

Prediction Model for Transparency of Land Values Data Base on The Transaction Report

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BACKGROUND & OBJECTIVES

EXPECTED CONDITION

Acurate SV of TO

1. Valuation Based on Comprehensive Data (trans report, survey, model etc.)
2. Notariat reported the real value

ACTUAL CONDITION

Non Acurate SV of TO

1. Valuation Based on single data (trans report notariat)
2. Notariat reported below the real value (tax avoidance/exacavation)

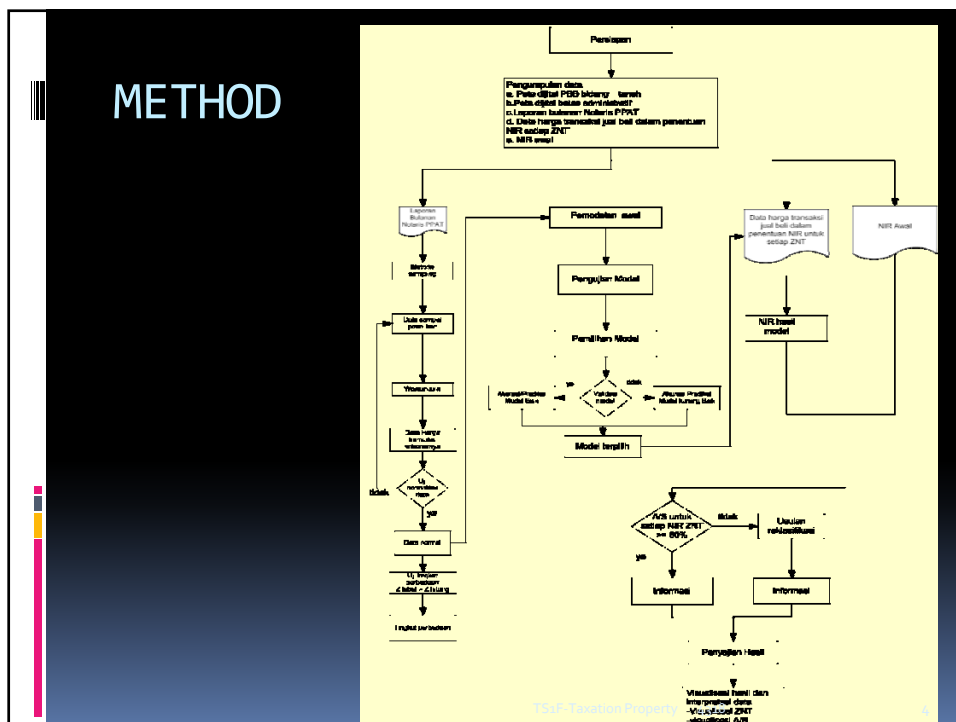
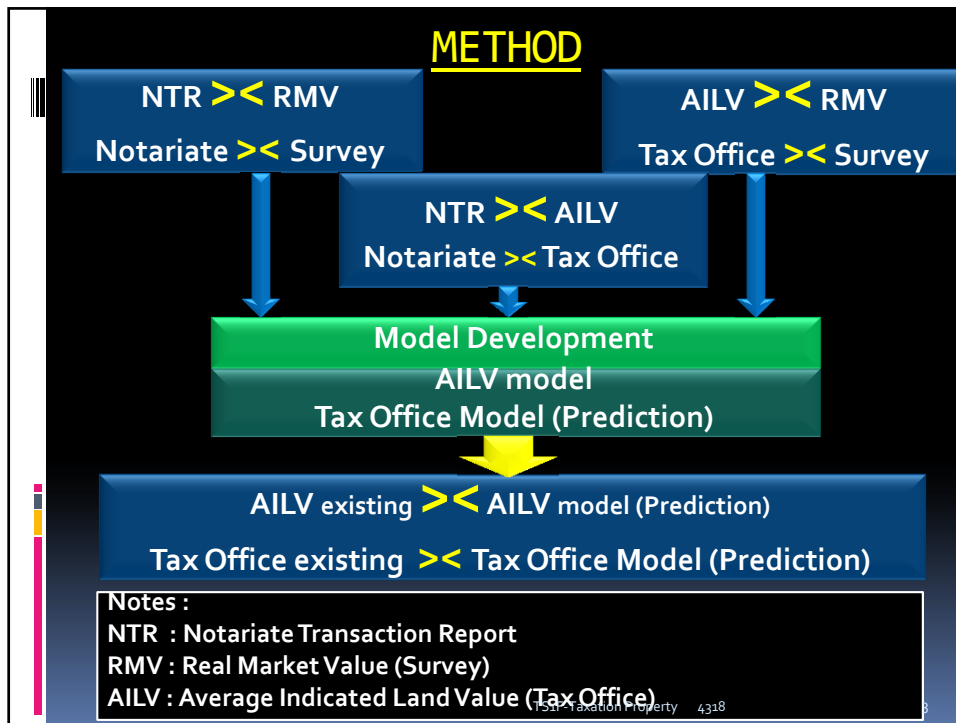
OBJECTIVES

