

Migration and Monopsony

Evidence from ISMU Data 2001-2021

November 10, 2025

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Sample Size by Legal Status and Year

| Year | Citizen | Regular | Irregular |
|------|---------|---------|-----------|
| 2002 | 685 | 3,577 | 1,087 |
| 2003 | 1,016 | 4,111 | 290 |
| 2004 | 1,251 | 4,126 | 514 |
| 2005 | 1,381 | 3,782 | 591 |
| 2006 | 1,833 | 3,513 | 901 |
| 2007 | 2,448 | 3,419 | 677 |
| 2008 | 2,648 | 3,042 | 765 |
| 2009 | 2,565 | 2,671 | 596 |
| 2010 | 2,420 | 2,129 | 135 |
| 2011 | 2,768 | 2,075 | 121 |

| Year | Citizen | Regular | Irregular |
|------|---------|---------|-----------|
| 2012 | 2,354 | 1,686 | 115 |
| 2013 | 1,426 | 781 | 52 |
| 2014 | 1,491 | 753 | 54 |
| 2015 | 1,253 | 666 | 44 |
| 2016 | 1,195 | 540 | 42 |
| 2017 | 614 | 236 | 17 |
| 2018 | 617 | 182 | 18 |
| 2019 | 924 | 359 | 28 |
| 2020 | 905 | 328 | 53 |
| 2021 | 1,146 | 438 | 29 |

Wage Differences

| | Cittadino o Equiparabile | Regolare | Irregolare |
|------------------------------|--------------------------|----------|------------|
| <i>Gender</i> | | | |
| Male | 1303.84 | 1074.53 | 799.24 |
| Female | 943.76 | 842.38 | 763.68 |
| <i>Education</i> | | | |
| Nessun titolo | 1154.71 | 981.49 | 739.65 |
| Scuola dell'obbligo | 1166.82 | 994.37 | 776.61 |
| Scuola superiore | 1137.95 | 985.47 | 796.58 |
| Laurea e similari | 1201.94 | 1017.01 | 829.14 |
| <i>Age</i> | | | |
| 21–29 | 710.87 | 757.72 | 609.09 |
| 30–44 | 1038.50 | 926.58 | 755.88 |
| 45–59 | 1179.41 | 1007.95 | 794.09 |
| 60+ | 1219.92 | 1021.01 | 813.61 |
| <i>Years Since Migration</i> | | | |
| 0–2 | 938.41 | 835.32 | 737.30 |
| 3–10 | 1086.80 | 997.74 | 837.53 |
| 11–20 | 1205.12 | 1084.02 | 881.60 |
| 21+ | 1244.46 | 1147.61 | 1000.00 |

Table: Wage Means by Legal Status (Part 1)

Wage Differences (cont.)

| | Cittadino o Equiparabile | Regolare | Irregolare |
|-------------------------------|--------------------------|----------|------------|
| <i>Geographical Area</i> | | | |
| Subsaharan Africa | 1124.90 | 941.66 | 649.90 |
| East Asia (and pacific) | 1149.79 | 965.71 | 817.36 |
| Eastern Europe & Central Asia | 1127.42 | 1015.88 | 845.37 |
| Latin America | 1040.50 | 933.84 | 788.20 |
| Middle East & North Africa | 1226.83 | 1046.67 | 822.88 |
| South Asia | 1259.69 | 1007.93 | 692.12 |
| <i>Labour Market Status</i> | | | |
| Employed | 1121.04 | 975.37 | 795.72 |
| Self-employed | 1509.55 | 1288.92 | 662.24 |
| Unemployed | 697.09 | 556.33 | 400.00 |
| Inactive | 691.22 | 578.42 | 500.00 |

Table: Wage Means by Legal Status (Part 2)

Wage Differences (cont.)

| | Cittadino o Equiparabile | Regolare | Irregolare |
|-----------------|--------------------------|----------|------------|
| <i>Province</i> | | | |
| Varese | 1173.04 | 996.09 | 795.87 |
| Como | 1232.12 | 1013.01 | 775.19 |
| Sondrio | 1123.19 | 981.18 | 905.00 |
| Milano | 1136.37 | 987.11 | 799.87 |
| Bergamo | 1143.30 | 947.64 | 797.06 |
| Brescia | 1204.72 | 1011.94 | 756.91 |
| Pavia | 1089.22 | 1017.29 | 763.36 |
| Cremona | 1182.01 | 1039.43 | 829.32 |
| Mantova | 1148.33 | 999.32 | 732.70 |
| Lecco | 1154.42 | 986.49 | 778.41 |
| Lodi | 1141.57 | 964.86 | 708.59 |
| Monza e Brianza | 1142.61 | 900.07 | 739.26 |

