

**MP - Parallel Edition**

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Serial number: *****

Licensed to: Yoshitaka Nishizawa
 Doshisha University

Notes:

1. Unicode is supported; see [help unicode advice](#).
2. More than 2 billion observations are allowed; see [help obs advice](#).
3. Maximum number of variables is set to 5000; see [help set_maxvar](#).

```
1 . do "/var/folders/b6/ndp3ln2xlpqfklrfk29ylyvr0000gn/T//SD20153.000000"

2 . *****
3 . * "Widening Political Inequality in Japan
4 . *   during the 'Lost Two-Decades'"
5 . * STATA do file
6 . *
7 . * (c)2018 by Yoshitaka Nishizawa
8 . *****.
9 .
10 .
11 . cd "/Users/ynishiza2017/Desktop/DLR1803_Inequality_Nishizawa"
    /Users/ynishiza2017/Desktop/DLR1803_Inequality_Nishizawa

12 .
13 . /* ssc install coefplot, replace */
14 .
15 . use "jes2thu4-forVoteModelwithLimitedIVs.dta" , clear

16 . gen m9610=m9307 - 39

17 . tab m9610
```

m9610	Freq.	Percent	Cum.
1	930	24.21	24.21
85	598	15.57	39.78
94	413	10.75	50.53
108	397	10.34	60.87
131	459	11.95	72.82
155	488	12.71	85.52

165	556	14.48	100.00
Total	3,841	100.00	

```
18 . gen y9610=m9610/12
```

```
19 . tab y9610
```

y9610	Freq.	Percent	Cum.
.0833333	930	24.21	24.21
7.083333	598	15.57	39.78
7.833333	413	10.75	50.53
9	397	10.34	60.87
10.91667	459	11.95	72.82
12.91667	488	12.71	85.52
13.75	556	14.48	100.00
Total	3,841	100.00	

```
20 .
```

```
21 . /* dummies for inc361 */
```

```
22 . gen bot30=inc361
```

```
23 . recode bot30 (1=1)(2 3=0)
    (bot30: 2783 changes made)
```

```
24 . tab bot30 inc361
```

bot30	inc361			Total
	1	2	3	
0	0	2,206	577	2,783
1	1,058	0	0	1,058
Total	1,058	2,206	577	3,841

```
25 . gen mid60=inc361
```

```
26 . recode mid60 (2=1)(1 3=0)
    (mid60: 3841 changes made)
```

```
27 . tab mid60 inc361
```

mid60	inc361			Total
	1	2	3	
0	1,058	0	577	1,635
1	0	2,206	0	2,206
Total	1,058	2,206	577	3,841

```

28 . gen top10=inc361

29 . recode top10 (3=1)(1 2=0)
    (top10: 3841 changes made)

30 . tab top10 inc361

```

top10	inc361			Total
	1	2	3	
0	1,058	2,206	0	3,264
1	0	0	577	577
Total	1,058	2,206	577	3,841

```

31 .
32 . /*****/
33 . /* Fig 3: DV=vpr4 */
34 . /*****/
35 . set more off

36 . mlogit vpr4 welfAB libcon lif1 class5 efc1 efc4 ///
    >      tmLDP tmDPJ female age educ income y9610

```

```

Iteration 0:  log likelihood = -4190.6252
Iteration 1:  log likelihood = -3096.1835
Iteration 2:  log likelihood = -3054.7044
Iteration 3:  log likelihood = -3053.7954
Iteration 4:  log likelihood = -3053.7947
Iteration 5:  log likelihood = -3053.7947

```

```

Multinomial logistic regression      Number of obs      =      3,841
                                     LR chi2(26)           =      2273.66
                                     Prob > chi2           =      0.0000
Log likelihood = -3053.7947          Pseudo R2           =      0.2713