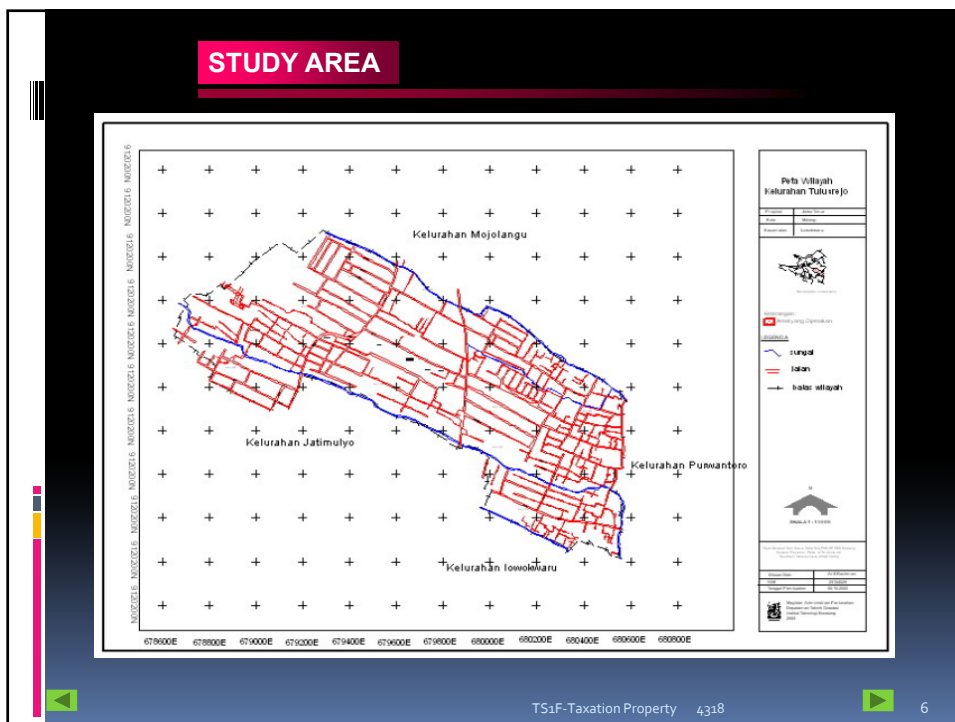
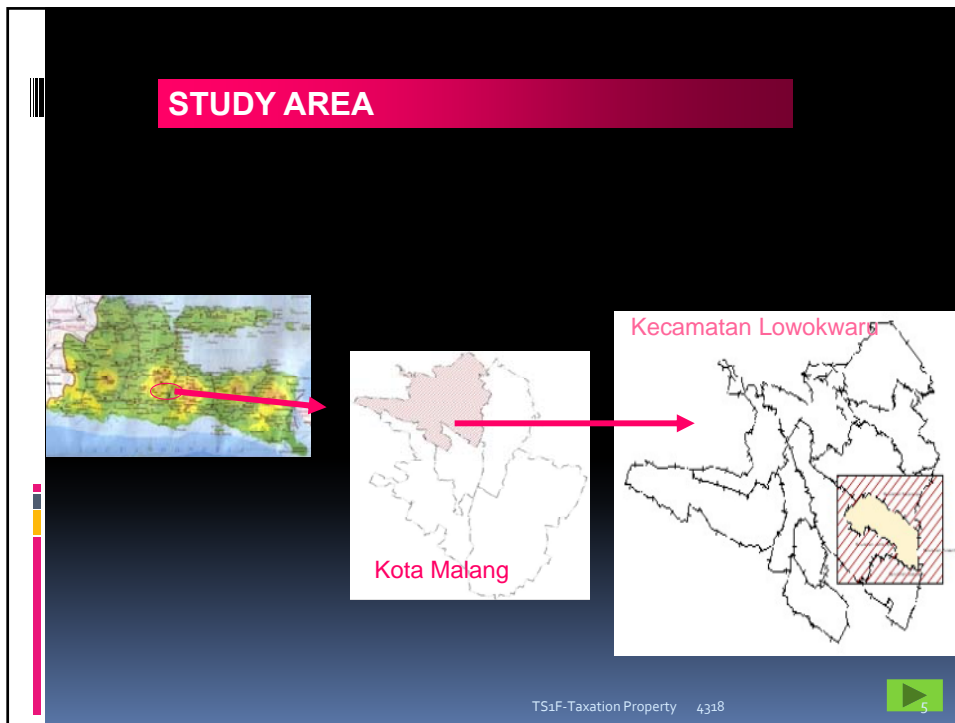
Analysed Land Value Transaction Report
of Notariate Office
Which is used for SV of TO modeling in Indonesia

