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A Quality of Employment Index for the tourism sector in developing countries: the case of Uruguay

Índice de Calidad del Empleo para el turismo en países en desarrollo: el caso de Uruguay

Índice de Qualidade do Emprego no turismo em países em desenvolvimento: o caso do Uruguai

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Keywords:

Tourism;
Employment;
Quality of employment;
Multi-dimensional index;
Principal component analysis.

Abstract

Although job quality has become an active field of study over the last two decades in developed countries, it still remains an under-discussed concept in developing regions such as Latin America, where the incidence of work informality and low wages are particularly high. As quality of employment is a multidimensional concept and not homogeneously defined in the literature, we follow a Principal Component Analysis (PCA) to build a Quality of Employment (QoE) Index for salary earners using household survey micro data of Uruguay from 2016-2019. Uruguay leads the Better Jobs Index launched by the Inter-American Development Bank in 2017, which constitutes the only index with a macro-approach to measure quantity and quality employment conditions in the region. We consider several aspects of working conditions: employment, earnings, hours worked, occupational safety and social security coverage. We focus on the tourism sector, which presents low job quality characteristics at the same time it accounts for 7.2% of employment in Uruguay. Furthermore, we found a sex-based gap of employment quality against women in tourism, a difference that is not observed in the trade sector. QoE in tourism shows a greater dispersion in the distribution of employees, indicating the presence of more inequalities among these workers compared to those of trade. Other results show that job quality in tourism is lower for those unskilled, but that there are still many skilled workers facing low quality. Finally, if we consider the activities that conform tourism, workers do better in hotels and travel agencies rather than in restaurants and entertainment.

Palabras chave:

Turismo;
Empleo;
Calidad del empleo;
Índice multidimensional;
Análisis por componentes principales.

Resumen

Aunque la calidad del empleo se ha convertido en un área de interés en las últimas dos décadas en los países desarrollados, se trata de un concepto poco discutido en regiones en desarrollo como América Latina, donde la incidencia de la informalidad laboral y los salarios bajos son particularmente altos. Dado que la calidad del empleo es un concepto multidimensional y no está definido de manera homogénea en la literatura, en este trabajo se realiza un Análisis de Componentes Principales (PCA en inglés) para construir un Índice de Calidad del Empleo (QoE) para trabajadores asalariados utilizando microdatos de encuestas de hogares de Uruguay para el período 2016-2019. Uruguay lidera el Índice de Mejores Empleos propuesto por el Banco Interamericano de Desarrollo en 2017, que constituye el único índice con un enfoque macro para medir las dimensiones de cantidad y calidad del empleo en la región. Se consideran varios aspectos de las condiciones de trabajo: empleo, ingresos, horas trabajadas, seguridad laboral y cobertura de la seguridad social. Se analiza particularmente el sector del turismo, que presenta características de baja calidad del empleo al mismo tiempo que representa el 7,2% del empleo en Uruguay. Los resultados muestran una brecha de calidad del empleo por sexo en contra de las mujeres en actividades relacionadas con el turismo, una diferencia que no se observa en el sector del comercio. La distribución de la calidad del empleo en el sector turismo presenta una mayor dispersión, indicando la presencia de desigualdades más grandes entre estos trabajadores en comparación con aquellos del sector comercio. Otro resultado confirma que la calidad del empleo en turismo es menor para los trabajadores no calificados, pero al mismo tiempo existen muchos trabajadores calificados que también se enfrentan a una baja calidad. Finalmente, si se consideran las actividades que forman el sector turismo, los trabajadores obtienen mejores resultados en calidad en los hoteles y las agencias de viajes respecto a los restaurantes y

el entretenimiento.

Palavras-chave:

Turismo;
Emprego; Qualidade do emprego;
índice multi-dimensional;
Análise de componentes principais.

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Resumo

Embora a qualidade do emprego tenha se tornado um campo de estudo ativo nas últimas duas décadas nos países desenvolvidos, o conceito continua sendo pouco discutido em regiões em desenvolvimento, como a América Latina, onde a incidência da informalidade do trabalho e os baixos salários são particularmente frequentes. Como a qualidade do emprego é um conceito multidimensional e não homogeneamente definido na literatura, realizamos uma análise de componentes principais (PCA) para construir um Índice de Qualidade do Emprego (QoE) para os trabalhadores assalariados utilizando microdados de pesquisas domiciliares do Uruguai para o período 2016-2019. O Uruguai lidera o Índice de Melhores Empregos lançado pelo Banco Interamericano de Desenvolvimento em 2017, que constitui o único índice com uma abordagem macro para medir a quantidade e qualidade das condições de emprego na região. Consideramos vários aspectos das condições de trabalho: emprego, rendimentos, horas trabalhadas, segurança no trabalho e cobertura da segurança social. Concentramo-nos no setor do turismo, que apresenta características de baixa qualidade de emprego, ao mesmo tempo que representa 7,2% do emprego no Uruguai. Além disso, encontramos uma diferença de gênero na qualidade do emprego desfavorável às mulheres no turismo, diferença que não é observada no setor do comércio. A QoE no turismo mostra uma maior dispersão na distribuição dos trabalhadores, indicando a presença de mais desigualdades entre estes trabalhadores em comparação com os do comércio. Os resultados gerados pelo nosso índice mostram que a qualidade do emprego no turismo é inferior para os não qualificados, mas que ainda há muitos trabalhadores qualificados que enfrentam uma baixa QoE. Além disso, se considerarmos as atividades que compõem o turismo, os trabalhadores têm melhor desempenho em hotéis e agências de viagens do que em restaurantes e entretenimento.

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1 INTRODUCTION

Tourism is a complex sector that encompasses various economic activities and is a source of income and jobs for many countries (Leatherman & Marcoullier, 1996; Marcoullier & Xia, 2008). Also, tourism is a genuine source of foreign currency that can contribute to strengthening the balance of payments in developing countries and to finance imports of capital goods, and the provision of tax revenue for the government (Sinclair, 1998).

