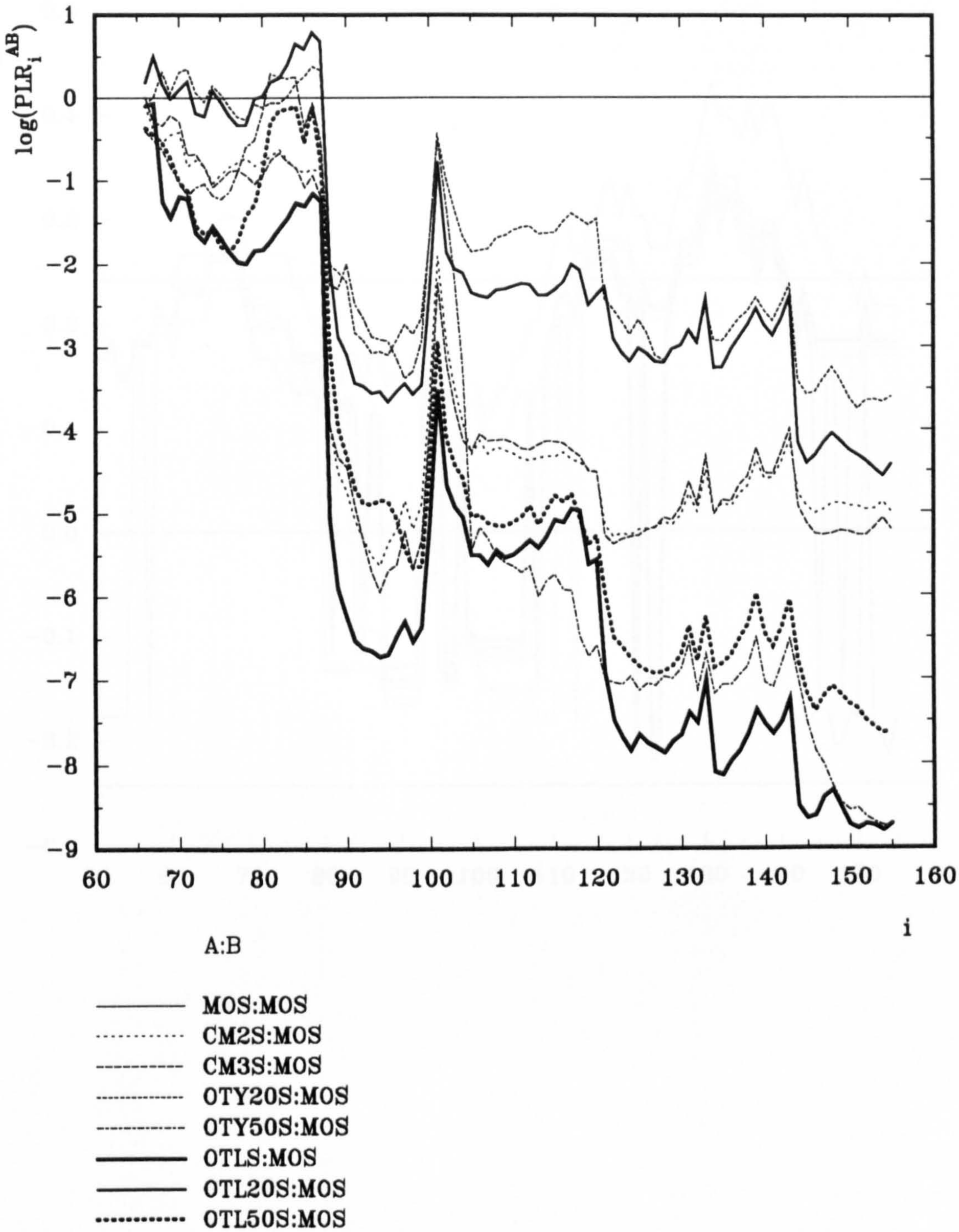
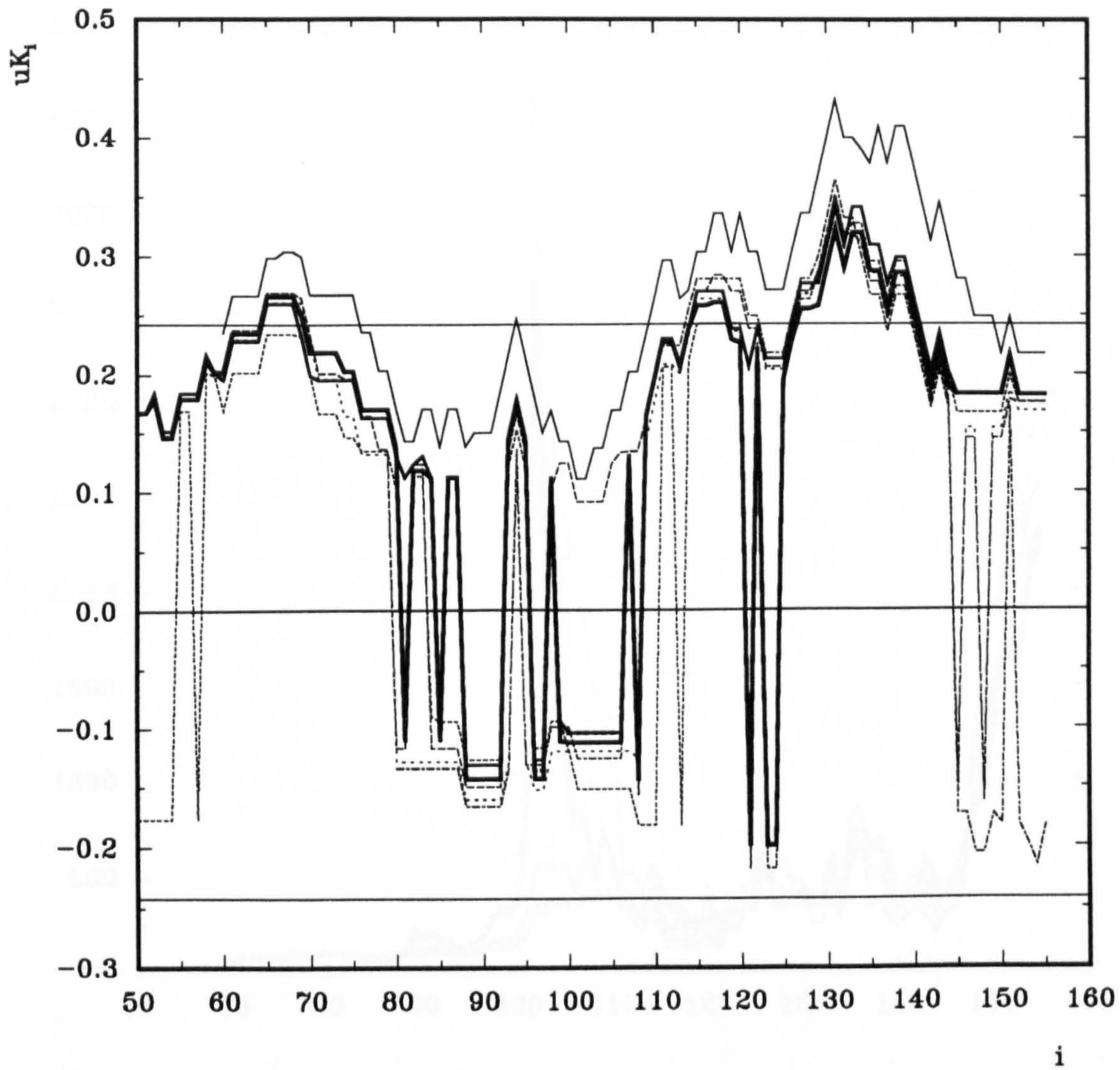
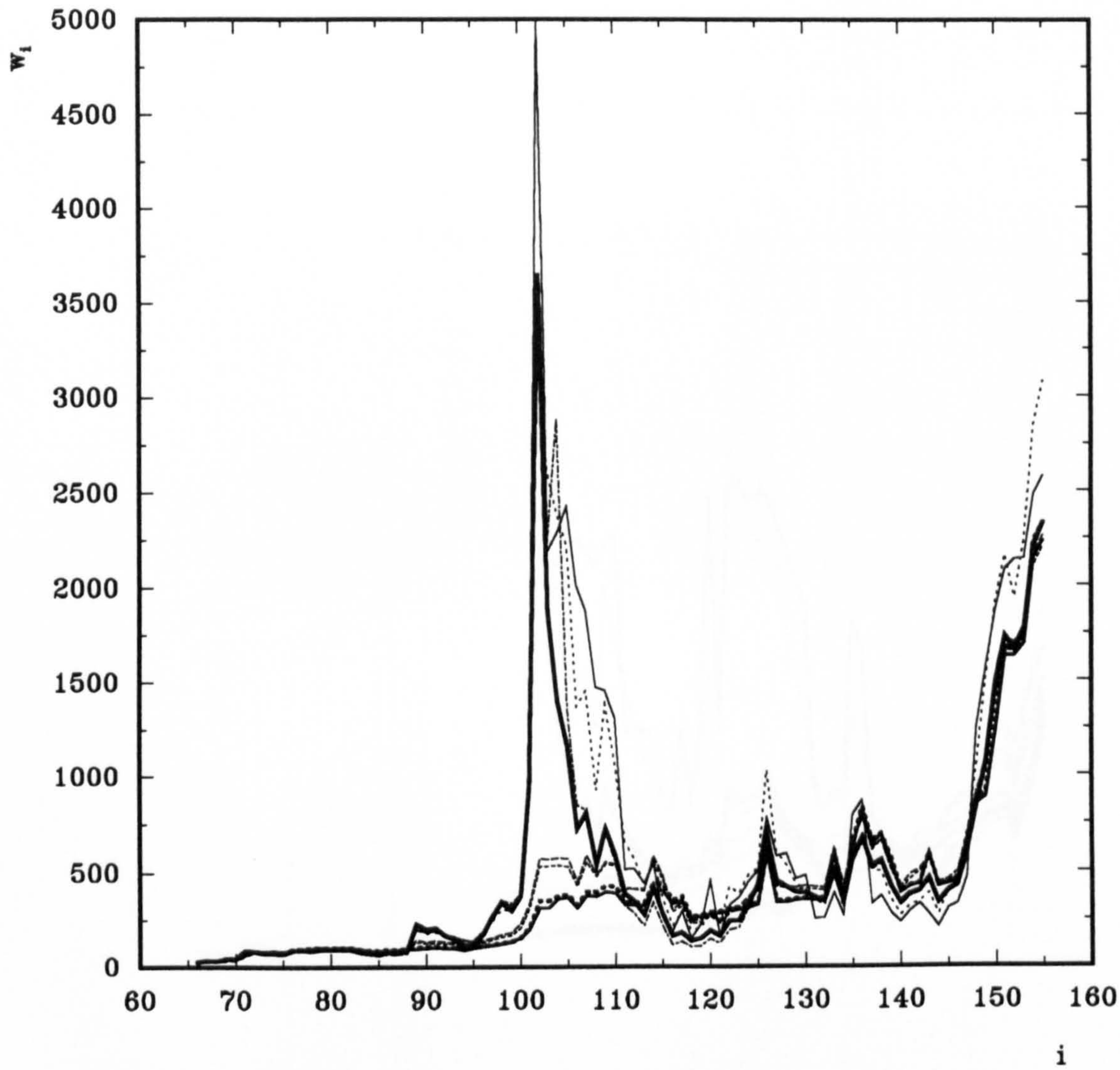


Figure B.5-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *MOS* for data set *USROFF*.



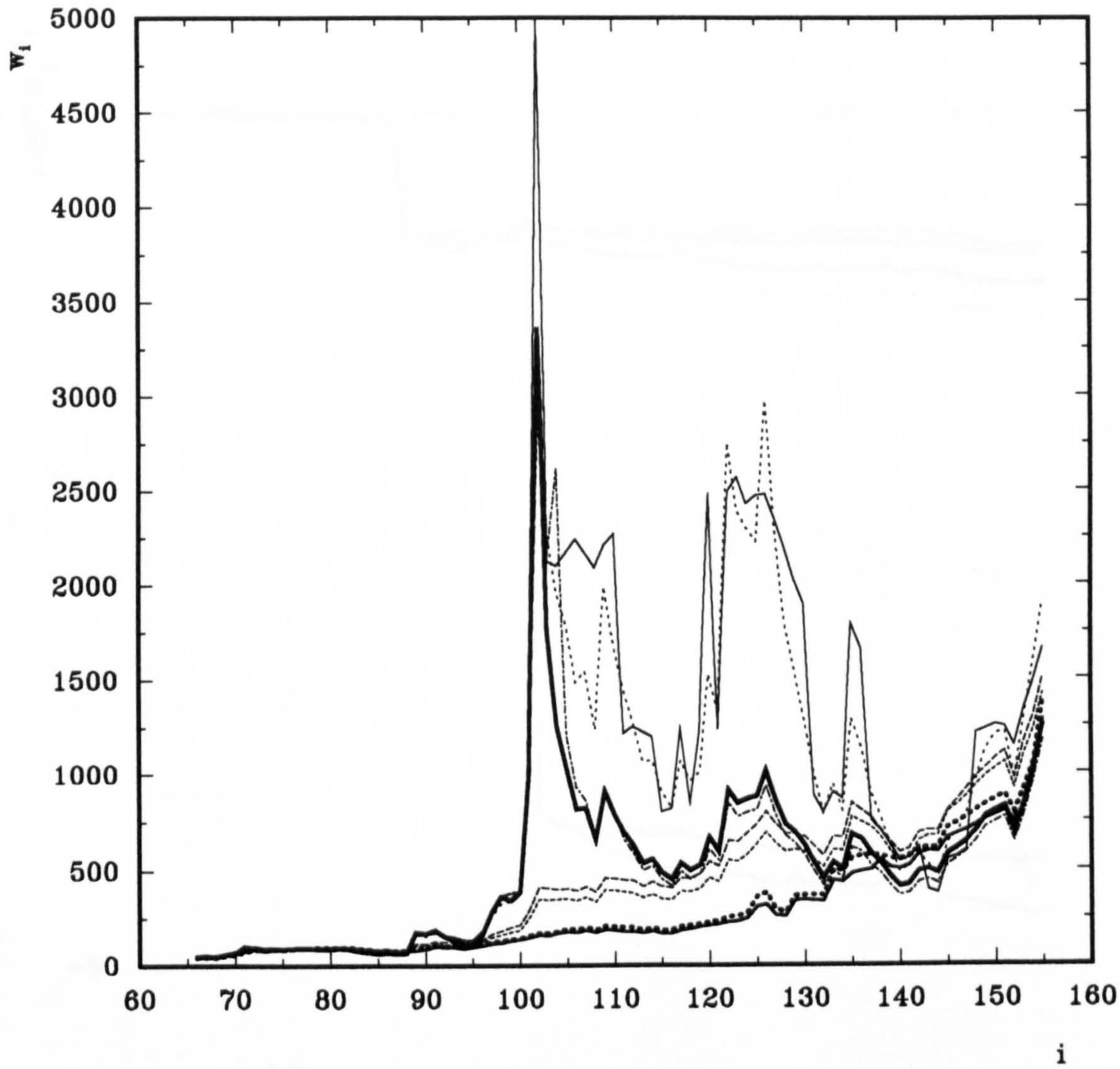
CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50
5% significance lines

Figure B.5-20. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *USROFF*.



JMS20
GOS20
MOS20
DUS20
LMS20
LNHPPS20
LVS20
KLS20

Figure B.5-21. Median predictions from the recalibrated (window = *20*) parametric predictors plotted against failure number for data set *USROFF*.



JMS50
GOS50
MOS50
DUS50
LMS50
LNHPPS50
LVS50
KLS50

Figure B.5-22. Median predictions from the recalibrated (window = *50*) parametric predictors plotted against failure number for data set *USROFF*.

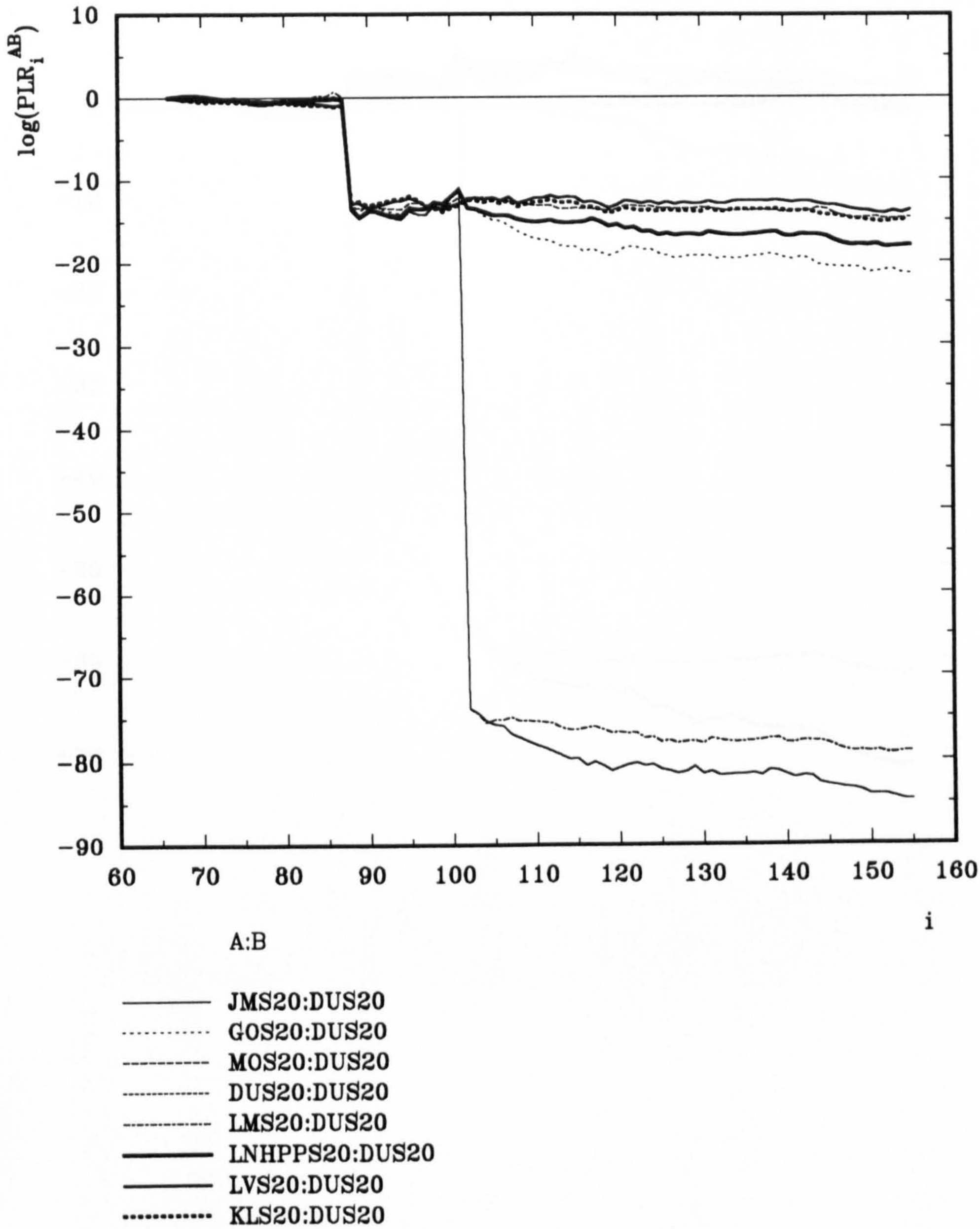


Figure B.5-23. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus *DUS20* for data set *USROFF*.

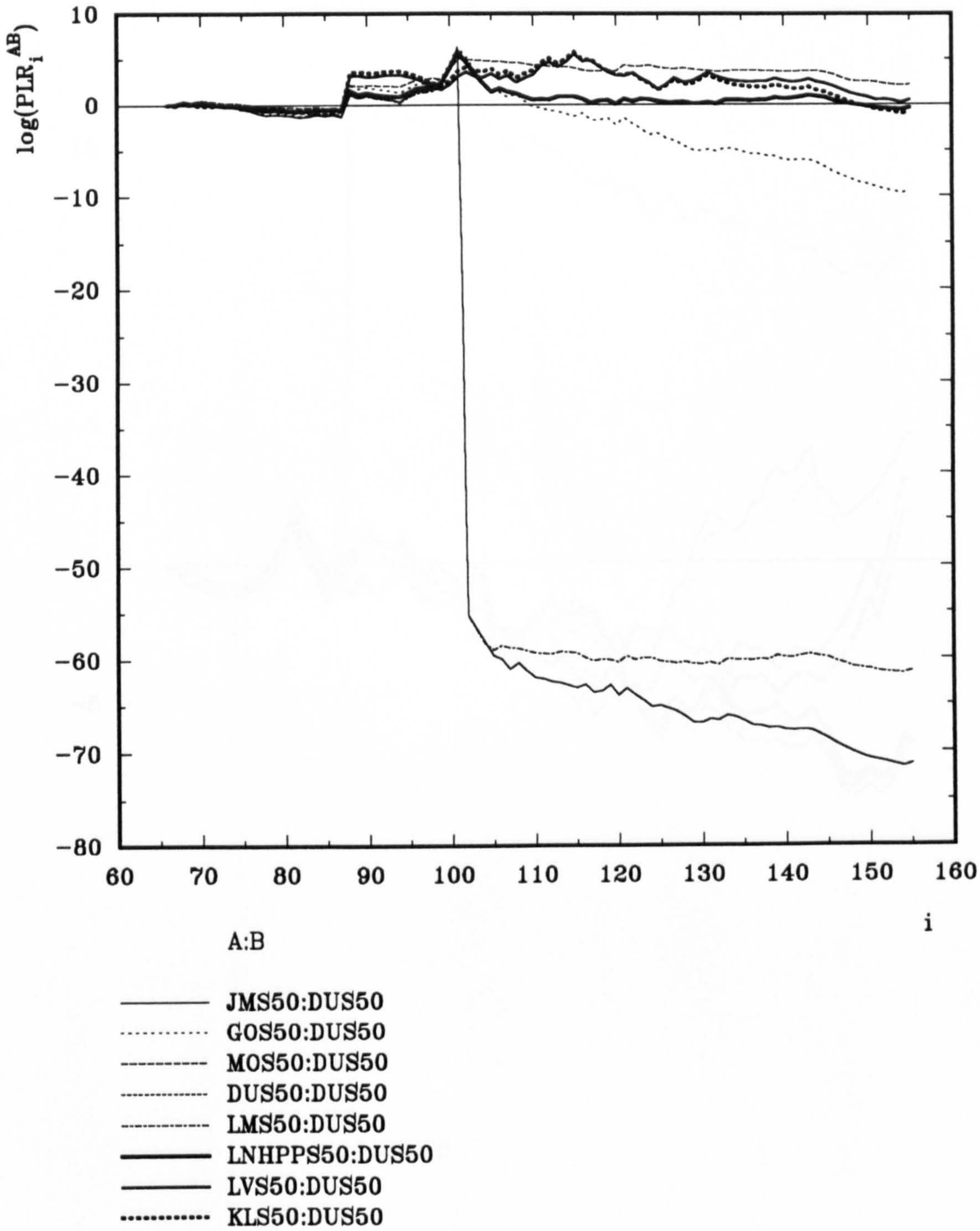


Figure B.5-24. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus *DUS50* for data set *USROFF*.

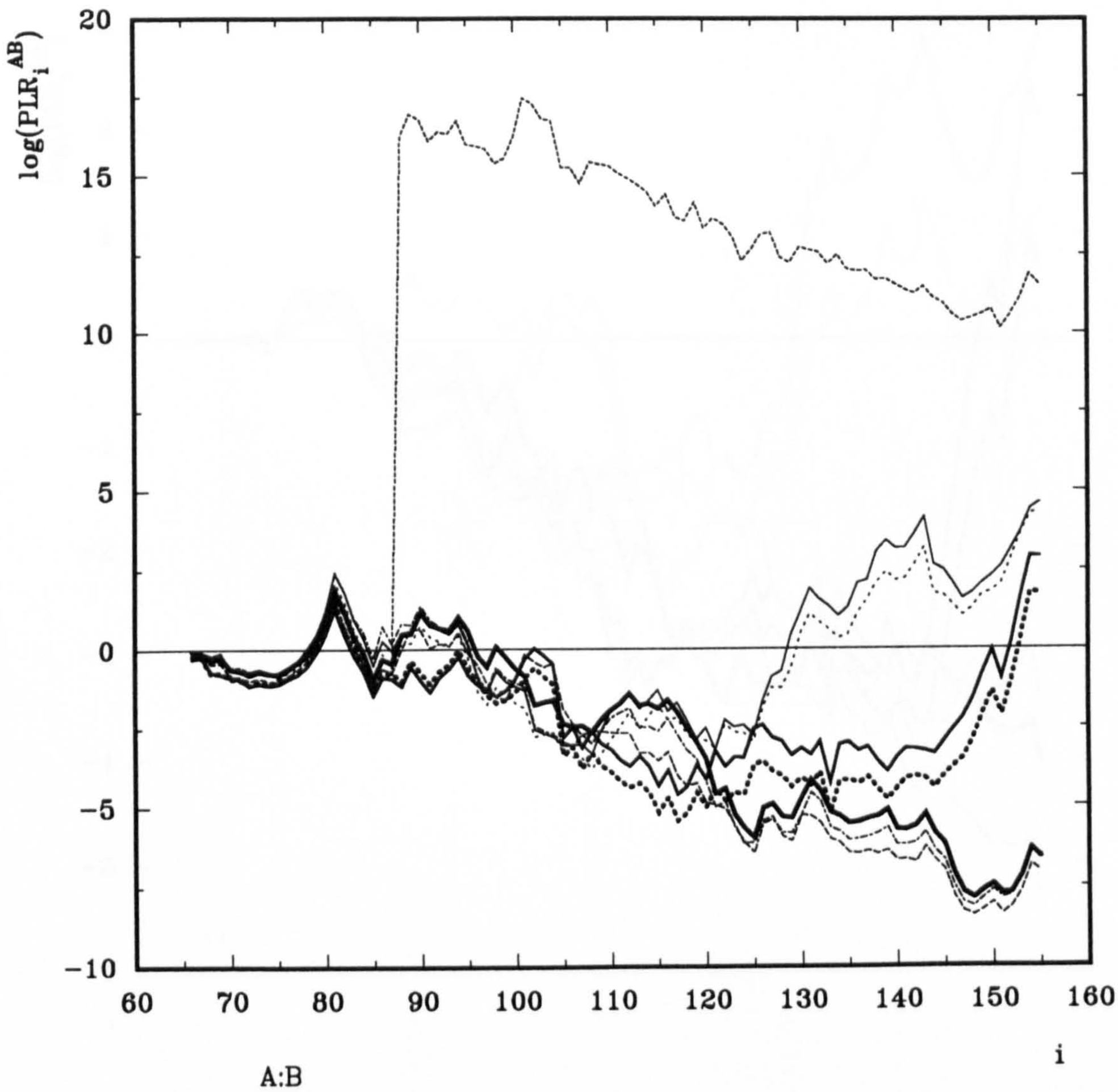


Figure B.5-25. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USROFF*.

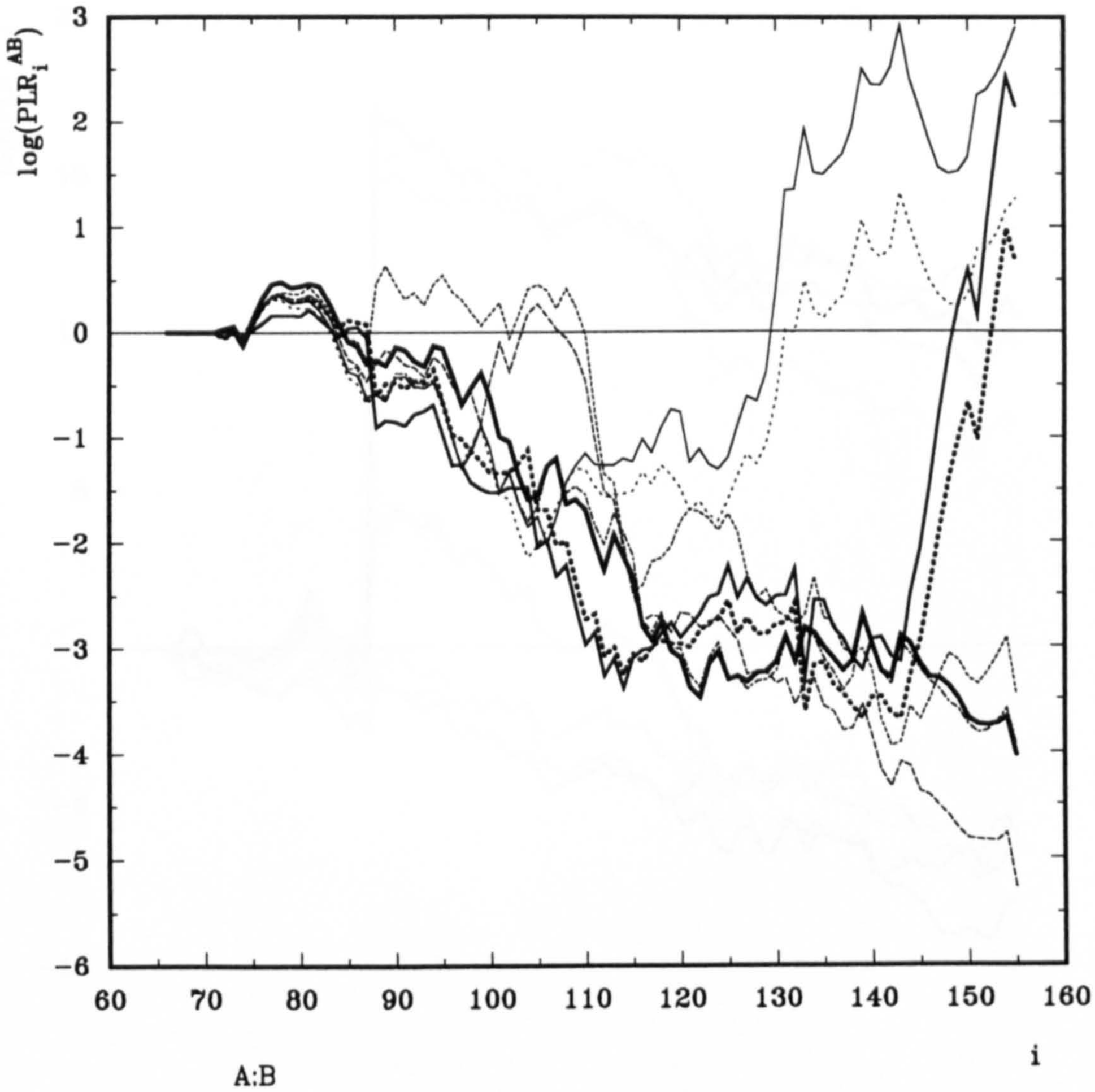


Figure B.5-26. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USROFF*.

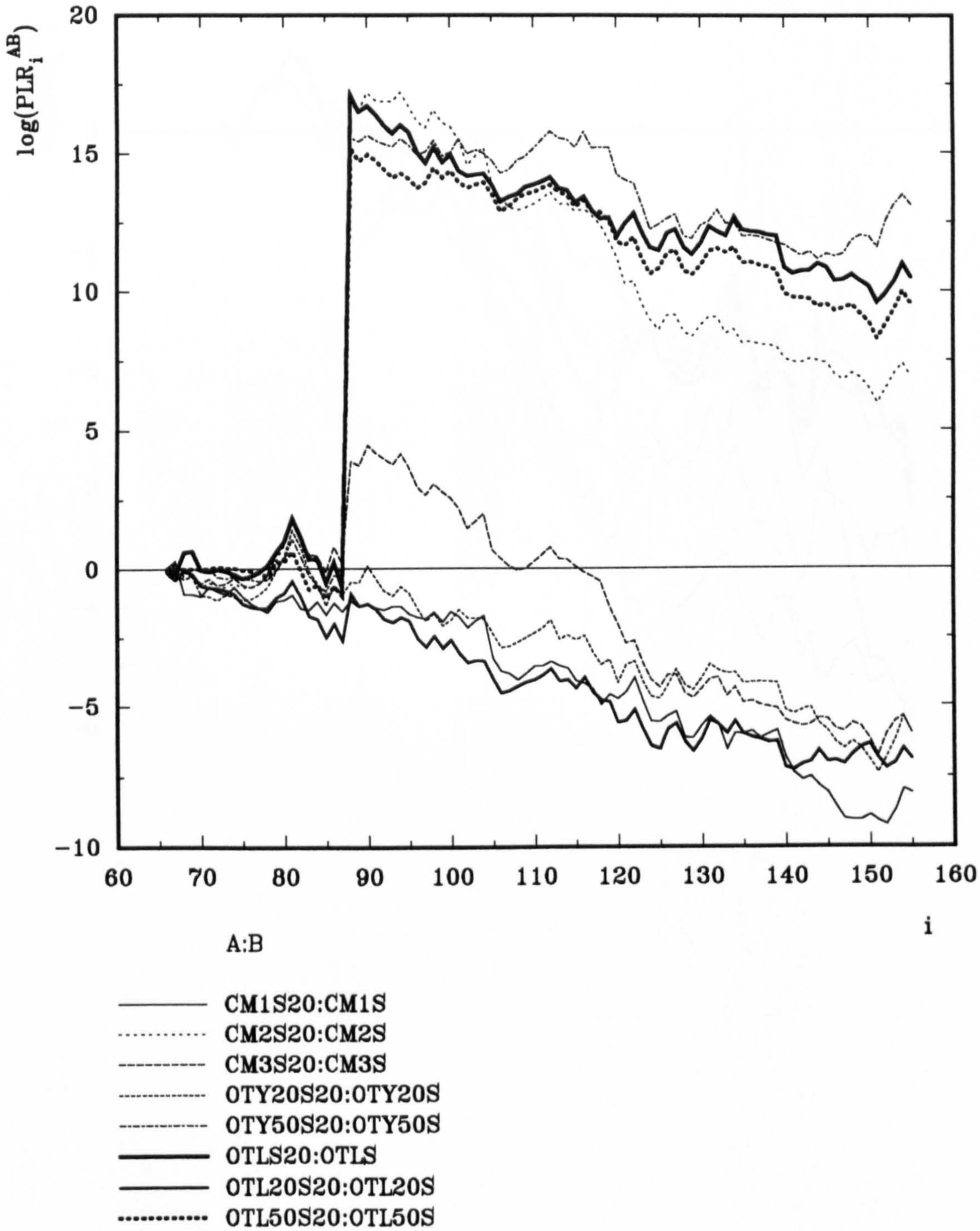


Figure B.5-27. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USROFF*.

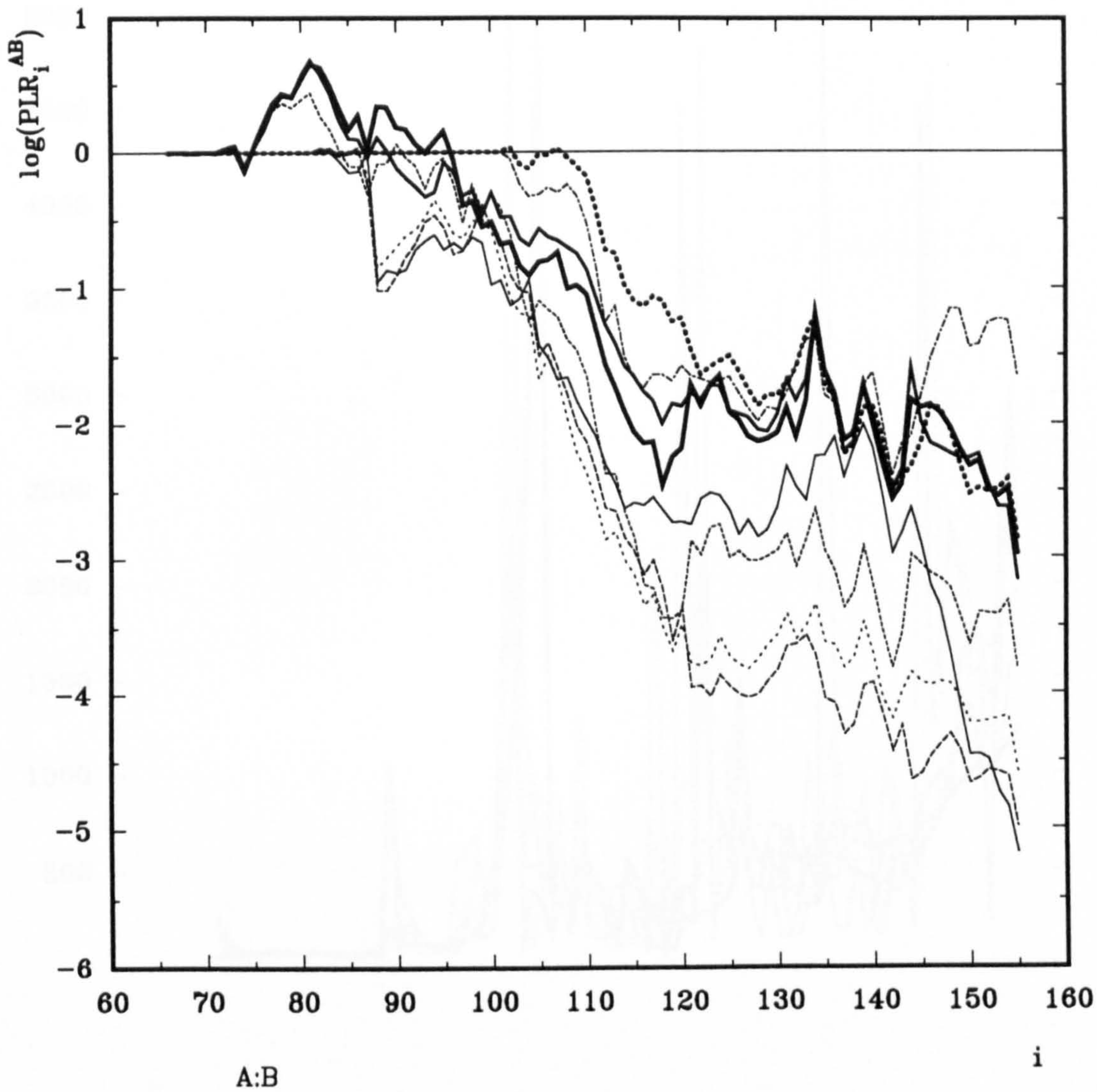


Figure B.5-28. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USROFF*.

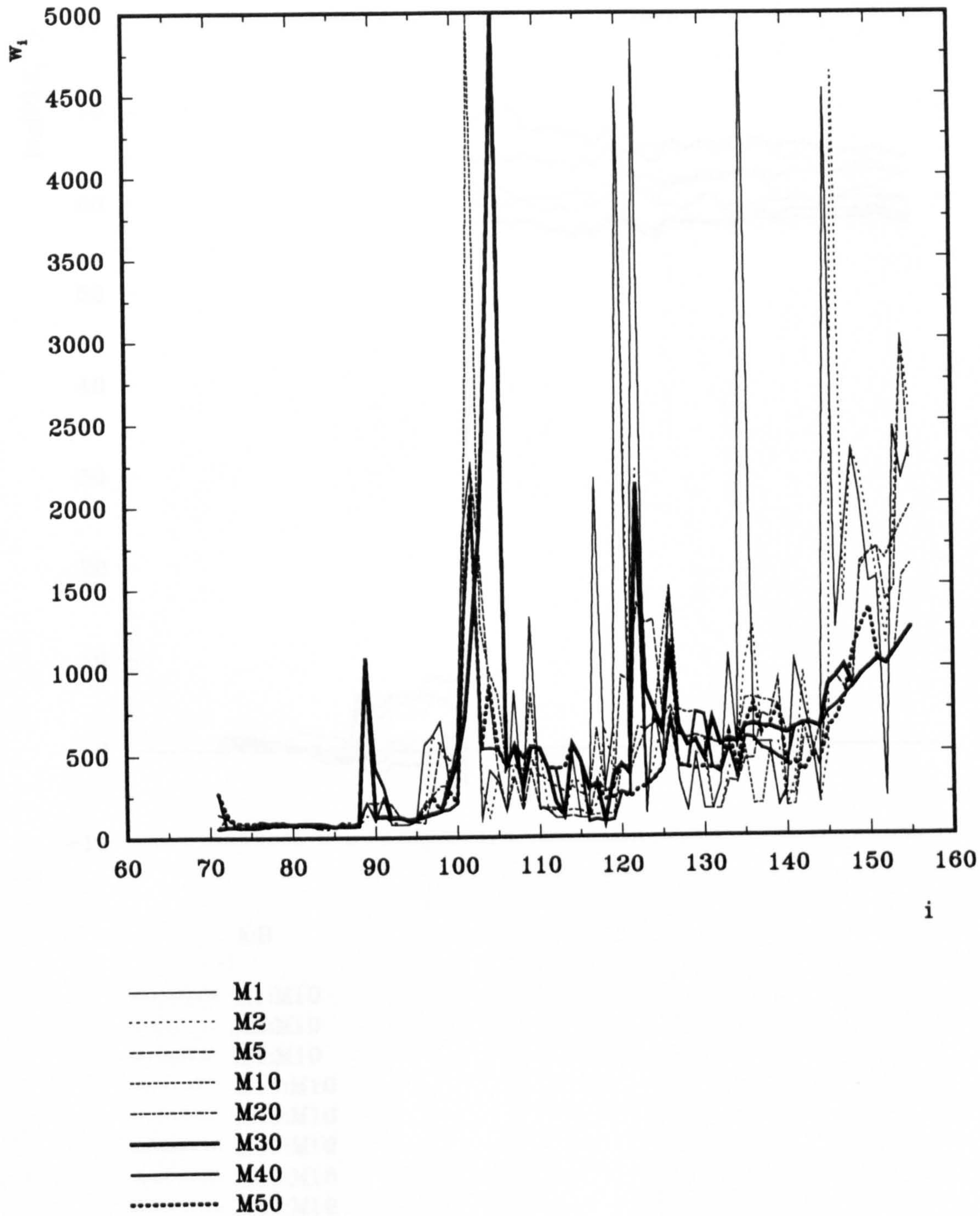


Figure B.5-29. Median predictions from the meta-predictors plotted against failure number for data set *USROFF*.

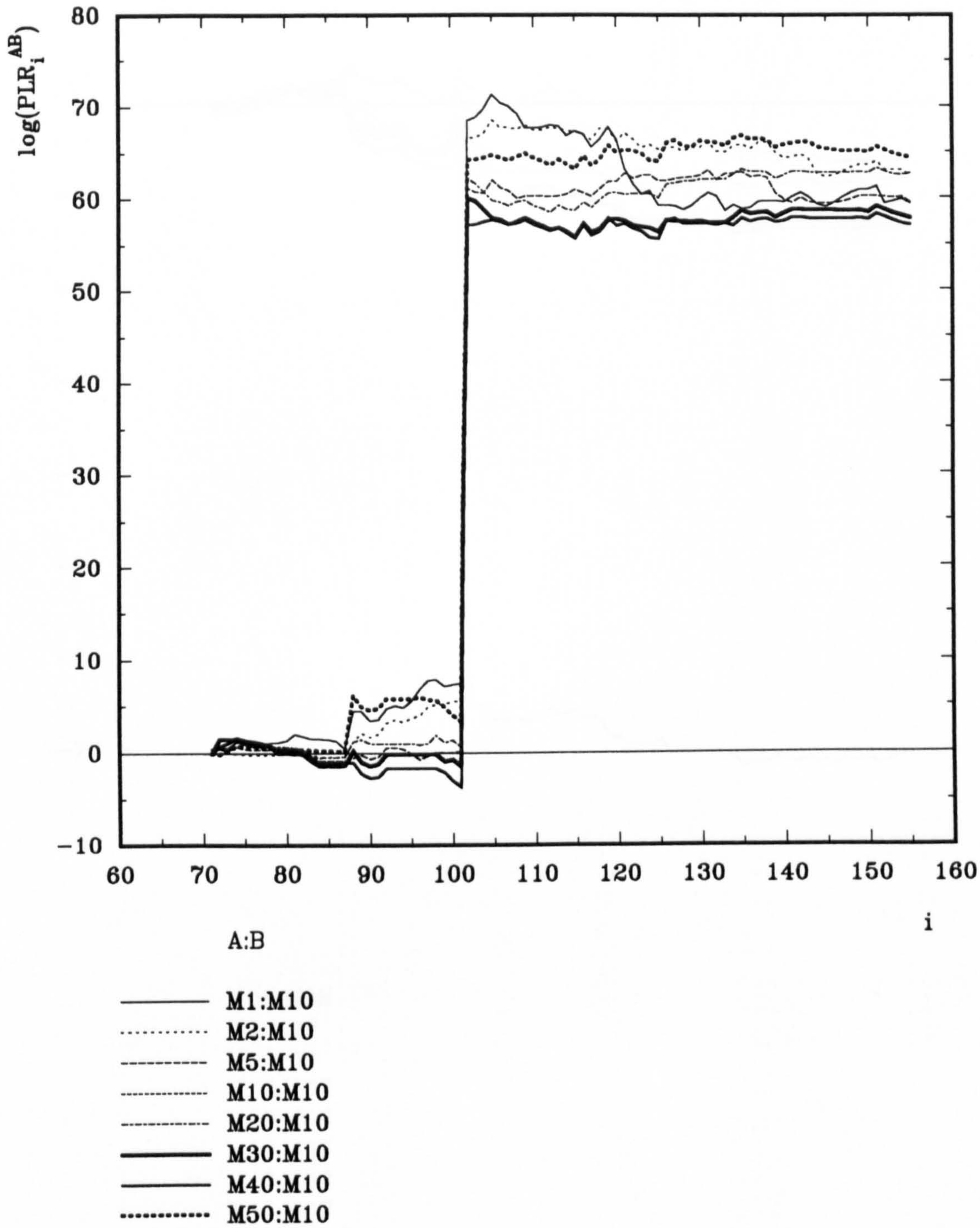


Figure B.5-30. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *USROFF*.

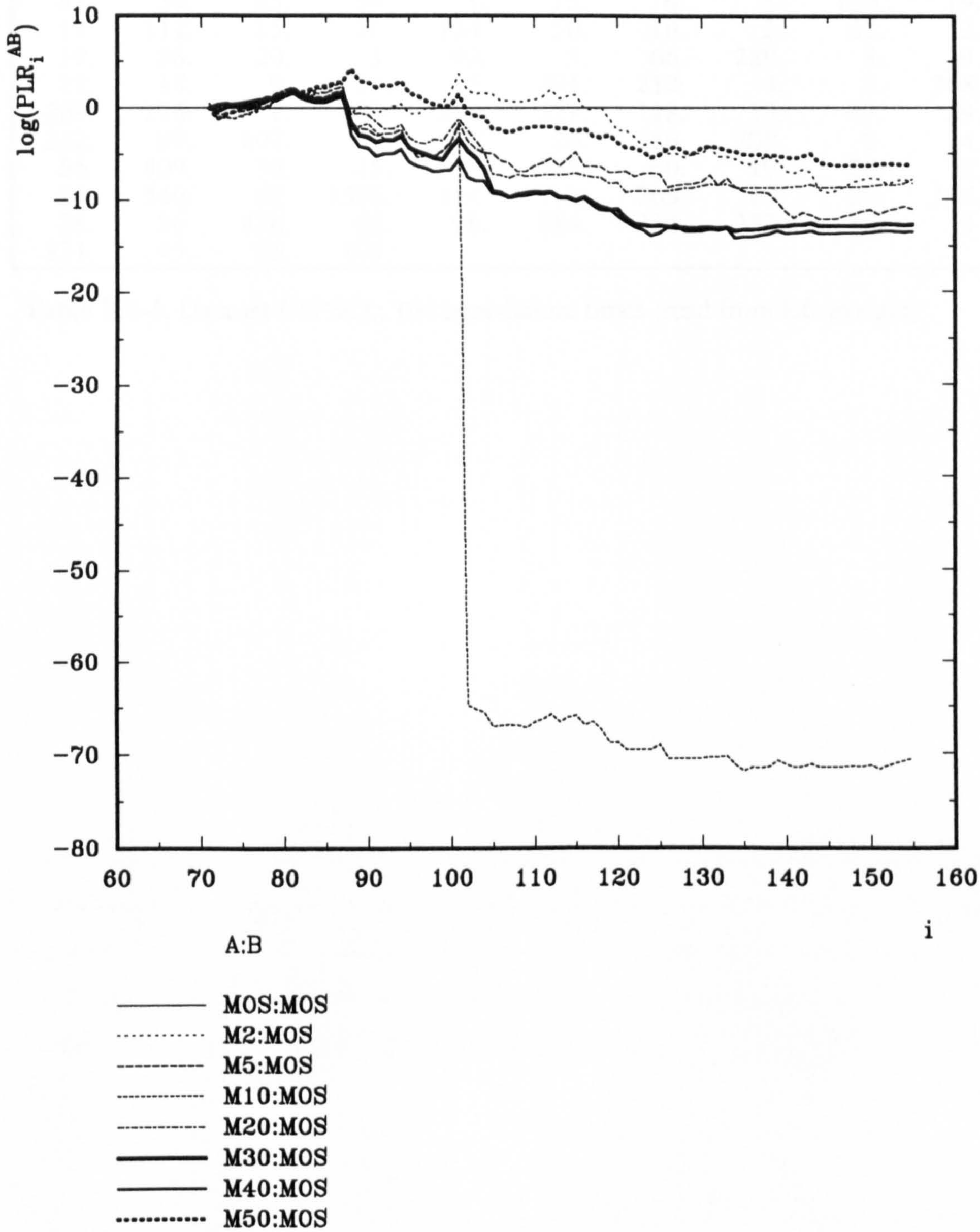


Figure B.5-31. *log(PLR)*-plots for the meta-predictors versus *MOS* for data set *USROFF*.

B.6 Data Set USPSCL

33.	9.	4.	66.	0.5	18.	149.	14.	15.	50.
81.	34.	85.	54.	3.	15.	6.	8.	130.	19.
19.	112.	15.	16.	154.	50.	10.	2.	22.	53.
19.	58.	20.	3.	92.	5.	66.	289.	3.	9.
12.	18.	9.	75.	15.	291.	212.	4.	5.	308.
269.	276.	1.	400.	294.	227.	118.	13.	47.	89.
242.	99.	607.	83.	2.	26.	586.	708.	6.	4.
55.	409.	36.	15.	573.	583.	60.	19.	20.	79.
24.	540.	52.	1596.	314.	1.	763.	10.	20.	144.
28.	56.	476.	65.	98.	884.	212.	287.	53.	3.
831.	43.	55.	109.						

Table B.6-1. Data set *USPSCL*; 104 inter-failure times (read from left to right).

	RAW		S		S20		S30		S40		S50	
	y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
JM	B	F	A	D	A	A	A	A	A	A	A	A
GO	B	F	A	D	A	A	A	A	A	A	A	A
MO	C	F	A	C	A	A	A	A	A	A	A	A
DU	B	E	A	A	A	A	A	A	A	A	A	A
LM	A	F	A	A	A	A	A	A	A	A	A	A
LNHPP	B	F	A	B	A	A	A	A	A	A	A	A
LV	A	B	A	A	A	A	A	A	A	A	A	A
KL	A	A	A	A	A	A	A	A	A	A	A	A
CM1	B	F	A	A	A	A	A	A	A	A	A	A
CM2	B	F	A	A	A	A	A	A	A	A	A	A
CM3	A	F	A	A	A	A	A	A	A	A	A	A
OTY20	B	F	A	A	A	A	A	A	A	A	A	A
OTY50	A	F	A	A	A	A	A	A	A	A	A	A
OTL	B	F	A	A	A	A	A	A	A	A	A	A
OTL20	C	F	A	A	A	A	A	A	A	A	A	A
OTL50	B	F	A	A	A	A	A	A	A	A	A	A

Table B.6-2.1. *u*- and *y*-plot significance levels for data set *USPSCL* for predictions of $T_{66}, T_{67}, \ldots$.

M1		M2		M5		M10		M20		M30		M40		M50	
y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

Table B.6-2.2. *u*- and *y*-plot significance levels for data set *USPSCL* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

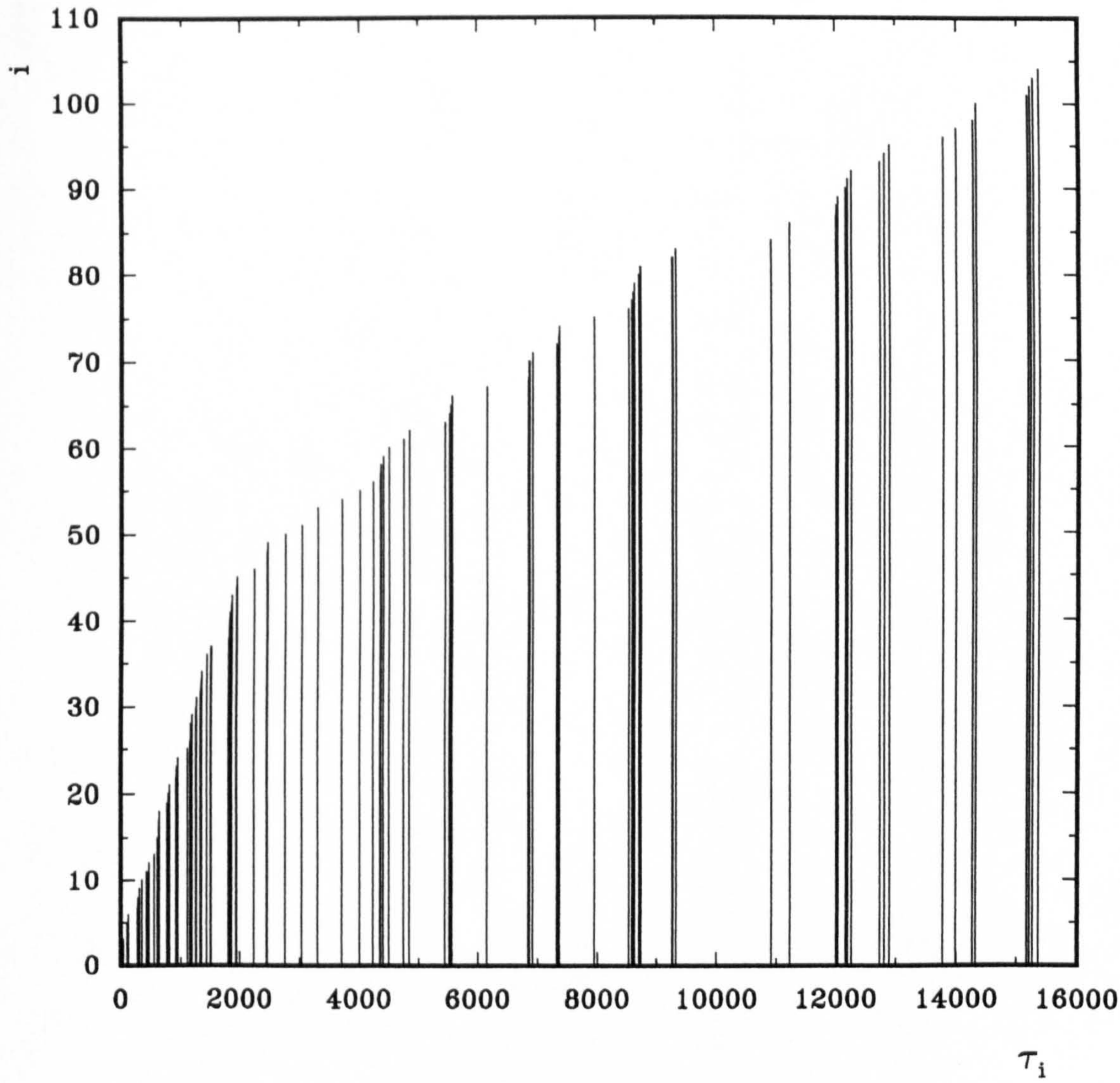


Figure B.6-3. Cumulative number of failures plotted against total elapsed time for data set *USPSCL*.

