

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	4755
Number of Cases	57060
Log Likelihood	- 8368
Log Likelihood Null (LogL(0))	- 11816
Maximum Absolute Gradient	2.51529
Number of Iterations	501
Optimization Method	Dual Quasi- Newton
AIC	17094
Schwarz Criterion	18252

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	3	0.06
1	2	57	1.20
2	3	9	0.19
3	4	326	6.86
4	5	308	6.48
5	6	21	0.44
6	7	930	19.56
7	8	1023	21.51
8	9	545	11.46
9	10	928	19.52
10	11	415	8.73
11	12	190	4.00

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	6895.1	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	23631	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5918	$R / (R+N)$
Cragg- Uhler 1	0.7654	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.7708	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.82	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.8	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2918	R / U
Veall- Zimmermann	0.7109	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	-0.2578	0.0288	-8.95	<.0001	
LDistant_Arrive	1	-0.9472	0.1986	-4.77	<.0001	
LCPUE_All_1	1	0.2048	0.0670	3.06	0.0022	
LRPUE_All_1	1	-0.1032	0.0425	-2.43	0.0151	
LDistant_sinceDep1_z1	1	1.4622	7.4878	0.20	0.8452	
LDistant_sinceDep1_z2	1	5.2877	0.7048	7.50	<.0001	
LDistant_sinceDep1_z3	1	5.2122	1.1777	4.43	<.0001	
LDistant_sinceDep1_z4	1	1.5091	0.3726	4.05	<.0001	
LDistant_sinceDep1_z5	1	2.6682	0.4079	6.54	<.0001	
LDistant_sinceDep1_z6	1	0.9801	0.8876	1.10	0.2695	
LDistant_sinceDep1_z7	1	0.0499	0.3482	0.14	0.8860	
LDistant_sinceDep1_z8	1	-0.2761	0.3450	-0.80	0.4235	
LDistant_sinceDep1_z9	1	-2.1384	0.3584	-5.97	<.0001	
LDistant_sinceDep1_z10	1	-2.0468	0.3527	-5.80	<.0001	
LDistant_sinceDep1_z11	1	-1.5300	0.3851	-3.97	<.0001	
LDF_search_sinceDep1_z1	1	0.3872	0.5224	0.74	0.4586	
LDF_search_sinceDep1_z2	1	-0.0938	5.2419	-0.02	0.9857	
LDF_search_sinceDep1_z3	1	-0.1695	4.7548	-0.04	0.9716	
LDF_search_sinceDep1_z4	1	1.9078	4.1765	0.46	0.6478	
LDF_search_sinceDep1_z5	1	0.6749	3.6584	0.18	0.8536	
LDF_search_sinceDep1_z6	1	2.4465	3.2504	0.75	0.4517	
LDF_search_sinceDep1_z7	1	1.9356	2.6173	0.74	0.4596	
LDF_search_sinceDep1_z8	1	1.8546	2.0996	0.88	0.3771	
LDF_search_sinceDep1_z9	1	3.6161	1.5914	2.27	0.0231	
LDF_search_sinceDep1_z10	1	3.0515	1.0835	2.82	0.0049	
LDF_search_sinceDep1_z11	1	1.6767	0.6239	2.69	0.0072	
LDF_travel_sinceDep1_z1	1	5.3314	7.6188	0.70	0.4841	
LDF_travel_sinceDep1_z2	1	-0.4444	0.2038	-2.18	0.0292	
LDF_travel_sinceDep1_z3	1	1.3369	0.5634	2.37	0.0177	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	-0.2638	0.1216	-2.17	0.0301	
LDF_travel_sinceDep1_z5	1	-0.2410	0.1299	-1.85	0.0636	
LDF_travel_sinceDep1_z6	1	-0.1872	0.2921	-0.64	0.5217	
LDF_travel_sinceDep1_z7	1	-0.2105	0.1090	-1.93	0.0535	
LDF_travel_sinceDep1_z8	1	-0.1294	0.1089	-1.19	0.2347	
LDF_travel_sinceDep1_z9	1	-0.1116	0.1170	-0.95	0.3399	
LDF_travel_sinceDep1_z10	1	0.0233	0.1142	0.20	0.8384	
LDF_travel_sinceDep1_z11	1	-0.1528	0.1147	-1.33	0.1828	
lSKJ_sinceDep1_z1	1	-2.9102	9.5648	-0.30	0.7609	
lSKJ_sinceDep1_z2	1	0.0150	0.0715	0.21	0.8342	
lSKJ_sinceDep1_z3	1	0.0914	0.1129	0.81	0.4179	
lSKJ_sinceDep1_z4	1	0.004114	0.0301	0.14	0.8913	
lSKJ_sinceDep1_z5	1	0.0226	0.0308	0.73	0.4638	
lSKJ_sinceDep1_z6	1	-0.1419	0.0754	-1.88	0.0599	
lSKJ_sinceDep1_z7	1	0.0494	0.0253	1.95	0.0512	
lSKJ_sinceDep1_z8	1	0.0306	0.0249	1.23	0.2188	
lSKJ_sinceDep1_z9	1	0.003093	0.0273	0.11	0.9098	
lSKJ_sinceDep1_z10	1	0.0326	0.0261	1.25	0.2127	
lSKJ_sinceDep1_z11	1	0.0322	0.0281	1.15	0.2517	
lYFT_sinceDep1_z1	1	-2.2725	7.1956	-0.32	0.7521	
lYFT_sinceDep1_z2	1	-0.0511	0.0505	-1.01	0.3122	
lYFT_sinceDep1_z3	1	-0.1500	0.1286	-1.17	0.2434	
lYFT_sinceDep1_z4	1	-0.0181	0.0275	-0.66	0.5097	
lYFT_sinceDep1_z5	1	-0.0488	0.0275	-1.77	0.0760	
lYFT_sinceDep1_z6	1	0.2293	0.1349	1.70	0.0891	
lYFT_sinceDep1_z7	1	-0.0262	0.0236	-1.11	0.2687	
lYFT_sinceDep1_z8	1	-0.0403	0.0235	-1.71	0.0867	
lYFT_sinceDep1_z9	1	0.0187	0.0259	0.72	0.4712	
lYFT_sinceDep1_z10	1	-0.0164	0.0243	-0.68	0.4979	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lYFT_sinceDep1_z11	1	-0.0121	0.0260	-0.46	0.6429	
lBET_sinceDep1_z1	1	-0.8379	114.3634	-0.01	0.9942	
lBET_sinceDep1_z2	1	0.1401	0.0559	2.51	0.0122	
lBET_sinceDep1_z3	1	-0.1660	0.1107	-1.50	0.1336	
lBET_sinceDep1_z4	1	0.0397	0.0232	1.71	0.0866	
lBET_sinceDep1_z5	1	0.0605	0.0238	2.54	0.0110	
lBET_sinceDep1_z6	1	-0.0963	0.0552	-1.74	0.0813	
lBET_sinceDep1_z7	1	0.007467	0.0193	0.39	0.6987	
lBET_sinceDep1_z8	1	0.006984	0.0191	0.36	0.7152	
lBET_sinceDep1_z9	1	-0.0231	0.0204	-1.13	0.2588	
lBET_sinceDep1_z10	1	-0.0291	0.0194	-1.49	0.1352	
lBET_sinceDep1_z11	1	-0.0674	0.0222	-3.04	0.0024	
LDF_search_LastRegion_z1	1	0.1025	3.8574	0.03	0.9788	
LDF_search_LastRegion_z2	1	0.0359	0.0881	0.41	0.6839	
LDF_search_LastRegion_z3	1	-0.1548	0.1914	-0.81	0.4187	
LDF_search_LastRegion_z4	1	0.0540	0.0456	1.18	0.2368	
LDF_search_LastRegion_z5	1	0.0184	0.0458	0.40	0.6880	
LDF_search_LastRegion_z6	1	-0.3557	0.1081	-3.29	0.0010	
LDF_search_LastRegion_z7	1	0.0848	0.0373	2.28	0.0228	
LDF_search_LastRegion_z8	1	0.0589	0.0367	1.60	0.1087	
LDF_search_LastRegion_z9	1	0.0528	0.0408	1.29	0.1959	
LDF_search_LastRegion_z10	1	0.0995	0.0391	2.54	0.0109	
LDF_search_LastRegion_z11	1	0.1345	0.0442	3.04	0.0023	
LDF_travel_LastRegion_z1	1	0.7140	3.1137	0.23	0.8186	
LDF_travel_LastRegion_z2	1	0.005012	0.0840	0.06	0.9524	
LDF_travel_LastRegion_z3	1	-0.0349	0.1783	-0.20	0.8446	
LDF_travel_LastRegion_z4	1	-0.0128	0.0464	-0.28	0.7828	
LDF_travel_LastRegion_z5	1	0.0193	0.0482	0.40	0.6891	
LDF_travel_LastRegion_z6	1	-0.0814	0.1304	-0.62	0.5325	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates
DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	-0.0738	0.0392	-1.88	0.0597	
LDF_travel_LastRegion_z8	1	-0.0824	0.0389	-2.12	0.0343	
LDF_travel_LastRegion_z9	1	-0.008423	0.0423	-0.20	0.8422	
LDF_travel_LastRegion_z10	1	-0.0525	0.0400	-1.31	0.1891	
LDF_travel_LastRegion_z11	1	-0.0641	0.0428	-1.50	0.1339	
IDOL_LastRegion_z1	1	0.2414	156.1916	0.00	0.9988	
IDOL_LastRegion_z2	1	7.1328	0.8254	8.64	<.0001	
IDOL_LastRegion_z3	1	13.0434	1.3983	9.33	<.0001	
IDOL_LastRegion_z4	1	13.4576	1.3613	9.89	<.0001	
IDOL_LastRegion_z5	1	13.2417	1.2226	10.83	<.0001	
IDOL_LastRegion_z6	1	13.7042	1.3736	9.98	<.0001	
IDOL_LastRegion_z7	1	13.0193	1.3113	9.93	<.0001	
IDOL_LastRegion_z8	1	13.0786	1.3537	9.66	<.0001	
IDOL_LastRegion_z9	1	13.0863	1.3850	9.45	<.0001	
IDOL_LastRegion_z10	1	13.2624	1.3821	9.60	<.0001	
IDOL_LastRegion_z11	1	11.7487	1.4273	8.23	<.0001	
lOBJ_LastRegion_z1	1	-0.1597	0.6384	-0.25	0.8025	
lOBJ_LastRegion_z2	1	-0.0715	0.0881	-0.81	0.4172	
lOBJ_LastRegion_z3	1	-0.2001	0.2312	-0.87	0.3867	
lOBJ_LastRegion_z4	1	0.0161	0.0384	0.42	0.6762	
lOBJ_LastRegion_z5	1	0.001269	0.0394	0.03	0.9743	
lOBJ_LastRegion_z6	1	0.1888	0.0986	1.91	0.0556	
lOBJ_LastRegion_z7	1	-0.005264	0.0329	-0.16	0.8730	
lOBJ_LastRegion_z8	1	0.003181	0.0326	0.10	0.9223	
lOBJ_LastRegion_z9	1	-0.0183	0.0339	-0.54	0.5890	
lOBJ_LastRegion_z10	1	0.0407	0.0324	1.25	0.2098	
lOBJ_LastRegion_z11	1	-0.0647	0.0350	-1.85	0.0646	
lNOA_LastRegion_z1	1	-0.3638	0.7209	-0.50	0.6138	
lNOA_LastRegion_z2	1	-0.0759	0.0851	-0.89	0.3721	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates
DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	-0.1754	0.2250	-0.78	0.4356	
lNOA_LastRegion_z4	1	0.0109	0.0336	0.33	0.7445	
lNOA_LastRegion_z5	1	0.009202	0.0354	0.26	0.7950	
lNOA_LastRegion_z6	1	0.3513	0.0964	3.65	0.0003	
lNOA_LastRegion_z7	1	0.0698	0.0290	2.41	0.0160	
lNOA_LastRegion_z8	1	0.0653	0.0287	2.27	0.0230	
lNOA_LastRegion_z9	1	0.1033	0.0296	3.50	0.0005	
lNOA_LastRegion_z10	1	0.0998	0.0287	3.48	0.0005	
lNOA_LastRegion_z11	1	0.1021	0.0312	3.27	0.0011	
lYFT_LastRegion_z1	1	2.6587	7.0742	0.38	0.7070	
lYFT_LastRegion_z2	1	-0.0259	0.0538	-0.48	0.6306	
lYFT_LastRegion_z3	1	0.4332	0.2332	1.86	0.0632	
lYFT_LastRegion_z4	1	-0.0571	0.0300	-1.91	0.0564	
lYFT_LastRegion_z5	1	-0.0419	0.0308	-1.36	0.1741	
lYFT_LastRegion_z6	1	-0.0483	0.0864	-0.56	0.5762	
lYFT_LastRegion_z7	1	-0.0638	0.0267	-2.39	0.0168	
lYFT_LastRegion_z8	1	-0.0266	0.0267	-1.00	0.3182	
lYFT_LastRegion_z9	1	-0.0133	0.0280	-0.47	0.6363	
lYFT_LastRegion_z10	1	-0.0449	0.0268	-1.67	0.0941	
lYFT_LastRegion_z11	1	-0.0107	0.0294	-0.36	0.7154	
lBET_LastRegion_z1	1	-0.5142	194.3629	-0.00	0.9979	
lBET_LastRegion_z2	1	0.0286	0.0567	0.50	0.6137	
lBET_LastRegion_z3	1	-0.0752	0.1403	-0.54	0.5919	
lBET_LastRegion_z4	1	-0.0334	0.0284	-1.18	0.2392	
lBET_LastRegion_z5	1	-0.0328	0.0291	-1.13	0.2598	
lBET_LastRegion_z6	1	-0.1037	0.1098	-0.94	0.3449	
lBET_LastRegion_z7	1	-0.0358	0.0252	-1.42	0.1548	
lBET_LastRegion_z8	1	-0.0503	0.0249	-2.02	0.0435	
lBET_LastRegion_z9	1	-0.0339	0.0269	-1.26	0.2071	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates
DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	-0.0939	0.0256	-3.67	0.0002	
lBET_LastRegion_z11	1	-0.0877	0.0312	-2.81	0.0050	
lSKJ_LastRegion_z1	1	2.9490	9.8534	0.30	0.7647	
lSKJ_LastRegion_z2	1	0.1028	0.0674	1.52	0.1275	
lSKJ_LastRegion_z3	1	-0.002806	0.1183	-0.02	0.9811	
lSKJ_LastRegion_z4	1	0.0896	0.0309	2.90	0.0037	
lSKJ_LastRegion_z5	1	0.0619	0.0316	1.96	0.0500	
lSKJ_LastRegion_z6	1	0.000296	0.0763	0.00	0.9969	
lSKJ_LastRegion_z7	1	0.0723	0.0260	2.78	0.0055	
lSKJ_LastRegion_z8	1	0.0635	0.0258	2.46	0.0138	
lSKJ_LastRegion_z9	1	0.0232	0.0269	0.86	0.3874	
lSKJ_LastRegion_z10	1	0.0430	0.0258	1.67	0.0956	
lSKJ_LastRegion_z11	1	0.0669	0.0286	2.34	0.0191	
SST_DOL_L	1	0.003322	0.000606	5.49	<.0001	
SST_DOL_H	1	-0.007402	0.001276	-5.80	<.0001	
O2_DOL_L	1	-0.4582	0.0812	-5.64	<.0001	
O2_DOL_H	1	-0.2516	0.0239	-10.53	<.0001	
SSH_DOL_L	1	-0.004543	0.000956	-4.75	<.0001	
SSH_DOL_H	1	0.002020	0.000929	2.18	0.0296	
MLD_DOL_L	1	-0.003093	0.001527	-2.02	0.0429	
MLD_DOL_H	1	-0.003400	0.000700	-4.86	<.0001	
CHLORO_DOL_L	1	0.005132	0.000784	6.54	<.0001	
CHLORO_DOL_H	1	-0.002702	0.001655	-1.63	0.1026	
MEI_z1	1	-0.3677	2.6234	-0.14	0.8885	
MEI_z2	1	-0.1586	0.1838	-0.86	0.3881	
MEI_z3	1	-0.0649	0.4969	-0.13	0.8962	
MEI_z4	1	-0.3196	0.1035	-3.09	0.0020	
MEI_z5	1	-0.1990	0.1074	-1.85	0.0639	
MEI_z6	1	0.7376	0.2677	2.76	0.0059	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
MEI_z7	1	-0.1369	0.0906	-1.51	0.1309	
MEI_z8	1	-0.1519	0.0949	-1.60	0.1095	
MEI_z9	1	0.1451	0.0976	1.49	0.1370	
MEI_z10	1	0.0668	0.0935	0.71	0.4749	
MEI_z11	1	0.3354	0.1037	3.23	0.0012	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	3733
Number of Cases	44796
Log Likelihood	- 6904
Log Likelihood Null (LogL(0))	- 9276
Maximum Absolute Gradient	1.11593
Number of Iterations	458
Optimization Method	Dual Quasi- Newton
AIC	14166
Schwarz Criterion	15281