↓
**Create prediction model
to achieve more accurate SV of TO**

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LAND VALUE DISTRIBUTION DATA SAMPLE



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Transaction Data of Land Value (Record Data of Land Office)

Data Harga Transaksi /Penawaran Jual Beli Dalam Analisis NIR PBB					
Kota	: Kota Malang (73)				
Kecamatan	: Lowokwaru (040)				
Kelurahan	: Tubusrejo (007)				
No.	Alamat Objek Pajak (Data Transaksi)	NOP	Kode ZNT	Tgl Transaksi	Harga Transaksi/ Penawaran (000)
1	2	3	4	5	6
17	Jl. Papa Putih **	002-0055.0	AP	20/9/2004	32,500,000.00
18	Jl. Bukirsari **	007-0096.0	AH	4/10/2004	4,500,000.00
19	Bantaran V *	005-0247.0	AK	23/9/2004	20,000,000.00
20	Bantaran Indah *	006-0270.0	AP	18/1/2005	20,000,000.00
21	Papa Kuning 17 ****	002-0115.0	AC	20/11/005	700,000,000.00

Ket :
 * = data lapangan
 ** = data harga transaksi jual beli dalam laporan notaris PPAT
 *** = data penawaran

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Transaction Data of Land Value (Record Data of Notariate)

Pendekatan Harga Transaksi Jual Beli Laporan Notaris PPAT Dalam Analisis NIR PBB
(model terpilih $\rightarrow Y = 23820190.4219992 + 1.737098(X)$)

Kota : Kota Malang (73)
Kecamatan : Lowokwaru (040)
Kehurahan : Tulusrejo (007)

No.	Alamat Objek Pajak (Data Transaksi)	NOP	Kode ZNT	Tgl Transaksi	Harga Transaksi	Harga Sebenarnya
1	2	3	4	5	6	8
1	Jl. Cengger Ayam IA **	008-0029.0	AR	8/10/2005	105,000,000	206,215,480.42
2	Bunga Kopi **	015-0030.0	AB	16/9/2005	92,000,000	183,633,206.42
3	Jl. Candi Mendut Sel **	004-0323.0	BS	29/8/2005	10,000,000	41,191,170.42
4	Bantaran Barat **	010-0139.0	AZ	14/10/2004	3,465,000	29,839,234.99
5	Jl. Kedawung Gg X **	011-0057.0	BB	5/8/2004	47,000,000	105,463,796.42
6	Jl. Kedawung Gg **	011-0161.0	BB	20/8/2004	30,000,000	75,933,130.42
7	Bantaran Barat II Ters **	005-0235.0	AL	17/8/2005	43,000,000	98,515,404.42
8	Jl. Papa Putih **	002-0055.0	AP	20/9/2004	32,500,000	80,275,875.42
9	Jl. Bukirsari **	007-0096.0	AH	4/10/2004	4,500,000	31,637,131.42

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Data Processing of AILV (Average Indicated Land Value) by Tax Office

No	Kode ZNT	Alamat Objek Pajak (Data Transaksi)	N O P	Kode ZNT : AF		Lokasi : Pesona Town House		Nilai Tanah NIR Hasil Uji Petik	Keterangan
				Nilai Tanah (per-m2)	Lokasi	Penyesuaian (%) Faktor Lain	Jumlah Penyesuaian setelah Analisis		
20	AP	Bantaran Indah	006-0270.0	389.290	15	10	25	486.613	
19	AK	Bantaran V	005-0247.0	361.700	20	30	50	542.550	514.581
20	AP	Bantaran Indah	006-0270.0	389.290	15	10	25	486.613	
19	AK	Bantaran V	005-0247.0	361.700	20	30	50	542.550	

Nilai Pasar Tanah Kode ZNT AF
Rp./ M² dalam ribuan rupiah

HYPOTHESIS TEST

$$Z_0 = \frac{\bar{X}_1 - \bar{X}_2}{\sigma_{\bar{X}_1 - \bar{X}_2}}$$

$$\sigma_{\bar{X}_1 - \bar{X}_2} = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$$

Ho = Rata-rata harga transaksi jual beli dalam laporan notaris PPAT sama dengan harga transaksi sebenarnya.

