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**Francisco SÁNCHEZ-CUBO***
**José MONDÉJAR-JIMÉNEZ****
**Alejandro GARCÍA-POZO*****

# ISTRAŽIVANJE DETERMINANTI PLAĆA U UGOSTITELJSTVU ŠPANJOLSKE

# UNVEILING WAGES' DETERMINANTS IN SPANISH HOSPITALITY INDUSTRY

**SAŽETAK:** Uvriježeno je mišljenje da su poslovi u ugostiteljstvu nesigurni i da imaju malu dodanu vrijednost. Do sada su se znanstvenici bavili mjerenjem čimbenika koji određuju plaće i razlike u plaćama, posebno između spolova, ali ovo posljednje nije potpuno razrađeno. Stoga se ovdje, pomoću binominalnih regresija i podataka Istraživanja o strukturi plaća u Španjolskoj iz 2018. godine, nastoji utvrditi jesu li bruto plaće u ugostiteljstvu Španjolske ispod nacionalnog prosjeka i koji čimbenici mogu utjecati na to stanje analizirajući varijable tradicionalnog ljudskog kapitala i dekompozicije plaća. Rezultati pokazuju značajan utjecaj spola, vrste ugovora, odgovornosti, veličine tvrtke te radnog zakonodavstva u sprječavanju pada plaća ispod nacionalnog prosjeka. Nasuprot tomu, izraziti su utjecaji prekvalificiranosti i djelovanja kategorije zanimanja na povećanje šansi za smanjenje plaće ispod prosjeka. Istraživanje je popunilo vrlo mali, ali značajan jaz u literaturi o ekonomici rada koja bi mogla dionicima olakšati bolje osmišljavanje radnih mjesta. Ograničenja se odnose na buduće posljedice nedavne reforme na tržištu rada.

**KLJUČNE RIJEČI:** gospodarstvo, spol, ugostiteljstvo, plaće, Španjolska

**ABSTRACT:** The hospitality industry is commonly perceived as having low-added value and providing precarious jobs. Heretofore, academics have delved into measuring the determining factors of wages and the wage gap, especially between genders, but the latter question is not fully developed. Thus, through binomial logistic regressions and 2018 data from the Spanish Wage Structure Survey, this study analyses whether the gross hospitality wages are under the Spanish national average and which factors may influence that from traditional human capital and wage decomposition variables. The results show the significant impacts of gender, type of contract, responsibility, firm size and labour regulation to prevent salaries from falling under the national average. Conversely, there are striking impacts of overeducation and the category of the occupations on increasing the chances of earning below it. The findings fill a small but significant gap in the labour economics literature that may enable the stakeholders to better design job positions. Limitations revolve around the future implications of the recent labour reform.

**KEY WORDS:** economy, gender, hospitality, salaries, Spain, wages

* Francisco Sánchez-Cubo, PhD, Assistant Professor, Department of Applied Economics (Economic Structure), University of Málaga, Málaga, Spain, e-mail: fsanchezcubo@uma.es, ORCID: 0000-0002-0556-7239

** José Mondéjar-Jiménez, PhD, Full Professor, Department of Applied Economics I, University of Castilla-La Mancha, Cuenca, Spain, e-mail: jose.mondejar@uclm.es, ORCID: 0000-0001-6161-0214

*** Alejandro García-Pozo, PhD, Full Professor, Department of Applied Economics (Economic Structure), University of Málaga, Málaga, Spain, e-mail: alegarcia@uma.es, ORCID: 0000-0002-4609-2495

## 1. UVOD

Od početka znanstvenog istraživanja plaća primjenjuju se mnogi metodološki pristupi u okviru cijelog područja ekonomike rada ili određenih gospodarskih grana. Veliki dio znanstvenih publikacija obuhvaća produktivnost (Chaido, 2009; Brida *et al*., 2010; Gricar *et al*., 2021; Shu *et al*., 2022) ili čimbenike koji određuju plaće (Marchante *et al*., 2005; Ons-Cappa *et al*., 2020), kao i oba aspekta zajedno (Marchante i Ortega, 2010). Konkretnije, glavna su se istraživanja zadnjih desetak godina usmjeravala na dekomponiranje plaća kako bi se protumačilo koji čimbenici određuju konačnu plaću radnika. Međutim, ovi su pokušaji završavali na dvije glavne osovine: razlike u spolu (Kortt *et al*., 2018; Marfil-Cotilla i Campos-Soria, 2021) – koja uključuje i fenomene „ljepljivog poda" i „staklenog stropa" (Cohen i Huffman, 2007; Felgueroso *et al*., 2008; De la Rica *et al*., 2008; Christofides *et al*., 2013; Scicchitano, 2014; Dueñas-Fernández *et al*., 2015; Casado-Díaz *et al*., 2020; Moreno-Mencía *et al*., 2022) – te problem neusklađenosti obrazovanja (Marchante *et al*., 2005; Campos-Soria *et al*., 2015).

Iako se obje osovine široko razmatraju u ekonomskoj literaturi, relativno su malo pozornosti privukle teme ugostiteljstva i plaća zaposlenika u turizmu. Osim toga, većina članaka obrađuje spolni jaz pomoću tehnika dekompozicije (Ons-Cappa *et al*., 2017; Shu *et al*., 2022) i uzima u obzir aspekte ljudskog kapitala za definiranje objašnjene komponente ovog jaza. Takav je i trend ekonomskih članaka, a rezultati najstarijih radova su – srećom – postali zastarjeli zbog unaprjeđenja jednakosti u Zapadnim zemljama (Mendes i Vareiro, 2013). Štoviše, novije studije još se uvijek usmjeravaju na utvrđivanje svih uzroka jaza (Marfil-Cotilla i Campos-Soria, 2021; Shu *et al*., 2022). Ova tema zaslužuje posebnu pozornost i dugotrajno istraživanje s obzirom na to da zbog udaraca gospodarskih

## 1. INTRODUCTION

Since scientists started being interested in delving into salaries, many methodological approaches have been applied to the whole economy or particular economic sectors. Apart from productivity (Chaido, 2009; Brida *et al*., 2010; Gricar *et al*., 2021; Shu *et al*., 2022), the determining factors of wages (Marchante *et al*., 2005; Ons-Cappa *et al*., 2020) cope much of the scientific production, as well as both topics together (Marchante and Ortega, 2010). More specifically, the main interest in the last decades has revolved around decomposing salaries to understand which factors determine a worker's final wage. However, these attempts ended up focusing on two main axes: the gender pay gap (Kortt *et al*., 2018; Marfil-Cotilla and Campos-Soria, 2021) – which also contains the sticky floor and glass ceiling phenomena (Cohen and Huffman, 2007; Felgueroso *et al*., 2008; De la Rica *et al*., 2008; Christofides *et al*., 2013; Scicchitano, 2014; Dueñas-Fernández *et al*., 2015; Casado-Díaz *et al*., 2020; Moreno-Mencía *et al*., 2022)– and the educational mismatch problem (Marchante *et al*., 2005; Campos-Soria *et al*., 2015).

Both topics have been widely developed in the economic literature. However, in comparison, hospitality and tourism employees' salaries received little attention. Besides that, most papers address the gender gap through decomposition techniques (Ons-Cappa *et al*., 2017; Shu *et al*., 2022) while including human capital aspects for defining the explained component of this gap. Similar trend is observed in processing hospitality and general economy papers, and the results of the oldest articles have – fortunately – become outdated as a result of improvements in equality in Western countries (Mendes and Vareiro, 2013). Moreover, recent studies are still devoted to identifying all the gap causes (Marfil-Cotilla and Campos-Soria, 2021; Shu *et al*., 2022). Thus, considering the above

kriza (uključujući i krizu zbog pandemije COVID-19) ili promjena u radnom zakonodavstvu, koje nesumnjivo utječu na rezultate procjena radi svega navedenog i utjecaja u današnjem društvu i španjolskom gospodarstvu, više od 12% nacionalnog BDP-a i gotovo 13% ukupno zaposlenih otpada na ugostiteljstvo u razdoblju od 2017. do 2019. godine (National Statistics Institute, 2022). . Stoga je doprinos ovog rada upravo popunjavanje spomenutog jaza u razdoblju prije zadnje krize.

Postojeća literatura o sastavu plaća u ugostiteljstvu i gospodarstvu uopće obilna je i osjetljiva na podatke. Tako su znanstvenici ustanovili mnoge značajne varijable za definiranje naknada. U članku su kategorije podijeljene na stečene i urođene. Prvi skup varijabli odnosi se na obrazovanje (daleko najviše proučavana karakteristika), iskustvo i radni staž (Marchante *et al*., 2005; De la Rica *et al*., 2008; Antecol *et al*., 2008; García-Pozo *et al*., 2012; Leuze i Strauß, 2016; Ons-Cappa *et al*., 2017; Silva i Ferreira-Freire-Guimaraes, 2017; Brandt, 2018). Sljedeći su setovi sadržavali kategorije koje se u europskim istraživanjima uobičajeno analiziraju, poput dobi (Díaz i Sánchez, 2013; Silva i Ferreira-Freire-Guimaraes, 2017) i spola (De la Rica *et al*., 2008; García-Pozo *et al*., 2011; Campos-Soria *et al*., 2015; Fleming, 2015; Casado-Díaz i Simón, 2016; Ons-Cappa *et al*., 2017; Brandt, 2018), s time de je spol najpopularnija kategorija. Istraživanja u drugim zemljama uključuju rasu (Grodsky i Pager, 2001; Neal, 2004; Li i Koedel, 2017) – posebice u Sjedinjenim Američkim Državama – ili bračno stanje (Díaz i Sánchez, 2013). Povrh toga, neke varijable koje se odnose na poslovne situacije ulaze u oba skupa. To su lokacija (Baum-Snow i Pavan, 2012; Sturman *et al*., 2017; Segovia-Perez *et al*., 2019) i veličina (Simón, 2006; Antonczyk *et al*., 2010; Baum-Snow i Pavan, 2012) te ostale, poput vrste ugovora (de Oliveira-Santos *et al*., 2012; Oliver i Sard, 2019; Marrero-Rodríguez *et al*., 2020; Moreno-Mencía *et al*., 2022), uvjeta rada

and its importance in the current society and the Spanish economy, more than 12% of the national GDP from 2017 to 2019 and almost 13% of the total number of employees (National Statistics Institute, 2022), the topic deserves careful attention and continuous study since shocks caused by economic crises (including COVID-19 pandemic crisis) or labour legislation changes, undoubtedly affect the results of the estimations. Therefore, the contribution of this manuscript lies in filling the gap stated ahead before the latest crisis.