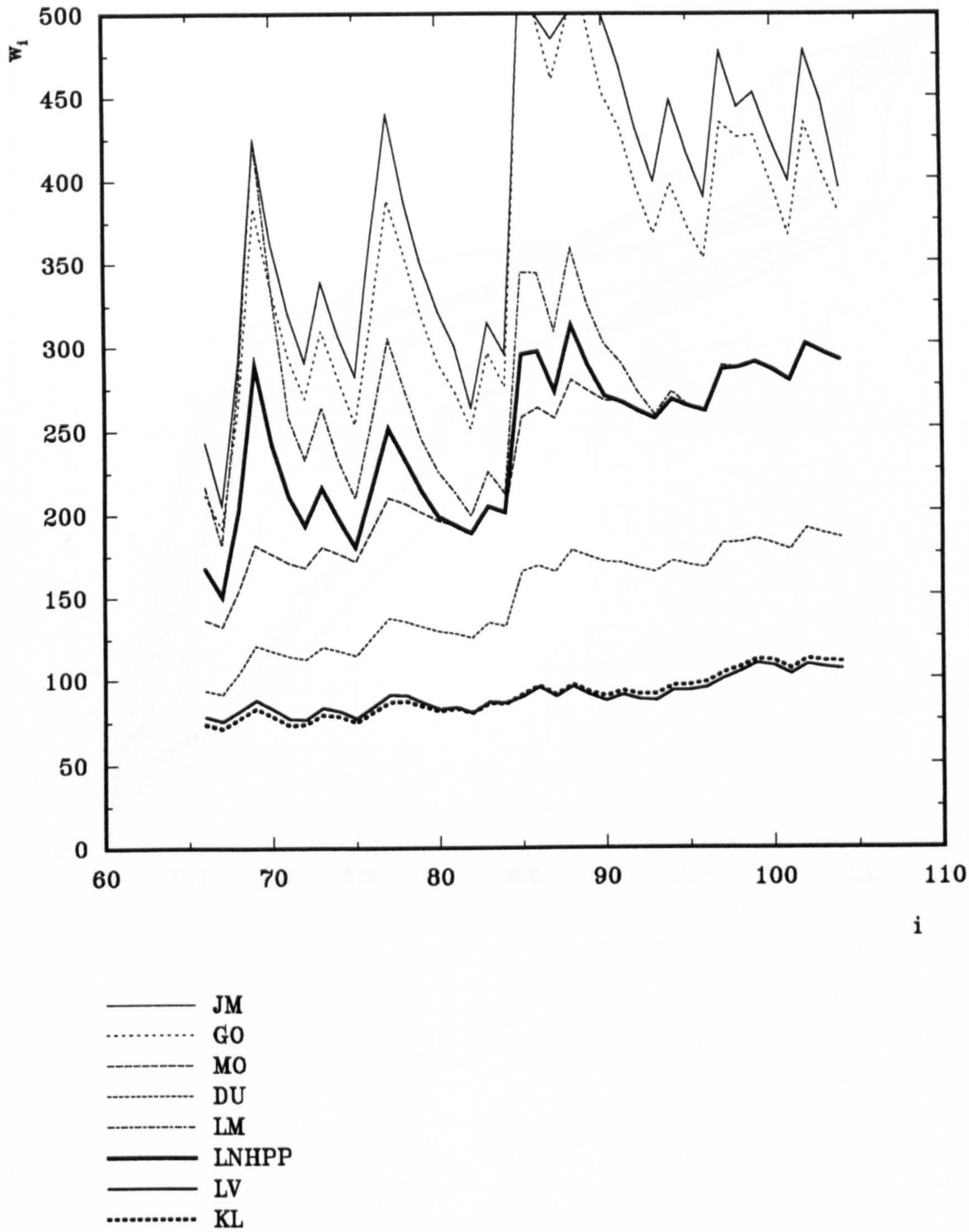
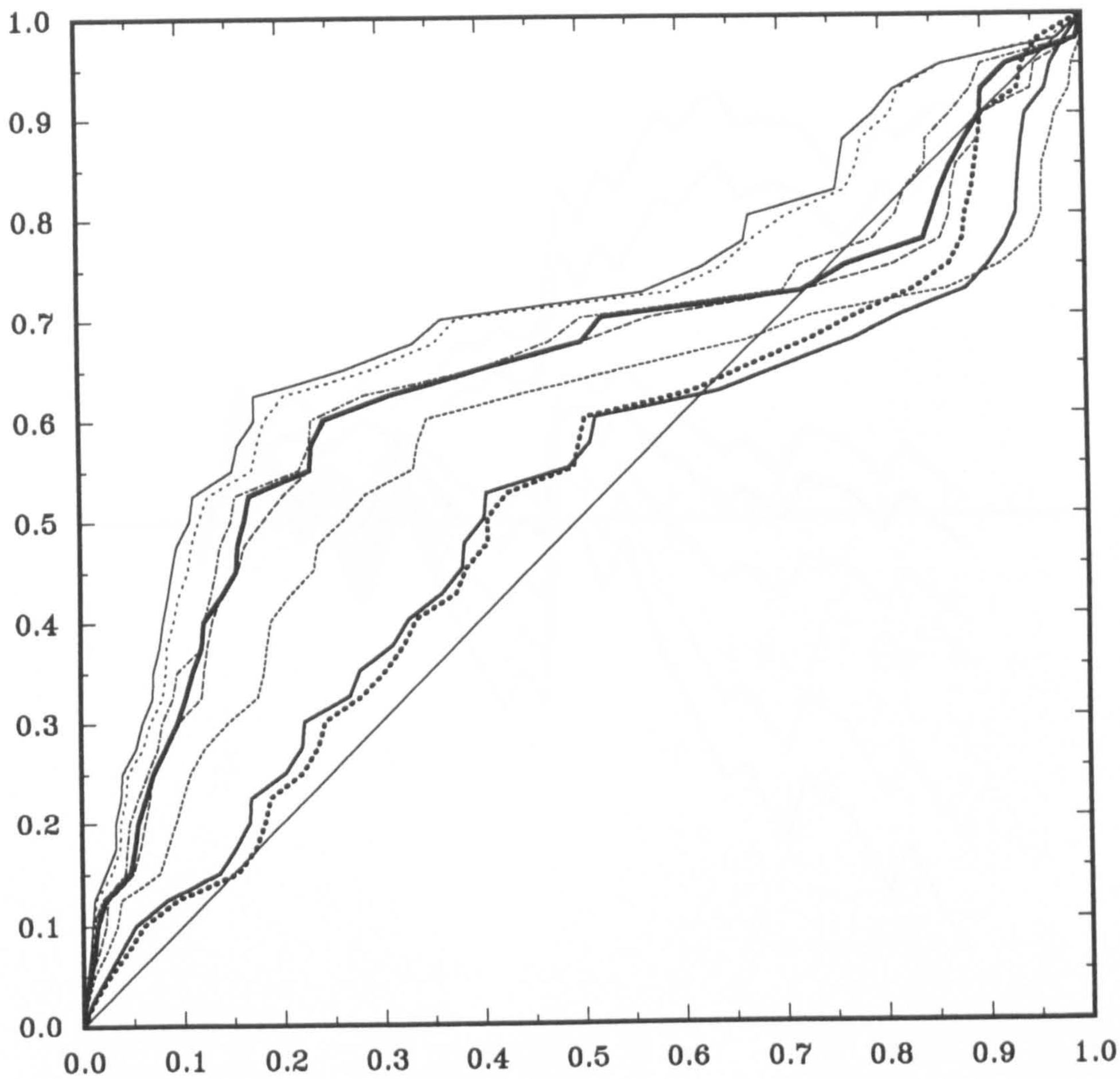


Figure B.6-4. Median predictions from the raw parametric predictors plotted against failure number for data set *USPSCL*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.6-5. *u*-plots for the raw parametric predictors for data set *USPSCL*.

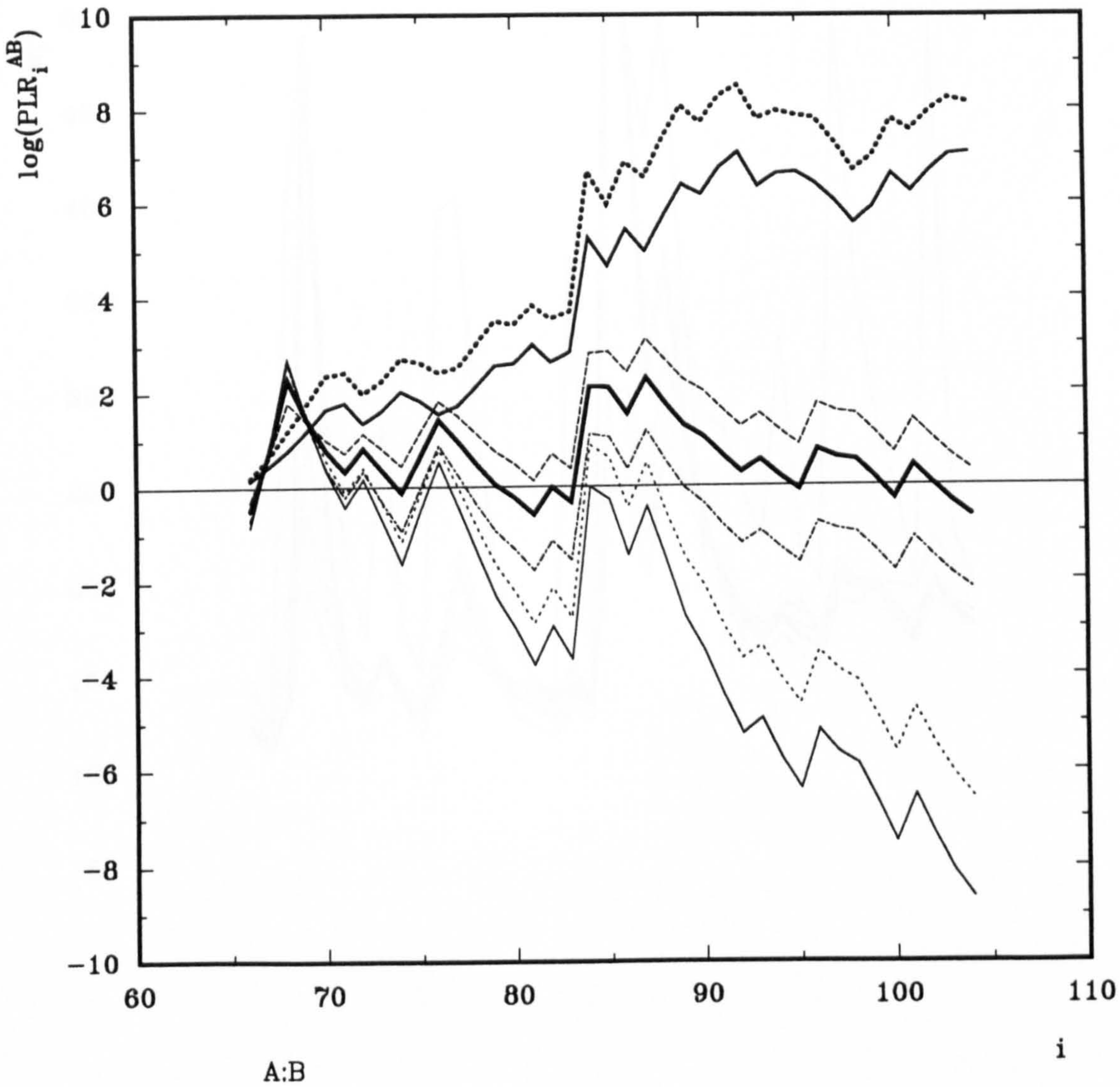


Figure B.6-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *USPSCL*.

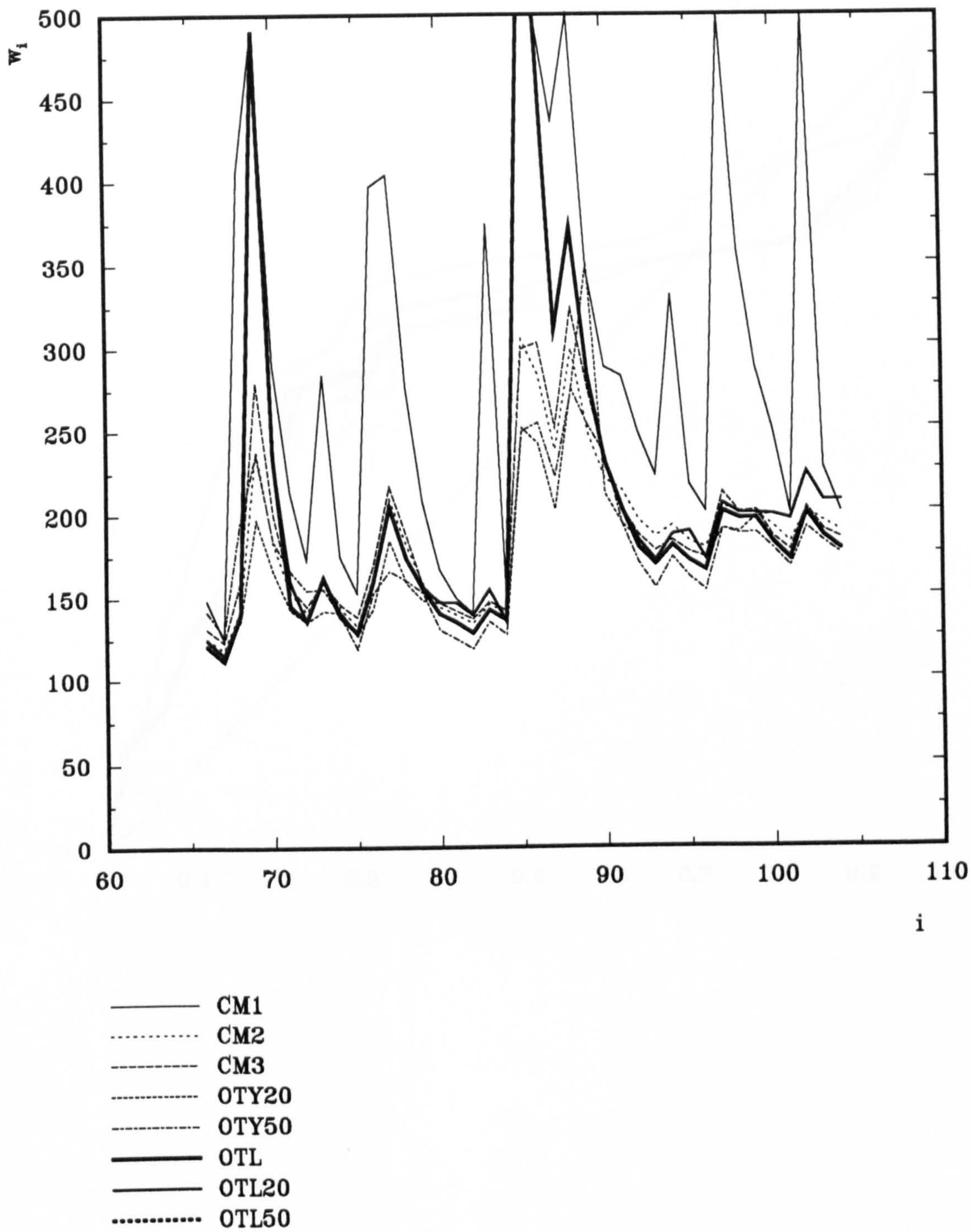


Figure B.6-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *USPSCL*.

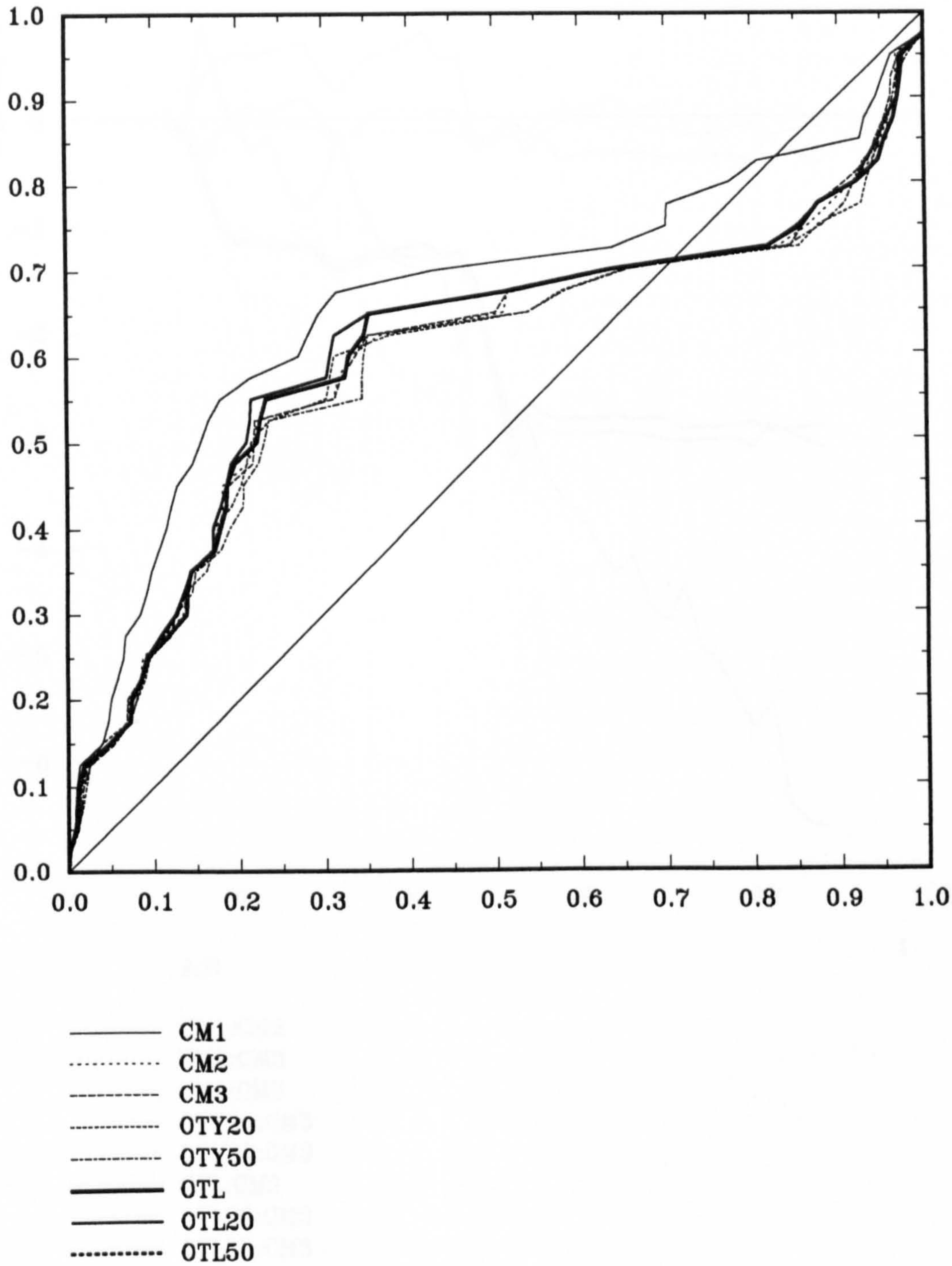


Figure B.6-8. *u*-plots for the raw non-parametric predictors for data set *USPSCL*.

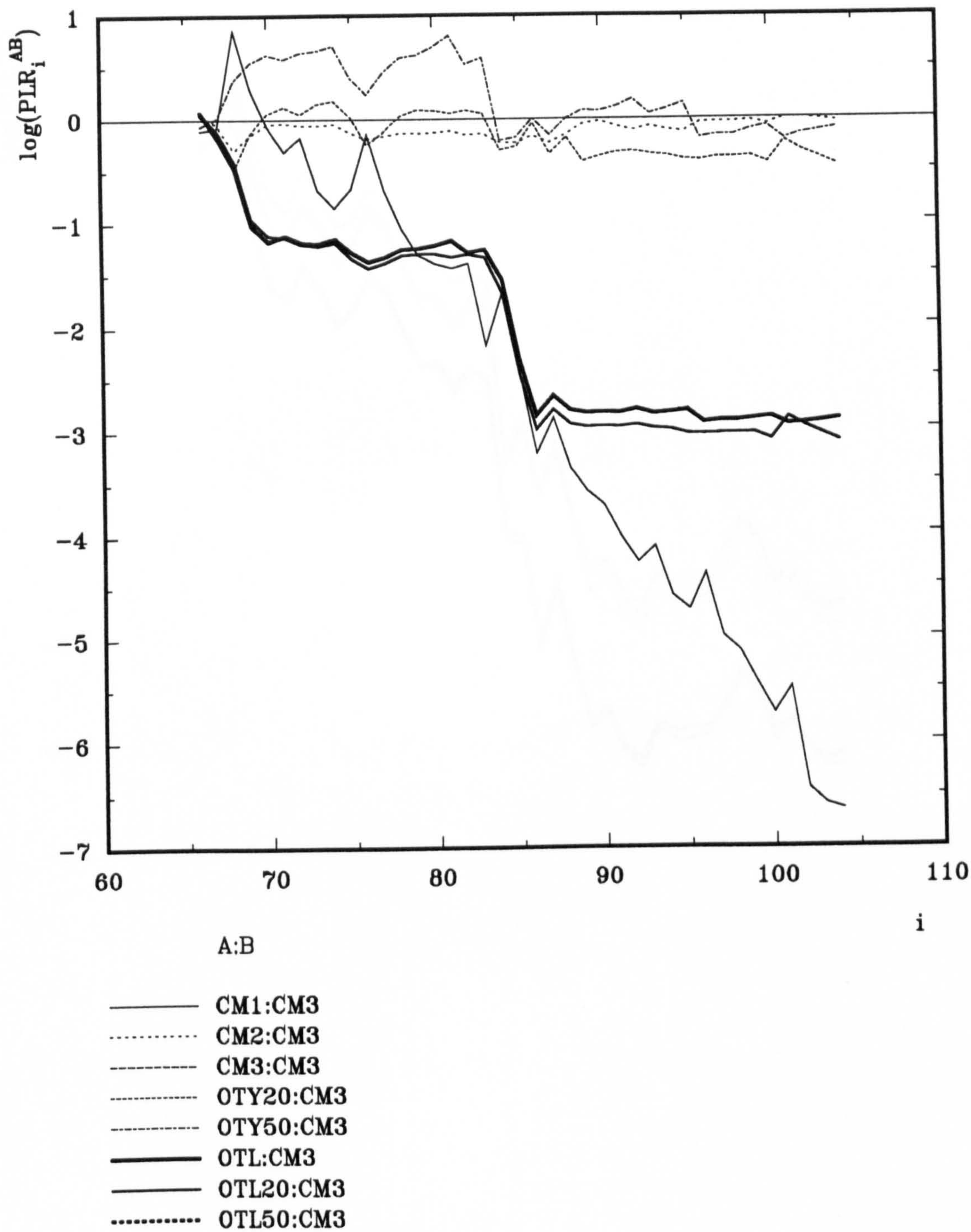


Figure B.6-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *USPSCL*.

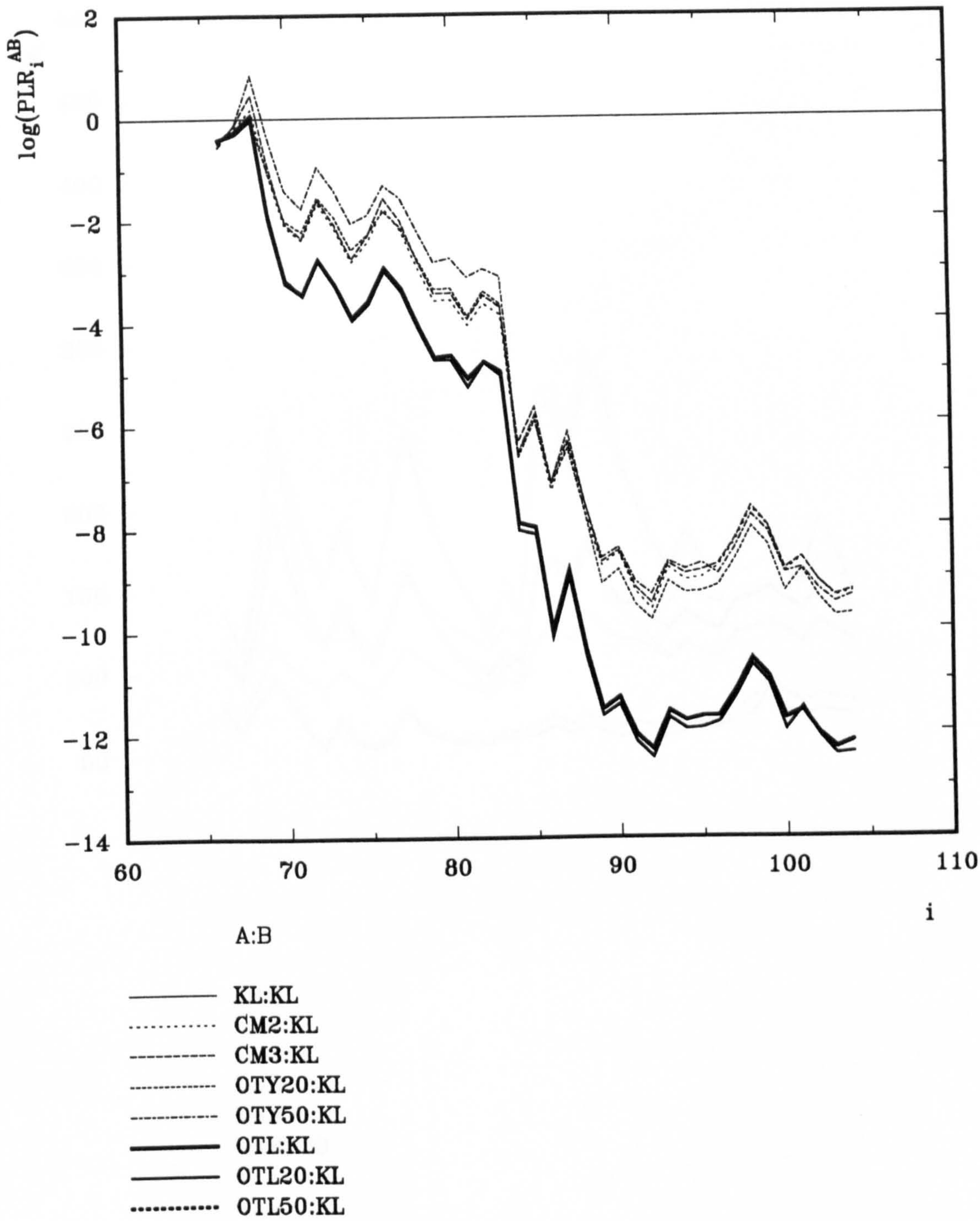


Figure B.6-10. *log(PLR)*-plots for the raw non-parametric predictors versus *KL* for data set *USPSCL*.

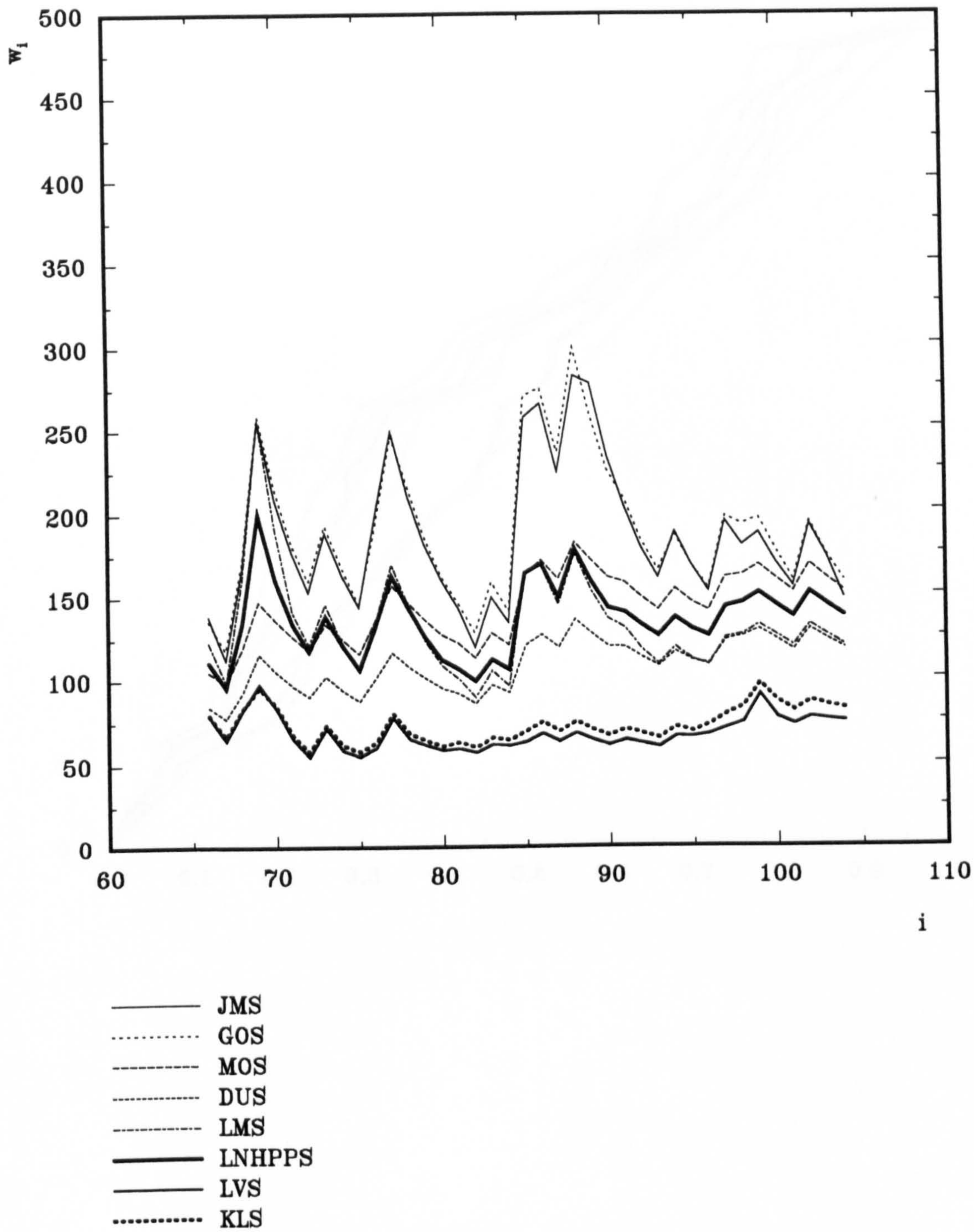
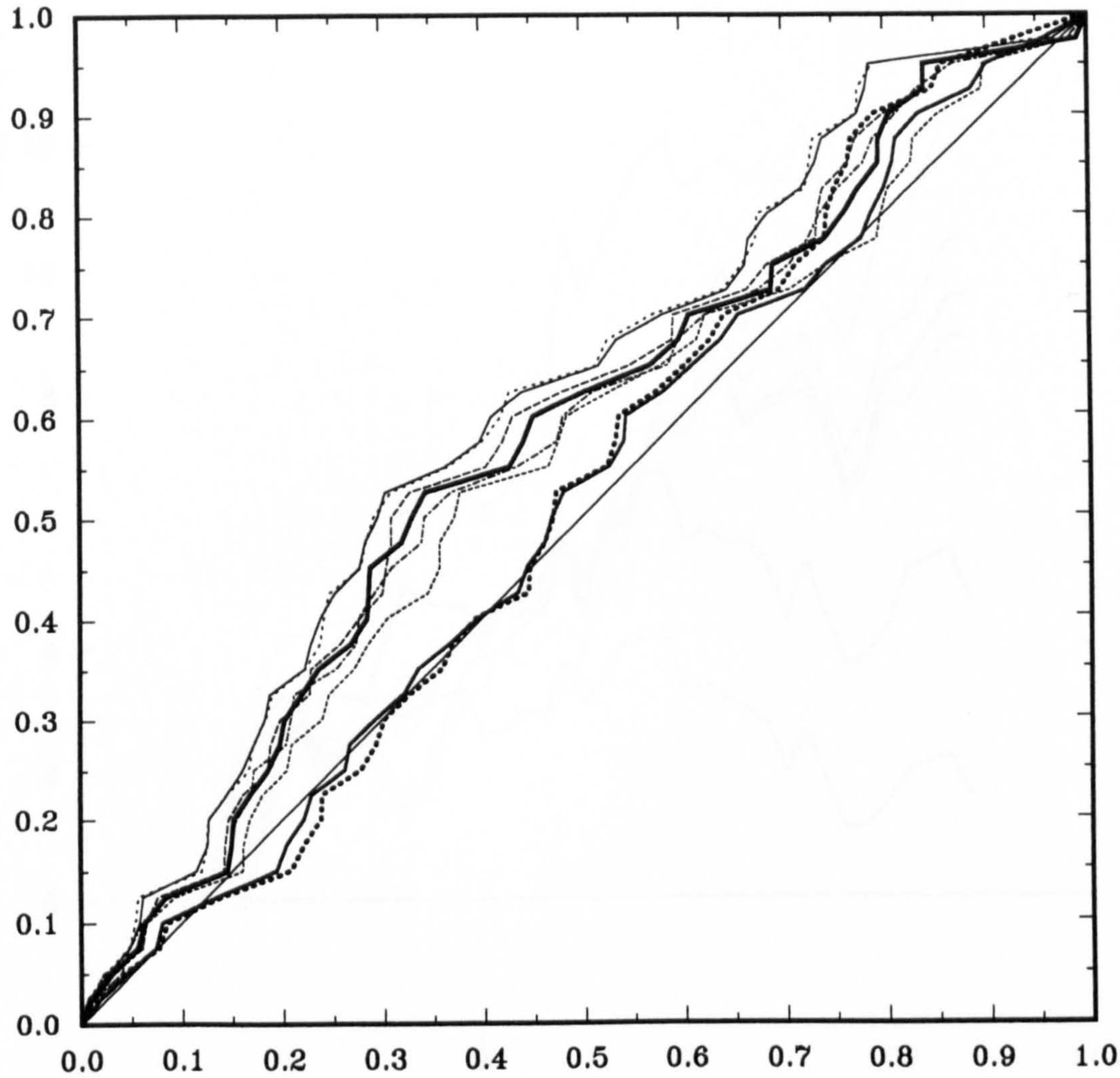


Figure B.6-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *USPSCL*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.6-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *USPSCL*.

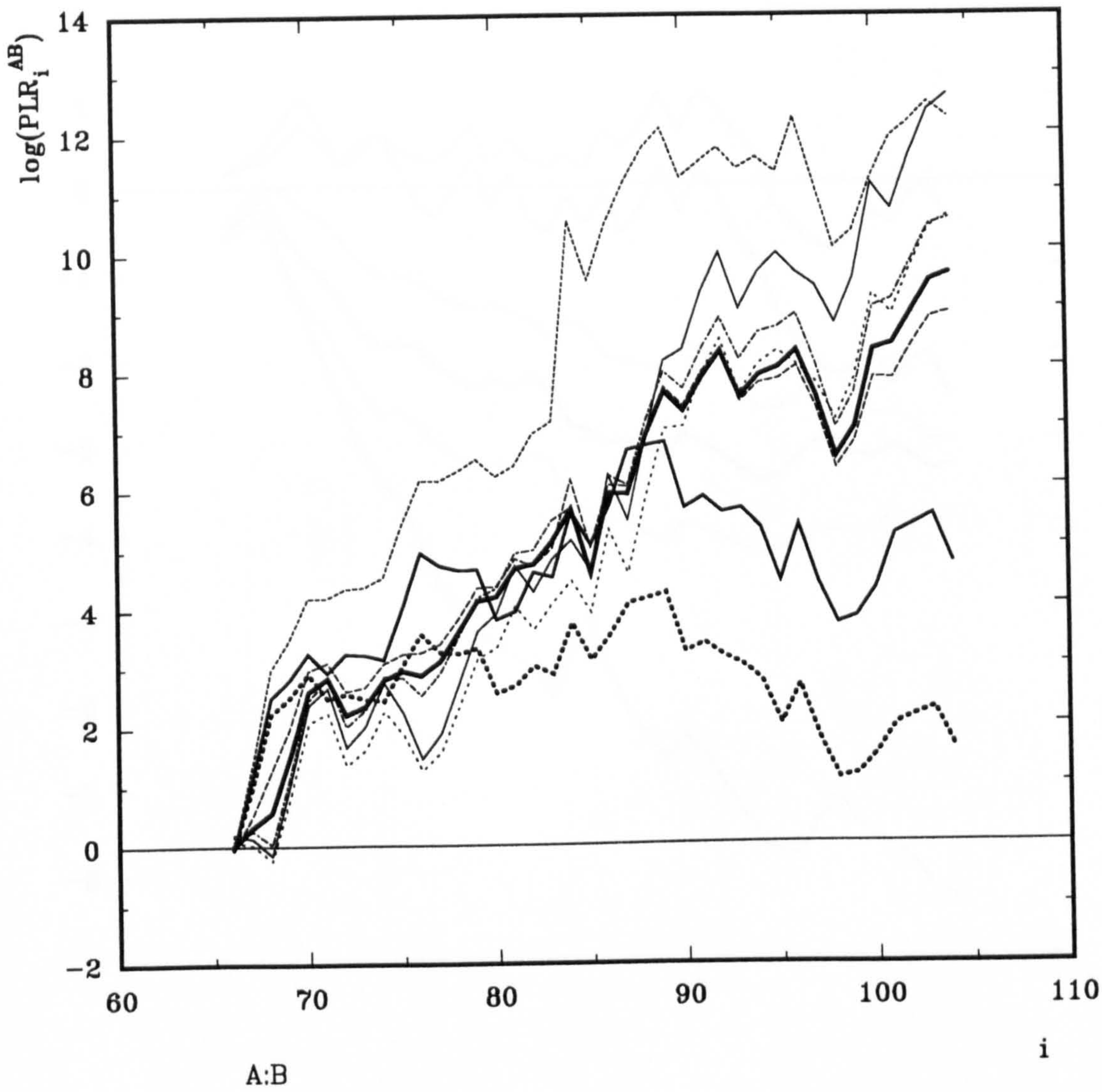


Figure B.6-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *USPSCL*.

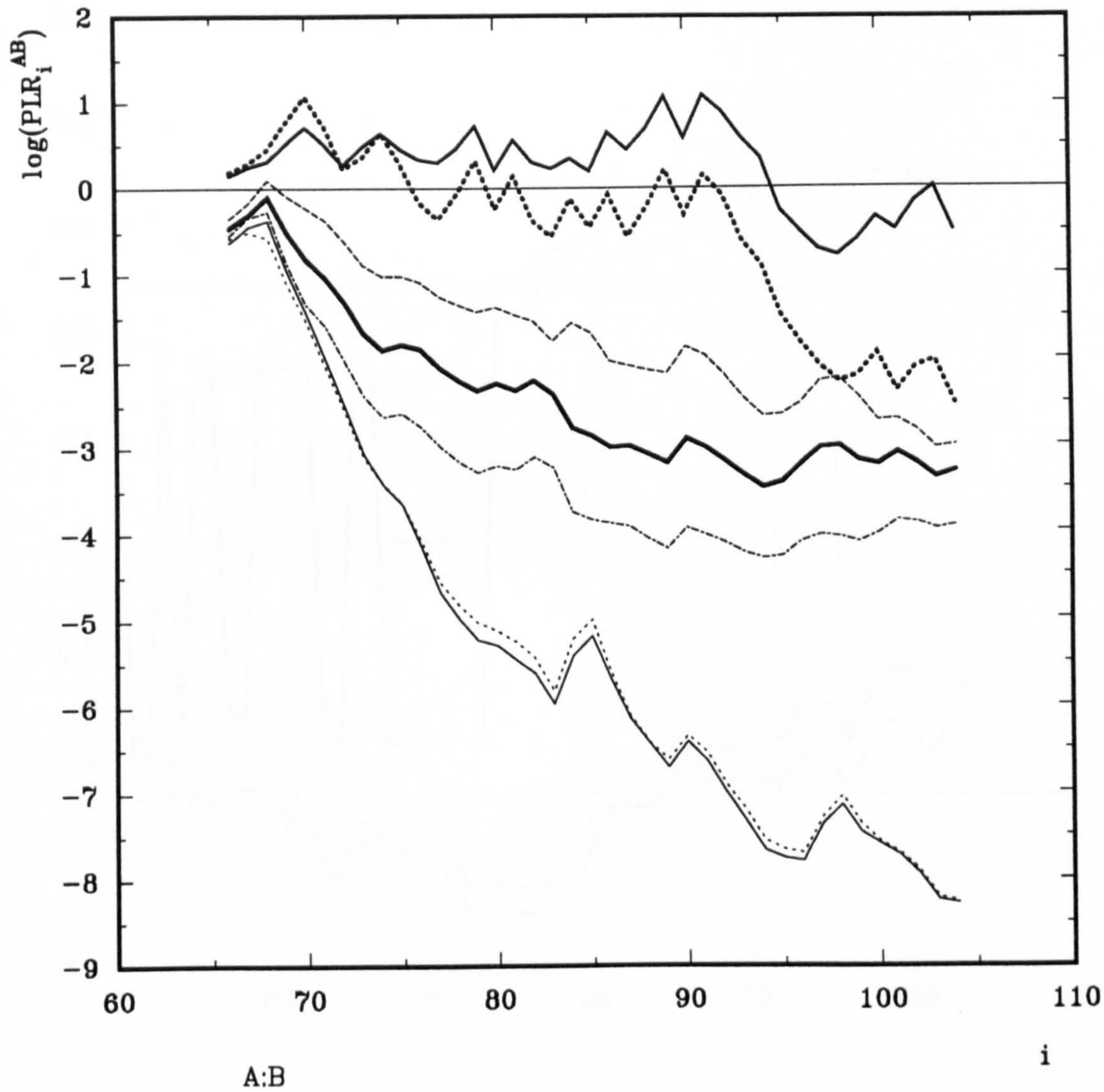
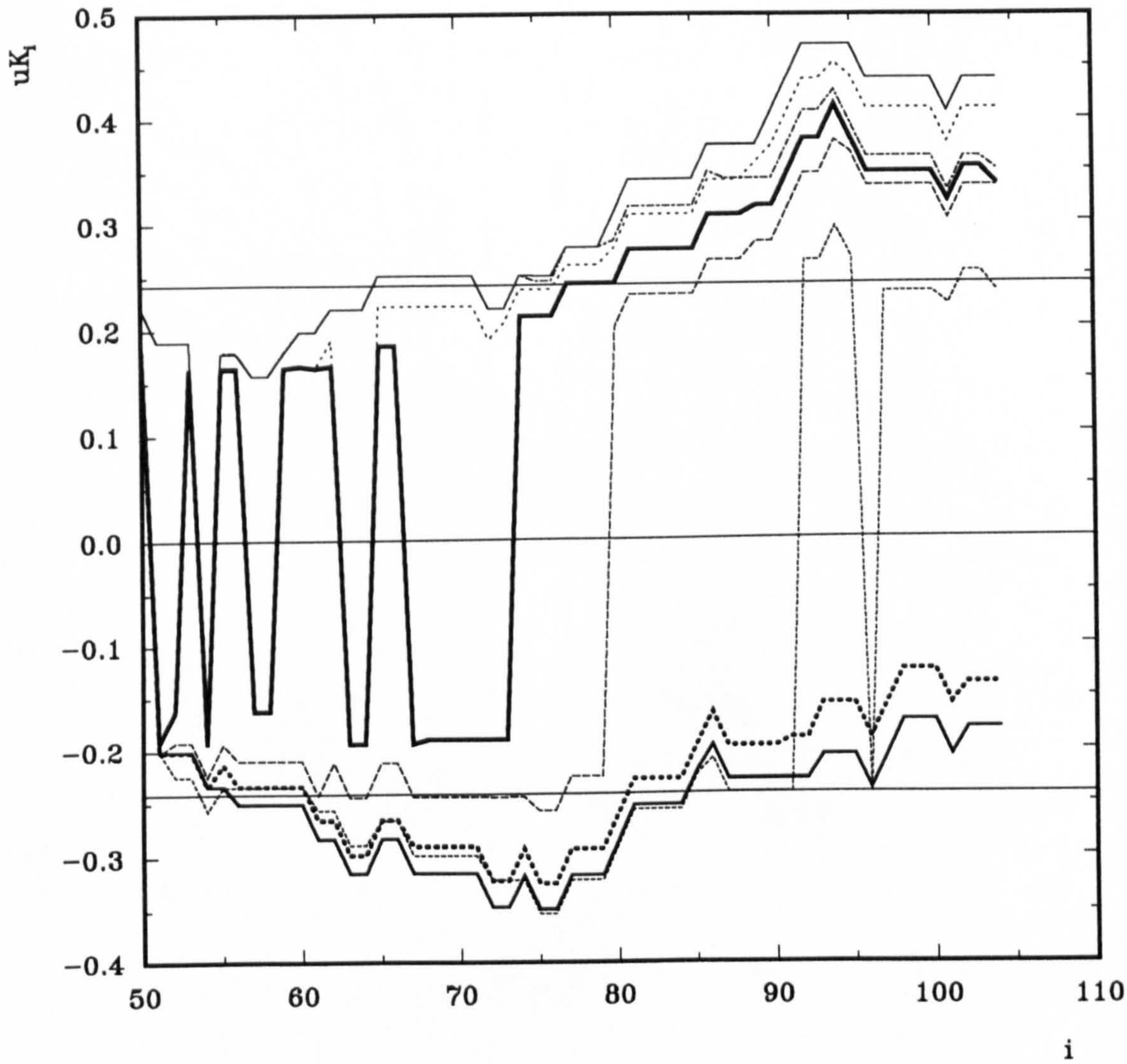
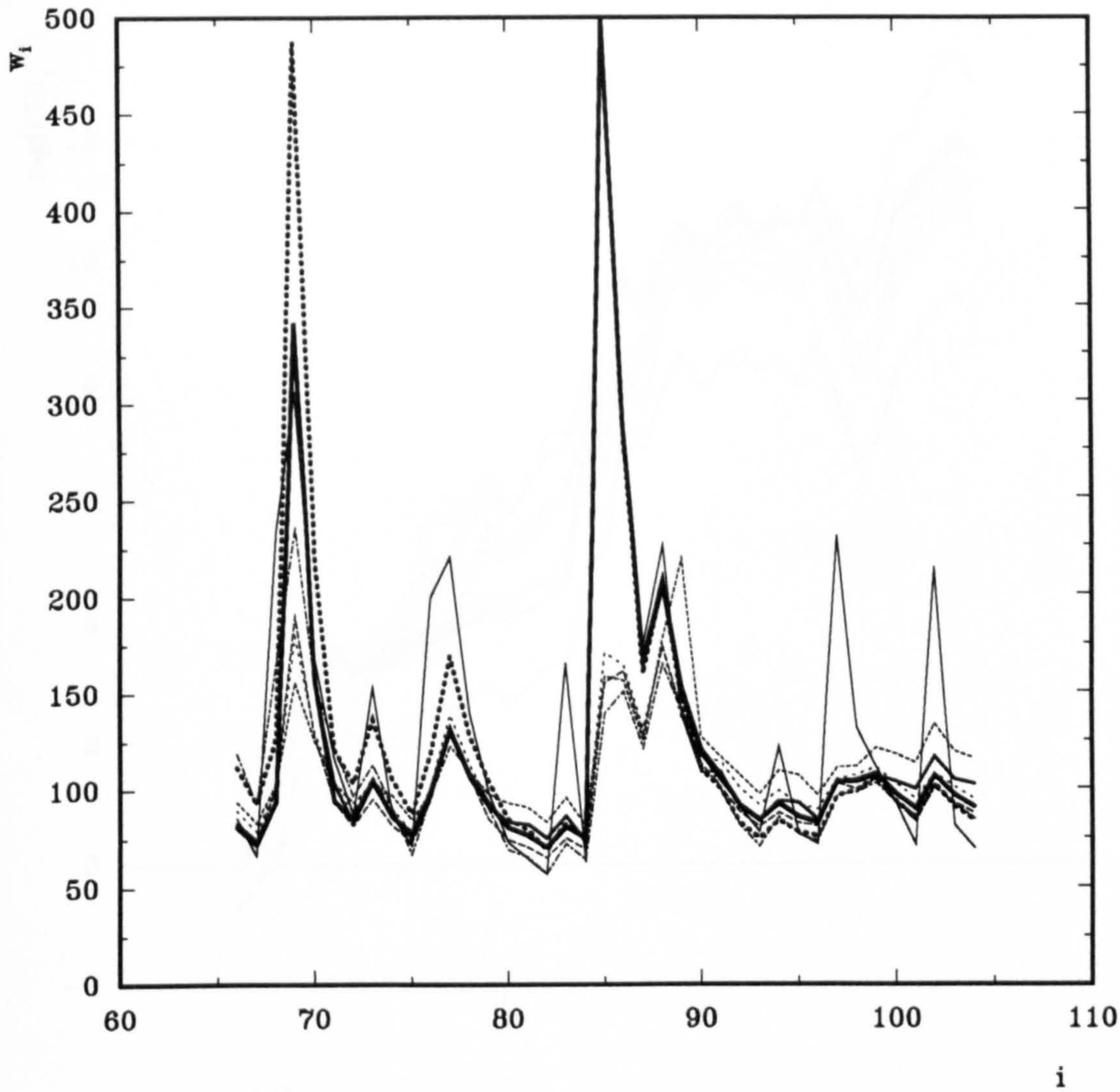


Figure B.6-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *USPSCL*.



JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.6-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *USPSCL*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.6-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *USPSCL*.

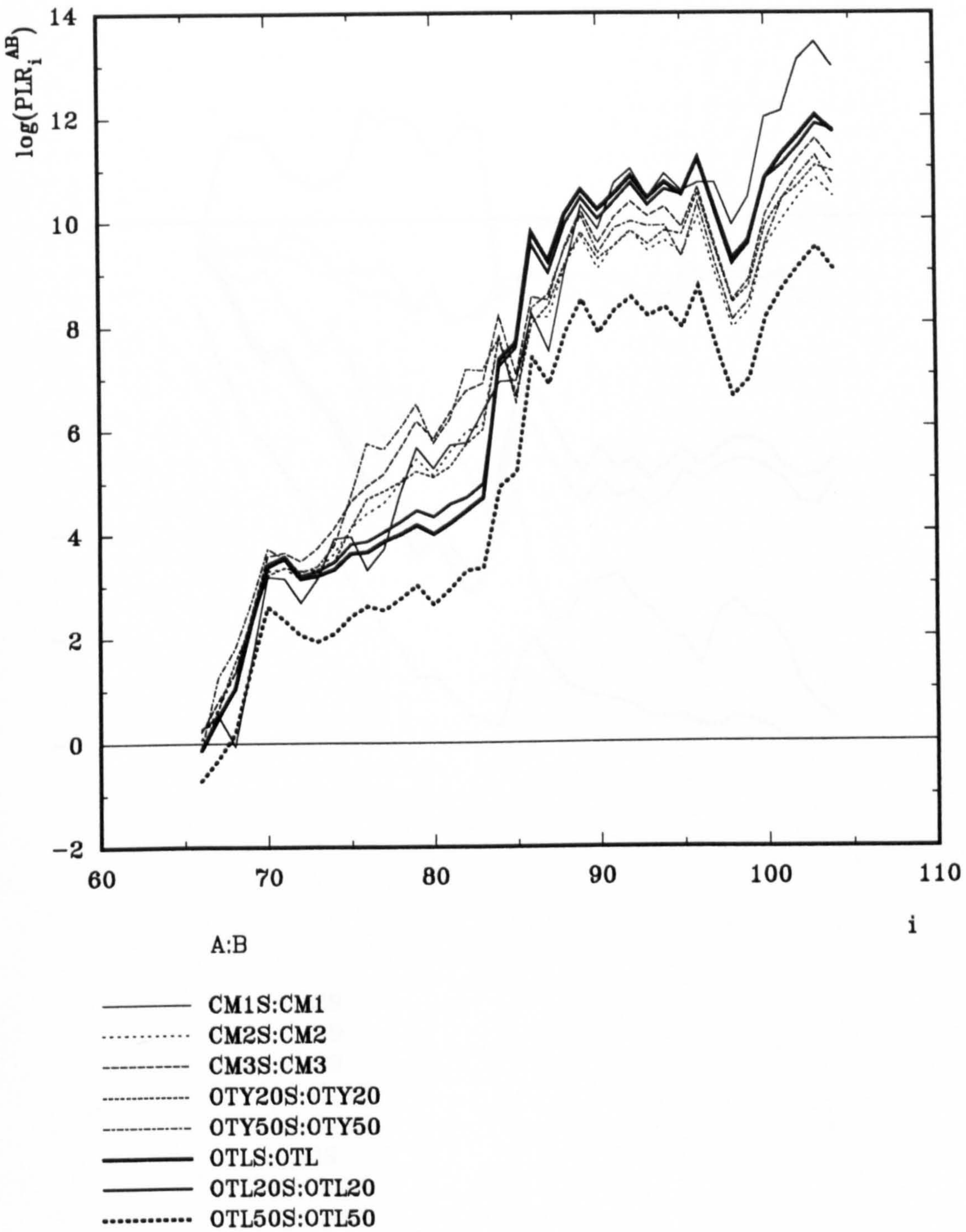


Figure B.6-17. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *USPSCL*.