Table: Wage Means by Legal Status (Part 3)

Distribution by Education and Employment (%)

| | Cittadino | Regolare | Irregolare | Total |
|-----------------------------|-----------|----------|------------|--------|
| <i>Level of Education</i> | | | | |
| Nessun titolo | 2.30 | 4.24 | 0.91 | 7.45 |
| Scuola dell'obbligo | 12.08 | 21.00 | 3.33 | 36.40 |
| Scuola superiore | 17.59 | 21.39 | 3.45 | 42.44 |
| Laurea e similari | 6.38 | 6.41 | 0.91 | 13.71 |
| Total | 38.35 | 53.04 | 8.60 | 100.00 |
| <i>Labour Market Status</i> | | | | |
| Employed | 33.94 | 49.15 | 7.88 | 90.97 |
| Self-employed | 3.89 | 3.27 | 0.57 | 7.73 |
| Unemployed | 0.20 | 0.22 | 0.04 | 0.46 |
| Inactive | 0.38 | 0.45 | 0.01 | 0.85 |
| Total | 38.40 | 53.09 | 8.51 | 100.00 |

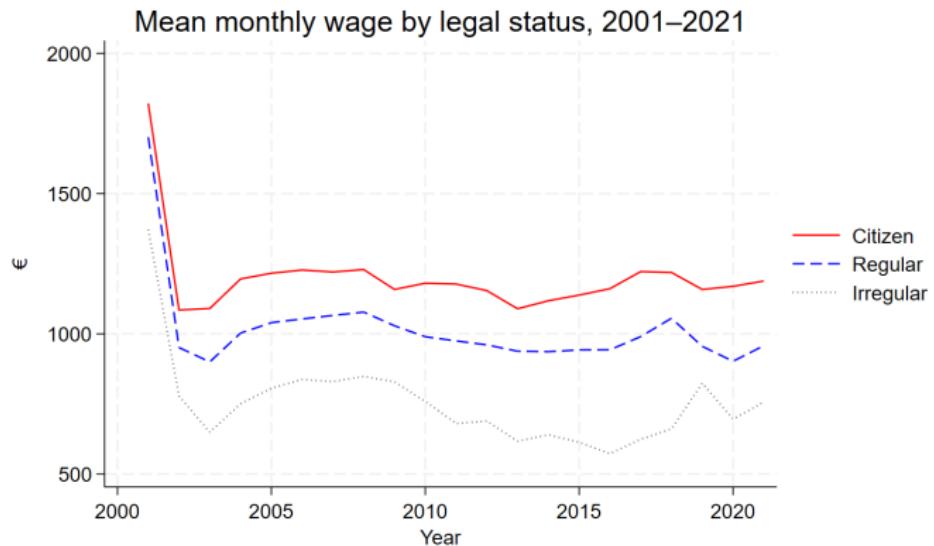
Table: Distribution by Education and Labour Market Status

Distribution by Occupation Type (%)

| | Cittadino | Regolare | Irregolare | Total |
|--------------------------------------|-----------|----------|------------|--------|
| <i>Type of Work</i> | | | | |
| Operai generici nell'industria | 6.45 | 7.46 | 0.32 | 14.24 |
| Operai generici nel terziario | 3.23 | 3.58 | 0.23 | 7.04 |
| Operai specializzati | 1.60 | 2.57 | 0.27 | 4.45 |
| Operai edili | 3.96 | 5.31 | 1.33 | 10.60 |
| Operai agricoli e assimilati | 1.39 | 2.23 | 0.42 | 4.04 |
| Addetti alle pulizie | 1.80 | 2.55 | 0.28 | 4.63 |
| Impiegati esecutivi e di concetto | 1.41 | 0.72 | 0.03 | 2.16 |
| Addetti alle vendite e servizi | 1.60 | 1.46 | 0.12 | 3.18 |
| Titolari/esercenti attività comm. | 1.92 | 1.75 | 0.61 | 4.27 |
| Addetti alla ristorazione/alberghi | 4.40 | 5.94 | 0.46 | 10.79 |
| Mestieri artigianali | 2.13 | 2.47 | 0.44 | 5.04 |
| Addetti ai trasporti | 1.66 | 1.43 | 0.09 | 3.18 |
| Domestici fissi | 0.91 | 1.68 | 0.22 | 2.81 |
| Domestici ad ore | 2.21 | 3.32 | 0.64 | 6.16 |
| Assistenti domiciliari (badanti) | 2.26 | 3.97 | 1.04 | 7.28 |
| Baby sitter | 0.44 | 1.27 | 0.27 | 1.98 |
| Assistenti socio-assistenziali (OSS) | 1.39 | 0.76 | 0.03 | 2.18 |
| Medici e paramedici | 0.98 | 0.50 | 0.01 | 1.49 |
| Intellettuali | 1.77 | 0.62 | 0.01 | 2.40 |
| Prostitutione | 0.20 | 0.20 | 0.02 | 0.43 |
| Sportivi | 0.05 | 0.06 | 0.04 | 0.16 |
| Altro | 0.71 | 0.60 | 0.17 | 1.49 |
| Total | 42.49 | 50.46 | 7.05 | 100.00 |