The extant literature on wage composition in hospitality and general economy abounds and is data sensitive. Thus, academics have found a range of significant variables in defining salaries. These are divided into acquired and innate characteristics. The first set of variables refers to the education (which is by far the most studied feature), experience, and tenure (Marchante *et al*., 2005; De la Rica *et al*., 2008; Antecol *et al*., 2008; García-Pozo *et al*., 2012; Leuze and Strauß, 2016; Ons-Cappa *et al*., 2017; Silva and Ferreira-Freire-Guimaraes, 2017; Brandt, 2018). Then, the latter set of variables refers to characteristics such as age (Díaz and Sánchez, 2013; Silva and Ferreira-Freire-Guimaraes, 2017) and gender (De la Rica *et al*., 2008; García-Pozo *et al*., 2011; Campos-Soria *et al*., 2015; Fleming, 2015; Casado-Díaz and Simón, 2016; Ons-Cappa *et al*., 2017; Brandt, 2018) which are the most common in European studies, with gender as the most studied one. Other countries include race (Grodsky and Pager, 2001; Neal, 2004; Li and Koedel, 2017) – specifically, the United States – or marital status (Díaz and Sánchez, 2013). Additionally, some business-related variables fall between both sets, like location (Baum-Snow and Pavan, 2012; Sturman *et al*., 2017; Segovia-Perez *et al*., 2019) and size (Simón, 2006; Antonczyk *et al*., 2010; Baum-Snow and Pavan, 2012), and others like the type of contract (de Oliveira-Santos *et al*., 2012; Oliver and Sard, 2019; Marrero-Rodríguez *et al*., 2020; Moreno-Mencía *et al*., 2022),

(Jacobs i Steinberg, 1990; Antonczyk *et al*., 2010; Fleming, 2015; Casado-Díaz i Simón, 2016; Boler *et al*., 2018; Cortes i Pan, 2019; Segovia-Perez *et al*., 2019; Sánchez-Cubo *et al*., 2023a), bonusa (Card *et al*., 2016; Li i Koedel, 2017; Sturman *et al*., 2017) ili kolektivnog pregovaranja (Hirsch i Schumacher, 2004; Felgueroso *et al*., 2008; Antonczyk *et al*., 2010; Walker, 2016).

Neusklađenost obrazovanja glavna je varijabla za tumačenje neusklađenosti tržišta rada (Obadić i Viljevac, 2023; Levels *et al*., 2014a). Posljedično tomu, neusklađenost obrazovanja ističe se u proučavanjima ljudskog kapitala kao jedna od glavnih karakteristika koja katkad stoji čak i kao nezavisna varijabla (Ramos i Sanromá, 2013), kao i u ovome članku. Postoji mnogo pristupa analizi ove kategorije, ali općenito, zaključci su slični: dodatno obrazovanje ima mali učinak na plaće u nižim slojevima (Sánchez-Cubo *et al*., 2023b), prekvalificirani zaposlenici zarađuju manje od odgovarajuće kvalificiranih radnika, nedovoljno kvalificirani zarađuju više (Verhaest i Omey, 2012; Levels *et al*., 2014b), a prekvalificiranost proizlazi iz želje za većom zapošljivošću (Lillo-Bañuls, 2009).

Unatoč korištenju složenih metodologija za istraživanje plaća u ugostiteljstvu i turizmu, možda je zanemaren jednostavniji pristup. Poznato je da su plaće u ugostiteljstvu niske ili nesigurne, posebice ako se uzmu u obzir stupnjevi kvalificiranosti i obrazovanja potrebni za određena radna mjesta. Stoga bi se spomenuti nedostaci mogli ispraviti analizom mogućih razlika u bruto plaćama između ugostiteljstva i ostalih aktivnosti španjolskog gospodarstva, kao i prepoznavanjem čimbenika koji ih uzrokuju. Posljedično tomu, istraživačka pitanja su definirana kako slijedi:

1. Koliko iznosi prosječna bruto plaća u ugostiteljstvu, a koliko u Španjolskom gospodarstvu?
2. Koliko ugostiteljskih radnika zarađuje manje od prosječne plaće u Španjolskoj?

working conditions (Jacobs and Steinberg, 1990; Antonczyk *et al*., 2010; Fleming, 2015; Casado-Díaz and Simón, 2016; Boler *et al*., 2018; Cortes and Pan, 2019; Segovia-Perez *et al*., 2019; Sánchez-Cubo *et al*., 2023a), salary premiums (Card *et al*., 2016; Li and Koedel, 2017; Sturman *et al*., 2017) or collective bargaining (Hirsch and Schumacher, 2004; Felgueroso *et al*., 2008; Antonczyk *et al*., 2010; Walker, 2016).

As stated before, the educational mismatch is a crucial variable in understanding labour markets (Obadić and Viljevac, 2023; Levels *et al*., 2014a) and, consequently, within the human capital studies, it stands out as one of the main axes, even acting as the independent variable (Ramos and Sanromá, 2013), including this paper. There are many approaches to its analysis, but overall, conclusions are similar: additional education has little effect on wages in lower strata (Sánchez-Cubo *et al*., 2023b), overeducated employees earn less than adequately educated workers, while undereducated earn more (Verhaest and Omey, 2012; Levels *et al*., 2014b), and overeducation arises from desire to increase employability (Lillo-Bañuls, 2009).

Despite the application of very complex methodologies for studying salaries in the hospitality and tourism sector, a relatively simpler approach might have been forgotten. Wages in hospitality are well-known to be low or precarious, primarily compared to the skill and education levels required for certain job positions. Thus, analysing whether differences exist between the gross wages in hospitality and other activities in the Spanish economy, and identifying the factors that cause them, might fill the aforementioned gap. Accordingly, the study questions are formulated as follows:

1. What are the average gross wages for hospitality and the Spanish economy?
2. How many hospitality workers earn less than an average employee in Spain?
3. Which factors make a worker earn less than the national average?

3. Koji čimbenici doprinose tomu da radnik zarađuje manje od nacionalnog prosjeka?
4. Postoje li razlike između ugostiteljstva i ukupnog gospodarstva?

Postojeća literatura nudi široki raspon metodologija za tumačenje plaća koje koriste većinu prije spomenutih varijabli, iako ne svih, jer bi mogle učiniti modeliranje složenijim i time otežati interpretaciju rezultata. Klasični pristup analizi ljudskog kapitala pomoću Mincerovih jednadžbi (Oliver i Sard, 2019) mogao bi dati djelomične odgovore na istraživačka pitanja jer bi dobivene procjene koeficijenata mogli uputiti na relativan utjecaj konačnog dohotka. Međutim, konačni rezultat ovisi o ostalim varijablama u jednadžbi. Pomoću ove metode u turizmu su se već proučavale mnoge varijable tradicionalnog ljudskog kapitala, a to se odnosi na obrazovanje, staž, spol, vrstu ugovora itd. (Campos-Soria *et al*., 2010; Ons-Cappa *et al*., 2017; Perez-Romero *et al*., 2021). Slijedom Mincerovih jednadžbi te metoda dekompozicije Oaxaca-Ransom (Oaxaca i Ransom, 1999; García-Pozo *et al*., 2011) i Oaxaca-Blinder (Antecol *et al*., 2008; Leuze i Strauß, 2016; Platt *et al*., 2016; Vega-Catena *et al*., 2016) čimbenik spola izdvojen je radi usporedbe i objašnjenja spolnog jaza. Ova proučavanja mogu se promatrati kao proširenje prethodnih radova koji su se također odnosili na ugostiteljstvo (García-Pozo *et al*., 2011; García-Pozo *et al*., 2012; Silva i Ferreira-Freire-Guimaraes, 2017; Perez-Romero *et al*., 2021). Osim rezultata o spolnom jazu, ova istraživanja daju vrlo malo dodatnih informacija o istraživačkim pitanjima. Pored toga, budući da su rezultati ovih znanstvenih članaka vrlo ovisni o temeljnoj kategoriji, ekonomska literatura iznjedrila je alternativne pristupe (Yun, 2005; Fortin, 2008; Ñopo, 2008). Naime, kvantilne regresije mogle bi riješiti dio problema te su se nedavno koristile u ugostiteljskoj djelatnosti (Marfil-Cotilla i Campos-Soria, 2021) za dobivanje točnije veličine spolnog jaza.

4. Are there any differences between hospitality and the whole economy?

As introduced, the extant literature provides a wide range of methodologies that use most of the variables explained before – if not all, despite may make the modelling complex and complicate the interpretation of the results – for explaining wages. The classic approach to analysing human capital through Mincerian equations (Oliver and Sard, 2019) might offer a partial solution to the study questions since the obtained estimated coefficients might suggest a relative impact on the final salary. However, the final result depends on the rest of the variables in the equation. This method has already been applied in the tourism industry, including many traditional human capital variables in the equations - i.e., education, tenure, gender, type of contract, etc. (Campos-Soria *et al*., 2010; Ons-Cappa *et al*., 2017; Perez-Romero *et al*., 2021). Following the path of Mincerian equations, Oaxaca-Ransom (Oaxaca and Ransom, 1999; García-Pozo *et al*., 2011) and Oaxaca-Blinder (Antecol *et al*., 2008; Leuze and Strauß, 2016; Platt *et al*., 2016; Vega-Catena *et al*., 2016) equations moved the gender factor out for comparison, attempting to explain the gender gap. These studies might be seen as an extension of the previous works, also having a presence in hospitality (García-Pozo *et al*., 2011; García-Pozo *et al*., 2012; Silva and Ferreira-Freire-Guimaraes, 2017; Perez-Romero *et al*., 2021). Little additional information, apart from the gender gap results, might be retrieved for the study questions. Besides that, the results found in these scientific articles are highly dependent on the base category; that is why alternative approaches were generated in the economic literature (Yun, 2005; Fortin, 2008; Ñopo, 2008). Indeed, quantile regressions might solve part of the problem and have recently been applied to the hospitality industry (Marfil-Cotilla and Campos-Soria, 2021), obtaining a more accurate measure of the gender gap.

Konačno, druge metodologije koje su se već rabile za mjerenje istog fenomena uglavnom su se usmjeravale na produktivnost (Chaido, 2009; Brida *et al*., 2010; Gricar *et al*., 2021; Shu *et al*., 2022). Ipak, rezultati tih istraživanja vrlo malo se odnose na istraživačka pitanja budući da se tvrdnja o relativnoj produktivnosti temelji na sveobuhvatnijoj raspravi i mogućim usporedbama između industrija i grana gospodarstva. Stoga, unatoč tomu što postojeća literatura podržava predložena istraživačka pitanja, potrebna je drugačija metoda za pronalaženje odgovora. Prema saznanjima autora, najprimjerenija metoda bila bi binominalna logistička regresija koja je dalje objašnjena u sljedećem poglavlju.