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	1	0.03
1	2	129	3.46
2	3	4	0.11
3	4	337	9.03
4	5	574	15.38
5	6	1	0.03
6	7	617	16.53
7	8	850	22.77
8	9	177	4.74
9	10	418	11.20
10	11	225	6.03
11	12	400	10.72

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	4744.1	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	18552	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5596	$R / (R+N)$
Cragg- Uhler 1	0.7194	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.7244	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.7696	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.7383	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2557	R / U
Veall- Zimmermann	0.6722	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	- 0.4280	0.0319	- 13.42	<.0001	
LDistant_Arrive	1	- 0.5853	0.3355	- 1.74	0.0810	
LCPUE_All_1	1	- 0.0113	0.0687	- 0.16	0.8692	
LRPUE_All_1	1	0.0237	0.0433	0.55	0.5842	
LDistant_sinceDep1_z1	1	- 1.2578	6.6152	- 0.19	0.8492	
LDistant_sinceDep1_z2	1	4.8050	0.5678	8.46	<.0001	
LDistant_sinceDep1_z3	1	- 2.8171	3.1764	- 0.89	0.3751	
LDistant_sinceDep1_z4	1	1.3262	0.3588	3.70	0.0002	
LDistant_sinceDep1_z5	1	1.8334	0.3287	5.58	<.0001	
LDistant_sinceDep1_z6	1	- 5.8944	6.5082	- 0.91	0.3651	
LDistant_sinceDep1_z7	1	- 0.3483	0.2996	- 1.16	0.2450	
LDistant_sinceDep1_z8	1	- 0.4596	0.2831	- 1.62	0.1045	
LDistant_sinceDep1_z9	1	- 2.5006	0.3825	- 6.54	<.0001	
LDistant_sinceDep1_z10	1	- 2.3562	0.3329	- 7.08	<.0001	
LDistant_sinceDep1_z11	1	- 1.5559	0.3857	- 4.03	<.0001	
LDF_search_sinceDep1_z1	1	0.1555	0.4447	0.35	0.7266	
LDF_search_sinceDep1_z2	1	- 2.1458	4.4595	- 0.48	0.6304	
LDF_search_sinceDep1_z3	1	3.9034	4.7477	0.82	0.4110	
LDF_search_sinceDep1_z4	1	0.1215	3.5618	0.03	0.9728	
LDF_search_sinceDep1_z5	1	- 0.6296	3.1155	- 0.20	0.8399	
LDF_search_sinceDep1_z6	1	0.1259	9.6023	0.01	0.9895	
LDF_search_sinceDep1_z7	1	1.0867	2.2298	0.49	0.6260	
LDF_search_sinceDep1_z8	1	1.2302	1.7873	0.69	0.4913	
LDF_search_sinceDep1_z9	1	3.0415	1.3761	2.21	0.0271	
LDF_search_sinceDep1_z10	1	3.0464	0.9336	3.26	0.0011	
LDF_search_sinceDep1_z11	1	1.8179	0.5586	3.25	0.0011	
LDF_travel_sinceDep1_z1	1	5.0599	3.6040	1.40	0.1603	
LDF_travel_sinceDep1_z2	1	0.0790	0.1804	0.44	0.6615	
LDF_travel_sinceDep1_z3	1	- 0.7480	1.8876	- 0.40	0.6919	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	-0.0683	0.1076	-0.64	0.5254	
LDF_travel_sinceDep1_z5	1	0.006559	0.0965	0.07	0.9458	
LDF_travel_sinceDep1_z6	1	1.8217	2.4858	0.73	0.4637	
LDF_travel_sinceDep1_z7	1	0.0815	0.0914	0.89	0.3722	
LDF_travel_sinceDep1_z8	1	0.0914	0.0862	1.06	0.2885	
LDF_travel_sinceDep1_z9	1	0.2617	0.1394	1.88	0.0605	
LDF_travel_sinceDep1_z10	1	0.1968	0.1121	1.76	0.0791	
LDF_travel_sinceDep1_z11	1	0.0585	0.1044	0.56	0.5755	
lSKJ_sinceDep1_z1	1	0.4336	1.6078	0.27	0.7874	
lSKJ_sinceDep1_z2	1	0.0142	0.0502	0.28	0.7781	
lSKJ_sinceDep1_z3	1	-0.1298	0.1756	-0.74	0.4599	
lSKJ_sinceDep1_z4	1	0.0558	0.0291	1.92	0.0552	
lSKJ_sinceDep1_z5	1	0.0521	0.0261	2.00	0.0460	
lSKJ_sinceDep1_z6	1	-2.4896	4.4555	-0.56	0.5763	
lSKJ_sinceDep1_z7	1	0.0659	0.0244	2.70	0.0068	
lSKJ_sinceDep1_z8	1	0.0542	0.0231	2.35	0.0188	
lSKJ_sinceDep1_z9	1	-0.007186	0.0346	-0.21	0.8356	
lSKJ_sinceDep1_z10	1	0.0790	0.0315	2.51	0.0122	
lSKJ_sinceDep1_z11	1	0.0515	0.0307	1.68	0.0933	
lYFT_sinceDep1_z1	1	0.1903	0.8074	0.24	0.8137	
lYFT_sinceDep1_z2	1	-0.0857	0.0377	-2.28	0.0228	
lYFT_sinceDep1_z3	1	-0.0739	0.1492	-0.50	0.6202	
lYFT_sinceDep1_z4	1	-0.0586	0.0250	-2.34	0.0191	
lYFT_sinceDep1_z5	1	-0.0588	0.0224	-2.63	0.0086	
lYFT_sinceDep1_z6	1	-1.9636	7.5442	-0.26	0.7946	
lYFT_sinceDep1_z7	1	-0.0714	0.0211	-3.38	0.0007	
lYFT_sinceDep1_z8	1	-0.0735	0.0206	-3.57	0.0004	
lYFT_sinceDep1_z9	1	-0.0169	0.0315	-0.54	0.5923	
lYFT_sinceDep1_z10	1	-0.0260	0.0243	-1.07	0.2836	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
lYFT_sinceDep1_z11	1	-0.0467	0.0267	-1.75	0.0805	
lBET_sinceDep1_z1	1	0.3983	1.1716	0.34	0.7339	
lBET_sinceDep1_z2	1	0.0760	0.0421	1.80	0.0713	
lBET_sinceDep1_z3	1	0.1419	0.2174	0.65	0.5141	
lBET_sinceDep1_z4	1	0.003845	0.0213	0.18	0.8570	
lBET_sinceDep1_z5	1	0.0198	0.0196	1.01	0.3105	
lBET_sinceDep1_z6	1	-0.5408	8.6215	-0.06	0.9500	
lBET_sinceDep1_z7	1	-0.0131	0.0176	-0.75	0.4558	
lBET_sinceDep1_z8	1	-0.0153	0.0167	-0.92	0.3591	
lBET_sinceDep1_z9	1	-0.000546	0.0230	-0.02	0.9811	
lBET_sinceDep1_z10	1	-0.0463	0.0185	-2.50	0.0125	
lBET_sinceDep1_z11	1	-0.0766	0.0216	-3.55	0.0004	
LDF_search_LastRegion_z1	1	0.4519	0.7171	0.63	0.5286	
LDF_search_LastRegion_z2	1	-0.0433	0.0581	-0.75	0.4561	
LDF_search_LastRegion_z3	1	-0.0681	0.3030	-0.22	0.8222	
LDF_search_LastRegion_z4	1	0.0987	0.0423	2.34	0.0195	
LDF_search_LastRegion_z5	1	0.0314	0.0311	1.01	0.3127	
LDF_search_LastRegion_z6	1	3.9665	7.2633	0.55	0.5850	
LDF_search_LastRegion_z7	1	0.0339	0.0301	1.12	0.2612	
LDF_search_LastRegion_z8	1	0.0567	0.0284	1.99	0.0462	
LDF_search_LastRegion_z9	1	0.0676	0.0452	1.49	0.1351	
LDF_search_LastRegion_z10	1	0.0633	0.0371	1.71	0.0875	
LDF_search_LastRegion_z11	1	0.0790	0.0378	2.09	0.0363	
LDF_travel_LastRegion_z1	1	-0.1620	0.3982	-0.41	0.6841	
LDF_travel_LastRegion_z2	1	0.0545	0.0622	0.88	0.3812	
LDF_travel_LastRegion_z3	1	2.1482	1.6237	1.32	0.1858	
LDF_travel_LastRegion_z4	1	0.0345	0.0374	0.92	0.3560	
LDF_travel_LastRegion_z5	1	-0.0177	0.0313	-0.57	0.5718	
LDF_travel_LastRegion_z6	1	-0.6465	1.3884	-0.47	0.6415	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	0.001910	0.0301	0.06	0.9494	
LDF_travel_LastRegion_z8	1	-0.0287	0.0280	-1.02	0.3066	
LDF_travel_LastRegion_z9	1	0.0181	0.0414	0.44	0.6610	
LDF_travel_LastRegion_z10	1	0.0604	0.0348	1.74	0.0826	
LDF_travel_LastRegion_z11	1	-0.0608	0.0355	-1.71	0.0871	
IDOL_LastRegion_z1	1	0.2490	9812	0.00	1.0000	
IDOL_LastRegion_z2	1	5.1020	0.8957	5.70	<.0001	
IDOL_LastRegion_z3	1	8.9917	15.4081	0.58	0.5595	
IDOL_LastRegion_z4	1	10.2332	1.2745	8.03	<.0001	
IDOL_LastRegion_z5	1	10.1351	1.2148	8.34	<.0001	
IDOL_LastRegion_z6	1	3.5055	5.3963	0.65	0.5159	
IDOL_LastRegion_z7	1	9.9077	1.2779	7.75	<.0001	
IDOL_LastRegion_z8	1	9.9913	1.2950	7.72	<.0001	
IDOL_LastRegion_z9	1	9.7999	1.3498	7.26	<.0001	
IDOL_LastRegion_z10	1	10.0391	1.3116	7.65	<.0001	
IDOL_LastRegion_z11	1	8.2072	1.4019	5.85	<.0001	
lOBJ_LastRegion_z1	1	-1.0692	41.7671	-0.03	0.9796	
lOBJ_LastRegion_z2	1	-0.0946	0.0643	-1.47	0.1414	
lOBJ_LastRegion_z3	1	-3.8360	46.5028	-0.08	0.9343	
lOBJ_LastRegion_z4	1	-0.0217	0.0326	-0.67	0.5059	
lOBJ_LastRegion_z5	1	-0.0418	0.0301	-1.39	0.1657	
lOBJ_LastRegion_z6	1	0.4384	0.8529	0.51	0.6072	
lOBJ_LastRegion_z7	1	-0.0444	0.0271	-1.64	0.1012	
lOBJ_LastRegion_z8	1	0.001246	0.0253	0.05	0.9608	
lOBJ_LastRegion_z9	1	-0.0836	0.0354	-2.36	0.0182	
lOBJ_LastRegion_z10	1	-0.0339	0.0278	-1.22	0.2233	
lOBJ_LastRegion_z11	1	-0.1087	0.0342	-3.18	0.0015	
lNOA_LastRegion_z1	1	-1.0291	50.4448	-0.02	0.9837	
lNOA_LastRegion_z2	1	-0.1750	0.0657	-2.66	0.0077	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	- 4.2645	112.4389	- 0.04	0.9697	
lNOA_LastRegion_z4	1	- 0.0444	0.0256	- 1.74	0.0827	
lNOA_LastRegion_z5	1	- 0.0384	0.0235	- 1.64	0.1019	
lNOA_LastRegion_z6	1	0.0182	0.4100	0.04	0.9646	
lNOA_LastRegion_z7	1	0.003369	0.0206	0.16	0.8700	
lNOA_LastRegion_z8	1	- 0.0383	0.0199	- 1.93	0.0539	
lNOA_LastRegion_z9	1	- 0.0144	0.0275	- 0.53	0.5989	
lNOA_LastRegion_z10	1	0.008419	0.0219	0.38	0.7013	
lNOA_LastRegion_z11	1	0.001575	0.0267	0.06	0.9529	
lYFT_LastRegion_z1	1	- 0.7402	2301	- 0.00	0.9997	
lYFT_LastRegion_z2	1	0.0252	0.0354	0.71	0.4760	
lYFT_LastRegion_z3	1	2.1810	12.6907	0.17	0.8635	
lYFT_LastRegion_z4	1	- 0.009947	0.0230	- 0.43	0.6654	
lYFT_LastRegion_z5	1	- 0.009373	0.0204	- 0.46	0.6466	
lYFT_LastRegion_z6	1	2.9312	7.4782	0.39	0.6951	
lYFT_LastRegion_z7	1	- 0.0177	0.0197	- 0.90	0.3683	
lYFT_LastRegion_z8	1	0.009407	0.0188	0.50	0.6177	
lYFT_LastRegion_z9	1	0.0482	0.0283	1.70	0.0892	
lYFT_LastRegion_z10	1	- 0.0205	0.0216	- 0.95	0.3429	
lYFT_LastRegion_z11	1	0.0486	0.0265	1.83	0.0669	
lBET_LastRegion_z1	1	- 0.6192	8984	- 0.00	0.9999	
lBET_LastRegion_z2	1	0.0686	0.0401	1.71	0.0870	
lBET_LastRegion_z3	1	- 1.0336	4934	- 0.00	0.9998	
lBET_LastRegion_z4	1	- 0.005650	0.0214	- 0.26	0.7913	
lBET_LastRegion_z5	1	0.0421	0.0202	2.08	0.0374	
lBET_LastRegion_z6	1	0.0171	8.8540	0.00	0.9985	
lBET_LastRegion_z7	1	0.0203	0.0188	1.08	0.2785	
lBET_LastRegion_z8	1	- 0.008619	0.0172	- 0.50	0.6164	
lBET_LastRegion_z9	1	- 0.0581	0.0252	- 2.31	0.0210	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	-0.0501	0.0203	-2.46	0.0139	
lBET_LastRegion_z11	1	0.002556	0.0254	0.10	0.9198	
lSKJ_LastRegion_z1	1	-0.9379	3243	-0.00	0.9998	
lSKJ_LastRegion_z2	1	0.0390	0.0436	0.89	0.3711	
lSKJ_LastRegion_z3	1	-1.3623	4935	-0.00	0.9998	
lSKJ_LastRegion_z4	1	0.0224	0.0254	0.88	0.3783	
lSKJ_LastRegion_z5	1	0.0149	0.0227	0.66	0.5112	
lSKJ_LastRegion_z6	1	2.3008	4.3662	0.53	0.5982	
lSKJ_LastRegion_z7	1	0.007472	0.0211	0.35	0.7238	
lSKJ_LastRegion_z8	1	-0.0109	0.0198	-0.55	0.5812	
lSKJ_LastRegion_z9	1	0.0148	0.0291	0.51	0.6109	
lSKJ_LastRegion_z10	1	0.003941	0.0228	0.17	0.8627	
lSKJ_LastRegion_z11	1	0.0118	0.0272	0.44	0.6632	
SST_DOL_L	1	0.001222	0.000538	2.27	0.0230	
SST_DOL_H	1	-0.004430	0.001236	-3.58	0.0003	
O2_DOL_L	1	-0.6796	0.1767	-3.85	0.0001	
O2_DOL_H	1	-0.1973	0.0237	-8.31	<.0001	
SSH_DOL_L	1	-0.002904	0.001016	-2.86	0.0043	
SSH_DOL_H	1	0.001548	0.000876	1.77	0.0772	
MLD_DOL_L	1	-0.001108	0.001770	-0.63	0.5312	
MLD_DOL_H	1	-0.000935	0.000654	-1.43	0.1526	
CHLORO_DOL_L	1	0.004283	0.000713	6.00	<.0001	
CHLORO_DOL_H	1	-0.000930	0.002023	-0.46	0.6457	
MEI_z1	1	0.2280	1.1994	0.19	0.8492	
MEI_z2	1	-0.1241	0.1252	-0.99	0.3216	
MEI_z3	1	0.5758	0.6863	0.84	0.4015	
MEI_z4	1	-0.2481	0.0885	-2.80	0.0050	
MEI_z5	1	-0.0640	0.0808	-0.79	0.4285	
MEI_z6	1	1.3398	2.1349	0.63	0.5303	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
MEI_z7	1	-0.1066	0.0788	-1.35	0.1760	
MEI_z8	1	-0.0649	0.0803	-0.81	0.4188	
MEI_z9	1	0.0814	0.1126	0.72	0.4700	
MEI_z10	1	0.0873	0.0901	0.97	0.3325	
MEI_z11	1	0.1671	0.1025	1.63	0.1029	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	1574
Number of Cases	18888
Log Likelihood	- 3013
Log Likelihood Null (LogL(0))	- 3911
Maximum Absolute Gradient	10.78181
Number of Iterations	354
Optimization Method	Dual Quasi- Newton
AIC	6383
Schwarz Criterion	7343