```

vpr4		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1							
	welfAB	-.0541585	.1419633	-0.38	0.703	-.3324015	.2240845
	libcon	.2035227	.0292269	6.96	0.000	.146239	.2608064
	lif1	-.0777651	.2246203	-0.35	0.729	-.5180128	.3624826
	class5	.4353748	.2810567	1.55	0.121	-.1154862	.9862358
	efc1	-.3438242	.1956642	-1.76	0.079	-.7273191	.0396706
	efc4	.1494096	.1597916	0.94	0.350	-.1637762	.4625953
	tmLDP	.0694294	.0031671	21.92	0.000	.0632219	.0756369
	tmDPJ	-.0659048	.0032432	-20.32	0.000	-.0722614	-.0595482
	female	.0890942	.1010777	0.88	0.378	-.1090145	.2872028

	age	.0056339	.0038928	1.45	0.148	-.0019957	.0132636
	educ	-.0702581	.0255981	-2.74	0.006	-.1204295	-.0200866
	income	.0003246	.0001207	2.69	0.007	.000088	.0005612
	y9610	-.0465369	.0108403	-4.29	0.000	-.0677834	-.0252903
	_cons	-.6129983	.5289747	-1.16	0.247	-1.64977	.423773
2		(base outcome)					
3							
	welfAB	-.1594618	.1332839	-1.20	0.232	-.4206934	.1017699
	libcon	-.1168517	.0275393	-4.24	0.000	-.1708277	-.0628757
	lif1	-.1590989	.2054914	-0.77	0.439	-.5618546	.2436569
	class5	-.0660586	.2594515	-0.25	0.799	-.5745741	.4424569
	efc1	.0976843	.1923781	0.51	0.612	-.2793698	.4747385
	efc4	.3177742	.1491004	2.13	0.033	.0255427	.6100056
	tmLDP	.0173769	.002623	6.62	0.000	.0122358	.0225179
	tmDPJ	-.0551693	.0029255	-18.86	0.000	-.0609032	-.0494354
	female	.3664509	.093665	3.91	0.000	.1828709	.5500309
	age	.000464	.0035659	0.13	0.896	-.0065249	.007453
	educ	-.0413092	.0238147	-1.73	0.083	-.0879853	.0053668
	income	-.0000235	.0001192	-0.20	0.844	-.0002572	.0002102
	y9610	-.0998147	.0099665	-10.01	0.000	-.1193487	-.0802807
	_cons	3.709005	.4859983	7.63	0.000	2.756466	4.661544

```

37 . estimates store x1

38 . coefplot x1, drop(_cons) xline(0)

39 .
    end of do-file

40 . do "/var/folders/b6/ndp31n2x1pqfklrfk29ylyvr0000gn/T//SD20153.000000"

41 .
42 . /*****/
43 . /* Footnote 16: Cheking for interaction effect of welfAB and income */
44 . /*****/
45 . gen welfAB_income=welfAB * income

46 . set more off

47 . mlogit vpr4 welfAB libcon lif1 class5 efc1 efc4 ///
    >      tmLDP tmDPJ female age educ income welfAB_income y9610

Iteration 0:  log likelihood = -4190.6252
Iteration 1:  log likelihood = -3096.1321
Iteration 2:  log likelihood = -3054.5735
Iteration 3:  log likelihood = -3053.6631
Iteration 4:  log likelihood = -3053.6624
Iteration 5:  log likelihood = -3053.6624

```

```

Multinomial logistic regression      Number of obs      =      3,841
                                     LR chi2(28)           =      2273.93
                                     Prob > chi2            =      0.0000
Log likelihood = -3053.6624          Pseudo R2           =      0.2713

