

## LAMPIRAN

### 1. Hasil Regresi Probit Pengolahan Data I

Probit estimates	Number of obs = 892
	Wald chi2(8) = 64.80
	Prob > chi2 = 0.0000
Log pseudo-likelihood = -229.03584	Pseudo R2 = 0.1343

	exp	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age		-.0080282	.0065477	-1.23	0.220	-.0208615	.0048051
size		4.32e-09	1.82e-08	0.24	0.812	-3.13e-08	3.99e-08
inpimpr		1.219701	.2841174	4.29	0.000	.6628407	1.77656
d_pma		.4060606	.2439536	1.66	0.096	-.0720796	.8842009
d_95		.5053571	.1635244	3.09	0.002	.1848551	.8258591
d_99		-.0827572	.1745512	-0.47	0.635	-.4248714	.2593569
pdrbcap		-1.14e-07	4.51e-08	-2.53	0.011	-2.02e-07	-2.56e-08
prodv		.0002709	.0001528	1.77	0.076	-.0000285	.0005702
_cons		-1.423625	.198901	-7.16	0.000	-1.813464	-1.033787

. lstat

Probit model for exp

----- True -----			
Classified	D	~D	Total
+	3	3	6
-	75	811	886
Total	78	814	892

Classified + if predicted Pr(D) >= .5  
True D defined as exp != 0

Sensitivity	Pr( +  D)	3.85%
Specificity	Pr( - ~D)	99.63%
Positive predictive value	Pr( D  +)	50.00%
Negative predictive value	Pr(~D  -)	91.53%
False + rate for true ~D	Pr( + ~D)	0.37%
False - rate for true D	Pr( -  D)	96.15%
False + rate for classified +	Pr(~D  +)	50.00%
False - rate for classified -	Pr( D  -)	8.47%
Correctly classified		91.26%

. dprobit exp age size inpimpr d\_pma d\_95 d\_99 pdrbcap prodv, robust

Iteration 0: log pseudo-likelihood = -264.55276  
Iteration 1: log pseudo-likelihood = -231.1069  
Iteration 2: log pseudo-likelihood = -229.06964  
Iteration 3: log pseudo-likelihood = -229.03585  
Iteration 4: log pseudo-likelihood = -229.03584

Probit estimates	Number of obs = 892
	Wald chi2(8) = 64.80
	Prob > chi2 = 0.0000

Pseudo R2 = 0.1343

(\*)  $dF/dx$  is for discrete change of dummy variable from 0 to 1  
 $z$  and  $P>|z|$  are the test of the underlying coefficient being 0

Probit estimates	Number of obs	=	624
	Wald chi2(13)	=	66.22
	Prob > chi2	=	0.0000
Log pseudo-likelihood = -177.13259	Pseudo R2	=	0.1675

```
. lstat
```

Classified	True		Total
	D	~D	
+	7	4	11
-	60	553	613
Total	67	557	624

Sensitivity	$\Pr(+ D)$	10.45%
Specificity	$\Pr(- \sim D)$	99.28%
Positive predictive value	$\Pr(D +)$	63.64%

Negative predictive value	Pr(~D  -)	90.21%
False + rate for true ~D	Pr( + ~D)	0.72%
False - rate for true D	Pr( -  D)	89.55%
False + rate for classified +	Pr(~D  +)	36.36%
False - rate for classified -	Pr( D  -)	9.79%
Correctly classified		89.74%

```
. dprobit exp age size inpimpr d_pma d_95 d_99 ks pdrbcap prodv d95prodv d99pro
> dv d95dpma d99dpma, robust
```

```
Iteration 0: log pseudo-likelihood = -212.77459
Iteration 1: log pseudo-likelihood = -178.54039
Iteration 2: log pseudo-likelihood = -177.15
Iteration 3: log pseudo-likelihood = -177.13259
Iteration 4: log pseudo-likelihood = -177.13259
```

```
Probit estimates                                Number of obs =    624
                                                Wald chi2(13) =   66.22
                                                Prob > chi2     =  0.0000
Log pseudo-likelihood = -177.13259           Pseudo R2      =  0.1675
```

exp	dF/dx	Robust Std. Err.	z	P> z	x-bar	[ 95% C.I. ]
age	-.0009973	.0011961	-0.84	0.403	10.8958	-.003342 .001347
size	-1.21e-09	2.68e-09	-0.45	0.654	1.1e+06	-6.5e-09 4.1e-09
inpimpr	.2348636	.0528037	4.64	0.000	.075064	.13137 .338357
d_pma*	.2353501	.1688948	1.93	0.053	.051282	-.095678 .566378
d_95*	.0916321	.0411368	2.42	0.016	.378205	.011005 .172259
d_99*	.0046841	.0411843	0.11	0.909	.302885	-.076036 .085404
ks	-2.40e-09	9.35e-09	-0.26	0.797	245389	-2.1e-08 1.6e-08
pdrbcap	-1.45e-08	8.62e-09	-1.63	0.103	2.9e+06	-3.1e-08 2.4e-09
prodv	.0000317	.0000432	0.73	0.464	329.631	-.000053 .000116
d95prodv	.0000395	.0000555	0.72	0.475	131.256	-.000069 .000148
d99prodv	.0000642	.0000581	1.11	0.266	86.7693	-.000005 .000178
d95dpma*	-.0775343	.0153926	-1.58	0.115	.022436	-.107703 -.047365
d99dpma*	-.0087224	.0841469	-0.10	0.921	.022436	-.173647 .156202
obs. P	.1073718					
pred. P	.0780693	(at x-bar)				