H1 = Rata-rata harga transaksi jual beli dalam laporan notaris PPAT lebih kecil dibandingkan dengan harga transaksi sebenarnya

Hasil uji statistik dengan Uji-Z ($\alpha = 0,05$ pengujian 2 sisi)

No	Z hitung	Z-tabel	Kesimpulan
1	-43196,64	$\pm 1,96$	H ₀ ditolak H ₁ diterima

STATISTICAL METHOD FOR LAND VALUE PREDICTION

Bentuk model yang akan dianalisa adalah model regresi linier dengan 4 alternatif model :

$$Y = b_0 + b_1 X + u \quad (\text{model lin-lin})$$

$$Y = b_0 + b_1 \ln(X) + u \quad (\text{model lin-log})$$

$$\ln(Y) = b_0 + b_1 X + u \quad (\text{model log-lin})$$

$$\ln(Y) = b_0 + b_1 \ln(X) + u \quad (\text{model log-log})$$

dimana :

Y = prediksi harga sebenarnya

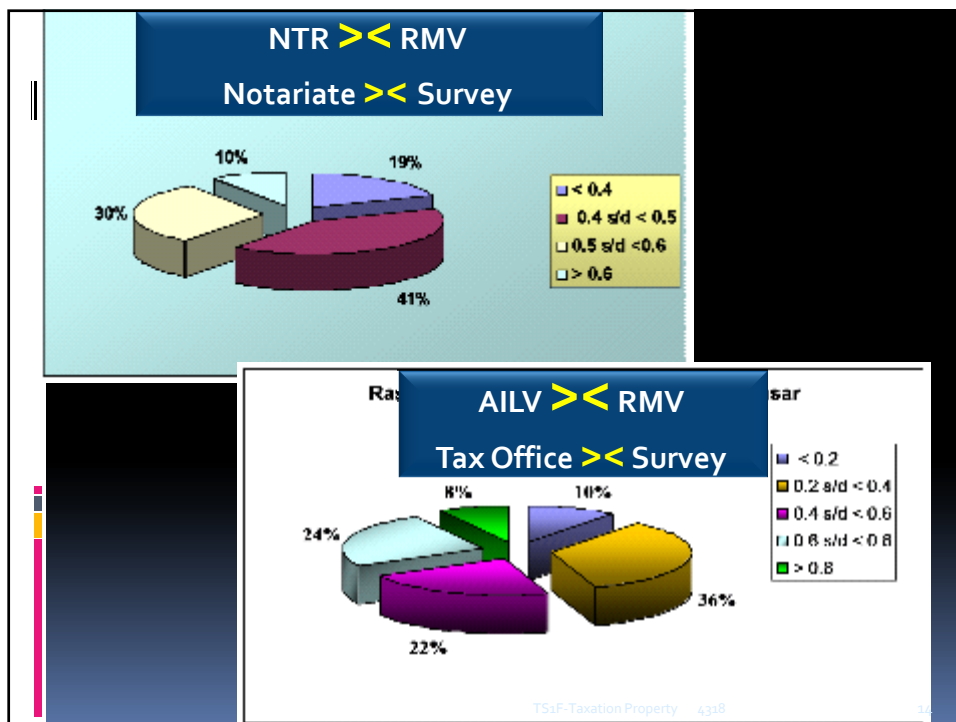
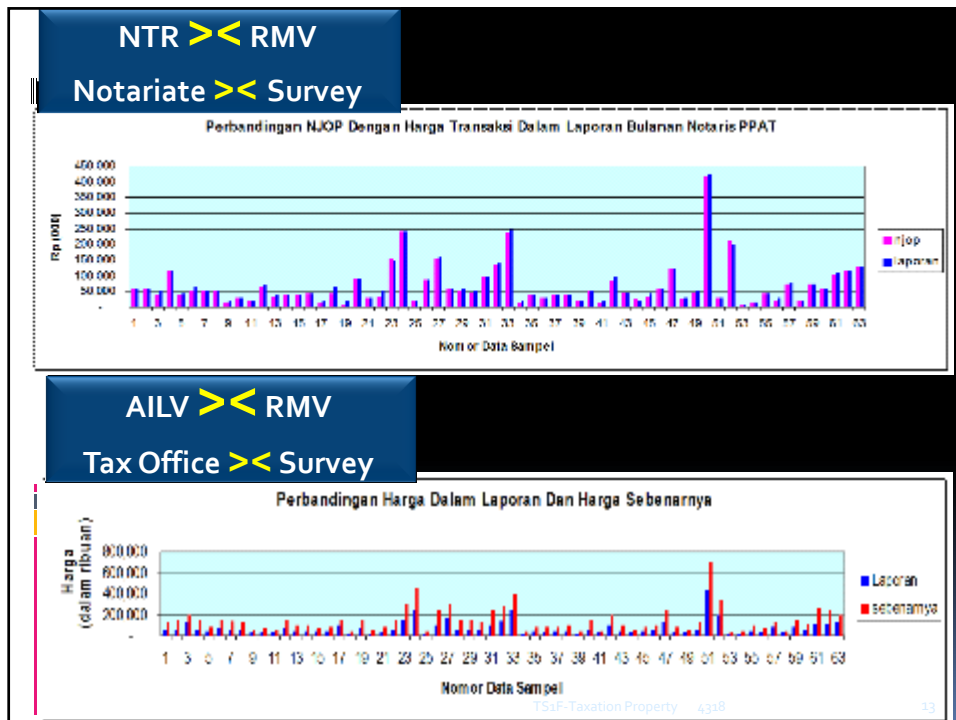
b₀ = konstanta