```

	vpr4	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1							
	welfAB	-.1344471	.2528907	-0.53	0.595	-.6301038	.3612097
	libcon	.2037654	.029243	6.97	0.000	.1464501	.2610807
	lif1	-.079426	.2246702	-0.35	0.724	-.5197716	.3609196
	class5	.4366038	.28109	1.55	0.120	-.1143224	.9875301
	efc1	-.3425237	.1957329	-1.75	0.080	-.7261531	.0411057
	efc4	.1515396	.1598428	0.95	0.343	-.1617466	.4648257
	tmLDP	.069437	.0031673	21.92	0.000	.0632292	.0756449
	tmDPJ	-.0659009	.0032432	-20.32	0.000	-.0722574	-.0595445
	female	.0910879	.1011926	0.90	0.368	-.107246	.2894218
	age	.0055952	.0038935	1.44	0.151	-.0020359	.0132263
	educ	-.0702516	.0256057	-2.74	0.006	-.1204378	-.0200654
	income	.0002825	.0001625	1.74	0.082	-.0000361	.000601
welfAB_income		.0001112	.0002946	0.38	0.706	-.0004661	.0006885
	y9610	-.0464522	.0108443	-4.28	0.000	-.0677067	-.0251978
	_cons	-.5850685	.5331288	-1.10	0.272	-1.629982	.4598447
2		(base outcome)					
3							
	welfAB	-.1398092	.2448186	-0.57	0.568	-.6196449	.3400265
	libcon	-.1168404	.0275477	-4.24	0.000	-.1708329	-.0628478
	lif1	-.1581027	.2055306	-0.77	0.442	-.5609353	.2447299
	class5	-.0673986	.2596	-0.26	0.795	-.5762052	.4414081
	efc1	.0974227	.1923711	0.51	0.613	-.2796178	.4744631
	efc4	.3178174	.1491133	2.13	0.033	.0255606	.6100742
	tmLDP	.0173709	.0026232	6.62	0.000	.0122296	.0225122
	tmDPJ	-.0551812	.0029261	-18.86	0.000	-.0609162	-.0494461
	female	.3664268	.0937016	3.91	0.000	.182775	.5500787
	age	.0004745	.0035655	0.13	0.894	-.0065139	.0074628
	educ	-.0412159	.0238232	-1.73	0.084	-.0879086	.0054768
	income	-.0000118	.0001614	-0.07	0.942	-.0003281	.0003044
welfAB_income		-.0000287	.0002983	-0.10	0.923	-.0006134	.0005559
	y9610	-.0998208	.0099706	-10.01	0.000	-.1193627	-.0802788
	_cons	3.700357	.490143	7.55	0.000	2.739694	4.661019

```
48 . estimates store x2
```

```
49 . coefplot x2, drop(_cons) xline(0)
```

```
50 .
    end of do-file
```

```

51 . do "/var/folders/b6/ndp3ln2xlpqtklrk29ylyvr0000gn/T//SD20153.000000"
52 .
53 . /*****/
54 . /* Fig 4: Vote Pro. by income */
55 . /*****/
56 . set more off

57 . mlogit vpr4 welfAB libcon lif1 class5 efc1 efc4 ///
>      tmLDP tmDPJ female age educ income y9610

```

```

Iteration 0:  log likelihood = -4190.6252
Iteration 1:  log likelihood = -3096.1835
Iteration 2:  log likelihood = -3054.7044
Iteration 3:  log likelihood = -3053.7954
Iteration 4:  log likelihood = -3053.7947
Iteration 5:  log likelihood = -3053.7947

```

```

Multinomial logistic regression      Number of obs      =      3,841
                                      LR chi2(26)           =      2273.66
                                      Prob > chi2           =      0.0000
Log likelihood = -3053.7947          Pseudo R2           =      0.2713

```

	vpr4	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1							
	welfAB	-.0541585	.1419633	-0.38	0.703	-.3324015	.2240845
	libcon	.2035227	.0292269	6.96	0.000	.146239	.2608064
	lif1	-.0777651	.2246203	-0.35	0.729	-.5180128	.3624826
	class5	.4353748	.2810567	1.55	0.121	-.1154862	.9862358
	efc1	-.3438242	.1956642	-1.76	0.079	-.7273191	.0396706
	efc4	.1494096	.1597916	0.94	0.350	-.1637762	.4625953
	tmLDP	.0694294	.0031671	21.92	0.000	.0632219	.0756369
	tmDPJ	-.0659048	.0032432	-20.32	0.000	-.0722614	-.0595482
	female	.0890942	.1010777	0.88	0.378	-.1090145	.2872028
	age	.0056339	.0038928	1.45	0.148	-.0019957	.0132636
	educ	-.0702581	.0255981	-2.74	0.006	-.1204295	-.0200866
	income	.0003246	.0001207	2.69	0.007	.000088	.0005612
	y9610	-.0465369	.0108403	-4.29	0.000	-.0677834	-.0252903
	_cons	-.6129983	.5289747	-1.16	0.247	-1.64977	.423773
2		(base outcome)					
3							
	welfAB	-.1594618	.1332839	-1.20	0.232	-.4206934	.1017699
	libcon	-.1168517	.0275393	-4.24	0.000	-.1708277	-.0628757
	lif1	-.1590989	.2054914	-0.77	0.439	-.5618546	.2436569
	class5	-.0660586	.2594515	-0.25	0.799	-.5745741	.4424569
	efc1	.0976843	.1923781	0.51	0.612	-.2793698	.4747385
	efc4	.3177742	.1491004	2.13	0.033	.0255427	.6100056
	tmLDP	.0173769	.002623	6.62	0.000	.0122358	.0225179

