

Migration and Monopsony

Evidence from ISMU Data 2001-2021

November 13, 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

In the three slides that follow, we present mean wages by legal status, where the latter distinguishes between:

- ▶ **Citizen or Equivalent:** Citizens and those with long-term residence permits.
- ▶ **Regular:** Temporary residence permits, asylum seekers (both in safe and risk countries).
- ▶ **Irregular:** Individuals without legal residence status.

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 simili	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)

Wage Differences by Detailed Legal Status

We'll now present the same mean wages by a more detailed legal status classification, which distinguishes between:

- ▶ **Citizen:** Citizens.
- ▶ **Temp. Permit:** Temporary residence permits (two categories).
- ▶ **Asylum (S):** Asylum seekers from safe countries.
- ▶ **Asylum (R):** Asylum seekers from risky countries.
- ▶ **Irregular:** Individuals without legal residence status.

Wage Differences by Detailed Legal Status

	Citizen	Temp. P.	Temp. P.	Asyl. (S)	Asyl. (R)	Irreg.
<i>Gender</i>						
Male	1304	1093	1038	831	783	799
Female	944	845	847	782	763	764
<i>Education</i>						
Nessun titolo	1155	996	936	801	853	740
Scuola dell'obbligo	1167	1011	942	828	758	777
Scuola superiore	1138	997	978	803	761	797
Laurea e similari	1202	1026	1014	883	817	829
<i>Age</i>						
21–29	711	760	898	644	680	609
30–44	1039	943	920	790	690	756
45–59	1179	1018	992	826	808	794
60+	1220	1032	970	855	853	814
<i>Years Since Migration</i>						
0–2	938	854	848	761	721	737
3–10	1087	1008	968	847	807	838
11–20	1205	1088	1057	916	923	882
21+	1244	1149	1152	400	1400	1000

Table: Wage Means by Detailed Legal Status (Part 1)

Wage Differences by Detailed Legal Status (cont.)

	Citizen	Temp. P.	Temp. P.	Asyl. (S)	Asyl. (R)	Irreg.
<i>Geographical Area</i>						
Subsaharan Africa	1125	957	907	749	714	650
East Asia (and pacific)	1150	972	955	–	813	817
Eastern Europe & Central Asia	1127	1025	991	899	880	845
Latin America	1040	943	923	–	789	788
Middle East & North Africa	1227	1063	1012	789	757	823
South Asia	1260	1024	970	–	743	692
<i>Labour Market Status</i>						
Employed	1121	987	953	825	768	796
Self-employed	1510	1313	1188	765	991	662
Unemployed	697	620	500	250	380	400
Inactive	691	573	733	520	350	500

Table: Wage Means by Detailed Legal Status (Part 2)

Wage Differences by Detailed Legal Status (cont.)

	Citizen	Temp. P.	Temp. P.	Asyl. (S)	Asyl. (R)	Irreg.
<i>Province</i>						
Varese	1173	1009	985	808	791	796
Como	1232	1028	913	871	790	775
Sondrio	1123	992	895	682	792	905
Milano	1136	1000	989	857	787	800
Bergamo	1143	962	930	785	695	797
Brescia	1205	1026	994	656	676	757
Pavia	1089	1036	930	900	895	763
Cremona	1182	1047	1018	866	827	829
Mantova	1148	1013	942	797	649	733
Lecco	1154	994	950	827	846	778
Lodi	1142	976	948	654	732	709
Monza e Brianza	1143	910	910	650	708	739

Table: Wage Means by Detailed 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 simili	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
Prostituzione	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