(\*) dF/dx is for discrete change of dummy variable from 0 to 1  
z and P>|z| are the test of the underlying coefficient being 0

### 3. Hasil Regresi OLS Pengolahan Data I

```
. regress prprex age size inpimpr d_pma d_95 d_99 pdrbcap prodv
```

Source	SS	df	MS	Number of obs =	78
Model	40344.1755	8	5043.02194	F( 8, 69) =	4.91
Residual	70835.7732	69	1026.60541	Prob > F =	0.0001
Total	111179.949	77	1443.89544	R-squared =	0.3629
				Adj R-squared =	0.2890
				Root MSE =	32.041
prprex	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
age	-.5340722	.399986	-1.34	0.186	-1.332022 .263878
size	-8.82e-07	1.48e-06	-0.60	0.552	-3.83e-06 2.06e-06
inpimpr	-27.53562	14.78631	-1.86	0.067	-57.03349 1.962253

d_pma		14.00824	11.16253	1.25	0.214	-8.260393	36.27687
d_95		18.47036	9.915962	1.86	0.067	-1.311446	38.25216
d_99		37.1883	11.51229	3.23	0.002	14.22192	60.15468
pdrbcap		-3.99e-06	2.13e-06	-1.87	0.066	-8.24e-06	2.67e-07
prodv		-.0178579	.006281	-2.84	0.006	-.0303881	-.0053277
_cons		55.65694	9.939958	5.60	0.000	35.82726	75.48661

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
Ho: Constant variance  
Variables: fitted values of prprex

chi2(1) = 5.72  
Prob > chi2 = 0.0168

. vif

Variable		VIF	1/VIF
d_99		2.04	0.490416
d_95		1.86	0.536837
size		1.57	0.636009
age		1.35	0.738111
d_pma		1.23	0.811424
prodv		1.20	0.834611
inpimpr		1.17	0.854922
pdrbcap		1.14	0.877567
Mean VIF		1.45	

. ovtest

Ramsey RESET test using powers of the fitted values of prprex  
Ho: model has no omitted variables  
F(3, 66) = 1.94  
Prob > F = 0.1316

. regress prprex age size inpimpr d\_pma d\_95 d\_99 pdrbcap prodv, robust

Regression with robust standard errors	Number of obs =	78
	F( 8, 69) =	6.40
	Prob > F =	0.0000
	R-squared =	0.3629
	Root MSE =	32.041

		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
prprex						
age		-.5340722	.3073681	-1.74	0.087	-1.147255 .0791104
size		-8.82e-07	1.15e-06	-0.77	0.446	-3.18e-06 1.41e-06
inpimpr		-27.53562	12.61912	-2.18	0.033	-52.71008 -2.36116
d_pma		14.00824	12.06513	1.16	0.250	-10.06104 38.07752
d_95		18.47036	9.5886	1.93	0.058	-.6583763 37.59909
d_99		37.1883	11.06058	3.36	0.001	15.12306 59.25355
pdrbcap		-3.99e-06	1.92e-06	-2.08	0.041	-7.81e-06 -1.62e-07
prodv		-.0178579	.0046763	-3.82	0.000	-.0271868 -.008529
_cons		55.65694	10.22525	5.44	0.000	35.25812 76.05575

#### 4. Hasil Regresi Probit Pengolahan Data II

```
. regress prprex age size inpimpr d_pma d_95 d_99 pdrbcap prodv ks d95prodv d99
> prodv d95dpma d99dpma
```

Source	SS	df	MS	Number of obs =	67
Model	41206.6194	13	3169.73996	F( 13, 53) =	3.05
Residual	55025.8283	53	1038.22318	Prob > F =	0.0020
				R-squared =	0.4282
				Adj R-squared =	0.2879
Total	96232.4478	66	1458.06739	Root MSE =	32.221

prprex	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
age	-1.253471	.5956038	-2.10	0.040	-2.448101 -.0588411
size	5.19e-06	4.20e-06	1.24	0.222	-3.22e-06 .0000136
inpimpr	-23.40493	18.28528	-1.28	0.206	-60.08056 13.27071
d_pma	-14.2829	25.64155	-0.56	0.580	-65.71334 37.14754
d_95	30.10903	14.57351	2.07	0.044	.878275 59.33978
d_99	48.08488	17.82638	2.70	0.009	12.32969 83.84007
pdrbcap	-4.04e-06	2.32e-06	-1.74	0.088	-8.71e-06 6.20e-07
prodv	-.0051295	.0136482	-0.38	0.709	-.0325043 .0222453
ks	-2.68e-06	3.66e-06	-0.73	0.468	-.00001 4.67e-06
d95prodv	-.0262028	.0175217	-1.50	0.141	-.0613468 .0089412
d99prodv	-.0179745	.0175142	-1.03	0.309	-.0531036 .0171546
d95dpma	51.85582	35.96688	1.44	0.155	-20.2846 123.9962
d99dpma	9.875289	32.48601	0.30	0.762	-55.28339 75.03397
_cons	48.66335	13.13364	3.71	0.001	22.3206 75.00611

```
. hettest
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
Ho: Constant variance  
Variables: fitted values of prprex