b₁ = koefisien

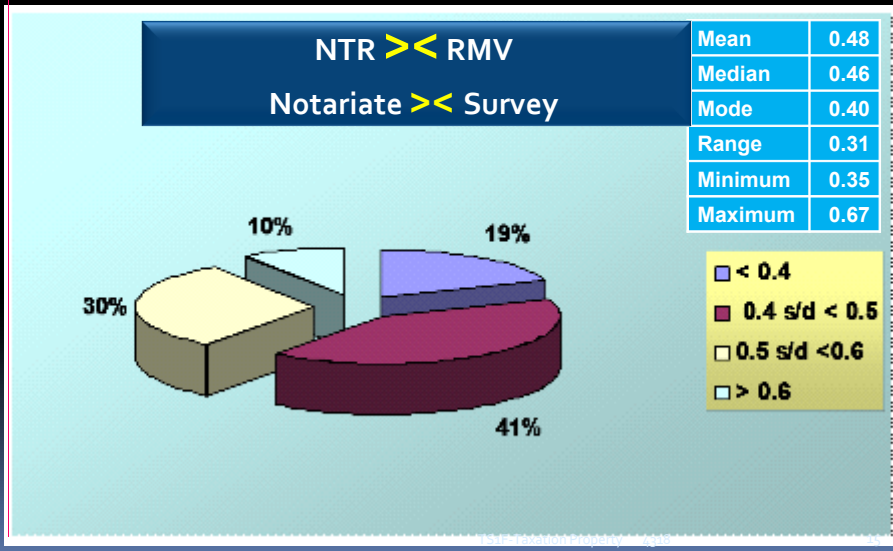
X = harga dalam laporan Notaris PPAT

u = kesalahan pengganggu

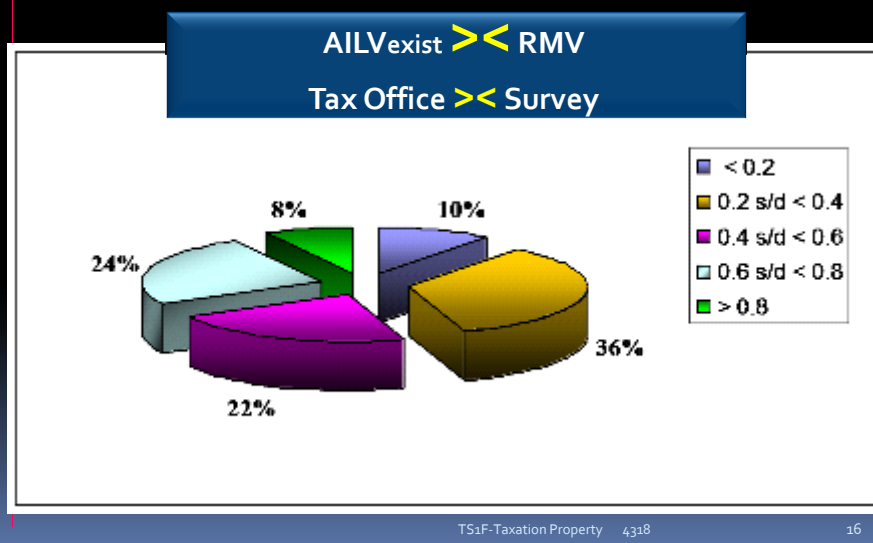
Ln = logaritma natural (bilangan berbasis 2.71828182845904)



RATIO OF NOTARIATE TRANSACTION REPORT WITH REAL MARKET VALUE



RATIO OF AILV-TAX OFFICE WITH REAL MARKET VALUE (survey)



LINEAR REGRESSION RESULT

Linear regression result :

No	Para meter	Model			
		lin-lin	lin-log	log-lin	log-log
1.	bo	23820190.422	-2239686590.147	17.85838	2.05897
2.	b ₁	1.737	133772308.5144	1.0502E-08	0.9279

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STATISTICAL T-TEST

Uji t Statistik

Uji t statistik digunakan untuk menguji apakah variabel bebas merupakan penjelas yang signifikan terhadap variabel tidak bebas.