Nakon obrazlaganja metodologije, u poglavlju Rezultati analiziraju se deskriptivna statistika i rezultati procjena binominalnih logističkih regresija za zaposlenike u ugostiteljstvu ukupnom gospodarstvu. Na kraju slijedi rasprava rezultata u odnosu na postojeću literaturu te se iznose zaključci i ograničenja studije.

## 2. METODOLOGIJA

Nakon početnih razmatranja, autori predlažu obradu istraživačkih pitanja pomoću binominalne logističke regresije. Ova konkretna metodologija, koja uključuje multinominalne logističke regresije i varijante probit, češće se koristila u ugostiteljstvu za mjerenje neusklađenosti obrazovanja (Marchante *et al*., 2007), a rjeđe za analizu plaća. Razlog tomu može biti činjenica da mnoga istraživanja koja se odnose na ljudski kapital u ugostiteljstvu i turizmu imaju za cilj kvantificirati povrat investicije na plaće. Takav raspon nije u skladu s ciljem logističkih regresija budući da one kvantificiraju izglede promjene u ovisnoj varijabli umjesto da mjere koliko plaće variraju. Ipak, istraživačko pitanje ovoga članka služi svrsi njihovog korištenja. Stoga, opće pojedinosti binominalnog logističkog modela, s time da je $p_i$ vjerojatnost zarade

Lastly, other methodologies have already been applied to measure the same phenomenon but mainly focused on productivity (Chaido, 2009; Brida *et al*., 2010; Gricar *et al*., 2021; Shu *et al*., 2022). Still, the results of these articles have little to do with the study questions since a more in-depth debate underlies the assertion of relative productivity and its likely comparison between economic industries and sectors. Therefore, despite the extant literature offering partial support to the proposed study questions, a different method should be applied to answer them. To the best of the authors' knowledge, the methodology that might best fit is the binomial logistic regression, further explained in the following section.

After the methodology is explained, the Results displays the descriptive statistics and the results of the estimations of the binomial logistic regressions for the hospitality and the whole economy employees. Lastly, the discussion relates the extant literature to the results, the conclusions are drawn and the limitations of the study are stated.

## 2. METHODOLOGY

Following the prior reasoning, the authors propose using a binomial logistic regression to approach the study questions. This particular methodology – including multinomial logistic regressions, as well as probit variants – has rarely been applied in hospitality regarding wages but for measuring educational mismatch (Marchante *et al*., 2007). That might be because most studies addressing human capital in hospitality and tourism aim to quantify returns on wages. Such scope falls out of the aim of logistic regressions since they quantify the odds of a change in the dependent variable instead of measuring how much salaries vary. Nevertheless, the study question of this paper fits the purpose of using them. Thus, the general specification of the binomial logistic model, being $p_i$ the probability of earning a salary

plaće nižeg od prosjeka u španjolskom gospodarstvu, a nezavisne varijable ($X_{ki}$) su sljedeće (Peña, 2002):

$$ln\left(\frac{p_i}{1-p_i}\right)=\beta_0+\beta_k X_{ki}+u_i \qquad (1)$$

Tada,

$$p_i=F\left(z_i\right)=\frac{1}{1+e^{-z_i}} \qquad (2)$$

Gdje

$$\begin{aligned} z=\beta_0&+\beta_1 S3_{11}+\beta_2 Ten_{2_2}+\beta_3 exp_{33}+\\ &\beta_4 Age_{4_4}+\beta_5 Gen_{55}+\beta_6 TC_{66}+\\ &\beta_7 TWD_{77}+\beta_8 Res_{88}+\beta_9 EM_{99}+\\ &\beta_{10}10_{10}+\beta_{11}Skills_{1111}+\beta_{12}CA_{1212}+u_i \end{aligned} \qquad (3)$$

Vrijednosti zavisne varijable „plaća u odnosu na prosjek španjolskog gospodarstva“, su „plaća ispod prosjeka španjolskog gospodarstva“ – vrijednost 1, ili „plaća iznad prosjeka španjolskog gospodarstva“ – vrijednost 0. Nezavisne varijante – do 22 – sadrže i kontinuirane i umjetne varijable. Prvi skup varijabli, tj. diskretna varijabla, uključuje „bruto satnicu“ mjerenu u eurima i nije uključena u logističku regresiju, „obrazovanje“ (*S3*) koje se mjeri godinama studija, „staž“ (*Ten*) i „iskustva“ *(Exp*) koje se mjeri i godinama staža i godinama „starosti“ (*Age*). Drugi najveći skup okuplja sve umjetne varijable: „spol“ (*Gen*) koji je podijeljen na muški i ženski; „vrsta ugovora“ (*TC*) s time da 1 označuje „ugovor na neodređeno vrijeme“, a 0 znači „ugovor na određeno vrijeme“; „vrsta radnog dana“ (*TWD*) s 1 za „ugovor na puno radno vrijeme“ i 0 za „ugovor sa skraćenim radnim vremenom“; i „odgovornost“ (*Res*) s oznakom 1 za „da“ i suprotno. Slijede određene kategorijske varijable, postavljene kao umjetne za model: „neusklađenost obrazovanja“ (EM) – „prikladna kvalificiranost“, „nekvalificiranost“ i „prekvalificiranost“, „veličina“ – „tvrtke s 9 zaposlenika“, „tvrtke s 10-50 zaposlenika“ i „tvrtke s više od 50 zaposlenika“; „stručna sprema“ – „službenici“, „polukvalificirani radnici“ i „kvalificirani radnici“, „veličina“ – „tvrtke s 9 zaposlenika“, „tvrtke s 10-50 zaposlenika“ i „tvrtke s više od 50 zaposlenika“.

lower than the Spanish economy average, and the independent variables ($X_{ki}$), goes as follows (Peña, 2002):

$$ln\left(\frac{p_i}{1-p_i}\right)=\beta_0+\beta_k X_{ki}+u_i \qquad (1)$$

Then,

$$p_i=F\left(z_i\right)=\frac{1}{1+e^{-z_i}} \qquad (2)$$

Where

$$\begin{aligned} z=\beta_0&+\beta_1 S3_{11}+\beta_2 Ten_{2_2}+\beta_3 exp_{33}+\\ &\beta_4 Age_{4_4}+\beta_5 Gen_{55}+\beta_6 TC_{66}+\\ &\beta_7 TWD_{77}+\beta_8 Res_{88}+\beta_9 EM_{99}+\\ &\beta_{10}10_{10}+\beta_{11}Skills_{1111}+\beta_{12}CA_{1212}+u_i \end{aligned} \qquad (3)$$

The values of the dependent variable ‘salaries regarding the Spanish economy average’ are ‘salary under the Spanish economy average’ – value 1 – or ‘salary above the Spanish economy average’ – value 0. The independent variables – up to 22 – contain both continuous and dummy variables. The first set of variables, i.e. the discrete variable, is ‘hourly gross wage’ (*HGW*), measured in Euros and not included in the logistic regression, ‘education’ (*S3*), measured in years of study, ‘tenure’ (*Ten*) and ‘experience’ (*Exp*), both measured in years too and ‘age’ (*Age*). The second set is the largest and groups all dummy variables: ‘gender’ (*Gen*) (divided into male and female), ‘type of contract’ (*TC*) being 1 for ‘permanent contract’ and 0 for ‘temporal contracts’, ‘type of working day’ (*TWD*) being 1 for ‘full-time contract’ and 0 for ‘part-time contracts’ and ‘responsibility’ (*Res*) being 1 for ‘yes’ and vice versa. Then, some categorical variables, set up as dummies for the model, are: ‘educational mismatch’ (*EM*) – ‘adequately educated’, ‘under-educated’ and ‘over-educated’, ‘size’ (*Size*), i.e. ‘firms 9 employees’, ‘firms 10 to 50 employees’ and ‘firms more than 50 employees’, ‘skills’, ‘white-collar workers’, ‘intermediate workers’, ‘skilled manual workers’

valificirani radnici", „kvalificirani radnici" i „nekvalificirani radnici" i na kraju „kolektivni ugovor" (*CA*), „nacionalni granski kolektivni ugovor", „regionalni kolektivni ugovor" i „kolektivni ugovor na razini tvrtke".

Procjena modela napravljena je pomoću metode maksimalne vjerodostojnosti zbog inherentne nelinearnosti modela (Pérez-López, 2019). Budući da se smatra kako su dobiveni estimatori usklađeni i normalno distribuirani u velikim uzorcima, t-testovi su prikladni (Stock i Watson, 2020).

Podaci koji su korišteni za izvođenje predloženog modela dolaze iz bogatog uzorka španjolskih zaposlenika u 2018. godini, nazvan *Quadrennial Wage Structure Survey 2018*, koje je izradio Nacionalni statistički institut Španjolske (2020). Ova baza podataka sadrži široki raspon korisnih varijabli kojima se radnici mogu sveobuhvatnije analizirati, dublje nego u Godišnjem istraživanju strukture plaća – s time da je 2020. godina bila zadnja godina objave tog godišnjeg istraživanja. S obzirom na količinu dostupnih podataka u četverogodišnjem istraživanju, ovaj je dokument najčešće odabiran u srodnoj znanstvenoj literaturi, a u ovom se članku koristi najnoviji četverogodišnji skup podataka iz 2018. godine. Ukupan uzorak obuhvaća 7.332 zaposlenih u ugostiteljstvu – CNAE-09 skupina I, što uključuje i podskupine od 55 do 56 godina te 166.753 pojedinaca u gospodarstvu Španjolske bez radnika iz ugostiteljstva. Konačan uzorak nastao je izostavljanjem onih zaposlenika koji su zarađivali manje od minimalne satnice u Španjolskoj u 2018. godini, tj. 3,066 eura na sat i onih netipičnih satnica iznad 222 eura na sat. Uz sve ostale dokumente, plaće su izražene u bruto iznosu.

## 3. REZULTATI

Deskriptivne i ekonometrijske analize izrađene su pomoću programa Stata (StataCorp, 2021). Tablica 1 prikazuje deskriptivnu statistiku za svaku varijablu i oba skupa

and 'unskilled manual workers', and finally, 'collective agreement' (*CA*), 'national sectoral collective agreement', 'regional sectoral collective agreement', and 'collective agreement at company level'.

The estimation of the model is performed through maximum likelihood method because of the inherent non-linearity of the model (Pérez-López, 2019). Since the obtained estimators are considered consistent and normally distributed in big samples, t-tests are appropriate (Stock and Watson, 2020).