Discrete Response Profile				
Index	CHOICE	Frequency	Percent	
0	1	10	0.64	
1	2	176	11.18	
2	3	18	1.14	
3	4	227	14.42	
4	5	295	18.74	
5	6	17	1.08	
6	7	155	9.85	
7	8	235	14.93	
8	9	58	3.68	
9	10	90	5.72	
10	11	68	4.32	
11	12	225	14.29	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	1797.2	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	7822.5	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5331	$R / (R+N)$
Cragg- Uhler 1	0.6808	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.6855	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.7267	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.636	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2298	R / U
Veall- Zimmermann	0.6404	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	-0.4974	0.0469	-10.61	<.0001	
LDistant_Arrive	1	-0.7289	0.2038	-3.58	0.0003	
LCPUE_All_1	1	0.1110	0.1116	0.99	0.3200	
LRPUE_All_1	1	-0.0646	0.0708	-0.91	0.3614	
LDistant_sinceDep1_z1	1	0.9950	0.5099	1.95	0.0510	
LDistant_sinceDep1_z2	1	1.0282	0.3145	3.27	0.0011	
LDistant_sinceDep1_z3	1	1.3894	0.9236	1.50	0.1325	
LDistant_sinceDep1_z4	1	-0.2037	0.3373	-0.60	0.5459	
LDistant_sinceDep1_z5	1	-0.5095	0.2734	-1.86	0.0624	
LDistant_sinceDep1_z6	1	-2.0672	1.3848	-1.49	0.1355	
LDistant_sinceDep1_z7	1	-0.7769	0.3195	-2.43	0.0150	
LDistant_sinceDep1_z8	1	-0.7840	0.3315	-2.36	0.0180	
LDistant_sinceDep1_z9	1	-1.7019	0.3752	-4.54	<.0001	
LDistant_sinceDep1_z10	1	-1.8764	0.3684	-5.09	<.0001	
LDistant_sinceDep1_z11	1	-0.7593	0.4230	-1.80	0.0727	
LDF_search_sinceDep1_z1	1	0.0115	0.0943	0.12	0.9031	
LDF_search_sinceDep1_z2	1	-1.6868	0.9401	-1.79	0.0728	
LDF_search_sinceDep1_z3	1	-0.3518	1.1915	-0.30	0.7678	
LDF_search_sinceDep1_z4	1	-0.4761	0.7753	-0.61	0.5391	
LDF_search_sinceDep1_z5	1	0.0174	0.6908	0.03	0.9799	
LDF_search_sinceDep1_z6	1	1.4488	1.3034	1.11	0.2663	
LDF_search_sinceDep1_z7	1	0.3844	0.5518	0.70	0.4861	
LDF_search_sinceDep1_z8	1	0.7233	0.4704	1.54	0.1242	
LDF_search_sinceDep1_z9	1	2.0999	0.5542	3.79	0.0002	
LDF_search_sinceDep1_z10	1	2.5314	0.4767	5.31	<.0001	
LDF_search_sinceDep1_z11	1	0.9390	0.4628	2.03	0.0425	
LDF_travel_sinceDep1_z1	1	0.4915	0.5970	0.82	0.4103	
LDF_travel_sinceDep1_z2	1	-0.007870	0.1311	-0.06	0.9521	
LDF_travel_sinceDep1_z3	1	-0.1335	0.2025	-0.66	0.5096	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	-0.0521	0.1174	-0.44	0.6570	
LDF_travel_sinceDep1_z5	1	0.1732	0.1238	1.40	0.1616	
LDF_travel_sinceDep1_z6	1	0.9221	0.4517	2.04	0.0412	
LDF_travel_sinceDep1_z7	1	0.1669	0.1415	1.18	0.2384	
LDF_travel_sinceDep1_z8	1	0.1203	0.1266	0.95	0.3422	
LDF_travel_sinceDep1_z9	1	-0.2136	0.1437	-1.49	0.1373	
LDF_travel_sinceDep1_z10	1	-0.1483	0.1411	-1.05	0.2933	
LDF_travel_sinceDep1_z11	1	-0.0588	0.1386	-0.42	0.6712	
lSKJ_sinceDep1_z1	1	-0.0947	0.1294	-0.73	0.4643	
lSKJ_sinceDep1_z2	1	0.0583	0.0452	1.29	0.1972	
lSKJ_sinceDep1_z3	1	0.0403	0.0779	0.52	0.6052	
lSKJ_sinceDep1_z4	1	0.0406	0.0385	1.05	0.2917	
lSKJ_sinceDep1_z5	1	0.0331	0.0371	0.89	0.3712	
lSKJ_sinceDep1_z6	1	-0.0987	0.0787	-1.25	0.2098	
lSKJ_sinceDep1_z7	1	0.001916	0.0372	0.05	0.9589	
lSKJ_sinceDep1_z8	1	0.0428	0.0362	1.18	0.2374	
lSKJ_sinceDep1_z9	1	0.0324	0.0480	0.67	0.4998	
lSKJ_sinceDep1_z10	1	0.0404	0.0427	0.94	0.3451	
lSKJ_sinceDep1_z11	1	0.0584	0.0469	1.24	0.2132	
lYFT_sinceDep1_z1	1	-0.0922	0.1182	-0.78	0.4355	
lYFT_sinceDep1_z2	1	0.0903	0.0424	2.13	0.0331	
lYFT_sinceDep1_z3	1	0.0537	0.1228	0.44	0.6622	
lYFT_sinceDep1_z4	1	0.0207	0.0367	0.56	0.5732	
lYFT_sinceDep1_z5	1	0.002101	0.0351	0.06	0.9523	
lYFT_sinceDep1_z6	1	0.2722	0.2548	1.07	0.2854	
lYFT_sinceDep1_z7	1	0.0195	0.0398	0.49	0.6247	
lYFT_sinceDep1_z8	1	-0.007114	0.0359	-0.20	0.8431	
lYFT_sinceDep1_z9	1	0.002401	0.0558	0.04	0.9657	
lYFT_sinceDep1_z10	1	-0.0140	0.0488	-0.29	0.7746	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
lYFT_sinceDep1_z11	1	-0.0200	0.0519	-0.38	0.7006	
lBET_sinceDep1_z1	1	-0.1102	0.1104	-1.00	0.3183	
lBET_sinceDep1_z2	1	0.0273	0.0333	0.82	0.4128	
lBET_sinceDep1_z3	1	-0.2488	0.0785	-3.17	0.0015	
lBET_sinceDep1_z4	1	0.0367	0.0295	1.25	0.2127	
lBET_sinceDep1_z5	1	-0.004187	0.0287	-0.15	0.8842	
lBET_sinceDep1_z6	1	-0.1809	0.0822	-2.20	0.0277	
lBET_sinceDep1_z7	1	-0.0273	0.0309	-0.88	0.3779	
lBET_sinceDep1_z8	1	-0.0502	0.0288	-1.74	0.0814	
lBET_sinceDep1_z9	1	-0.0178	0.0384	-0.46	0.6434	
lBET_sinceDep1_z10	1	-0.0736	0.0335	-2.19	0.0283	
lBET_sinceDep1_z11	1	-0.1102	0.0386	-2.86	0.0043	
LDF_search_LastRegion_z1	1	-0.0715	0.1865	-0.38	0.7014	
LDF_search_LastRegion_z2	1	0.0332	0.0528	0.63	0.5290	
LDF_search_LastRegion_z3	1	0.0384	0.1222	0.31	0.7531	
LDF_search_LastRegion_z4	1	0.0799	0.0520	1.54	0.1243	
LDF_search_LastRegion_z5	1	0.005366	0.0428	0.13	0.9003	
LDF_search_LastRegion_z6	1	-0.004765	0.1264	-0.04	0.9699	
LDF_search_LastRegion_z7	1	0.0244	0.0527	0.46	0.6433	
LDF_search_LastRegion_z8	1	0.0973	0.0470	2.07	0.0385	
LDF_search_LastRegion_z9	1	-0.0259	0.0684	-0.38	0.7054	
LDF_search_LastRegion_z10	1	0.0320	0.0635	0.50	0.6148	
LDF_search_LastRegion_z11	1	0.1071	0.0670	1.60	0.1101	
LDF_travel_LastRegion_z1	1	-0.002067	0.1792	-0.01	0.9908	
LDF_travel_LastRegion_z2	1	0.0719	0.0540	1.33	0.1830	
LDF_travel_LastRegion_z3	1	-0.1534	0.1077	-1.42	0.1543	
LDF_travel_LastRegion_z4	1	0.0996	0.0501	1.99	0.0467	
LDF_travel_LastRegion_z5	1	0.0549	0.0431	1.27	0.2034	
LDF_travel_LastRegion_z6	1	-0.0206	0.1285	-0.16	0.8728	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	0.0622	0.0530	1.17	0.2408	
LDF_travel_LastRegion_z8	1	0.0135	0.0437	0.31	0.7579	
LDF_travel_LastRegion_z9	1	0.1061	0.0736	1.44	0.1497	
LDF_travel_LastRegion_z10	1	0.0903	0.0636	1.42	0.1558	
LDF_travel_LastRegion_z11	1	-0.0381	0.0608	-0.63	0.5312	
IDOL_LastRegion_z1	1	0.3346	0.1378	2.43	0.0152	
IDOL_LastRegion_z2	1	0.0534	0.1115	0.48	0.6324	
IDOL_LastRegion_z3	1	0.2666	0.1177	2.26	0.0236	
IDOL_LastRegion_z4	1	0.2194	0.0757	2.90	0.0038	
IDOL_LastRegion_z5	1	0.1301	0.0771	1.69	0.0914	
IDOL_LastRegion_z6	1	0.1244	0.1494	0.83	0.4048	
IDOL_LastRegion_z7	1	0.2331	0.0760	3.07	0.0022	
IDOL_LastRegion_z8	1	0.1804	0.0752	2.40	0.0165	
IDOL_LastRegion_z9	1	0.1664	0.0881	1.89	0.0589	
IDOL_LastRegion_z10	1	0.0913	0.0889	1.03	0.3045	
IDOL_LastRegion_z11	1	-0.0807	0.1165	-0.69	0.4884	
lOBJ_LastRegion_z1	1	-0.0681	0.1527	-0.45	0.6556	
lOBJ_LastRegion_z2	1	0.0894	0.0611	1.46	0.1437	
lOBJ_LastRegion_z3	1	-0.1110	0.0984	-1.13	0.2597	
lOBJ_LastRegion_z4	1	0.0217	0.0530	0.41	0.6826	
lOBJ_LastRegion_z5	1	0.0274	0.0511	0.54	0.5920	
lOBJ_LastRegion_z6	1	0.1642	0.1122	1.46	0.1431	
lOBJ_LastRegion_z7	1	-0.0117	0.0538	-0.22	0.8280	
lOBJ_LastRegion_z8	1	0.0133	0.0506	0.26	0.7933	
lOBJ_LastRegion_z9	1	-0.0510	0.0665	-0.77	0.4433	
lOBJ_LastRegion_z10	1	0.0327	0.0581	0.56	0.5740	
lOBJ_LastRegion_z11	1	-0.0110	0.0701	-0.16	0.8751	
lNOA_LastRegion_z1	1	-0.0266	0.1249	-0.21	0.8312	
lNOA_LastRegion_z2	1	-0.0510	0.0504	-1.01	0.3113	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	0.1229	0.0899	1.37	0.1713	
lNOA_LastRegion_z4	1	-0.0334	0.0412	-0.81	0.4171	
lNOA_LastRegion_z5	1	0.002129	0.0373	0.06	0.9545	
lNOA_LastRegion_z6	1	-0.1773	0.1302	-1.36	0.1734	
lNOA_LastRegion_z7	1	0.0338	0.0399	0.85	0.3979	
lNOA_LastRegion_z8	1	0.0160	0.0370	0.43	0.6653	
lNOA_LastRegion_z9	1	0.0459	0.0519	0.88	0.3765	
lNOA_LastRegion_z10	1	0.0167	0.0450	0.37	0.7101	
lNOA_LastRegion_z11	1	0.0122	0.0521	0.23	0.8147	
lYFT_LastRegion_z1	1	-0.0205	0.1114	-0.18	0.8541	
lYFT_LastRegion_z2	1	-0.0680	0.0363	-1.88	0.0607	
lYFT_LastRegion_z3	1	-0.002042	0.0935	-0.02	0.9826	
lYFT_LastRegion_z4	1	-0.0220	0.0344	-0.64	0.5226	
lYFT_LastRegion_z5	1	-0.005465	0.0326	-0.17	0.8669	
lYFT_LastRegion_z6	1	0.003519	0.1182	0.03	0.9763	
lYFT_LastRegion_z7	1	-0.0280	0.0369	-0.76	0.4472	
lYFT_LastRegion_z8	1	-0.0139	0.0334	-0.42	0.6767	
lYFT_LastRegion_z9	1	0.0113	0.0521	0.22	0.8277	
lYFT_LastRegion_z10	1	0.0123	0.0441	0.28	0.7806	
lYFT_LastRegion_z11	1	0.0980	0.0534	1.83	0.0666	
lBET_LastRegion_z1	1	0.0137	0.1194	0.11	0.9089	
lBET_LastRegion_z2	1	-0.0151	0.0316	-0.48	0.6315	
lBET_LastRegion_z3	1	0.0191	0.1052	0.18	0.8555	
lBET_LastRegion_z4	1	-0.0440	0.0286	-1.54	0.1240	
lBET_LastRegion_z5	1	0.0352	0.0288	1.22	0.2211	
lBET_LastRegion_z6	1	-1.6763	1.1748	-1.43	0.1536	
lBET_LastRegion_z7	1	0.0166	0.0332	0.50	0.6176	
lBET_LastRegion_z8	1	0.0667	0.0305	2.19	0.0285	
lBET_LastRegion_z9	1	-0.0723	0.0460	-1.57	0.1166	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	-0.0581	0.0380	-1.53	0.1262	
lBET_LastRegion_z11	1	0.0500	0.0430	1.16	0.2450	
lSKJ_LastRegion_z1	1	0.1790	0.1408	1.27	0.2035	
lSKJ_LastRegion_z2	1	-0.004107	0.0476	-0.09	0.9312	
lSKJ_LastRegion_z3	1	0.0768	0.0839	0.92	0.3598	
lSKJ_LastRegion_z4	1	0.006038	0.0418	0.14	0.8851	
lSKJ_LastRegion_z5	1	-0.0448	0.0394	-1.13	0.2566	
lSKJ_LastRegion_z6	1	-0.0439	0.1052	-0.42	0.6765	
lSKJ_LastRegion_z7	1	-0.0210	0.0429	-0.49	0.6250	
lSKJ_LastRegion_z8	1	-0.0852	0.0390	-2.18	0.0290	
lSKJ_LastRegion_z9	1	-0.0134	0.0553	-0.24	0.8079	
lSKJ_LastRegion_z10	1	-0.0776	0.0478	-1.63	0.1040	
lSKJ_LastRegion_z11	1	-0.1287	0.0513	-2.51	0.0121	
SST_DOL_L	1	-0.000454	0.000706	-0.64	0.5206	
SST_DOL_H	1	0.002697	0.001718	1.57	0.1165	
O2_DOL_L	1	-0.2224	0.0615	-3.62	0.0003	
O2_DOL_H	1	-0.0205	0.005099	-4.02	<.0001	
SSH_DOL_L	1	-0.005015	0.001585	-3.16	0.0016	
SSH_DOL_H	1	0.004395	0.001082	4.06	<.0001	
MLD_DOL_L	1	-0.004606	0.003061	-1.50	0.1324	
MLD_DOL_H	1	-0.002755	0.000812	-3.39	0.0007	
CHLORO_DOL_L	1	0.003553	0.000923	3.85	0.0001	
CHLORO_DOL_H	1	0.005704	0.003147	1.81	0.0700	
MEI_z1	1	-0.5821	0.5810	-1.00	0.3164	
MEI_z2	1	-0.3436	0.1540	-2.23	0.0256	
MEI_z3	1	1.5463	0.3465	4.46	<.0001	
MEI_z4	1	-0.2512	0.1294	-1.94	0.0523	
MEI_z5	1	-0.1451	0.1201	-1.21	0.2273	
MEI_z6	1	1.2861	0.3731	3.45	0.0006	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					Approx Pr > |t|
	DF	Estimate	Standard Error	t Value		
MEI_z7	1	-0.0721	0.1408	-0.51	0.6088	
MEI_z8	1	-0.0308	0.1291	-0.24	0.8114	
MEI_z9	1	0.2099	0.2042	1.03	0.3041	
MEI_z10	1	0.1531	0.1791	0.85	0.3926	
MEI_z11	1	0.4595	0.1785	2.57	0.0101	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	2266
Number of Cases	27192
Log Likelihood	- 4179
Log Likelihood Null (LogL(0))	- 5631
Maximum Absolute Gradient	6.42112
Number of Iterations	465
Optimization Method	Dual Quasi- Newton
AIC	8715
Schwarz Criterion	9740