Persamaan uji t (Koutsoyiannis, 1985) :

($\alpha = 0,05$ df = 48, t-tabel = 2.01063358)

No	Model	t _{hitung}	Significant/ not significant
1	lin-lin	27,311	signifikan
2	Lin-log	19.491	signifikan
3	Log-lin	12.203	signifikan
4	Log-log	27.507	signifikan

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STATISTICAL F-TEST

Uji F statistik digunakan untuk menguji apakah variabel bebas secara bersama-sama merupakan penjelas yang signifikan terhadap variabel tidak bebas (Gujarati, 1995)

Hasil uji Statistik dengan Uji-F:
 $(\alpha = 0,05 \text{ df} = (1)(48), F_{\text{tabel}} = 4.042647106)$

No	Model	F _{hitung}	Significant/ not significant
1	lin-lin	736,23	signifikan
2	Lin-log	379.92	signifikan
3	Log-lin	148.30	signifikan
4	Log-log	756.64	signifikan

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Coefficient of Determination and Standard Error of Estimate (SEE) for the model used

No	Model	R ²	SEE	Kesimpulan
1	lin-lin	0.93879	22,827,004	Model terbaik Lin-lin
2	Lin-log	0.88783	30,902,022	
3	Log-lin	0.75547	76,543,482	
4	Log-log	0.94035	23,701,013	

$$Y = 23820190 + 1.737098 X$$

Where ; Y : RMV, X : NTR, all unit in rupiah (Rp)