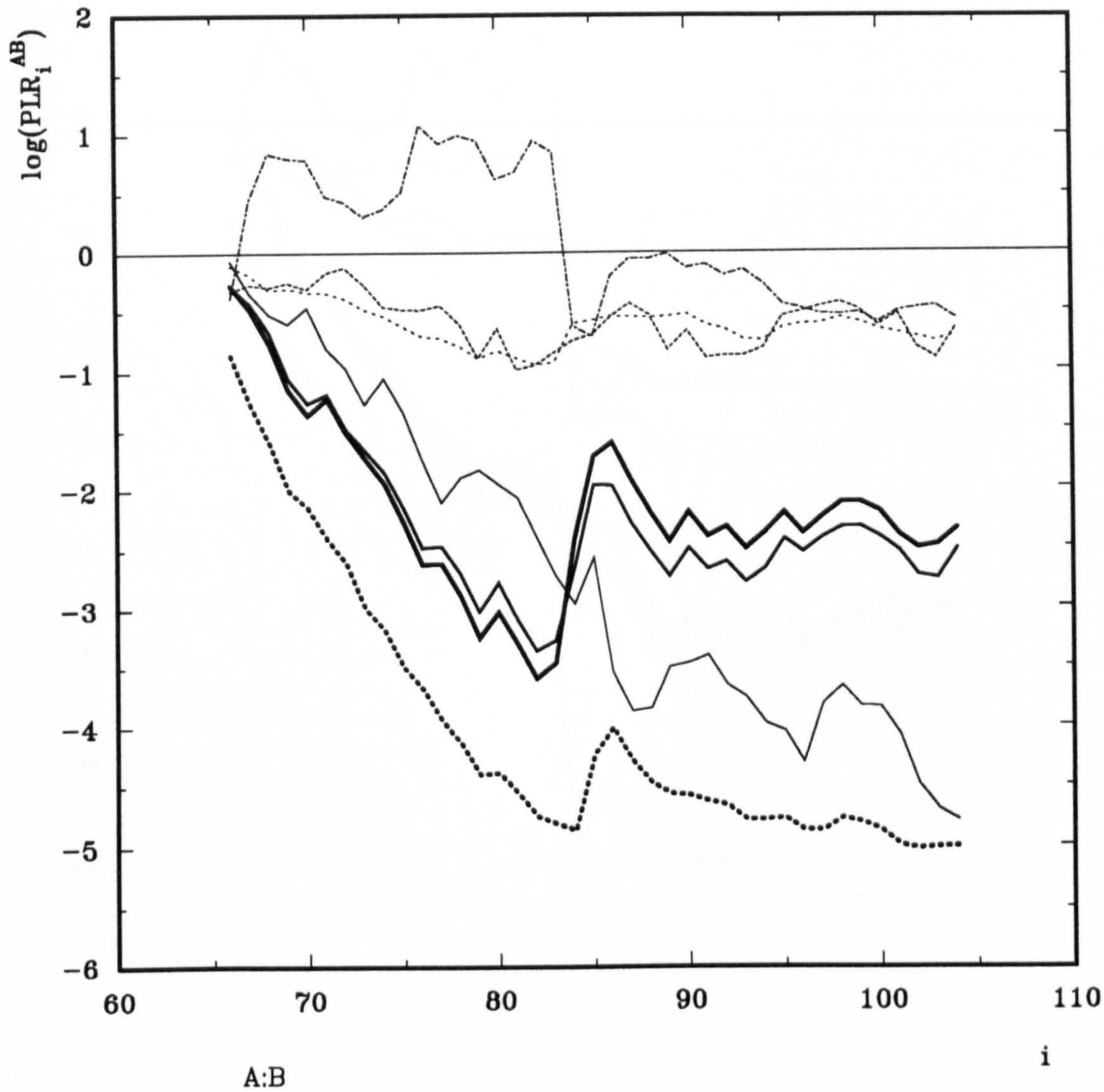


Figure B.6-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *USPSCL*.

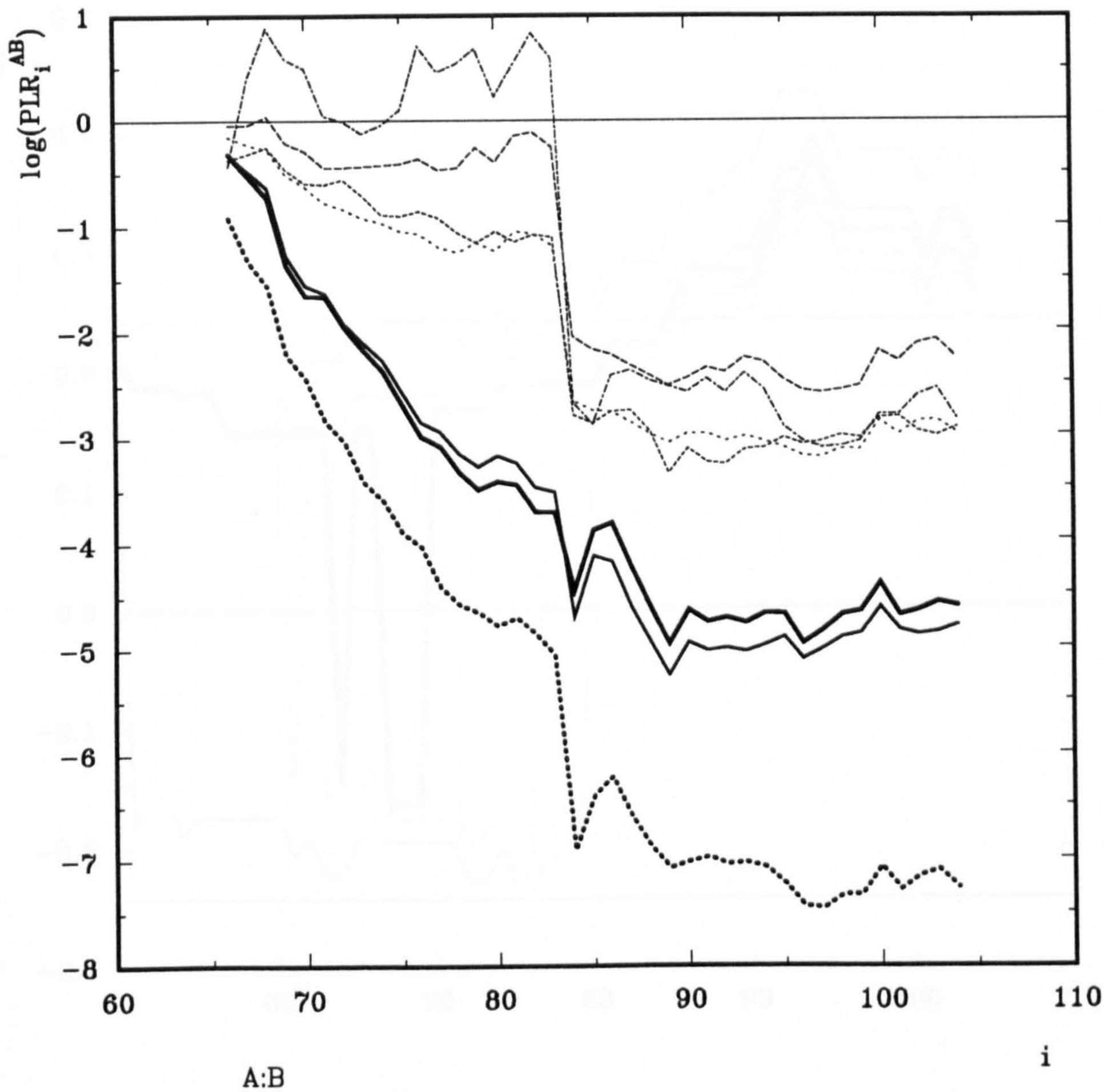
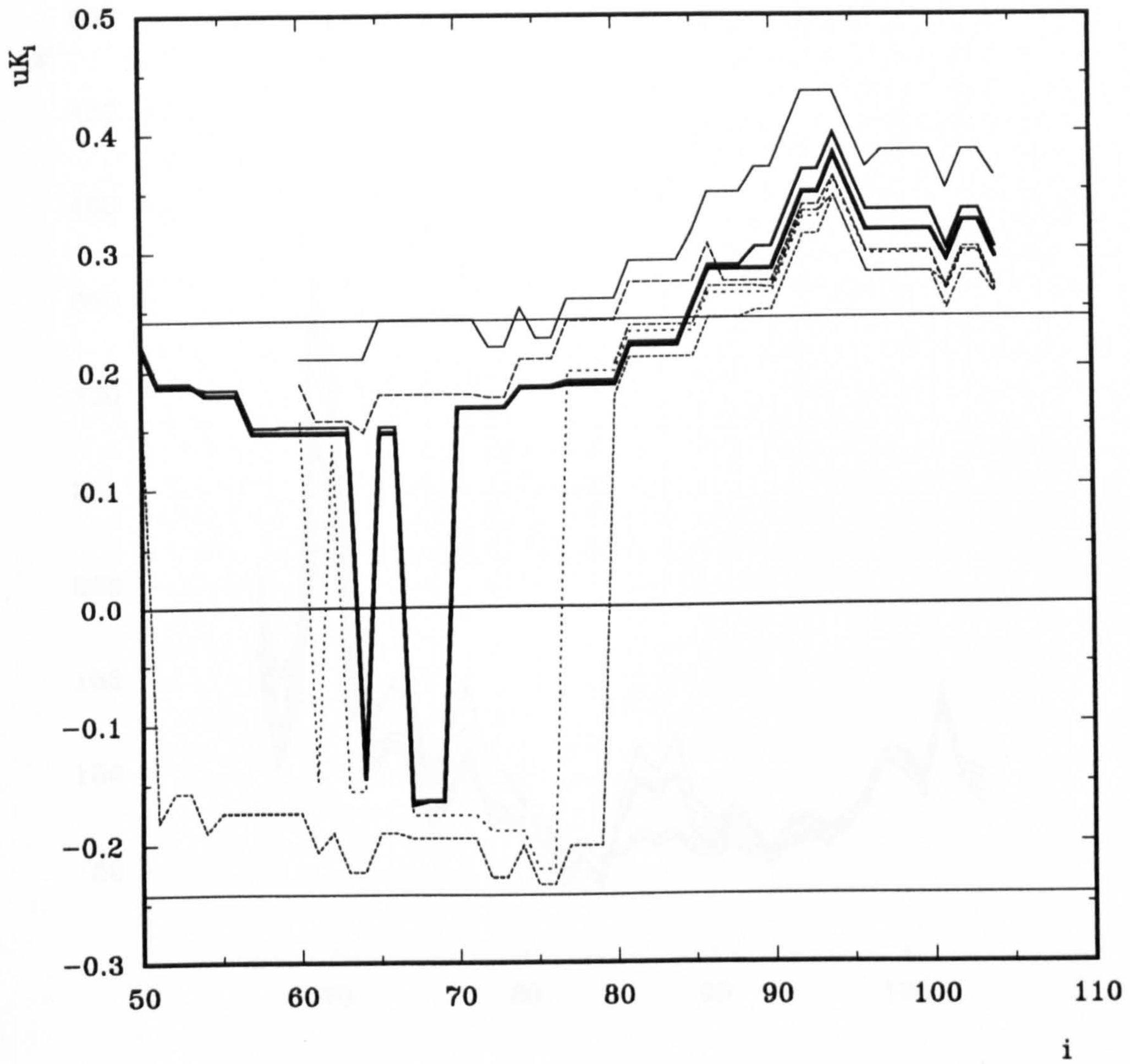
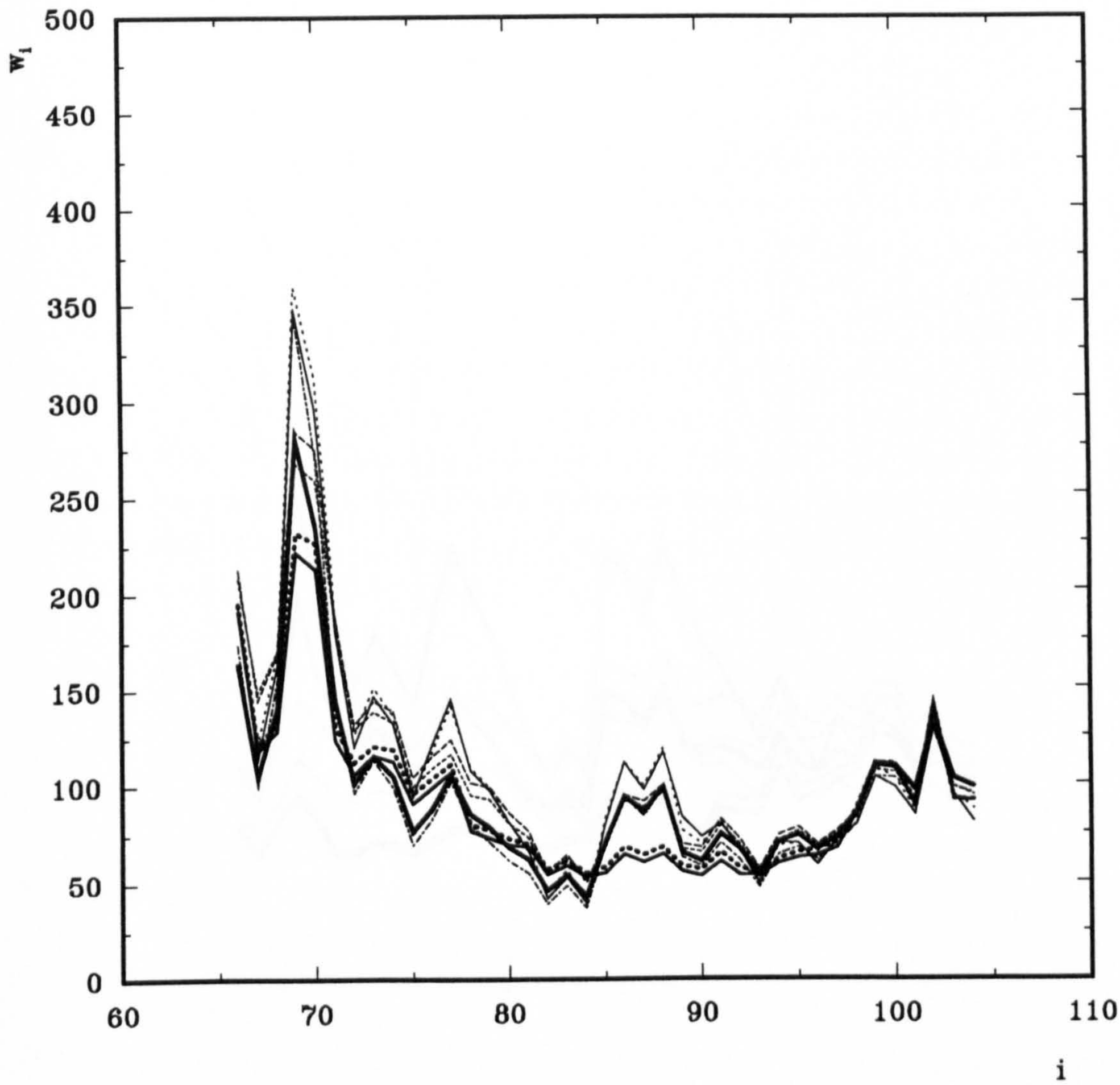


Figure B.6-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *DUS* for data set *USPSCL*.



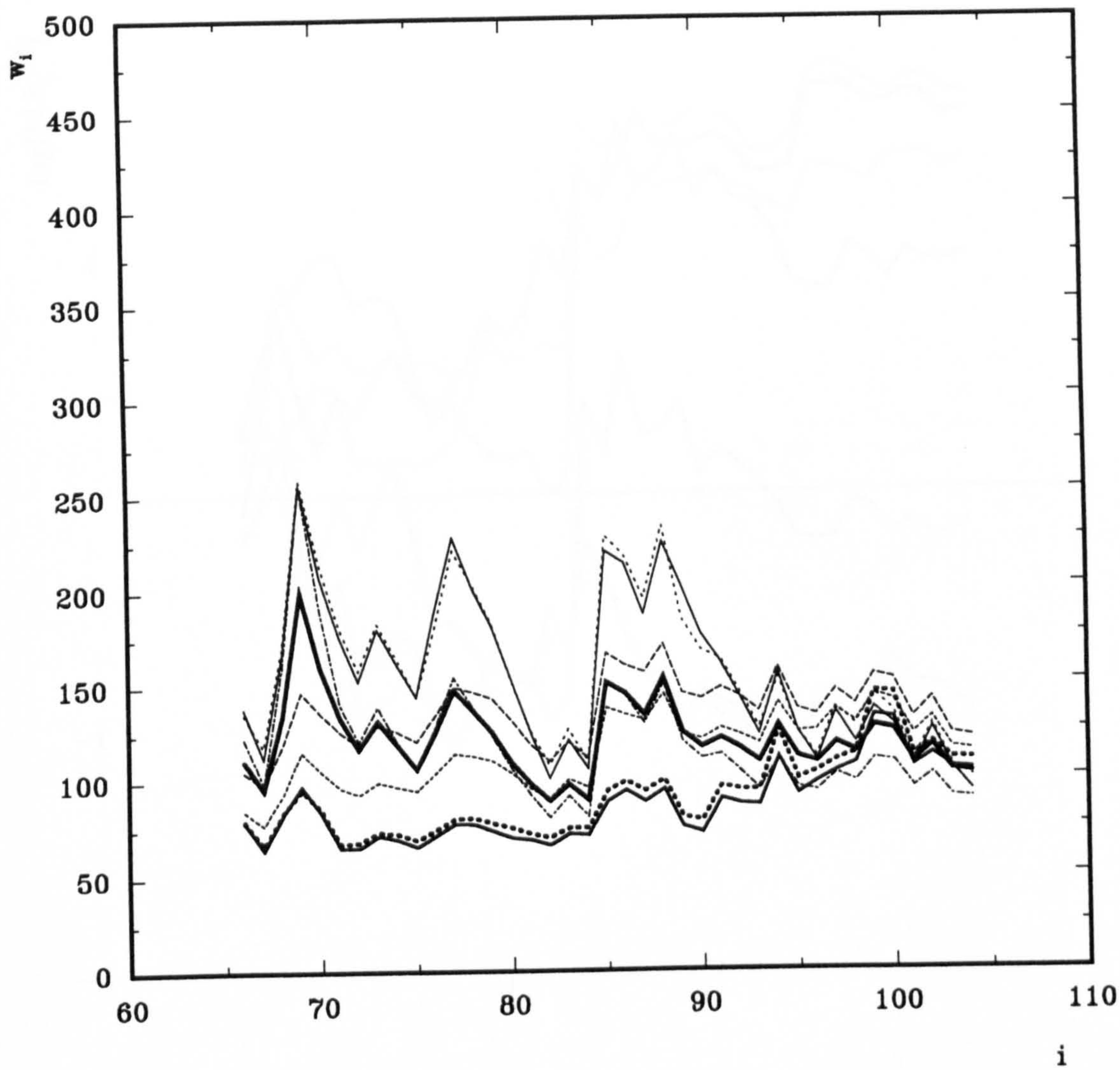
CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50
5% significance lines

Figure B.6-20. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *USPSCL*.



JMS20
GOS20
MOS20
DUS20
LMS20
LNHPPS20
LVS20
KLS20

Figure B.6-21. Median predictions from the recalibrated (window = *20*) parametric predictors plotted against failure number for data set *USPSCL*.



JMS50
GOS50
MOS50
DUS50
LMS50
LNHPPS50
LVS50
KLS50

Figure B.6-22. Median predictions from the recalibrated (window = *50*) parametric predictors plotted against failure number for data set *USPSCL*.

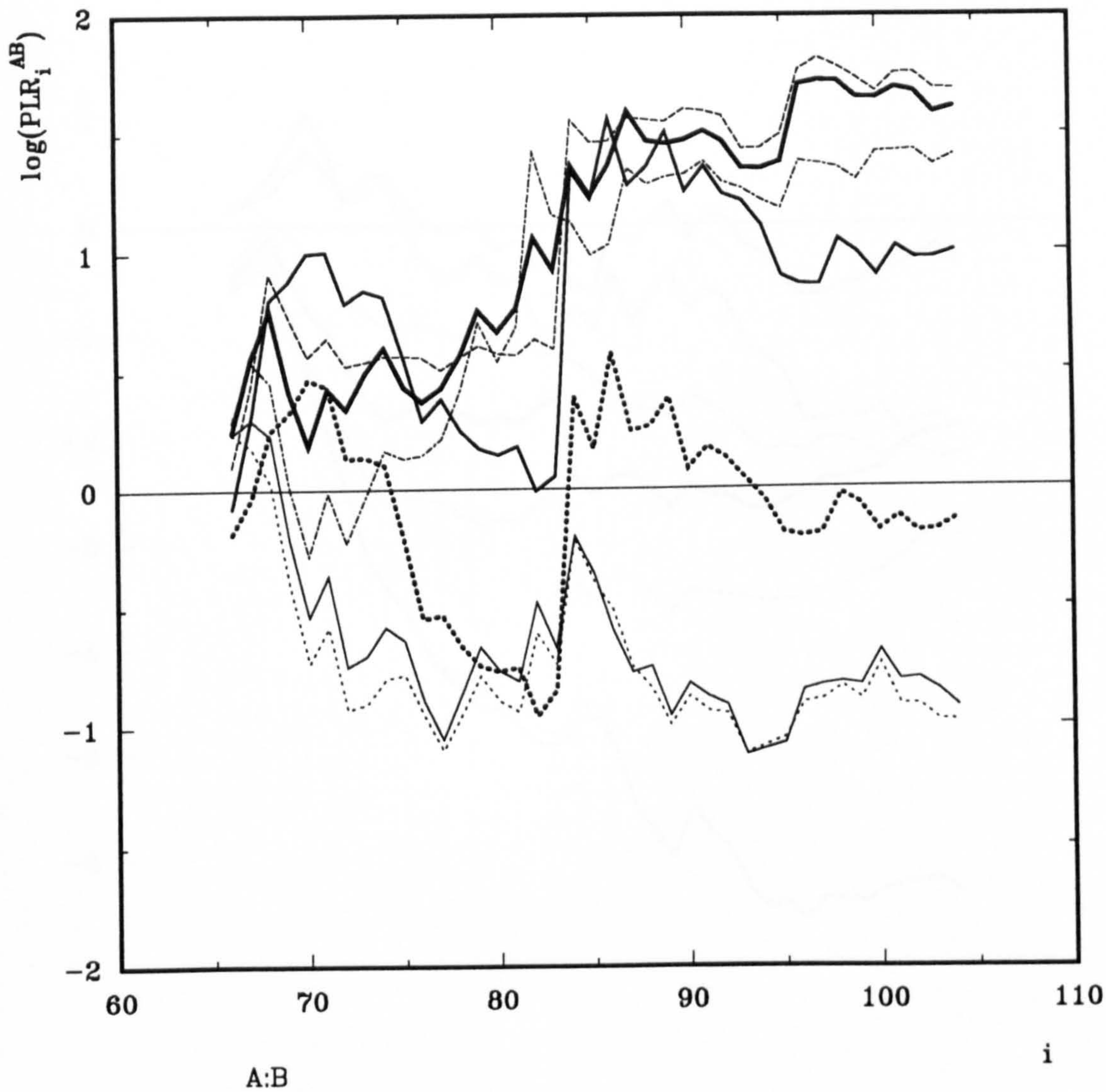


Figure B.6-23. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus *DUS20* for data set *USPSCL*.

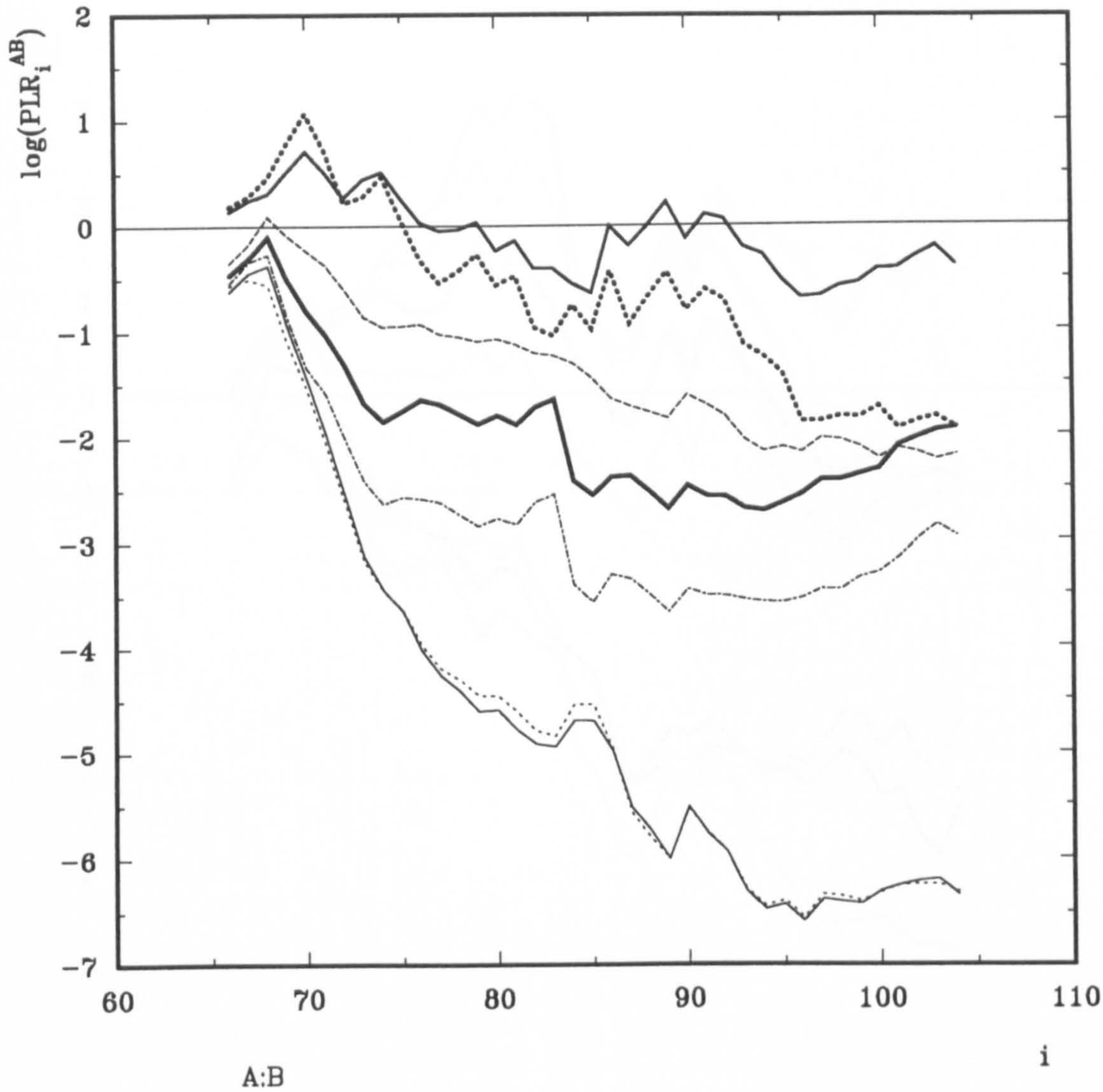


Figure B.6-24. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus *DUS50* for data set *USPSCL*.

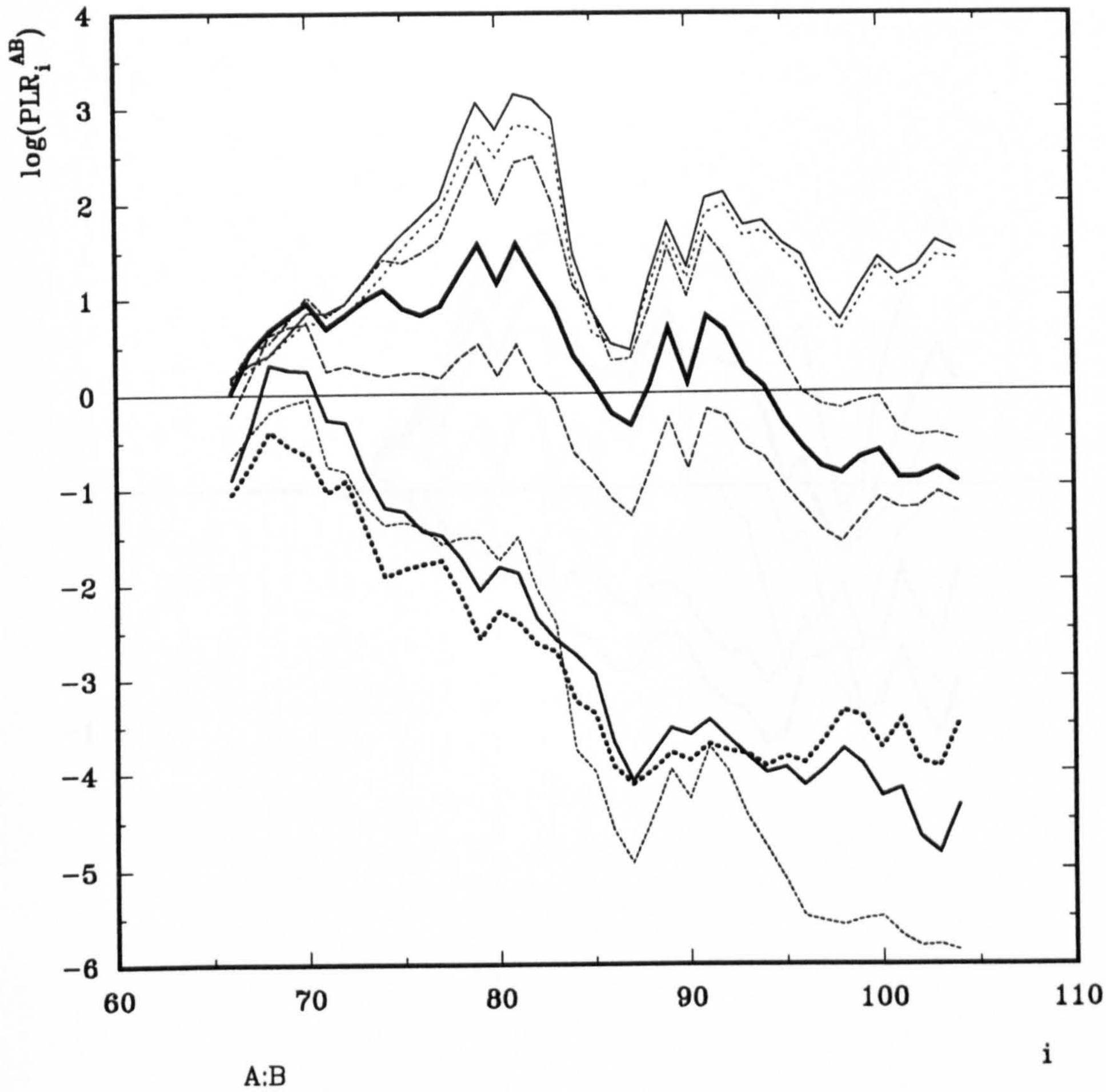


Figure B.6-25. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USPSCL*.

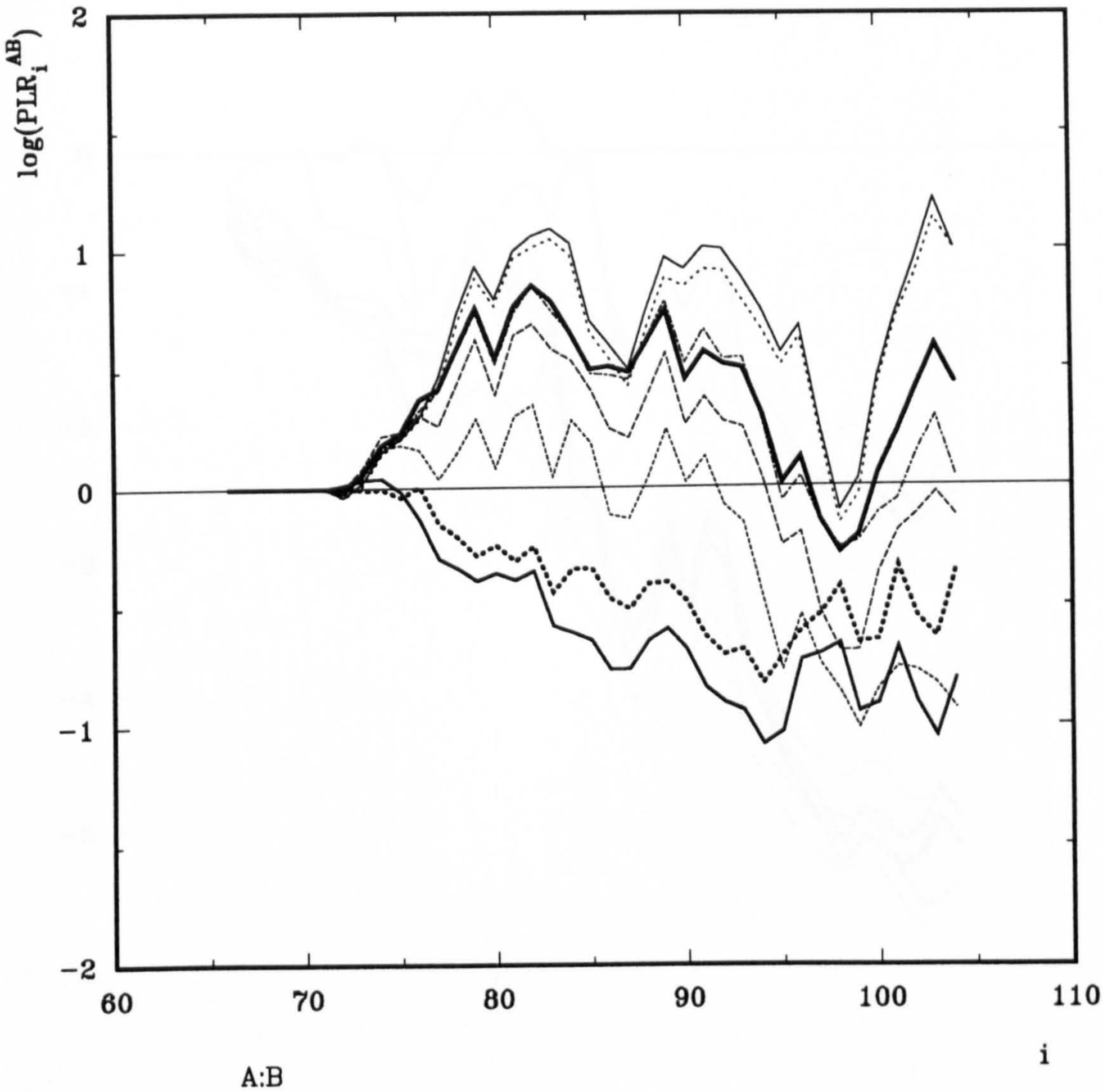


Figure B.6-26. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *USPSCL*.

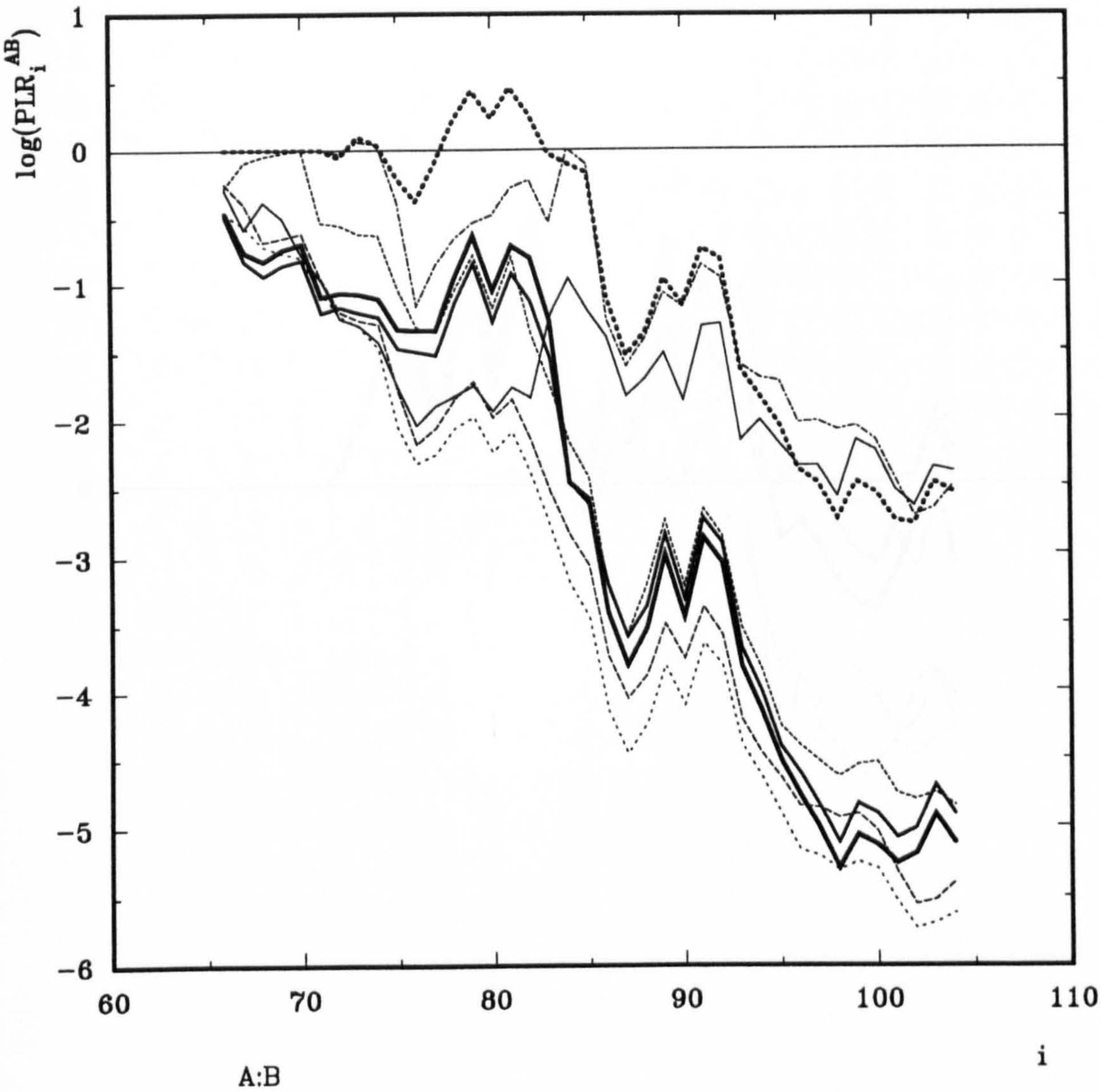


Figure B.6-27. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USPSCL*.

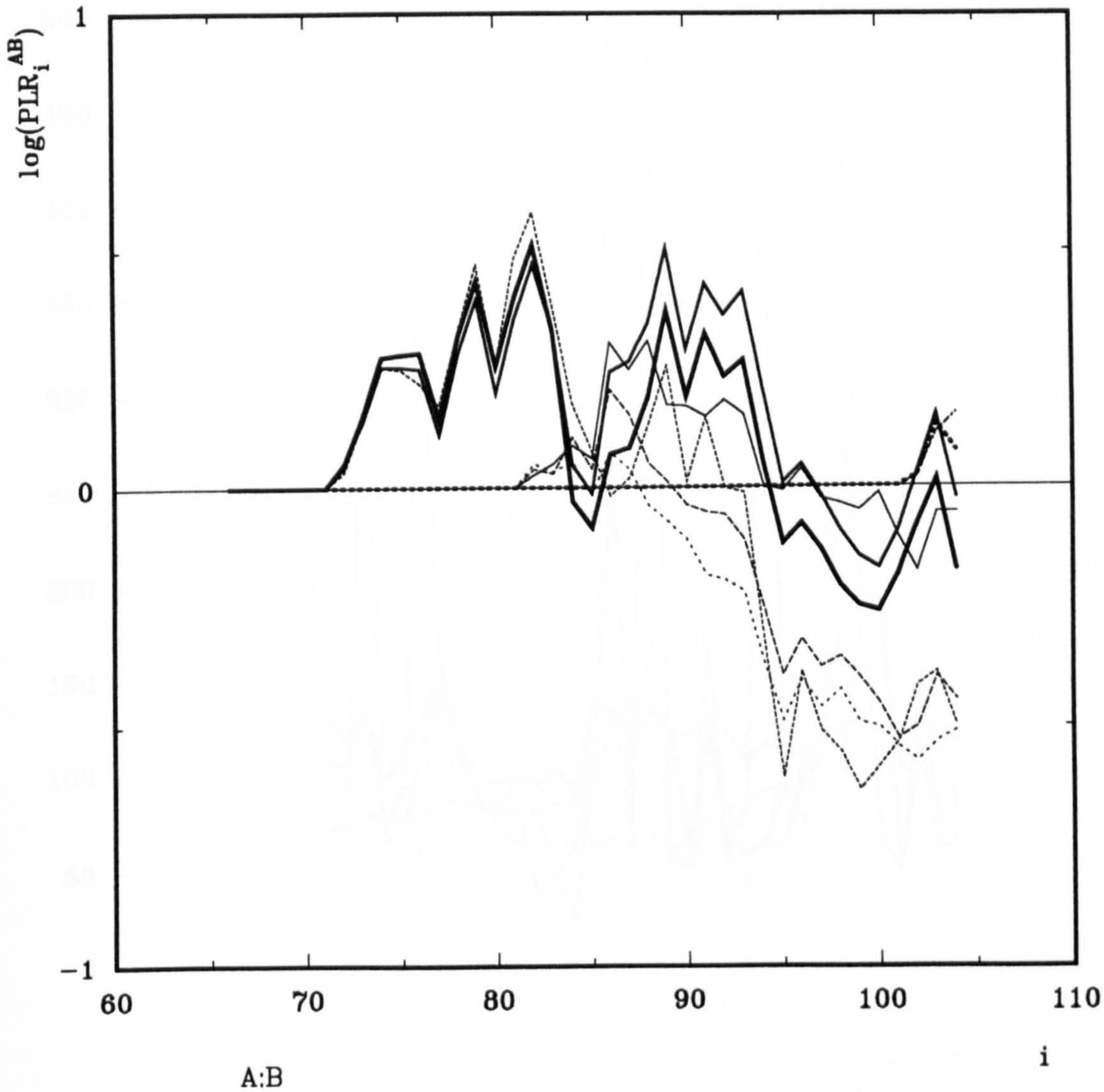
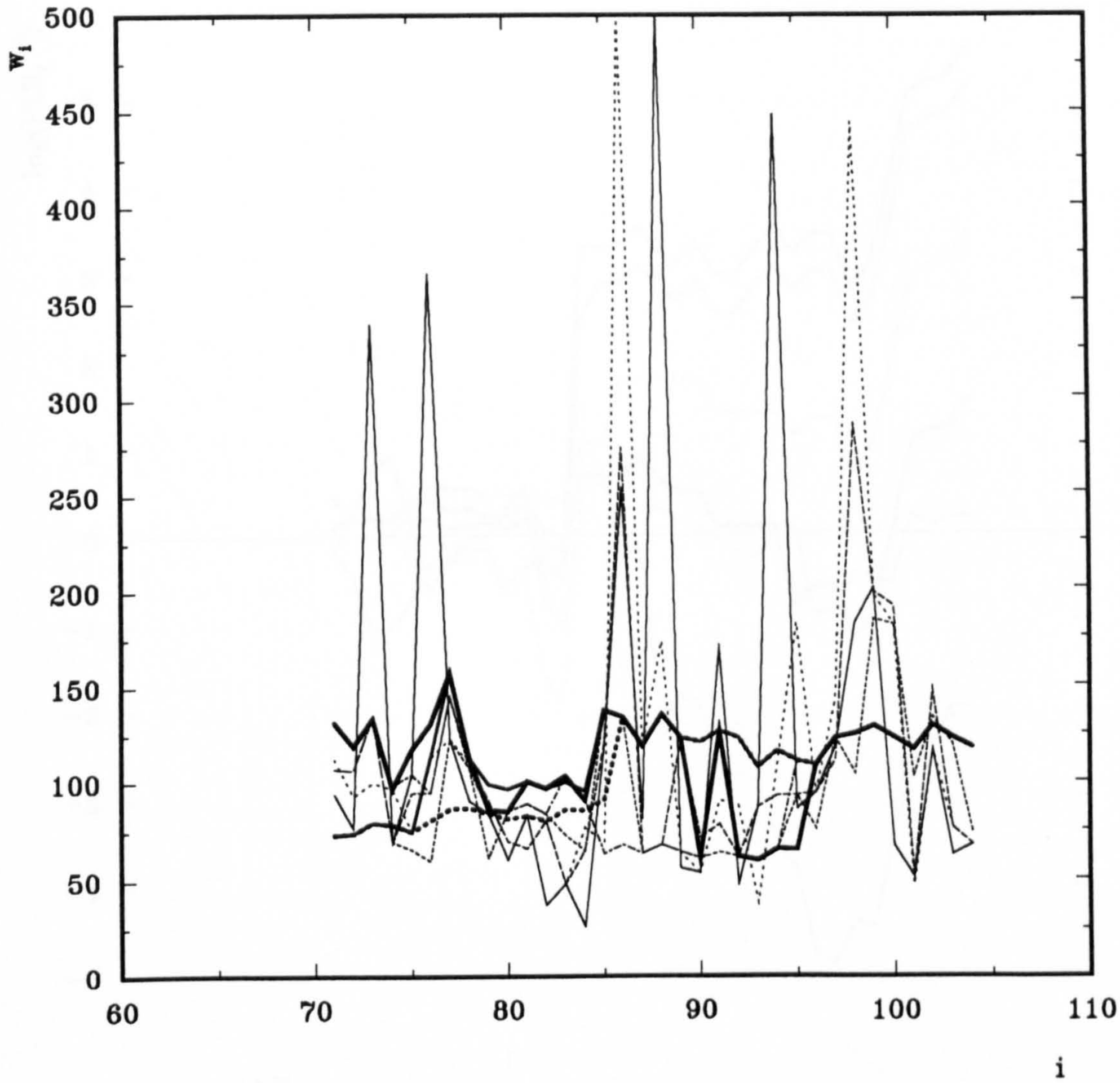


Figure B.6-28. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *USPSCL*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.6-29. Median predictions from the meta-predictors plotted against failure number for data set *USPSCL*.

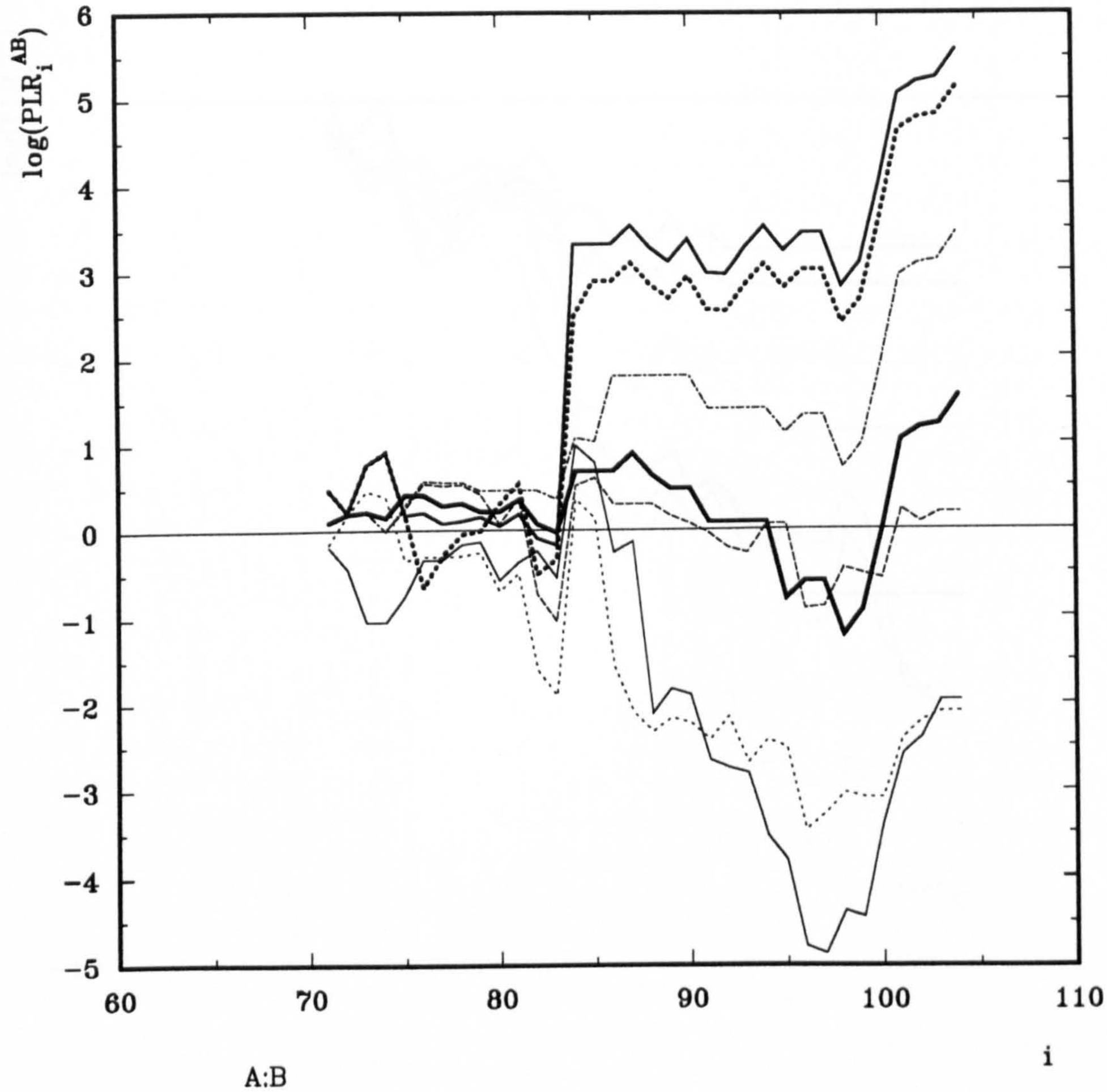


Figure B.6-30. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *USPSCL*.

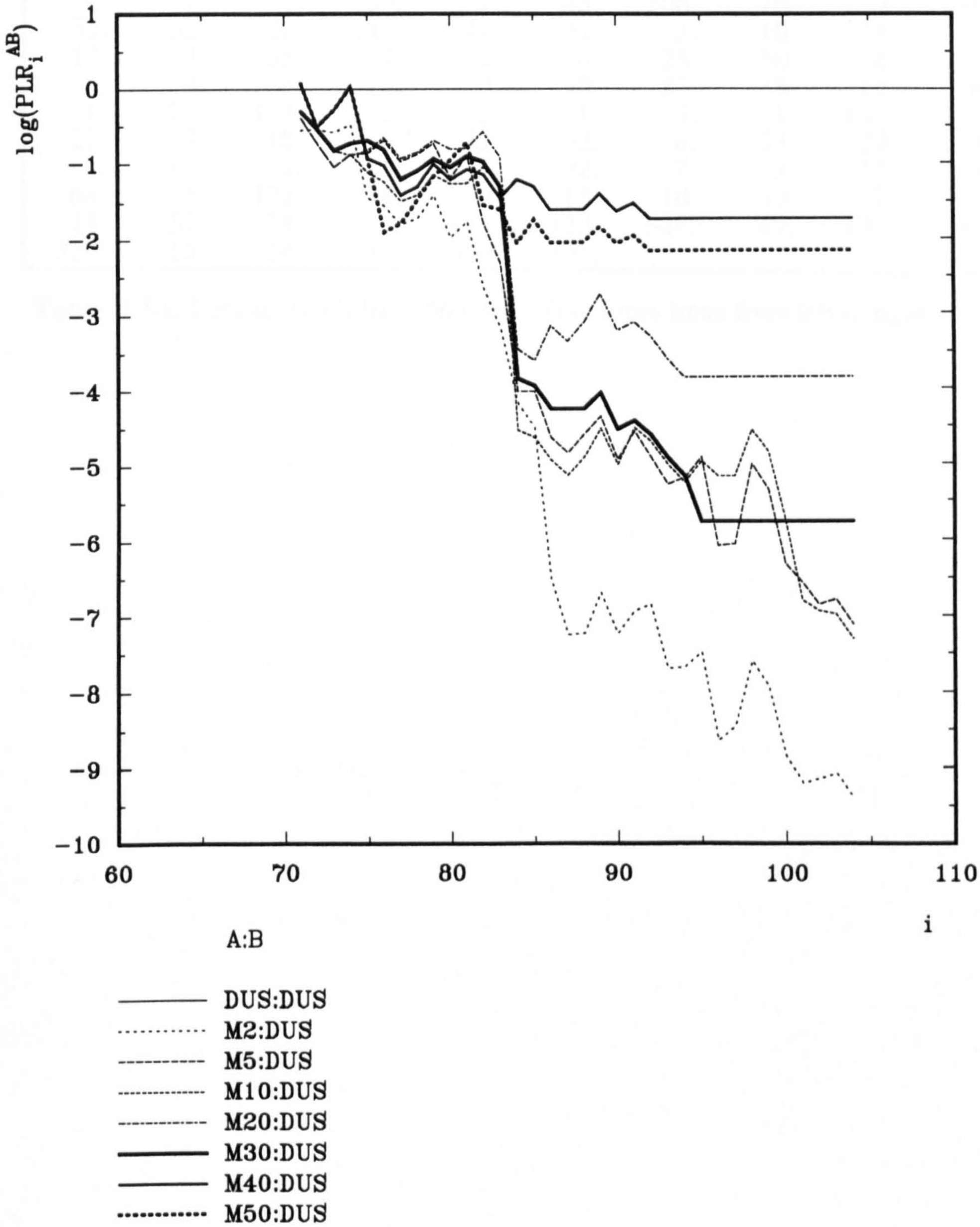


Figure B.6-31. *log(PLR)*-plots for the meta-predictors versus *DUS* for data set *USPSCL*.

B.7 Data Set USGENL

73.	43.	12.	48.	23.	6.	10.	12.	14.	17.
30.	41.	1.	99.	9.	45.	106.	70.	9.	36.
33.	52.	28.	113.	44.	31.	3.	10.	3.	8.
17.	3.	55.	7.	12.	6.	25.	30.	4.	38.
7.	4.	4.	13.	10.	40.	57.	38.	12.	8.
1.	21.	104.	8.	23.	1.	5.	1.	141.	3.
21.	3.	18.	0.5	75.	92.	6.	33.	29.	3.
2.	117.	30.	24.	5.	92.	7.	33.	13.	9.
68.	25.	132.	71.	19.	18.	10.	39.	7.	1.
14.	31.	28.	4.	145.	122.	349.	49.	123.	92.
220.	15.	34.	715.	819.	391.				

Table B.7-1. Data set *USGENL*; 106 inter-failure times (read from left to right).