Graphs

Mean Monthly Wage by Legal Status, 2001-2021

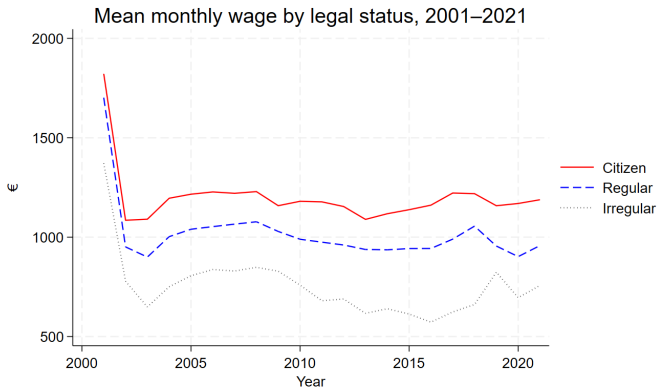


Figure: Evolution of mean monthly wages across legal status categories

Wage Irregular / Regular

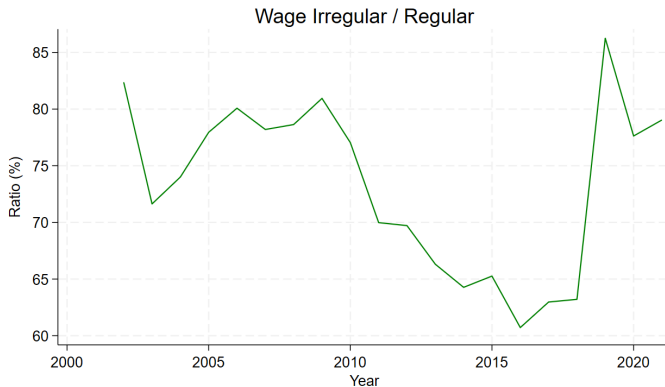


Figure: Ratio of irregular to regular migrant wages over time

Wage Gap Relative to Citizens (%)

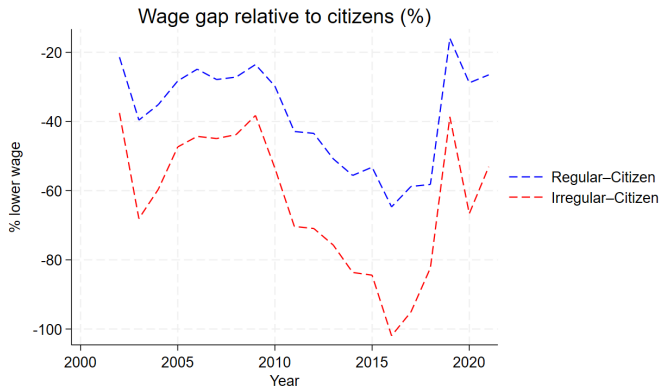


Figure: Wage gap of regular and irregular migrants relative to citizens

Wage Gap Estimation

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

Table: Wage Penalty for Irregular migrants with respect to citizens or equivalent, by Year

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

Table: Wage Penalty for Irregular migrants with respect to citizens or equivalent, by Province

Estimated Model:

$$\text{logit}(P(\text{mobility}_i = 1)) = \beta_0 + \beta_1 D_i^{\text{low}} + \beta_2 LS_i + \beta_3 (D_i^{\text{low}} \times LS_i)$$

where $D_i^{\text{low}} = 1(\text{residual immigrant share}_i < \text{median})$ and $LS_i \in \{\text{Citizen, Regular, Irregular}\}$

	Delta-method				
	Margin	std. err.	z	P> z	[95% conf. interval]
Above median	.178	.008	22.12	0.000	.163 .194
Below median	.466	.011	44.08	0.000	.445 .486
Citt.	.260	.008	33.19	0.000	.244 .275
Reg.	.420	.012	33.72	0.000	.395 .444
Irreg.	.642	.053	12.14	0.000	.539 .746
Above median x Citt.	.130	.009	14.86	0.000	.113 .148
Above median x Reg.	.257	.016	15.74	0.000	.225 .289
Above median x Irreg.	.464	.094	4.93	0.000	.280 .649
Below median x Citt.	.394	.013	30.09	0.000	.368 .419
Below median x Reg.	.588	.019	31.17	0.000	.551 .625
Below median x Irreg.	.826	.046	18.10	0.000	.737 .916

Table: Delta-method Margins by Residency Status and Legal Status