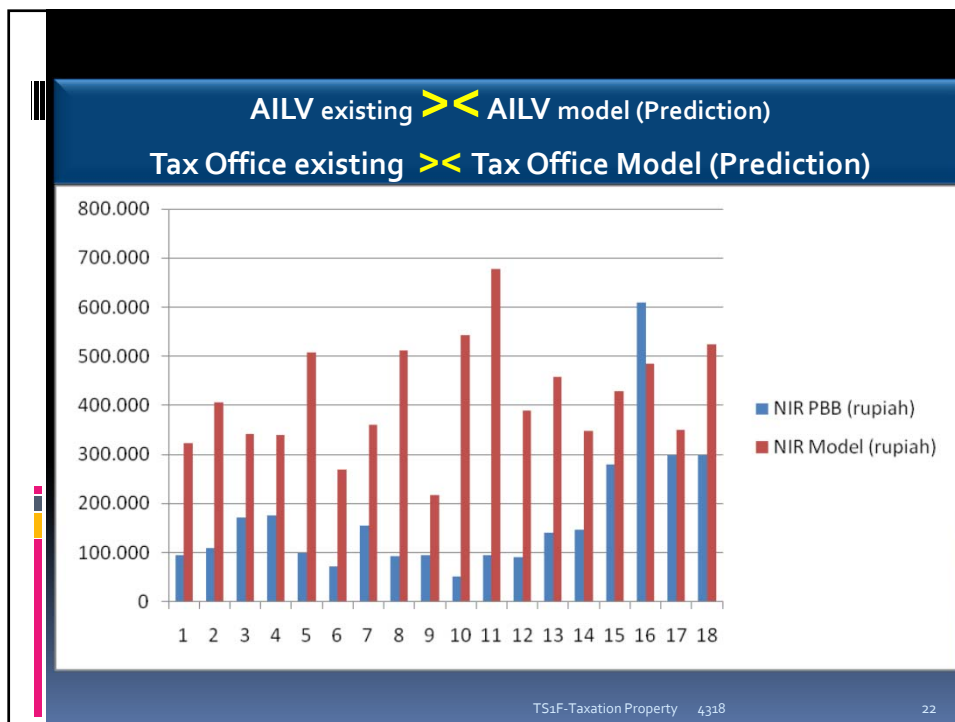
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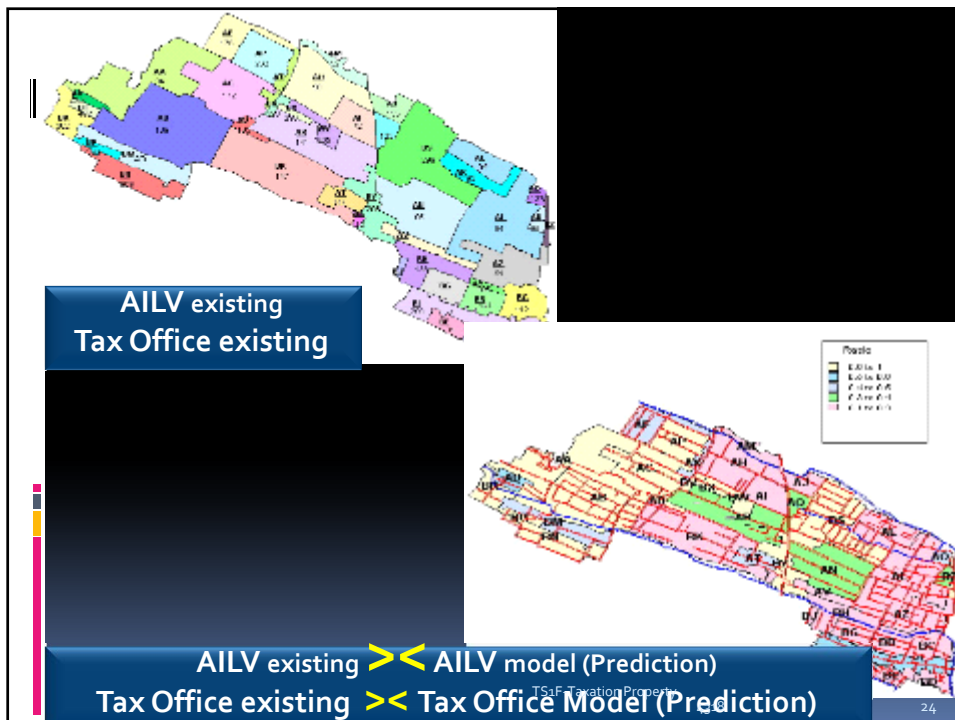
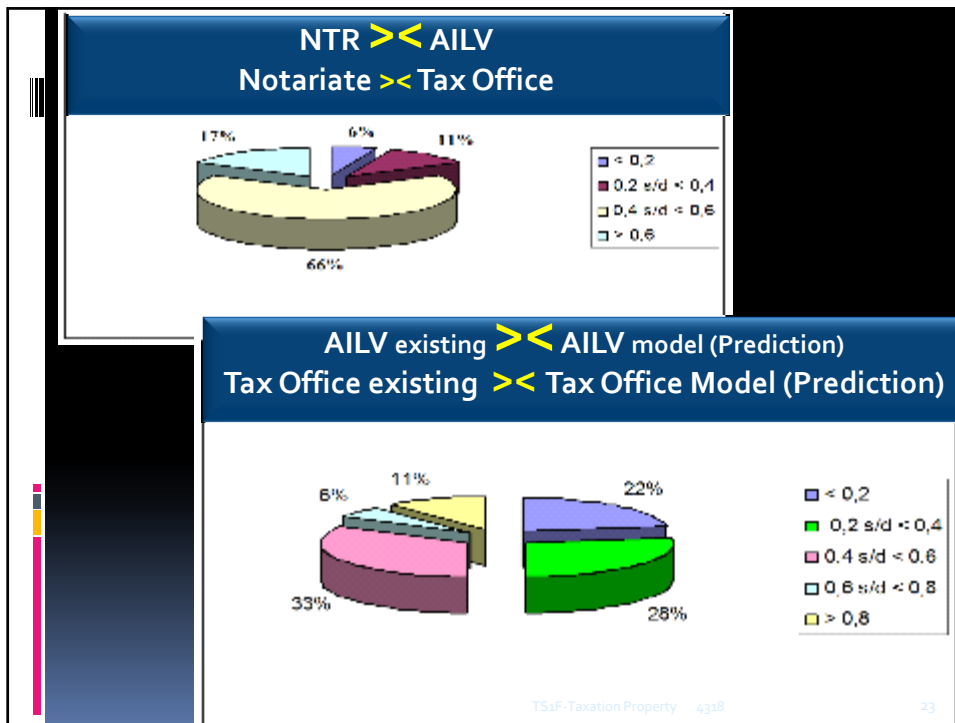
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AILV existing >< AILV model (Prediction)
 Tax Office existing >< Tax Office Model (Prediction)

NO	KODE	NIR PBB	NIR Model	Rasio
1	AA	94,182	322,792	0.29
2	AB	108,884	404,979	0.27
3	AC	172,473	341,878	0.50
4	AE	175,756	340,261	0.52
5	AH	98,476	506,676	0.19
6	AI	72,259	268,874	0.27
7	AJ	154,800	361,384	0.43
8	AK	93,064	511,435	0.18
9		94,394	217,034	0.43
10	AM	52,378	543,451	0.10
11	AN	95,172	678,140	0.14
12	AZ	90,972	388,976	0.23
13	BB	140,848	457,088	0.31
14	BK	146,536	347,932	0.42
15	BM	279,471	428,339	0.65
16	BN	608,605	485,087	1.25
17	BS	298,892	350,940	0.85
18	BX	298,209	523,167	0.57