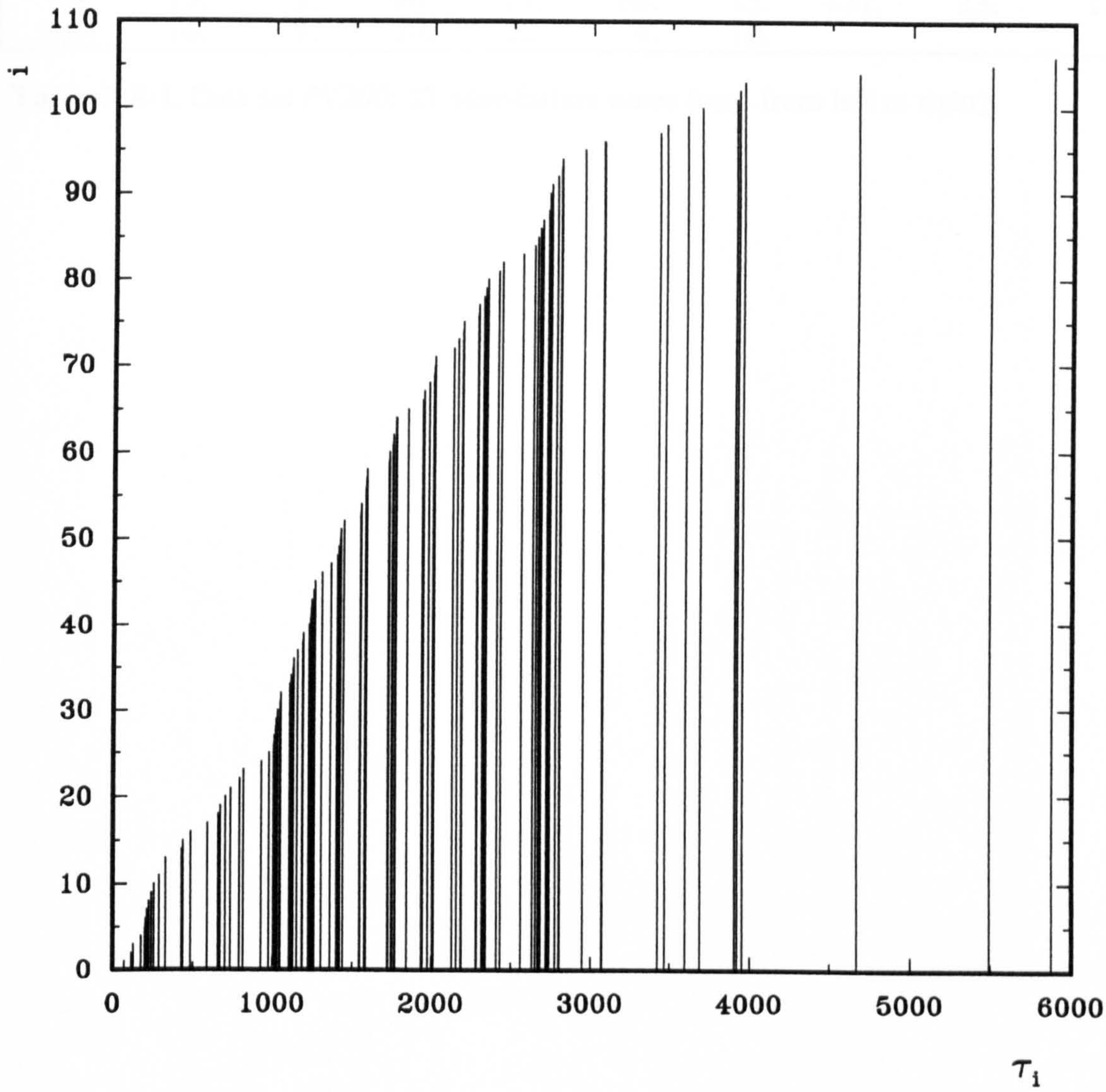


Figure B.7-2. Cumulative number of failures plotted against total elapsed time for data set *USGENL*.

B.8 Data Set PV200

60.	30.	540.	67.	40.	23.	5.	53.	4.	16.
94.	15.	5.	90.	77.	68.	15.	137.	23.	1.
104.	16.	9.	10.	12.	4.	10.			

Table B.8-1. Data set *PV200*; 27 inter-failure times (read from left to right).

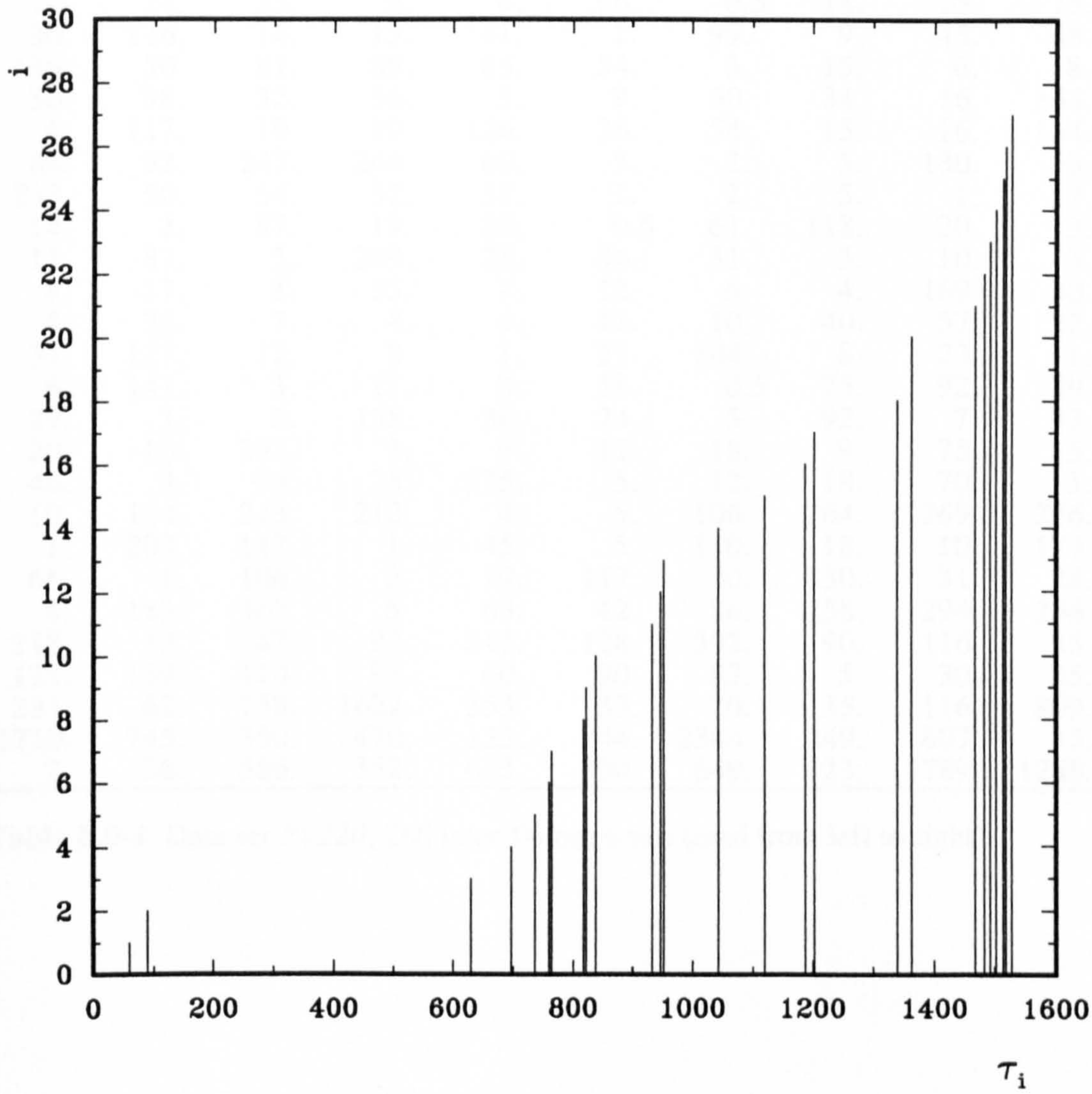


Figure B.8-2. Cumulative number of failures plotted against total elapsed time for data set *PV200*.

B.9 Data Set PV220

10.	6.	54.	25.	43.	12.	48.	23.	6.	10.
12.	14.	33.	9.	4.	66.	0.5	18.	15.	75.
30.	116.	14.	15.	41.	1.	99.	9.	45.	68.
36.	50.	81.	89.	85.	54.	3.	15.	6.	8.
36.	98.	32.	36.	5.	9.	60.	34.	16.	164.
6.	117.	19.	19.	126.	36.	54.	15.	16.	154.
84.	92.	247.	244.	60.	5.	2.	5.	130.	0.5
233.	50.	54.	52.	57.	1.	2.	5.	1.	17.
14.	2.	87.	19.	29.	0.5	61.	118.	20.	3.
11.	87.	5.	249.	28.	44.	31.	3.	10.	3.
8.	17.	3.	55.	7.	12.	6.	4.	169.	30.
4.	38.	7.	4.	4.	13.	10.	40.	57.	22.
37.	127.	12.	8.	1.	21.	104.	8.	23.	1.
6.	141.	3.	21.	3.	18.	0.5	75.	92.	39.
29.	3.	2.	158.	30.	24.	5.	92.	7.	33.
20.	16.	292.	3.	9.	12.	18.	9.	75.	15.
46.	9.	94.	25.	175.	5.	12.	18.	70.	3.
10.	114.	213.	212.	4.	5.	106.	264.	269.	276.
1.	203.	117.	1.	45.	5.	110.	18.	10.	179.
66.	1.	106.	2.	19.	117.	30.	130.	31.	28.
4.	183.	362.	5.	63.	42.	86.	258.	294.	256.
118.	13.	47.	92.	343.	128.	392.	90.	116.	35.
171.	139.	110.	98.	60.	90.	82.	5.	30.	35.
231.	62.	158.	1622.	353.	33.	70.	35.	116.	809.
1710.	745.	350.	470.	122.	244.	2384.	249.	607.	83.
2.	26.	586.	352.	673.	330.	649.	123.	1789.	1288.

Table B.9-1. Data set *PV220*; 260 inter-failure times (read from left to right).

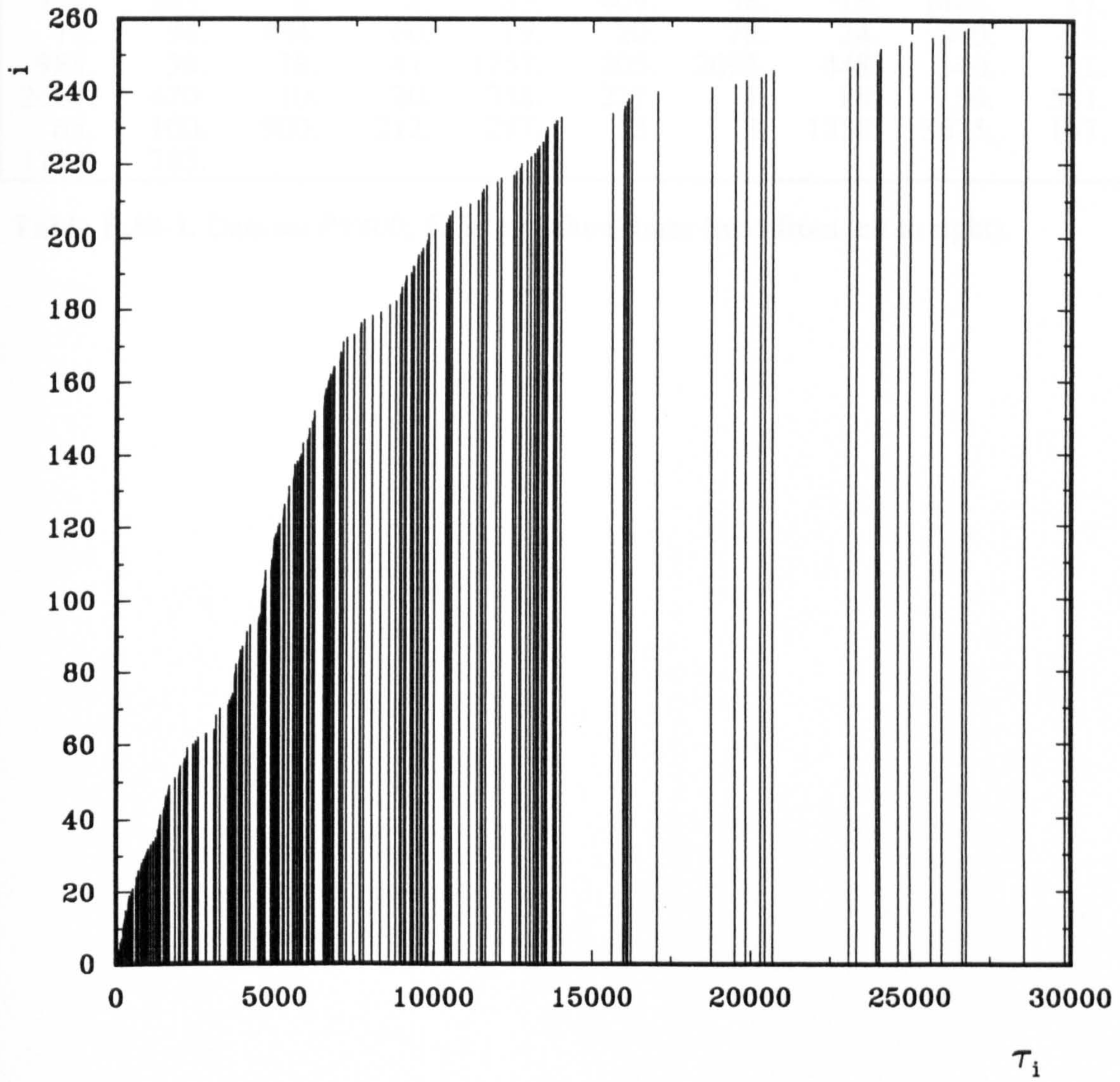


Figure B.9-2. Cumulative number of failures plotted against total elapsed time for data set *PV220*.

B.10 Data Set PV400

60.	75.	74.	333.	287.	1.	477.	404.	13.	1314.
472.	363.	6.	4.	55.	409.	36.	15.	1404.	17.
71.	34.	434.	60.	19.	20.	79.	24.	540.	52.
988.	38.	78.	41.	1757.	205.	2095.	448.	340.	1.
2668.	470.	10.	20.	338.	217.	5.	28.	56.	561.
65.	100.	900.	212.	287.	53.	3.	1338.	3635.	197.
1174.	783.								

Table B.10-1. Data set *PV400*; 62 inter-failure times (read from left to right).

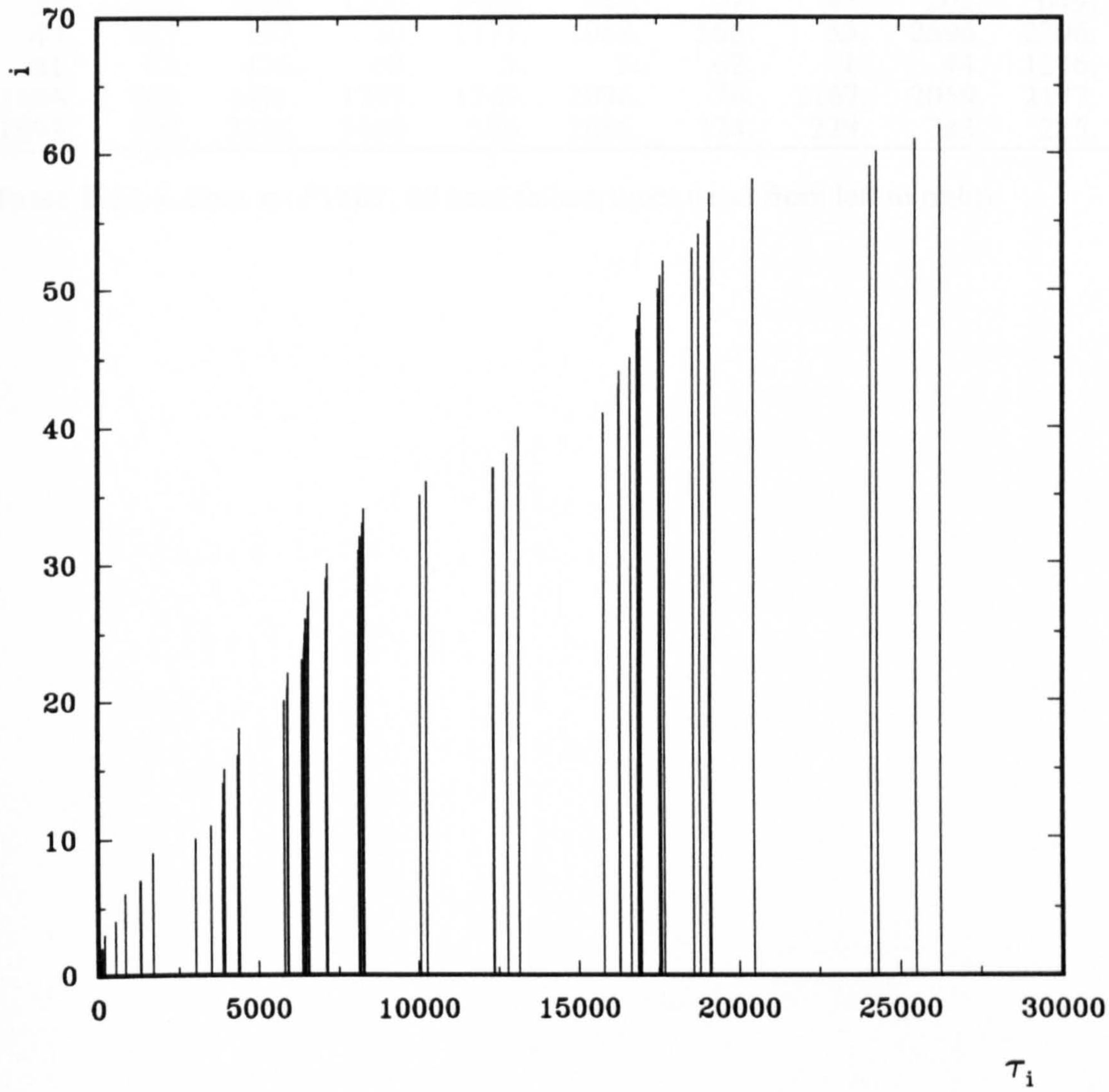


Figure B.10-2. Cumulative number of failures plotted against total elapsed time for data set *PV400*.

B.11 Data Set PV502

41.	59.	98.	1594.	25.	98.	398.	324.	228.	78.
33.	453.	1020.	1365.	2962.	925.	57.	43.	202.	649.
43.	185.	157.	30.	1771.	1088.	556.	55.	2596.	2296.
81.	61.	476.	63.	3.	3.	62.	1.	44.	1236.
1406.	109.	1471.	1797.	1749.	2096.	76.	2167.	2059.	2177.
1893.	198.	3326.	3100.	586.	2686.	124.	229.	783.	225.

Table B.11-1. Data set *PV502*; 60 inter-failure times (read from left to right).

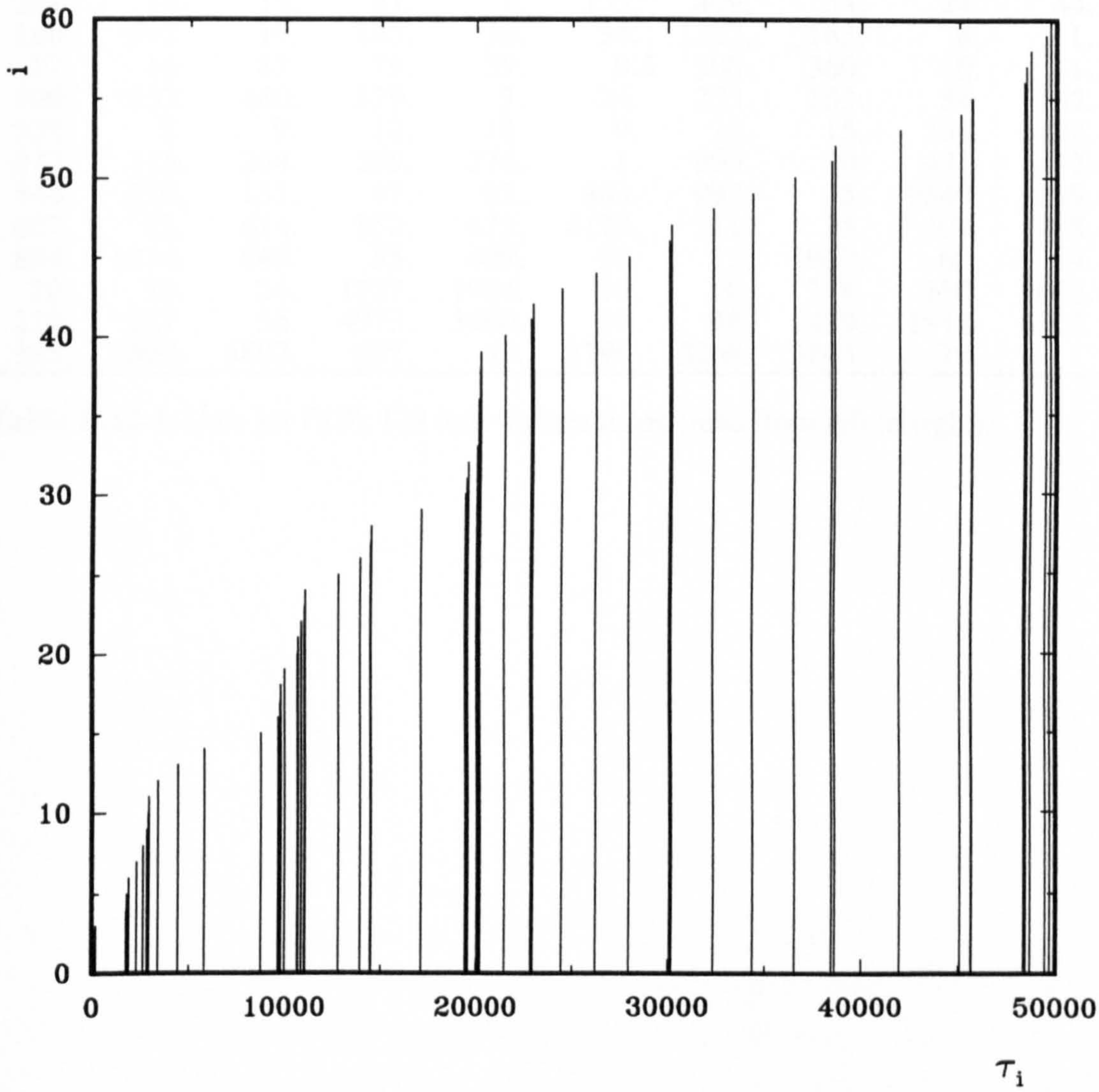


Figure B.11-2. Cumulative number of failures plotted against total elapsed time for data set *PV502*.

B.12 Data Set TSW

760.	758.	303.	6.	22.	14.	42.	4.	84.	15.
221.	14.	15.	41.	1.	153.	409.	54.	24.	44.
180.	397.	19.	145.	36.	54.	1337.	163.	8.	1.
17.	16.	87.	19.	29.	0.5	300.	360.	10.	11.
100.	252.	460.	179.	3.	24.	253.	163.	54.	137.
328.	3.	9.	12.	18.	9.	75.	15.	366.	428.
212.	115.	264.	269.	276.	1.	999.	30.	495.	472.
344.	550.	131.	47.	92.	863.	991.	35.	9549.	249.
607.	83.	614.	352.	673.	4179.	111.	75.	407.	288.
894.	1314.	845.	55.	409.	36.	15.	1960.	60.	19.
20.	79.	24.	1737.	7984.	10.	20.	338.	250.	1682.
212.	287.	56.	4973.	3500.	59.	98.	2439.	1812.	6203.
385.	3500.	4892.	687.	62.	2796.	3268.	3845.	76.	

Table B.12-1. Data set *TSW*; 129 inter-failure times (read from left to right).

	RAW		S		S20		S30		S40		S50	
	y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
JM	F	F	F	B	F	A	F	A	F	B	F	B
GO	F	F	F	B	F	A	F	A	F	A	F	B
MO	F	E	F	A	F	A	F	A	F	A	F	A
DU	C	F	F	A	F	A	F	A	F	A	F	A
LM	F	F	F	A	F	A	F	A	F	A	F	A
LNHPP	F	F	F	A	F	A	F	A	F	A	F	A
LV	A	F	A	A	A	A	A	A	A	A	A	A
KL	A	F	A	A	A	A	A	A	A	A	A	A
CM1	F	F	F	A	D	A	E	A	F	A	F	A
CM2	F	F	F	A	F	A	F	A	F	A	F	A
CM3	F	F	F	A	E	A	F	A	F	A	F	A
OTY20	C	F	C	A	B	A	C	A	C	A	C	A
OTY50	F	F	F	A	E	A	F	A	F	A	F	A
OTL	C	F	C	A	D	A	D	A	D	A	D	A
OTL20	C	F	C	A	B	A	B	A	C	A	C	A
OTL50	C	F	D	A	C	A	D	A	D	A	D	A

Table B.12-2.1. *u*- and *y*-plot significance levels for data set *TSW* for predictions of $T_{66}, T_{67}, \ldots$.

M1		M2		M5		M10		M20		M30		M40		M50	
y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
D	B	D	B	A	B	F	A	D	A	F	A	D	A	B	C

Table B.12-2.2. *u*- and *y*-plot significance levels for data set *TSW* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

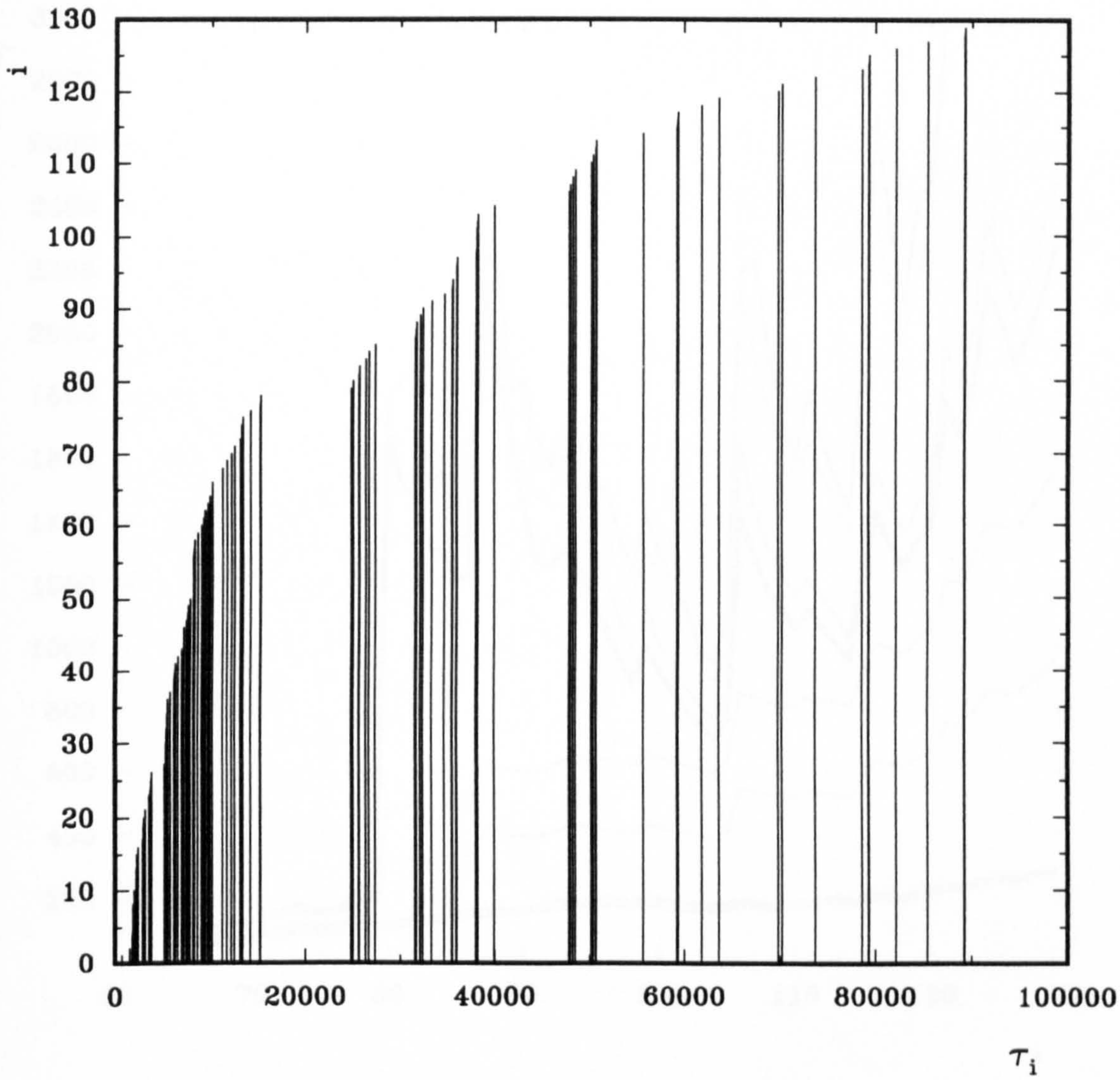
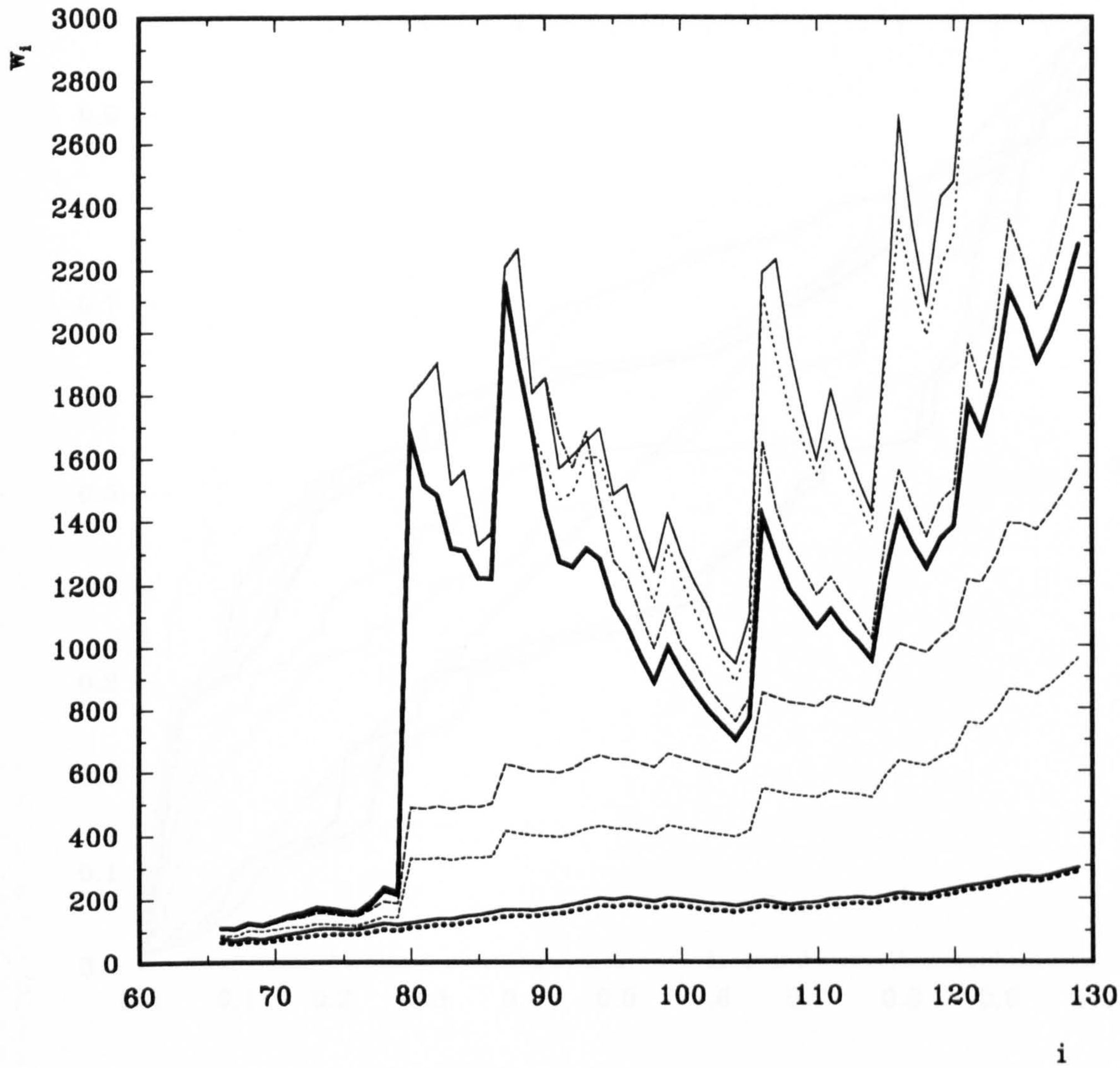
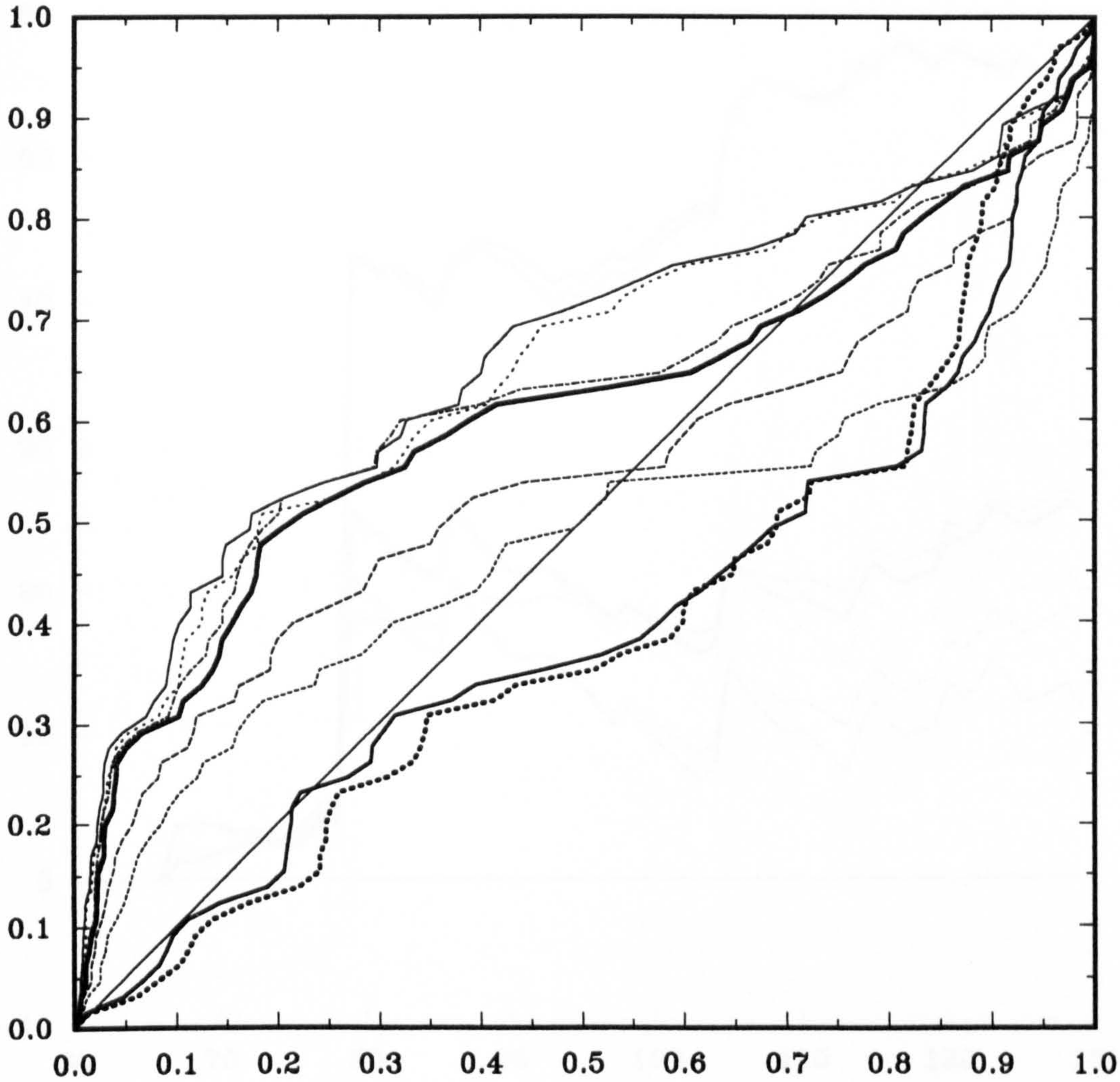


Figure B.12-3. Cumulative number of failures plotted against total elapsed time for data set *TSW*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.12-4. Median predictions from the raw parametric predictors plotted against failure number for data set *TSW*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.12-5. *u*-plots for the raw parametric predictors for data set *TSW*.

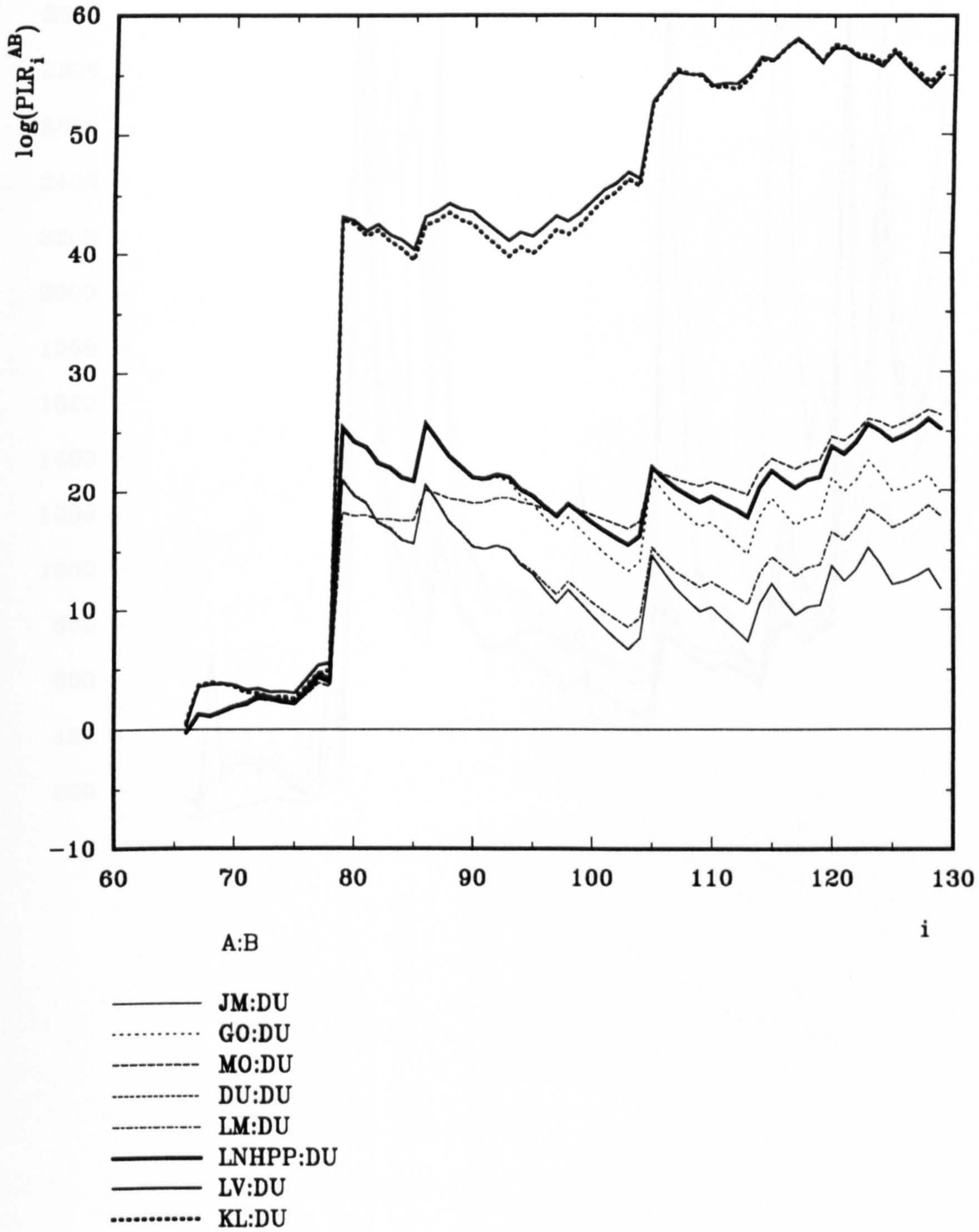
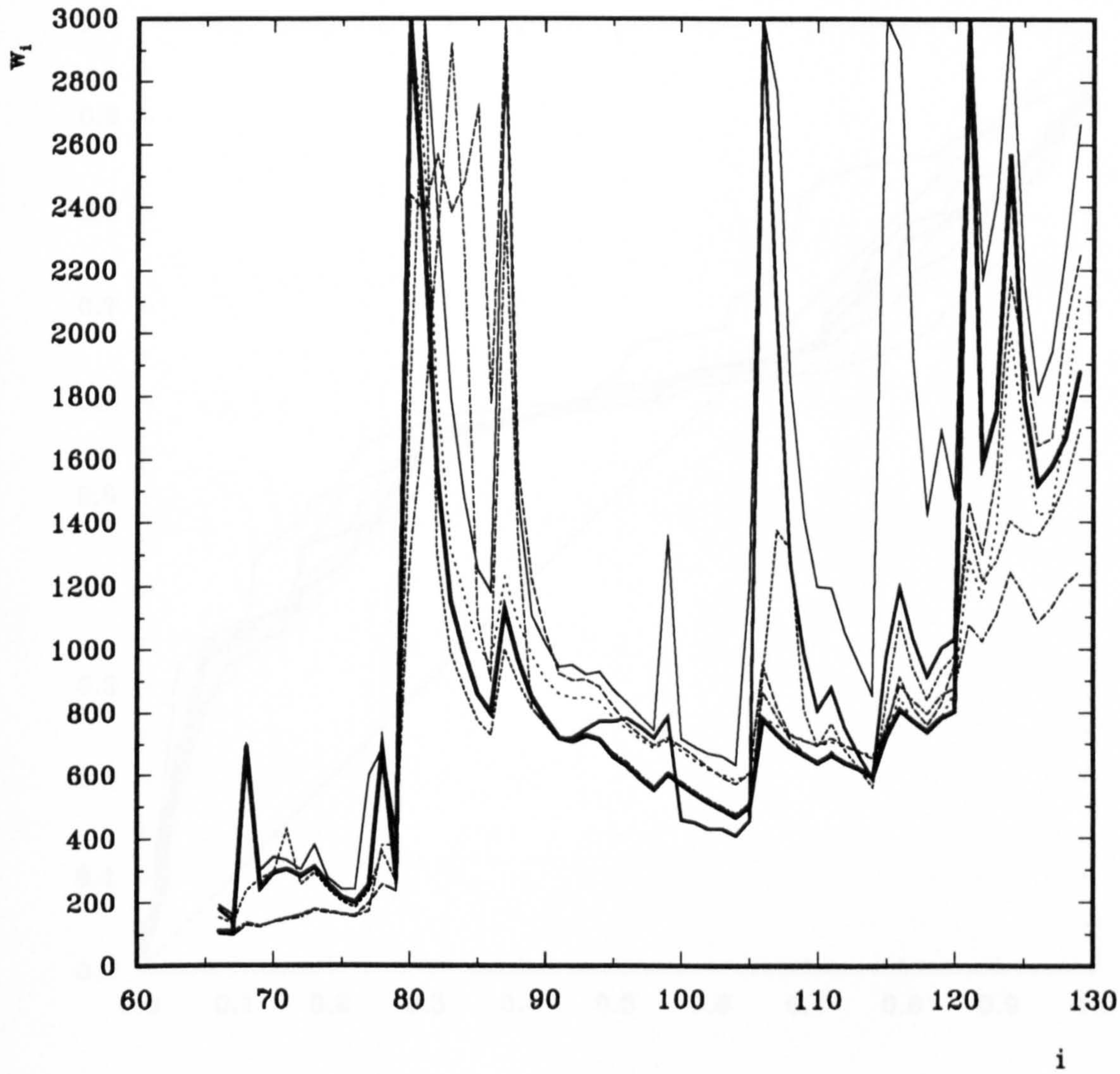
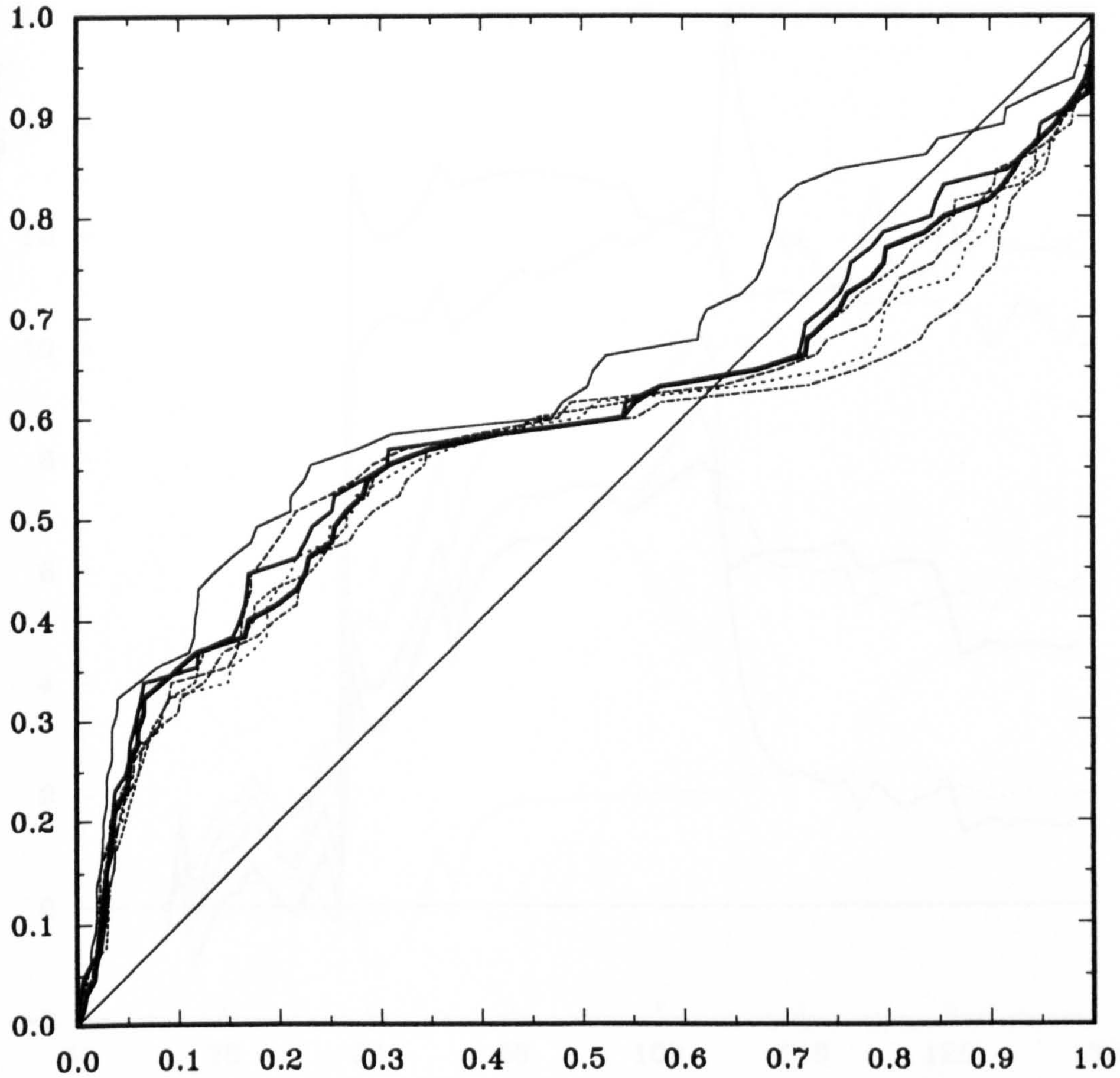


Figure B.12-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *TSW*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.12-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *TSW*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.12-8. *u*-plots for the raw non-parametric predictors for data set *TSW*.

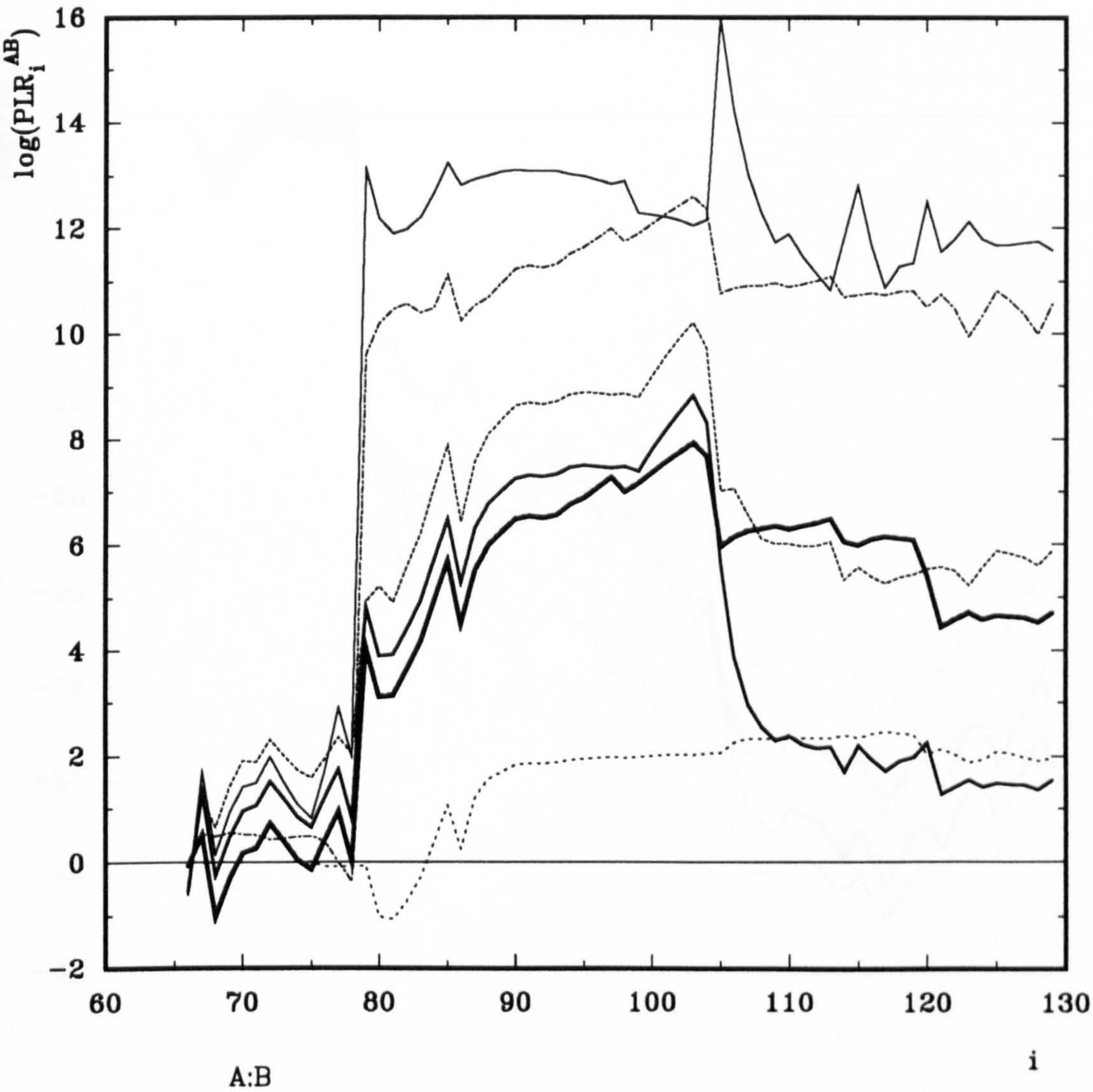


Figure B.12-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *TSW*.

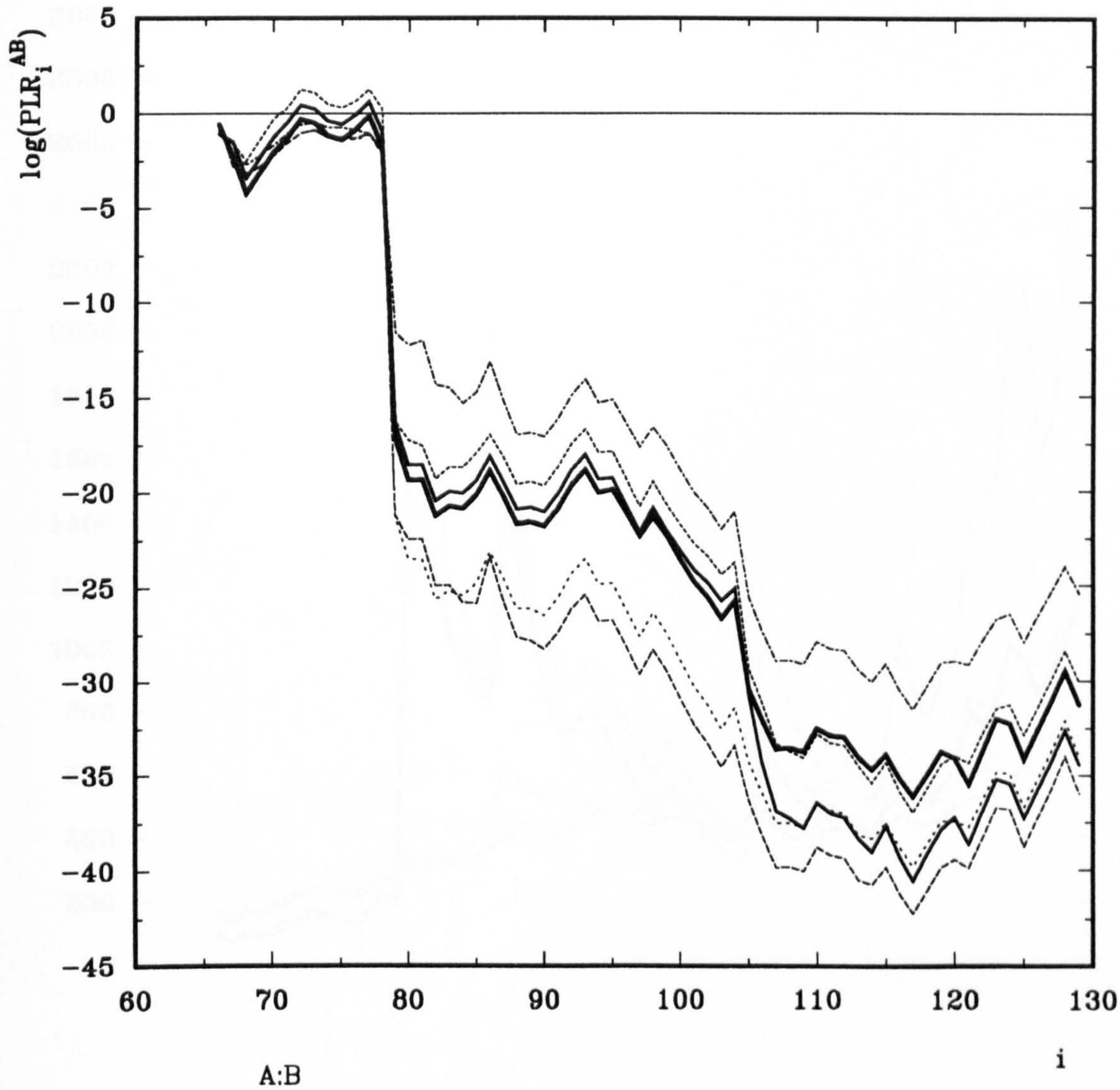


Figure B.12-10. *log(PLR)*-plots for the raw non-parametric predictors versus *LV* for data set *TSW*.