Although tourism represents a development opportunity, economies with a high dependence and that heavily rely on this activity may face certain risks linked to the volatility of demand, some particularities of its labor market, and unequal economic impacts. The increased employment opportunities provided by tourism development may contribute to alleviate unemployment, but many of the jobs created are relatively unskilled, low-waged, and lacking of opportunities for advancement (Wilson, 2008). Indeed, tourism is a bulk of services considered labor-intensive that, according to the destination, can be highly seasonal, low paid with both little job stability, short-term and temporary contracts, and where informality is the rule (Stacey, 2015). Thus, tourism is a sector where human capital is particularly important for the provision of high quality tourism service, but where the quality of jobs created has always been questioned (OECD, 2013a).

International institutions and academia have devoted considerable effort to developing theoretical and operational frameworks for a comprehensive measurement of labor and job quality, motivated, in part, by the broad, vague and all-encompassing definition of decent work launched by ILO in 1999. Although the concept was developed based on the subjects of 'precarious work' and 'nonstandard work' in the late 80s, ILO failed to design a cohesive set of indicators to measure decent work in a comparable way around the world (Burchell et al., 2013). In contrast to ILO, the European Union focused specifically on the concept of job quality, which was first introduced as an employment's policy objective in the Lisbon Treaty in 2000. Thereafter, the EU has improved the understanding of job quality (Green & Mostafa, 2012) based on the availability of information at the European Working Conditions Survey (EWCS).

Traditional approaches studying job characteristics related to what constitutes a 'good job' were built on a solid theoretical foundation, but no convergence was reached towards a set of indicators for the so-called decent work approach (Burchell et al., 2013). Nevertheless, the most recent literature has shifted the focus to approaches related to the quality of employment (QoE) in a multidimensional way, taking into account not only those indicators but also worker and job position's characteristics (Green & Mostafa, 2012; Huneeus Lagos et al., 2015; Sehnbruch et al., 2020; González et al. 2021; Orellana Bravo et al., 2020). For the tourism sector, there are a few antecedents

in this line for the Spanish case that include the development of a composite index of job quality (Santero-Sanchez et al., 2015) and the creation of a scale of decent work in hospitality firms (García-Rodríguez et al., 2021).

More recently, WTO and CEGOS (2019) stated that the quality of employment will be considered as the most important element for the promotion of employment in the coming years. Furthermore, many studies have shown that employment in activities related to tourism has less favorable working conditions than the average of the economy, and others found that tourism employment might have an unequal effect on labor income distribution (Porto & Espinola, 2019). This seems to be crucial in developing nations, where the incidence of work informality and low wages are particularly high (Tornarolli et al., 2014).

We study the case of Uruguay, a developing country in Latin America, where the tourism sector plays a crucial role both as an income generator (Brida et al. 2008; Brida et al. 2010) and as a source of employment, accounting for 7.2% of the jobs in 2020 (Ministerio de Turismo de Uruguay, 2020). Also, Uruguay performs relatively better than other countries of the region in the aggregate Better Jobs index proposed by the IDB (2017). Nevertheless, for workers in tourism, some authors identify a high incidence of informality (specially in some tourism activities such as leisure), long weekly hours devoted to work and low tenure levels due to the seasonality of this sector (Altmark and Larruina, 2011).

Considering the multidimensional aspect of employment quality, this paper builds a QoE Index for salary earners for the whole economy using household survey micro data from 2016-2019. Based on a Principal Component Analysis (PCA), we include five dimensions of working conditions: employment, earnings, hours worked, occupational safety and social security coverage (Organisation for Economic Co-operation & Development in Cazes et al., 2015; International Labour Organization, 2016). Since the QoE index is based on micro data and each worker gets a score, we are able to identify profiles of workers based on non-labor variables such as gender, age and education, and evaluate how these different profiles perform in terms of QoE. Afterwards, we focus on the tourism sector which encompasses different activities: accomodation, travel agencies, food and entertainment services, and we use the trade sector as a benchmark to compare the employees' performance. Overall, our results provide useful insights for the development of targeted labor market public policies in the tourism sector.

The remainder of this paper is structured as it follows. Section 2 presents the literature review on QoE and precarity indexes, focusing on the tourism sector. Section 3 sets the research design, including the data and methodology used to approach QoE. Section 4 shows the construction of our QoE index and presents the findings of this work, specially for the tourism labor market. Finally, concluding discussions and policy implications are drawn.

2 DEFINING QUALITY OF EMPLOYMENT

2.1. Quality of Employment and labor precarity indexes: state of the art

The academic and institutional discussion around employment conditions and workers' job quality has gained particular relevance since the development of ILO's decent work framework (ILO, 1999), and the emergence of the QoE approach in the EU as a parallel concept (Green & Mostafa, 2012). The relationship on how the working conditions affect the characteristics of employment and the well-being of its workers, is particularly relevant in regions where labor informality is a persistent phenomenon such as Latin America (Tornarolli et al., 2014). Furthermore, it is also an important thread in economic sectors that are highly sensitive to shocks, such as tourism, where many of the jobs created are relatively unskilled and low-waged (Wilson, 2008).

In the 2010 decade, the International Labour Organization (ILO, 2016) and the Organisation for Economic Co-operation and Development (OECD, 2015) have increased their efforts in developing an analytical and conceptual framework regarding employment conditions and its consequences over decent work characteristics, quality of employment and precarity labor conditions. Based on their original approach launched in 1999, ILO (2006) identifies that decent work should be productive and deliver a fair income, with a safe workplace and social protection, broadening personal development and social integration; and enabling people to freely express their concerns, organize and participate in the decisions that affect their lives, guaranteeing equality of opportunity and treatment for all women and men. In line with this, they determine seven areas of potential work insecurity: employment, earnings, hours, occupational safety and health, social security, training, and representation and other fundamental principles and rights at work.

The framework developed by the United Nations Economic Commission for Europe (2015) has seven dimensions and several subdimensions that attempt to measure the multiple facets of QoE. Its main dimensions are: safety and

ethics of employment, income and benefits from employment, working hours and balancing work and non-working life, security of employment and social protection, social dialogue, skills development and training, and workplace relationships and work motivation. An experience related to measuring employment conditions in Latin America is the Better Jobs Index developed by the Inter-American Development Bank (2017). The Index is based on a macro-approach that considers a quality dimension (entailing formality and living wage sufficient to overcome poverty) and a quantity one (including labor force participation and employment rate) with measures for the years 2010-2018.