tmDPJ	-.0551693	.0029255	-18.86	0.000	-.0609032	-.0494354
female	.3664509	.093665	3.91	0.000	.1828709	.5500309
age	.000464	.0035659	0.13	0.896	-.0065249	.007453
educ	-.0413092	.0238147	-1.73	0.083	-.0879853	.0053668
income	-.0000235	.0001192	-0.20	0.844	-.0002572	.0002102
y9610	-.0998147	.0099665	-10.01	0.000	-.1193487	-.0802807
_cons	3.709005	.4859983	7.63	0.000	2.756466	4.661544

```

58 . predict ldp, o(1)
    (option pr assumed; predicted probability)

59 . predict dpj, o(2)
    (option pr assumed; predicted probability)

60 . predict oth, o(3)
    (option pr assumed; predicted probability)

61 .
62 . graph twoway ///
    > (lfitci ldp income, lcolor(black) bcolor(bluishgray)) ///
    > (lfitci dpj income, lpattern(dash) lcolor(black) bcolor(bluishgray)) ///
    > (lfitci oth income, lpattern(shortdash) lcolor(black) bcolor(bluishgray)), ///
    > ytitle("Prob voting") ///
    > ylabel(0(.2)1, grid) ///
    > xtitle(income) ///
    > xlabel(0(500)3000) ///
    > legend(order (2 "For LDP" 4 "For DPJ" 6 "for Other") cols(1) )

63 .
    end of do-file

64 . do "/var/folders/b6/ndp31n2x1pqfklrfk29ylyvr0000gn/T//SD20153.000000"

65 .
66 . /*****/
67 . /* Fig 5: weflAB as DV */
68 . /*****/
69 . reg welfAB libcon lif1 class5 efc1 efc4 ///
    >      tmLDP tmDPJ female age educ income y9610

```

Source	SS	df	MS	Number of obs	=	3,841
Model	26.0146413	12	2.16788677	F(12, 3828)	=	18.07
Residual	459.246829	3,828	.119970436	Prob > F	=	0.0000
				R-squared	=	0.0536
				Adj R-squared	=	0.0506
Total	485.26147	3,840	.126370175	Root MSE	=	.34637

welfAB	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
libcon	-.0054471	.0031665	-1.72	0.085	-.0116553	.0007611

income	-.0000337	.0000389	-1.43	0.155	-.0001321	.0000200
income2	1.63e-08	1.44e-08	1.13	0.258	-1.19e-08	4.45e-08
y9610	-.0139616	.0012143	-11.50	0.000	-.0163424	-.0115808
_cons	.8216008	.0589519	13.94	0.000	.7060206	.937181

```
80 . coefplot, drop(_cons) xline(0)
```

```
81 .
    end of do-file
```

```
82 . do "/var/folders/b6/ndp3ln2xlpqfklrfk29ylyvr0000gn/T//SD20153.000000"
```

```
83 .
```

```
84 . gen Log_income=log(income)
```

```
85 . set more off
```

```
86 . reg welfAB libcon lif1 class5 efc1 efc4 ///
>      tmLDP tmDPJ female age educ Log_income y9610
```

