

DATA INDUSTRI KABUPATEN BANGKALAN 2017-2021

| kecamatan | tahun | jumlah ikm | tenaga kerja | nilai produksi | nilai investasi |
|-----------|-------|------------|-----------------|----------------|-----------------|
| bangkalan | 2017 | 157 | 951 | 21,844,585 | 10,509,600 |
| | 2018 | 158 | 956 | 21,994,585 | 10,709,600 |
| | 2019 | 178 | 1,008 | 23,429,355 | 11,427,600 |
| | 2020 | 314 | 1,328 | 26,660,530 | 15,168,950 |
| | 2021 | 374 | 1,486 | 29,109,090 | 17,872,580 |
| blega | 2017 | 7 | 29 | 1,898,950 | 470,000 |
| | 2018 | 8 | 33 | 2,498,950 | 670,000 |
| | 2019 | 9 | 34 | 2,515,950 | 675,000 |
| | 2020 | 27 | 103 | 3,768,235 | 2,155,600 |
| | 2021 | 33 | 125 | 4,395,335 | 2,227,600 |
| burneh | 2017 | 37 | 324 | 9,306,487 | 9,143,900 |
| | 2018 | 40 | 332 | 9,631,487 | 9,793,900 |
| | 2019 | 46 | 341 | 11,504,167 | 10,023,900 |
| | 2020 | 77 | 397 | 12,223,217 | 10,941,900 |
| | 2021 | 95 | 428 | 12,413,342 | 11,181,900 |
| galis | 2017 | 20 | 120 | 764,900 | 704,200 |
| | 2018 | 21 | 124 | 839,900 | 904,200 |
| | 2019 | 22 | 125 | 850,700 | 924,200 |
| | 2020 | 27 | 136 | 1,214,900 | 1,337,700 |
| | 2021 | 30 | 145 | 1,247,900 | 1,382,700 |
| kamal | 2017 | 39 | 278 | 4,220,344 | 1,691,500 |
| | 2018 | 40 | 286 | 4,375,344 | 1,791,500 |
| | 2019 | 52 | 332 | 5,286,944 | 2,596,500 |
| | 2020 | 120 | 470 | 6,664,854 | 4,170,550 |
| | 2021 | 127 | 514 | 6,864,579 | 4,411,051 |
| klampis | 2017 | 27 | 262 | 5,917,425 | 1,735,800 |
| | 2018 | 30 | 274 | 6,672,425 | 2,235,800 |
| | 2019 | 36 | 289 | 9,075,225 | 2,336,800 |
| | 2020 | 47 | 389 | 9,518,075 | 2,755,300 |
| | 2021 | 66 | 432 | 10,118,975 | 3,504,300 |
| labang | 2017 | 6 | 37 | 4,287,650 | 350,000 |
| | 2018 | 8 | 72 | 4,324,400 | 750,000 |
| | 2019 | 11 | 87 | 5,714,400 | 1,760,000 |
| | 2020 | 43 | 149 | 6,422,675 | 2,534,500 |
| | 2021 | 52 | 172 | 6,499,050 | 2,627,000 |
| modung | 2017 | 8 | 115 | 835,950 | 430,000 |
| | 2018 | 13 | 160 | 895,950 | 972,000 |
| | 2019 | 15 | 15 | 985,000 | 1,172,000 |
| | 2020 | 28 | 193 | 1,601,050 | 1,934,250 |