Previous antecedents for Latin American countries in the literature further exploit microdata from household surveys at the individual level. Sehnbruch et al. (2020) built a QoE index for three main aspects: income, job security (including occupational status and job tenure as sub-dimensions), and employment conditions (with social security affiliation and excessive working hours). Based on the methodology stated by Alkire/Foster, they set a threshold for each dimension and sub-dimension that states if an individual suffers from deprivation of such dimension, and then establish an overall threshold that determines the QoE. Among other results, they found that, for the year 2015, Chile, Uruguay and Brazil had a better performance than Mexico, Colombia, Ecuador, Peru, Bolivia and Paraguay in the QoE.

In line with this approach, González et al. (2021) proposed a QoE deprivation index at individual level in six Central American countries for the year 2011 using the Alkire/Foster method as well. The index shares three dimensions with Sehnbruch et al. (2020) (income, job security and employment conditions), but also includes the job stability characteristic. Overall, they found that nearly 60% of the deprivation levels are attributable to non-income variables, such as occupational status and job tenure. Huneeus et al. (2015) presented a quality of employment index for Brazil 2002-2011 considering three dimensions: earning, formality (measured by the existence of an employment contract and social security contributions) and job tenure. They found an increase in employment quality overall, but differences between employees and self employed workers, and between industries as well. Farné (2003) developed a QoE synthetic indicator for Colombia in 2001 considering income, contract modality, social security affiliation and working hours. The index is built after valuing each variable with an horizontal criteria that assigns points following categories of intensity within each variable, and a vertical one that gives weights of importance to each variable that differ for independent and non-independent workers. Pineda and Armando (2011) also built a QoE index for Colombia for the year 2008, but they instead applied a Principal Component Analysis with variables from three main dimensions: labor stability, perception about employment and underemployment. They follow this procedure at the country and city levels. They found that perception about employment is the most relevant dimension in the index and that overall QoE in the country is low.

For Ecuador, Orellana Bravo et al. (2020) built two QoE indicators: the first one follows Farné (2003)'s horizontal and vertical valuing of variables while the second one makes use of a PCA. The study considered wages, labor stability, social security, working hours and number of jobs. Besides the multiple methodological approaches related to QoE, there also exists another branch of the literature that has focused on the construction of labor precarity indexes, which are multidimensional approaches to measuring negative characteristics of job positions. Within this perspective, the greater the index, the worse the job quality. These indexes have been mainly developed for Latin American countries with household survey microdata. In this paper, we adopt a broad multidimensional approach that considers job quality measures while using household survey microdata in an approach more similar to the labor precarity indexes literature we will next address.

Fernández Massi (2014) proposed a precarity index with data for the year 2010 for Argentina. Based on a PCA, they focused on four relevant components: social rights enforcement, income, working hours and job stability. When pursuing a sectoral analysis of this phenomenon, they found that different components account for precarity in disparate ways for the different sectors of the economy. In particular, commerce and leisure are sectors where labor precarity is present taking into account all the dimensions considered. Furthermore, Favieri (2018) also studied labor precarity for Argentina for the year 2015 implementing PCA, showing that the main components are labor rights, wages, labor demand and over occupation. The author recognised that accommodation together with food and entertainment services were among the most disadvantaged ones, especially in terms of labor rights.

An approach in the same line is the one by Blanco and Julián (2019) for Chile in 2013. Their PCA analysis determined that labor instability, social insecurity, wage insufficiency and workdays were very relevant for labor precarity. They also built precarity clusters per economic sector and, although there is not a high heterogeneity within the sector, most workers are classified as precarious due to either high permanent intensity, safe and stable insufficiency, or high insecurity and relative stability.

Some alternative perspectives to labor precarity are the ones adopted for Mexico. De Oliveira (2006), for instance, presented an employment precarity/quality index focusing on the Mexican salaried youth in the year 2000. Using a Factor Analysis, they proposed two precarity/quality dimensions: labor security and stability, the degree of usage of the labor force. They found that most young workers experience moderate to high precarity levels, and that the type of occupation and the company size are main drivers of this situation. Also for Mexico, for the period 2009-2018, Mendoza-González et al. (2020) studied what they call extreme precarity, workers who are in the line of extreme poverty and that present heterogeneity in terms of unionization, workday, benefits, social security and contract. Using probit models, they found a higher probability of having a precarious job for women, people aged over 40 and those who are married.

2.2. Quality of employment and labor precarity in the tourism sector

Regarding specifically to the tourism sector, tourism through decent works would contribute to the Sustainable Development Goals (García-Rodríguez et al., 2021) and at the international level, the World Tourism Organization has an agreement with the ILO that focuses on QoE and decent work, mainly through the improvement of national methods of gathering information of employment in the tourism industries. Nevertheless, there are only a few academic antecedents developing specific measures related to QoE in tourism.

Santero-Sanchez et al. (2015) developed a Composite Index of Job Quality (CIJQ) for the tourism industry from a longitudinal sample on labor life for Spain in 2011. Based on a PCA analysis, they included several aspects of QoE: length of the working week (which has the greatest weight in the index), duration of employment, days worked in the year, the inverse of the number of contracts held and the total gross wage. Their main finding is that women hold lower quality jobs than men in the Spanish tourism industry and that the gender gap widens with age.

Another approach based on the ILO's decent work concept is García-Rodríguez et al. (2021). They implemented a questionnaire in hotels located in the Canary Island, Spain, between 2019 and 2020, and used a confirmatory factor analysis to identify the elements that constitute decent work. Based on this information, they proposed a Corporate Social Responsibility Index focused on workers. Among the results, the intra-entrepreneur character of work, the gender and ethnicity diversity management, and the trust in the work environment stand out as relevant features of decent work in the hospitality sector.[1] Furthermore, a more psychosocial debate related to QoE is made by Winchenbach et al. (2019). They identified the dignity in tourism employment as a concept related to QoE, which considers employees' identity, the organisational context, and the wider socio-economic context as well as the actors involved at each of these levels.

As far as our knowledge, there are no specific measures of QoE in the tourism industry in Latin America based on household's surveys. However, Porto and Garcia (2021) studied labor precarity in tourism in Argentina for the years 2007-2017 using a linear probability model iterating between alternative dependent variables for labor precarity. They included legal informality (linked to the lack of labor protection and social security benefits), productive informality (salaried workers in small private firms), part-time workers and non-permanent occupations. They found that working in this sector induces an increase in the chances of having a precarious job, although determinants like tourism specialization and urban development can generate a mitigating effect.