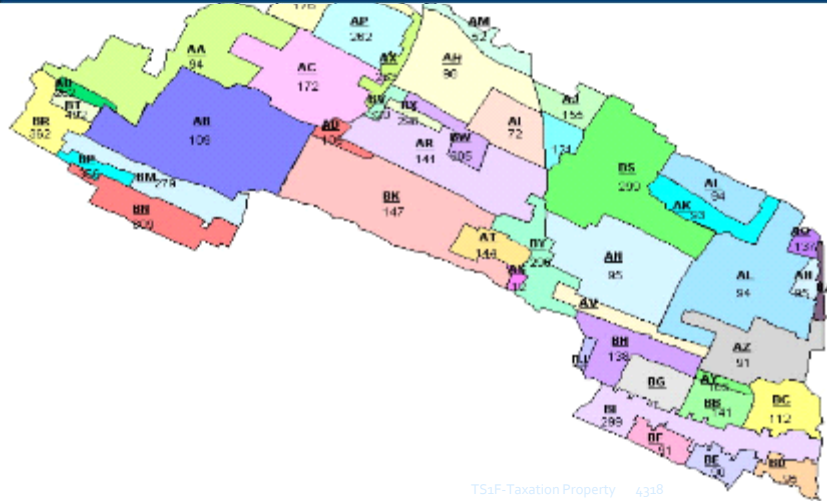
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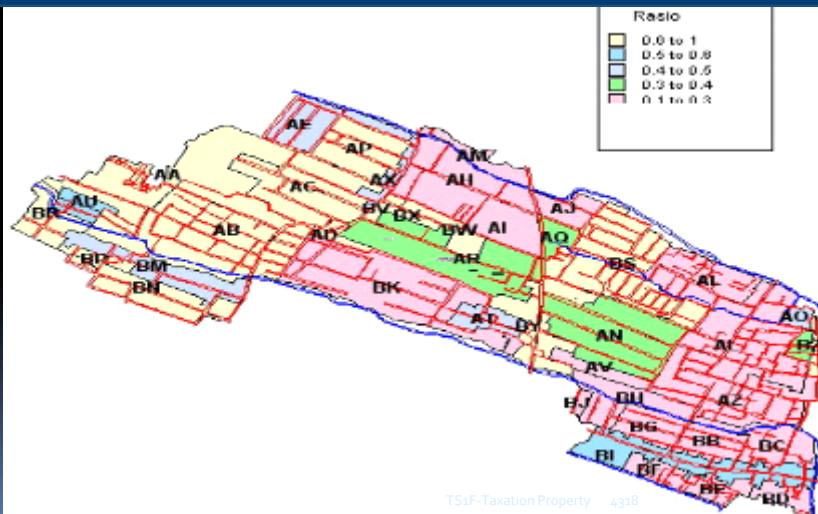
Land Value Zone (LVZ) and Average Indicated Land Value (AILV) in study area

**AILV existing
(Tax Office existing)**



**THE ASSESMENT RATIO OF MODEL / EXISTING
IN THE STUDY AREA**

AILV existing >< AILV model (Prediction)
Tax Office existing >< Tax Office Model (Prediction)



RESULTS

1

NTR >< RMV
Notariate >< Survey

<40% --- 19%
40-50% ... 41%
50 -60% ... 30%
>60% ... 10%

2

AILV exist >< RMV
TO exist >< Survey

<20% ... 10%
20-40% --- 36%
40-60% ... 22%
60 -80% ... 24%
>80% ... 8% (accept)

3

NTR >< AILV
Notariate >< Tax Office

<20% ... 6%
20-40% --- 11%
40-60% ... 66%
>60% ... 17%

4

AILV exist >< AILV model
TOexist >< TO Model

<20% ... 22%
20-40% --- 28%
40-60% ... 33%
60 -80% ... 6%
>80% ... 11% (accept)

Average : 56 %

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CONCLUSION

1. Based on Tax Office rule, the ratio of AILV with RMV should be more than 80%, but in fact the ratio of AILV to the RMV is not so significant.
2. Based on this research indicate that the quality of NTR which is used to determine AILV is very poor and the ratio of NTR to the RMV is below than 60%.
3. In order to get better AILV for tax office uses, it is need to find and achieve more accurate data to develop the significant model.

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RECOMENDATION

1. The Notariate Transaction reports must give the real data for tax office needs. The data should good accountability and law enforcement must be applied.
2. Need some model updating and development to achieve the more accurate of real of Land Valuation.
3. Verification and Validation of the data and the model is the key of the Quality of Real Land Value .

THANK YOU