| | | | | | |
|--------------|------|----|-----|------------|-----------|
| socah | 2021 | 34 | 206 | 1,757,310 | 2,110,250 |
| | 2017 | 32 | 244 | 12,140,605 | 1,609,500 |
| | 2018 | 34 | 258 | 13,440,605 | 1,809,500 |
| | 2019 | 39 | 310 | 14,530,605 | 2,609,500 |
| | 2020 | 58 | 352 | 15,036,925 | 3,228,500 |
| tanjung bumi | 2021 | 68 | 373 | 15,236,825 | 3,491,300 |
| | 2017 | 41 | 407 | 13,656,175 | 2,347,143 |
| | 2018 | 43 | 419 | 14,717,515 | 2,497,143 |
| | 2019 | 49 | 444 | 15,167,115 | 2,637,143 |
| | 2020 | 72 | 502 | 15,759,740 | 3,374,643 |
| arosbaya | 2021 | 89 | 613 | 16,106,845 | 3,773,643 |
| | 2017 | 15 | 114 | 4,542,100 | 723,000 |
| | 2018 | 19 | 129 | 5,798,620 | 1,373,000 |
| | 2019 | 21 | 136 | 6,328,990 | 1,503,000 |
| | 2020 | 36 | 188 | 6,843,040 | 2,061,000 |
| geger | 2021 | 48 | 215 | 7,887,665 | 3,320,200 |
| | 2017 | 17 | 84 | 1,735,438 | 843,310 |
| | 2018 | 19 | 89 | 2,287,438 | 1,193,310 |
| | 2019 | 20 | 91 | 2,312,438 | 1,233,310 |
| | 2020 | 27 | 110 | 2,523,388 | 1,483,310 |
| kokop | 2021 | 30 | 114 | 2,608,088 | 1,588,310 |
| | 2017 | 6 | 64 | 1,974,000 | 800,000 |
| | 2018 | 11 | 84 | 2,843,200 | 1,478,500 |
| | 2019 | 18 | 105 | 4,101,700 | 2,578,500 |
| | 2020 | 25 | 118 | 4,422,000 | 2,965,500 |
| konang | 2021 | 30 | 139 | 4,837,150 | 3,486,500 |
| | 2017 | 21 | 72 | 2,551,430 | 410,500 |
| | 2018 | 27 | 100 | 3,601,730 | 766,500 |
| | 2019 | 33 | 132 | 4,477,730 | 1,619,400 |
| | 2020 | 40 | 167 | 5,173,480 | 2,424,400 |
| kwanyar | 2021 | 47 | 206 | 5,321,630 | 2,604,400 |
| | 2017 | 11 | 307 | 38,321,630 | 1,094,000 |
| | 2018 | 17 | 328 | 39,562,890 | 1,960,000 |
| | 2019 | 20 | 332 | 39,475,590 | 2,005,000 |
| | 2020 | 49 | 400 | 40,259,640 | 2,872,000 |
| sepuluh | 2021 | 61 | 437 | 40,621,890 | 3,317,000 |
| | 2017 | 19 | 139 | 3,843,300 | 2,005,000 |
| | 2018 | 26 | 175 | 4,708,600 | 2,660,000 |
| | 2019 | 31 | 189 | 5,097,100 | 2,825,000 |
| | 2020 | 44 | 219 | 5,810,935 | 3,628,500 |
| tanah merah | 2021 | 52 | 243 | 6,006,035 | 3,876,500 |
| | 2017 | 26 | 229 | 8,239,424 | 5,631,000 |

| | | | | | |
|--------|------|----|-----|------------|-----------|
| | 2018 | 34 | 291 | 9,872,074 | 6,956,000 |
| | 2019 | 40 | 303 | 10,067,074 | 7,101,000 |
| | 2020 | 59 | 357 | 10,607,674 | 7,746,000 |
| | 2021 | 72 | 404 | 10,918,074 | 8,116,500 |
| tragah | 2017 | 10 | 122 | 2,585,150 | 1,811,000 |
| | 2018 | 16 | 146 | 3,705,180 | 1,466,200 |
| | 2019 | 24 | 169 | 4,595,180 | 2,221,200 |
| | 2020 | 37 | 197 | 4,777,780 | 2,446,000 |
| | 2021 | 46 | 234 | 5,067,130 | 2,769,500 |

CEM

Dependent Variable: JI
Method: Panel Least Squares
Date: 01/13/23 Time: 17:54
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | -2.050819 | 1.462222 | -1.402536 | 0.1675 |
| TK | 0.383436 | 0.025051 | 15.30635 | 0.0000 |
| NP | 1.70E-06 | 1.94E-06 | 0.874970 | 0.3861 |
| NI | -6.08E-08 | 6.15E-07 | -0.098846 | 0.9217 |
| R-squared | 0.898594 | Mean dependent var | | 12.28000 |
| Adjusted R-squared | 0.891981 | S.D. dependent var | | 22.58231 |
| S.E. of regression | 7.421969 | Akaike info criterion | | 6.923384 |
| Sum squared resid | 2533.939 | Schwarz criterion | | 7.076346 |
| Log likelihood | -169.0846 | Hannan-Quinn criter. | | 6.981633 |
| F-statistic | 135.8742 | Durbin-Watson stat | | 2.206273 |
| Prob(F-statistic) | 0.000000 | | | |