3 DATA AND METHODOLOGY

3.1. Database and variables

The information used to build the QoE index comes from microdata of Uruguay's Continuous Household Survey (ECH) for the period 2016-2019. The ECH is conducted all year round by the country's statistical agency following international standards (Instituto Nacional de Estadísticas, INE). In 2006, the survey became national, covering both rural and urban areas with at least 5,000 inhabitants and collecting reliable information on individual sociodemographic conditions, income, working hours, education, and other economic characteristics.

We worked with salaried workers whose social security contributions are within a common scheme, being paid by both the employer and the employee (totalling about 32 percent of taxable wages). These workers have access to most welfare and social insurance programs because they are reported to the Social Security Administration (Banco

[1] Measurements in this line for other economic sectors besides tourism include cases like the study of services in Spain (Dueñas et al., 2010) or the finance sector in the United Kingdom (Hoque et al., 2017).

de Previsión Social, BPS), which make them eligible for all the main social benefits in Uruguay. We do not consider self-employed workers since they face a simplified social security contribution regime that is different to that of salaried workers.[2] Based on the definition stated in Porto et al. (2020), we identify workers in the tourism sector as those who report any of the following two-digit[3] sectors in their main job: 1) hotels (including a wide range of accommodation services), 2) restaurants, 3) travel agencies, and 4) entertainment, culture and sport services.

As outlined in Section 2, measuring employment quality implies considering numerous aspects of working conditions. The selection of individual variables included in our QoE index is based on conceptual foundations from the framework developed by the United Nations Economic Commission for Europe (2015) and the OECD (in Cazes et al., 2015) and tailored to data availability in Uruguay. Thus, quality of employment is considered in five specific dimensions: (i) employment conditions, (ii) earnings, (iii) hours, (iv) occupational safety and health and (v) social security coverage. All individual variables are ordered from lowest to highest quality of employment based on the literature review (Table 1).

Table 1 - Dimensions and variables of Employment Quality

Dimension	Individual variables	Definition	Range
Employment conditions	Seniority	Labor seniority at main job	Less than 1 year Between [1;3] years Between [4;6] years 7 or more years
	Labor shortage	Looking for another job or wishing to work more hours	Yes No
	Overemployment	Number of jobs	Yes if worker has more than one job No if worker has only one job
Earnings	Wage	Gross wage stratified according to the number of times the monthly salary contains the minimum wage	< 1 minimum wage [1;3] minimum wage > 3 minimum wage
	Income decile	Individual total income decile in main occupation	[1;10]
Hours	Hours worked	Hours worked per week	>48 hours per week <44 hours per week Between [44;48] hours per week
	Overtime hours of work	Recognition for extra hours worked	No if worker does not have a recognition Yes if worker has a recognition through payment, compensation or additional holiday days
Occupational safety	Workplace	Place or space where people carry out the tasks associated with their main job	In an agricultural land or maritime property On the street (fixed shop or not) or moving on public space Doorstep selling Homeoffice or at your employer's establishment
	Type of business	Whether the company or business is public, large and private or small and private	Small private business (5 or less employees) Large private business (more than 5 employees) Public company
Social security coverage	Formality status Health insurance Sick leave Salary bonus	Grouped benefits and social security contributions of salaries workers	0 rights 1 right 2 rights 3 rights 4 rights

Note: Salary bonus is Salario Anual Complementario.
Source: Own elaboration based on data from ECH-INE.

[2] As a matter of fact, Uruguay has been making great efforts to incorporate the self-employed into the social security system since early 2000. The Simplified Regimen was created by law 17.296 in 2001 and modified by the Tax Reform Law (18.983) in 2007 to make the conditions set in the regulation more flexible, aiming to enhance the protection of the self-employed workers. Later, the government reached those independent workers who are members of households below the poverty line or are in a situation of social vulnerability through the creation of the Social Monotax in 2012 (See Cetrángolo et al., 2014).
[3] Clasificación Industrial Internacional Uniforme (CIIU-Rev. 4)

With regard to the employment conditions dimension (i), it includes three individual variables: seniority, labor shortage and overemployment. Seniority at the main job is stratified into four categories to capture different benefits.[4] About 26.2% workers have between one and three years of seniority, while 40% of them have more than seven years (Table A.1 in the Appendix). The labor shortage variable identifies the willingness of workers to switch their current job or to voluntarily extend their actual employment schedule. Nearly 17% of workers report that they either want to work more hours or are looking for another job. Last, we include the number of jobs that a person has as a proxy of overemployment, defined by ILO (2006) as a situation where there are workers employed who are willing but unable to reduce their hours of paid work at their current job if they are prepared to accept (proportionately) lower current or future income. Overall, we find that 11.7% salaried employees have more than one job.

The level of earnings dimension (ii) considers the monthly gross wage in the main occupation, stratified according to the number of times it contains the minimum wage[5] for each year of the period 2016-2019 in the database. Overall, 18.2% workers earn less than a minimum wage while 65.4% earn between one and three minimum wages. Furthermore, we take into account the individual total income decile to consider the distributive characteristics of income.

For the hours worked dimension in the QoE index (iii), we consider the working hours per week based on the current legislation and the overtime hours of work as a proxy of intensity. In Uruguay, it is not possible to work for more than either eight hours a day or 44 to 48 hours a week (in trade and industry respectively) according to Laws 5.350 and 19.028. Regarding the overtime hours of work, it is valued positively when the worker has a recognition through payment, compensation or additional holiday days, and negatively when such recognition does not exist. Overall, we find that nearly 35% work between 44 and 48 hours per week, and that 79% have some kind of recognition for working overtime (Table A.1 in the Appendix).

The occupational safety dimension (iv) is captured by two individual variables: the specific workspace where employees carry out their work tasks and the type of business. Based on Pineda & Acosta (2011), we grouped the workspace into four categories in ascending order, from negative to positive quality: working in an agricultural land or maritime property, a job on the street (regardless of whether you work on fixed shop or not) where the employee could be more exposed to robberies or traffic accidents, doorstep selling, and working from home or in an office.