Discrete Response Profile				
Index	CHOICE	Frequency	Percent	
0	1	12	0.53	
1	2	400	17.65	
2	3	9	0.40	
3	4	453	19.99	
4	5	456	20.12	
5	6	5	0.22	
6	7	224	9.89	
7	8	239	10.55	
8	9	34	1.50	
9	10	95	4.19	
10	11	105	4.63	
11	12	234	10.33	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	2904.2	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	11262	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5617	$R / (R+N)$
Cragg- Uhler 1	0.7224	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.7275	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.7729	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.7202	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2579	R / U
Veall- Zimmermann	0.6747	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	-0.2646	0.0396	-6.69	<.0001	
LDistant_Arrive	1	-0.5650	0.1959	-2.88	0.0039	
ICPUE_All_1	1	0.2994	0.1022	2.93	0.0034	
IRPUE_All_1	1	-0.1797	0.0647	-2.78	0.0055	
LDistant_sinceDep1_z1	1	5.6184	1.7934	3.13	0.0017	
LDistant_sinceDep1_z2	1	2.1022	0.4721	4.45	<.0001	
LDistant_sinceDep1_z3	1	3.9429	2.0185	1.95	0.0508	
LDistant_sinceDep1_z4	1	1.1160	0.4514	2.47	0.0134	
LDistant_sinceDep1_z5	1	0.1471	0.4450	0.33	0.7410	
LDistant_sinceDep1_z6	1	-3.3810	2.8996	-1.17	0.2436	
LDistant_sinceDep1_z7	1	-0.4014	0.4276	-0.94	0.3479	
LDistant_sinceDep1_z8	1	-0.3927	0.4597	-0.85	0.3929	
LDistant_sinceDep1_z9	1	-2.1102	0.6048	-3.49	0.0005	
LDistant_sinceDep1_z10	1	-2.6633	0.5652	-4.71	<.0001	
LDistant_sinceDep1_z11	1	-1.1662	0.6009	-1.94	0.0523	
LDF_search_sinceDep1_z1	1	0.3905	0.1460	2.68	0.0075	
LDF_search_sinceDep1_z2	1	1.6767	1.4429	1.16	0.2452	
LDF_search_sinceDep1_z3	1	-1.1371	2.2241	-0.51	0.6092	
LDF_search_sinceDep1_z4	1	1.6494	1.1633	1.42	0.1562	
LDF_search_sinceDep1_z5	1	2.3636	1.0306	2.29	0.0218	
LDF_search_sinceDep1_z6	1	3.9126	2.9960	1.31	0.1916	
LDF_search_sinceDep1_z7	1	1.9358	0.7758	2.50	0.0126	
LDF_search_sinceDep1_z8	1	2.2543	0.6643	3.39	0.0007	
LDF_search_sinceDep1_z9	1	3.3048	0.7742	4.27	<.0001	
LDF_search_sinceDep1_z10	1	3.5575	0.5932	6.00	<.0001	
LDF_search_sinceDep1_z11	1	1.6697	0.5523	3.02	0.0025	
LDF_travel_sinceDep1_z1	1	-0.7876	0.5919	-1.33	0.1833	
LDF_travel_sinceDep1_z2	1	-0.3172	0.1556	-2.04	0.0415	
LDF_travel_sinceDep1_z3	1	0.3760	0.6207	0.61	0.5446	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	-0.1243	0.1502	-0.83	0.4080	
LDF_travel_sinceDep1_z5	1	-0.1907	0.1485	-1.28	0.1992	
LDF_travel_sinceDep1_z6	1	-0.5880	0.9403	-0.63	0.5318	
LDF_travel_sinceDep1_z7	1	-0.1283	0.1610	-0.80	0.4255	
LDF_travel_sinceDep1_z8	1	-0.3420	0.1558	-2.20	0.0281	
LDF_travel_sinceDep1_z9	1	-0.3070	0.2268	-1.35	0.1758	
LDF_travel_sinceDep1_z10	1	-0.1047	0.1955	-0.54	0.5923	
LDF_travel_sinceDep1_z11	1	0.1000	0.2050	0.49	0.6255	
lSKJ_sinceDep1_z1	1	0.0170	0.2649	0.06	0.9487	
lSKJ_sinceDep1_z2	1	0.0466	0.0446	1.04	0.2969	
lSKJ_sinceDep1_z3	1	-0.0417	0.1614	-0.26	0.7962	
lSKJ_sinceDep1_z4	1	0.0163	0.0404	0.40	0.6862	
lSKJ_sinceDep1_z5	1	-0.0389	0.0382	-1.02	0.3079	
lSKJ_sinceDep1_z6	1	-0.1151	0.1729	-0.67	0.5055	
lSKJ_sinceDep1_z7	1	-0.0212	0.0425	-0.50	0.6174	
lSKJ_sinceDep1_z8	1	-0.0430	0.0413	-1.04	0.2969	
lSKJ_sinceDep1_z9	1	-0.0928	0.0605	-1.53	0.1252	
lSKJ_sinceDep1_z10	1	-0.0619	0.0510	-1.21	0.2248	
lSKJ_sinceDep1_z11	1	-0.0814	0.0446	-1.82	0.0682	
lYFT_sinceDep1_z1	1	0.4457	0.2996	1.49	0.1368	
lYFT_sinceDep1_z2	1	0.0557	0.0336	1.66	0.0968	
lYFT_sinceDep1_z3	1	0.6354	0.4160	1.53	0.1266	
lYFT_sinceDep1_z4	1	0.0351	0.0318	1.10	0.2699	
lYFT_sinceDep1_z5	1	0.002009	0.0310	0.06	0.9484	
lYFT_sinceDep1_z6	1	1.6608	0.9645	1.72	0.0851	
lYFT_sinceDep1_z7	1	0.0626	0.0360	1.74	0.0826	
lYFT_sinceDep1_z8	1	0.0382	0.0358	1.07	0.2857	
lYFT_sinceDep1_z9	1	0.1832	0.0895	2.05	0.0407	
lYFT_sinceDep1_z10	1	0.0786	0.0511	1.54	0.1243	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lYFT_sinceDep1_z11	1	0.0870	0.0427	2.04	0.0415	
lBET_sinceDep1_z1	1	0.0827	0.0944	0.88	0.3811	
lBET_sinceDep1_z2	1	0.000758	0.0259	0.03	0.9766	
lBET_sinceDep1_z3	1	0.1023	0.1026	1.00	0.3186	
lBET_sinceDep1_z4	1	0.0200	0.0244	0.82	0.4108	
lBET_sinceDep1_z5	1	0.0536	0.0252	2.13	0.0335	
lBET_sinceDep1_z6	1	0.1622	0.1631	0.99	0.3199	
lBET_sinceDep1_z7	1	-0.001344	0.0264	-0.05	0.9593	
lBET_sinceDep1_z8	1	-0.0103	0.0260	-0.40	0.6906	
lBET_sinceDep1_z9	1	-0.0363	0.0458	-0.79	0.4289	
lBET_sinceDep1_z10	1	-0.0688	0.0305	-2.25	0.0242	
lBET_sinceDep1_z11	1	-0.0945	0.0293	-3.22	0.0013	
LDF_search_LastRegion_z1	1	-0.0307	0.2907	-0.11	0.9158	
LDF_search_LastRegion_z2	1	0.0321	0.0472	0.68	0.4973	
LDF_search_LastRegion_z3	1	0.002721	0.1258	0.02	0.9828	
LDF_search_LastRegion_z4	1	0.0772	0.0445	1.74	0.0826	
LDF_search_LastRegion_z5	1	0.0279	0.0434	0.64	0.5198	
LDF_search_LastRegion_z6	1	-0.6323	0.4208	-1.50	0.1330	
LDF_search_LastRegion_z7	1	0.002909	0.0470	0.06	0.9506	
LDF_search_LastRegion_z8	1	-0.0194	0.0505	-0.38	0.7011	
LDF_search_LastRegion_z9	1	-0.0235	0.0890	-0.26	0.7916	
LDF_search_LastRegion_z10	1	0.000365	0.0599	0.01	0.9951	
LDF_search_LastRegion_z11	1	0.0714	0.0564	1.27	0.2057	
LDF_travel_LastRegion_z1	1	0.3057	0.2893	1.06	0.2907	
LDF_travel_LastRegion_z2	1	0.0919	0.0438	2.10	0.0359	
LDF_travel_LastRegion_z3	1	-0.1690	0.1264	-1.34	0.1813	
LDF_travel_LastRegion_z4	1	0.0233	0.0389	0.60	0.5488	
LDF_travel_LastRegion_z5	1	0.0780	0.0399	1.96	0.0505	
LDF_travel_LastRegion_z6	1	1.1324	0.6448	1.76	0.0790	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	0.0365	0.0442	0.83	0.4085	
LDF_travel_LastRegion_z8	1	0.1250	0.0481	2.60	0.0093	
LDF_travel_LastRegion_z9	1	0.1185	0.0922	1.28	0.1989	
LDF_travel_LastRegion_z10	1	0.0381	0.0548	0.70	0.4864	
LDF_travel_LastRegion_z11	1	0.001517	0.0497	0.03	0.9757	
IDOL_LastRegion_z1	1	-0.7034	2.9921	-0.24	0.8141	
IDOL_LastRegion_z2	1	-0.5080	1.7864	-0.28	0.7761	
IDOL_LastRegion_z3	1	-1.2050	1.262	-0.00	0.9992	
IDOL_LastRegion_z4	1	4.9627	2.0928	2.37	0.0177	
IDOL_LastRegion_z5	1	5.1091	1.9930	2.56	0.0104	
IDOL_LastRegion_z6	1	-3.2295	4.5342	-0.71	0.4763	
IDOL_LastRegion_z7	1	5.4813	2.1649	2.53	0.0113	
IDOL_LastRegion_z8	1	5.3565	2.1671	2.47	0.0134	
IDOL_LastRegion_z9	1	5.4768	2.1700	2.52	0.0116	
IDOL_LastRegion_z10	1	5.0329	2.3479	2.14	0.0321	
IDOL_LastRegion_z11	1	2.6675	2.3408	1.14	0.2545	
lOBJ_LastRegion_z1	1	-0.1402	0.1825	-0.77	0.4422	
lOBJ_LastRegion_z2	1	-0.1685	0.0517	-3.26	0.0011	
lOBJ_LastRegion_z3	1	0.0624	0.2359	0.26	0.7915	
lOBJ_LastRegion_z4	1	-0.0549	0.0443	-1.24	0.2150	
lOBJ_LastRegion_z5	1	-0.1606	0.0456	-3.52	0.0004	
lOBJ_LastRegion_z6	1	0.4539	0.2500	1.82	0.0694	
lOBJ_LastRegion_z7	1	-0.0867	0.0498	-1.74	0.0819	
lOBJ_LastRegion_z8	1	-0.0994	0.0472	-2.11	0.0351	
lOBJ_LastRegion_z9	1	-0.0960	0.0836	-1.15	0.2510	
lOBJ_LastRegion_z10	1	-0.0535	0.0545	-0.98	0.3269	
lOBJ_LastRegion_z11	1	-0.2107	0.0587	-3.59	0.0003	
lNOA_LastRegion_z1	1	-0.0600	0.1378	-0.44	0.6634	
lNOA_LastRegion_z2	1	-0.1138	0.0399	-2.85	0.0044	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	-1.8858	1262	-0.00	0.9988	
lNOA_LastRegion_z4	1	-0.0484	0.0337	-1.44	0.1511	
lNOA_LastRegion_z5	1	-0.0258	0.0327	-0.79	0.4310	
lNOA_LastRegion_z6	1	0.1121	0.1586	0.71	0.4795	
lNOA_LastRegion_z7	1	-0.0143	0.0371	-0.39	0.6993	
lNOA_LastRegion_z8	1	-0.0118	0.0353	-0.33	0.7378	
lNOA_LastRegion_z9	1	-0.000583	0.0676	-0.01	0.9931	
lNOA_LastRegion_z10	1	0.0263	0.0419	0.63	0.5300	
lNOA_LastRegion_z11	1	0.0116	0.0464	0.25	0.8027	
lYFT_LastRegion_z1	1	-0.1338	0.0892	-1.50	0.1337	
lYFT_LastRegion_z2	1	-0.0497	0.0294	-1.69	0.0908	
lYFT_LastRegion_z3	1	-0.0824	0.1211	-0.68	0.4961	
lYFT_LastRegion_z4	1	-0.0368	0.0281	-1.31	0.1900	
lYFT_LastRegion_z5	1	-0.0199	0.0282	-0.71	0.4802	
lYFT_LastRegion_z6	1	-0.2251	0.1543	-1.46	0.1447	
lYFT_LastRegion_z7	1	-0.0524	0.0316	-1.66	0.0972	
lYFT_LastRegion_z8	1	-0.0380	0.0313	-1.21	0.2250	
lYFT_LastRegion_z9	1	-0.0492	0.0632	-0.78	0.4360	
lYFT_LastRegion_z10	1	-0.0677	0.0402	-1.69	0.0920	
lYFT_LastRegion_z11	1	-0.0823	0.0406	-2.03	0.0428	
lBET_LastRegion_z1	1	-0.1887	0.0660	-2.86	0.0043	
lBET_LastRegion_z2	1	0.0660	0.0264	2.50	0.0125	
lBET_LastRegion_z3	1	-0.2862	0.1078	-2.65	0.0079	
lBET_LastRegion_z4	1	0.000879	0.0233	0.04	0.9699	
lBET_LastRegion_z5	1	0.0544	0.0249	2.19	0.0287	
lBET_LastRegion_z6	1	-0.2004	0.1494	-1.34	0.1798	
lBET_LastRegion_z7	1	0.0110	0.0268	0.41	0.6814	
lBET_LastRegion_z8	1	0.0114	0.0261	0.44	0.6619	
lBET_LastRegion_z9	1	-0.0119	0.0545	-0.22	0.8268	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	-0.0659	0.0350	-1.88	0.0595	
lBET_LastRegion_z11	1	-0.0281	0.0380	-0.74	0.4606	
lSKJ_LastRegion_z1	1	0.3237	0.1430	2.26	0.0236	
lSKJ_LastRegion_z2	1	0.1162	0.0384	3.02	0.0025	
lSKJ_LastRegion_z3	1	0.1884	0.1743	1.08	0.2798	
lSKJ_LastRegion_z4	1	0.0705	0.0327	2.16	0.0311	
lSKJ_LastRegion_z5	1	0.0723	0.0331	2.19	0.0289	
lSKJ_LastRegion_z6	1	-0.1071	0.1405	-0.76	0.4461	
lSKJ_LastRegion_z7	1	0.0732	0.0373	1.97	0.0494	
lSKJ_LastRegion_z8	1	0.0552	0.0355	1.56	0.1197	
lSKJ_LastRegion_z9	1	0.005531	0.0628	0.09	0.9299	
lSKJ_LastRegion_z10	1	0.0694	0.0448	1.55	0.1215	
lSKJ_LastRegion_z11	1	0.1250	0.0481	2.60	0.0093	
SST_DOL_L	1	-0.001127	0.000572	-1.97	0.0490	
SST_DOL_H	1	0.001094	0.001410	0.78	0.4377	
O2_DOL_L	1	-1.1370	0.5013	-2.27	0.0233	
O2_DOL_H	1	-0.1202	0.0412	-2.92	0.0035	
SSH_DOL_L	1	-0.003316	0.001357	-2.44	0.0145	
SSH_DOL_H	1	0.006827	0.000903	7.56	<.0001	
MLD_DOL_L	1	-0.005462	0.002518	-2.17	0.0301	
MLD_DOL_H	1	-0.001880	0.000680	-2.76	0.0057	
CHLORO_DOL_L	1	0.003141	0.000667	4.71	<.0001	
CHLORO_DOL_H	1	0.001589	0.002576	0.62	0.5373	
MEI_z1	1	0.8088	0.4804	1.68	0.0923	
MEI_z2	1	-0.5357	0.1265	-4.24	<.0001	
MEI_z3	1	0.3757	0.5118	0.73	0.4630	
MEI_z4	1	-0.1249	0.1051	-1.19	0.2347	
MEI_z5	1	-0.0933	0.1054	-0.89	0.3760	
MEI_z6	1	-0.4539	0.8197	-0.55	0.5797	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=0 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
MEI_z7	1	-0.0295	0.1202	-0.25	0.8060	
MEI_z8	1	0.1208	0.1219	0.99	0.3216	
MEI_z9	1	0.3039	0.2505	1.21	0.2251	
MEI_z10	1	0.3042	0.1653	1.84	0.0658	
MEI_z11	1	0.2153	0.1567	1.37	0.1694	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	855
Number of Cases	10260
Log Likelihood	- 1369
Log Likelihood Null (LogL(0))	- 2125
Maximum Absolute Gradient	8.58080
Number of Iterations	431
Optimization Method	Dual Quasi- Newton
AIC	3097
Schwarz Criterion	3947

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	29	3.39
1	2	10	1.17
2	3	142	16.61
3	4	76	8.89
4	5	37	4.33
5	6	106	12.40
6	7	134	15.67
7	8	125	14.62
8	9	62	7.25
9	10	106	12.40
10	11	22	2.57
11	12	6	0.70