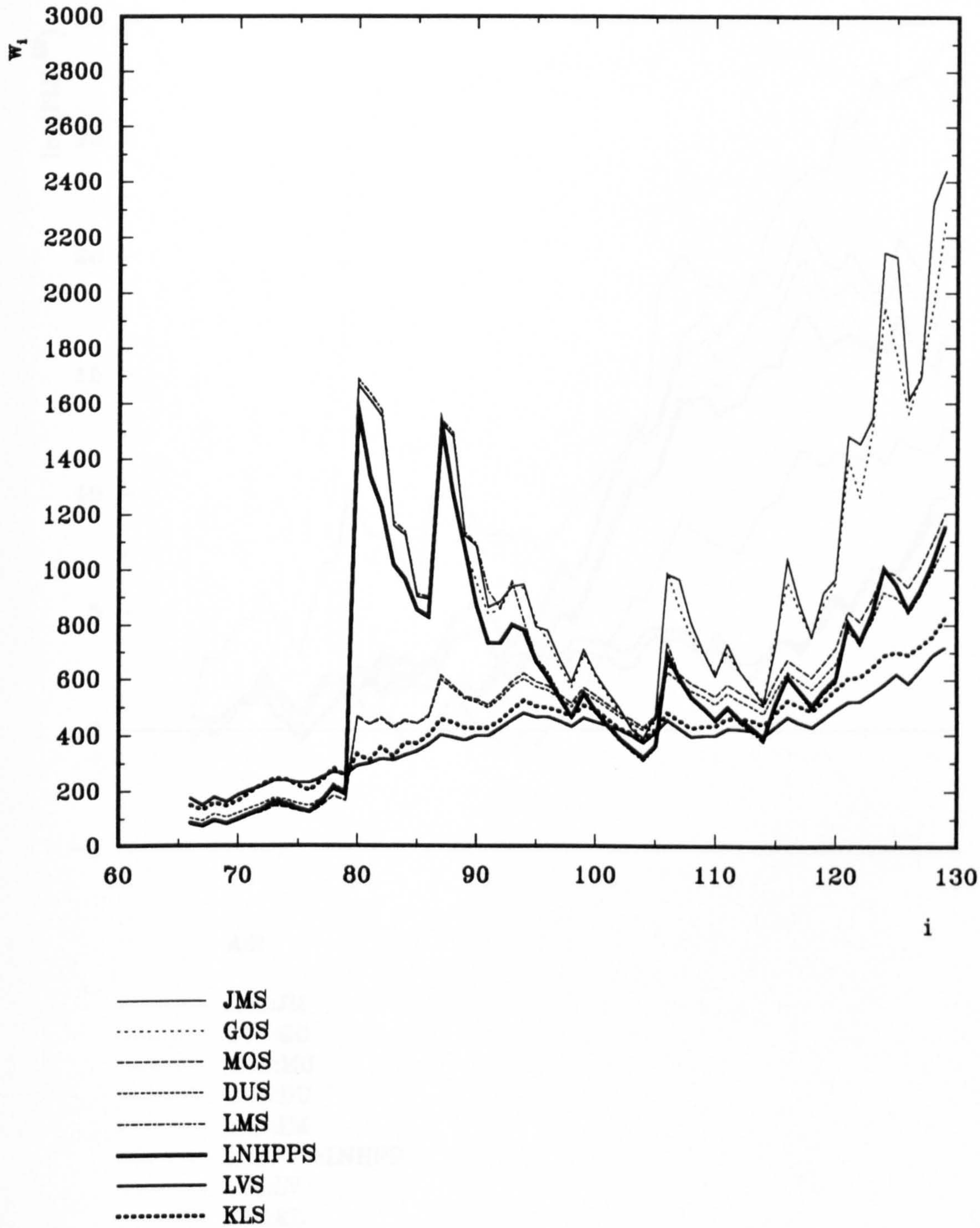


Figure B.12-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *TSW*.

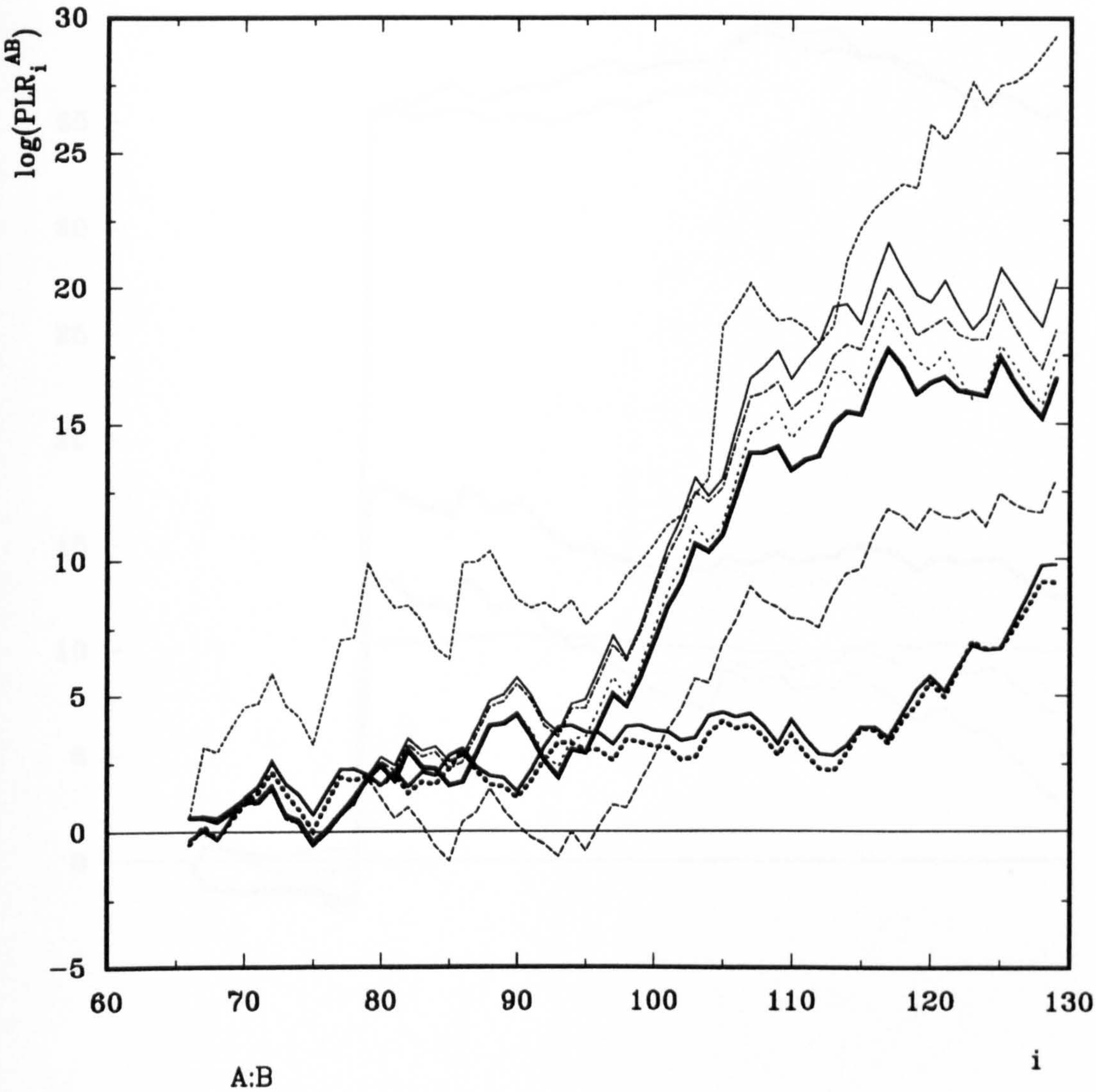


Figure B.12-12. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *TSW*.

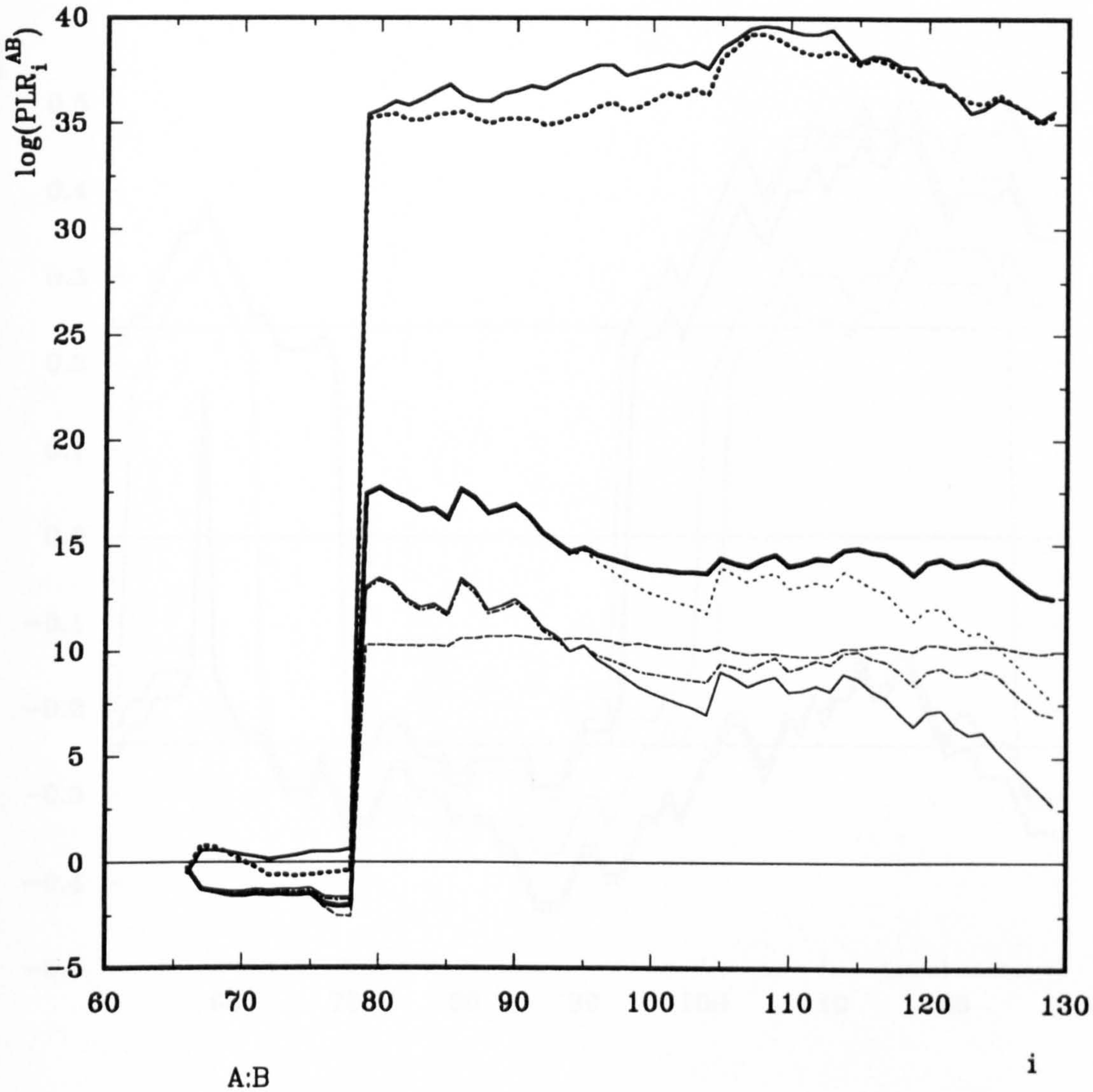


Figure B.12-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *TSW*.

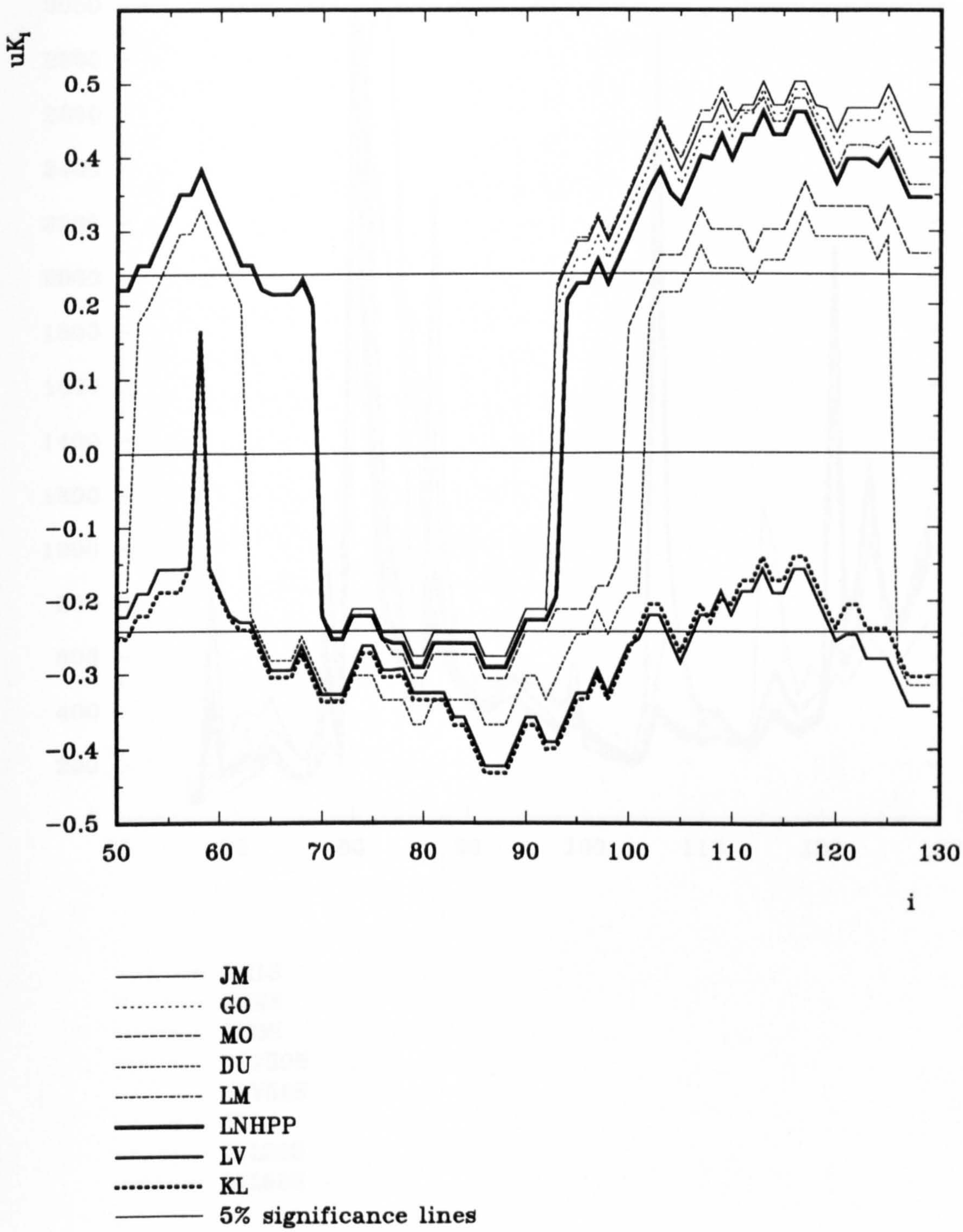
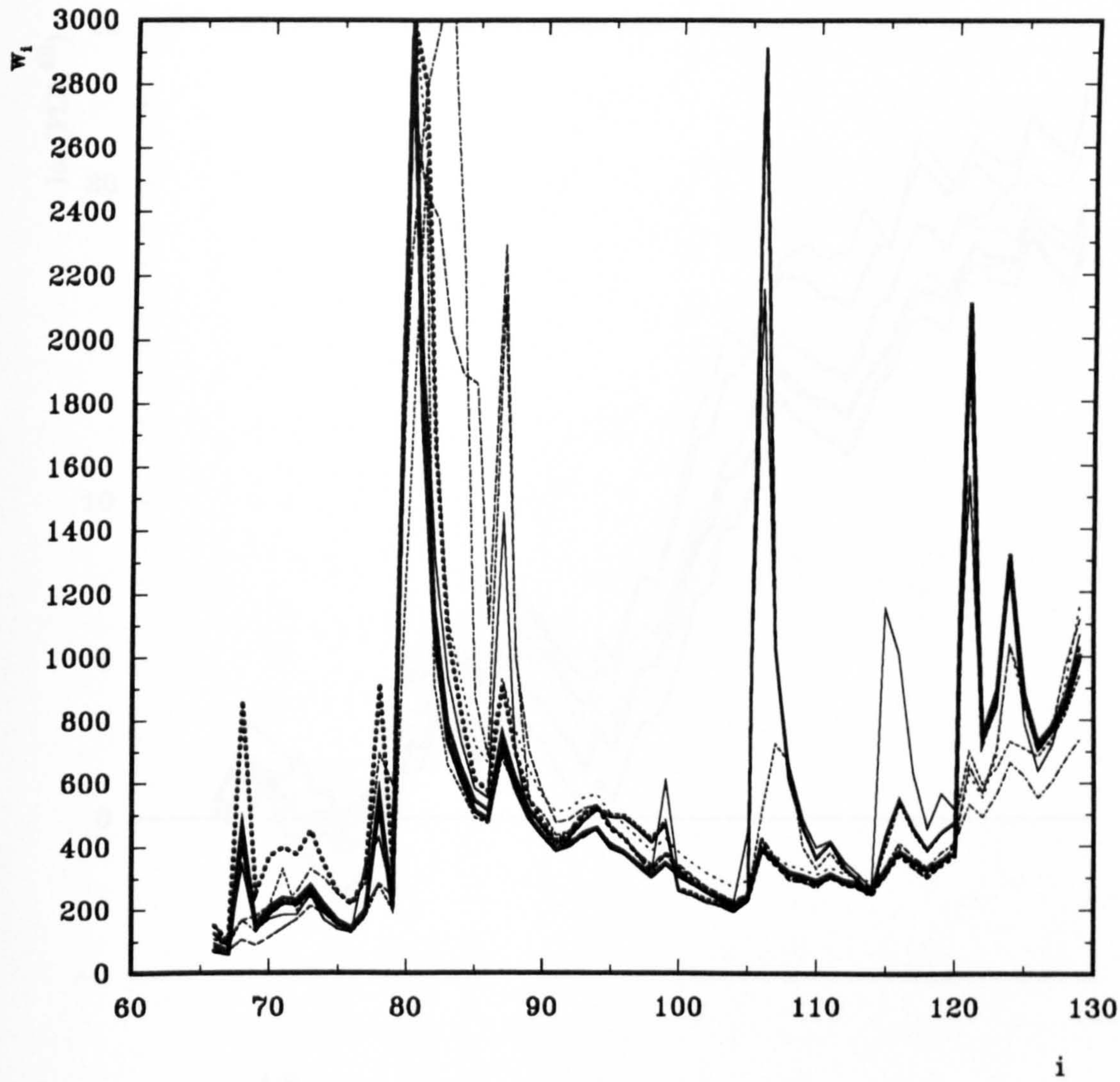


Figure B.12-14. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *TSW*.



CM1S
CM2S
CM3S
OTY20S
OTY50S
OTLS
OTL20S
OTL50S

Figure B.12-15. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *TSW*.

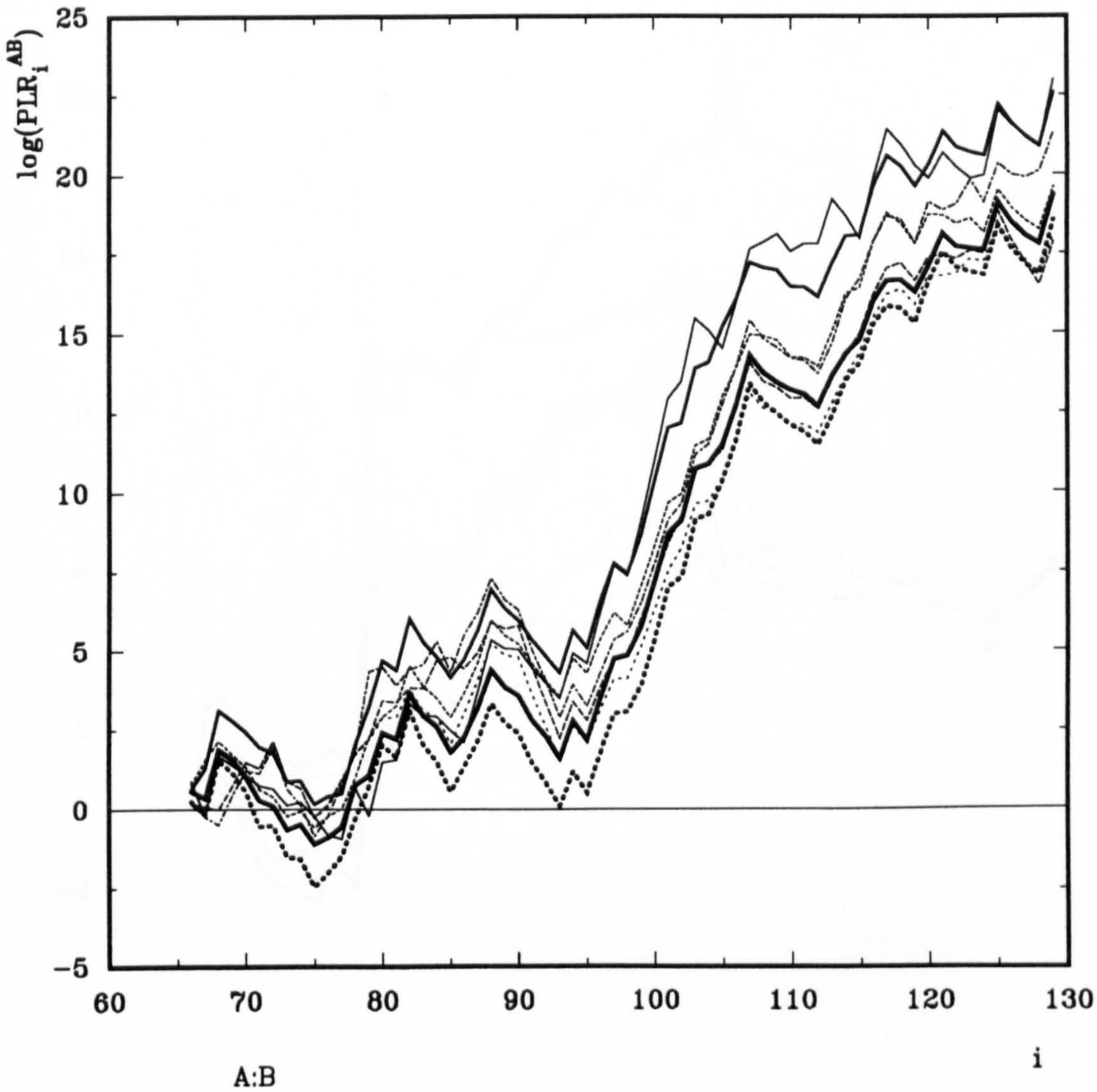


Figure B.12-16. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *TSW*.

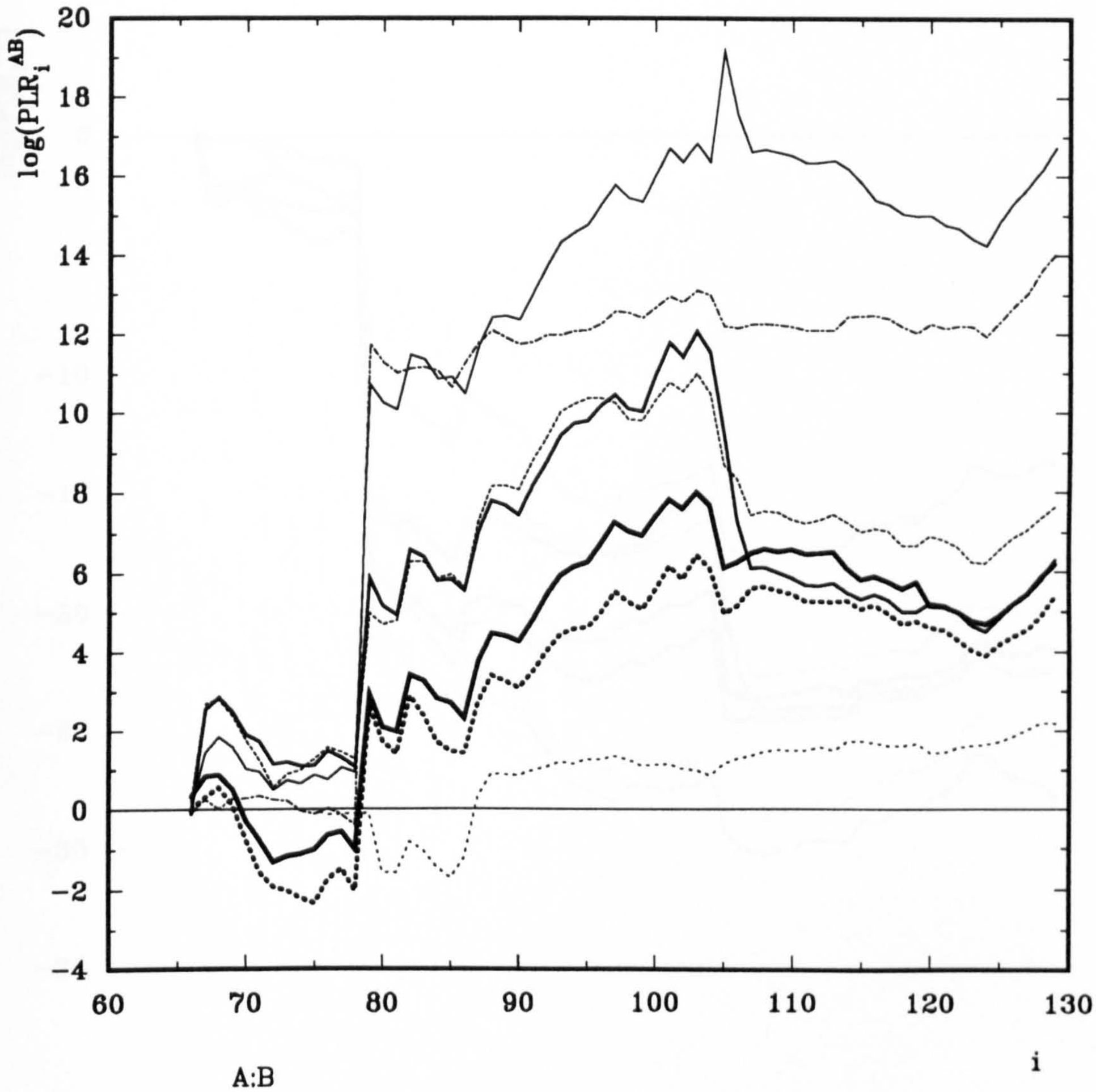


Figure B.12-17. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *TSW*.

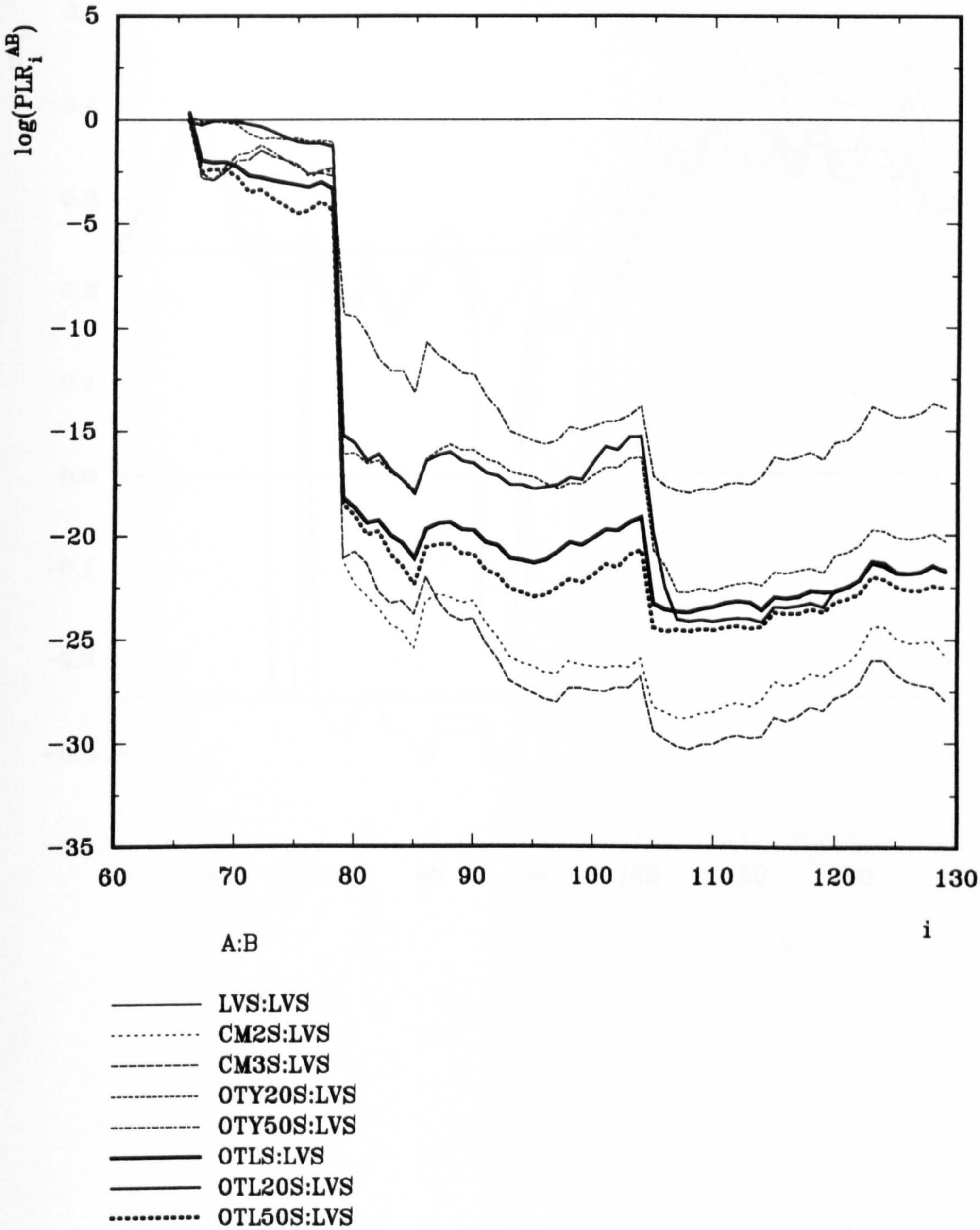
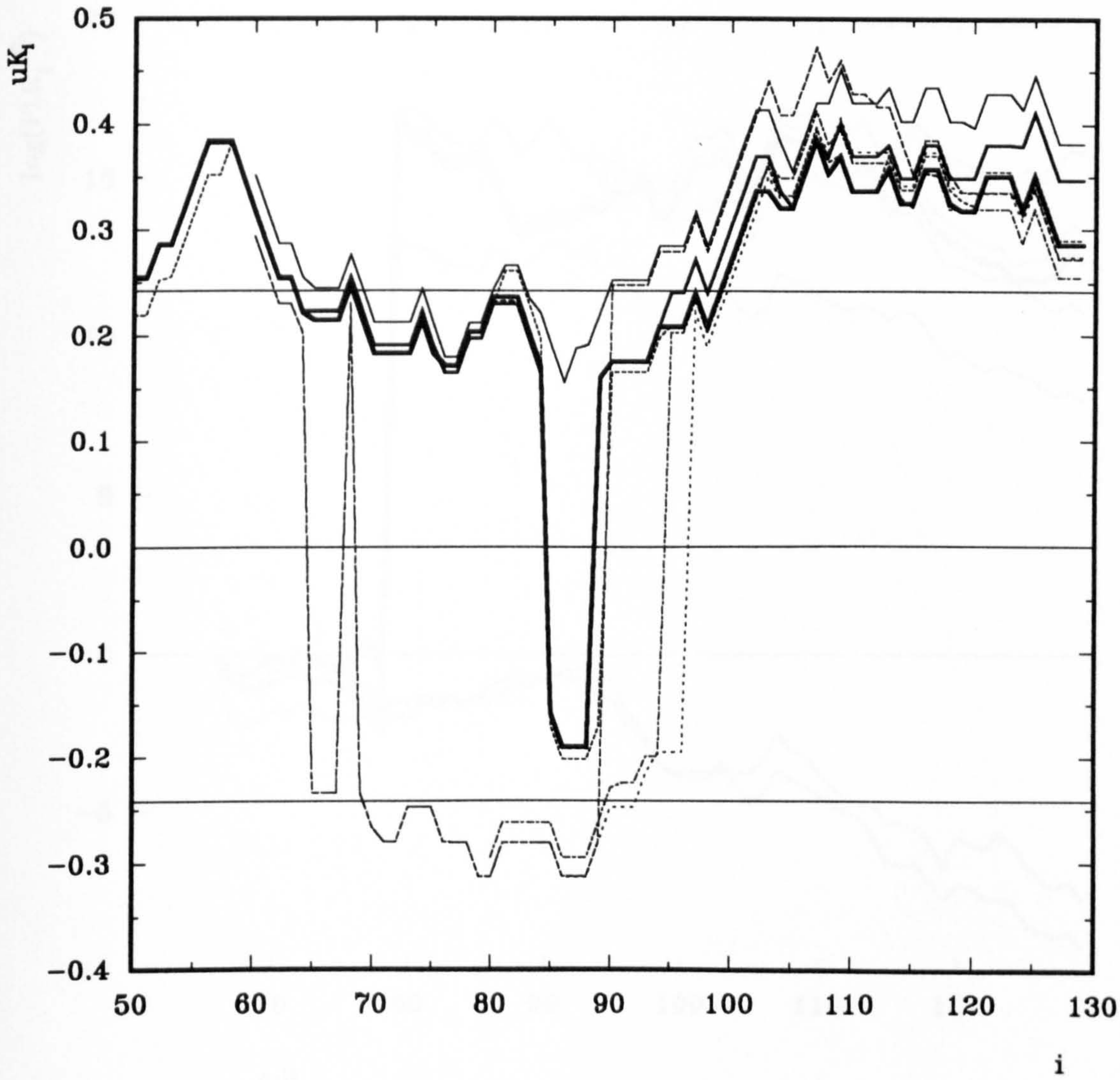


Figure B.12-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *LVS* for data set *TSW*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50
5% significance lines

Figure B.12-19. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *TSW*.

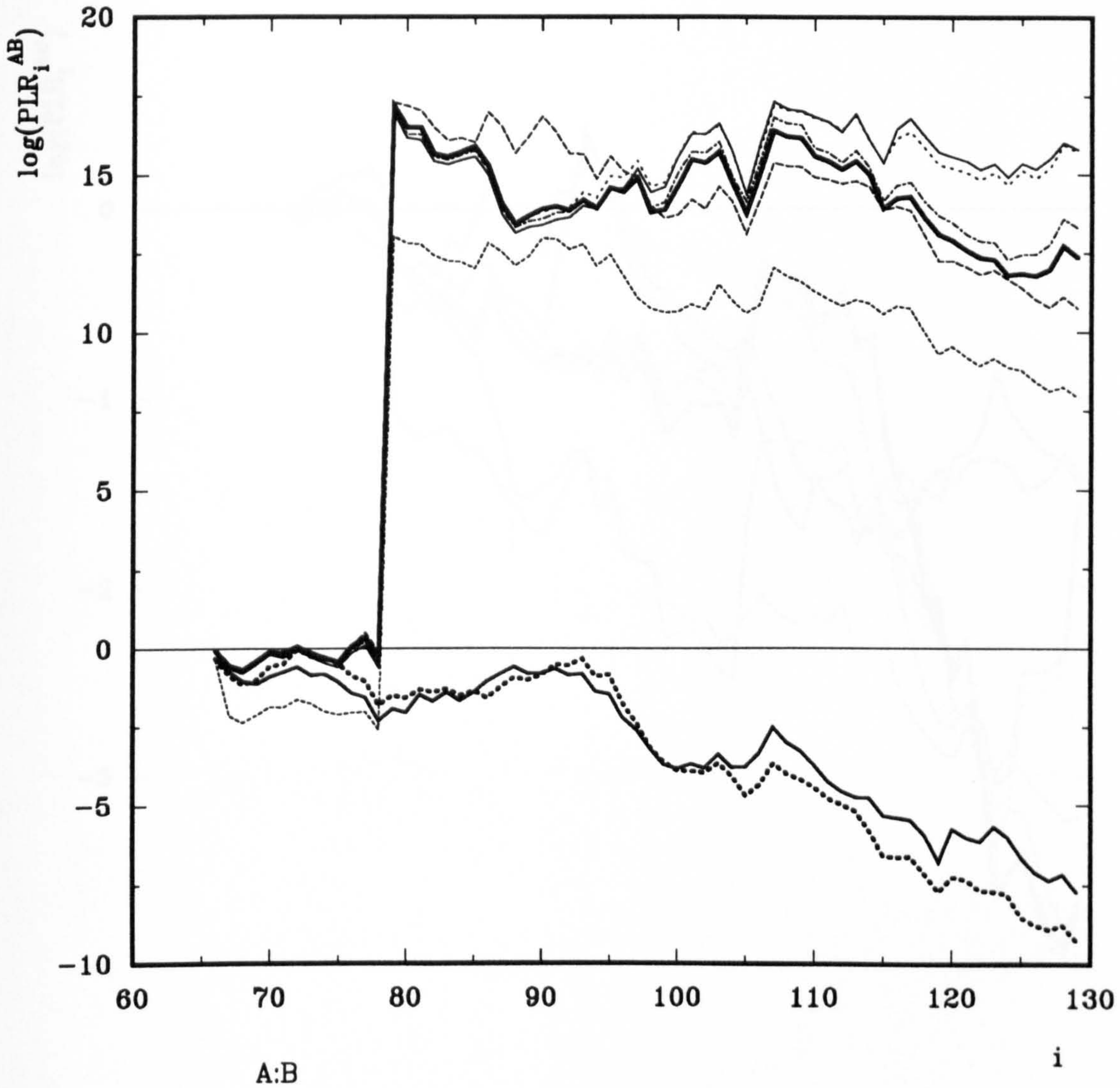


Figure B.12-20. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *TSW*.

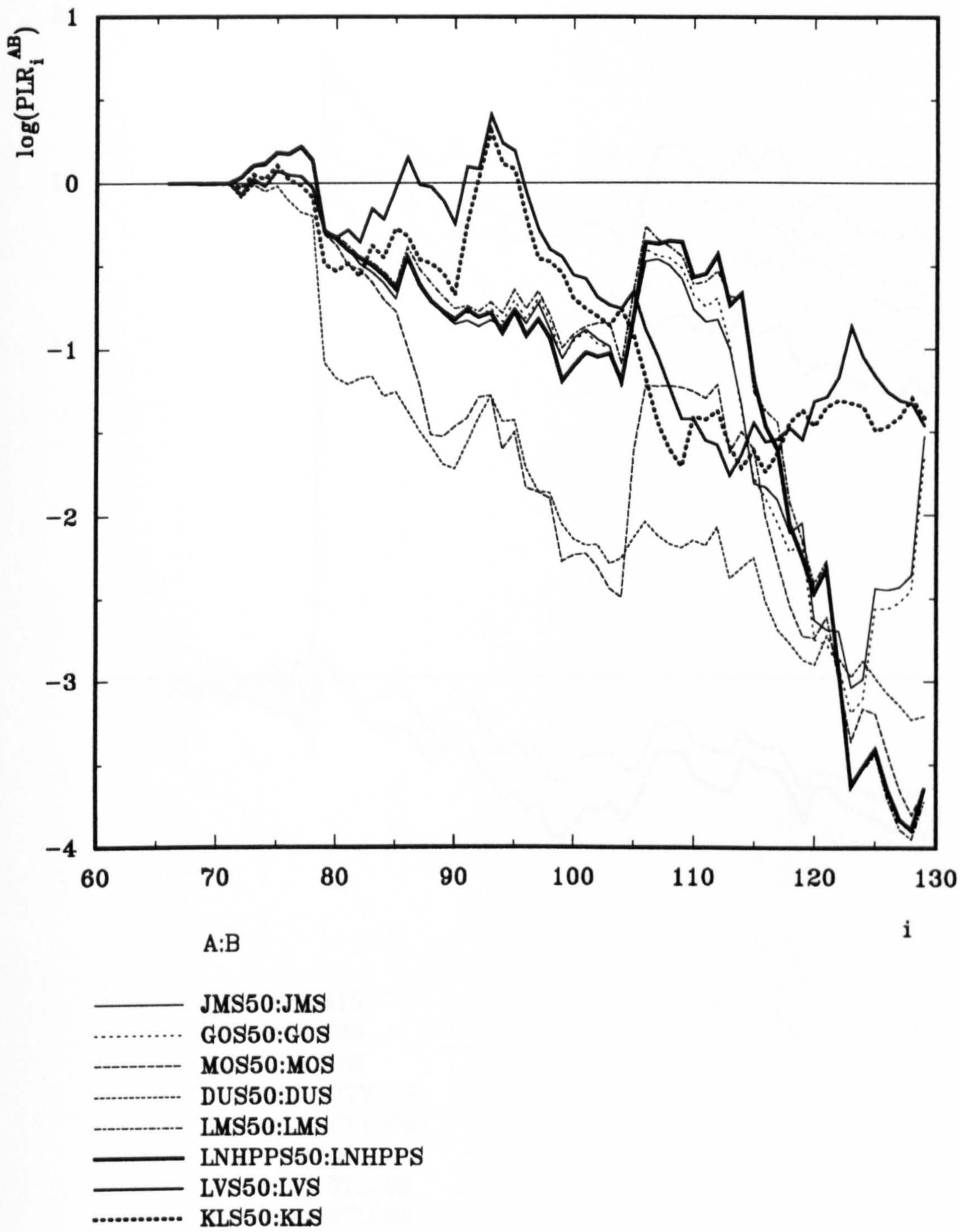


Figure B.12-21. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *TSW*.

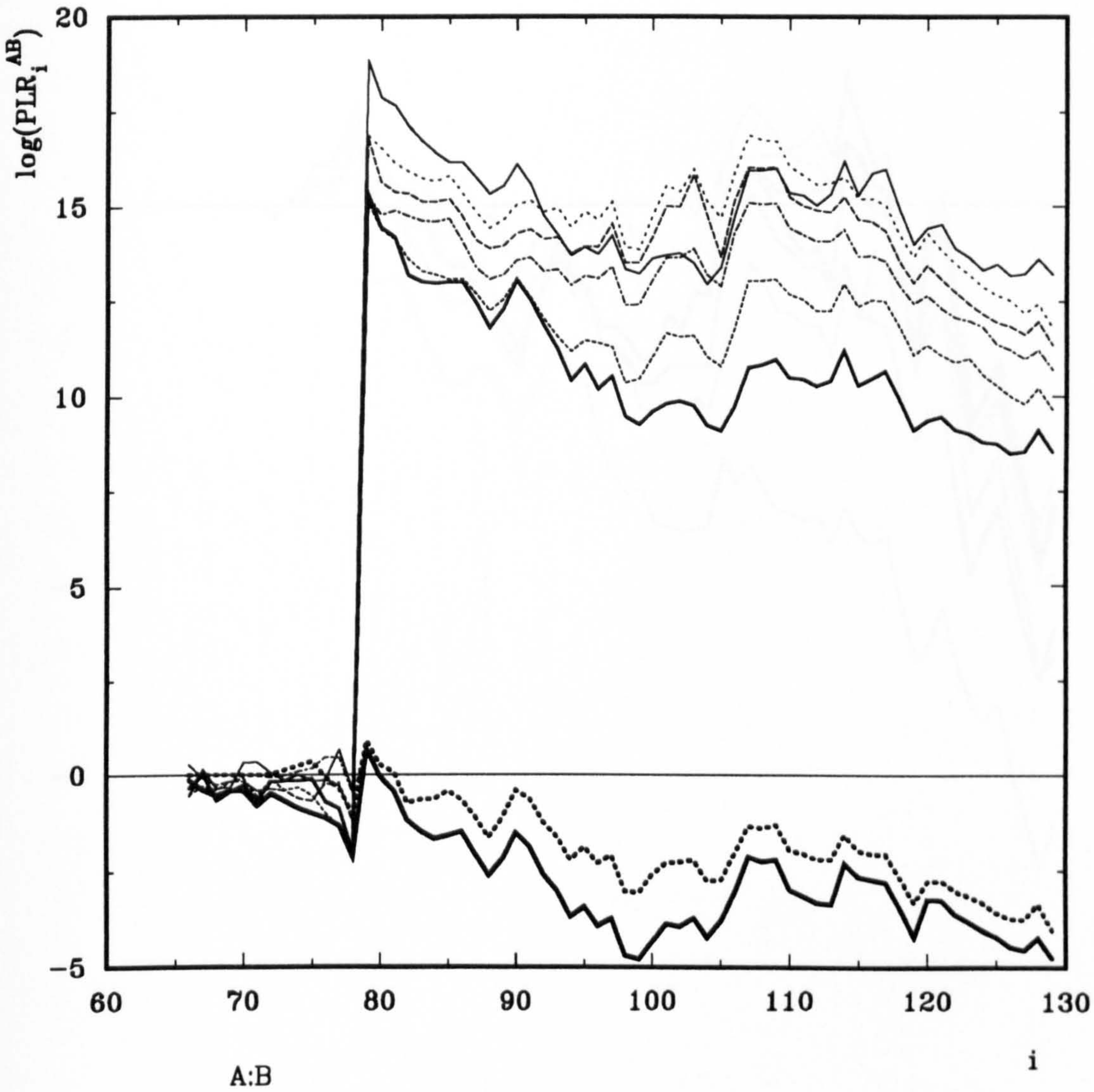


Figure B.12-22. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *TSW*.

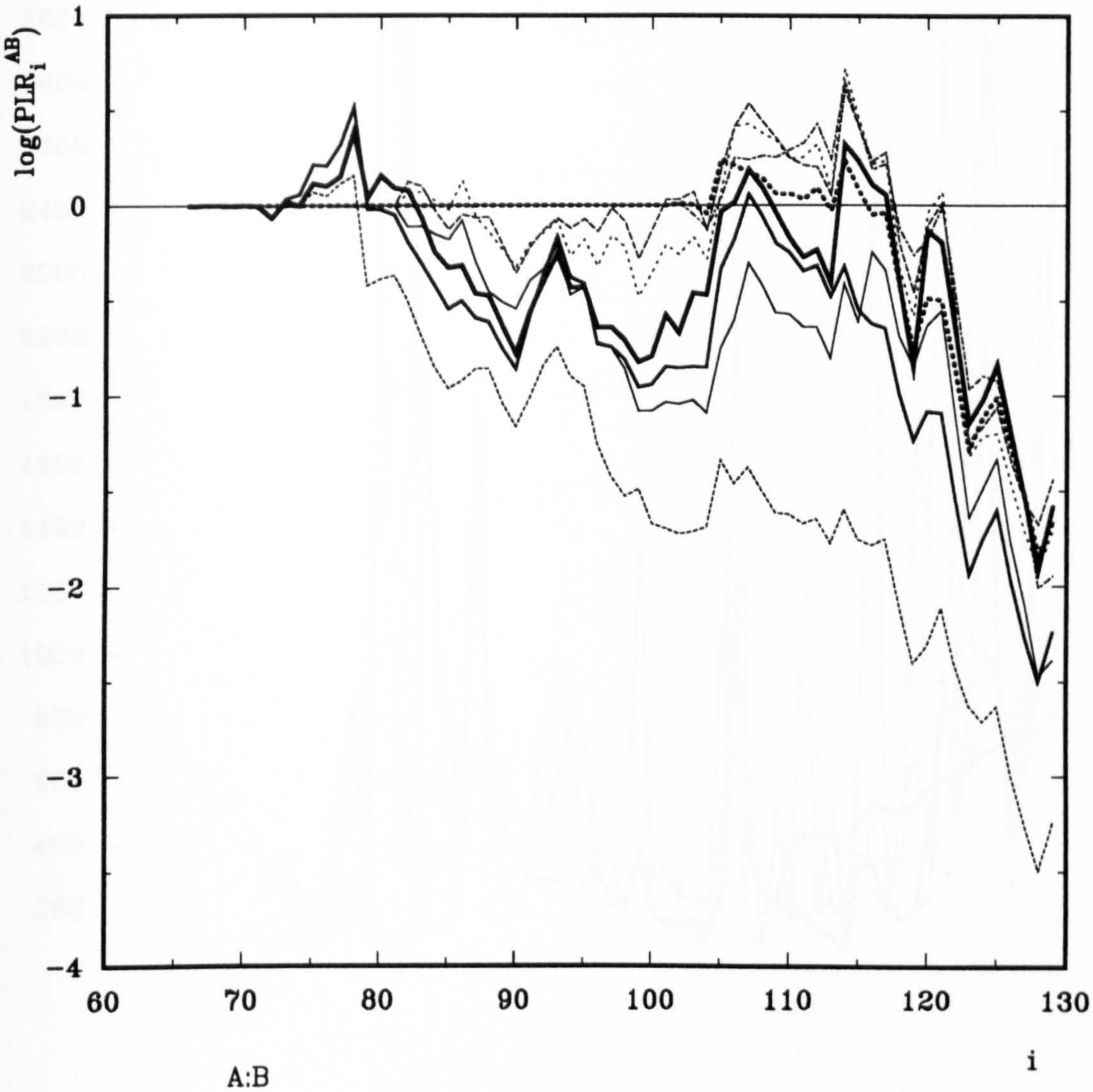
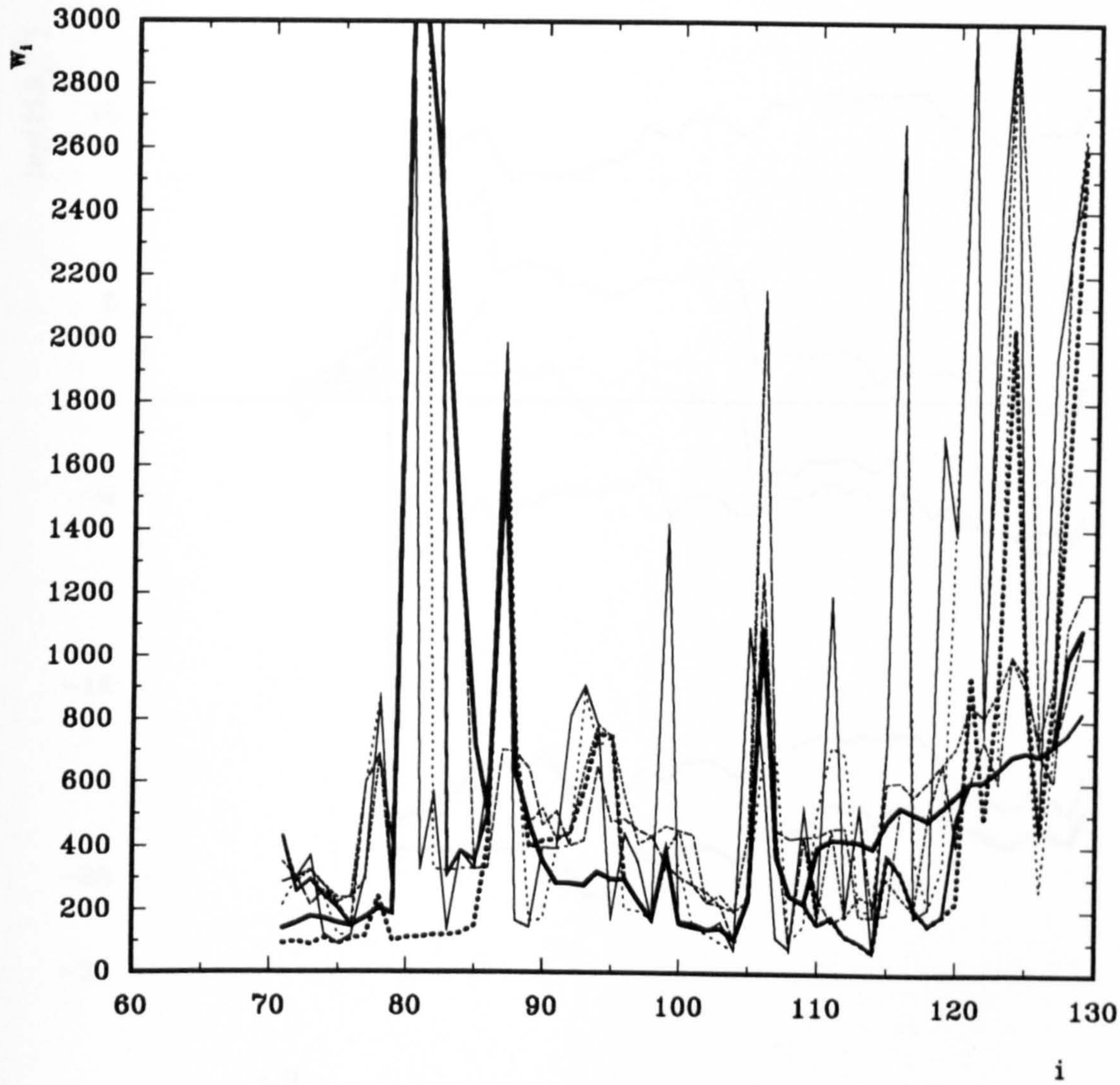


Figure B.12-23. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *TSW*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.12-24. Median predictions from the meta-predictors plotted against failure number for data set *TSW*.

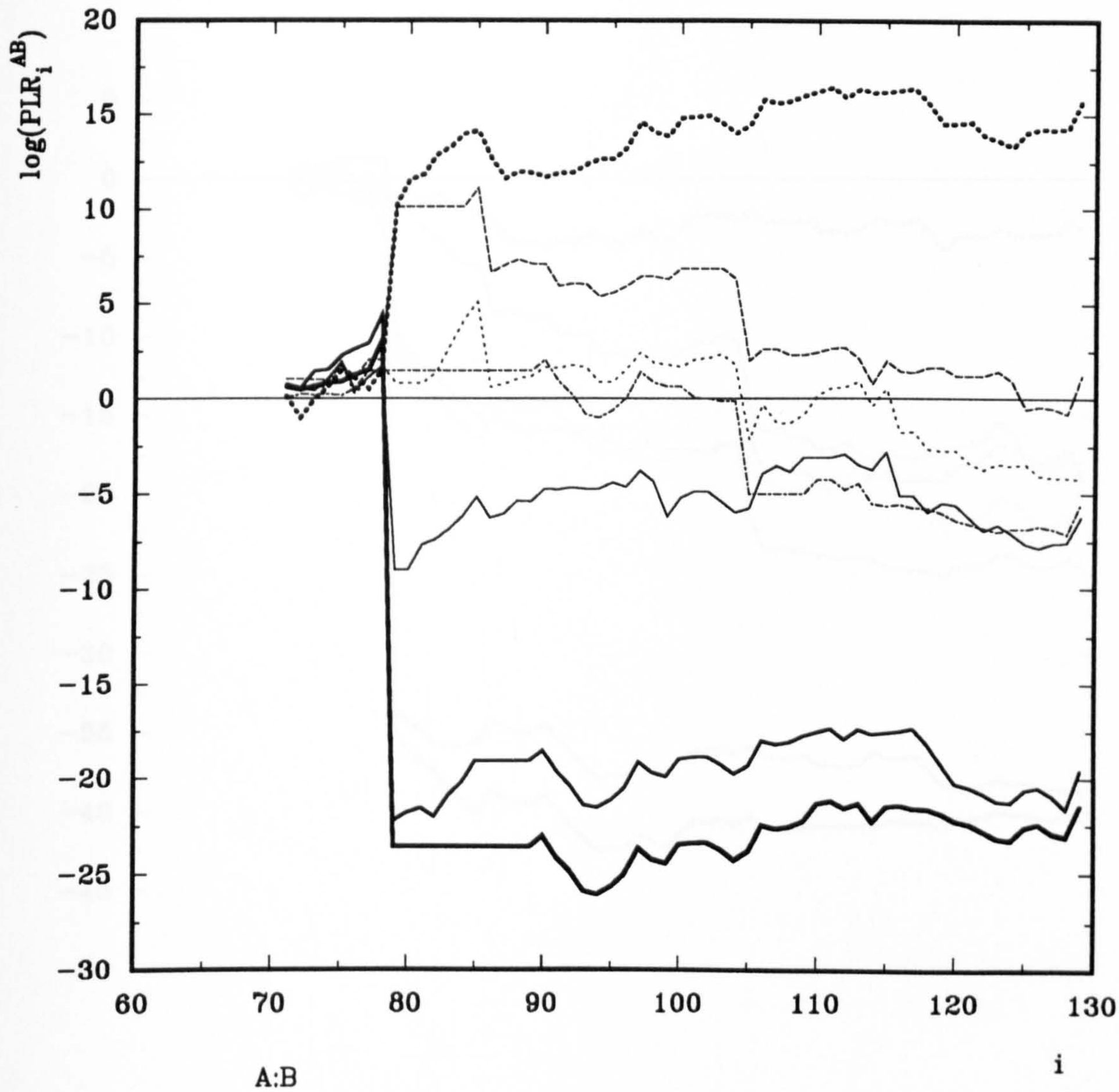


Figure B.12-25. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *TSW*.