```
chi2(1) = 4.53
Prob > chi2 = 0.0333
```

```
. vif
```

Variable	VIF	1/VIF
size	6.31	0.158528
d_pma	4.93	0.202678
d95prodv	4.88	0.204881
prodv	4.87	0.205383
d99dpma	4.70	0.212623
d99prodv	4.47	0.223842
d_99	3.73	0.268256
ks	3.64	0.274376
d_95	3.36	0.297205
age	2.76	0.362072
d95dpma	2.42	0.413634
inpimpr	1.56	0.640817
pdrbcap	1.26	0.791928
Mean VIF	3.76	

```
. ovtest
```

Ramsey RESET test using powers of the fitted values of prprex  
Ho: model has no omitted variables  
F(3, 50) = 1.44  
Prob > F = 0.2417

```
. regress prprex age size inpimpr d_pma d_95 d_99 pdrbcap prodv ks d95prodv d99
```

```
> prodv d95dpma d99dpma, robust
```

Regression with robust standard errors

```
Number of obs =      67
F( 13,      53) =    30.50
Prob > F      =    0.0000
R-squared     =    0.4282
Root MSE     =    32.221
```

prprex	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
age	-1.253471	.5079956	-2.47	0.017	-2.272381	-.2345609
size	5.19e-06	3.41e-06	1.52	0.134	-1.65e-06	.000012
inpimpr	-23.40493	16.45406	-1.42	0.161	-56.40759	9.597732
d_pma	-14.2829	13.32193	-1.07	0.289	-41.00331	12.43751
d_95	30.10903	14.26308	2.11	0.040	1.500911	58.71714
d_99	48.08488	16.2139	2.97	0.005	15.56391	80.60585
pdrbcap	-4.04e-06	1.79e-06	-2.26	0.028	-7.63e-06	-4.51e-07
prodv	-.0051295	.0063137	-0.81	0.420	-.0177932	.0075342
ks	-2.68e-06	2.30e-06	-1.17	0.249	-7.28e-06	1.93e-06
d95prodv	-.0262028	.0124909	-2.10	0.041	-.0512563	-.0011493
d99prodv	-.0179745	.0093327	-1.93	0.059	-.0366935	.0007445
d95dpma	51.85582	16.42396	3.16	0.003	18.91353	84.79812
d99dpma	9.875289	27.22486	0.36	0.718	-44.73086	64.48144
_cons	48.66335	11.61009	4.19	0.000	25.37647	71.95024

## 5. Hasil Regresi Heckman

Heckman selection model -- two-step estimates  
(regression model with sample selection)

```
Number of obs      =      892
Censored obs       =      814
Uncensored obs     =      78
Prob > chi2        =    0.0000
```

		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
prprex							
	prodv	-.0261471	.0087603	-2.98	0.003	-.0433169	-.0089772
	age	-.2813004	.4375726	-0.64	0.520	-1.138927	.5763261
	size	-1.06e-06	1.44e-06	-0.74	0.462	-3.88e-06	1.77e-06
	inpimpr	-65.49865	29.02404	-2.26	0.024	-122.3847	-8.612574
	d_95	1.926122	13.0219	0.15	0.882	-23.59633	27.44857
	d_99	40.76976	11.98167	3.40	0.001	17.28612	64.25339
	_cons	131.0843	47.39143	2.77	0.006	38.19879	223.9698
exp							
	prodv	.0002709	.0001358	1.99	0.046	4.73e-06	.000537
	age	-.0080282	.0063408	-1.27	0.205	-.0204558	.0043995
	size	4.32e-09	1.67e-08	0.26	0.796	-2.84e-08	3.70e-08
	inpimpr	1.219701	.2969074	4.11	0.000	.6377727	1.801628
	d_95	.5053571	.1683254	3.00	0.003	.1754454	.8352689
	d_99	-.0827572	.1790418	-0.46	0.644	-.4336727	.2681582
	pdrbcap	-1.14e-07	3.85e-08	-2.96	0.003	-1.89e-07	-3.85e-08
	d_pma	.4060606	.2174913	1.87	0.062	-.0202144	.8323357
	_cons	-1.423625	.1803166	-7.90	0.000	-1.777039	-1.070211
mills							
	lambda	-40.75205	22.86839	-1.78	0.075	-85.57327	4.069169
	rho	-0.86207					
	sigma	47.272512					
	lambda	-40.752051	22.86839				