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	1510.2	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	4249.2	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.6385	$R / (R+N)$
Cragg- Uhler 1	0.829	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.8348	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.8872	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.7924	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.3554	R / U
Veall- Zimmermann	0.767	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	-0.4091	0.0698	-5.86	<.0001	
LDistant_Arrive	1	-1.9818	0.1727	-11.48	<.0001	
LCPUE_All_1	1	0.0221	0.1795	0.12	0.9019	
LRPUE_All_1	1	-0.0106	0.1165	-0.09	0.9277	
LDistant_sinceDep1_z1	1	-1.2681	2.1821	-0.58	0.5611	
LDistant_sinceDep1_z2	1	-0.3983	2.3515	-0.17	0.8655	
LDistant_sinceDep1_z3	1	-1.5805	2.0852	-0.76	0.4485	
LDistant_sinceDep1_z4	1	-1.5201	2.0526	-0.74	0.4590	
LDistant_sinceDep1_z5	1	-0.5277	2.0687	-0.26	0.7986	
LDistant_sinceDep1_z6	1	-2.3441	2.0753	-1.13	0.2587	
LDistant_sinceDep1_z7	1	-1.4824	2.0509	-0.72	0.4698	
LDistant_sinceDep1_z8	1	-1.5907	2.0506	-0.78	0.4379	
LDistant_sinceDep1_z9	1	-2.4561	2.0574	-1.19	0.2326	
LDistant_sinceDep1_z10	1	-2.5184	2.0558	-1.23	0.2206	
LDistant_sinceDep1_z11	1	-2.3883	2.0620	-1.16	0.2468	
LDF_search_sinceDep1_z1	1	0.0894	0.1664	0.54	0.5910	
LDF_search_sinceDep1_z2	1	0.1145	1.2672	0.09	0.9280	
LDF_search_sinceDep1_z3	1	0.6102	0.6846	0.89	0.3727	
LDF_search_sinceDep1_z4	1	0.2193	0.7330	0.30	0.7648	
LDF_search_sinceDep1_z5	1	-1.0461	0.8606	-1.22	0.2241	
LDF_search_sinceDep1_z6	1	0.5737	0.9297	0.62	0.5371	
LDF_search_sinceDep1_z7	1	-0.1169	1.0027	-0.12	0.9072	
LDF_search_sinceDep1_z8	1	-0.0264	1.1363	-0.02	0.9815	
LDF_search_sinceDep1_z9	1	0.8374	1.3090	0.64	0.5224	
LDF_search_sinceDep1_z10	1	0.7400	1.4295	0.52	0.6047	
LDF_search_sinceDep1_z11	1	0.2984	1.6643	0.18	0.8577	
LDF_travel_sinceDep1_z1	1	0.5089	0.7139	0.71	0.4760	
LDF_travel_sinceDep1_z2	1	0.1073	0.7689	0.14	0.8891	
LDF_travel_sinceDep1_z3	1	0.4457	0.6863	0.65	0.5161	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_sinceDep1_z4	1	0.4773	0.6864	0.70	0.4868	
LDF_travel_sinceDep1_z5	1	0.6139	0.6990	0.88	0.3798	
LDF_travel_sinceDep1_z6	1	0.3488	0.6873	0.51	0.6118	
LDF_travel_sinceDep1_z7	1	0.3953	0.6763	0.58	0.5589	
LDF_travel_sinceDep1_z8	1	0.3130	0.6743	0.46	0.6426	
LDF_travel_sinceDep1_z9	1	0.2684	0.6853	0.39	0.6954	
LDF_travel_sinceDep1_z10	1	0.1384	0.6782	0.20	0.8383	
LDF_travel_sinceDep1_z11	1	0.7921	0.7456	1.06	0.2880	
lSKJ_sinceDep1_z1	1	-0.1256	0.1597	-0.79	0.4316	
lSKJ_sinceDep1_z2	1	-0.0717	0.1675	-0.43	0.6688	
lSKJ_sinceDep1_z3	1	-0.0839	0.1506	-0.56	0.5775	
lSKJ_sinceDep1_z4	1	-0.0664	0.1510	-0.44	0.6599	
lSKJ_sinceDep1_z5	1	-0.0508	0.1541	-0.33	0.7419	
lSKJ_sinceDep1_z6	1	-0.0921	0.1520	-0.61	0.5448	
lSKJ_sinceDep1_z7	1	-0.1162	0.1496	-0.78	0.4374	
lSKJ_sinceDep1_z8	1	0.008605	0.1501	0.06	0.9543	
lSKJ_sinceDep1_z9	1	-0.0776	0.1518	-0.51	0.6092	
lSKJ_sinceDep1_z10	1	0.0351	0.1535	0.23	0.8190	
lSKJ_sinceDep1_z11	1	-0.0705	0.1686	-0.42	0.6757	
lYFT_sinceDep1_z1	1	0.2855	0.1654	1.73	0.0843	
lYFT_sinceDep1_z2	1	0.0912	0.1413	0.64	0.5189	
lYFT_sinceDep1_z3	1	0.1490	0.1113	1.34	0.1806	
lYFT_sinceDep1_z4	1	0.0715	0.1061	0.67	0.5001	
lYFT_sinceDep1_z5	1	0.1414	0.1093	1.29	0.1957	
lYFT_sinceDep1_z6	1	0.0729	0.1153	0.63	0.5269	
lYFT_sinceDep1_z7	1	0.1117	0.1018	1.10	0.2722	
lYFT_sinceDep1_z8	1	0.0746	0.1002	0.74	0.4570	
lYFT_sinceDep1_z9	1	0.0919	0.1025	0.90	0.3697	
lYFT_sinceDep1_z10	1	0.1393	0.1015	1.37	0.1698	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lYFT_sinceDep1_z11	1	-0.0216	0.1199	-0.18	0.8569	
lBET_sinceDep1_z1	1	-2.2594	1.4656	-1.54	0.1232	
lBET_sinceDep1_z2	1	0.2037	0.1521	1.34	0.1806	
lBET_sinceDep1_z3	1	-1.0255	0.2091	-4.91	<.0001	
lBET_sinceDep1_z4	1	0.1981	0.1253	1.58	0.1139	
lBET_sinceDep1_z5	1	0.1779	0.1272	1.40	0.1619	
lBET_sinceDep1_z6	1	-1.2580	0.1534	-8.20	<.0001	
lBET_sinceDep1_z7	1	0.1951	0.1231	1.59	0.1128	
lBET_sinceDep1_z8	1	0.1316	0.1224	1.07	0.2826	
lBET_sinceDep1_z9	1	0.1636	0.1241	1.32	0.1873	
lBET_sinceDep1_z10	1	0.0988	0.1230	0.80	0.4220	
lBET_sinceDep1_z11	1	0.0954	0.1319	0.72	0.4695	
LDF_search_LastRegion_z1	1	0.3557	0.3039	1.17	0.2417	
LDF_search_LastRegion_z2	1	0.4630	0.4703	0.98	0.3248	
LDF_search_LastRegion_z3	1	0.2066	0.2721	0.76	0.4476	
LDF_search_LastRegion_z4	1	0.2422	0.2712	0.89	0.3719	
LDF_search_LastRegion_z5	1	0.3666	0.2742	1.34	0.1812	
LDF_search_LastRegion_z6	1	0.1372	0.2773	0.49	0.6207	
LDF_search_LastRegion_z7	1	0.2708	0.2675	1.01	0.3114	
LDF_search_LastRegion_z8	1	0.2012	0.2654	0.76	0.4483	
LDF_search_LastRegion_z9	1	0.3115	0.2721	1.14	0.2522	
LDF_search_LastRegion_z10	1	0.2358	0.2670	0.88	0.3772	
LDF_search_LastRegion_z11	1	0.6788	0.4520	1.50	0.1332	
LDF_travel_LastRegion_z1	1	-0.2120	0.3224	-0.66	0.5109	
LDF_travel_LastRegion_z2	1	-0.0130	0.3715	-0.04	0.9721	
LDF_travel_LastRegion_z3	1	-0.1297	0.3122	-0.42	0.6777	
LDF_travel_LastRegion_z4	1	-0.1251	0.3115	-0.40	0.6880	
LDF_travel_LastRegion_z5	1	-0.2379	0.3118	-0.76	0.4455	
LDF_travel_LastRegion_z6	1	-0.1277	0.3144	-0.41	0.6846	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	-0.1222	0.3084	-0.40	0.6918	
LDF_travel_LastRegion_z8	1	-0.1581	0.3073	-0.51	0.6069	
LDF_travel_LastRegion_z9	1	-0.0950	0.3105	-0.31	0.7598	
LDF_travel_LastRegion_z10	1	-0.1175	0.3077	-0.38	0.7025	
LDF_travel_LastRegion_z11	1	-0.3377	0.3198	-1.06	0.2909	
IDOL_LastRegion_z1	1	2.0340	2.1207	0.96	0.3375	
IDOL_LastRegion_z2	1	1.3753	2.0497	0.67	0.5022	
IDOL_LastRegion_z3	1	2.1065	2.1192	0.99	0.3202	
IDOL_LastRegion_z4	1	1.9345	2.1191	0.91	0.3613	
IDOL_LastRegion_z5	1	1.9795	2.1189	0.93	0.3502	
IDOL_LastRegion_z6	1	2.2143	2.1217	1.04	0.2967	
IDOL_LastRegion_z7	1	1.9313	2.1190	0.91	0.3621	
IDOL_LastRegion_z8	1	2.0569	2.1193	0.97	0.3318	
IDOL_LastRegion_z9	1	1.9494	2.1196	0.92	0.3577	
IDOL_LastRegion_z10	1	1.9149	2.1196	0.90	0.3663	
IDOL_LastRegion_z11	1	1.8744	2.1196	0.88	0.3765	
LOBJ_LastRegion_z1	1	0.1762	0.3064	0.58	0.5652	
LOBJ_LastRegion_z2	1	-0.8732	0.8205	-1.06	0.2872	
LOBJ_LastRegion_z3	1	0.1456	0.3034	0.48	0.6313	
LOBJ_LastRegion_z4	1	0.1926	0.3027	0.64	0.5247	
LOBJ_LastRegion_z5	1	0.1643	0.3053	0.54	0.5905	
LOBJ_LastRegion_z6	1	0.1500	0.3034	0.49	0.6209	
LOBJ_LastRegion_z7	1	0.1654	0.3004	0.55	0.5819	
LOBJ_LastRegion_z8	1	0.2017	0.3001	0.67	0.5015	
LOBJ_LastRegion_z9	1	0.1744	0.3012	0.58	0.5625	
LOBJ_LastRegion_z10	1	0.1290	0.2999	0.43	0.6670	
LOBJ_LastRegion_z11	1	0.2314	0.3074	0.75	0.4517	
INOA_LastRegion_z1	1	0.2847	0.2928	0.97	0.3308	
INOA_LastRegion_z2	1	-0.4504	0.5831	-0.77	0.4399	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates
DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	0.3479	0.2896	1.20	0.2296	
lNOA_LastRegion_z4	1	0.1937	0.2907	0.67	0.5053	
lNOA_LastRegion_z5	1	0.2742	0.2918	0.94	0.3473	
lNOA_LastRegion_z6	1	0.4332	0.2895	1.50	0.1346	
lNOA_LastRegion_z7	1	0.3056	0.2881	1.06	0.2888	
lNOA_LastRegion_z8	1	0.2716	0.2882	0.94	0.3459	
lNOA_LastRegion_z9	1	0.3727	0.2888	1.29	0.1969	
lNOA_LastRegion_z10	1	0.3178	0.2879	1.10	0.2698	
lNOA_LastRegion_z11	1	0.2474	0.2933	0.84	0.3989	
lYFT_LastRegion_z1	1	0.1154	0.1579	0.73	0.4649	
lYFT_LastRegion_z2	1	0.6892	0.4216	1.63	0.1022	
lYFT_LastRegion_z3	1	0.0415	0.1418	0.29	0.7698	
lYFT_LastRegion_z4	1	0.2412	0.1400	1.72	0.0849	
lYFT_LastRegion_z5	1	0.1114	0.1417	0.79	0.4315	
lYFT_LastRegion_z6	1	0.1364	0.1449	0.94	0.3464	
lYFT_LastRegion_z7	1	0.2022	0.1356	1.49	0.1359	
lYFT_LastRegion_z8	1	0.1517	0.1353	1.12	0.2622	
lYFT_LastRegion_z9	1	0.0992	0.1377	0.72	0.4712	
lYFT_LastRegion_z10	1	0.1503	0.1348	1.12	0.2647	
lYFT_LastRegion_z11	1	0.1688	0.1482	1.14	0.2549	
lBET_LastRegion_z1	0	-1.8118	.	.	.	.
lBET_LastRegion_z2	1	0.0517	0.6046	0.09	0.9319	
lBET_LastRegion_z3	0	1.0072	.	.	.	.
lBET_LastRegion_z4	1	-0.0805	0.1625	-0.50	0.6204	
lBET_LastRegion_z5	1	0.0000159	0.1656	0.00	0.9999	
lBET_LastRegion_z6	0	1.3795	.	.	.	.
lBET_LastRegion_z7	1	-0.0293	0.1576	-0.19	0.8527	
lBET_LastRegion_z8	1	0.0225	0.1569	0.14	0.8858	
lBET_LastRegion_z9	1	-0.0298	0.1602	-0.19	0.8522	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	0.0443	0.1570	0.28	0.7777	
lBET_LastRegion_z11	1	-0.2204	0.1817	-1.21	0.2251	
lSKJ_LastRegion_z1	1	-0.2754	0.2584	-1.07	0.2864	
lSKJ_LastRegion_z2	1	-0.3346	0.2701	-1.24	0.2155	
lSKJ_LastRegion_z3	1	-0.4091	0.2525	-1.62	0.1051	
lSKJ_LastRegion_z4	1	-0.4103	0.2525	-1.62	0.1042	
lSKJ_LastRegion_z5	1	-0.3650	0.2542	-1.44	0.1510	
lSKJ_LastRegion_z6	1	-0.4387	0.2531	-1.73	0.0831	
lSKJ_LastRegion_z7	1	-0.3972	0.2508	-1.58	0.1133	
lSKJ_LastRegion_z8	1	-0.4267	0.2505	-1.70	0.0885	
lSKJ_LastRegion_z9	1	-0.4244	0.2516	-1.69	0.0917	
lSKJ_LastRegion_z10	1	-0.3615	0.2504	-1.44	0.1488	
lSKJ_LastRegion_z11	1	-0.2407	0.2602	-0.93	0.3549	
SST_DOL_L	1	0.001677	0.001521	1.10	0.2704	
SST_DOL_H	1	-0.008820	0.002903	-3.04	0.0024	
O2_DOL_L	1	-0.0134	0.0351	-0.38	0.7028	
O2_DOL_H	1	-0.0800	0.0224	-3.57	0.0004	
SSH_DOL_L	1	-0.002331	0.002342	-1.00	0.3196	
SSH_DOL_H	1	0.007505	0.001958	3.83	0.0001	
MLD_DOL_L	1	0.003890	0.003565	1.09	0.2753	
MLD_DOL_H	1	-0.003398	0.001074	-3.16	0.0016	
CHLORO_DOL_L	1	-0.000084	0.002015	-0.04	0.9668	
CHLORO_DOL_H	1	0.0000214	0.003850	0.01	0.9956	
MEI_z1	1	-0.8869	0.5448	-1.63	0.1035	
MEI_z2	1	-0.9675	0.7214	-1.34	0.1799	
MEI_z3	1	-1.0922	0.5014	-2.18	0.0294	
MEI_z4	1	-0.8917	0.5100	-1.75	0.0803	
MEI_z5	1	-0.4990	0.5139	-0.97	0.3315	
MEI_z6	1	-0.5618	0.5014	-1.12	0.2625	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates
DML=1 Vessel_Size=1_Small (363- 700t)

Parameter	Parameter Estimates					Approx Pr > |t|
	DF	Estimate	Standard Error	t Value		
MEI_z7	1	-0.7964	0.4982	-1.60	0.1099	
MEI_z8	1	-0.5860	0.4904	-1.19	0.2321	
MEI_z9	1	-0.2354	0.4969	-0.47	0.6356	
MEI_z10	1	-0.1234	0.4903	-0.25	0.8013	
MEI_z11	1	0.2251	0.5146	0.44	0.6617	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	5332
Number of Cases	63984
Log Likelihood	- 10177
Log Likelihood Null (LogL(0))	- 13250
Maximum Absolute Gradient	28.58104
Number of Iterations	311
Optimization Method	Dual Quasi- Newton
AIC	20711
Schwarz Criterion	21889

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	285	5.35
1	2	333	6.25
2	3	470	8.81
3	4	694	13.02
4	5	252	4.73
5	6	479	8.98
6	7	1096	20.56
7	8	498	9.34
8	9	564	10.58
9	10	389	7.30
10	11	180	3.38
11	12	92	1.73