The data used to run the proposed model comes from the Quadrennial Wage Structure Survey 2018, a detailed sample of Spanish employees in 2018 generated by the National Statistics Institute of Spain (2020). This database includes a wide range of helpful variables which allow a more comprehensive analysis of the workers, more in-depth than the Annual Wage Structure Survey – being 2020 the latest annual survey published. With regard to the amount of available data in the quadrennial one, it is the most chosen in the related academic literature, and this paper uses the latest quadrennial dataset, which dates from 2018. The total sample accounts for 7,332 individuals in the hospitality industry CNAE-09 Group I, which includes Subgroups 55 and 56, and 166,753 individuals in the Spanish economy – hospitality workers excluded. The final sample comes from excluding those employees who earned under the minimum hourly gross wage in Spain in 2018, i.e. that is 3.066 Euros per hour, and those outliers identified above 222 Euros per hour. Along all the documents, wages are expressed as gross wages.

## 3. RESULTS

The software Stata (StataCorp, 2021) was used to run the calculations of the descriptive and econometric analyses. To provide a more comprehensive overview of the sample,

podataka, ugostiteljske i ostale radnike u gospodarstvu Španjolske, kako bi se dobio puno sveobuhvatniji pogled na uzorak. Osim toga, stupac „vrsta“ ukazuje na prirodu svake varijable. U tom smislu jasno je da računanje prosjeka umjetno stvorene varijable nema smisla osim za pokazivanje koliko pojedinaca predstavlja značajku vrijednosti 1. Na kraju, standardne devijacije navedene su u zagradama pokraj odgovarajućih vrijednosti.

U odnosu na zavisnu varijablu, rezultat vrijednosti 1 za satnicu nižu od nacionalnog prosjeka je iznenađujuć. Iako se čini da je većina radnika u španjolskom gospodarstvu relativno podjednako raspodijeljena te samo 64,8% njih zarađuje manje od nacionalnog prosjeka, zaposlenici u ugostiteljstvu trpe ogromne razlike, budući da 85,7% zaposlenika zarađuje manje od nacionalnog prosjeka (Tablica 1). Budući da je uzorak dovoljno velik i pouzdan, ne mogu se očekivati nikakvi dodatni utjecaji. Stoga se čini točnom pretpostavka da zaposlenici u ugostiteljstvu zarađuju manje od svojih kolega u drugim granama gospodarstva. To potvrđuje varijabla „bruto satnica“ čija se prosječna vrijednost razlikuje za skoro četiri postotna poena. Iako nije bilo primjereno uvrstiti ju u model, zabilježena je u Tablici 1 za ilustraciju. Podaci potvrđuju intenciju ovog članka, a to je ustanoviti čimbenike koji utječu na pad satnica ispod nacionalne srednje vrijednosti.

Prvi skup varijabli uglavnom je kvantitativan te pripada kako prirođenim tako i stečenim karakteristikama koje izravno definiraju zaposlenike. Najprije su, prema najtradicionalnijem pristupu teorije ljudskog kapitala, uvršteni u model „obrazovanje“ i „iskustvo“. S druge strane, godine obrazovanja za ugostiteljstvo neznatno su kraće od onih u ostatku gospodarstva. Međutim, u pogledu stupnja završenog obrazovanja, obje srednje vrijednosti nisu posebno reprezentativne budući da odgovaraju „obaveznom višem obrazovanju“ od 8 godina i „strukovnom obrazovanju drugog stupa“ od 11 godina. Pored toga, ove ekvivalentnosti uključuju

Table 1 contains the descriptive statistics for each variable and both groups of data, hospitality employees and Spanish economy employees. Besides, column ‘type’ indicates the nature of each variable. In this sense, it is a truism that calculating the mean of a dummy variable lacks sense but for showing how many individuals present the characteristic for which the value 1 stands for. Lastly, standard deviations are in brackets next to their corresponding values.

Regarding the dependent variable, value 1 for wages lower than the national average, the result is striking. While the workers in the Spanish economy seem to be more evenly distributed and only 64.8% of them earn less than the national average, the hospitality industry employees suffer from a profound difference, being 85.7% of the employees under the national average in terms of earnings (Table 1). Since the sample is big enough and reliable, no side effects might affect these results. Hence, the assumption that hospitality employees earn less than their counterparts in other industries or sectors appears to be true. That is confirmed by variable ‘hourly gross wage’, whose average value differs by almost four percentual points. Including the latter in the model is inappropriate, but it is in Table 1 for illustration purposes. Considering these figures, the purpose of this paper to identify which factors influence dropping wages below the national mean is reinforced.

The first set of variables is mostly quantitative and falls under the umbrella of the innate and acquired characteristics that directly define employees. First, following the most traditional human capital theory approach, ‘education’ and ‘experience’ are included in the model. On the one hand, the years of education in hospitality are slightly lower than for the whole economy case. However, in terms of completed educational level, both mean values are not very representative as they correspond to the eight years of ‘compulsory higher education (ESO)’ and 11 years of ‘second-degree vocational training (FP

i važnu skupinu radnika s nižim stupnjevima obrazovanja, što je izraženije u slučaju ugostiteljstva. Povrh toga, „kategorijska/nominalna varijabla“ pokazuje slične rezultate, ali „nedovoljno kvalificirani zaposlenici“ čine polovicu u ostalim granama gospodarstva. S obzirom na razlike u druge dvije kategorije, rezultati pokazuju niže stupnjeve kvalifikacije u ugostiteljstvu, što se slaže s rezultatima u kategoriji „obrazovanje“. Posljedično tomu, problem neusklađenosti obrazovanja u ugostiteljstvu čini se da je prekvalificiranost.

S druge strane, ugostiteljski radnici imaju tri godine više iskustva nego zaposlenici u drugim granama. To je zato što ugostiteljski radnici nastavljaju raditi u istoj djelatnosti dulje od nacionalnog prosjeka unatoč tomu što je vjerojatnije da češće mijenjaju poslodavce (Ferjanić Hodak, 2017). Nekoliko je razloga za ovaj podatak. S jedne strane to može biti zbog veće mobilnosti među industrijama u nacionalnom uzorku, ili ugostiteljstvo može imat višak starijeg osoblja koji nisu iskusili mobilnost u svom radnom vijeku, između ostalog.

Razvoj sveobuhvatnijih modela kojima se objašnjava povrat ljudskog kapitala kao gotovo obvezne varijable u svakoj regresiji ljudskog kapitala uključuje „staž“, „dob“ i „spol“. U našem uzorku varijabla „staž“ vrlo je tipična za popularnu tvrdnju o višim stopama fluktuacije i sezonalnosti u ugostiteljstvu budući da je njezina vrijednost niža za skoro četiri poena od one za zaposlenike u drugim granama španjolskog gospodarstva. Ova činjenica još je više začuđujuća ako se razmotri varijabla „godine starosti“ čije se vrijednosti u posljednjih 40-ak godina gotovo nisu promijenile. Naposljetku, spol zaposlenika također iznenađuje jer muškarci čine samo 38,1% dok u ostalim gospodarskim granama taj udio iznosi 56,2%. Ove brojke opravdavaju tvrdnju da je ugostiteljstvo feminizirana gospodarska djelatnost.

II)’. Nevertheless, these equivalences involve the existence of an important group of workers with lower education levels, which is more noticeable in the hospitality case. In addition, the ‘educational mismatch’ categorical variable shows similar figures, but ‘under-educated employees’ are half of the rest of the industries ones. Considering the differences in the other two categories, the result suggests lower levels of education in hospitality, in line with ‘education’ results. Consequently, in hospitality, the issue of educational mismatch appears to be over-education.

Conversely, hospitality workers are three years more experienced than employees in other sectors. That is, hospitality workers keep working within the same industry for more time than the national average despite being more likely to change their employers more often (Ferjanić-Hodak, 2017). This figure may be because of several reasons. On the one hand, it may be due to higher mobility between industries in the national sample. On the other hand, hospitality might suffer from an excess of elder staff, who had little mobility within its working life, among other causes.

The development of more comprehensive models to explain human capital returns involved including ‘tenure’, ‘age’ and ‘gender’ as almost compulsory variables in every human capital regression. In the sample, the variable ‘tenure’ is very representative of the popular assertion of higher turnover rates and seasonality in hospitality since its value is almost four points less than the one for the employees of the rest of the Spanish economy. This fact is even more shocking considering the variable ‘age’, whose values are almost identical and over 40 years old. Lastly, the gender of the employees is also striking. While the percentage of men in the rest of the economic sectors is 56.2%, it is just 38.1% in the hospitality industry. This figure justifies stating that the hospitality industry is a feminised economic activity.

***Tablica 1: Deskriptivna statistika uzorka*,*****

| Varijable | Vrsta* | Ugostiteljstvo | | Španjolsko gospodarstvo | |
|---|---|---|---|---|---|
| | | Srednja vrijednost (std. dev.) | % | Srednja vrijednost (std. dev.) | % |
| Plaće ispod nacionalnog prosjeka | D. | 85,7 | 0,648 | 64,8 | |
| Bruto satnica (€) | C. | 10,288 (7,434) | | 14,120[a] (12,899) | |
| Obrazovanje (godine) | C. | 8,525 (3,251) | | 10,665 (4,158) | |
| Staž (godine) | C. | 7,756 (8,492) | | 11,196 (10,241) | |
| Iskustvo (godine) | C. | 18,321 (10,658) | | 15,255 (10,365) | |
| Godine starosti | C. | 42,287 (11,658) | | 44,055 (10,378) | |
| Spol (muški) | D. | | 38,09 | | 56,22 |
| Ugovor na neodređeno radno vrijeme | D. | | 48,59 | | 82,56 |
| Ugovor na određeno vrijeme | D. | | 81,32 | | 78,55 |
| Odgovornost | D. | | 16,51 | | 14,23 |
| Prikladno | D. | | 61 | | 58,6 |
| Nedovoljno kvalificirani | D. | | 11,77 | | 20,43 |
| Prekvalificirani | D. | | 27,23 | | 20,97 |
| Tvrtke do 9 (zaposlenih) | D. | | 9,27 | | 11,69 |
| Tvrtke 10-50 zaposlenih | D. | | 13,32 | | 19,45 |
| Tvrtke od 51 zaposlenog na više | D. | | 77,41 | | 68,86 |
| Službenici | D. | | 10,86 | | 36,05 |
| Neposredni radnici | D. | | 57,04 | | 28,83 |
| Kvalificirani manualni radnici | D. | | 4,16 | | 22,86 |
| Nekvalificirani manualni radnici | D. | | 27,94 | | 12,26 |
| Nacionalni granski kolektivni ugovor | D. | | 21 | | 32,14 |
| Regionalni granski kolektivni ugovor | D. | | 71,14 | | 34,53 |
| Kolektivni ugovori na razini poduzeća | D. | | 7,86 | | 33,33 |
| Motrenja (Tvrtke) | | 7.332 | | 166.753 | |