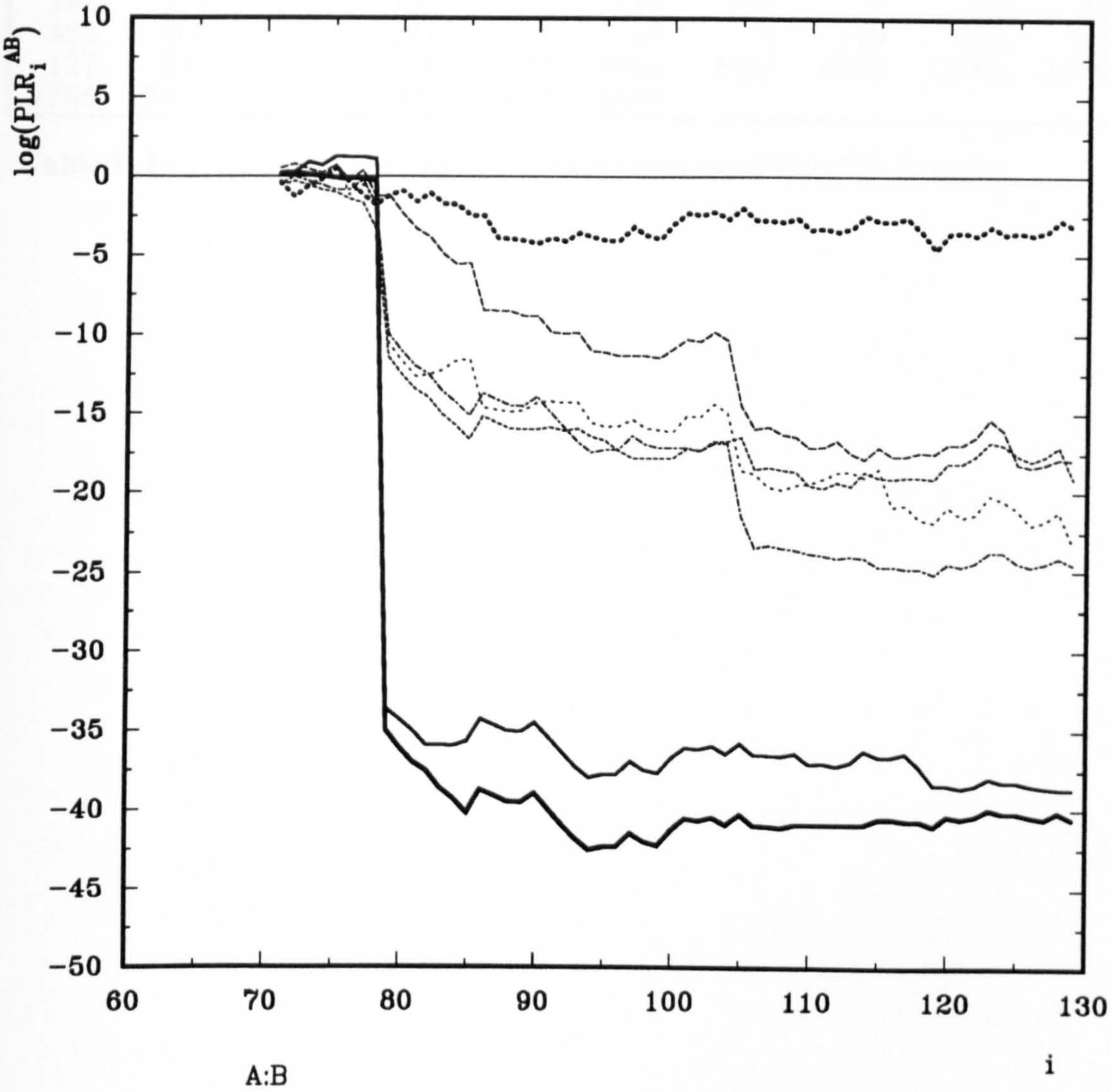


Figure B.12-26. *log(PLR)*-plots for the meta-predictors versus *LVS* for data set *TSW*.

B.13 Data Set THW

1670.	305.	944.	680.	1717.	39.	316.	23.	103.	480.
398.	176.	166.	359.	73.	188.	121.	7.	53.	16.
488.	402.	553.	1241.	1.	45.	5.	128.	189.	67.
127.	277.	59.	4.	10992.	3351.	2590.	6761.	12301.	15186.
7266.	8876.	542.	14276.	10694.	4633.				

Table B.13-1. Data set *THW*; 46 inter-failure times (read from left to right).

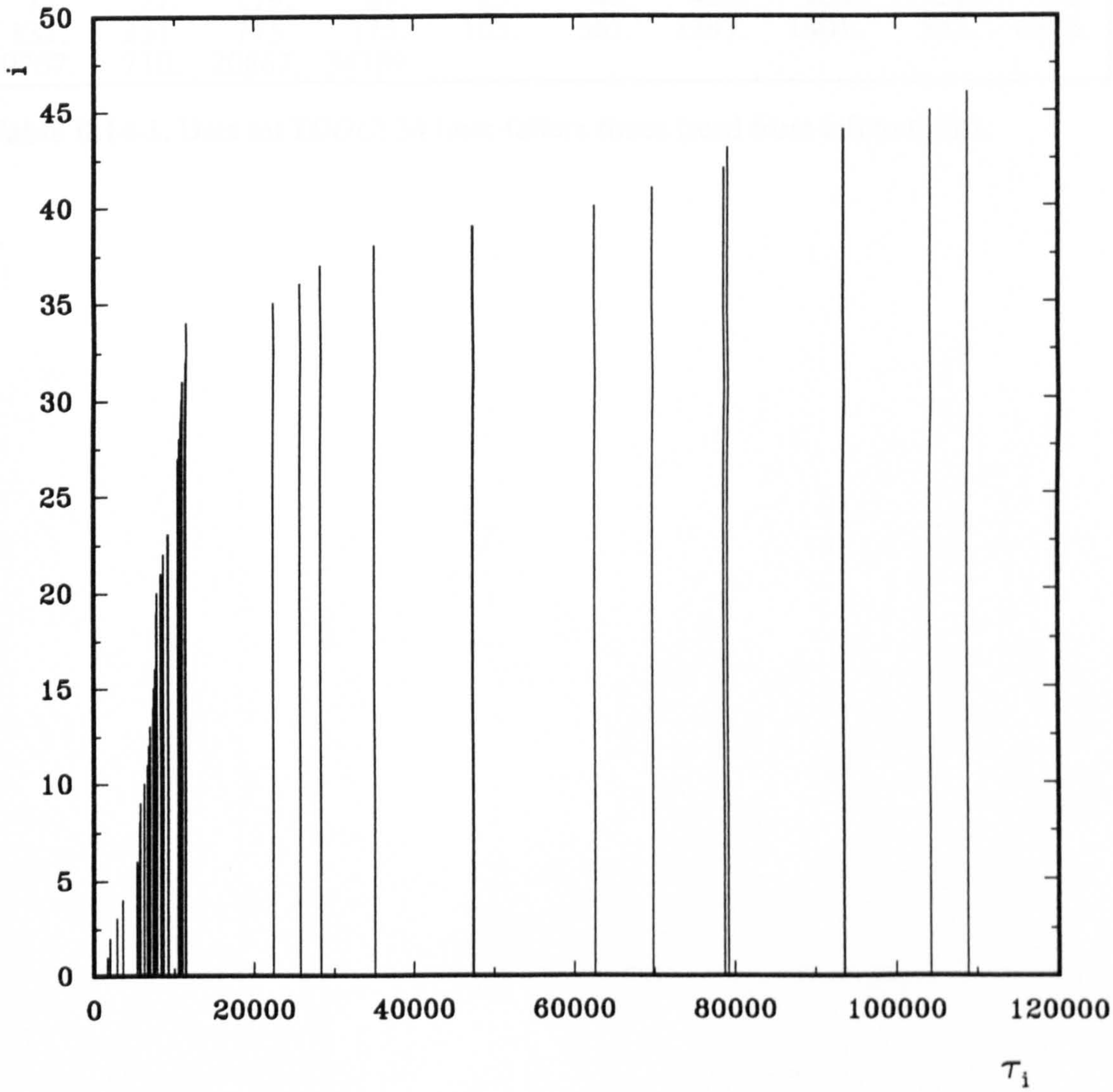


Figure B.13-2. Cumulative number of failures plotted against total elapsed time for data set *THW*.

B.14 Data Set TDOC

1339.	163.	2582.	583.	202.	337.	112.	373.	383.	44.
72.	77.	179.	87.	23.	40.	427.	165.	21.	75.
131.	251.	775.	175.	105.	561.	1397.	1601.	552.	4876.
30767.	710.	20867.	34789.						

Table B.14-1. Data set *TDOC*; 34 inter-failure times (read from left to right).

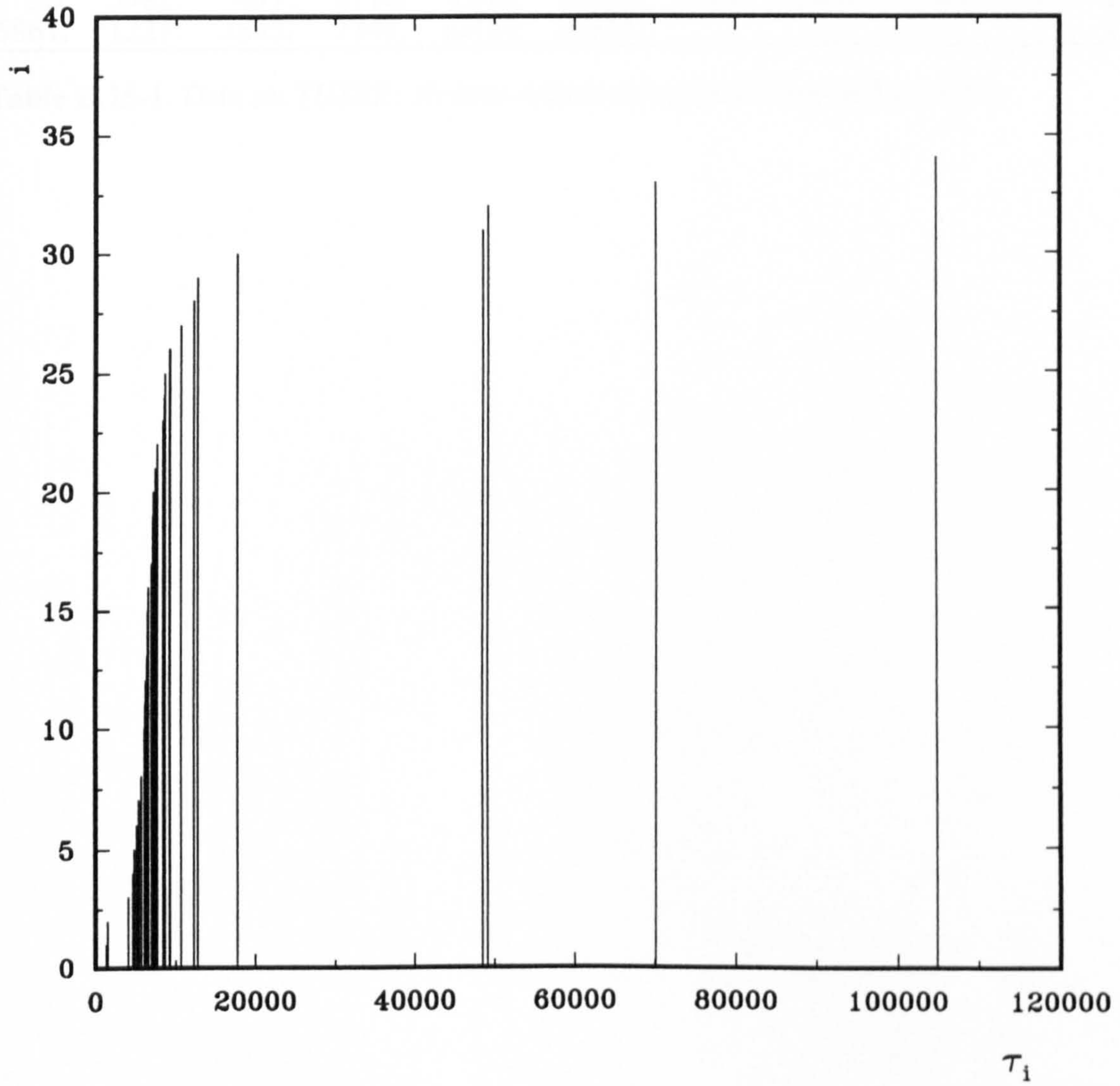


Figure B.14-2. Cumulative number of failures plotted against total elapsed time for data set *TDOC*.

B.15 Data Set TUSER

630.	1168.	98.	503.	683.	176.	1481.	1454.	1254.	1174.
30.	5982.	497.	2716.	4200.	8219.	3050.	15805.	7964.	4003.
6861.	1227.	2835.	7341.	12151.	16378.				

Table B.15-1. Data set *TUSER*; 26 inter-failure times (read from left to right).

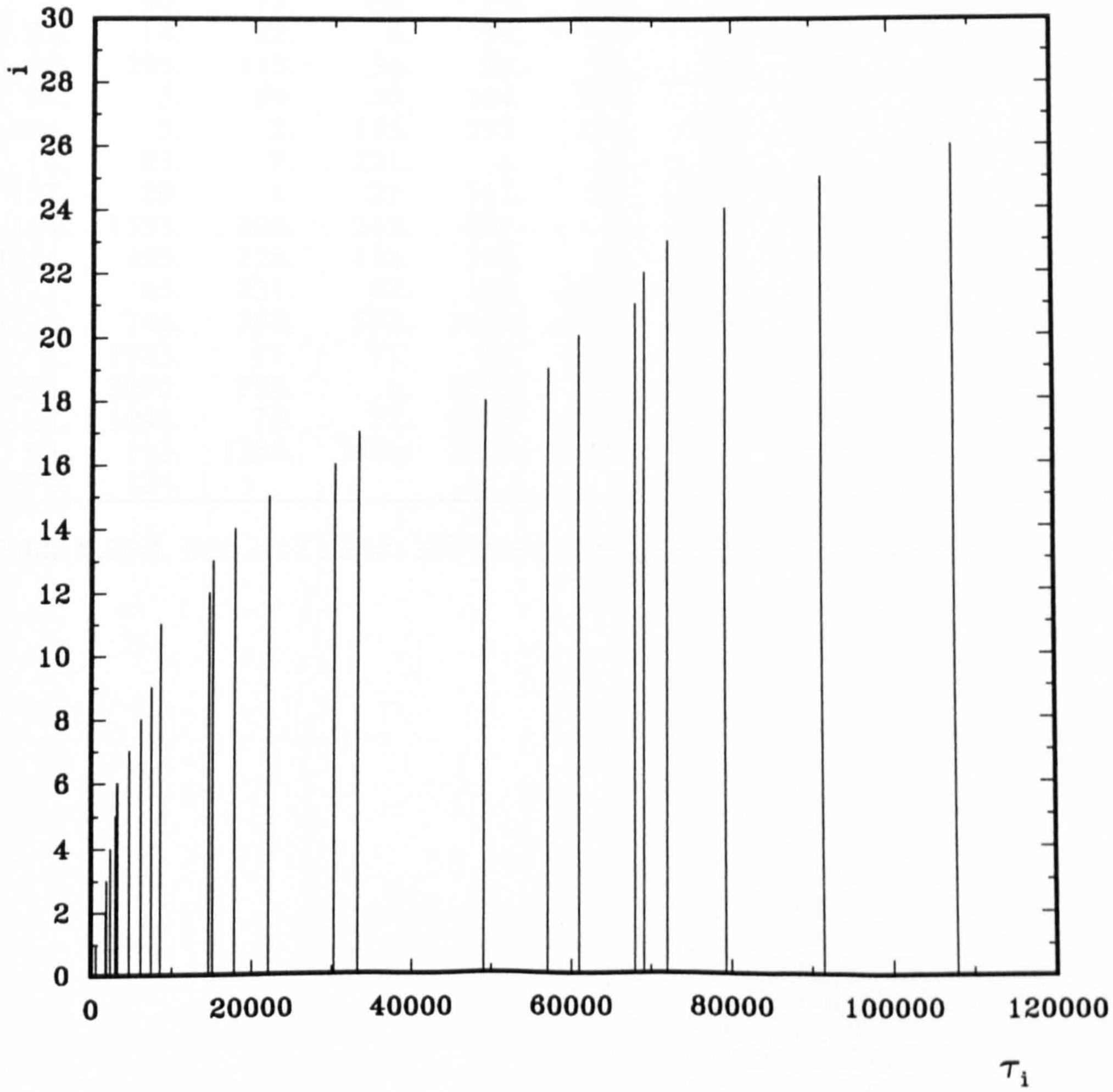


Figure B.15-2. Cumulative number of failures plotted against total elapsed time for data set *TUSER*.

B.16 Data Set TUSAB

60.	30.	607.	40.	28.	53.	4.	16.	94.	15.
5.	90.	77.	68.	15.	160.	1.	104.	16.	9.
22.	14.	82.	6.	79.	43.	12.	87.	138.	108.
30.	295.	113.	36.	50.	81.	89.	157.	14.	166.
36.	5.	69.	50.	164.	392.	16.	154.	176.	247.
304.	5.	2.	135.	233.	156.	295.	152.	341.	103.
16.	83.	7.	221.	4.	38.	11.	17.	107.	59.
127.	20.	1.	21.	112.	23.	193.	1104.	103.	318.
114.	1553.	306.	245.	107.	2.	327.	696.	5.	63.
1054.	495.	128.	482.	116.	35.	310.	110.	98.	60.
177.	65.	231.	62.	158.	1622.	386.	70.	151.	809.
1710.	745.	350.	592.	3569.	1967.	772.	3337.	620.	3044.
6.	1923.	17.	71.	34.	1176.	1040.	38.	78.	1798.
205.	2095.	788.	1.	3812.	726.	1452.	5173.	1957.	3097.
25.	1048.	78.	33.	6725.	1366.	2859.	556.	5028.	537.
63.	113.	1236.	1406.	1580.	3546.	8575.	1893.	198.	3326.
6372.	124.								

Table B.16-1. Data set *TUSAB*; 162 inter-failure times (read from left to right).

	RAW		S		S20		S30		S40		S50	
	y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
JM	F	F	F	F	E	A	F	B	F	D	F	F
GO	F	F	F	F	D	A	E	B	F	C	F	D
MO	A	A	C	A	C	A	D	A	C	A	D	A
DU	A	F	C	B	C	A	D	A	C	A	D	A
LM	D	F	C	D	C	A	B	A	B	A	A	A
LNHPP	D	D	C	D	B	A	B	A	B	A	A	A
LV	C	F	A	C	A	A	B	A	A	A	A	A
KL	A	F	A	A	A	A	B	A	A	A	A	A
CM1	A	F	A	A	A	A	A	A	A	A	A	A
CM2	A	B	A	A	B	A	B	A	A	A	A	A
CM3	A	E	A	A	C	A	B	A	A	A	A	A
OTY20	A	D	A	A	A	A	A	A	A	A	A	A
OTY50	A	B	A	A	D	A	C	A	B	A	C	A
OTL	A	F	A	A	A	A	B	A	A	A	A	A
OTL20	A	F	A	A	A	A	A	A	A	A	A	A
OTL50	A	F	A	A	A	A	B	A	B	A	B	A

Table B.16-2.1. *u*- and *y*-plot significance levels for data set *TUSAB* for predictions of $T_{66}, T_{67}, \ldots$.

M1		M2		M5		M10		M20		M30		M40		M50	
y	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*	*y*	*u*
E	B	B	C	C	A	B	A	B	A	C	A	E	A	F	A

Table B.16-2.2. *u*- and *y*-plot significance levels for data set *TUSAB* for predictions of $T_{71}, T_{72}, \ldots$.

A: insignificant at 20% B: 10-20% C: 5-10% D: 2-5% E: 1-2% F: significant at 1%

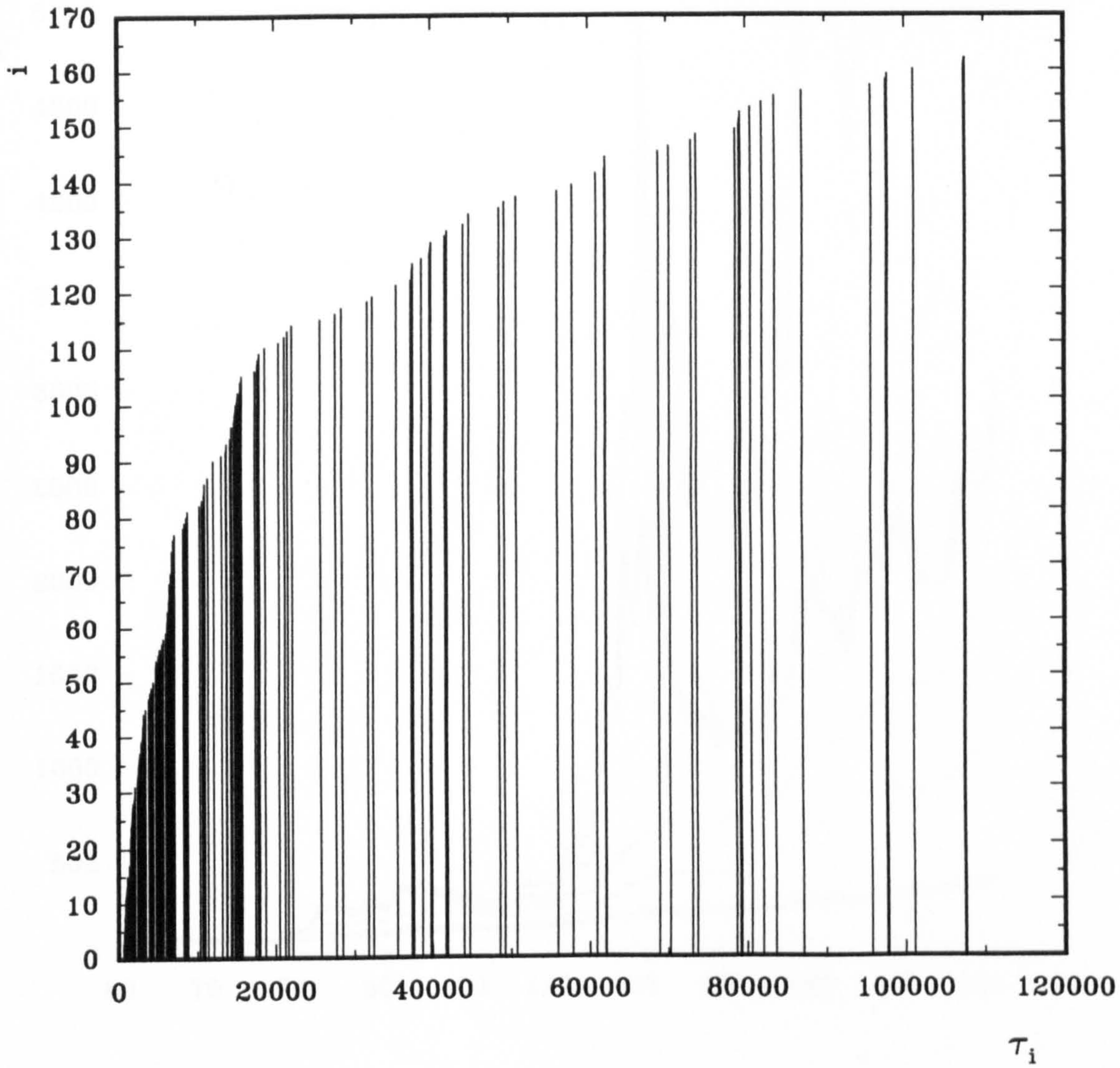
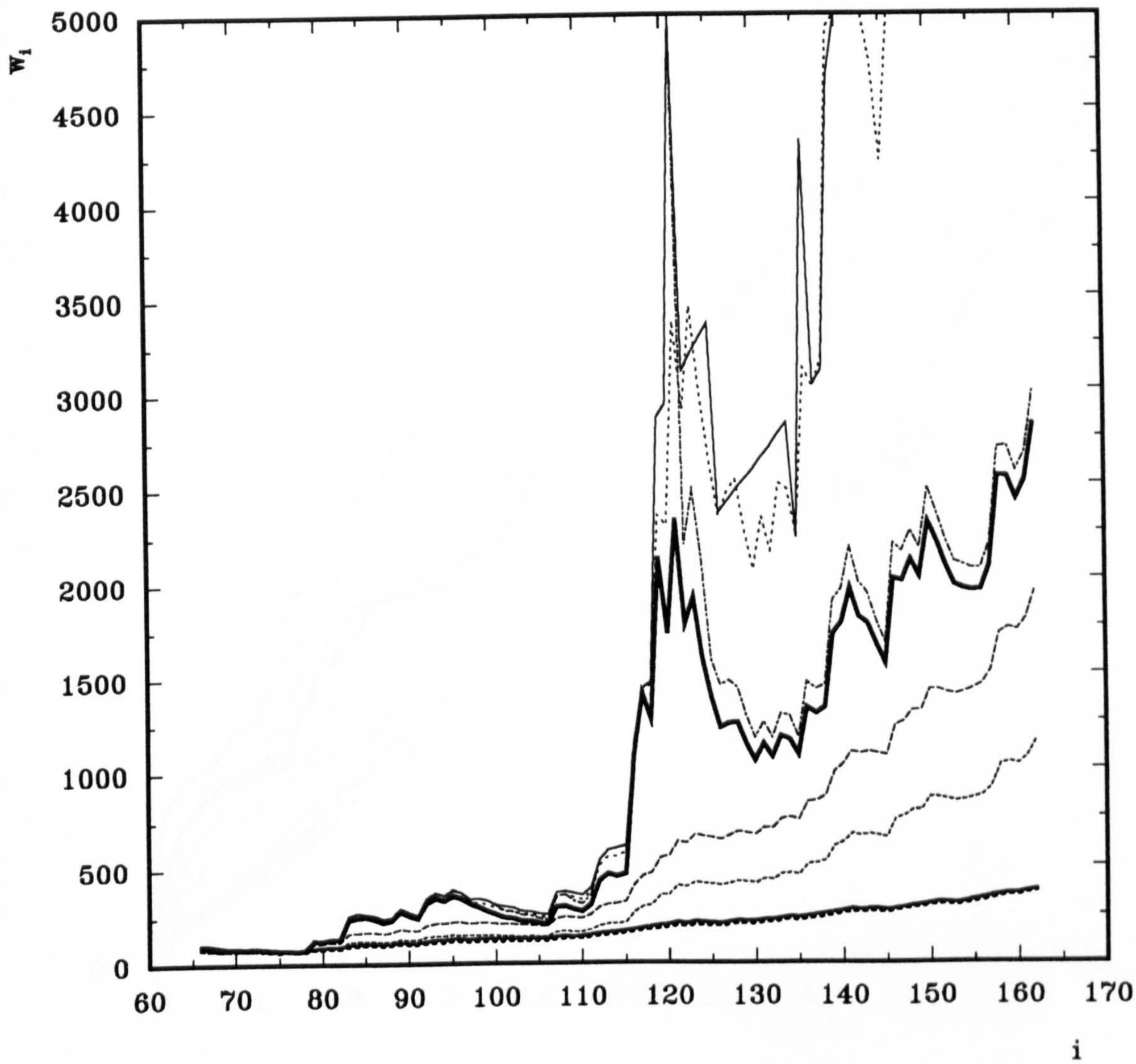


Figure B.16-3. Cumulative number of failures plotted against total elapsed time for data set *TUSAB*.



JM
GO
MO
DU
LM
LNHPP
LV
KL

Figure B.16-4. Median predictions from the raw parametric predictors plotted against failure number for data set *TUSAB*.

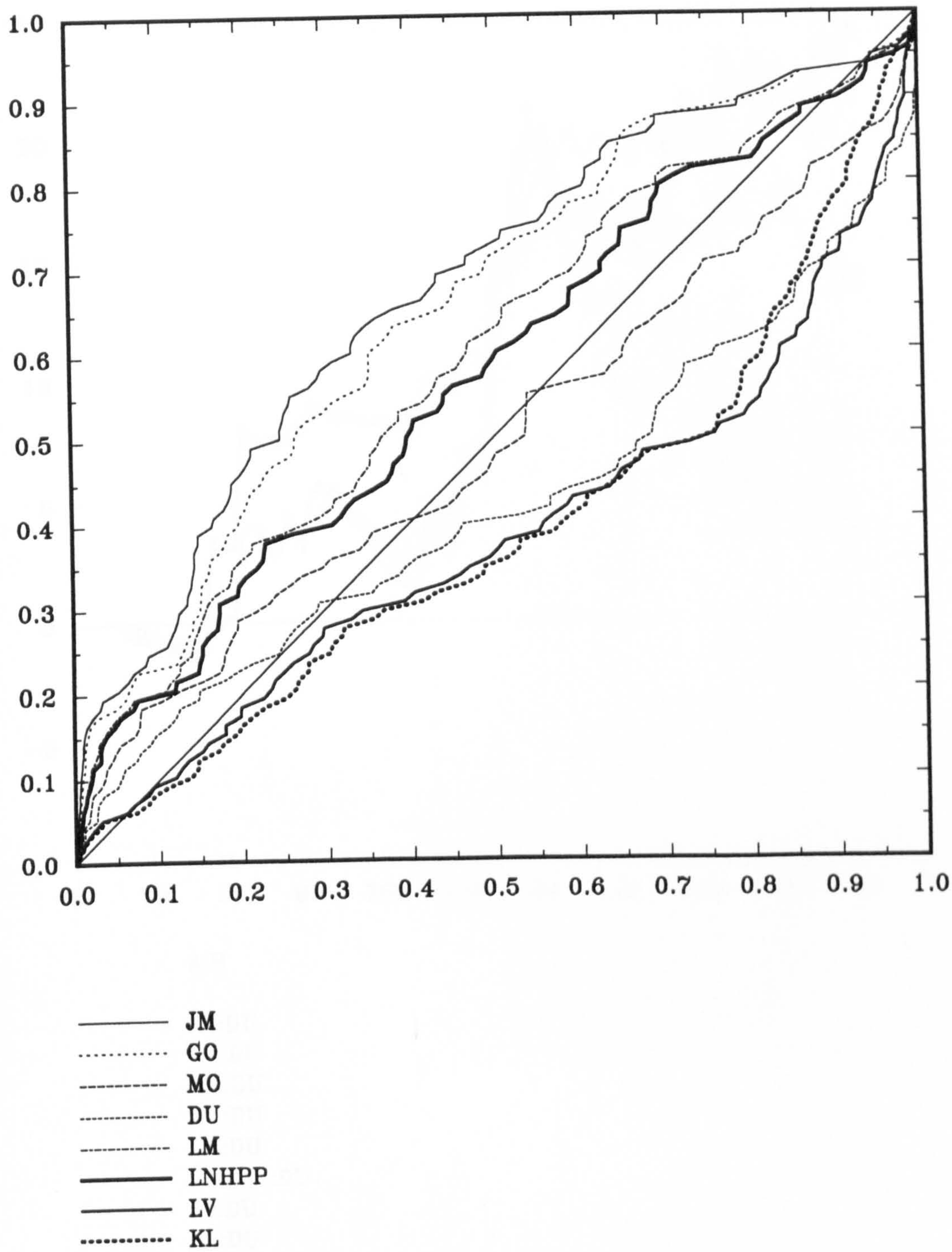


Figure B.16-5. *u*-plots for the raw parametric predictors for data set *TUSAB*.

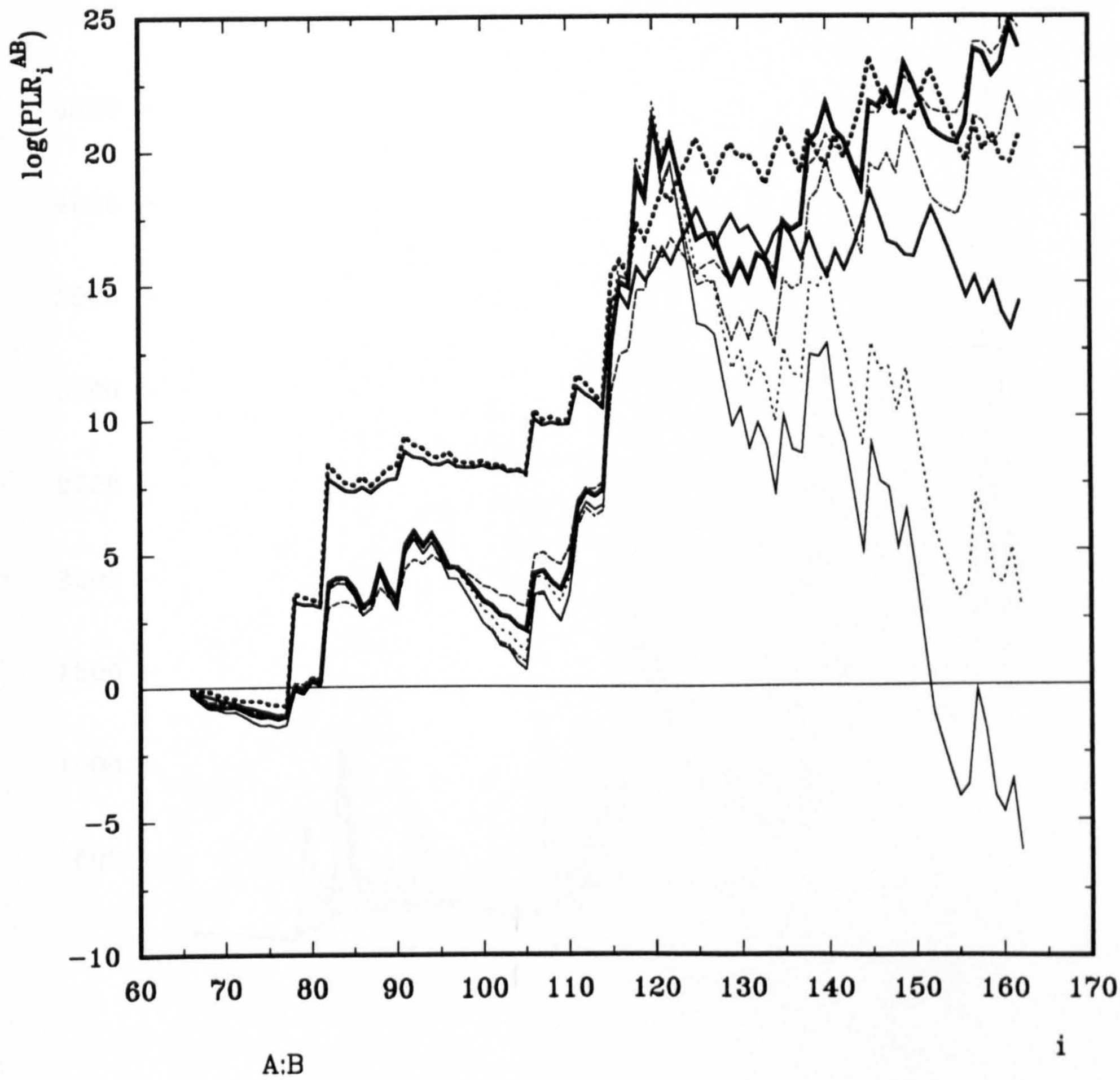
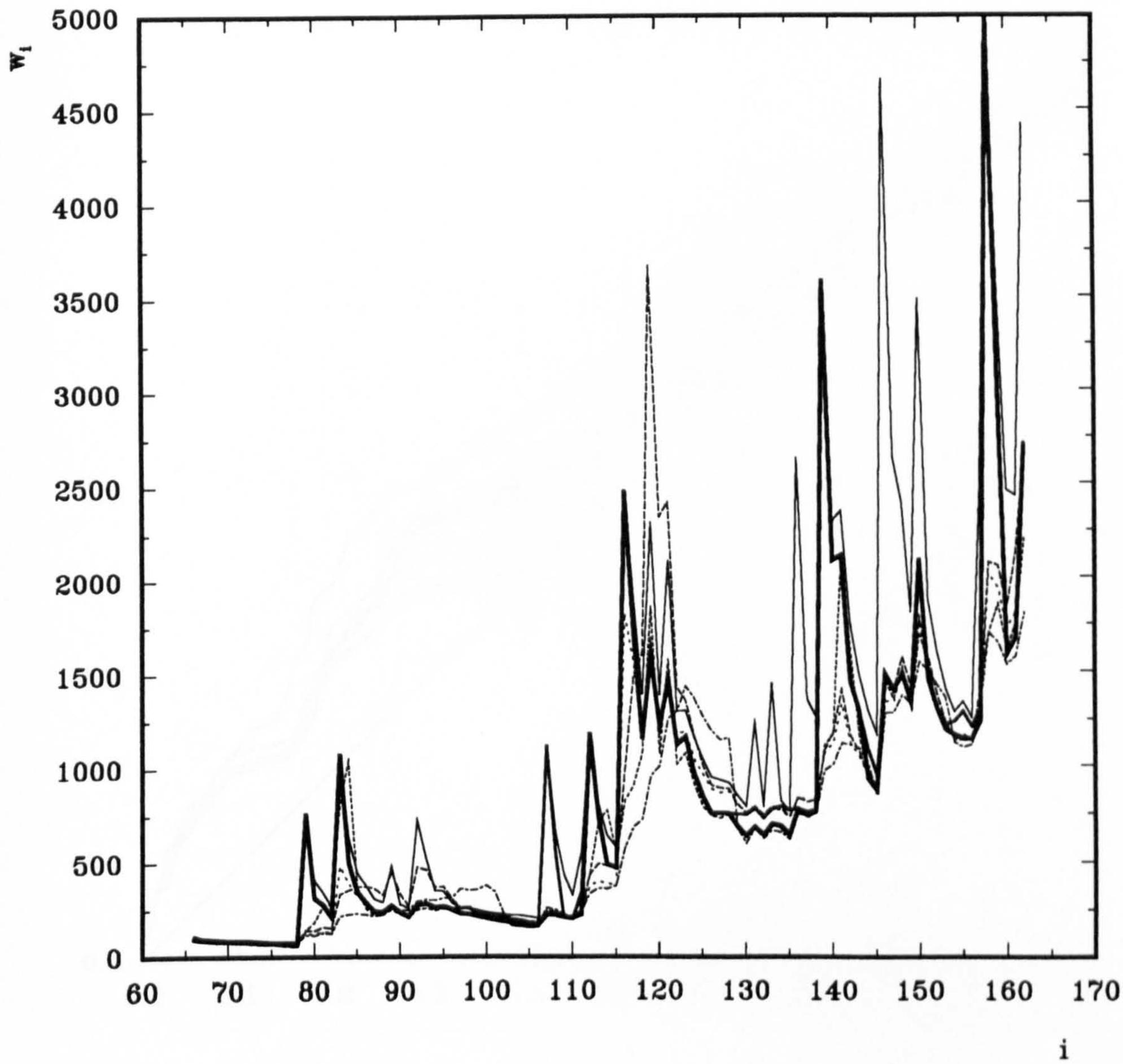
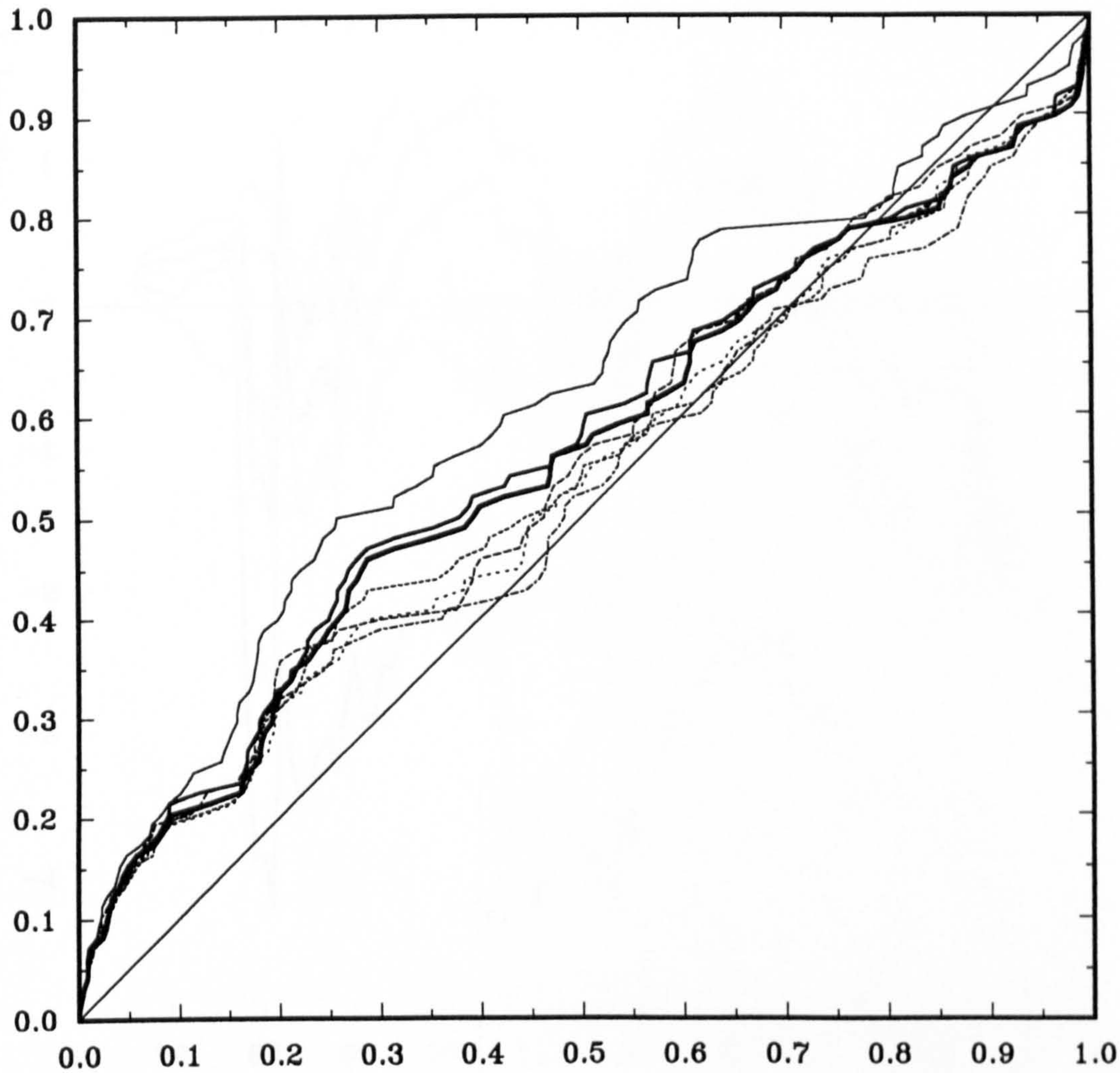


Figure B.16-6. *log(PLR)*-plots for the raw parametric predictors versus *DU* for data set *TUSAB*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.16-7. Median predictions from the raw non-parametric predictors plotted against failure number for data set *TUSAB*.



CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50

Figure B.16-8. *u*-plots for the raw non-parametric predictors for data set *TUSAB*.

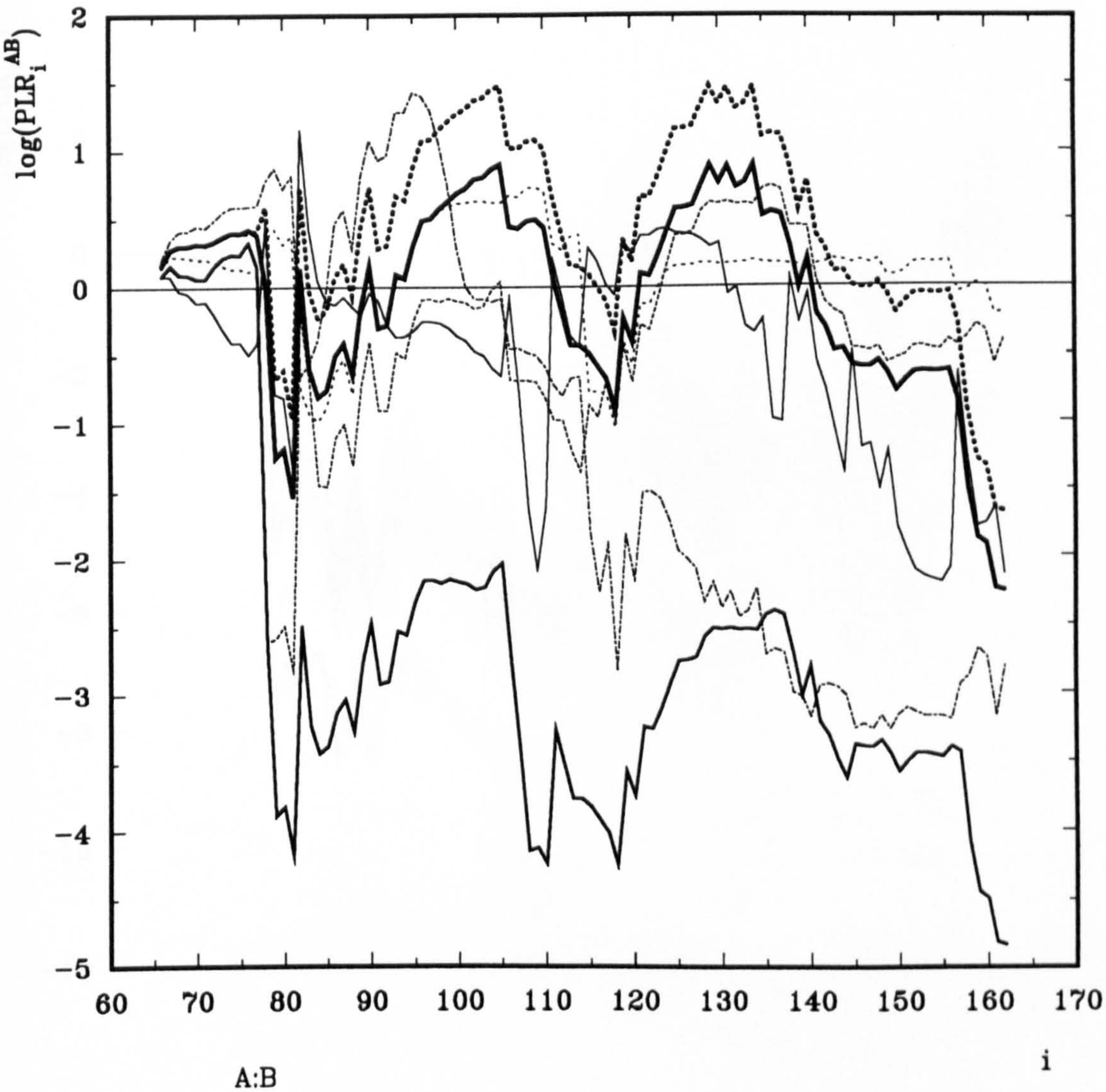


Figure B.16-9. *log(PLR)*-plots for the raw non-parametric predictors versus *CM3* for data set *TUSAB*.

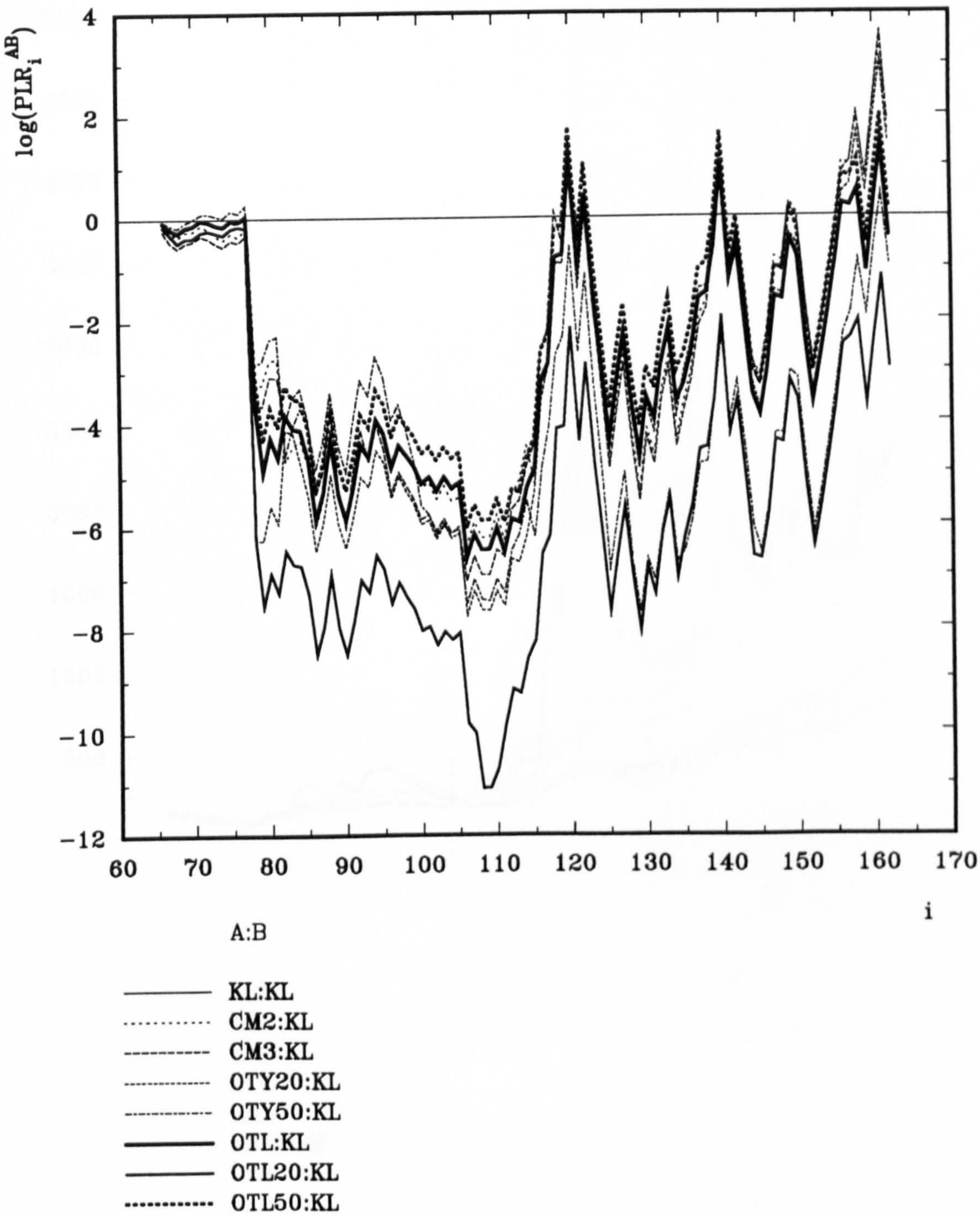
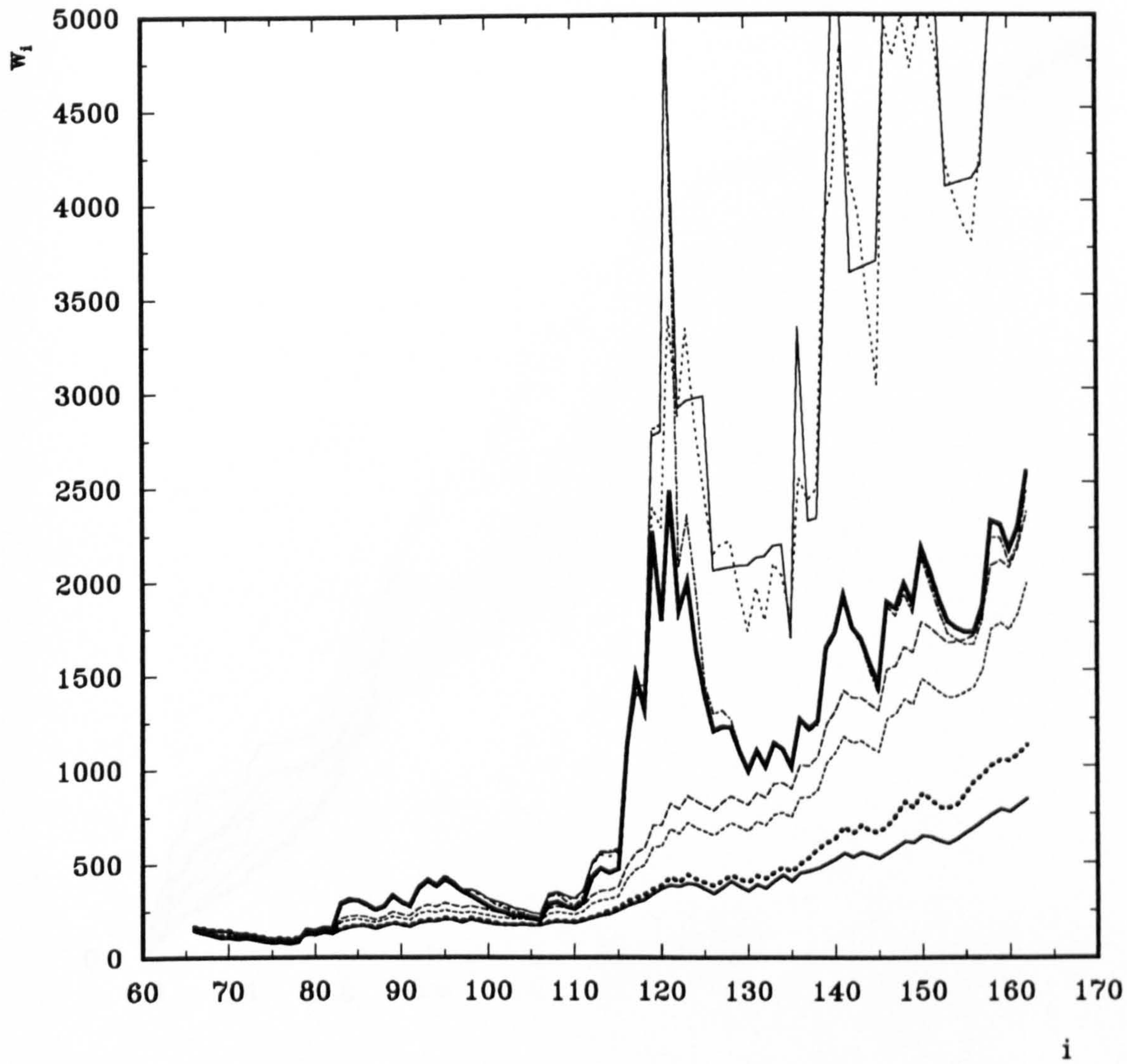
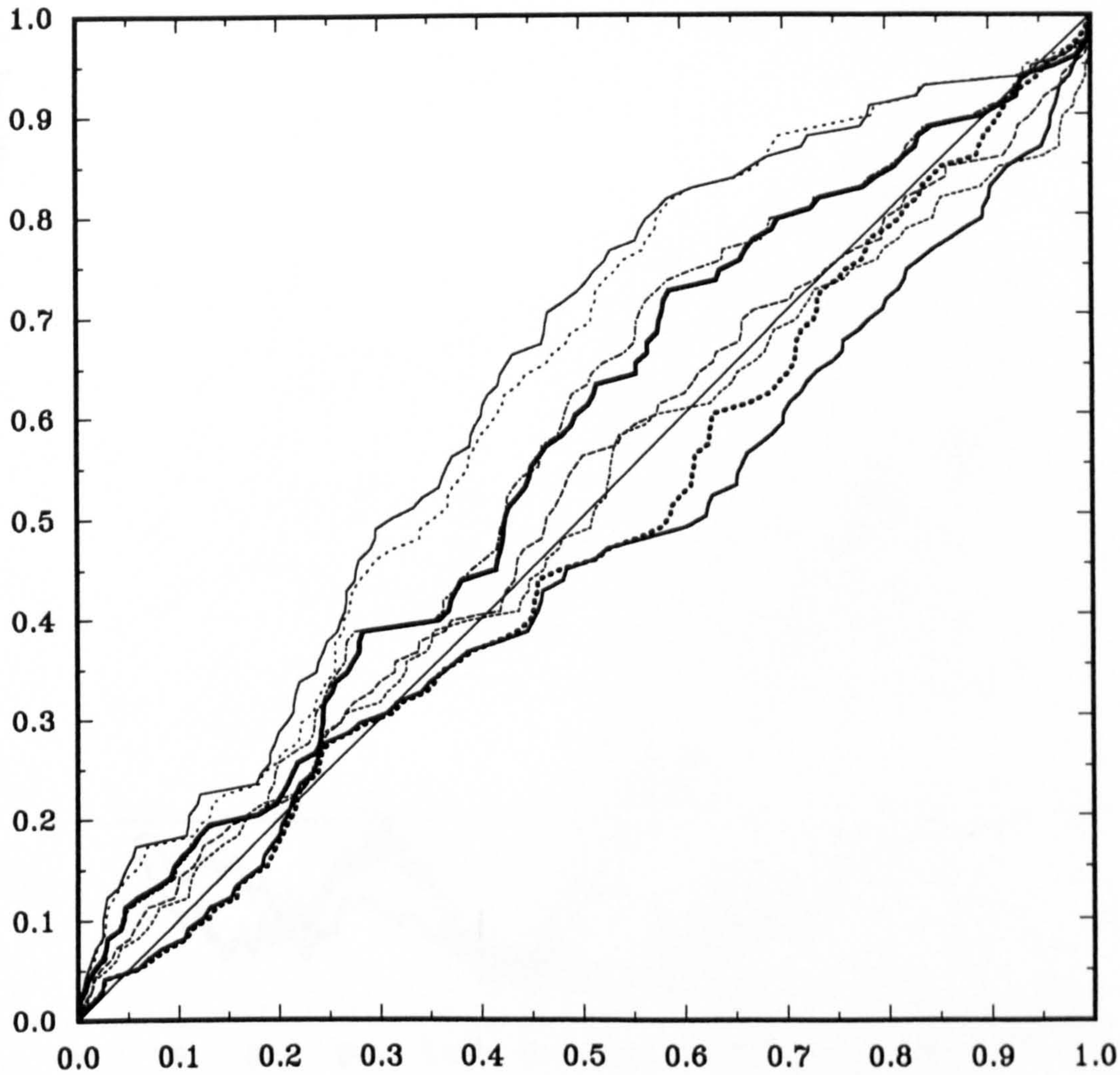


Figure B.16-10. *log(PLR)*-plots for the raw non-parametric predictors versus *KL* for data set *TUSAB*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.16-11. Median predictions from the recalibrated (no window) parametric predictors plotted against failure number for data set *TUSAB*.