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	6145.7	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	26499	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5354	$R / (R+N)$
Cragg- Uhler 1	0.6842	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.689	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.7305	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.7062	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2319	R / U
Veall- Zimmermann	0.6432	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	- 0.8030	0.0238	- 33.72	<.0001	
LDistant_Arrive	1	- 1.2860	0.0616	- 20.87	<.0001	
ICPUE_All_1	1	- 0.0298	0.0631	- 0.47	0.6369	
IRPUE_All_1	1	0.0491	0.0411	1.20	0.2315	
LDistant_sinceDep1_z1	1	- 0.0671	0.1324	- 0.51	0.6124	
LDistant_sinceDep1_z2	1	- 0.5776	0.1288	- 4.48	<.0001	
LDistant_sinceDep1_z3	1	- 2.2018	0.2932	- 7.51	<.0001	
LDistant_sinceDep1_z4	1	- 1.7331	0.2092	- 8.29	<.0001	
LDistant_sinceDep1_z5	1	- 1.3516	0.1785	- 7.57	<.0001	
LDistant_sinceDep1_z6	1	- 2.9815	0.2676	- 11.14	<.0001	
LDistant_sinceDep1_z7	1	- 1.8530	0.2052	- 9.03	<.0001	
LDistant_sinceDep1_z8	1	- 1.8831	0.2155	- 8.74	<.0001	
LDistant_sinceDep1_z9	1	- 2.7127	0.2272	- 11.94	<.0001	
LDistant_sinceDep1_z10	1	- 2.4504	0.2288	- 10.71	<.0001	
LDistant_sinceDep1_z11	1	- 2.0188	0.2399	- 8.41	<.0001	
LDF_search_sinceDep1_z1	1	- 0.0152	0.0191	- 0.80	0.4254	
LDF_search_sinceDep1_z2	1	0.1899	0.1828	1.04	0.2989	
LDF_search_sinceDep1_z3	1	1.1548	0.2313	4.99	<.0001	
LDF_search_sinceDep1_z4	1	0.7007	0.1896	3.69	0.0002	
LDF_search_sinceDep1_z5	1	0.3238	0.1988	1.63	0.1033	
LDF_search_sinceDep1_z6	1	1.6473	0.2249	7.33	<.0001	
LDF_search_sinceDep1_z7	1	1.0239	0.1795	5.70	<.0001	
LDF_search_sinceDep1_z8	1	0.9448	0.2033	4.65	<.0001	
LDF_search_sinceDep1_z9	1	2.4332	0.2239	10.87	<.0001	
LDF_search_sinceDep1_z10	1	1.8208	0.2325	7.83	<.0001	
LDF_search_sinceDep1_z11	1	0.6980	0.2638	2.65	0.0081	
LDF_travel_sinceDep1_z1	1	0.1374	0.0966	1.42	0.1551	
LDF_travel_sinceDep1_z2	1	0.2402	0.0905	2.65	0.0079	
LDF_travel_sinceDep1_z3	1	0.4376	0.1028	4.26	<.0001	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	0.3522	0.0873	4.03	<.0001	
LDF_travel_sinceDep1_z5	1	0.3175	0.0938	3.38	0.0007	
LDF_travel_sinceDep1_z6	1	0.4018	0.0980	4.10	<.0001	
LDF_travel_sinceDep1_z7	1	0.2283	0.0793	2.88	0.0040	
LDF_travel_sinceDep1_z8	1	0.2457	0.0859	2.86	0.0042	
LDF_travel_sinceDep1_z9	1	0.2537	0.0945	2.68	0.0073	
LDF_travel_sinceDep1_z10	1	0.2505	0.0940	2.66	0.0077	
LDF_travel_sinceDep1_z11	1	0.3267	0.1069	3.06	0.0022	
lSKJ_sinceDep1_z1	1	0.0117	0.0342	0.34	0.7329	
lSKJ_sinceDep1_z2	1	0.0386	0.0336	1.15	0.2501	
lSKJ_sinceDep1_z3	1	0.0217	0.0335	0.65	0.5167	
lSKJ_sinceDep1_z4	1	0.0265	0.0327	0.81	0.4179	
lSKJ_sinceDep1_z5	1	0.0760	0.0360	2.11	0.0347	
lSKJ_sinceDep1_z6	1	0.007876	0.0334	0.24	0.8138	
lSKJ_sinceDep1_z7	1	0.008453	0.0323	0.26	0.7936	
lSKJ_sinceDep1_z8	1	0.0461	0.0335	1.38	0.1680	
lSKJ_sinceDep1_z9	1	0.0144	0.0331	0.44	0.6628	
lSKJ_sinceDep1_z10	1	0.0161	0.0340	0.47	0.6358	
lSKJ_sinceDep1_z11	1	0.0688	0.0368	1.87	0.0618	
lYFT_sinceDep1_z1	1	0.0519	0.0773	0.67	0.5018	
lYFT_sinceDep1_z2	1	-0.0545	0.0595	-0.92	0.3593	
lYFT_sinceDep1_z3	1	-0.0102	0.0610	-0.17	0.8669	
lYFT_sinceDep1_z4	1	-0.0459	0.0557	-0.82	0.4099	
lYFT_sinceDep1_z5	1	-0.0906	0.0568	-1.60	0.1103	
lYFT_sinceDep1_z6	1	-0.006418	0.0620	-0.10	0.9176	
lYFT_sinceDep1_z7	1	-0.0263	0.0546	-0.48	0.6295	
lYFT_sinceDep1_z8	1	-0.0760	0.0551	-1.38	0.1677	
lYFT_sinceDep1_z9	1	0.002604	0.0602	0.04	0.9655	
lYFT_sinceDep1_z10	1	-0.0235	0.0568	-0.41	0.6783	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
lYFT_sinceDep1_z11	1	-0.0513	0.0587	-0.87	0.3824	
lBET_sinceDep1_z1	1	-0.2657	0.0482	-5.52	<.0001	
lBET_sinceDep1_z2	1	-0.1584	0.0330	-4.80	<.0001	
lBET_sinceDep1_z3	1	-0.2018	0.0402	-5.02	<.0001	
lBET_sinceDep1_z4	1	-0.1040	0.0302	-3.44	0.0006	
lBET_sinceDep1_z5	1	-0.0394	0.0312	-1.26	0.2064	
lBET_sinceDep1_z6	1	-0.2109	0.0447	-4.72	<.0001	
lBET_sinceDep1_z7	1	-0.1169	0.0296	-3.94	<.0001	
lBET_sinceDep1_z8	1	-0.0571	0.0298	-1.91	0.0555	
lBET_sinceDep1_z9	1	-0.1344	0.0314	-4.28	<.0001	
lBET_sinceDep1_z10	1	-0.1475	0.0317	-4.66	<.0001	
lBET_sinceDep1_z11	1	-0.1301	0.0356	-3.66	0.0003	
LDF_search_LastRegion_z1	1	-0.1036	0.0547	-1.89	0.0582	
LDF_search_LastRegion_z2	1	-0.0511	0.0509	-1.00	0.3154	
LDF_search_LastRegion_z3	1	-0.1264	0.0513	-2.46	0.0137	
LDF_search_LastRegion_z4	1	-0.0473	0.0495	-0.96	0.3390	
LDF_search_LastRegion_z5	1	-0.0103	0.0529	-0.19	0.8459	
LDF_search_LastRegion_z6	1	-0.1663	0.0522	-3.18	0.0015	
LDF_search_LastRegion_z7	1	-0.0402	0.0476	-0.84	0.3983	
LDF_search_LastRegion_z8	1	-0.0629	0.0502	-1.25	0.2100	
LDF_search_LastRegion_z9	1	-0.0832	0.0504	-1.65	0.0989	
LDF_search_LastRegion_z10	1	-0.0172	0.0524	-0.33	0.7426	
LDF_search_LastRegion_z11	1	0.0179	0.0588	0.30	0.7616	
LDF_travel_LastRegion_z1	1	0.0509	0.0481	1.06	0.2898	
LDF_travel_LastRegion_z2	1	0.0251	0.0455	0.55	0.5807	
LDF_travel_LastRegion_z3	1	0.1390	0.0472	2.95	0.0032	
LDF_travel_LastRegion_z4	1	0.1291	0.0446	2.89	0.0038	
LDF_travel_LastRegion_z5	1	0.0634	0.0466	1.36	0.1735	
LDF_travel_LastRegion_z6	1	0.1518	0.0470	3.23	0.0012	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	0.1022	0.0430	2.38	0.0175	
LDF_travel_LastRegion_z8	1	0.1459	0.0456	3.20	0.0014	
LDF_travel_LastRegion_z9	1	0.1358	0.0455	2.99	0.0028	
LDF_travel_LastRegion_z10	1	0.1243	0.0473	2.63	0.0086	
LDF_travel_LastRegion_z11	1	0.0674	0.0512	1.32	0.1881	
IDOL_LastRegion_z1	1	0.2239	0.0615	3.64	0.0003	
IDOL_LastRegion_z2	1	0.0997	0.0510	1.95	0.0508	
IDOL_LastRegion_z3	1	0.1895	0.0533	3.56	0.0004	
IDOL_LastRegion_z4	1	0.1470	0.0473	3.11	0.0019	
IDOL_LastRegion_z5	1	0.1393	0.0487	2.86	0.0043	
IDOL_LastRegion_z6	1	0.2894	0.0529	5.47	<.0001	
IDOL_LastRegion_z7	1	0.1714	0.0466	3.68	0.0002	
IDOL_LastRegion_z8	1	0.1486	0.0473	3.15	0.0017	
IDOL_LastRegion_z9	1	0.1772	0.0490	3.62	0.0003	
IDOL_LastRegion_z10	1	0.0788	0.0482	1.64	0.1020	
IDOL_LastRegion_z11	1	0.0973	0.0511	1.90	0.0571	
lOBJ_LastRegion_z1	1	-0.1302	0.0548	-2.38	0.0175	
lOBJ_LastRegion_z2	1	-0.1343	0.0553	-2.43	0.0152	
lOBJ_LastRegion_z3	1	-0.1637	0.0543	-3.01	0.0026	
lOBJ_LastRegion_z4	1	-0.1256	0.0518	-2.43	0.0153	
lOBJ_LastRegion_z5	1	-0.0878	0.0546	-1.61	0.1082	
lOBJ_LastRegion_z6	1	-0.1204	0.0536	-2.25	0.0247	
lOBJ_LastRegion_z7	1	-0.1216	0.0510	-2.38	0.0172	
lOBJ_LastRegion_z8	1	-0.1011	0.0519	-1.95	0.0515	
lOBJ_LastRegion_z9	1	-0.1247	0.0522	-2.39	0.0168	
lOBJ_LastRegion_z10	1	-0.1245	0.0531	-2.34	0.0192	
lOBJ_LastRegion_z11	1	-0.1834	0.0558	-3.29	0.0010	
lNOA_LastRegion_z1	1	-0.0193	0.0547	-0.35	0.7245	
lNOA_LastRegion_z2	1	-0.0757	0.0563	-1.34	0.1788	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	0.005395	0.0518	0.10	0.9171	
lNOA_LastRegion_z4	1	0.0247	0.0502	0.49	0.6223	
lNOA_LastRegion_z5	1	0.0504	0.0520	0.97	0.3325	
lNOA_LastRegion_z6	1	0.0689	0.0511	1.35	0.1773	
lNOA_LastRegion_z7	1	0.0666	0.0495	1.34	0.1786	
lNOA_LastRegion_z8	1	0.0453	0.0502	0.90	0.3670	
lNOA_LastRegion_z9	1	0.0678	0.0505	1.34	0.1788	
lNOA_LastRegion_z10	1	0.0829	0.0508	1.63	0.1028	
lNOA_LastRegion_z11	1	0.1157	0.0530	2.18	0.0291	
lYFT_LastRegion_z1	1	-0.0815	0.0518	-1.57	0.1153	
lYFT_LastRegion_z2	1	-0.0220	0.0435	-0.50	0.6141	
lYFT_LastRegion_z3	1	-0.1219	0.0450	-2.71	0.0068	
lYFT_LastRegion_z4	1	-0.0780	0.0402	-1.94	0.0526	
lYFT_LastRegion_z5	1	-0.0901	0.0416	-2.17	0.0302	
lYFT_LastRegion_z6	1	-0.1439	0.0442	-3.26	0.0011	
lYFT_LastRegion_z7	1	-0.1143	0.0395	-2.90	0.0038	
lYFT_LastRegion_z8	1	-0.0924	0.0403	-2.30	0.0217	
lYFT_LastRegion_z9	1	-0.1199	0.0417	-2.88	0.0040	
lYFT_LastRegion_z10	1	-0.1041	0.0412	-2.53	0.0116	
lYFT_LastRegion_z11	1	-0.0819	0.0446	-1.84	0.0661	
lBET_LastRegion_z1	1	-0.004782	0.0789	-0.06	0.9517	
lBET_LastRegion_z2	1	0.0964	0.0436	2.21	0.0271	
lBET_LastRegion_z3	1	-0.0218	0.0728	-0.30	0.7648	
lBET_LastRegion_z4	1	0.0461	0.0391	1.18	0.2384	
lBET_LastRegion_z5	1	0.0569	0.0393	1.45	0.1478	
lBET_LastRegion_z6	1	-0.3384	0.1654	-2.05	0.0408	
lBET_LastRegion_z7	1	0.0647	0.0383	1.69	0.0918	
lBET_LastRegion_z8	1	-0.003784	0.0380	-0.10	0.9206	
lBET_LastRegion_z9	1	-0.008772	0.0449	-0.20	0.8451	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	0.0232	0.0416	0.56	0.5779	
lBET_LastRegion_z11	1	-0.0923	0.0599	-1.54	0.1232	
lSKJ_LastRegion_z1	1	0.1553	0.0455	3.42	0.0006	
lSKJ_LastRegion_z2	1	0.0927	0.0452	2.05	0.0402	
lSKJ_LastRegion_z3	1	0.1360	0.0446	3.05	0.0023	
lSKJ_LastRegion_z4	1	0.0941	0.0433	2.17	0.0299	
lSKJ_LastRegion_z5	1	0.0806	0.0457	1.77	0.0774	
lSKJ_LastRegion_z6	1	0.0792	0.0447	1.77	0.0765	
lSKJ_LastRegion_z7	1	0.0834	0.0429	1.94	0.0519	
lSKJ_LastRegion_z8	1	0.1033	0.0437	2.36	0.0182	
lSKJ_LastRegion_z9	1	0.1017	0.0439	2.32	0.0206	
lSKJ_LastRegion_z10	1	0.1090	0.0449	2.43	0.0153	
lSKJ_LastRegion_z11	1	0.1430	0.0472	3.03	0.0024	
SST_DOL_L	1	0.000371	0.000469	0.79	0.4290	
SST_DOL_H	1	-0.005377	0.000947	-5.68	<.0001	
O2_DOL_L	1	0.0113	0.0152	0.74	0.4570	
O2_DOL_H	1	-0.0308	0.003340	-9.22	<.0001	
SSH_DOL_L	1	-0.003169	0.000915	-3.47	0.0005	
SSH_DOL_H	1	0.001637	0.000554	2.96	0.0031	
MLD_DOL_L	1	0.004616	0.001304	3.54	0.0004	
MLD_DOL_H	1	-0.002904	0.000362	-8.02	<.0001	
CHLORO_DOL_L	1	-0.000326	0.000584	-0.56	0.5766	
CHLORO_DOL_H	1	-0.002742	0.001379	-1.99	0.0468	
MEI_z1	1	-0.2755	0.1329	-2.07	0.0382	
MEI_z2	1	-0.2075	0.1322	-1.57	0.1166	
MEI_z3	1	-0.4051	0.1196	-3.39	0.0007	
MEI_z4	1	-0.4264	0.1111	-3.84	0.0001	
MEI_z5	1	-0.2535	0.1122	-2.26	0.0238	
MEI_z6	1	-0.3359	0.1159	-2.90	0.0037	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=2_Median (700- 1,050t)

Parameter	Parameter Estimates					Approx Pr > |t|
	DF	Estimate	Standard Error	t Value		
MEI_z7	1	-0.3495	0.1078	-3.24		0.0012
MEI_z8	1	-0.4150	0.1118	-3.71		0.0002
MEI_z9	1	-0.4023	0.1133	-3.55		0.0004
MEI_z10	1	-0.5024	0.1173	-4.28		<.0001
MEI_z11	1	-0.4119	0.1320	-3.12		0.0018

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	8616
Number of Cases	103392
Log Likelihood	- 16338
Log Likelihood Null (LogL(0))	- 21410
Maximum Absolute Gradient	15.16889
Number of Iterations	316
Optimization Method	Dual Quasi- Newton
AIC	33034
Schwarz Criterion	34298

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	566	6.57
1	2	532	6.17
2	3	977	11.34
3	4	1134	13.16
4	5	384	4.46
5	6	924	10.72
6	7	1677	19.46
7	8	838	9.73
8	9	738	8.57
9	10	532	6.17
10	11	225	2.61
11	12	89	1.03

