

# **Migration and Monopsony**

## **Evidence from ISMU Data 2001-2021**

November 10, 2025

# Outline

## Descriptives

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Wage Gap Estimation

# 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 |

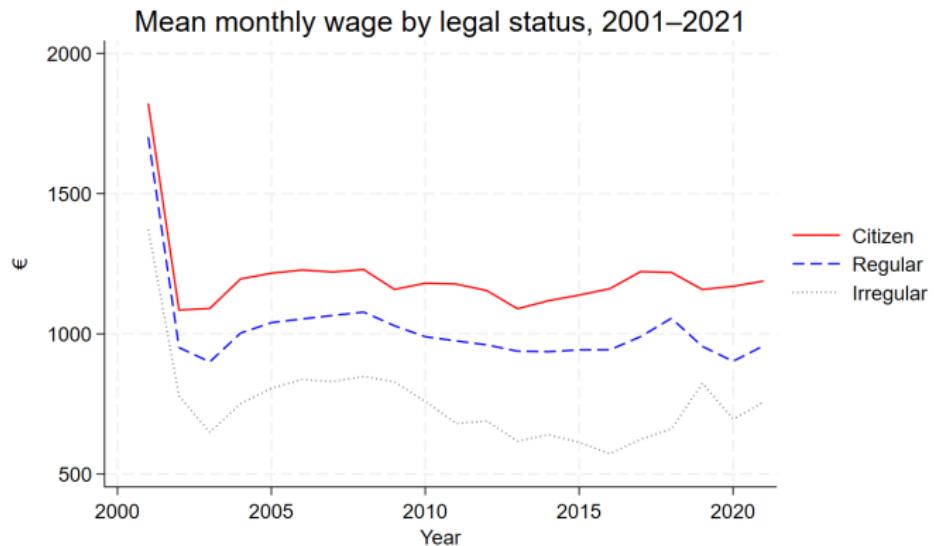
Table: Distribution by Education and Labour Market Status

# 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

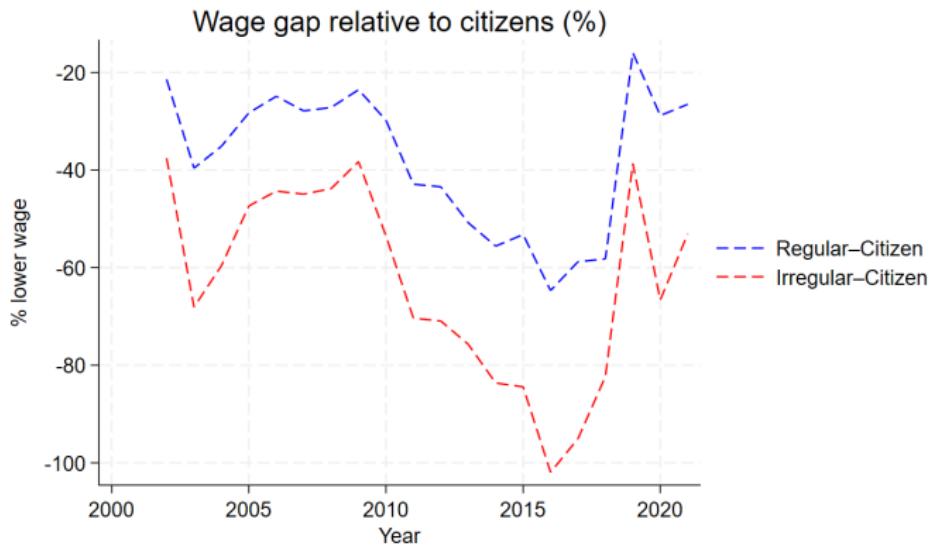
# Mean Monthly Wage by Legal Status, 2001-2021



# 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  $t$ ,  $\text{LS}_i$  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,  $\delta_t$  captures time fixed effects, and  $\delta_p$  captures province fixed effects.

# Wage Gap Estimation

|                   | (1)<br>m1                | (2)<br>m2               | (3)<br>m3               | (4)<br>m4               | (5)<br>m5               |
|-------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Reg.              | -0.0788***<br>(0.00346)  | -0.0705***<br>(0.00345) | -0.0576***<br>(0.00347) | -0.0576***<br>(0.00343) | -0.0419***<br>(0.00344) |
| Irreg.            | -0.300***<br>(0.00603)   | -0.284***<br>(0.00601)  | -0.239***<br>(0.00625)  | -0.250***<br>(0.00620)  | -0.221***<br>(0.00646)  |
| age               | 0.00443***<br>(0.000169) | 0.0466***<br>(0.00121)  | 0.0431***<br>(0.00121)  | 0.0412***<br>(0.00120)  | 0.0388***<br>(0.00121)  |
| sesso             | -0.297***<br>(0.00300)   | -0.301***<br>(0.00300)  | -0.299***<br>(0.00299)  | -0.292***<br>(0.00296)  | -0.186***<br>(0.00385)  |
| scuola obbl.      | 0.0415***<br>(0.00556)   | 0.0364***<br>(0.00552)  | 0.0370***<br>(0.00550)  | 0.0383***<br>(0.00545)  | 0.0359***<br>(0.00555)  |
| scuola sec. sup.  | 0.0575***<br>(0.00557)   | 0.0517***<br>(0.00552)  | 0.0527***<br>(0.00550)  | 0.0543***<br>(0.00545)  | 0.0534***<br>(0.00557)  |
| laurea            | 0.100***<br>(0.00629)    | 0.0932***<br>(0.00624)  | 0.0977***<br>(0.00622)  | 0.0976***<br>(0.00616)  | 0.0918***<br>(0.00642)  |
| years since migr. | 0.0103***<br>(0.000309)  | 0.0103***<br>(0.000307) | 0.0267***<br>(0.000713) | 0.0250***<br>(0.000715) | 0.0226***<br>(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 | dy/dx | 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

| <b>provincia</b> | <b>dy/dx</b> | <b>std. err.</b> | <b>t</b> | <b>P&gt; t </b> | <b>[95% conf. interval]</b> |
|------------------|--------------|------------------|----------|-----------------|-----------------------------|
| 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            |