JMS
GOS
MOS
DUS
LMS
LNHPPS
LVS
KLS

Figure B.16-12. *u*-plots for the recalibrated (no window) parametric predictors for data set *TUSAB*.

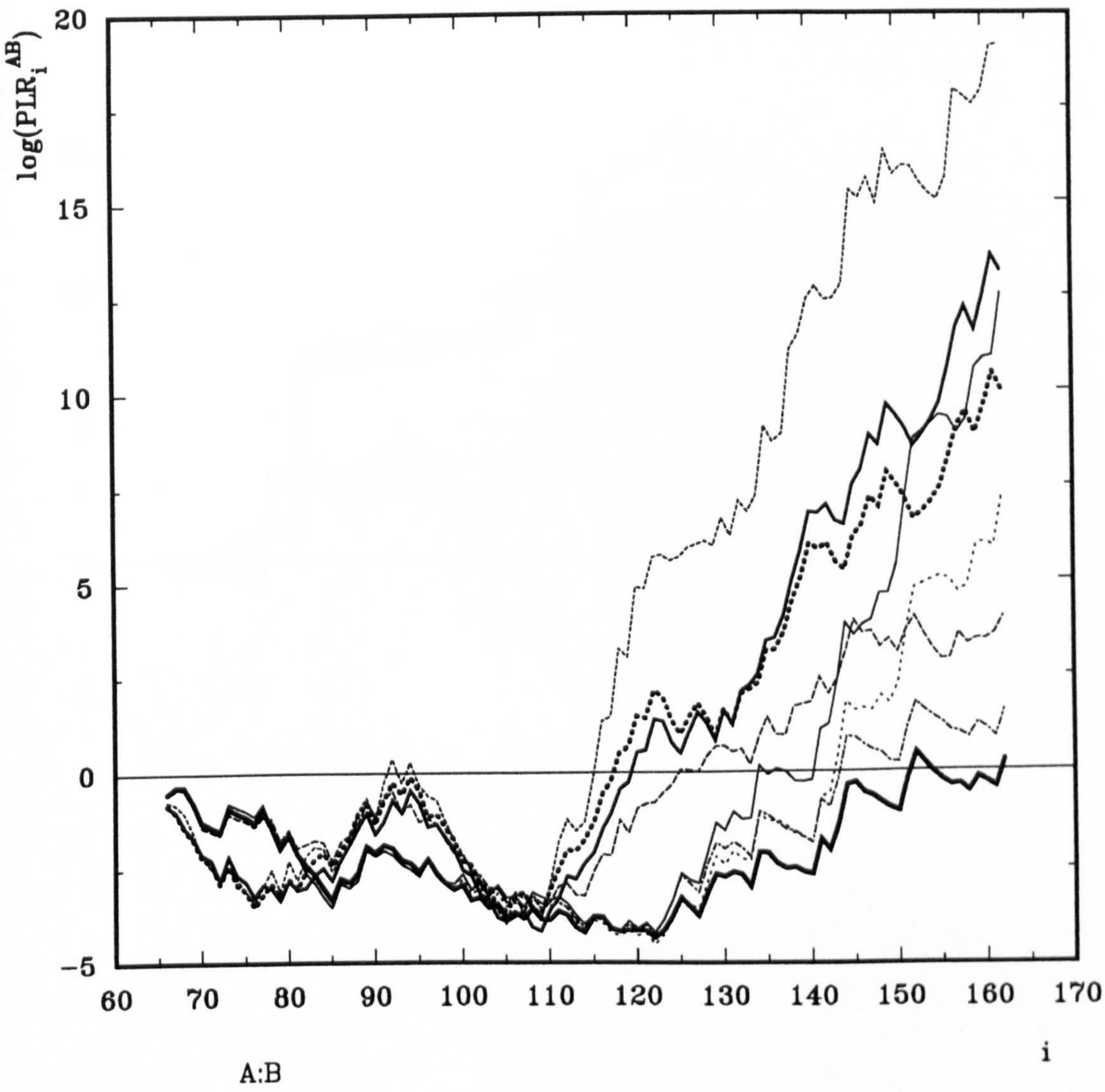


Figure B.16-13. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus the raw parametric predictors for data set *TUSAB*.

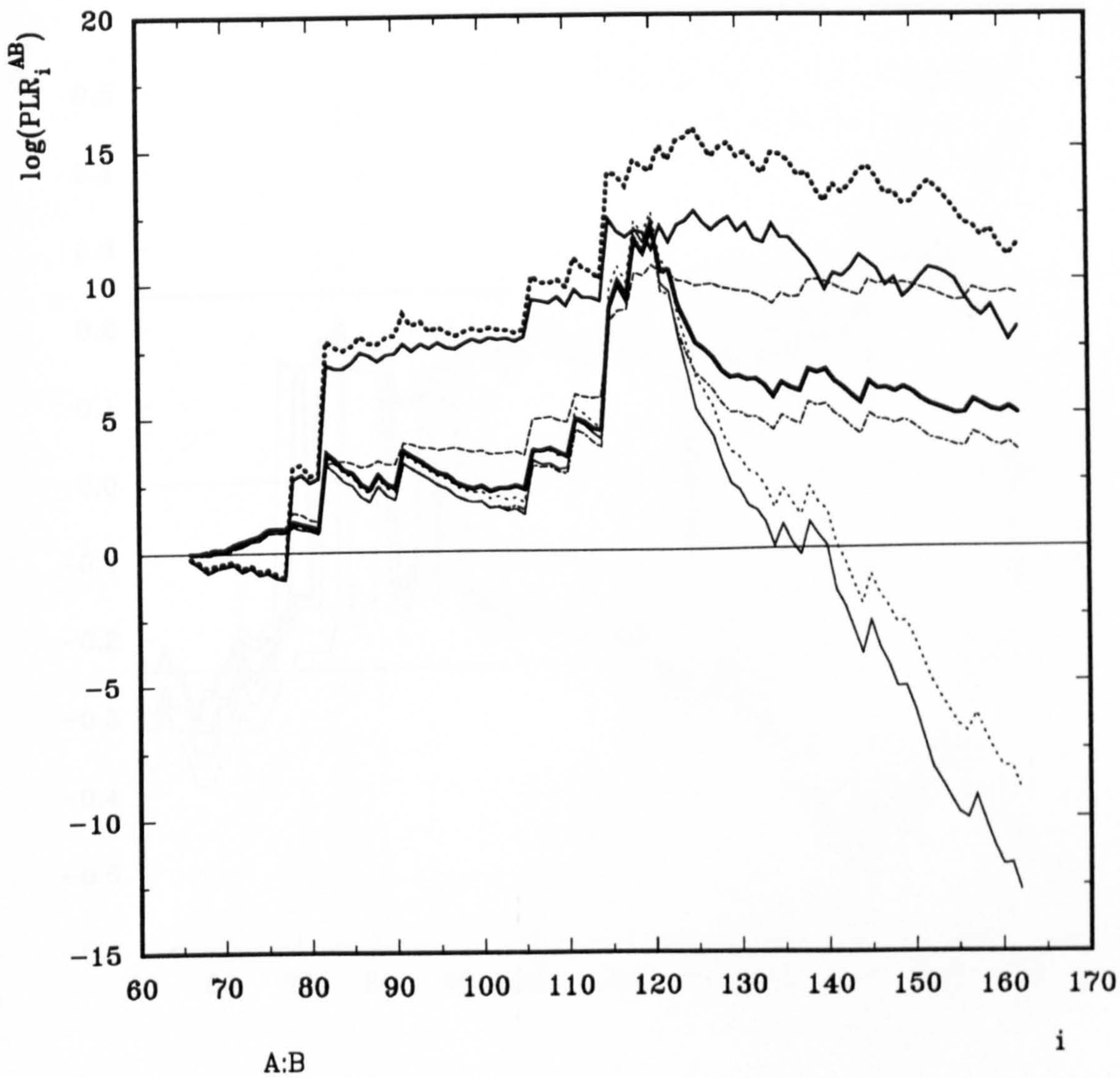
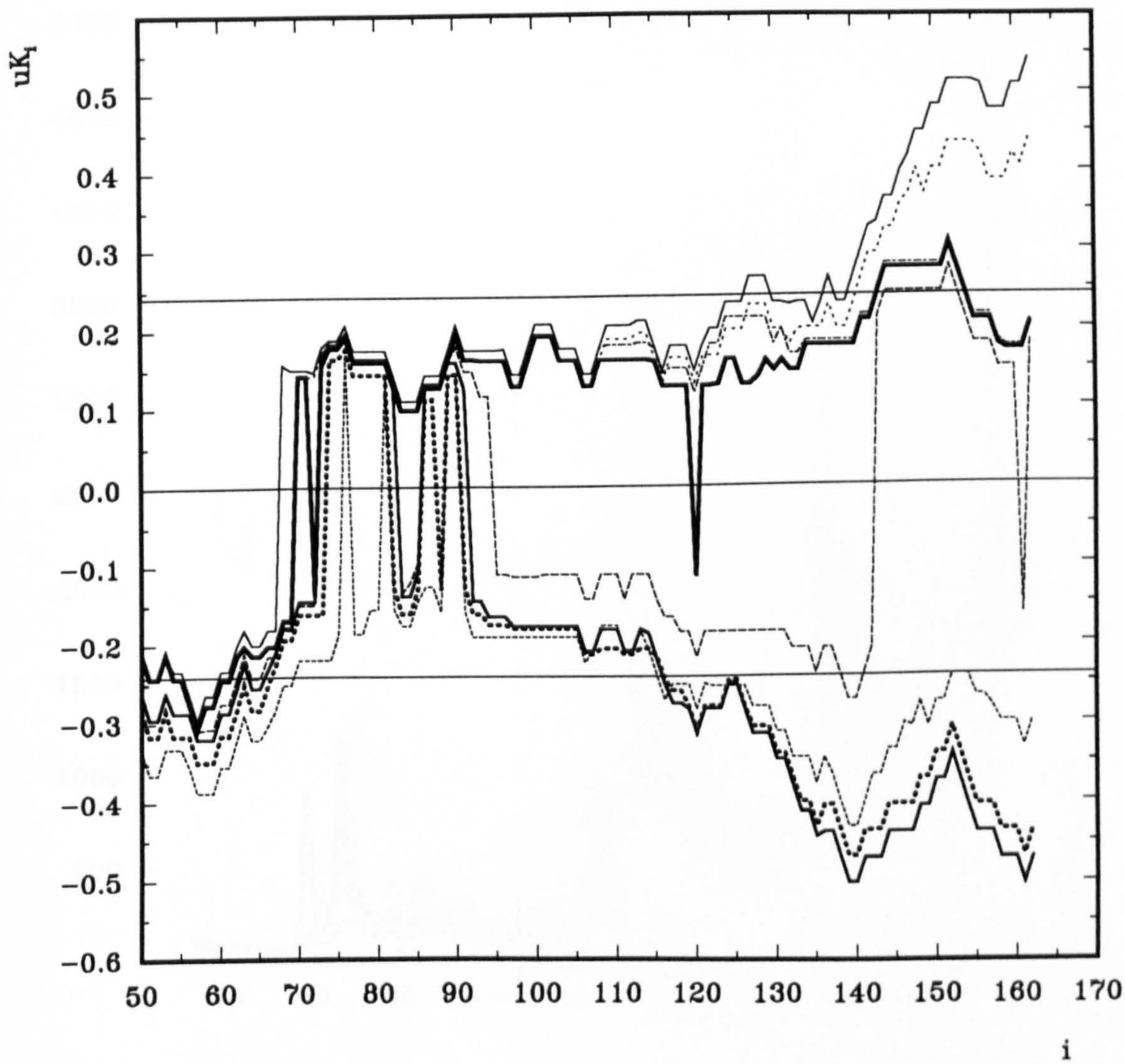


Figure B.16-14. *log(PLR)*-plots for the recalibrated (no window) parametric predictors versus *DUS* for data set *TUSAB*.



JM
GO
MO
DU
LM
LNHPP
LV
KL
5% significance lines

Figure B.16-15. *u*-plots constructed using a moving window of size *30* for the raw parametric predictors for data set *TUSAB*.

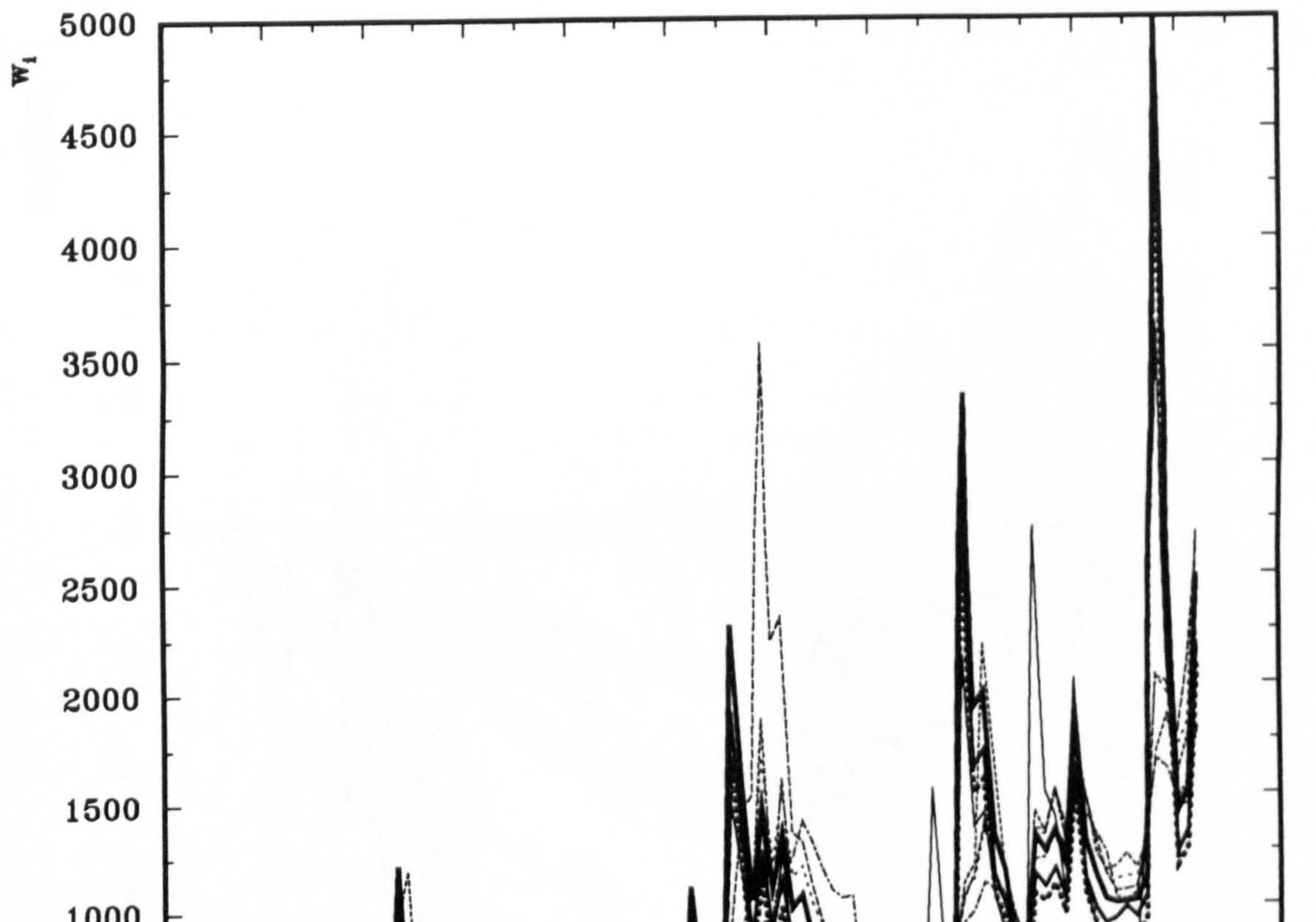


Figure B.16-16. Median predictions from the recalibrated (no window) non-parametric predictors plotted against failure number for data set *TUSAB*.

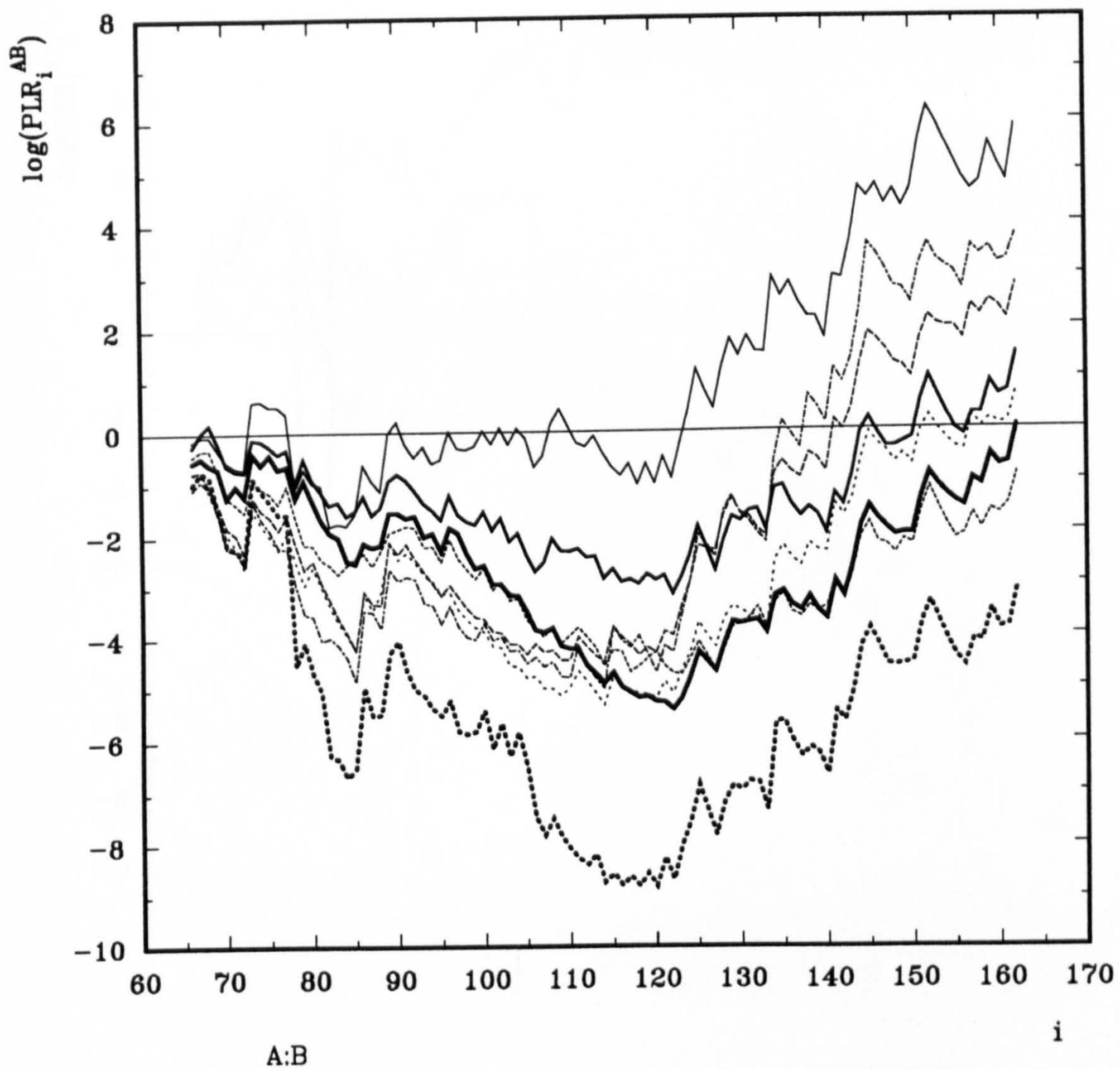


Figure B.16-17. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus the raw non-parametric predictors for data set *TUSAB*.

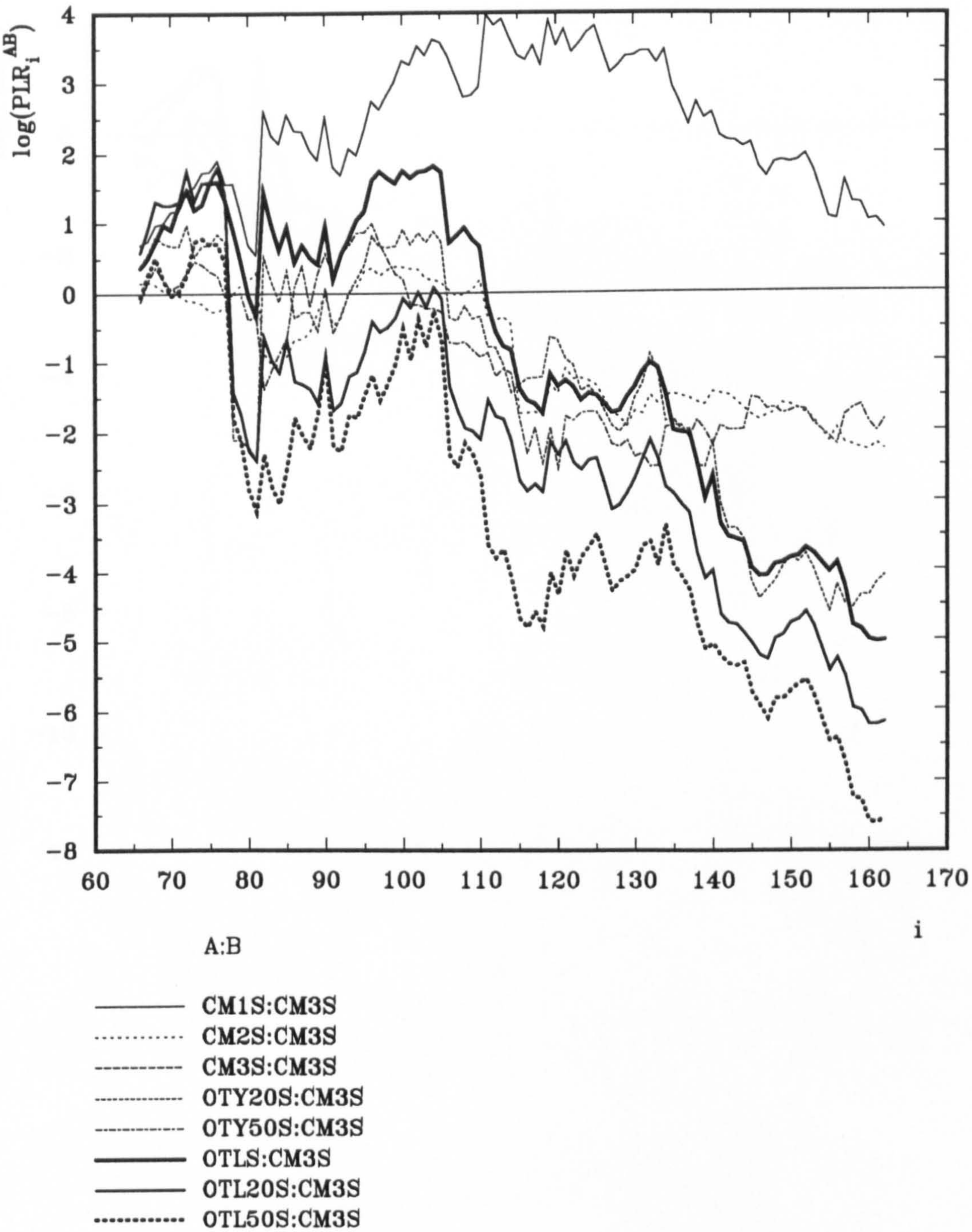


Figure B.16-18. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *CM3S* for data set *TUSAB*.

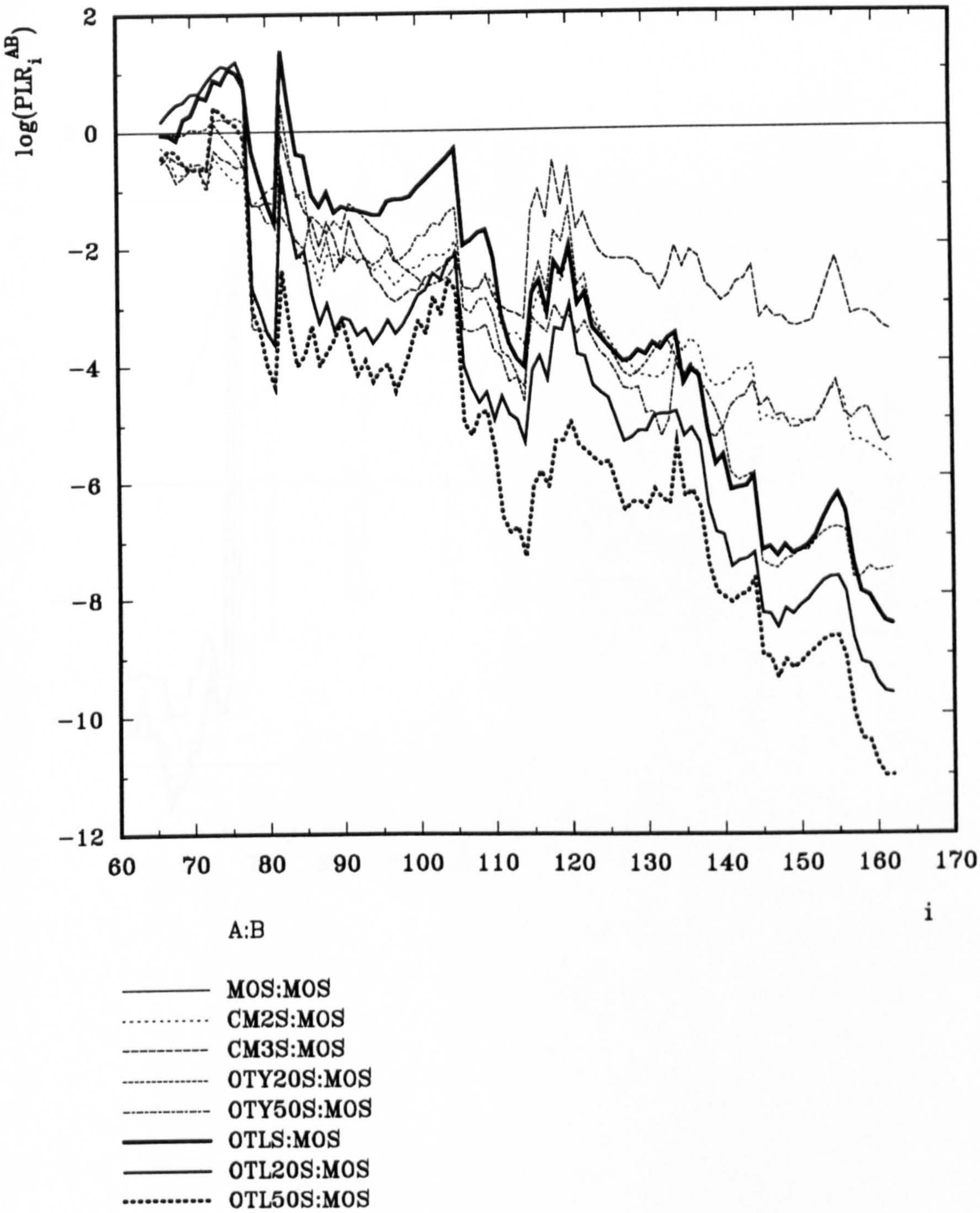
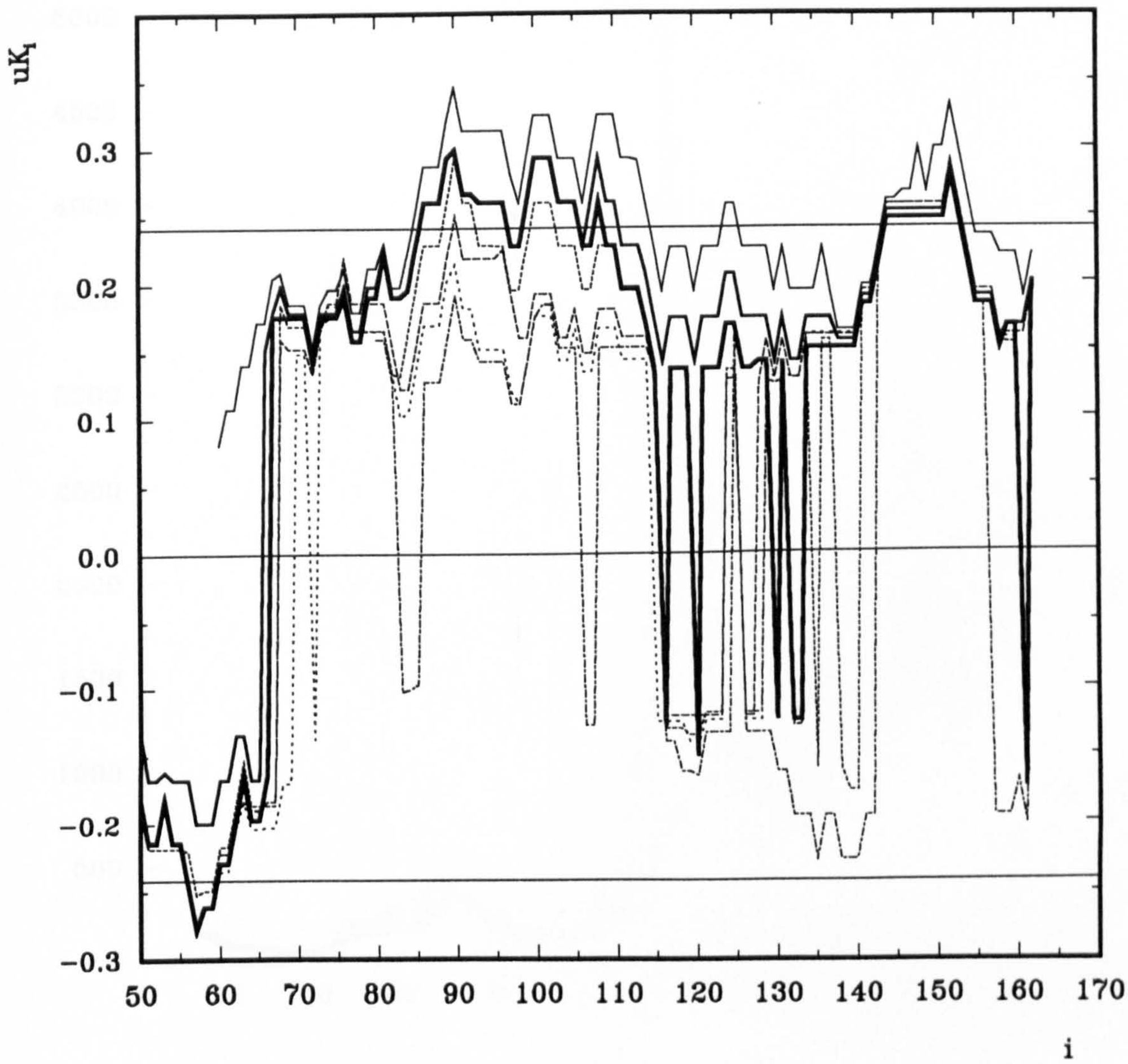
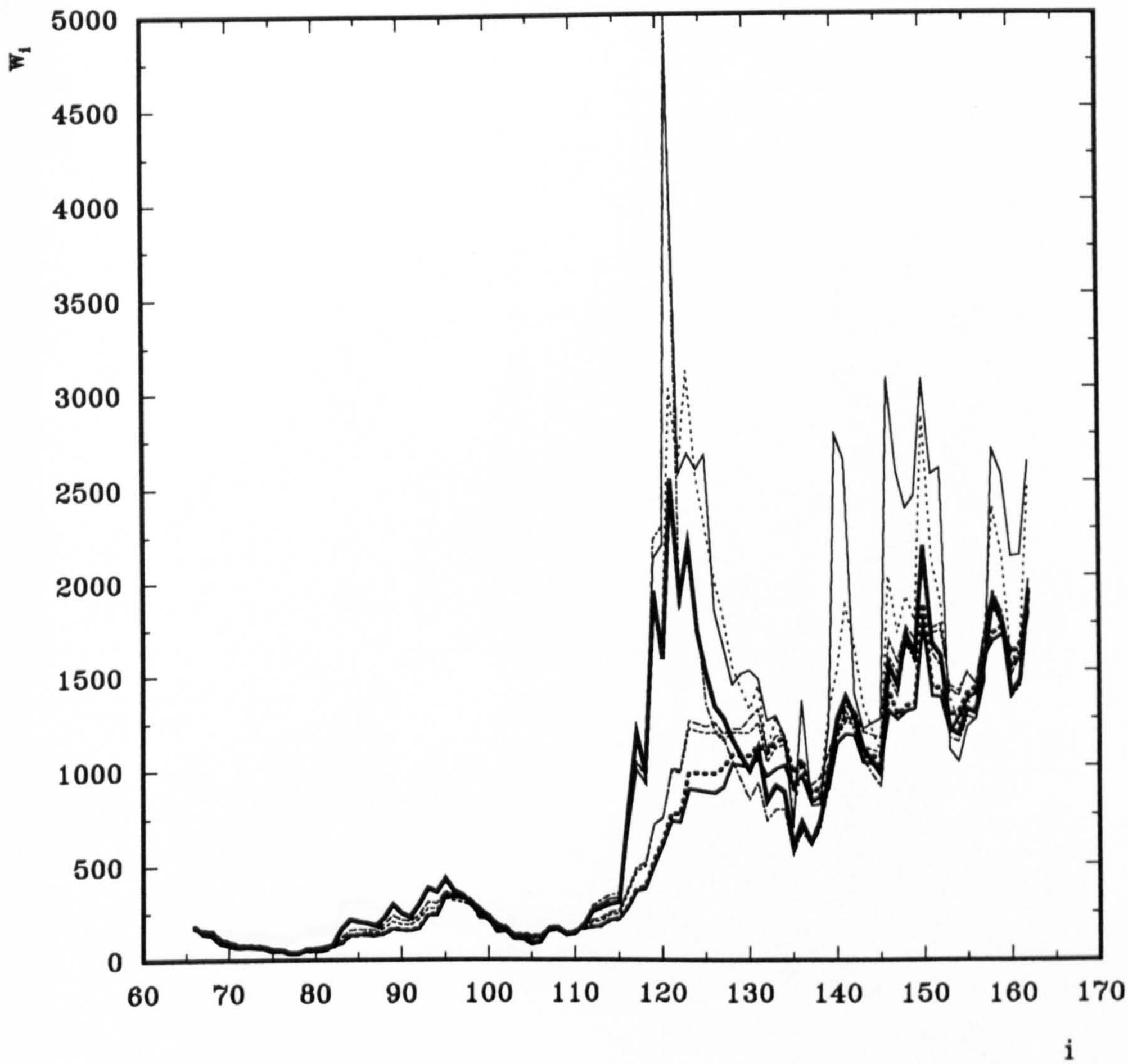


Figure B.16-19. *log(PLR)*-plots for the recalibrated (no window) non-parametric predictors versus *MOS* for data set *TUSAB*.



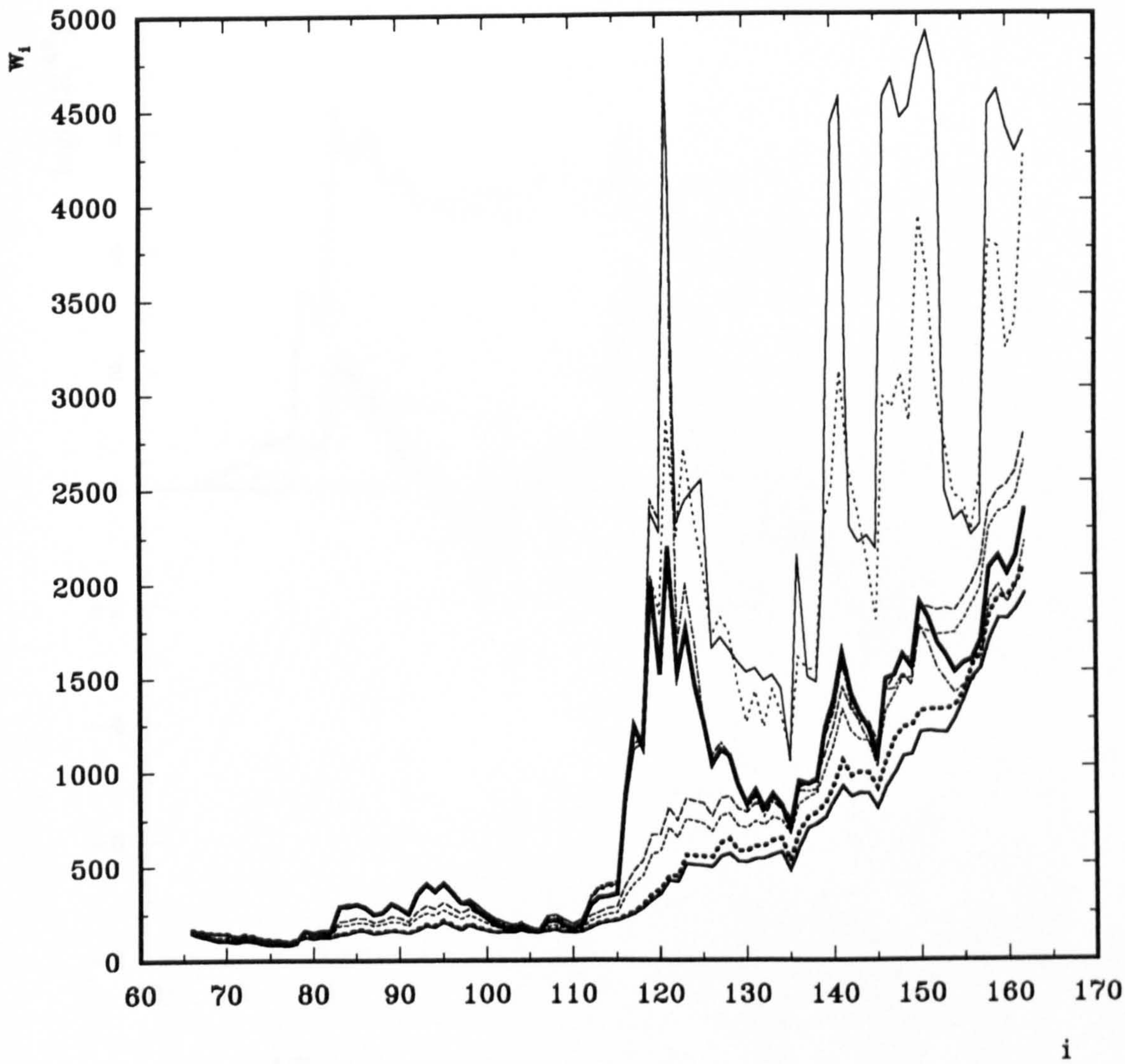
CM1
CM2
CM3
OTY20
OTY50
OTL
OTL20
OTL50
5% significance lines

Figure B.16-20. *u*-plots constructed using a moving window of size *30* for the raw non-parametric predictors for data set *TUSAB*.



JMS20
GOS20
MOS20
DUS20
LMS20
LNHPPS20
LVS20
KLS20

Figure B.16-21. Median predictions from the recalibrated (window = *20*) parametric predictors plotted against failure number for data set *TUSAB*.



JMS50
GOS50
MOS50
DUS50
LMS50
LNHPPS50
LVS50
KLS50

Figure B.16-22. Median predictions from the recalibrated (window = *50*) parametric predictors plotted against failure number for data set *TUSAB*.

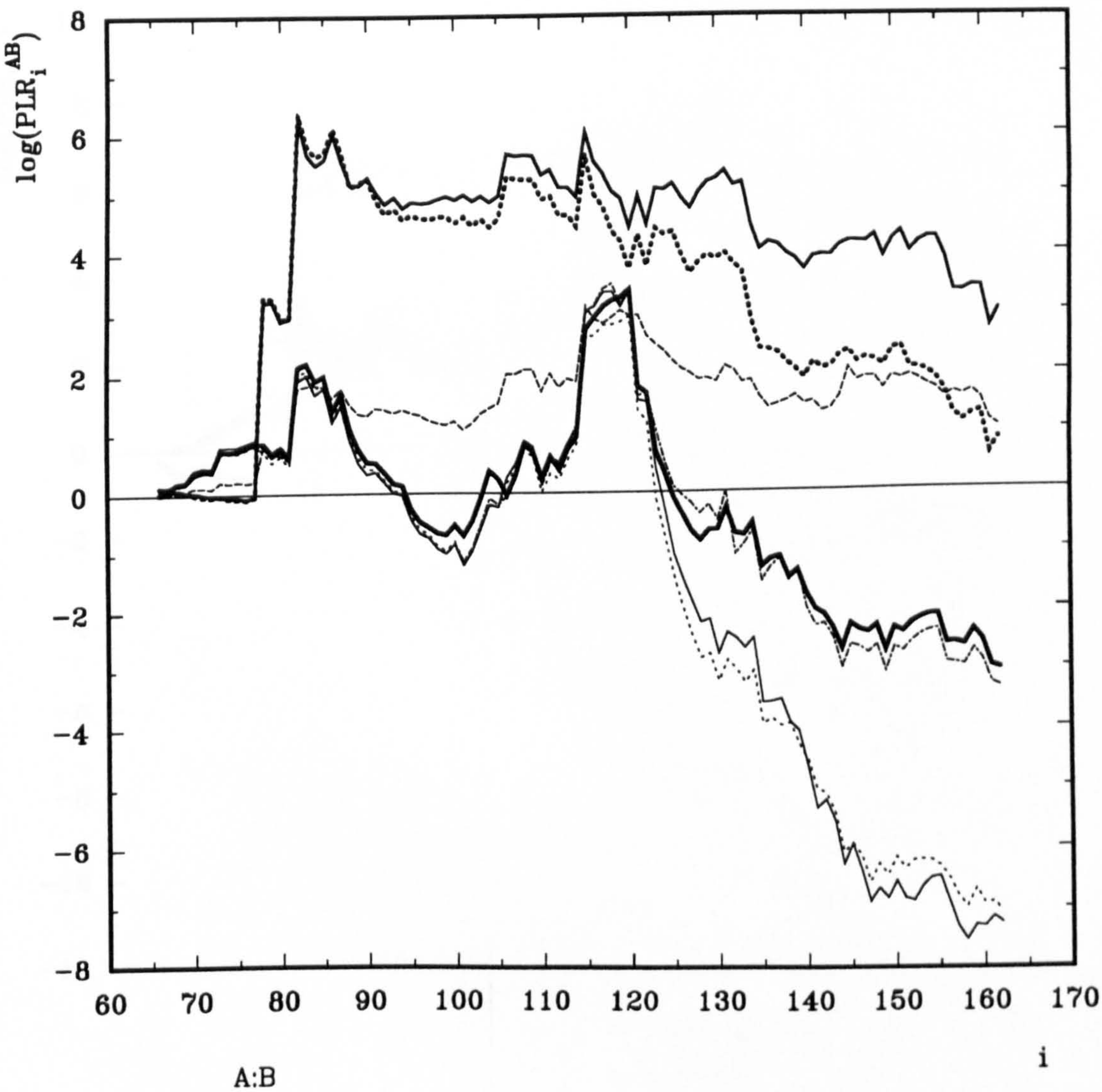


Figure B.16-23. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus *DUS20* for data set *TUSAB*.

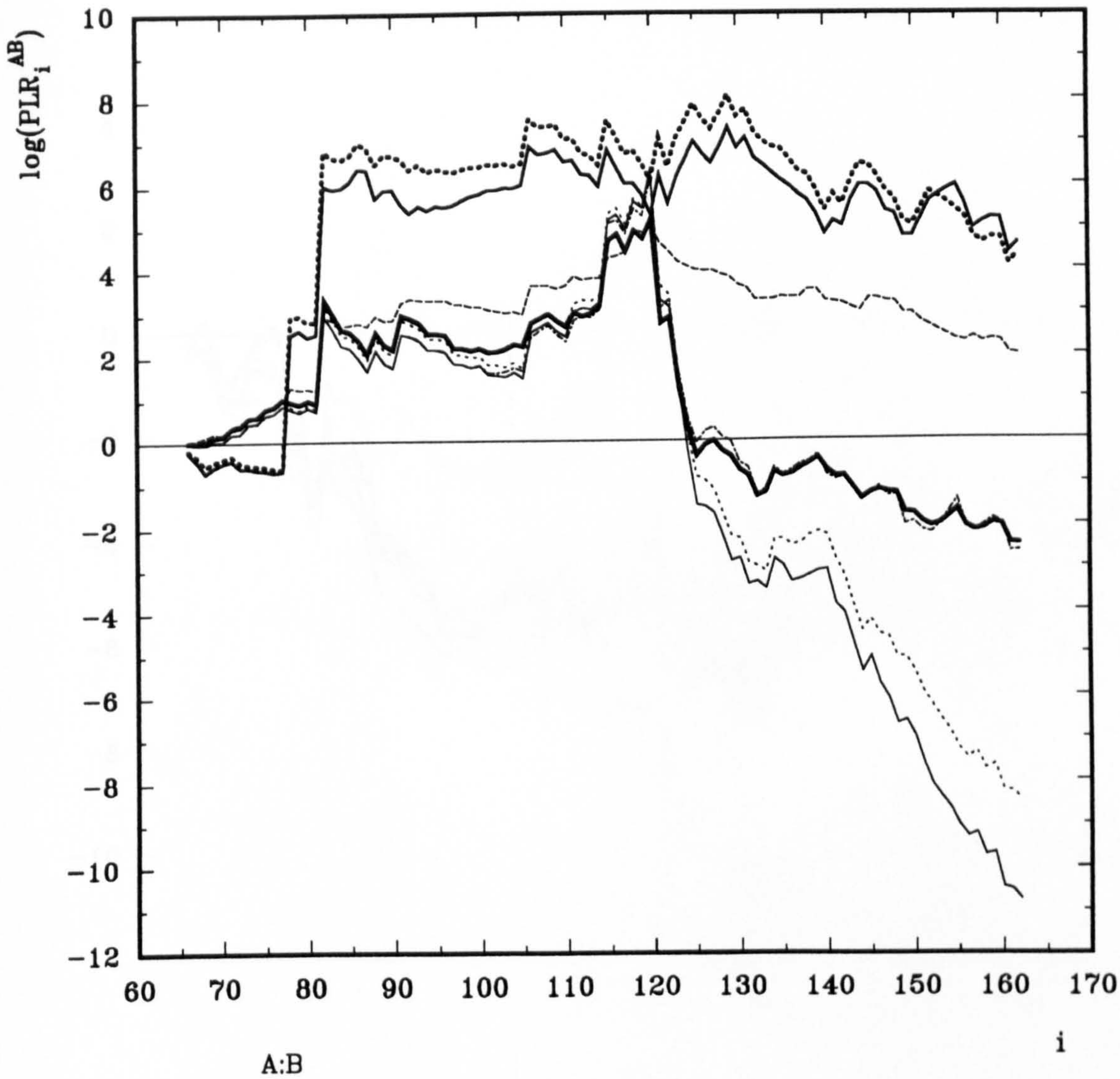


Figure B.16-24. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus *DUS50* for data set *TUSAB*.

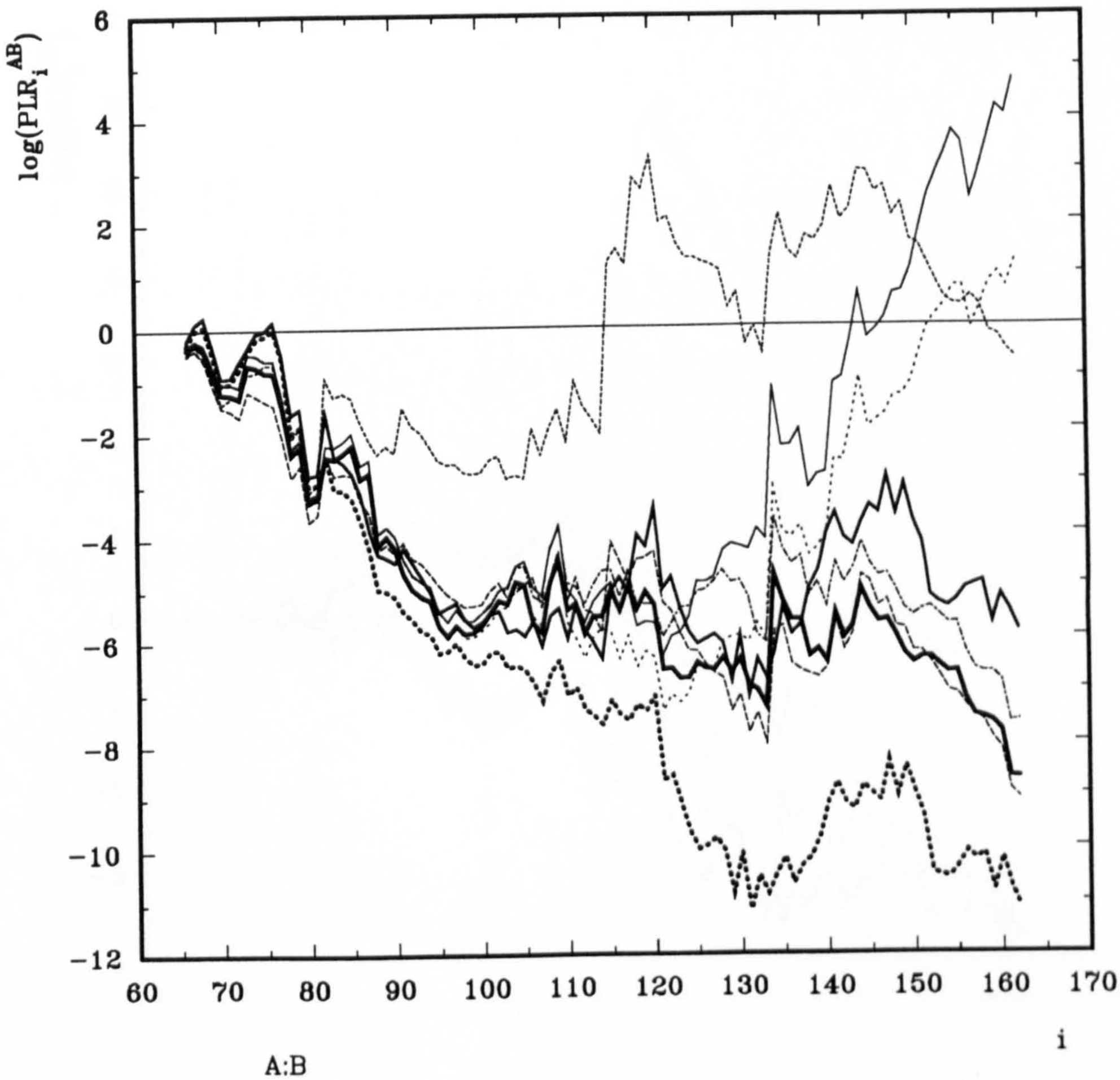


Figure B.16-25. *log(PLR)*-plots for the recalibrated (window = *20*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *TUSAB*.