The type of business can be public, private but small with less than five employees, or private but large with more than five employees. We propose that working in a public company provides greater occupational safety than in a large and private one, and even more than in a small and private one. Nearly 60% are employed in large private firms, while the rest of salary earners are equally distributed between public sector and small private firms (20% each). The last dimension is social security coverage (v). In Uruguay, the social security system is financed through contributions from workers, employers and the state. It is designed to ensure protection against certain risks and social charges associated with retirement, sickness, accidents at work, maternity and invalidity, among others. To include the role of social security in the quality of employment, we build a variable that identifies as many rights the employee has guaranteed as possible. Overall, we find that 15% workers have one right while 80% have all four rights guaranteed.

The QoE index proposed in this research has some limitations. In particular, the role of collective bargaining institutions or access to training in job quality, which play a relevant role in job quality assessment are not included in the index owing to the lack of data. Also, we have no information regarding workers' perceptions and subjective wellbeing (including work-life balance, for instance). Still, the index built makes a valuable contribution to the broader understanding of job quality, specially in activities related to the tourism industry and in a country like Uruguay.

3.2. Building a Quality of Employment Index

Based on our aim to approach the wide-ranging dimensions of quality of employment into a QoE index, we use a PCA as an appropriate data reduction technique to condense the various aspects associated to working conditions. As ILO (2016) recognizes that individual numerical indicators cannot adequately capture the qualitative nature of many aspects of decent work, we aim to combine the available information in the ECH 2016-2019 microdata as objectively as possible.

[4] For instance, the law in Uruguay provides for an increase in leave days based on seniority at the rate of one day for every four years of work, with the particularity that in order to acquire the first one, five years of work must have elapsed.
[5] National Statistics Institute, Uruguay. Available at: https://www.ine.gub.uy/salario-minimo-nacional

There are many multivariate techniques that can be used to analyze a set of data like the one we describe for the aim of our paper. Principal Component Analysis (PCA) and Factor Analysis (FA) are techniques that allow to determine the weights of each individual variable, considering the patterns of association among them. They are widely used to construct indexes. Whilst FA assumes that the data is based on the underlying factors of the model and that the variance can be decomposed into that accounted for common and unique factors, PCA does not consider any of these assumptions (Nardo et al., 2005).

We used the PCA method to build the QoE index because it is based on simply linear combinations and does not assume a specific model for the data. Intuitively, the PCA groups together individual variables which are collinear to form a composite indicator that captures as much as possible of the information common to individual variables.

The first step for building the index is to determine if the individual variables are suitable for a PCA analysis based on the correlation between the selected variables. Since our Quality of Employment index is built based on categorical and ordinal variables, we use a polychoric correlation matrix[6] instead of Pearson's correlations (Kolenikov & Angeles, 2004). The correlations between the variables are generally moderate (Table A.2, Appendix). However, there are some relevant considerations. First, salary is nearly 0.5 correlated with social security coverage, type of business (whether it is public or private) and seniority at the main job. Second, the decile in individual total income is also correlated around 0.5 with seniority at the main job and type of business. Last, there is a 0.6 correlation between social security coverage and overtime hours of work. Furthermore, the Kaiser-Meyer Olkin (KMO)[7] measure of sampling adequacy is 0.72 and the determinant of the correlation matrix is 0.11.[8] Overall, the pattern of correlation between the original variables reveals the complexity inherent to the measurement of job quality but, together with the KMO measure of sampling adequacy and the determinant of the correlation matrix, it guarantees the feasibility of applying the PCA method to job quality.

The second step is to perform the PCA analysis and retain a certain number of latent components representing the data. As stated before, all individual variables are ordered from lowest to highest quality of employment before the PCA analysis. We follow the standard practice stated by the OECD (Nardo et. al, 2005): (i) drop all the components with eigenvalue below one and (ii) keep components that contribute individually to the explanation of overall variance by more than 10%. As a result, we retained the first three components, which together explain 64% of total variability (Table A.3, Appendix).

The third step is to decide whether to rotate the factor loadings matrix or not. Since factor loadings show the correlation between individual variables and the components, we decided to rotate the loadings matrix, aiming to make most component loadings small while only a few components loadings large in absolute value. We used the varimax rotation[9] to get a better interpretation of the PCA results, since our goal is to identify which set of individual variables mostly define a single component (Table A.4).

Afterwards, we built the Quality of Employment index by computing the weights for each variable based on the rotated component loadings matrix. Weight is calculated as the product of two elements. The first one considers the proportion of variance explained by each component. To do this, we add the sum of the squared component loadings for that component and divide by the number of variables to get the variance explained in the data by that component. Then, we divide this by the total variance explained by all the components to obtain the share explained by each of them. The second element of each weight is the share of the squared component loading for each variable in the total when considering only the relevant variables in that factor. The latter captures the importance of each variable in the variance of the component where it has a greater component loading. For this purpose, the square component loadings are scaled so that they add up to one. The rotated factor loadings and the variables selected in each component used for the construction of the individual weights, are presented in Table A.5 (Appendix). Finally, the Quality of Employment index was computed from the following equation and normalized to [0;1].

[6]We use a polychoric correlation matrix to account for the non-compliance of the assumption behind the PCA analysis of continuous and multivariate normal distributed variables (see Kolenikov et al., 2004 for further details).
[7] The KMO measure of sample adequacy takes values between 0 and 1, with small values indicating that overall, the variables have too little in common (Kaiser, 1974).
[8] The determinant of the correlation matrix is equal to 1 if all the correlations are null.
[9] The varimax rotation is an orthogonal rotation frequently used to minimize the number of individual indicators that have a high loading on the same component. There are other rotation methods (See Trendafilov (2013) for a more extensive discussion on rotation methods).

$$QoE_{index} = 0.15 * income\ decile + 0.13 * wage + 0.09 * seniority + 0.05 * labor\ shortage + 0.04 * type\ of\ business + 0.08 * social\ security + 0.15 * hours\ worked + 0.10 * overemployment + 0.08 * workplace + 0.12 * overtime\ HoW$$

4 WHAT DOES THE QOE INDEX TELL US?

The results of the Quality of Employment index for Uruguay are analyzed for salaried workers related to tourism activities, using the trade sector as a benchmark. We also consider three different dimensions: sex, age and education. Table A.6 in the appendix provides the sample's descriptive statistics, disaggregated by the three dimensions across the whole economy, wage earners in tourism and in the trade sector.[10] An initial analysis for the whole economy in 2016-2019 showed a male preeminence in Uruguay's labor market among salary earners, whilst women accounts for 45.3% of the employment. This pattern is repeated among workers in activities related to tourism and trade. However, the share of women in tourism is 0.8 percentage points (p.p) higher than in the whole economy and 4.2 greater than trade.