*Izvor: Autori*

**Bilješka 1: D=umjetna; C=kontinuirana. Standardne devijacije su naznačene u zagradama*

***Bilješka 2: t-test je napravljen kako bi se ocijenile srednje razlike za kontinuirane varijable, s time da su sve različite na razini pouzdanosti od 99%.*

***Table 1: Descriptive statistics of the sample*,****

| Variables | Type* | Hospitality | | Spanish economy | |
|---|---|---|---|---|---|
| | | Mean (Std. Dev.) | % | Mean (Std. Dev.) | % |
| Wage lower than the national average | D. | | 85.7 | .648 | 64.8 |
| Hourly gross wage (€) | C. | 10.288 (7.434) | | 14.120[a] (12.899) | |
| Education (years) | C. | 8.525 (3.251) | | 10.665 (4.158) | |
| Tenure (years) | C. | 7.756 (8.492) | | 11.196 (10.241) | |
| Experience (years) | C. | 18.321 (10.658) | | 15.255 (10.365) | |
| Age | C. | 42.287 (11.658) | | 44.055 (10.378) | |
| Gender (men) | D. | | 38.09 | | 56.22 |
| Full-time contract | D. | | 48.59 | | 82.56 |
| Permanent contract | D. | | 81.32 | | 78.55 |
| Responsibility | D. | | 16.51 | | 14.23 |
| Adequately educated | D. | | 61 | | 58.6 |
| Under-educated | D. | | 11.77 | | 20.43 |
| Over-educated | D. | | 27.23 | | 20.97 |
| Firms 9 | D. | | 9.27 | | 11.69 |
| Firms 10-50 | D. | | 13.32 | | 19.45 |
| Firms > 51 | D. | | 77.41 | | 68.86 |
| White-collar workers | D. | | 10.86 | | 36.05 |
| Intermediate workers | D. | | 57.04 | | 28.83 |
| Skilled manual workers | D. | | 4.16 | | 22.86 |
| Unskilled manual workers | D. | | 27.94 | | 12.26 |
| National sectoral collective agreement | D. | | 21 | | 32.14 |
| Regional sectoral collective agreement | D. | | 71.14 | | 34.53 |
| Collective agreements at company level | D. | | 7.86 | | 33.33 |
| Observations (Firms) | | 7,332 | | 166,753 | |

*Source: Authors*

**Note 1: D=dummy; C=continuous. Standard deviations are in parentheses*

***Note 2: t-test performed to assess mean differences for continuous variables, being all different at the 99% confidence level.*

Sljedeći skup varijabli odnosi se na značajke zaposlenika prema trenutnom radnom mjestu. Tako, u skladu s varijablom „staž", „ugovor na neodređeno radno vrijeme" prikazuje nestalnost ugostiteljstva jer samo 48,6% zaposlenika ima ugovor na neodređeno radno vrijeme, dok je taj postotak u ostalim granama 82,6%. Međutim, za varijablu „vrsta ugovora", obje brojke vrlo su slične – 81,3% odnosno 78,5%. Važno je napomenuti da ovi podaci pokazuju stanje 2018. godine, jer je 2022. godine španjolski parlament proveo reformu radnog zakonodavstva kojim se ugovori na određeno vrijeme ograničavaju na vrlo specifične slučajeve uz penalizaciju. Zbog toga je moguće da se u budućnosti ove brojke počnu polako mijenjati.

Neke varijable odnose se na radno mjesto zaposlenika unutar poduzeća. To su „vještine", s potkategorijama „službenici", „polukvalificirani radnici", „kvalificirani fizički radnici" i „nekvalificirani fizički radnici", kao i „odgovornost" koja definira imaju li podređene za koje su zaduženi. S obzirom na potkategorije „vještina", vidljive su razlike između ugostiteljstva i ostalih grana gospodarstva. Dok je u prvom slučaju samo 10,9% zaposlenika visokoobrazovano, u ostalim granama ovaj postotak je trostruko veći. Posljedično tomu, većina zaposlenika u ugostiteljstvu spada u potkategoriju „polukvalificirani radnici". Isto tako iznenađuje prijelaz iz ove kategorije u „nekvalificirane fizičke radnike" u ugostiteljstvu te se tako gotovo potpuno smanjuje broj zaposlenih „kvalificiranih fizičkih radnika" u ugostiteljstvu na 4,2%, što je u prosjeku 22,9% zaposlenika u drugim gospodarskim granama. Kao što pokazuje Tablica 1, radnici u španjolskom gospodarstvu raspodijeljeni su ravnomjernije dok su u ugostiteljstvu okupljeni u dvije glavne kategorije. Unatoč tomu, zaposlenici u ugostiteljstvu imaju više odgovornosti od njihovih kolega u drugim gospodarskim granama – 16,5% odnosno 14,2%.

Konačno, model uključuje varijable koje se odnose na tvrtke. S jedne strane, „veliči-

The next set of variables refers to the characteristics of the employees concerning their current job positions. Thus, in line with 'tenure', 'full-time contracts' reflect the precariousness of the hospitality industry since only 48.6% of the employees have a full-time job, while this figure is 82.6% for other industries' workers. However, in terms of the 'type of contract', both figures are very similar – 81.3% and 78.5%, respectively. It is important to consider that these figures represent the situation in 2018. In 2022 t/he Spanish parliament passed a labour regulations reform that limits non-permanent contracts to very specific cases and imposes penalties on them. Therefore, these figures might slightly change in the upcoming years.

Moreover, some variables refer to the employee's job position in the enterprise. These are 'skills', which contains the subcategories 'white-collar workers', 'intermediate workers', 'skilled manual workers' and 'unskilled manual workers', and 'responsibility', which states whether they have any subordinates they are in charge of. Regarding the 'skills' subcategories, differences between hospitality and the rest of the economy are noticeable. While in the first only 10.9% are highly qualified employees, the latter outperforms three times. Consequently, the bulk of employees in hospitality fall in the subcategory 'intermediate workers'. It is also striking the leap from this category to 'unskilled manual workers' in hospitality, leaving almost empty (4.2%) the 'skilled manual workers' category, which contains 22.9% of the employees in the other industries. As shown in Table 1, the workers in the Spanish economy are distributed more evenly, while in hospitality, they are grouped into two main categories. Despite that, hospitality employees have more responsibilities than their counterparts in other sectors – 16.5% and 14.2%, respectively.

Lastly, the model includes firm-related variables. On the one hand, the firm's size is relevant, and the database contains simi-

na“ tvrtke je relevantna pa baza podataka sadrži slične brojke za obje grupe, ali ovi bi se rezultati trebali pažljivo interpretirati. Naime, u ugostiteljskim tvrtkama s 51 ili više zaposlenih radi više osoba nego u ostalim gospodarskim granama – 77,4% odnosno 68,9%. Međutim, ovi podaci vrlo su različiti za poduzeća s devet ili manje zaposlenih – 96,23% odnosno 95,78% (Nacionalni zavod za statistiku, 2021) i tako čine većinu. Dakako, očekuju se reprezentativni rezultati budući da je metodologija prikupljanja ovih podataka robusna i valjana (Nacionalni zavod za statistiku, 2021). S druge strane, s obzirom na druge grane gospodarstva, „vrsta kolektivnog ugovora“ znatno se razlikuje. Budući da ostale grane imaju jednaku distribuciju, slučaj ugostiteljstva je poseban. To je zbog toga jer je običaj da postoje kolektivni ugovori na razini pokrajina, a kad ne postoji, zakon predviđa primjenu nacionalnog zakonodavstva. Ove dvije kategorije pokrivaju 92,1% radnika, ali još ostaje 7,9% zaposlenih čiji su ugovori regulirani na razini poduzeća. Prema zakonu i nakon nove reforme, kolektivni ugovori na razini poduzeća nadređeni su ostalim propisima, ali ne mogu smanjiti prava zaposlenika.

U idućem koraku slijedi procjena modela dvaju poduzoraka. Tablica 2 sadrži glavne statističke podatke za taj korak. Prvo se pomoću testa omjera vjerodostojnosti pokazuje jesu li predloženi multivarijantni modeli bolji nego osnovna regresija. U ovom slučaju oba su modela značajna na razini 0,01. Osim toga, eksplanatorna vrijednost modela se izračunava pomoću sljedećih mjera. S obzirom na pseudo-$R^2$, oba su modela relativno visoko ocijenjena s obzirom na prirodu statistike. Taj zaključak potvrđuju postoci ispravno klasificiranih slučajeva (gotovo 100%) i područja ispod krivulje ROC koja su vrlo blizu 1. S obzirom na sve gore navedeno, oba modela su valjana i pouzdana.

lar figures for both groups. Yet, the results should be interpreted cautiously. Namely, the employees in firms with 51 or more employees are 77.4% in hospitality and 68.9% in the rest of the economy. Yet, these figures are the opposite, but for firms with nine or fewer employees (National Statistics Institute, 2021), thus being the vast majority of them. However, the representative results are expected since their data collection methodology is robust and sound (National Statistics Institute, 2021). Conversely, the ‘type of collective agreement’ differs substantially. While the rest of the industries are distributed evenly among them, the hospitality industry case is particular. That is because the tradition is to have collective agreements at the province level. When it does not exist – as stated in the law – the national legislation applies. These two categories group 92.1% of the workers, but there is still 7.9% of employees under company-level collective agreements. By law and even within the new labour reform company-level collective agreements are over the rest of the regulations, but they cannot rest or shrink employees’ rights.

The next step is to assess the model for the two subsamples. Table 2 contains the main statistics to do so. First, the Likelihood-Ratio test assesses whether the proposed multivariate models are better than a basic regression. In this case, both models are significant at 0.01. Besides, the model explanatory power is calculated through the following measures. Regarding the pseudo-$R^2$, both models have relatively high ones, considering the nature of the statistic. That point is verified through the percentages of correctly classified cases (close to 100%) and the areas under the ROC curve, which are very close to 1. Considering all the above, both proposed models are valid and sound.

***Tablica 2: Usklađenost modela****

| | N | LR Chi2 (df=19) | Pseudo-R2 | Ispravno klasificirani (%) | Područje ispod krivulje ROC |
|---|---|---|---|---|---|
| Ugostiteljstvo | 7.332 | 682,19*** | 0,254 | 86,91 | 0,7297 |
| Gospodarstvo Španjolske | 166.753 | 36.282,73*** | 0,278 | 78,45 | 0,8357 |

*Izvor: Autori*

**Bilješka: Razina značajnosti: ***(1%), **(5%), i *(10%). Standardne greške i kovarijance robusne na heteroskedastičnost.*

***Table 2: Model fit****

| | N | LR Chi2 (df=19) | Pseudo-R2 | Correctly classified (%) | Area under ROC curve |
|---|---|---|---|---|---|
| Hospitality | 7,332 | 682.19*** | .254 | 86.91 | .7297 |
| Spanish economy | 166,753 | 36,282.73*** | .278 | 78.45 | .8357 |

*Source: Authors*

**Note: Level of significance: ***(1%), **(5%), and *(10%). The standard errors and covariances are robust for heteroscedasticity.*

Budući da su se modeli pokazali konzistentnima, mogu se proračunati binominalne logističke regresije, a rezultati su prikazani u Tablici 3. Prvi stupac sadrži rezultate proračuna, drugi stupac prikazuje omjer izgleda ($e^{\beta_i}$), a odgovarajući marginalni učinci nalaze se u trećem stupcu. Rezultati kategoričkih varijabli interpretiraju se kao izgledi u usporedbi s temeljnom odabranom varijablom koja je navedena na dnu tablice. Budući da odsječak nema ekonomskog značaja (Camarero-Rioja *et al*., 2021), njihovim rezultatima nedostaju komentari.