Table: Distribution by Type of Work

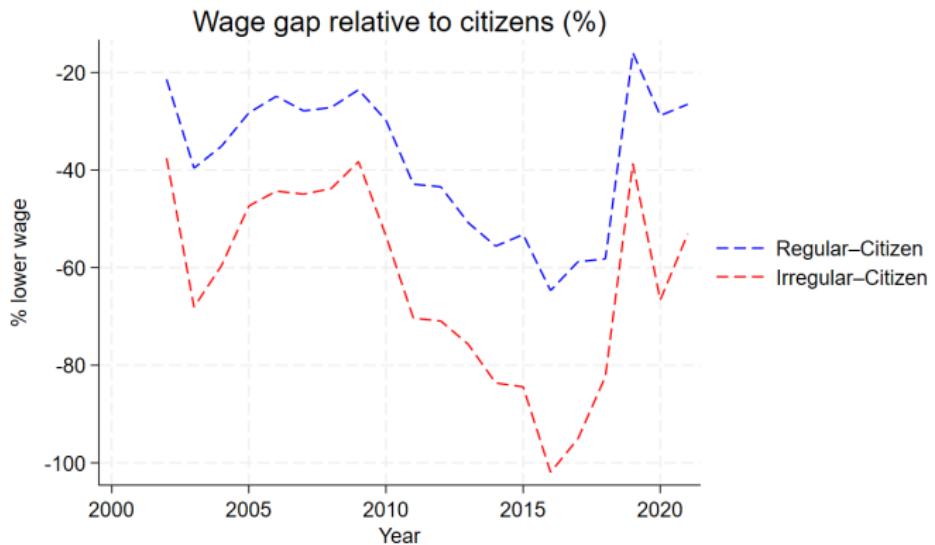
Mean Monthly Wage by Legal Status, 2001-2021



Wage Irregular / Regular



Wage Gap Relative to Citizens (%)



Wage Gap Estimation

In the following slides, we present the results for the estimation of the wage gap between native and migrant workers according to the following specification:

$$\ln(w_{it}) = \alpha + \beta \cdot \text{LS}_i + \gamma' X_{it} + \delta_t + \delta_p + \varepsilon_{it}$$

where $\ln(w_{it})$ denotes the log wage for individual i at time t , LS_i is a categorical variable for legal status distinguishing between citizens or equivalent, regular migrants, and irregular migrants, X_{it} represents a vector of individual characteristics, δ_t captures time fixed effects, and δ_p captures province fixed effects.