Furthermore, the proportion of employees under 25 years old (and over 15) is 17.5% for the whole economy, with considerable differences between salaried workers in tourism and trade. Indeed, 30.5% of salary earners in tourism are under 25 while they account for roughly 28% in trade. Regarding employees' education, we identify skilled workers as those who had an incomplete college degree or higher educational level. Among the whole salaried workers in Uruguay, skilled workers account for 24.4% of the employment whilst their share in tourism employment is 17.8% and 15.3% in the trade sector. Overall, both sectors concentrate higher shares of young unskilled workers when compared to the whole economy.

4.1. QoE index for tourism, trade (benchmark) and the economy

The main results of the Quality of Employment index are presented in Table 2. Since the index is normalized to [0;1], it showed a high mean value of 0.677 for the pool salaried workers in 2016-2019. Regarding specific economic sectors, tourism's workers performed relatively worse than the whole economy, reaching a value of 0.647 in terms of employment quality whilst the opposite occurs with trade, which has an average QoE index of 0.682. As noted in previous sections, the greater the index the better the QoE, therefore, we have documented that employment quality among salaried workers in activities related to tourism between 2016-2019 in Uruguay is relatively lower than for the whole economy and even worse than for the trade sector. This result is partly in line with those found by Favieri (2018) for the case of Argentina, where he recognises that accommodation together with food and entertainment services are among the most disadvantaged ones, especially in terms of labor rights.

Table 2 - QoE index for all salaried, tourism employees and trade employees by gender, age and education

	All salaried	Tourism employees	Trade employees
Global QoE Index	0.677	0.647	0.682
Sex			
Male	0.696	0.657	0.683
Female	0.656	0.636	0.682
Age			
[15;18]	0.435	0.483	0.482
[19;25]	0.595	0.579	0.625
[26;35]	0.675	0.648	0.686
[35;60]	0.706	0.694	0.720
Education			
Skilled	0.735	0.685	0.725
Unskilled	0.658	0.638	0.674

Source: Own elaboration based on data from ECH-INE.

[10] The trade sector includes all the wholesale and retail businesses with the exception of motor vehicles and motorcycles

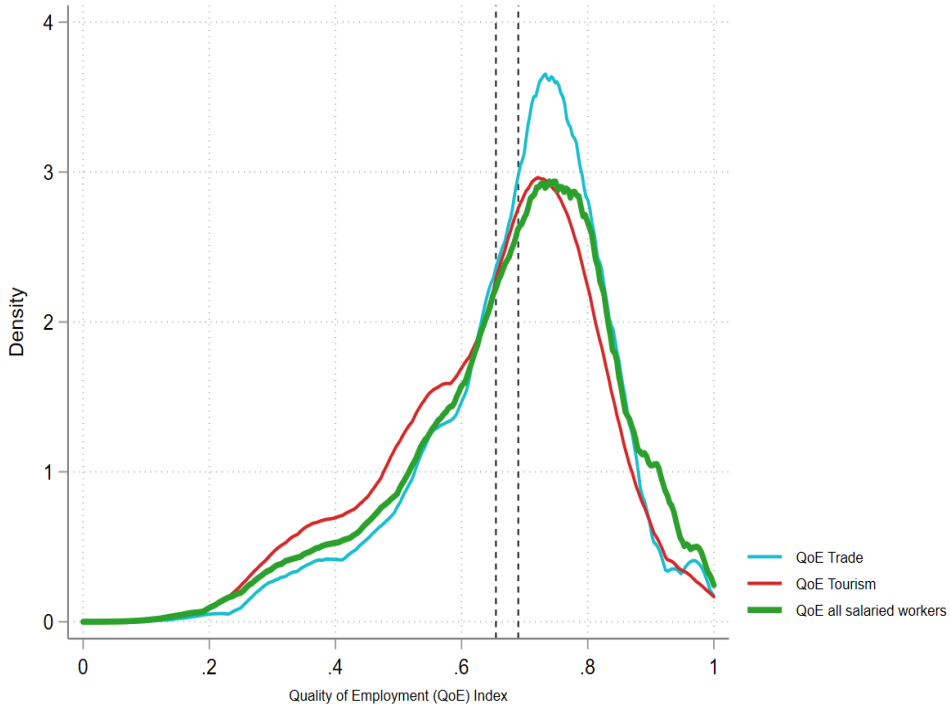
When QoE is analyzed by sex, we found a gender gap for the whole economy and for the tourist's employees. Indeed, salaried womens present an average QoE index of 0.65 while this average is 0.69 for males workers in the whole economy. Although we had not find a sex-based gap in QoE in the trade sector, salaried women that work in activities related to tourism presented an average QoE of 0.636 while the mean value for man is 0.657. The sex-gap in employment's quality among tourists' workers constitutes an interesting insight for future research, as activities related to tourism are ussualy characterized by particulary attracting female workers, being this result particularly relevant for Uruguay's labor market dynamic because tourism is a more feminized sector when compared to trade.

Some relationships between age and employment's quality can be stated. On the one hand, the results from the QoE index show that there is an increase in QoE as workers get older (for each case). Nonetheless, these values grow at a slower rate in the case of tourism when compared to trade and also to the whole salaried workers in Uruguay. Furthermore, even though the initial QoE —i.e. the index value for those aged 15-18— is slightly higher for tourism versus trade workers, average QoE reverses quickly in favor of those who work in trade. This could be related to the fact that tourism is a great attractor of young workers. Overall, tourism has a greater share of workers aged between 19-25 but they faced a lower employment quality than trade employees.

On the other hand, we found that skilled workers in Uruguay faced better employment conditions in terms of the QoE index across all the economic sectors. This result is aligned with the standard approach of human capital theory, initially developed by Becker (1962), where human capital works as a set of characteristics that increase a worker's productivity, thus it is expected that they face better working conditions as they account for greater skills. Moreover, we found that the skill gap at the mean is smaller in activities related to tourism than in the trade sector, a result that is related with the fact that tourism has an unskilled share of workers smaller than trade. Last, we documented that tourism workers face worse employment quality within all skill levels when compared to the trade sector and the economy as a whole.