FEM

Dependent Variable: JI
Method: Panel Least Squares
Date: 01/13/23 Time: 18:06
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
|----------|-------------|------------|-------------|-------|

| | | | | |
|----|-----------|----------|-----------|--------|
| C | -1.498333 | 1.791860 | -0.836189 | 0.4084 |
| TK | 0.385034 | 0.028692 | 13.41975 | 0.0000 |
| NP | 1.41E-06 | 2.15E-06 | 0.654113 | 0.5171 |
| NI | -4.58E-07 | 7.51E-07 | -0.610296 | 0.5454 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.910980 | Mean dependent var | 12.28000 |
| Adjusted R-squared | 0.882109 | S.D. dependent var | 22.58231 |
| S.E. of regression | 7.753705 | Akaike info criterion | 7.153114 |
| Sum squared resid | 2224.438 | Schwarz criterion | 7.650240 |
| Log likelihood | -165.8278 | Hannan-Quinn criter. | 7.342422 |
| F-statistic | 31.55309 | Durbin-Watson stat | 2.556139 |
| Prob(F-statistic) | 0.000000 | | |

REM

Dependent Variable: JI
Method: Panel EGLS (Cross-section random effects)
Date: 01/13/23 Time: 18:41
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50
Swamy and Arora estimator of component variances

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | -2.050819 | 1.527578 | -1.342530 | 0.1860 |
| TK | 0.383436 | 0.026170 | 14.65148 | 0.0000 |
| NP | 1.70E-06 | 2.02E-06 | 0.837535 | 0.4066 |
| NI | -6.08E-08 | 6.42E-07 | -0.094617 | 0.9250 |

Effects Specification

| | S.D. | Rho |
|----------------------|----------|--------|
| Cross-section random | 0.000000 | 0.0000 |
| Idiosyncratic random | 7.753705 | 1.0000 |

Weighted Statistics

| | | | |
|--------------------|----------|--------------------|----------|
| R-squared | 0.898594 | Mean dependent var | 12.28000 |
| Adjusted R-squared | 0.891981 | S.D. dependent var | 22.58231 |
| S.E. of regression | 7.421969 | Sum squared resid | 2533.939 |
| F-statistic | 135.8742 | Durbin-Watson stat | 2.206273 |
| Prob(F-statistic) | 0.000000 | | |

Unweighted Statistics

| | | | |
|-------------------|----------|--------------------|----------|
| R-squared | 0.898594 | Mean dependent var | 12.28000 |
| Sum squared resid | 2533.939 | Durbin-Watson stat | 2.206273 |

UJI CHOW

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|--------------------------|-----------|--------|--------|
| Cross-section F | 0.572006 | (9,37) | 0.8110 |
| Cross-section Chi-square | 6.513529 | 9 | 0.6876 |

Cross-section fixed effects test equation:
Dependent Variable: JI
Method: Panel Least Squares
Date: 01/13/23 Time: 18:37
Sample: 2017 2021
Periods included: 5
Cross-sections included: 10
Total panel (balanced) observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | -2.050819 | 1.462222 | -1.402536 | 0.1675 |
| TK | 0.383436 | 0.025051 | 15.30635 | 0.0000 |
| NP | 1.70E-06 | 1.94E-06 | 0.874970 | 0.3861 |
| NI | -6.08E-08 | 6.15E-07 | -0.098846 | 0.9217 |
| R-squared | 0.898594 | Mean dependent var | | 12.28000 |
| Adjusted R-squared | 0.891981 | S.D. dependent var | | 22.58231 |
| S.E. of regression | 7.421969 | Akaike info criterion | | 6.923384 |
| Sum squared resid | 2533.939 | Schwarz criterion | | 7.076346 |
| Log likelihood | -169.0846 | Hannan-Quinn criter. | | 6.981633 |
| F-statistic | 135.8742 | Durbin-Watson stat | | 2.206273 |
| Prob(F-statistic) | 0.000000 | | | |

Uji Hausman

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 2.974835 | 3 | 0.3955 |

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|----------|-------|--------|------------|-------|
|----------|-------|--------|------------|-------|

| | | | | |
|----|-----------|-----------|----------|--------|
| TK | 0.385034 | 0.383436 | 0.000138 | 0.8920 |
| NP | 0.000001 | 0.000002 | 0.000000 | 0.6887 |
| NI | -0.000000 | -0.000000 | 0.000000 | 0.3065 |

Cross-section random effects test equation:

Dependent Variable: JI

Method: Panel Least Squares

Date: 01/13/23 Time: 18:43

Sample: 2017 2021

Periods included: 5

Cross-sections included: 10

Total panel (balanced) observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | -1.498333 | 1.791860 | -0.836189 | 0.4084 |
| TK | 0.385034 | 0.028692 | 13.41975 | 0.0000 |
| NP | 1.41E-06 | 2.15E-06 | 0.654113 | 0.5171 |
| NI | -4.58E-07 | 7.51E-07 | -0.610296 | 0.5454 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.910980 | Mean dependent var | 12.28000 |
| Adjusted R-squared | 0.882109 | S.D. dependent var | 22.58231 |
| S.E. of regression | 7.753705 | Akaike info criterion | 7.153114 |
| Sum squared resid | 2224.438 | Schwarz criterion | 7.650240 |
| Log likelihood | -165.8278 | Hannan-Quinn criter. | 7.342422 |
| F-statistic | 31.55309 | Durbin-Watson stat | 2.556139 |
| Prob(F-statistic) | 0.000000 | | |

Lagrange Multiplier

Lagrange Multiplier Tests for Random Effects

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided
(all others) alternatives

| | Test Hypothesis | | |
|----------------------|----------------------|----------------------|----------------------|
| | Cross-section | Time | Both |
| Breusch-Pagan | 1.134321 (0.2869) | 1.704024 (0.1918) | 2.838345 (0.0920) |
| Honda | -1.065045 -- | -1.305383 -- | -1.676146 -- |
| King-Wu | -1.065045 -- | -1.305383 -- | -1.676925 -- |
| Standardized Honda | -0.878499 -- | -1.022631 -- | -4.978831 -- |
| Standardized King-Wu | -0.878499 | -1.022631 | -4.914986 |

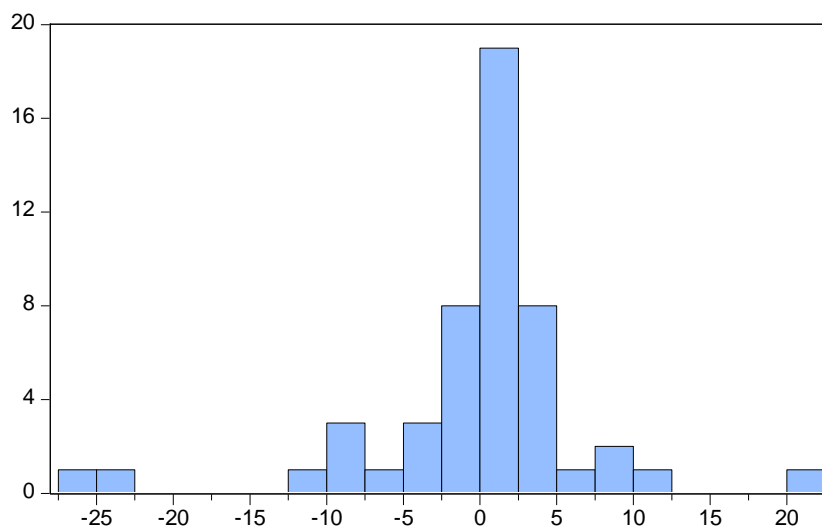
| | | | |
|---------------------|----|----|-----------------------------|
| Gourieriou, et al.* | -- | -- | -- |
| | -- | -- | 0.000000 (≥ 0.10) |

*Mixed chi-square asymptotic critical values:

| | |
|-----|-------|
| 1% | 7.289 |
| 5% | 4.321 |
| 10% | 2.952 |

Uji Asumsi Klasik

Uji normalitas



| | |
|--------------------------------|-----------|
| Series: Standardized Residuals | |
| Sample 2017 2021 | |
| Observations 50 | |
| Mean | -1.21e-15 |
| Median | 1.492579 |
| Maximum | 20.56341 |
| Minimum | -26.01832 |
| Std. Dev. | 7.191178 |
| Skewness | -1.310672 |
| Kurtosis | 8.057537 |
| Jarque-Bera | 67.60444 |
| Probability | 0.000000 |

Uji multikol

| | | | |
|----|----------|----------|----------|
| | TK | NP | NI |
| TK | 1.000000 | 0.618375 | 0.213179 |
| NP | 0.618375 | 1.000000 | 0.309536 |
| NI | 0.213179 | 0.309536 | 1.000000 |