Source	SS	df	MS	Number of obs	=	3,841
Model	26.0210026	12	2.16841689	F(12, 3828)	=	18.07
Residual	459.240468	3,828	.119968774	Prob > F	=	0.0000
				R-squared	=	0.0536
				Adj R-squared	=	0.0507
Total	485.26147	3,840	.126370175	Root MSE	=	.34637

welfAB	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
libcon	-.0054436	.0031665	-1.72	0.086	-.0116518	.0007647
lif1	-.0851844	.0253932	-3.35	0.001	-.1349698	-.0353989
class5	-.0333036	.0319555	-1.04	0.297	-.095955	.0293479
efc1	-.0788043	.0229898	-3.43	0.001	-.1238776	-.0337309
efc4	-.0117023	.0176934	-0.66	0.508	-.0463917	.022987
tmLDP	-.000304	.0002859	-1.06	0.288	-.0008646	.0002565
tmDPJ	-.0005511	.0002871	-1.92	0.055	-.001114	.0000117
female	.0316966	.0114646	2.76	0.006	.0092193	.0541739
age	-.000167	.0004525	-0.37	0.712	-.0010541	.0007201
educ	-.0077937	.0028862	-2.70	0.007	-.0134524	-.0021351
Log_income	-.0125644	.0115805	-1.08	0.278	-.0352689	.0101402
y9610	-.0137758	.0012064	-11.42	0.000	-.016141	-.0114106
_cons	.8751246	.0886019	9.88	0.000	.701413	1.048836

```
87 . coefplot, drop(_cons) xline(0)
```

```
88 .
    end of do-file
```

```
89 . do "/var/folders/b6/ndp3ln2xlpqfklrfk29ylyvr0000gn/T//SD20153.000000"
```

```

90 .
91 . /*****/
92 . /* Footnote 18: Model with election year dummies */
93 . /*****/
94 . tab m9610

```

m9610	Freq.	Percent	Cum.
1	930	24.21	24.21
85	598	15.57	39.78
94	413	10.75	50.53
108	397	10.34	60.87
131	459	11.95	72.82
155	488	12.71	85.52
165	556	14.48	100.00
Total	3,841	100.00	

```

95 . gen shu96=0

96 . replace shu96=1 if m9610==1
    (930 real changes made)

```

```
97 . tab shu96
```

shu96	Freq.	Percent	Cum.
0	2,911	75.79	75.79
1	930	24.21	100.00
Total	3,841	100.00	

```

98 . gen shu03=0

99 . replace shu03=1 if m9610==85
    (598 real changes made)

```

```
100 . tab shu03
```

shu03	Freq.	Percent	Cum.
0	3,243	84.43	84.43
1	598	15.57	100.00
Total	3,841	100.00	

```

101 . gen san04=0

102 . replace san04=1 if m9610==94
    (413 real changes made)

```

```
*** This file generated from ***
```

san04	Freq.	Percent	Cum.
0	3,428	89.25	89.25
1	413	10.75	100.00
Total	3,841	100.00	

```
104 . gen shu05=0
```

```
105 . replace shu05=1 if m9610==108
      (397 real changes made)
```

```
106 . tab shu05
```

shu05	Freq.	Percent	Cum.
0	3,444	89.66	89.66
1	397	10.34	100.00
Total	3,841	100.00	

```
107 . gen san07=0
```

```
108 . replace san07=1 if m9610==131
      (459 real changes made)
```

```
109 . tab san07
```

san07	Freq.	Percent	Cum.
0	3,382	88.05	88.05
1	459	11.95	100.00
Total	3,841	100.00	

```
110 . gen shu09=0
```

```
111 . replace shu09=1 if m9610==155
      (488 real changes made)
```

```
112 . tab shu09
```

shu09	Freq.	Percent	Cum.
0	3,353	87.29	87.29
1	488	12.71	100.00
Total	3,841	100.00	

```
113 . gen san10=0
```

```
114 . replace san10=1 if m9610==165
      (556 real changes made)
```

```
115 . tab san10
```

san10	Freq.	Percent	Cum.
0	3,285	85.52	85.52
1	556	14.48	100.00
Total	3,841	100.00	

```
116 .
```

```
117 . set more off
```

```
118 . mlogit vpr4 welfAB libcon lif1 class5 efc1 efc4 ///
      >      tmLDP tmDPJ female age educ income
      >      shu03 san04 shu05 san07 shu09 san10
```

```
///
```

```
Iteration 0:  log likelihood = -4190.6252
Iteration 1:  log likelihood = -3032.4027
Iteration 2:  log likelihood = -2990.1381
Iteration 3:  log likelihood = -2989.2086
Iteration 4:  log likelihood = -2989.2079
Iteration 5:  log likelihood = -2989.2079
```