A more in-depth discussion can be made based on Figure 1, which presents the density functions of the QoE index for tourism and trade employees. QoE in tourism shows a great dispersion in the distribution of employees, indicating the presence of more inequalities among these workers compared to those of trade. At the same time, there is a greater concentration of tourism workers for the lowest QoE levels (left of Figure 1) showing a more critical situation for these and in line with the literature (Stacey, 2015). Ultimately, the tourism sector presents a lower share of unskilled workers' and skilled gap, but is more unequal among his salaried workers than trade.

Figure 1 - QoE index density functions for all salaried, tourism and trade employees



Source: Own elaboration based on data from ECH-INE.

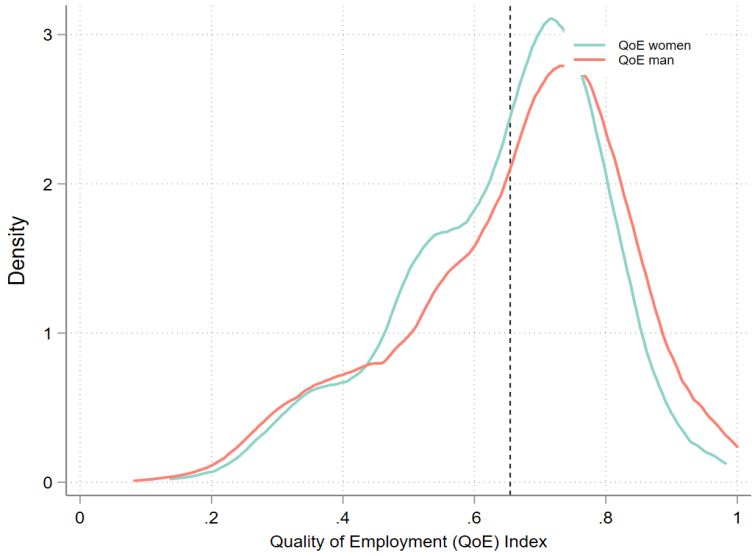
The results documented above might find an explanation in the fact that Uruguay performs relatively better in aggregate terms of job quality (IDB, 2017), but for salaried workers in tourism some authors identify a high incidence of informality (specially in some tourism subsectors like leisure), long weekly hours devoted to work and low tenure levels due to the seasonality of this sector (Altmark & Larruina, 2011; Porto et al., 2020). This also occurs in countries like Argentina (Favieri, 2015).

4.2. QoE: sex, age and education matters

As outlined before, the tourism sector presents a more unequal distribution in terms of QoE when compared to trade. In order to provide insights into potential explanations for such differences, we further study tourism employees' working profiles across sex and educational level.

We found some particularities when it comes to sex differences. The QoE index density functions for tourism employees shows the presence of a sex-based difference in employment quality against women, following the general and the tourism literature for the Spanish case (Santero-Sanchez et al., 2015). This sex gap disappears (and slightly reverses) in the first stretch of the QoE distribution —i.e. among those salaried workers that face the worst QoE conditions (Figure 2). This particular result, women in tourism-related activities facing better quality employment in low quality jobs, settles down the bases for working conditions not good enough and induces to a self-selection process into other forms of employment for women in the sector, such as self-employment or entrepreneurship. This is an hypothesis that deserves further research to understand the job and socioeconomic characteristics of these workers and try to shed light onto this phenomenon because, as stated before, tourism has a female participacion of 4.2 percentage points greater than trade. In countries like Spain, Portugal and Argentina there is evidence pointing towards the phenomenon of occupational segregation by sex in activities related to the tourism sector (Campos Soria et al., 2011; Costa et al., 2011; Espinola, 2016; 2020) which is related to this result.

Figure 2 - QoE index density function for tourism employees by gender

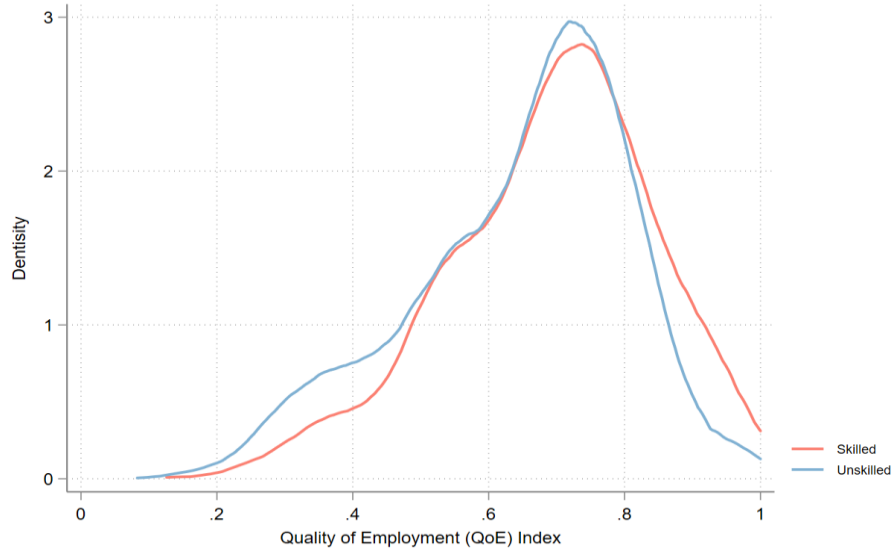


Source: Own elaboration based on data from ECH-INE.

Besides gender disparities, we also take a look at how skilled and unskilled workers comparatively perform. On average, we find that skilled workers performed better than unskilled, which is supported by the fact that most unskilled employees concentrate towards the left of the density distribution function while this function remains above that of the skilled workers. Still, there is an important proportion of skilled tourism workers to the left of the distribution, meaning that also for them QoE remains low. This result is particularly important since unskilled workers represent 82.2% of the tourism workforce (Table A.6). Furthermore, It is worth noting that, according to the United WTO and CEGOS (2019), it is recommended that tourism policies foster an increase in the investment towards education and skills development in the sector. Still, this result sheds light on the fact that such education should be acknowledged and rewarded by greater job quality, providing the adequate incentives for people to invest

in skills development. In this line, Uruguay has launched a Tourism Training Catalog in 2021[11] based on the efforts of the Ministry of Tourism with other institutions, which collects the ultimate technical and university degrees, public and private courses in activities related to tourism. The purpose is to facilitate an upskilling process for people who want to enter the labor market in activities related to tourism, and ultimately improve the quality of tourism services offered by the country.