Općenito, rezultati su statistički značajni na razini 0,01 osim za varijable „ugovor na puno radno vrijeme", „nedovoljno obrazovani" te „tvrtke do 9 zaposlenika" u ugostiteljstvu. Također, pregled omjera izgleda pokazuje da većina varijabli negativno utječe na izglede za ostvarivanje dohotka ispod nacionalnog prosjeka. Uzrok tomu je formulacija hipoteza, ali to ne bi trebalo predstavljati problem za interpretaciju rezultata. Štoviše, treba istaknuti da se samo varijable „ugovor na puno radno vrijeme" i „regionalni granski kolektivni ugovor" razlikuju prema vrsti sklopljenog ugovora, iako je prva statistički neznačajna.

Since the models are proven consistent, the binomial logistic regressions can be estimated. The results of the estimations are shown in Table 3, in which Column 1 shows the results of the estimations, Column 2 the odds ratio ($e^{\beta_i}$) and Column 3 the corresponding marginal effects. The categorical variables' results are interpreted as the odds compared to the base variable chosen, specified at the bottom of the table. Since the intercept has no economic significance (Camarero-Rioja *et al*., 2021), their results lack any comments.

Overall, the results are statistically significant at 0.01, except for 'full-time contract', 'under-educated' and 'firms 9' in the hospitality model. Then, an overview of the odds ratios shows that most variables negatively influence the chances of earning a salary below the national average. That is because of the formulation of the hypotheses, but the odds' signs should not hinder interpreting the results. Moreover, it should be mentioned that only 'full-time contract' and 'regional sectoral collective agreement' differ in their sign between models, but the first is statistically non-significant.

Slijedom poretka dobivenog razmatranjem rasprave o deskriptivnim rezultatima, slijede varijable „obrazovanje“ i „neusklađenost obrazovanja“. Prema rezultatima (Tablica 3), izgledi zaposlenih u ugostiteljstvu za ostvarivanje plaće ispod nacionalnog prosjeka smanjuju se za 9,45% sa svakom dodatnom godinom obrazovanja. Brojka se udvostručuje na 18,16% za zaposlene u drugim industrijama, što pokazuje da se obrazovanju u ugostiteljstvu pridaje manja vrijednost. Drugim riječima, oni koji rade izvan ugostiteljstva imaju više koristi od dodatnih godina obrazovanja. Suprotno tomu, rezultati varijable „neusklađenost obrazovanja“ pokazuju da, ako dodatne godine studiranja vode k prekvalificiranosti, izgledi zarađivanja plaće koja je ispod prosjeka povećavaju se za 51,06% kod radnika izvan ugostiteljstva dok je to slučaj kod samo 33,20% zaposlenih u ugostiteljstvu. Isti učinak vrijedi za nedovoljno obrazovane zaposlenike, s time da se izgledi zarade manje plaće od prosječne smanjuju više kod radnika u ostalim granama (-24,50%) u odnosu na one koji rade u ugostiteljstvu (-17,42%; nije statistički značajno). Moguća statistička značajnost mogla bi dokazati da su razine kvalificiranosti u ugostiteljstvu niže te da dodatne godine obrazovanja nisu tako relevantne kao u drugim industrijama.

Posljedično, čini se da se drugi definirajući čimbenici poput pojedinaca, prethodnog iskustva u poslovima povezanim s djelatnosti ponašaju slično za obje skupine zaposlenika blago smanjujući njihove šanse da zarade manje od prosjeka za manje od dva postotna boda. Suprotno tomu, „staž“ više koristi radnicima izvan ugostiteljstva, jer im smanjuje šanse za 6,58%, dok se kod ugostiteljskih radnika te šanse smanjuju samo za 3,96%. Pokazatelji za „staž“ i „iskustvo“ pokazuju još jednu negativnu stranu ugostiteljstva, budući da je prva viša za druge zaposlenike i više utječe na povećanje dohotka, druga je veća za ugostiteljske radnike, iako je u padu. Međutim, najveći učinak na ovaj skup varijabli odnosi se na „spol“. Naime, ovdje je opći

Following the order carried out while commenting on the descriptive results, ‘education’ and ‘educational mismatch’ go first. According to the results (Table 3), the chances of hospitality employees earning a salary under the national average decrease by 9.45% for each additional year of education, while this figure doubles up to 18.16% for employees in other industries, which suggests a lower value given to education in hospitality. In other words, additional years of education benefit more workers outside the hospitality industry. Conversely, according to the results for ‘educational mismatch’, if those additional years of study lead to over-education, the chances of earning a salary below the average increase by 51.06% for workers outside the hospitality industry, while it is just 33.20% for the ones working in it. This effect also applies to under-educated employees, being the chances of earning less than the average reduced more for the workers in any sector (-24.50%) rather than the hospitality one (-17.42%; non-statistically significant). That, if statistically significant, might prove that the educational levels required in hospitality are lower, so additional years of education are not as relevant as for other industries.

Subsequently, other defining factors as individuals, previous experience in industry-related jobs seems to behave similarly for both employee groups by slightly reducing their chances of earning less than the average by less than two percentual points. On the contrary, ‘tenure’ benefits more non-hospitality workers, reducing such chances by 6.58%, while hospitality ones do only by 3.96%. Both figures in ‘tenure’ and ‘experience’ show another con against hospitality because while the first is higher for the other employees and has a greater influence on better salaries, the latter is larger for hospitality workers, although it is lingering. However, the largest effect in this set of variables lies in ‘gender’. Here, the general gap between men and women is evident – apart

***Tablica 3: Binomialna logistička regresija za satnice niže od nacionalnog prosjeka***

| Varijabla | Ugostiteljstvo | | | Gospodarstvo Španjolske | | |
|---|---|---|---|---|---|---|
| | βi (Std. Err.) | Omjer izgleda | Marginalni učinak | βi (Std. Err.) | Omjer izgleda | Marginalni učinak |
| Obrazovanje | -0,0993*** (0,0145) | 0,905 | -0,010 | -0,2004*** (0,0025) | 0,818 | -0,042 |
| Staž | -0,0404 *** (0,0043) | 0,960 | -0,004 | -0,0681*** (0,0008) | 0,934 | -0,014 |
| Iskustvo | -0,0162*** (0,0040) | 0,984 | -0,002 | -0,0178*** (0,0008) | 0,982 | -0,004 |
| Spol | -0,2727*** (0,0756) | 0,761 | -0,027 | -0,5592*** (0,0138) | 0,572 | -0,117 |
| Ugovor na puno radno vrijeme | 0,0996 (0,0781) | 1,105 | 0,010 | -0,2929*** (0,0198) | 0,746 | -0,061 |
| Ugovor na neodređeno vrijeme | -0,3930*** (0,1199) | 0,675 | -0,039 | -0,2807*** (0,0177) | 0,755 | -0,059 |
| Odgovornost | -0,8886*** (0,0914) | 0,411 | -0,088 | -0,8555*** (0,0178) | 0,425 | -0,178 |
| Neusklađenost obrazovanja[a] | | | | | | |
| Nedovoljna kvalificiranost | -0,1914 (0,1213) | 0,826 | -0,021 | -0,2810*** (0,0175) | 0,755 | -0,062 |
| Prekvalificiranost | 0,2866*** (0,1011) | 1,332 | 0,027 | 0,4125*** (0,0171) | 1,511 | 0,079 |
| Veličina poduzeća | | | | | | |
| Poduzeća do 9 zaposlenih | -0,8476 (0,2226) | 0,428 | -0,054 | -0,4453*** (0,0277) | 0,641 | -0,067 |
| Poduzeća s 10-50 zaposl. | -1,1367*** (0,2039) | 0,321 | -0,082 | -1,1113*** (0,0245) | 0,329 | -0,201 |
| Zanimanja[c] | | | | | | |
| Polukvalificirani radnici | 0,6123*** (0,1237) | 1,845 | 0,069 | 0,9777*** (0,0183) | 2,658 | 0,196 |
| Kvalificirani manualni radnici | 0,5165** (0,2251) | 1,676 | 0,060 | 0,2681*** (0,0232) | 1,308 | 0,062 |
| Nekvalificirani manualni radnici | 0,3512*** (0,1631) | 1,421 | 0,043 | 0,6124*** (0,0308) | 1,845 | 0,133 |
| Radna regulativa[d] | | | | | | |
| Regionalni granski kolektivni ugovori | -0,6623*** (0,1081) | 0,516 | -0,057 | 0,0794*** (0,0162) | 1,083 | 0,015 |
| Kolektivni ugovori na razini poduzeća | -0,6622** (0,1576) | 0,516 | -0,057 | -0,5048*** (0,0153) | 0,604 | -0,110 |
| Odsječak | 5,0474*** (0,3443) | | | 5,4788*** (0,0566) | | |

*Izvor: Autori*

*a. Referentna varijabla za neusklađenost obrazovanja je „Prikladno obrazovanje".*

*b. Referentna varijabla za veličinu poduzeća je „Tvrtke 51".*

*c. Referentna varijabla za zanimanje je „Službenici".*

*d. Referentna varijabla za radnu regulaciju je „Nacionalni granski kolektivni ugovor".*