Multinomial logistic regression

```
Number of obs      =      3,841
LR chi2(36)        =      2402.83
Prob > chi2         =      0.0000
Pseudo R2          =      0.2867
```

Log likelihood = -2989.2079

vpr4		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1	welfAB	-.0312436	.1423002	-0.22	0.826	-.3101469	.2476597
	libcon	.2041138	.029408	6.94	0.000	.1464752	.2617524
	lif1	-.0944247	.2257027	-0.42	0.676	-.5367939	.3479445
	class5	.4432822	.28338	1.56	0.118	-.1121323	.9986967
	efc1	-.3614534	.1965171	-1.84	0.066	-.7466199	.023713
	efc4	.1020899	.1620735	0.63	0.529	-.2155683	.4197481
	tmLDP	.0692512	.0031946	21.68	0.000	.0629899	.0755125
	tmDPJ	-.0673419	.0033269	-20.24	0.000	-.0738625	-.0608212
	female	.0838288	.1016768	0.82	0.410	-.1154541	.2831116
	age	.0060903	.0039168	1.55	0.120	-.0015865	.0137671
	educ	-.0684949	.0257889	-2.66	0.008	-.1190402	-.0179496
	income	.0003224	.0001215	2.65	0.008	.0000843	.0005605
	shu03	-.8512838	.165113	-5.16	0.000	-1.174899	-.5276683
	san04	-.7893373	.1837063	-4.30	0.000	-1.149395	-.4292796
	shu05	-.4378687	.1899531	-2.31	0.021	-.8101699	-.0655675
	san07	-.8092389	.1858165	-4.36	0.000	-1.173433	-.4450453

	san10	-.6269866	.1794202	-3.49	0.000	-.9786437	-.2753295
	_cons	-.3316569	.5395509	-0.61	0.539	-1.389157	.7258434
2	(base outcome)						
3							
	welfAB	-.1041624	.1366365	-0.76	0.446	-.371965	.1636401
	libcon	-.1282726	.0281091	-4.56	0.000	-.1833654	-.0731799
	lif1	-.1307078	.2093653	-0.62	0.532	-.5410563	.2796407
	class5	-.0775717	.2652987	-0.29	0.770	-.5975477	.4424042
	efc1	.0802519	.1962664	0.41	0.683	-.3044231	.4649269
	efc4	.2191481	.1534051	1.43	0.153	-.0815205	.5198166
	tmLDP	.01841	.0027079	6.80	0.000	.0131027	.0237173
	tmDPJ	-.0580966	.0030425	-19.09	0.000	-.0640598	-.0521333
	female	.3686353	.0954924	3.86	0.000	.1814737	.555797
	age	.0007203	.0036237	0.20	0.842	-.0063821	.0078227
	educ	-.0458479	.0243169	-1.89	0.059	-.0935083	.0018124
	income	-.0000149	.0001218	-0.12	0.903	-.0002537	.0002239
	shu03	-1.793943	.1623202	-11.05	0.000	-2.112085	-1.475801
	san04	-1.727904	.1778856	-9.71	0.000	-2.076553	-1.379254
	shu05	-1.446966	.1856783	-7.79	0.000	-1.810889	-1.083043
	san07	-1.445466	.1713117	-8.44	0.000	-1.781231	-1.109701
	shu09	-1.861018	.1742209	-10.68	0.000	-2.202484	-1.519551
	san10	-.9349488	.1567426	-5.96	0.000	-1.242159	-.627739
	_cons	4.282749	.5013818	8.54	0.000	3.300059	5.265439

```
119 . estimates store x3
```

```
120 . coefplot x3, drop(_cons) xline(0)
```

```
121 .
    end of do-file
```

```
122 .
```