Wage Gap Estimation

| | (1) | (2) | (3) | (4) | (5) |
|-------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Reg. | -0.0788*** (0.00346) | -0.0705*** (0.00345) | -0.0576*** (0.00347) | -0.0576*** (0.00343) | -0.0419*** (0.00344) |
| Irreg. | -0.300*** (0.00603) | -0.284*** (0.00601) | -0.239*** (0.00625) | -0.250*** (0.00620) | -0.221*** (0.00646) |
| Age | 0.00443*** (0.000169) | 0.0466*** (0.00121) | 0.0431*** (0.00121) | 0.0412*** (0.00120) | 0.0388*** (0.00121) |
| Gender | -0.297*** (0.00300) | -0.301*** (0.00300) | -0.299*** (0.00299) | -0.292*** (0.00296) | -0.186*** (0.00385) |
| Scuola obbl. | 0.0415*** (0.00556) | 0.0364*** (0.00552) | 0.0370*** (0.00550) | 0.0383*** (0.00545) | 0.0359*** (0.00555) |
| Scuola sec. sup. | 0.0575*** (0.00557) | 0.0517*** (0.00552) | 0.0527*** (0.00550) | 0.0543*** (0.00545) | 0.0534*** (0.00557) |
| Laurea | 0.100*** (0.00629) | 0.0932*** (0.00624) | 0.0977*** (0.00622) | 0.0976*** (0.00616) | 0.0918*** (0.00642) |
| Years since migr. | 0.0103*** (0.000309) | 0.0103*** (0.000307) | 0.0267*** (0.000713) | 0.0250*** (0.000715) | 0.0226*** (0.000724) |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| Province FE | Yes | Yes | Yes | Yes | Yes |
| Education FE | No | Yes | Yes | Yes | Yes |
| Origin FE | Yes | Yes | Yes | Yes | Yes |
| Occupation FE | No | No | No | No | Yes |
| Labour Cond. FE | No | No | No | Yes | Yes |
| Observations | 74406 | 73946 | 73946 | 73391 | 66880 |

SE in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Wage Gap Estimation: Interaction LS x Year

| Year | Coeff. | std. err. | t | P> t | [95% conf. interval] | |
|------|--------|-----------|--------|-------|----------------------|-------|
| 2003 | -.365 | .024 | -15.13 | 0.000 | -.412 | -.317 |
| 2004 | -.268 | .019 | -14.31 | 0.000 | -.305 | -.231 |
| 2005 | -.172 | .018 | -9.71 | 0.000 | -.206 | -.137 |
| 2006 | -.116 | .015 | -7.80 | 0.000 | -.145 | -.087 |
| 2007 | -.175 | .016 | -11.27 | 0.000 | -.205 | -.144 |
| 2008 | -.154 | .014 | -10.67 | 0.000 | -.183 | -.126 |
| 2009 | -.177 | .016 | -11.04 | 0.000 | -.208 | -.145 |
| 2010 | -.276 | .032 | -8.60 | 0.000 | -.339 | -.213 |
| 2011 | -.382 | .033 | -11.51 | 0.000 | -.447 | -.317 |
| 2012 | -.420 | .033 | -12.76 | 0.000 | -.484 | -.355 |
| 2013 | -.405 | .050 | -8.09 | 0.000 | -.503 | -.307 |
| 2014 | -.594 | .048 | -12.34 | 0.000 | -.688 | -.499 |
| 2015 | -.449 | .054 | -8.31 | 0.000 | -.555 | -.343 |
| 2016 | -.576 | .054 | -10.76 | 0.000 | -.681 | -.471 |
| 2017 | -.349 | .086 | -4.04 | 0.000 | -.518 | -.179 |
| 2018 | -.457 | .081 | -5.61 | 0.000 | -.617 | -.297 |
| 2019 | -.016 | .067 | -0.23 | 0.814 | -.146 | .115 |
| 2020 | -.348 | .050 | -6.93 | 0.000 | -.447 | -.250 |
| 2021 | -.354 | .068 | -5.22 | 0.000 | -.486 | -.221 |

Wage Gap Estimation: Interaction LS x Province

| Provincia | Coeff. | std. err. | t | P> t | [95% conf. interval] | |
|-----------------|--------|-----------|--------|-------|----------------------|-------|
| Varese | -.190 | .019 | -10.08 | 0.000 | -.227 | -.153 |
| Como | -.330 | .022 | -15.32 | 0.000 | -.372 | -.287 |
| Sondrio | -.021 | .048 | -0.44 | 0.663 | -.115 | .073 |
| Milano | -.178 | .009 | -19.46 | 0.000 | -.196 | -.160 |
| Bergamo | -.157 | .024 | -6.62 | 0.000 | -.203 | -.110 |
| Brescia | -.318 | .017 | -18.47 | 0.000 | -.352 | -.284 |
| Pavia | -.190 | .020 | -9.44 | 0.000 | -.229 | -.150 |
| Cremona | -.226 | .025 | -9.14 | 0.000 | -.275 | -.178 |
| Mantova | -.373 | .026 | -14.21 | 0.000 | -.424 | -.321 |
| Lecco | -.193 | .028 | -6.78 | 0.000 | -.249 | -.137 |
| Lodi | -.297 | .025 | -11.97 | 0.000 | -.346 | -.249 |
| Monza e Brianza | -.176 | .068 | -2.59 | 0.010 | -.310 | -.043 |