** Razina značajnosti: ***(1%), **(5%), i *(10%). Standardne pogreške i kovarijance robusne su na heteroskedastičnost.*

***Table 3: Binomial logistic regression for wages lower than the national average***

| Variables | Hospitality | | | Spanish economy | | |
|---|---|---|---|---|---|---|
| | βi (Std. Err.) | Odds ratio | Marginal effect | βi (Std. Err.) | Odds ratio | Marginal effect |
| Education | -.0993*** (.0145) | .905 | -.010 | -.2004*** (.0025) | .818 | -.042 |
| Tenure | -.0404*** (.0043) | .960 | -.004 | -.0681*** (.0008) | .934 | -.014 |
| Experience | -.0162*** (.0040) | .984 | -.002 | -.0178*** (.0008) | .982 | -.004 |
| Gender | -.2727*** (.0756) | .761 | -.027 | -.5592*** (.0138) | .572 | -.117 |
| Full-time contract | .0996 (.0781) | 1.105 | .010 | -.2929*** (.0198) | .746 | -.061 |
| Permanent contract | -.3930*** (.1199) | .675 | -.039 | -.2807*** (.0177) | .755 | -.059 |
| Responsibility | -.8886*** (.0914) | .411 | -.088 | -.8555*** (.0178) | .425 | -.178 |
| Educational mismatch[a] | | | | | | |
| Under-educated | -.1914 (.1213) | .826 | -.021 | -.2810*** (.0175) | .755 | -.062 |
| Over-educated | .2866*** (.1011) | 1.332 | 0.027 | .4125*** (.0171) | 1.511 | .079 |
| Firm size[b] | | | | | | |
| Firms 9 | -.8476 (.2226) | .428 | -.054 | -.4453*** (.0277) | .641 | -.067 |
| Firms 10-50 | -1.1367*** (.2039) | .321 | -.082 | -1.1113*** (.0245) | .329 | -.201 |
| Occupations[c] | | | | | | |
| Intermediate workers | .6123*** (.1237) | 1.845 | .069 | .9777*** (.0183) | 2.658 | .196 |
| Skilled manual workers | .5165** (.2251) | 1.676 | .060 | .2681*** (.0232) | 1.308 | .062 |
| Unskilled manual workers | .3512*** (.1631) | 1.421 | .043 | .6124*** (.0308) | 1.845 | .133 |
| Labour regulation[d] | | | | | | |
| Regional sectoral collective agreement | -.6623*** (.1081) | .516 | -.057 | .0794*** (.0162) | 1.083 | .015 |
| Collective agreements at company level | -.6622** (.1576) | .516 | -.057 | -.5048*** (.0153) | .604 | -.110 |
| Intercept | 5.0474*** (.3443) | | | 5,4788*** (.0566) | | |

*Source: Authors*

*a. The reference variable for educational mismatch is "Adequately educated".*

*b. The reference variable for firm size is "Firms 51".*

*c. The reference variable for occupations is "White-collar workers".*

*d. The reference variable for labour regulations is "National sectoral collective agreement".*

** Level of significance: ***(1%), **(5%), and *(10%). The standard errors and covariances are robust for heteroscedasticity.*

jaz između muškaraca i žena očit, neovisno o objašnjenim i neobjašnjenim razlozima za jaz, jer se izgledi za zarađivanje plaće manje od prosječne smanjuju puno više u slučaju muškaraca zaposlenih u ostalim granama (-42,84%) nego kod ugostiteljskih radnika (-23,87%).

S obzirom na ostale atribute koji se odnose na ugovore zaposlenika, opći je zaključak da s povećanjem stabilnosti posla rastu plaće u obje podskupine. To se vidi kod radnika na puno radno vrijeme u ne-ugostiteljskim granama industrije (-25,39%) dok rezultati ne-ugostiteljskih radnika nisu statistički značajni. Tako stalno zaposlenih u ugostiteljstvu ima -32,5% odnosno -24,48% izvan ugostiteljstva, a onih koji imaju neki stupanj odgovornosti ima -58,88%, odnosno -57,49%. Zatim, s obzirom na sposobnosti zaposlenika, rezultati uzimaju službenike kao temeljnu kategoriju. Pri tomu je cilj bio odrediti mogu li ostale razine vještina smanjiti mogućnosti manje zarade od nacionalnog prosjeka, ali su rezultati to opovrgnuli. Ipak, zanimljivo je primijetiti da postoje velike razlike u postocima među kategorijama. U svim slučajevima, prilike su vrlo velike za polukvalificirane (od 84,5% do 165,84%) i nekvalificirane (od 42,08% do 84,49%) radnike u ugostiteljstvu, dok su u ostalim granama gospodarstva te prilike prepolovljene. U isto vrijeme, situacija je obrnuta kod kvalificiranih manualnih radnika (od 67,60% do 30,75%). Razlog za cijelu ovu situaciju može biti činjenica da službenici zarađuju puno više od nacionalnog prosjeka, zbog čega su plaće ostalih radnika manje pa se brojke kompenziraju pomičući srednju vrijednost prema višem broju.

Napokon, varijable povezane s poslom snažno utječu na izglede zarađivanja ispodprosječne plaće. U varijabli „veličina“ temeljna kategorija su „velika poduzeća“, tj. ona koja zapošljavaju više od 50 radnika. Ta poduzeća čine većinu u obje podskupine, što je vidljivo u Tablici 1. Rezultati prikazani u Tablici 3 pokazuju da rad u malom ili srednjem poduzeću znatno smanjuje izglede za

from the explained and unexplained reasons for that gap – because the chances of earning less than the average decrease by much more for men in other sectors (-42.84%) than for hospitality men workers (-23.87%).

Regarding the rest of the attributes concerning employees' contracts, the general conclusion is that the steadier the job is, the better the salaries in both subgroups. That is represented through full-time workers in non-hospitality industries (-25.39%): the results for the hospitality workers are not statistically significant. Thus, permanently hired employees account for -32.5% in hospitality and -24.48% in the rest of industries, while the rates for those with some degree of responsibility are -58.88% and -57.49% respectively. Then, concerning employees' abilities, the results take white-collar workers as the base category. In doing so, the objective was to determine whether other skill levels may diminish the chances of being paid under the national average, but the results refute it. Nevertheless, the percentages interestingly widely vary between categories. In all cases, the chances are very high for intermediate (84.5% to 165.84%) and unskilled (42.08% to 84.49%) employees in hospitality, but they are half the figures of the rest of the industries. Meanwhile, the situation is upside-down for skilled manual workers (67.60% to 30.75%). The reason for this whole situation might be the fact that white-collar employees earn much more than the national average and, therefore, the rest of the workers earn less, so the figures compensate by biasing the mean to a higher number.

Lastly, business-related variables strongly influence the chances of earning below the average. Regarding 'size', the base category is 'large enterprises', which contains employees in businesses with more than 50 workers. These firms are the majority in both subgroups, as seen in Table 1. The results in Table 3 show that being employed at a small or medium enterprise (SME) noticeably di-

manju plaću od prosječne. Ti podaci su slični za srednja poduzeća, tj. -67,91% u ugostiteljstvu i -67,09% u drugim industrijama, dok su malo niži u ugostiteljstvu, tj. -35,94%. Slični su rezultati i za kolektivne ugovore gdje je temeljna kategorija nacionalni granski kolektivni ugovor. Teoretski, prema zakonu bi postizanje druge vrste kolektivnog ugovora trebalo koristiti zaposlenicima jer ne smije proturječiti nacionalnoj regulativi. Zanimljivo je da, dok je to točno u visokom postotku regionalnih ugovora u ugostiteljstvu (-48,43%) i onima na razini poduzeća (-48,43% u ugostiteljstvu i -39,64% u drugim industrijama), regionalni granski kolektivni ugovori su, čini se, štetni za zaposlenike u ne-ugostiteljskim industrijama jer povećavaju izglede za manje plaće od prosječnih za 8,26%, što znači da su općenito regionalni kolektivni ugovori lošiji za te zaposlenike. Ti rezultati potvrđuju posebnost ugostiteljstva kao djelatnosti u kojoj je ova vrsta kolektivnog ugovora najučestalija, kao što je vidljivo u Tablici 1.

## 4. RASPRAVA

Cilj ovog istraživanja bio je pokušati odgovoriti na pitanje jesu li plaće u ugostiteljstvu ispod nacionalnog prosjeka te, ako je tako, koji su čimbenici uzrok tomu. Na ova pitanja pokušalo se odgovoriti pomoću dvije binominalne logističke regresije koje uključuju varijable tradicionalnog ljudskog kapitala i dekompozicije plaća. Deskriptivni i ekonometrijski rezultati mogli bi pomoći u rasvjetljavanju ovog jaza u literaturi ekonomike rada. Unatoč činjenici da ne postoje izravno usporedive studije zbog prirode zavisne varijable, rezultati širokog spektra istraživanja o ljudskom kapitalu i dekompoziciji plaća mogu pomoći objasniti dobivene rezultate, naročito one iz ekonometrije.

S obzirom na najtradicionalnije varijable ljudskog kapitala, „obrazovanje“, „staž“ i „iskustvo“ uvijek pokazuju pozitivne utjecaje na konačne iznose plaća – bez obzira na

minishes the chances of earning less than the average. These figures are similar for medium enterprises, i.e. -67.91% in hospitality and -67.09% in other industries, while it is slightly lower for hospitality, -35.94%. A similar situation occurs for collective agreements where the base category is the national sectoral one. Theoretically, by law, having another kind of collective agreement should benefit the employee since it cannot contradict national regulations. Interestingly, while that is true in a high percentage for regional ones in hospitality (-48.43%) and company-level ones (-48.43% in hospitality and -39.64% in other industries), regional sectoral collective agreements seem to be detrimental to employees in non-hospitality industries by increasing their chances to be paid less than the average by 8.26%, which means that, in general, regional-level collective agreements are worse for these employees. That result reinforces the singularity of the hospitality industry, in which this type of collective agreement is the most common one, as seen in Table 1.

## 4. DISCUSSION

This study was undertaken to answer the question of whether the hospitality industry wages are under the national average and, if so, which factors cause it. Two binomial logistic regressions, which include traditional human capital and wage decomposition variables, were used to answer the study questions. The descriptive and econometric results may help shed light on this particular gap in the labour economics literature. Despite there being no directly comparable studies because of the nature of the dependent variable, the results from a wide range of human capital and wage decomposition papers may help to explain the obtained results, especially the econometric ones.

Regarding the most traditional human capital variables, ‘education’, ‘tenure’ and ‘experience’ always show positive impacts

izvor dekompozicije (De la Rica *et al*., 2008; Leuze i Strauß, 2016), područje istraživanja (Christofides *et al*., 2013) ili industrijsku granu (Simón, 2006; Bøler *et al*., 2018). Naime, kod interpretacije rezultata ovih triju varijabli kao povećanja postotka prema dodatnoj godini dane varijable, izgledi su značajni i u skladu s postojećom literaturom prema kojoj njihove više razine povećavaju konačne iznose plaća. Ova tvrdnja jednako vrijedi kako za ugostiteljstvo (Kortt *et al*., 2018; Ons-Cappa *et al*., 2020; Sánchez-Cubo *et al*., 2023b) tako i za druge gospodarske grane (Antecol *et al*., 2008). Osim toga, varijabla „obrazovanje" neminovno vodi k „neusklađenosti obrazovanja" budući da se može činiti da je više obrazovanja bolje u smislu zarade, ali tržište ne može uvijek apsorbirati toliku ponudu visokoobrazovanih pojedinaca (Burgos-Flores i Lopez-Montes, 2011). U slučaju ugostiteljstva, ovaj je fenomen već bio predmetom izučavanja te je zaključeno da prekvalificiranost rezultira nižim plaćama od teoretski zasluženih, ali i da nedovoljno kvalificirani pojedinci zarađuju veće plaće (Casado-Diaz *et al*., 2020). Taj je fenomen možda utjecao i na rezultate ove studije budući da je vrlo izgledno da će, u usporedbi s prikladno kvalificiranim zaposlenicima, prekvalificirani pojedinci zarađivati manje od prosjeka dok će se suprotno događati s nedovoljno kvalificiranim pojedincima.