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	10144	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	42820	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5407	$R / (R+N)$
Cragg- Uhler 1	0.6919	$1 - \exp(-R/N)$
Cragg- Uhler 2	0.6967	$(1 - \exp(-R/N)) / (1 - \exp(-U/N))$
Estrella	0.7391	$1 - (1 - R/U)^{(U/N)}$
Adjusted Estrella	0.7246	$1 - ((\text{LogL} - K) / \text{LogL0})^{(-2/N * \text{LogL0})}$
McFadden's LRI	0.2369	R / U
Veall- Zimmermann	0.6495	$(R * (U+N)) / (U * (R+N))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	- 0.8015	0.0190	- 42.11	<.0001	
LDistant_Arrive	1	- 1.3011	0.0396	- 32.86	<.0001	
ICPUE_All_1	1	0.0991	0.0516	1.92	0.0546	
IRPUE_All_1	1	- 0.0295	0.0334	- 0.88	0.3774	
LDistant_sinceDep1_z1	1	0.1698	0.1403	1.21	0.2262	
LDistant_sinceDep1_z2	1	- 0.3848	0.1418	- 2.71	0.0066	
LDistant_sinceDep1_z3	1	- 2.0156	0.2294	- 8.79	<.0001	
LDistant_sinceDep1_z4	1	- 1.5164	0.1871	- 8.10	<.0001	
LDistant_sinceDep1_z5	1	- 1.3535	0.1751	- 7.73	<.0001	
LDistant_sinceDep1_z6	1	- 2.3194	0.2280	- 10.17	<.0001	
LDistant_sinceDep1_z7	1	- 1.6933	0.1867	- 9.07	<.0001	
LDistant_sinceDep1_z8	1	- 1.7750	0.1927	- 9.21	<.0001	
LDistant_sinceDep1_z9	1	- 2.4739	0.2020	- 12.24	<.0001	
LDistant_sinceDep1_z10	1	- 2.2191	0.2033	- 10.92	<.0001	
LDistant_sinceDep1_z11	1	- 1.9051	0.2071	- 9.20	<.0001	
LDF_search_sinceDep1_z1	1	0.002055	0.0293	0.07	0.9441	
LDF_search_sinceDep1_z2	1	0.3845	0.1684	2.28	0.0224	
LDF_search_sinceDep1_z3	1	1.9177	0.1862	10.30	<.0001	
LDF_search_sinceDep1_z4	1	0.9777	0.1717	5.70	<.0001	
LDF_search_sinceDep1_z5	1	1.1707	0.2113	5.54	<.0001	
LDF_search_sinceDep1_z6	1	1.8471	0.2088	8.85	<.0001	
LDF_search_sinceDep1_z7	1	1.4274	0.2029	7.04	<.0001	
LDF_search_sinceDep1_z8	1	1.5677	0.2331	6.73	<.0001	
LDF_search_sinceDep1_z9	1	2.7506	0.2634	10.44	<.0001	
LDF_search_sinceDep1_z10	1	2.0834	0.2869	7.26	<.0001	
LDF_search_sinceDep1_z11	1	1.4307	0.3314	4.32	<.0001	
LDF_travel_sinceDep1_z1	1	- 0.0934	0.1324	- 0.71	0.4805	
LDF_travel_sinceDep1_z2	1	- 0.001103	0.1307	- 0.01	0.9933	
LDF_travel_sinceDep1_z3	1	0.1205	0.1351	0.89	0.3725	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	0.1287	0.1284	1.00	0.3162	
LDF_travel_sinceDep1_z5	1	-0.008065	0.1348	-0.06	0.9523	
LDF_travel_sinceDep1_z6	1	0.0336	0.1293	0.26	0.7950	
LDF_travel_sinceDep1_z7	1	-0.0139	0.1244	-0.11	0.9108	
LDF_travel_sinceDep1_z8	1	-0.0374	0.1273	-0.29	0.7687	
LDF_travel_sinceDep1_z9	1	-0.0390	0.1298	-0.30	0.7638	
LDF_travel_sinceDep1_z10	1	-0.0832	0.1304	-0.64	0.5234	
LDF_travel_sinceDep1_z11	1	0.0684	0.1452	0.47	0.6375	
lSKJ_sinceDep1_z1	1	-0.0200	0.0326	-0.61	0.5389	
lSKJ_sinceDep1_z2	1	-0.0262	0.0325	-0.81	0.4204	
lSKJ_sinceDep1_z3	1	-0.0271	0.0321	-0.85	0.3978	
lSKJ_sinceDep1_z4	1	-0.0257	0.0318	-0.81	0.4194	
lSKJ_sinceDep1_z5	1	-0.0144	0.0336	-0.43	0.6677	
lSKJ_sinceDep1_z6	1	-0.0641	0.0321	-1.99	0.0461	
lSKJ_sinceDep1_z7	1	-0.0629	0.0316	-1.99	0.0462	
lSKJ_sinceDep1_z8	1	-0.0241	0.0321	-0.75	0.4526	
lSKJ_sinceDep1_z9	1	-0.0738	0.0323	-2.29	0.0222	
lSKJ_sinceDep1_z10	1	-0.0388	0.0328	-1.18	0.2373	
lSKJ_sinceDep1_z11	1	0.0117	0.0351	0.33	0.7393	
IYFT_sinceDep1_z1	1	0.2565	0.0614	4.18	<.0001	
IYFT_sinceDep1_z2	1	0.0777	0.0428	1.82	0.0694	
IYFT_sinceDep1_z3	1	0.1014	0.0458	2.21	0.0270	
IYFT_sinceDep1_z4	1	0.0750	0.0400	1.88	0.0605	
IYFT_sinceDep1_z5	1	0.0107	0.0403	0.27	0.7904	
IYFT_sinceDep1_z6	1	0.0796	0.0420	1.90	0.0580	
IYFT_sinceDep1_z7	1	0.0839	0.0386	2.17	0.0299	
IYFT_sinceDep1_z8	1	0.0455	0.0391	1.16	0.2441	
IYFT_sinceDep1_z9	1	0.0936	0.0426	2.20	0.0278	
IYFT_sinceDep1_z10	1	0.0904	0.0413	2.19	0.0288	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
lYFT_sinceDep1_z11	1	0.0303	0.0434	0.70	0.4853	
lBET_sinceDep1_z1	1	-0.2083	0.0341	-6.10	<.0001	
lBET_sinceDep1_z2	1	-0.1128	0.0282	-4.01	<.0001	
lBET_sinceDep1_z3	1	-0.1499	0.0300	-5.00	<.0001	
lBET_sinceDep1_z4	1	-0.0725	0.0263	-2.76	0.0058	
lBET_sinceDep1_z5	1	-0.0363	0.0273	-1.33	0.1828	
lBET_sinceDep1_z6	1	-0.1644	0.0320	-5.14	<.0001	
lBET_sinceDep1_z7	1	-0.0791	0.0257	-3.07	0.0021	
lBET_sinceDep1_z8	1	-0.0594	0.0259	-2.29	0.0220	
lBET_sinceDep1_z9	1	-0.1022	0.0270	-3.78	0.0002	
lBET_sinceDep1_z10	1	-0.0984	0.0272	-3.62	0.0003	
lBET_sinceDep1_z11	1	-0.0855	0.0296	-2.89	0.0039	
LDF_search_LastRegion_z1	1	-0.0460	0.0510	-0.90	0.3669	
LDF_search_LastRegion_z2	1	-0.0152	0.0494	-0.31	0.7588	
LDF_search_LastRegion_z3	1	-0.0758	0.0489	-1.55	0.1212	
LDF_search_LastRegion_z4	1	-0.0389	0.0481	-0.81	0.4177	
LDF_search_LastRegion_z5	1	-0.006196	0.0517	-0.12	0.9046	
LDF_search_LastRegion_z6	1	-0.1036	0.0493	-2.10	0.0357	
LDF_search_LastRegion_z7	1	-0.0255	0.0470	-0.54	0.5864	
LDF_search_LastRegion_z8	1	0.0170	0.0485	0.35	0.7258	
LDF_search_LastRegion_z9	1	-0.0853	0.0494	-1.73	0.0841	
LDF_search_LastRegion_z10	1	-0.0323	0.0507	-0.64	0.5237	
LDF_search_LastRegion_z11	1	0.0173	0.0565	0.31	0.7602	
LDF_travel_LastRegion_z1	1	0.1016	0.0446	2.28	0.0227	
LDF_travel_LastRegion_z2	1	0.0453	0.0437	1.04	0.3002	
LDF_travel_LastRegion_z3	1	0.1364	0.0437	3.12	0.0018	
LDF_travel_LastRegion_z4	1	0.1114	0.0428	2.61	0.0092	
LDF_travel_LastRegion_z5	1	0.1045	0.0460	2.27	0.0231	
LDF_travel_LastRegion_z6	1	0.1341	0.0437	3.07	0.0022	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	0.0988	0.0419	2.36	0.0185	
LDF_travel_LastRegion_z8	1	0.0895	0.0429	2.09	0.0368	
LDF_travel_LastRegion_z9	1	0.1503	0.0444	3.39	0.0007	
LDF_travel_LastRegion_z10	1	0.1320	0.0455	2.90	0.0037	
LDF_travel_LastRegion_z11	1	0.0912	0.0491	1.86	0.0632	
IDOL_LastRegion_z1	1	0.2883	0.0531	5.43	<.0001	
IDOL_LastRegion_z2	1	0.1876	0.0491	3.82	0.0001	
IDOL_LastRegion_z3	1	0.2245	0.0485	4.63	<.0001	
IDOL_LastRegion_z4	1	0.2170	0.0452	4.80	<.0001	
IDOL_LastRegion_z5	1	0.1900	0.0469	4.05	<.0001	
IDOL_LastRegion_z6	1	0.3191	0.0479	6.67	<.0001	
IDOL_LastRegion_z7	1	0.2344	0.0447	5.25	<.0001	
IDOL_LastRegion_z8	1	0.2000	0.0447	4.47	<.0001	
IDOL_LastRegion_z9	1	0.1970	0.0460	4.28	<.0001	
IDOL_LastRegion_z10	1	0.1659	0.0456	3.64	0.0003	
IDOL_LastRegion_z11	1	0.0969	0.0479	2.02	0.0434	
LOBJ_LastRegion_z1	1	0.001106	0.0520	0.02	0.9830	
LOBJ_LastRegion_z2	1	-0.0297	0.0529	-0.56	0.5745	
LOBJ_LastRegion_z3	1	-0.0199	0.0516	-0.39	0.6992	
LOBJ_LastRegion_z4	1	-0.0346	0.0508	-0.68	0.4962	
LOBJ_LastRegion_z5	1	-0.001744	0.0529	-0.03	0.9737	
LOBJ_LastRegion_z6	1	-0.0250	0.0515	-0.49	0.6269	
LOBJ_LastRegion_z7	1	-0.0121	0.0504	-0.24	0.8103	
LOBJ_LastRegion_z8	1	0.0464	0.0507	0.92	0.3598	
LOBJ_LastRegion_z9	1	0.0254	0.0513	0.49	0.6210	
LOBJ_LastRegion_z10	1	0.0687	0.0516	1.33	0.1829	
LOBJ_LastRegion_z11	1	-0.0225	0.0543	-0.41	0.6782	
INOA_LastRegion_z1	1	0.0532	0.0480	1.11	0.2674	
INOA_LastRegion_z2	1	-0.0220	0.0500	-0.44	0.6599	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	0.0466	0.0467	1.00	0.3189	
lNOA_LastRegion_z4	1	0.0855	0.0460	1.86	0.0632	
lNOA_LastRegion_z5	1	0.0672	0.0477	1.41	0.1592	
lNOA_LastRegion_z6	1	0.1293	0.0462	2.80	0.0051	
lNOA_LastRegion_z7	1	0.1030	0.0457	2.25	0.0242	
lNOA_LastRegion_z8	1	0.0953	0.0460	2.07	0.0381	
lNOA_LastRegion_z9	1	0.1336	0.0464	2.88	0.0040	
lNOA_LastRegion_z10	1	0.1382	0.0467	2.96	0.0031	
lNOA_LastRegion_z11	1	0.1030	0.0488	2.11	0.0347	
lYFT_LastRegion_z1	1	-0.1967	0.0457	-4.31	<.0001	
lYFT_LastRegion_z2	1	-0.1267	0.0428	-2.96	0.0031	
lYFT_LastRegion_z3	1	-0.1814	0.0422	-4.30	<.0001	
lYFT_LastRegion_z4	1	-0.1510	0.0397	-3.80	0.0001	
lYFT_LastRegion_z5	1	-0.1732	0.0410	-4.22	<.0001	
lYFT_LastRegion_z6	1	-0.2120	0.0417	-5.08	<.0001	
lYFT_LastRegion_z7	1	-0.1895	0.0391	-4.84	<.0001	
lYFT_LastRegion_z8	1	-0.1691	0.0393	-4.31	<.0001	
lYFT_LastRegion_z9	1	-0.1638	0.0404	-4.05	<.0001	
lYFT_LastRegion_z10	1	-0.1661	0.0402	-4.13	<.0001	
lYFT_LastRegion_z11	1	-0.0960	0.0426	-2.25	0.0244	
lBET_LastRegion_z1	1	0.0849	0.0532	1.59	0.1109	
lBET_LastRegion_z2	1	0.1127	0.0413	2.73	0.0063	
lBET_LastRegion_z3	1	0.1043	0.0465	2.24	0.0249	
lBET_LastRegion_z4	1	0.1087	0.0373	2.92	0.0035	
lBET_LastRegion_z5	1	0.0951	0.0383	2.49	0.0129	
lBET_LastRegion_z6	1	0.0409	0.0552	0.74	0.4588	
lBET_LastRegion_z7	1	0.1054	0.0366	2.88	0.0040	
lBET_LastRegion_z8	1	0.0686	0.0361	1.90	0.0575	
lBET_LastRegion_z9	1	0.0489	0.0397	1.23	0.2186	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	0.0351	0.0387	0.91	0.3650	
lBET_LastRegion_z11	1	0.0292	0.0434	0.67	0.5022	
lSKJ_LastRegion_z1	1	0.0175	0.0382	0.46	0.6468	
lSKJ_LastRegion_z2	1	0.002441	0.0384	0.06	0.9493	
lSKJ_LastRegion_z3	1	-0.0170	0.0377	-0.45	0.6516	
lSKJ_LastRegion_z4	1	-0.001359	0.0372	-0.04	0.9708	
lSKJ_LastRegion_z5	1	0.009983	0.0390	0.26	0.7979	
lSKJ_LastRegion_z6	1	0.005297	0.0377	0.14	0.8884	
lSKJ_LastRegion_z7	1	-0.0194	0.0370	-0.52	0.6002	
lSKJ_LastRegion_z8	1	-0.0306	0.0374	-0.82	0.4130	
lSKJ_LastRegion_z9	1	-0.0296	0.0380	-0.78	0.4357	
lSKJ_LastRegion_z10	1	-0.0417	0.0385	-1.08	0.2790	
lSKJ_LastRegion_z11	1	-0.009568	0.0406	-0.24	0.8138	
SST_DOL_L	1	0.000192	0.000366	0.53	0.5995	
SST_DOL_H	1	-0.005683	0.000736	-7.72	<.0001	
O2_DOL_L	1	0.002797	0.0104	0.27	0.7882	
O2_DOL_H	1	-0.0301	0.002475	-12.16	<.0001	
SSH_DOL_L	1	-0.003515	0.000719	-4.89	<.0001	
SSH_DOL_H	1	0.002312	0.000442	5.24	<.0001	
MLD_DOL_L	1	0.000850	0.001030	0.83	0.4090	
MLD_DOL_H	1	-0.002689	0.000267	-10.08	<.0001	
CHLORO_DOL_L	1	0.001075	0.000437	2.46	0.0140	
CHLORO_DOL_H	1	0.0000692	0.001081	0.06	0.9489	
MEI_z1	1	-0.1878	0.1194	-1.57	0.1156	
MEI_z2	1	-0.1456	0.1233	-1.18	0.2378	
MEI_z3	1	-0.4248	0.1120	-3.79	0.0001	
MEI_z4	1	-0.3800	0.1091	-3.48	0.0005	
MEI_z5	1	-0.2651	0.1145	-2.32	0.0206	
MEI_z6	1	-0.2847	0.1106	-2.57	0.0101	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=3_Large (1,050- 1,250t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
MEI_z7	1	-0.3184	0.1071	-2.97	0.0029	
MEI_z8	1	-0.3578	0.1095	-3.27	0.0011	
MEI_z9	1	-0.4538	0.1125	-4.04	<.0001	
MEI_z10	1	-0.4878	0.1135	-4.30	<.0001	
MEI_z11	1	-0.3760	0.1232	-3.05	0.0023	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Algorithm converged.