Data terbebas dari masalah multikolonieritas karena hasil $< 0,8$

Uji heteros

Dependent Variable: RESABS
 Method: Panel Least Squares
 Date: 01/13/23 Time: 18:58
 Sample: 2017 2021
 Periods included: 5
 Cross-sections included: 10
 Total panel (balanced) observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 2.472281 | 0.831905 | 2.971833 | 0.0047 |
| TK | 0.083351 | 0.014252 | 5.848278 | 0.0000 |
| NP | -1.71E-06 | 1.10E-06 | -1.548417 | 0.1284 |
| NI | 1.28E-07 | 3.50E-07 | 0.364765 | 0.7170 |
| R-squared | 0.475866 | Mean dependent var | | 4.402459 |
| Adjusted R-squared | 0.441684 | S.D. dependent var | | 5.651181 |
| S.E. of regression | 4.222595 | Akaike info criterion | | 5.795395 |
| Sum squared resid | 820.1940 | Schwarz criterion | | 5.948357 |
| Log likelihood | -140.8849 | Hannan-Quinn criter. | | 5.853644 |
| F-statistic | 13.92129 | Durbin-Watson stat | | 1.896544 |
| Prob(F-statistic) | 0.000001 | | | |

data tidak terjadi masalah heteros karena hasil >0,05

UJI autokorelasi

$$Dw = 2,206273$$

$$K = 3$$

Jumlah observasi = 50 sampel

$$Dl = 1,4206$$

$$Du = 1,6739$$

$$4 - dl = 4 - 1,4206 = 2,5794$$

$$4 - du = 4 - 1,6739 = 2,3261$$

Uji Linieritas

Ramsey RESET Test

Equation: UNTITLED

Specification: JI C TK NP NI

Omitted Variables: Squares of fitted values

| | Value | df | Probability |
|------------------|----------|---------|-------------|
| t-statistic | 4.753050 | 45 | 0.0000 |
| F-statistic | 22.59149 | (1, 45) | 0.0000 |
| Likelihood ratio | 20.34098 | 1 | 0.0000 |

F-test summary:

| | Sum of Sq. | df | Mean Squares |
|----------------|------------|----|--------------|
| Test SSR | 846.9328 | 1 | 846.9328 |
| Restricted SSR | 2533.939 | 46 | 55.08562 |

Unrestricted SSR 1687.006 45 37.48902

LR test summary:

| | Value | df |
|-------------------|-----------|----|
| Restricted LogL | -169.0846 | 46 |
| Unrestricted LogL | -158.9141 | 45 |

Unrestricted Test Equation:

Dependent Variable: JI

Method: Least Squares

Date: 01/13/23 Time: 20:04

Sample: 1 50

Included observations: 50

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | 1.671445 | 1.438191 | 1.162186 | 0.2513 |
| TK | 0.202323 | 0.043348 | 4.667396 | 0.0000 |
| NP | 1.10E-06 | 1.60E-06 | 0.685424 | 0.4966 |
| NI | -2.79E-07 | 5.09E-07 | -0.548210 | 0.5863 |
| FITTED^2 | 0.005297 | 0.001114 | 4.753050 | 0.0000 |

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.932488 | Mean dependent var | 12.28000 |
| Adjusted R-squared | 0.926486 | S.D. dependent var | 22.58231 |
| S.E. of regression | 6.122828 | Akaike info criterion | 6.556565 |
| Sum squared resid | 1687.006 | Schwarz criterion | 6.747767 |
| Log likelihood | -158.9141 | Hannan-Quinn criter. | 6.629376 |
| F-statistic | 155.3860 | Durbin-Watson stat | 1.842867 |
| Prob(F-statistic) | 0.000000 | | |

UJI T

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | -25.86098 | 11.25547 | -2.297637 | 0.0246 |
| TK | 0.250355 | 0.032203 | 7.774383 | 0.0000 |
| NP | -4.37E-06 | 2.00E-06 | -2.188156 | 0.0320 |
| NI | 1.28E-05 | 3.04E-06 | 4.222566 | 0.0001 |

UJI F

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.984997 | Mean dependent var | 46.78889 |
| Adjusted R-squared | 0.980648 | S.D. dependent var | 55.78359 |
| S.E. of regression | 7.760165 | Akaike info criterion | 7.136848 |
| Sum squared resid | 4155.191 | Schwarz criterion | 7.720137 |
| Log likelihood | -300.1581 | Hannan-Quinn criter. | 7.372064 |
| F-statistic | 226.4988 | Durbin-Watson stat | 1.894431 |
| Prob(F-statistic) | 0.000000 | | |