Na sličan način varijable „vrsta ugovora" i „vrsta radnog dana" uobičajeno se zajedno koriste u literaturi (García-Pozo *et al*., 2011). U nedavno objavljenom članku (Ons-Cappa *et al*., 2020) analizirani su odvojeno za ugostiteljstvo u Mincerovoj jednadžbi, ali su polučili male učinke – utvrđeno je da odnos između vrste ugovora i plaće nije značajan, što je u suprotnosti s rezultatom tih varijabli u ovoj studiji. Međutim, Tablica 3 prikazuje značajnije postotke od onih koji su se mogli očekivati iz prethodnih istraživanja. U tom kontekstu, varijabla „vještine" ima ključnu ulogu u klasifikaciji zaposlenika budući da svaka kategorija prima različite naknade

on the final salary, regardless of the source of decomposition (De la Rica *et al*., 2008; Leuze and Strauß, 2016), the territory of study (Christofides *et al*., 2013) or the industry (Simón, 2006; Bøler *et al*., 2018). Indeed, considering the interpretation of the results of these three variables as the increase in the percentage per additional year of the given variable, the chances are noticeable and go in line with the extant literature, which states that higher levels of them increase the final salaries. This assertion is equal both for hospitality (Kortt *et al*., 2018; Ons-Cappa *et al*., 2020; Sánchez-Cubo *et al*., 2023b) and for other economic sectors (Antecol *et al*., 2008). Besides, the variable 'education' inevitably leads to 'educational mismatch' since it may seem that the more, the better, in terms of educational level, but the market might not be able to absorb such an offer of highly educated individuals (Burgos-Flores and Lopez-Montes, 2011). In the case of the hospitality industry, this phenomenon has been already addressed, claiming that overeducation involves lower wages than the ones theoretically deserved, but undereducated individuals earn higher salaries (Casado-Diaz *et al*., 2020). This phenomenon might also have impacted the results of the present study since overeducated individuals are very likely to earn less than the average while the contrary occurs for undereducated individuals, all compared to adequately educated ones.

Similarly, the 'type of contract' and 'type of working day' are commonly used in the literature jointly (García-Pozo *et al*., 2011). A recent article (Ons-Cappa *et al*., 2020) used them separately in hospitality in a Mincer equation but obtained few effects. It found a non-significant relation between the type of contract and salaries, which is the opposite result of these variables in this study. However, Table 3 shows more significant percentages than what could be expected from those previous studies. In this context, 'skills' play a crucial role in 'classifying' employees,

pa tako i povrat na uloženi ljudski kapital (Casado-Diaz i Simon, 2016; Mariani *et al*., 2021; Oliver i Sard, 2019). Rezultati objašnjavaju kako su za razvoj stabilnije profesionalne karijere potrebne relevantne vještine. Ako zaposlenici napreduju na osnovi sposobnosti i dosegnu neki stupanj odgovornosti, podaci pokazuju značajna poboljšanja u percipiranoj plaći (Campos-Soria *et al*., 2010; Marfil-Cotilla i Campos-Soria, 2021), što je u skladu s rezultatima ove studije o izbjegavanju zarađivanja plaća ispod nacionalnog prosjeka.

K tomu, s obzirom na poslovnu varijablu, rezultati su pokazali velik utjecaj veličine poduzeća – uzimajući u obzir velika poduzeća kao temeljnu kategoriju – na izglede zarađivanja iznadprosječne plaće u obje kategorije malih i srednjih poduzeća kao i u podskupinama uzoraka. Zanimljivo je da je u literaturi potvrđeno kako ova varijabla ima priličan utjecaj na plaće, s time da je ona veća za žene nego za muškarce, posebice u ugostiteljstvu (Ons-Cappa *et al*., 2017). Ipak, veličina spolnog jaza relativno je mala u usporedbi s ostalim industrijama (Anghel *et al*., 2019). Osim veličine tvrtke, radna regulativa također igra ključnu ulogu, kao što je vidljivo u rezultatima, uz iznimku regionalnih granskih kolektivnih ugovora u ne-ugostiteljskim poduzećima. Neke su studije utvrdile razlike u odnosu na djelokrug kolektivnog ugovora u ugostiteljstvu (Simon *et al*., 2006; García-Pozo *et al*., 2012), iako prethodna literatura ne obiluje potvrdama ove tvrdnje.

Na kraju, rezultati u Tablici 3 pokazuju velike razlike u obje podskupine u odnosu na spol pojedinih zaposlenika. Ovi postoci ne mjere spolni jaz, ali ipak sugeriraju mogućnost postojanja jaza među plaćama. Većina citiranih radova u ovom istraživanju razmatra prethodne varijable, ali iz perspektive spola. Njihovi rezultati potvrđuju postojanje dohodovnog jaza među spolovima koji se polako smanjuje kako u ugostiteljstvu tako i u ukupnom gospodarstvu, budući da velik dio tog fenomena objašnjavaju značajke po-

having each category with different remunerations and, consequently, returns on human capital (Casado-Diaz and Simon, 2016; Mariani *et al*., 2021; Oliver and Sard, 2019). The results highlight how relevant skills are to develop a more stable professional career. If employees are promoted enough on the basis of these skills and achieve some degree of responsibility, evidence shows significant improvements in the perceived salary (Campos-Soria *et al*., 2010; Marfil-Cotilla and Campos-Soria, 2021), which is in line with the results of this study in avoiding earning less than the national average.

Additionally, the results regarding the business-related variable showed a large impact of the firm size on the chances to earn more than the average salary in both SMEs categories and sample subgroups the large enterprises as the base category. Interestingly, this variable is confirmed in the literature to have a considerable impact on wages, but greater for women than men, especially in hospitality (Ons-Cappa *et al*., 2017). However, the size of the gender gap is relatively small compared to other industries (Anghel *et al*., 2019). In addition to business size, labour regulation also plays a crucial role, as seen in the results, except for regional sectoral collective agreements in the non-hospitality businesses. Support in the previous literature is scarce, but for the hospitality industry, some studies have found differences regarding the scope of the collective agreement (Simon *et al*., 2006; García-Pozo *et al*., 2012).

Finally, the results in Table 3 showed striking differences for both subgroups regarding the gender of the individuals. These percentages do not measure the gender wage gap but do offer a hint of the likely existing wage gap. Most of the cited papers in this study consider the previous variables but with a gender perspective. Their results confirm the existence of a gender wage gap that is slowly shrinking both in hospitality and the whole economy, having a large part

jedinaca, radnog mjesta ili drugih čimbenika (Anghel *et al*., 2019; Marfil-Cotilla i Campos-Soria, 2021). Međutim, još uvijek postoji dio dohodovnog jaza koji ostaje neobjašnjen.

## 5. ZAKLJUČAK

Može se zaključiti da ova studija pruža jasniju sliku o čimbenicima koji utječu na to da su plaće u ugostiteljstvu i gospodarstvu Španjolske ispod prosjeka. Rezultati bi mogli pomoći dionicima u rješavanju određenih nedostataka kod određivanja plaća za određena radna mjesta. Na primjer, čini se da u ugostiteljstvu obrazovanje predviđa loše ispunjavanje zadataka pa su stoga plaće u toj djelatnosti obrnuto proporcionalne. Isto tako se pokazala relevantnost regionalnih granskih kolektivnih ugovora i onih na razini poduzeća, čime se učvrstila uloga sindikata u osiguravanju dobrih uvjeta rada.

Dakako, rezultati ove studije prikazuju određena ograničenja. Prvenstveno, to su učinci radne reforme donesene 2022. godine koji ne se mogu evaluirati jer uzorak istraživanja datira iz 2018. godine. Stoga se rezultati varijabli „radna regulativa“, „vrsta ugovora“ i „vrsta radnog dana“ mogu razlikovati od onih za godine koje su slijedile. U tom smislu, unatoč postojećim starim i novim zakonima koji uređuju zadnje dvije varijable, u ugostiteljstvu je uobičajeno raditi u smjenama koje su dulje od vremena predviđenog u ugovoru bez obzira na to što je to protuzakonito. Ta činjenica predstavlja značajno ograničenje budući da se izračuni baziraju na ugovorima, a ne stvarnim podacima velikog broja ugostiteljskih radnika, što ima ozbiljne posljedice na stvarno tržište rada; npr. konobar/ica zaposlen/a na nekoliko sati može na kraju raditi do 12 sati i primati dio plaće „na ruke“. Ovo je istraživanje, također, ograničeno na primjer Španjolske pa bi buduće studije trebale istraživati prilike u drugim zemljama kako bi se otkrile razlike. Istraživački tim ima namjeru baviti se ubuduće ovim nedostacima.

of it explained by the characteristics of the individuals, the job position, or other factors (Anghel *et al*., 2019; Marfil-Cotilla and Campos-Soria, 2021). However, there is still a share of the wage gap that remains unexplained.

## 5. CONCLUSION

Bearing in mind all the above, this study sheds light on the factors that make salaries under the average in hospitality and the whole Spanish economy. The results might help the stakeholders to tackle certain deficiencies when designing salaries for specific job positions. For instance, education seems to predict performance badly in hospitality, so it is detrimental to the salaries in this industry. Also, the importance of regional sectoral collective agreements and company-level ones is demonstrated, reinforcing the unions' role in good working conditions.

Nevertheless, the results of this study present some limitations. Firstly, the effects of the labour reform approved at the beginning of the current year cannot be assessed since the sample is from 2018. Consequently, the results of the 'labour regulation', 'type of contract' and 'type of working day' variables might differ within the following years. In this sense, despite existing old and new legislation regulating the latter two variables, it is usual in hospitality to work longer shifts than as provided in the contract, regardless of whether it is illegal. That fact constitutes a considerable limitation as the calculations are run based on the contracts but not on the real data of a significant share of hospitality workers, having severe implications in the real labour market; e.g. a part-time waiter hired to work four hours a day might be working up to 12 hours and receiving part of their salary *under the counter*. Also, this study is limited to the Spanish case, and future studies should address other countries' contexts to detect differences. The research team aims to address these limitations in the future.

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