Model Fit Summary	
Dependent Variable	Decision
Number of Observations	2385
Number of Cases	28620
Log Likelihood	- 4680
Log Likelihood Null (LogL(0))	- 5927
Maximum Absolute Gradient	24.56521
Number of Iterations	315
Optimization Method	Dual Quasi- Newton
AIC	9718
Schwarz Criterion	10752

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	89	3.73
1	2	207	8.68
2	3	93	3.90
3	4	325	13.63
4	5	192	8.05
5	6	93	3.90
6	7	449	18.83
7	8	309	12.96
8	9	213	8.93
9	10	204	8.55
10	11	106	4.44
11	12	105	4.40

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Goodness- of- Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	2493.3	$2 * (\text{LogL} - \text{LogL0})$
Upper Bound of R (U)	11853	$- 2 * \text{LogL0}$
Aldrich- Nelson	0.5111	$\text{R} / (\text{R}+\text{N})$
Cragg- Uhler 1	0.6485	$1 - \exp(-\text{R}/\text{N})$
Cragg- Uhler 2	0.653	$(1 - \exp(-\text{R}/\text{N})) / (1 - \exp(-\text{U}/\text{N}))$
Estrella	0.6908	$1 - (1 - \text{R}/\text{U})^{(\text{U}/\text{N})}$
Adjusted Estrella	0.6274	$1 - ((\text{LogL} - \text{K})/\text{LogL0})^{(-2/\text{N} * \text{LogL0})}$
McFadden's LRI	0.2104	R / U
Veall- Zimmermann	0.6139	$(\text{R} * (\text{U}+\text{N})) / (\text{U} * (\text{R}+\text{N}))$

N = # of observations, K = # of regressors

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDistant_Expected	1	- 0.6991	0.0353	- 19.80	<.0001	
LDistant_Arrive	1	- 1.0974	0.1012	- 10.85	<.0001	
ICPUE_All_1	1	0.2993	0.0940	3.18	0.0015	
IRPUE_All_1	1	- 0.1606	0.0605	- 2.65	0.0080	
LDistant_sinceDep1_z1	1	0.5239	0.2056	2.55	0.0108	
LDistant_sinceDep1_z2	1	0.1164	0.1913	0.61	0.5427	
LDistant_sinceDep1_z3	1	- 0.6124	0.4424	- 1.38	0.1662	
LDistant_sinceDep1_z4	1	- 0.8362	0.2778	- 3.01	0.0026	
LDistant_sinceDep1_z5	1	- 0.8394	0.2431	- 3.45	0.0006	
LDistant_sinceDep1_z6	1	- 1.2427	0.4019	- 3.09	0.0020	
LDistant_sinceDep1_z7	1	- 1.1527	0.2728	- 4.23	<.0001	
LDistant_sinceDep1_z8	1	- 1.0878	0.2834	- 3.84	0.0001	
LDistant_sinceDep1_z9	1	- 1.8612	0.3012	- 6.18	<.0001	
LDistant_sinceDep1_z10	1	- 1.9362	0.3051	- 6.35	<.0001	
LDistant_sinceDep1_z11	1	- 1.1315	0.3177	- 3.56	0.0004	
LDF_search_sinceDep1_z1	1	0.0409	0.0379	1.08	0.2804	
LDF_search_sinceDep1_z2	1	0.2182	0.3334	0.65	0.5128	
LDF_search_sinceDep1_z3	1	1.2545	0.4306	2.91	0.0036	
LDF_search_sinceDep1_z4	1	0.6435	0.3024	2.13	0.0334	
LDF_search_sinceDep1_z5	1	0.7133	0.3174	2.25	0.0246	
LDF_search_sinceDep1_z6	1	1.0774	0.3984	2.70	0.0069	
LDF_search_sinceDep1_z7	1	1.1397	0.2796	4.08	<.0001	
LDF_search_sinceDep1_z8	1	1.1020	0.2950	3.74	0.0002	
LDF_search_sinceDep1_z9	1	2.2780	0.3416	6.67	<.0001	
LDF_search_sinceDep1_z10	1	2.5805	0.3627	7.12	<.0001	
LDF_search_sinceDep1_z11	1	1.1611	0.3995	2.91	0.0037	
LDF_travel_sinceDep1_z1	1	0.2857	0.1779	1.61	0.1082	
LDF_travel_sinceDep1_z2	1	0.1833	0.1373	1.34	0.1818	
LDF_travel_sinceDep1_z3	1	0.0817	0.1653	0.49	0.6210	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
LDF_travel_sinceDep1_z4	1	0.2238	0.1275	1.76	0.0791	
LDF_travel_sinceDep1_z5	1	0.1538	0.1366	1.13	0.2603	
LDF_travel_sinceDep1_z6	1	0.0427	0.1354	0.32	0.7526	
LDF_travel_sinceDep1_z7	1	0.2227	0.1199	1.86	0.0632	
LDF_travel_sinceDep1_z8	1	0.0668	0.1179	0.57	0.5710	
LDF_travel_sinceDep1_z9	1	0.2020	0.1336	1.51	0.1303	
LDF_travel_sinceDep1_z10	1	0.0380	0.1368	0.28	0.7813	
LDF_travel_sinceDep1_z11	1	-0.0313	0.1403	-0.22	0.8235	
lSKJ_sinceDep1_z1	1	-0.0334	0.0487	-0.69	0.4927	
lSKJ_sinceDep1_z2	1	-0.007322	0.0455	-0.16	0.8721	
lSKJ_sinceDep1_z3	1	-0.0659	0.0479	-1.37	0.1692	
lSKJ_sinceDep1_z4	1	-0.0202	0.0428	-0.47	0.6374	
lSKJ_sinceDep1_z5	1	-0.0109	0.0462	-0.23	0.8142	
lSKJ_sinceDep1_z6	1	-0.0812	0.0473	-1.72	0.0856	
lSKJ_sinceDep1_z7	1	-0.0769	0.0419	-1.83	0.0666	
lSKJ_sinceDep1_z8	1	-0.0279	0.0429	-0.65	0.5159	
lSKJ_sinceDep1_z9	1	-0.0972	0.0438	-2.22	0.0263	
lSKJ_sinceDep1_z10	1	-0.0955	0.0449	-2.13	0.0333	
lSKJ_sinceDep1_z11	1	0.0186	0.0488	0.38	0.7025	
IYFT_sinceDep1_z1	1	0.0519	0.0703	0.74	0.4598	
IYFT_sinceDep1_z2	1	0.001883	0.0438	0.04	0.9657	
IYFT_sinceDep1_z3	1	0.0512	0.0713	0.72	0.4731	
IYFT_sinceDep1_z4	1	0.0234	0.0411	0.57	0.5683	
IYFT_sinceDep1_z5	1	0.002995	0.0431	0.07	0.9446	
IYFT_sinceDep1_z6	1	0.2609	0.1109	2.35	0.0187	
IYFT_sinceDep1_z7	1	0.0318	0.0408	0.78	0.4351	
IYFT_sinceDep1_z8	1	0.0133	0.0407	0.33	0.7433	
IYFT_sinceDep1_z9	1	0.1099	0.0544	2.02	0.0433	
IYFT_sinceDep1_z10	1	0.002317	0.0454	0.05	0.9593	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
lYFT_sinceDep1_z11	1	0.0282	0.0487	0.58	0.5633	
lBET_sinceDep1_z1	1	-0.1520	0.0410	-3.71	0.0002	
lBET_sinceDep1_z2	1	-0.0764	0.0312	-2.44	0.0145	
lBET_sinceDep1_z3	1	-0.1024	0.0384	-2.67	0.0077	
lBET_sinceDep1_z4	1	-0.0767	0.0299	-2.57	0.0103	
lBET_sinceDep1_z5	1	-0.0218	0.0319	-0.68	0.4953	
lBET_sinceDep1_z6	1	-0.1693	0.0527	-3.21	0.0013	
lBET_sinceDep1_z7	1	-0.0982	0.0297	-3.31	0.0009	
lBET_sinceDep1_z8	1	-0.0874	0.0297	-2.94	0.0033	
lBET_sinceDep1_z9	1	-0.1558	0.0339	-4.60	<.0001	
lBET_sinceDep1_z10	1	-0.1169	0.0318	-3.68	0.0002	
lBET_sinceDep1_z11	1	-0.1515	0.0357	-4.24	<.0001	
LDF_search_LastRegion_z1	1	-0.0810	0.0669	-1.21	0.2258	
LDF_search_LastRegion_z2	1	-0.0197	0.0539	-0.37	0.7143	
LDF_search_LastRegion_z3	1	-0.0771	0.0674	-1.14	0.2523	
LDF_search_LastRegion_z4	1	0.0123	0.0521	0.24	0.8131	
LDF_search_LastRegion_z5	1	0.0497	0.0547	0.91	0.3637	
LDF_search_LastRegion_z6	1	-0.003236	0.0685	-0.05	0.9623	
LDF_search_LastRegion_z7	1	0.0286	0.0502	0.57	0.5686	
LDF_search_LastRegion_z8	1	0.009073	0.0500	0.18	0.8561	
LDF_search_LastRegion_z9	1	-0.0424	0.0555	-0.76	0.4455	
LDF_search_LastRegion_z10	1	0.0113	0.0597	0.19	0.8505	
LDF_search_LastRegion_z11	1	0.1281	0.0735	1.74	0.0815	
LDF_travel_LastRegion_z1	1	-0.0233	0.0631	-0.37	0.7116	
LDF_travel_LastRegion_z2	1	-0.0183	0.0546	-0.33	0.7376	
LDF_travel_LastRegion_z3	1	0.0645	0.0668	0.97	0.3337	
LDF_travel_LastRegion_z4	1	0.0517	0.0524	0.99	0.3242	
LDF_travel_LastRegion_z5	1	-0.003095	0.0540	-0.06	0.9543	
LDF_travel_LastRegion_z6	1	0.0141	0.0614	0.23	0.8189	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
LDF_travel_LastRegion_z7	1	-0.007875	0.0501	-0.16	0.8752	
LDF_travel_LastRegion_z8	1	-0.0159	0.0509	-0.31	0.7550	
LDF_travel_LastRegion_z9	1	0.0238	0.0552	0.43	0.6666	
LDF_travel_LastRegion_z10	1	0.0868	0.0591	1.47	0.1424	
LDF_travel_LastRegion_z11	1	0.0486	0.0640	0.76	0.4483	
IDOL_LastRegion_z1	1	0.2074	0.0662	3.13	0.0017	
IDOL_LastRegion_z2	1	0.1563	0.0527	2.96	0.0030	
IDOL_LastRegion_z3	1	0.3058	0.0804	3.80	0.0001	
IDOL_LastRegion_z4	1	0.1613	0.0503	3.21	0.0013	
IDOL_LastRegion_z5	1	0.1446	0.0523	2.77	0.0057	
IDOL_LastRegion_z6	1	0.2593	0.0747	3.47	0.0005	
IDOL_LastRegion_z7	1	0.1930	0.0501	3.85	0.0001	
IDOL_LastRegion_z8	1	0.1584	0.0498	3.18	0.0015	
IDOL_LastRegion_z9	1	0.1548	0.0540	2.87	0.0041	
IDOL_LastRegion_z10	1	0.0539	0.0526	1.02	0.3057	
IDOL_LastRegion_z11	1	0.0921	0.0569	1.62	0.1054	
lOBJ_LastRegion_z1	1	0.0283	0.0634	0.45	0.6557	
lOBJ_LastRegion_z2	1	0.002390	0.0586	0.04	0.9675	
lOBJ_LastRegion_z3	1	-0.0573	0.0652	-0.88	0.3796	
lOBJ_LastRegion_z4	1	-0.0136	0.0549	-0.25	0.8039	
lOBJ_LastRegion_z5	1	-0.0107	0.0584	-0.18	0.8552	
lOBJ_LastRegion_z6	1	-0.0488	0.0673	-0.72	0.4685	
lOBJ_LastRegion_z7	1	-0.0219	0.0539	-0.41	0.6852	
lOBJ_LastRegion_z8	1	0.0443	0.0543	0.82	0.4144	
lOBJ_LastRegion_z9	1	0.0564	0.0568	0.99	0.3201	
lOBJ_LastRegion_z10	1	-0.0306	0.0566	-0.54	0.5881	
lOBJ_LastRegion_z11	1	-0.0416	0.0611	-0.68	0.4958	
lNOA_LastRegion_z1	1	0.008271	0.0588	0.14	0.8881	
lNOA_LastRegion_z2	1	-0.0522	0.0521	-1.00	0.3165	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure
Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lNOA_LastRegion_z3	1	-0.0186	0.0576	-0.32	0.7465	
lNOA_LastRegion_z4	1	-0.002846	0.0463	-0.06	0.9509	
lNOA_LastRegion_z5	1	0.008389	0.0488	0.17	0.8635	
lNOA_LastRegion_z6	1	0.0556	0.0542	1.02	0.3055	
lNOA_LastRegion_z7	1	0.0432	0.0450	0.96	0.3372	
lNOA_LastRegion_z8	1	0.0739	0.0452	1.63	0.1022	
lNOA_LastRegion_z9	1	0.0840	0.0476	1.77	0.0775	
lNOA_LastRegion_z10	1	0.0767	0.0472	1.63	0.1040	
lNOA_LastRegion_z11	1	0.0966	0.0511	1.89	0.0587	
lYFT_LastRegion_z1	1	-0.0314	0.0557	-0.56	0.5726	
lYFT_LastRegion_z2	1	-0.0559	0.0403	-1.39	0.1659	
lYFT_LastRegion_z3	1	-0.1544	0.0640	-2.41	0.0158	
lYFT_LastRegion_z4	1	-0.0843	0.0378	-2.23	0.0257	
lYFT_LastRegion_z5	1	-0.0757	0.0393	-1.93	0.0542	
lYFT_LastRegion_z6	1	-0.1188	0.0600	-1.98	0.0478	
lYFT_LastRegion_z7	1	-0.1050	0.0377	-2.79	0.0053	
lYFT_LastRegion_z8	1	-0.0967	0.0375	-2.58	0.0098	
lYFT_LastRegion_z9	1	-0.1023	0.0422	-2.43	0.0153	
lYFT_LastRegion_z10	1	-0.0517	0.0403	-1.28	0.2002	
lYFT_LastRegion_z11	1	-0.0907	0.0439	-2.07	0.0385	
lBET_LastRegion_z1	1	-0.0329	0.0597	-0.55	0.5817	
lBET_LastRegion_z2	1	0.0146	0.0379	0.39	0.6995	
lBET_LastRegion_z3	1	-0.0888	0.0777	-1.14	0.2528	
lBET_LastRegion_z4	1	0.0243	0.0359	0.68	0.4985	
lBET_LastRegion_z5	1	0.0420	0.0382	1.10	0.2720	
lBET_LastRegion_z6	1	-0.0449	0.1003	-0.45	0.6541	
lBET_LastRegion_z7	1	0.0195	0.0362	0.54	0.5898	
lBET_LastRegion_z8	1	0.0245	0.0354	0.69	0.4884	
lBET_LastRegion_z9	1	-0.006969	0.0449	-0.16	0.8768	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	
lBET_LastRegion_z10	1	-0.0487	0.0402	-1.21	0.2260	
lBET_LastRegion_z11	1	0.0250	0.0472	0.53	0.5961	
lSKJ_LastRegion_z1	1	0.0448	0.0479	0.94	0.3495	
lSKJ_LastRegion_z2	1	0.0514	0.0437	1.18	0.2393	
lSKJ_LastRegion_z3	1	0.0741	0.0474	1.56	0.1178	
lSKJ_LastRegion_z4	1	0.0355	0.0411	0.86	0.3880	
lSKJ_LastRegion_z5	1	0.009603	0.0434	0.22	0.8249	
lSKJ_LastRegion_z6	1	0.0449	0.0490	0.92	0.3589	
lSKJ_LastRegion_z7	1	0.0513	0.0404	1.27	0.2041	
lSKJ_LastRegion_z8	1	0.0114	0.0409	0.28	0.7813	
lSKJ_LastRegion_z9	1	0.0195	0.0435	0.45	0.6541	
lSKJ_LastRegion_z10	1	0.0555	0.0433	1.28	0.1993	
lSKJ_LastRegion_z11	1	0.0125	0.0466	0.27	0.7887	
SST_DOL_L	1	-0.001017	0.000656	-1.55	0.1209	
SST_DOL_H	1	-0.001134	0.001464	-0.77	0.4385	
O2_DOL_L	1	-0.0667	0.0248	-2.69	0.0072	
O2_DOL_H	1	-0.0201	0.004202	-4.78	<.0001	
SSH_DOL_L	1	-0.004330	0.001333	-3.25	0.0012	
SSH_DOL_H	1	0.002667	0.000870	3.07	0.0022	
MLD_DOL_L	1	0.002023	0.001973	1.03	0.3052	
MLD_DOL_H	1	-0.002223	0.000567	-3.92	<.0001	
CHLORO_DOL_L	1	0.001268	0.000850	1.49	0.1358	
CHLORO_DOL_H	1	-0.000741	0.002178	-0.34	0.7337	
MEI_z1	1	-0.2608	0.1967	-1.33	0.1849	
MEI_z2	1	-0.6579	0.1632	-4.03	<.0001	
MEI_z3	1	-0.2559	0.1864	-1.37	0.1698	
MEI_z4	1	-0.5986	0.1315	-4.55	<.0001	
MEI_z5	1	-0.1785	0.1302	-1.37	0.1705	
MEI_z6	1	-0.3137	0.1808	-1.74	0.0827	

Table B Estimation Result of the SRUM for Switching Region Sets by DML and Vessel Size of Tuna Purse Seine Fleet in EPO

The MDC Procedure

Conditional Logit Estimates

DML=1 Vessel_Size=4_XLarge (1,250- 1,800t)

Parameter	Parameter Estimates					
	DF	Estimate	Standard Error	t Value	Pr > |t|	
MEI_z7	1	-0.4099	0.1275	-3.21	0.0013	
MEI_z8	1	-0.3050	0.1298	-2.35	0.0188	
MEI_z9	1	-0.4105	0.1471	-2.79	0.0053	
MEI_z10	1	-0.2523	0.1391	-1.81	0.0696	
MEI_z11	1	-0.1370	0.1568	-0.87	0.3824	