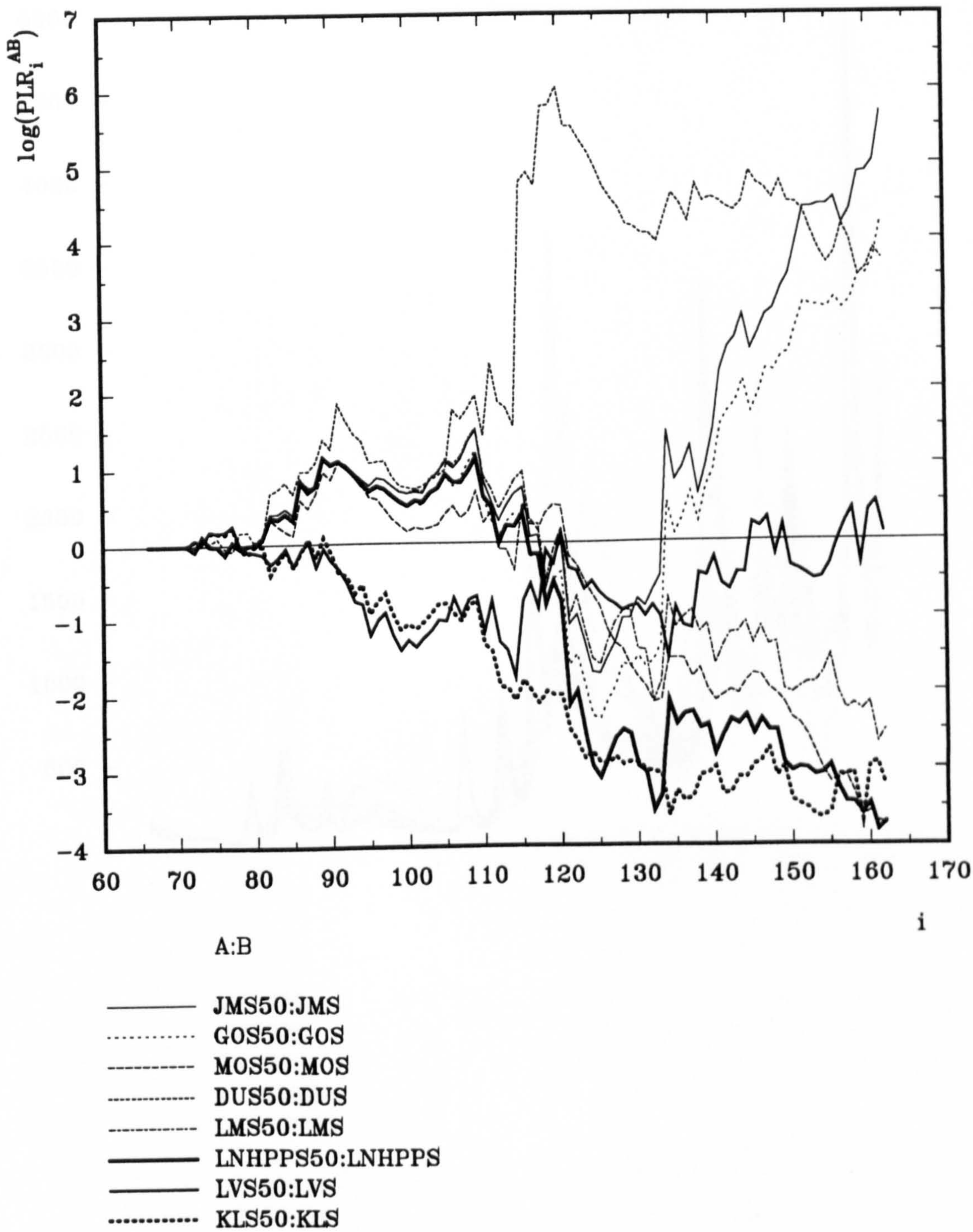
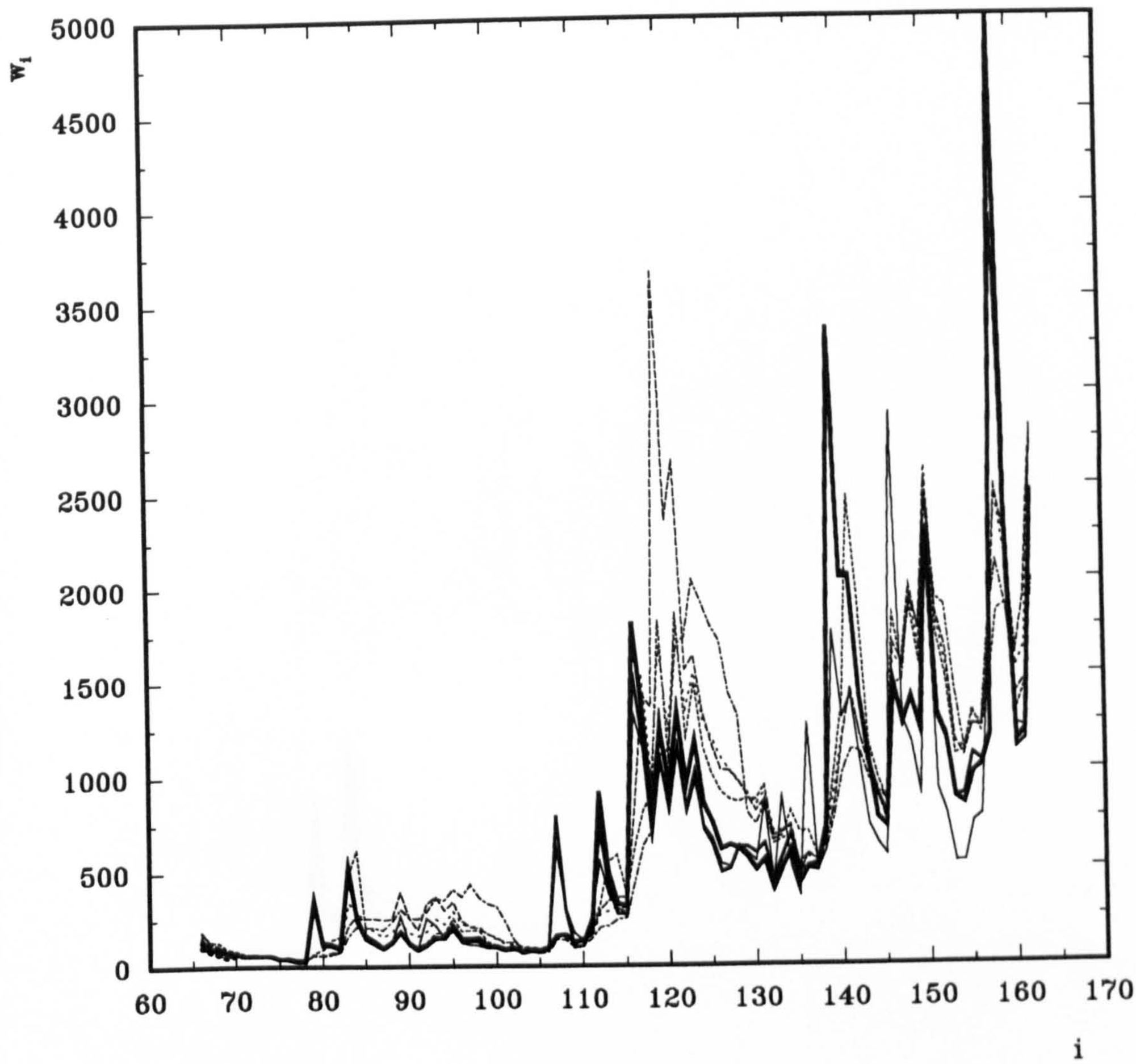
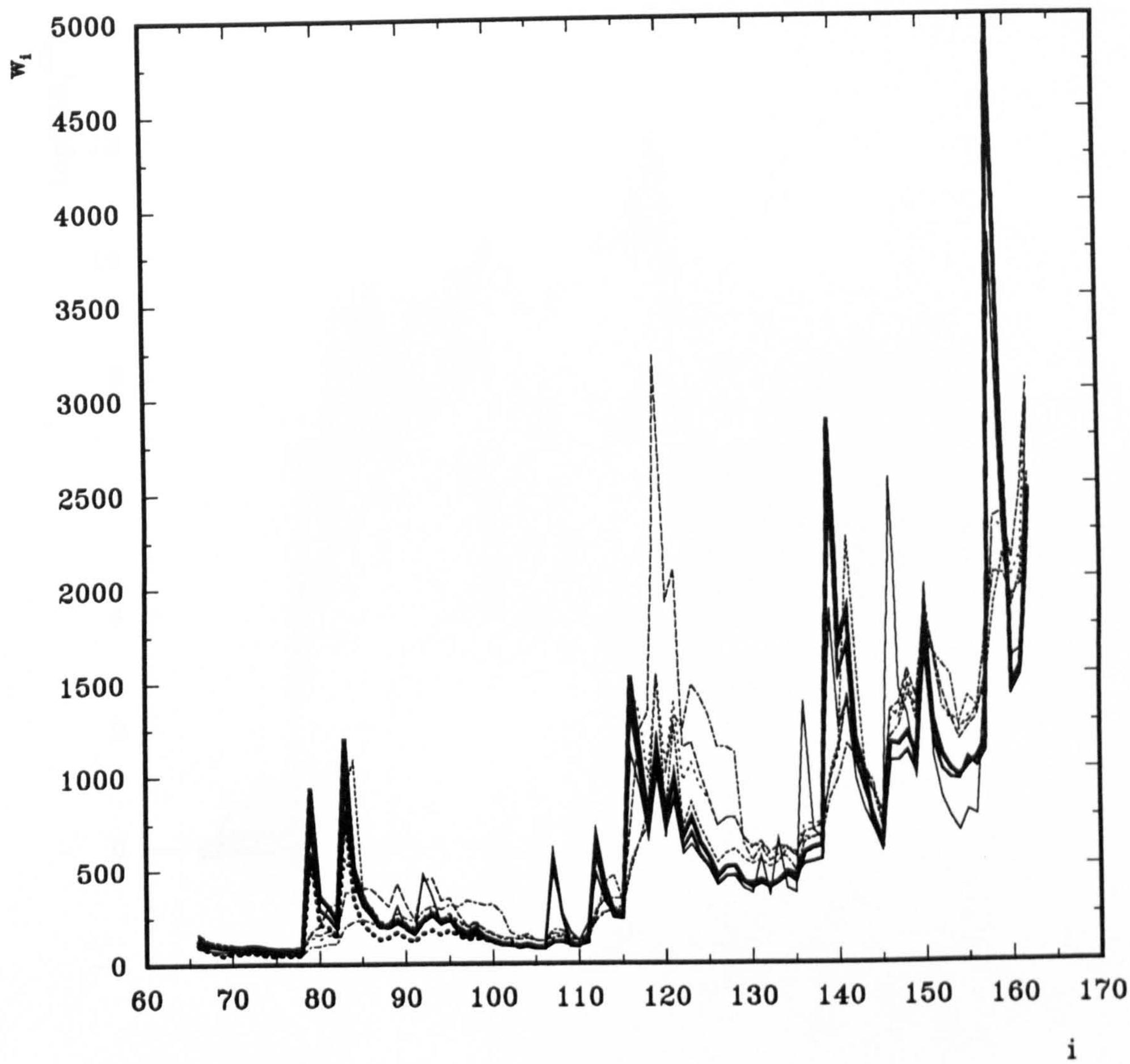


Figure B.16-26. *log(PLR)*-plots for the recalibrated (window = *50*) parametric predictors versus the recalibrated (no window) parametric predictors for data set *TUSAB*.



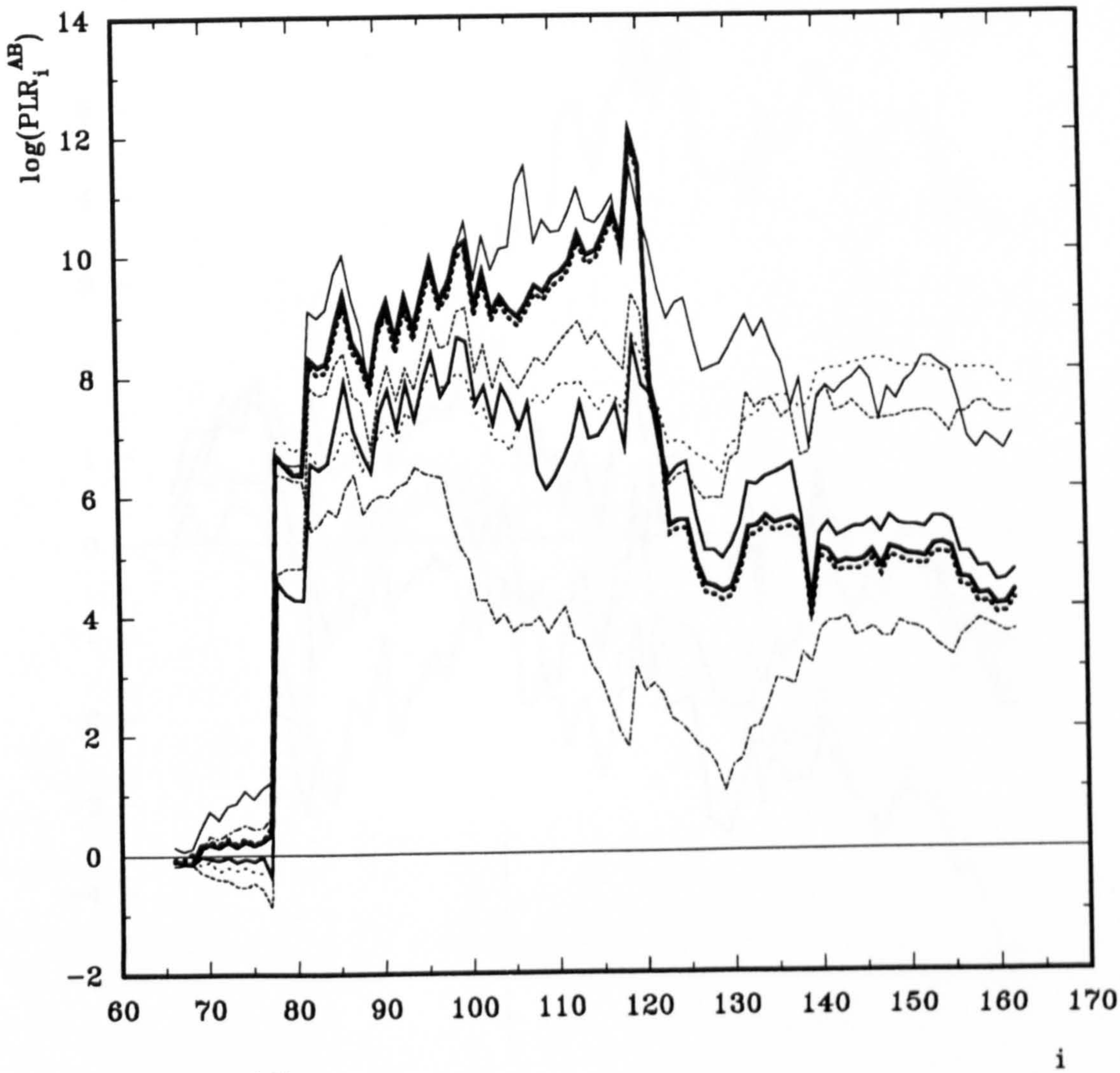
CM1S20
CM2S20
CM3S20
OTY20S20
OTY50S20
OTLS20
OTL20S20
OTL50S20

Figure B.16-27. Median predictions from the recalibrated (window = *20*) non-parametric predictors plotted against failure number for data set *TUSAB*.



CM1S50
CM2S50
CM3S50
OTY20S50
OTY50S50
OTLS50
OTL20S50
OTL50S50

Figure B.16-28. Median predictions from the recalibrated (window = *50*) non-parametric predictors plotted against failure number for data set *TUSAB*.



A:B

CM1S20:CM3S20
CM2S20:CM3S20
CM3S20:CM3S20
OTY20S20:CM3S20
OTY50S20:CM3S20
OTLS20:CM3S20
OTL20S20:CM3S20
OTL50S20:CM3S20

Figure B.16-29. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus *CM3S20* for data set *TUSAB*.

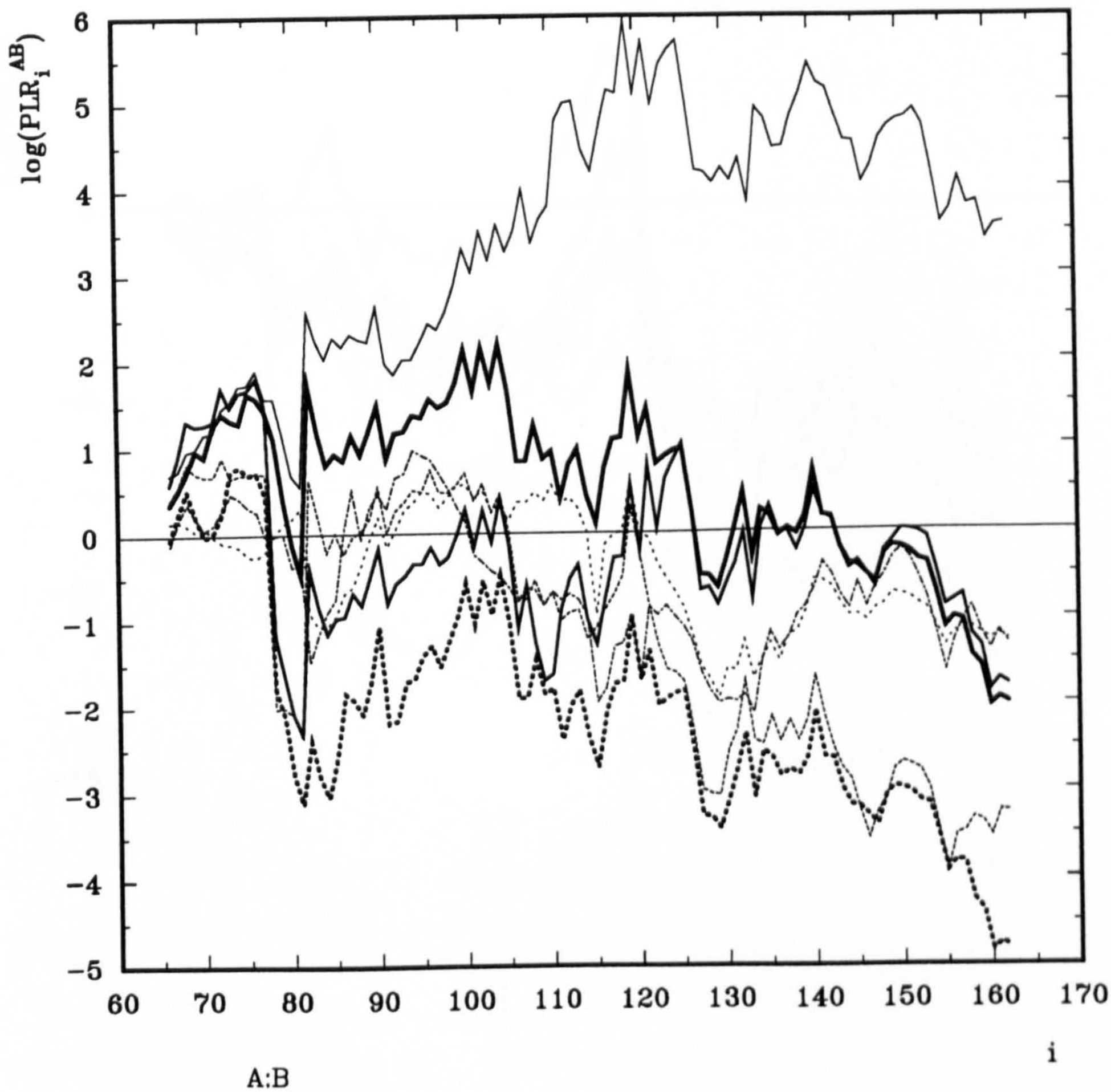


Figure B.16-30. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus *CM3S50* for data set *TUSAB*.

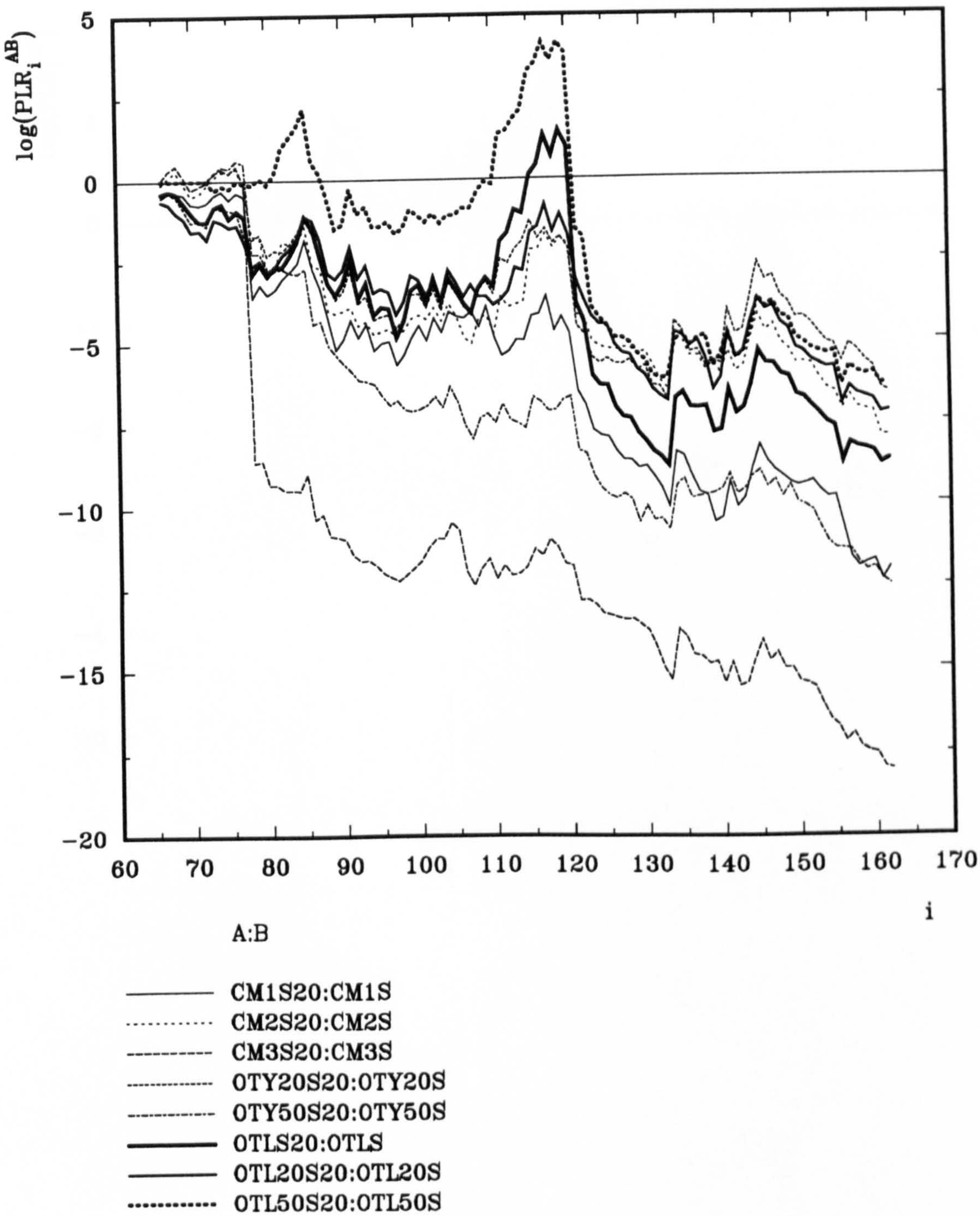


Figure B.16-31. *log(PLR)*-plots for the recalibrated (window = *20*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *TUSAB*.

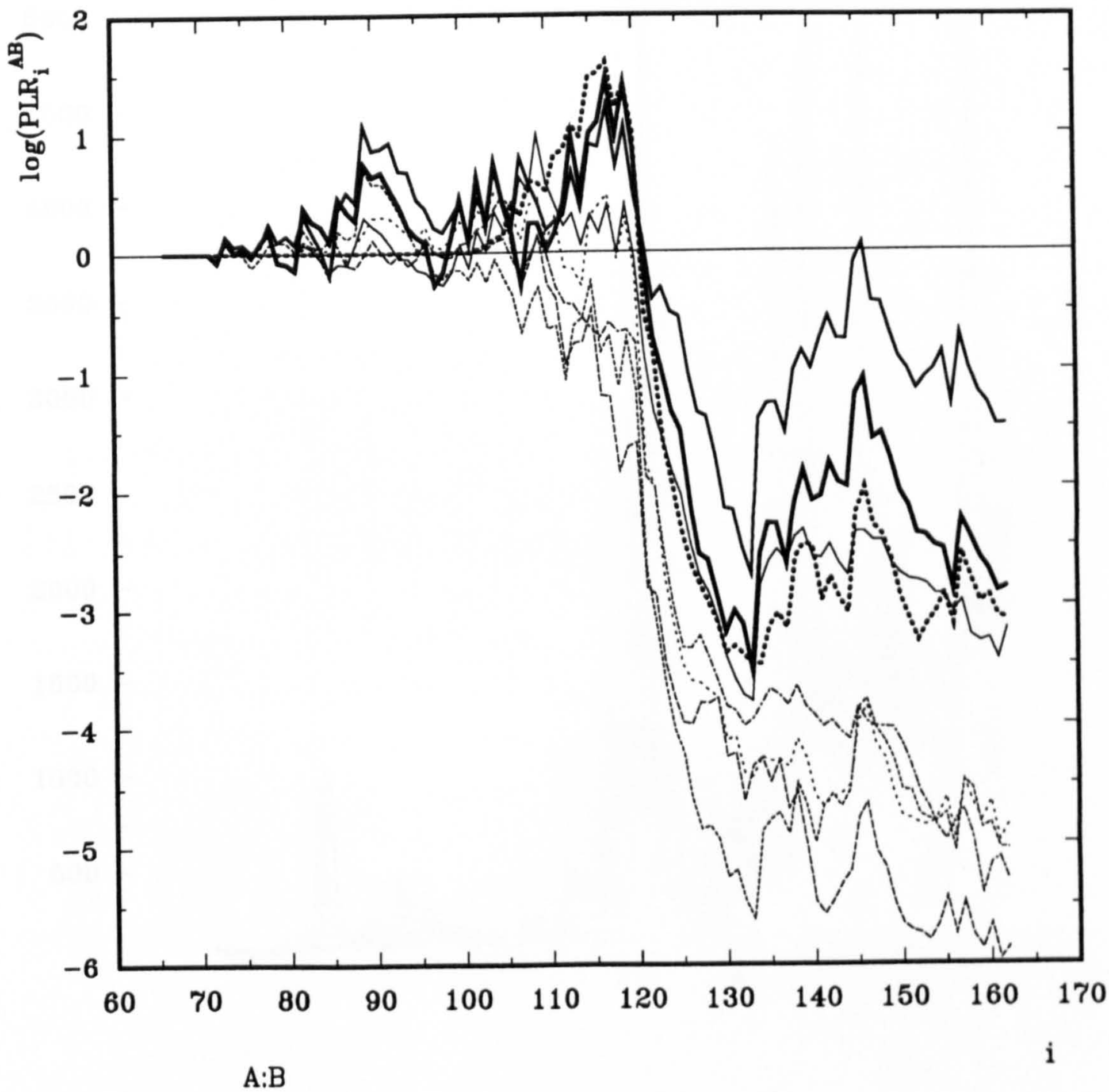
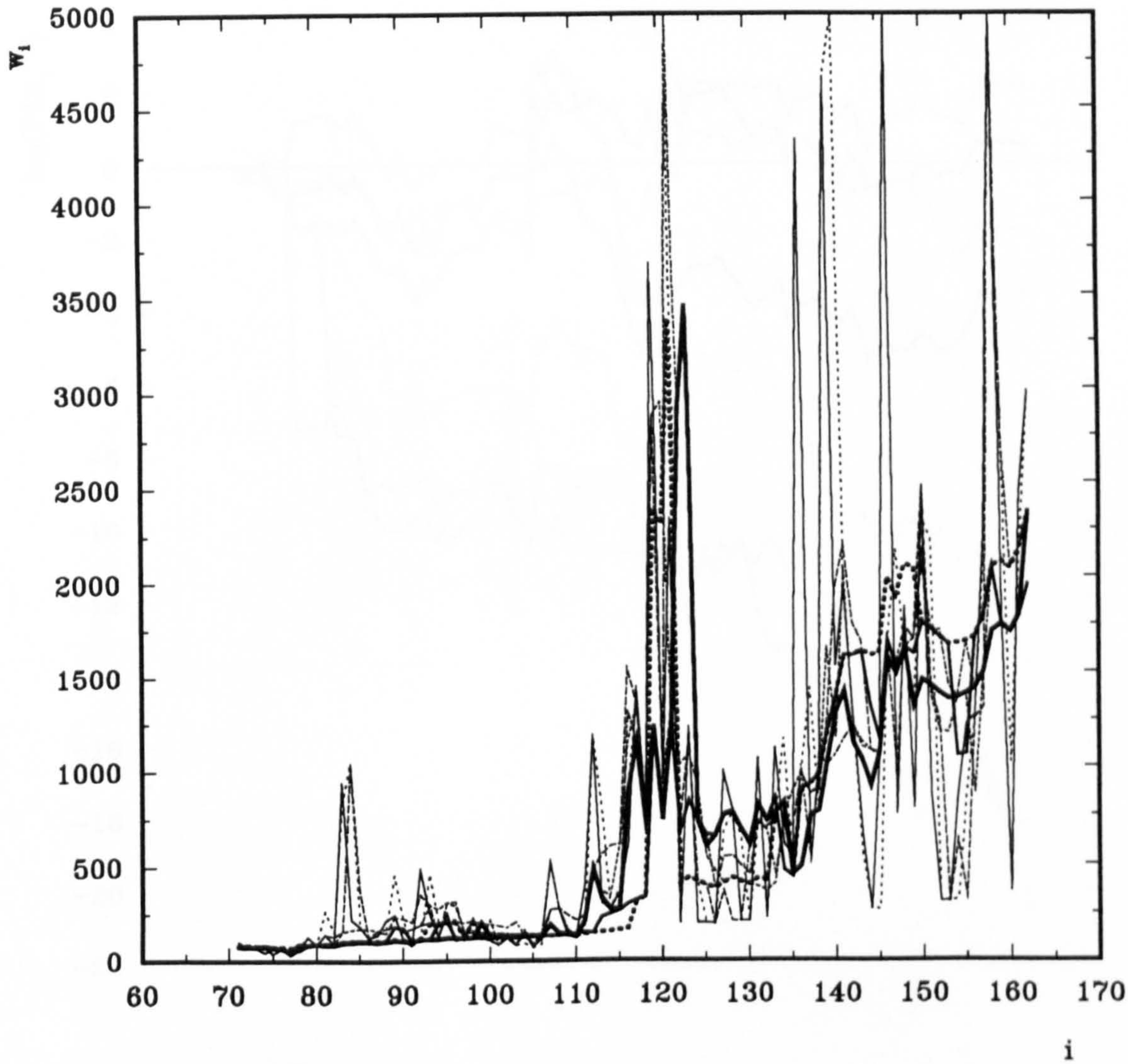


Figure B.16-32. *log(PLR)*-plots for the recalibrated (window = *50*) non-parametric predictors versus the recalibrated (no window) non-parametric predictors for data set *TUSAB*.



M1
M2
M5
M10
M20
M30
M40
M50

Figure B.16-33. Median predictions from the meta-predictors plotted against failure number for data set *TUSAB*.

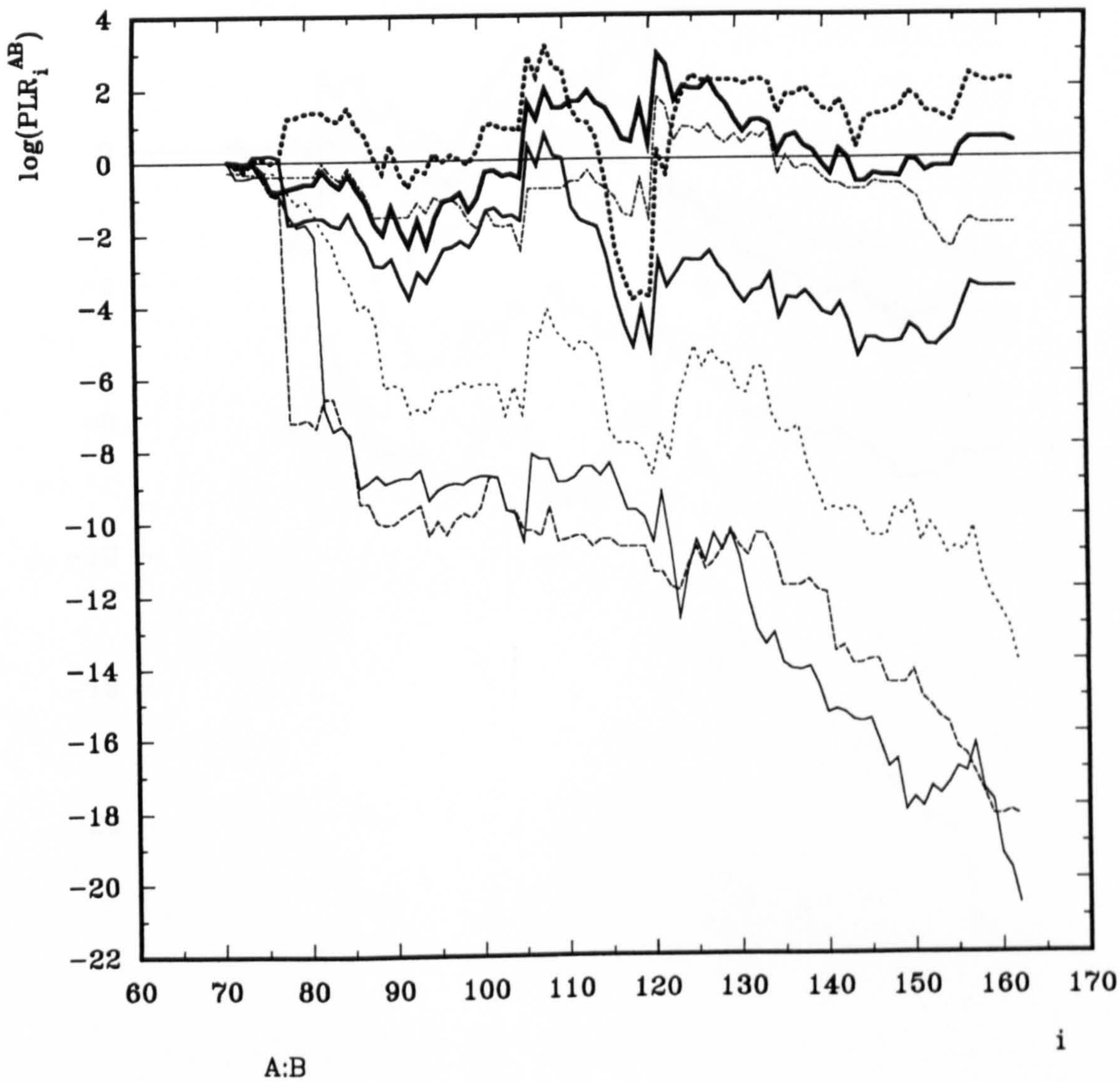


Figure B.16-34. *log(PLR)*-plots for the meta-predictors versus *M10* for data set *TUSAB*.

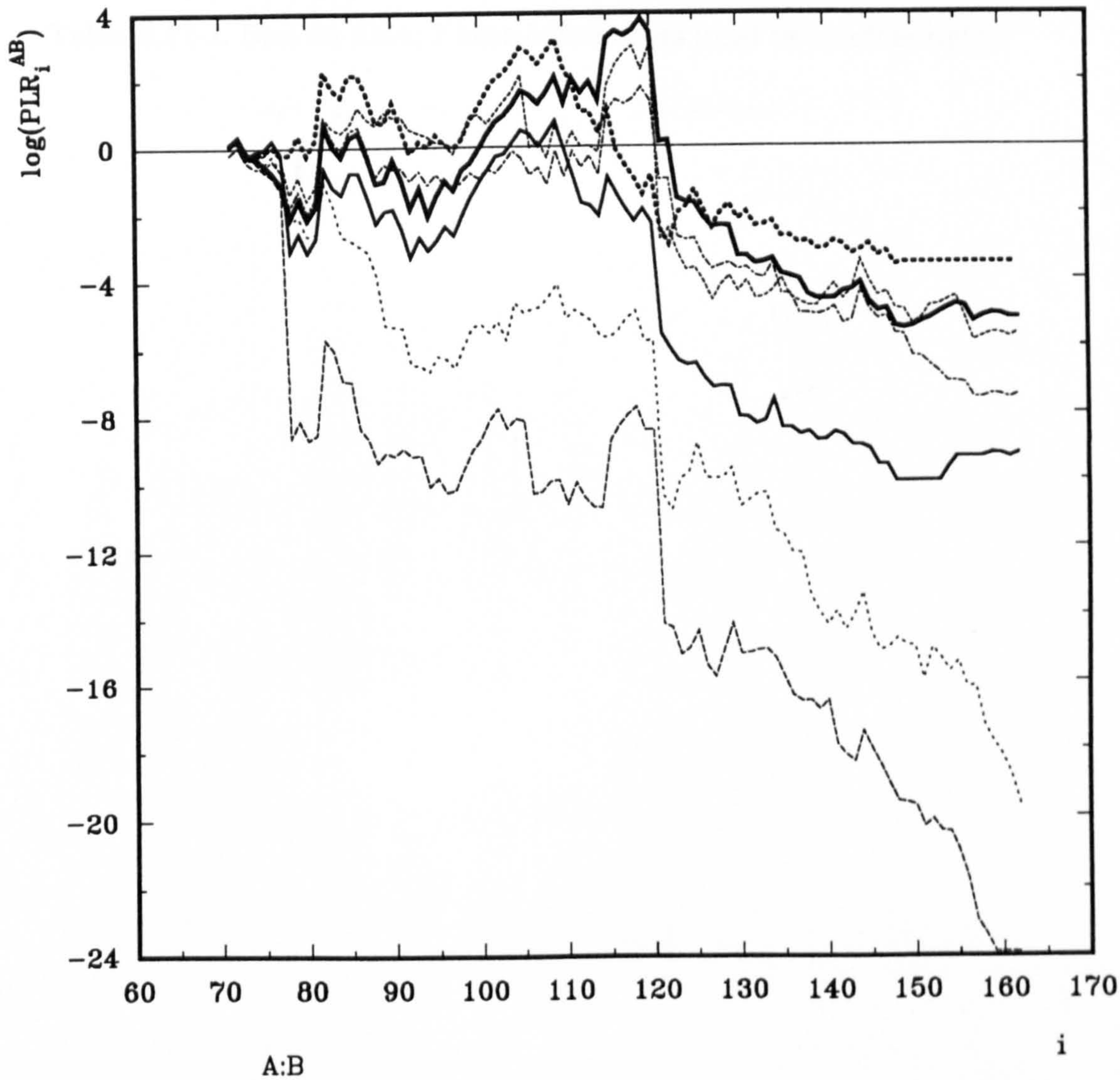


Figure B.16-35. *log(PLR)*-plots for the meta-predictors versus *MOS* for data set *TUSAB*.

B.17 Data Set SMA

765.	6444.	3470.	17674.	6761.	21970.	12091.

Table B.17-1. Data set *SMA*; 7 inter-failure times (read from left to right).

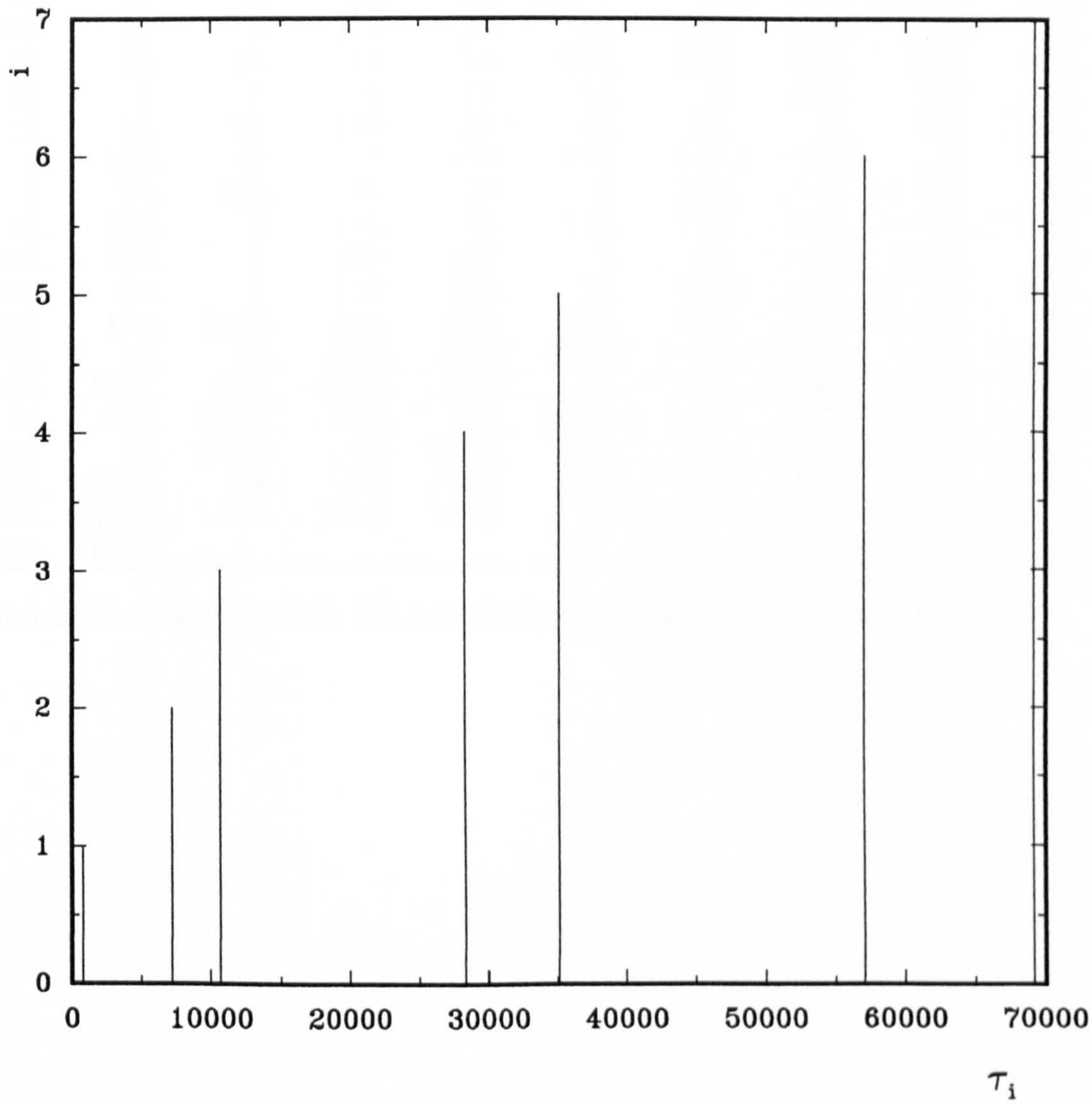


Figure B.17-2. Cumulative number of failures plotted against total elapsed time for data set *SMA*.

B.18 Data Set SMI

60.	30.	540.	107.	23.	579.	271.	6.	54.	25.
55.	71.	6.	22.	60.	66.	0.5	18.	15.	513.
398.	15.	6.	142.	32.	50.	110.	287.	19.	19.
126.	36.	54.	15.	16.	330.	551.	142.	283.	106.
57.	1.	2.	6.	17.	14.	2.	106.	90.	118.
23.	11.	92.	249.	28.	44.	31.	3.	21.	100.
4.	199.	42.	7.	150.	176.	142.	24.	6.	141.
3.	24.	185.	39.	29.	5.	309.	7.	33.	20.
16.	292.	3.	138.	55.	119.	175.	105.	3.	553.
644.	276.	1.	203.	117.	1.	45.	5.	128.	10.
179.	66.	1.	127.	117.	30.	161.	28.	4.	302.
430.	128.	1078.	343.	520.	206.	206.	347.	60.	90.
82.	35.	35.	293.	158.	1975.	33.	70.	35.	925.
1710.	1687.	244.	2384.	856.	83.	966.	1003.	3960.	75.
74.	620.	2209.	845.	55.	409.	36.	15.	1404.	88.
468.	79.	1819.	41.	8352.	250.	56.	1626.	499.	5226.
1957.	1346.	59.	98.	1717.	722.	306.	1506.	5252.	951.
2186.	10027.	109.	3268.	3845.	76.	4226.	7594.	3100.	586.
2810.	1237.								

Table B.18-1. Data set *SMI*; 182 inter-failure times (read from left to right).

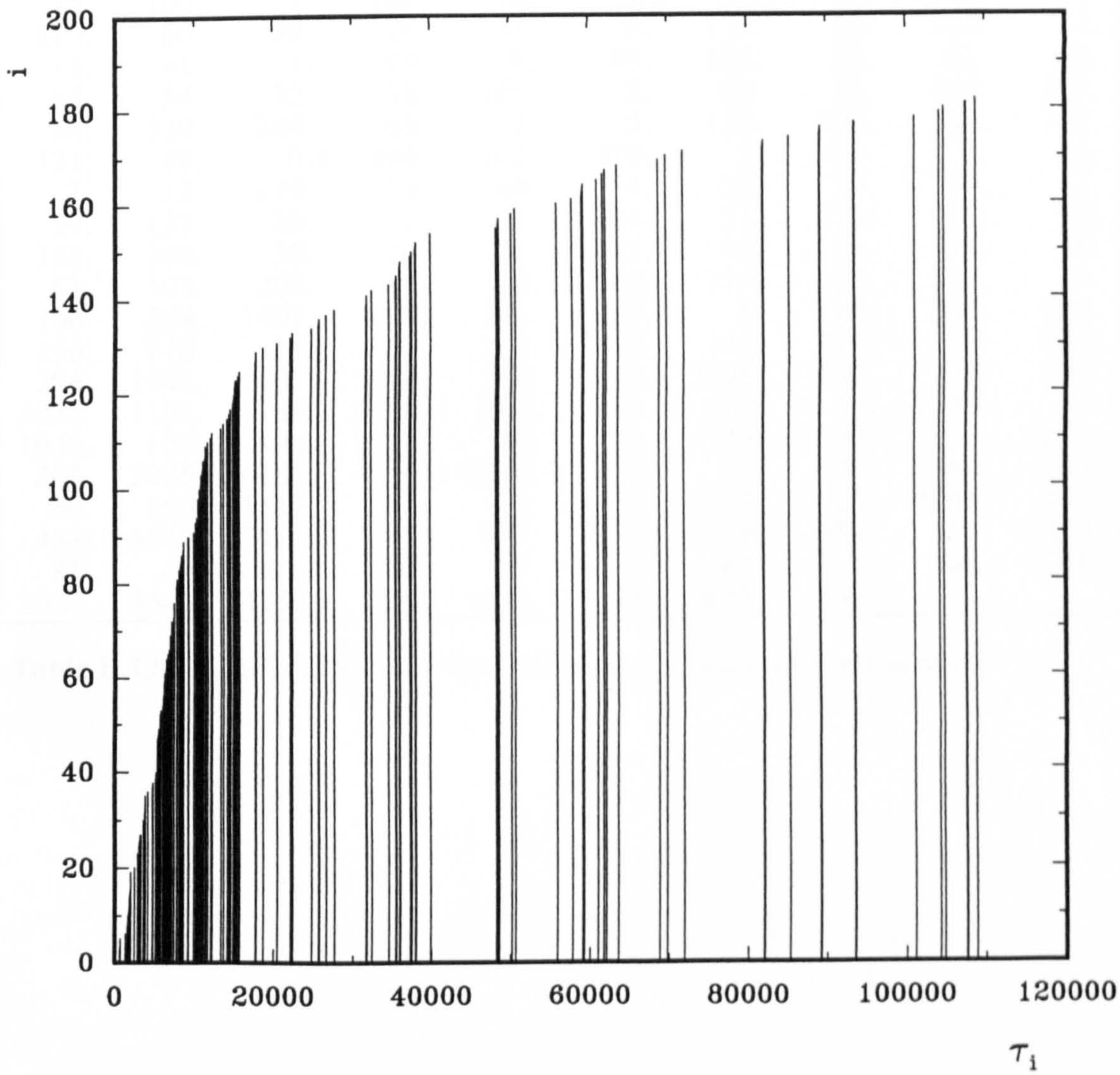


Figure B.18-2. Cumulative number of failures plotted against total elapsed time for data set *SMI*.

B.19 Data Set SNE

697.	121.	4.	16.	94.	15.	5.	90.	77.	68.
15.	160.	1.	104.	16.	9.	10.	12.	4.	10.
210.	60.	39.	26.	33.	9.	178.	30.	116.	14.
15.	41.	1.	99.	9.	45.	104.	50.	81.	89.
85.	54.	32.	36.	166.	5.	69.	34.	180.	562.
84.	339.	244.	65.	2.	5.	130.	233.	104.	117.
121.	48.	0.5	199.	101.	370.	3.	25.	3.	55.
7.	12.	179.	34.	49.	4.	13.	10.	40.	57.
59.	127.	20.	1.	21.	104.	31.	172.	21.	75.
163.	160.	30.	24.	5.	472.	12.	18.	9.	75.
61.	103.	205.	12.	18.	83.	114.	213.	212.	9.
106.	264.	1407.	2.	296.	727.	5.	105.	344.	294.
256.	118.	13.	47.	563.	482.	151.	310.	110.	335.
296.	1842.	607.	3264.	350.	470.	2999.	692.	26.	586.
1025.	1102.	1789.	1288.	593.	288.	881.	13.	2149.	6.
1940.	105.	494.	39.	79.	24.	540.	1040.	38.	1876.
205.	2095.	788.	1.	2668.	470.	10.	20.	560.	645.
65.	100.	1112.	340.	3.	4973.	5251.	25.	1048.	111.
453.	5347.	1919.	185.	157.	30.	2859.	556.	55.	4892.
81.	61.	476.	63.	3.	3.	62.	1.	44.	1236.
2986.	3546.	4339.	4236.	1893.	198.	9698.	353.		

Table B.19-1. Data set *SNE*; 208 inter-failure times (read from left to right).

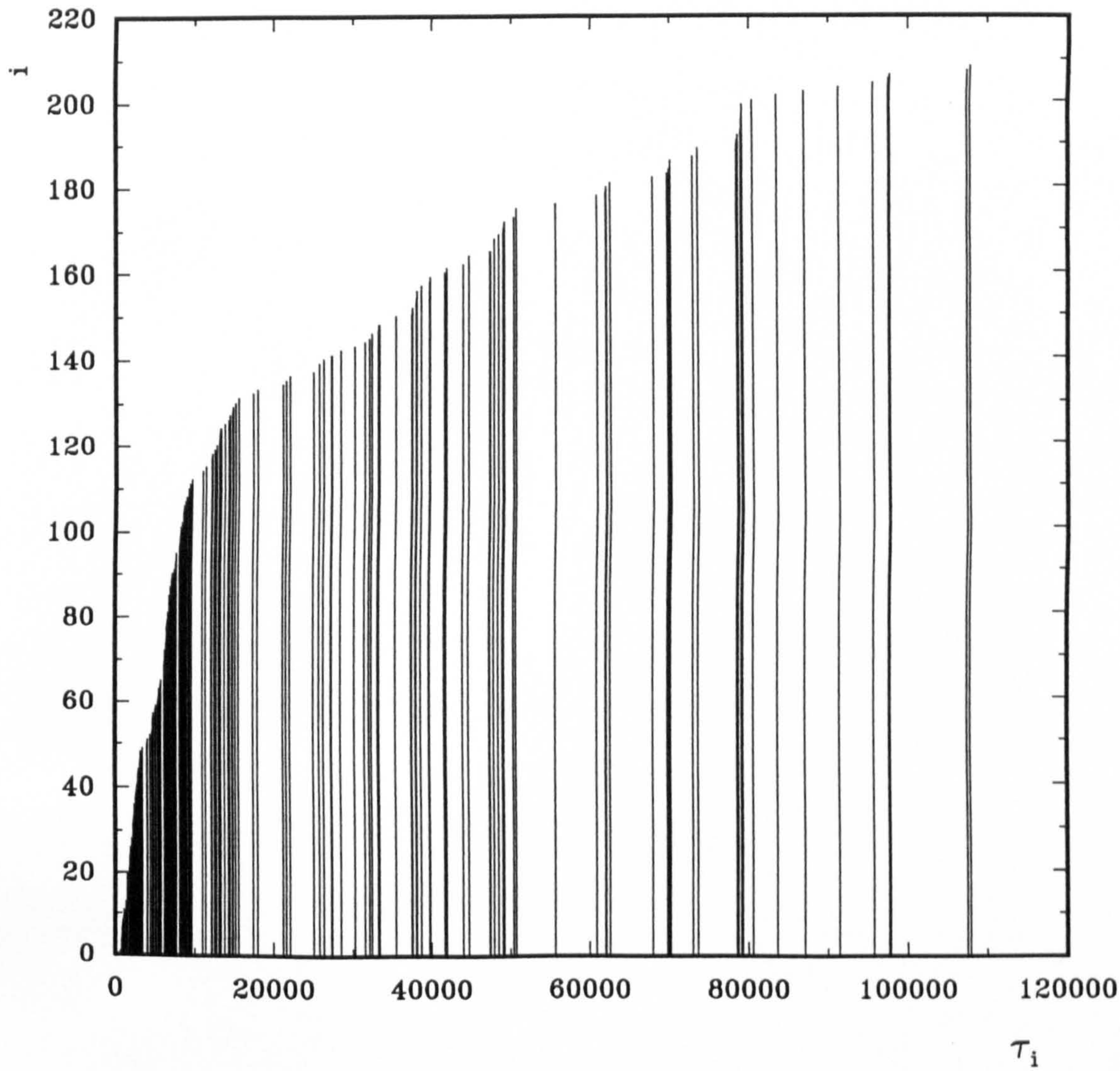


Figure B.19-2. Cumulative number of failures plotted against total elapsed time for data set *SNE*.