Figure 3 - QoE index density function for tourism employees by skilled-unskilled workers



Source: Own elaboration based on data from ECH-INE.

Diving deeper into these disparities, there is no doubt that tourism is a heterogeneous sector: even considering solely those subsectors that could be related to tourism activities, we found that these are highly varied. Although we are aware that it is difficult to discern whether all the restaurants and entertainment services represent salaried workers related to tourism activities, we use it as a proxy to the tourism sector. When we take a look at these subsectors separately (Table 3), we see that both restaurants and entertainment (the latter comprising entertainment, culture and sports) are the subsectors that present the greatest incidence of poor QoE levels among their employees. These are, at the same time, the subsectors where most tourism workers perform their duties. Hotels and Travel agencies, on the other hand, perform better and present a lower dispersion in their density functions. In fact, only 0.5% of all tourism workers are employed by travel agencies, which performs the best. These results may be related to the own characteristics of each of these subsectors in terms of working hours and shifts and informality.

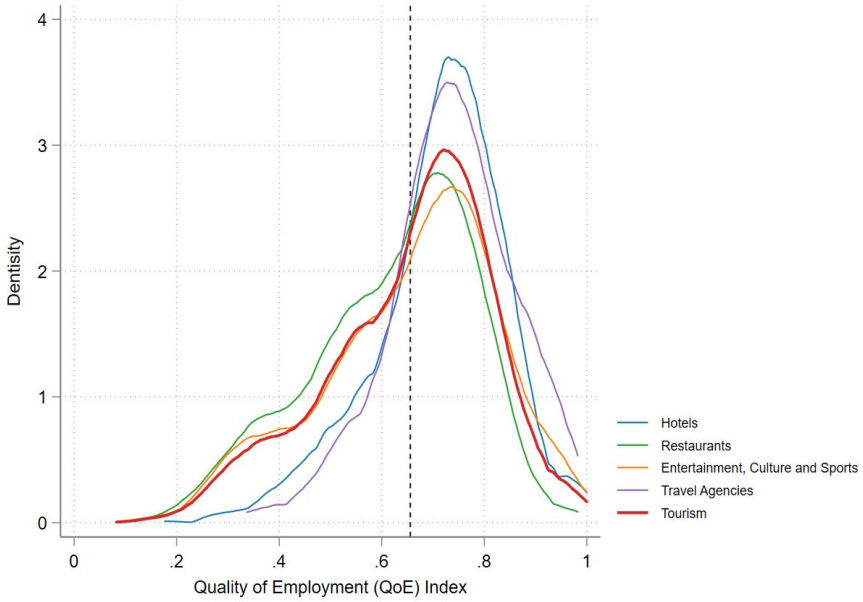
Table 3 - QoE index density function for tourism employees

	Tourism employees (%)	QoE index
Hotels	0.175	0.705
Restaurants	0.458	0.612
Entertainment	0.314	0.650
Travel agencies	0.053	0.733
Total	1	0.647

Source: Own elaboration based on data from ECH-INE.

[11]The Tourism Training Catalog in 2021 can be found at: https://www.gub.uy/ministerio-turismo/sites/ministerio-turismo/files/documentos/noticias/Cat%C3%A1logo%20de%20Formaci%C3%B3n%20en%20Turismo%202021.pdf

Figure 4 - QoE index density function for tourism employees by subsector



Source: Own elaboration based on data from ECH-INE.

5 CONCLUSIONS

Studying labor markets, characteristics of employment or issues regarding labor conditions is nowadays a challenging topic in a world of constant and deep changes. In particular, QoE, defined in a multidimensional way encompassing earnings, hours worked, occupational safety, employment conditions to social security coverage, is considered one of the most important elements for promoting employment in the coming years (WTO & CEGOS, 2019).

In this paper, we develop a multidimensional Quality of Employment (QoE) index for Uruguayan salary earners using household survey micro data from 2016-2019. Based on a PCA, we include several aspects of working conditions: employment, earnings, hours worked, occupational safety and social security coverage following the work dimensions by OECD in Cazes et al. (2015) and ILO (2016) and considering the data available. We focus on tourism sector, using the trade sector as a benchmark. The index proposed in this research contributes to the broader understanding of the under-discussed concept of job quality in Latin America, where the incidence of work informality and low wages are particularly high. It also broadens the evidence about the low-quality jobs found in activities typically related to the tourism sector, especially in a country such as Uruguay.

We have documented that employment quality among salaried workers in activities related to tourism between 2016-2019 in Uruguay is relatively lower than for the whole economy and even worse than for the trade sector. Furthermore, we found a sex-based gap of employment quality against women in tourism, while this difference is not observed in the trade sector. QoE in tourism shows a greater dispersion in the distribution of employees, indicating the presence of more inequalities among these workers compared to those of trade.These results constitute an interesting insight for future research, and are particularly relevant for Uruguay's labor market dynamic towards gender equality because tourism is a more feminized sector when compared to trade.

We also identify that activities related to tourism had a greater share of young workers aged between 19-25 and they faced a lower employment quality than trade employees, and that tourism workers face worse employment quality within all skill levels when compared to the trade sector and the economy as a whole.

One interesting extension in our analysis is to evaluate the performance of the QoE index among micro-entrepreneurs and self-employed related to the tourism sector, though this will require an in-depth discussion about the variables to include in the index since they faced, among others things, differents social security schemes than salaried workers.

Some policy implications of this work include the need to improve working conditions and the quality of employment in order to attract back tourism workers in the world recovery post COVID-19. Tourism is a sector in which quality of

services are increasingly demanded by the tourists and this is only viable if labor conditions are suitable for employees. It will also be relevant to dive deeper into the learnings that the tourism sector can draw from trade in terms of collective agreements and regulations, considering that these have been applied by a sector, comparable to tourism, and which performs better in QoE terms. Also, the more specific findings we present concerning non-labor variables can motivate further research and also become useful for the development of targeted labor market public policies in the tourism sector,taking into account the multidimensional aspects of job quality in tourism and their relation with vulnerable groups of population (women, young and unskilled people).

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APPENDIX

Table A.1: Descriptive statistics: Quality of Employment variables

	All salaried	Tourism employees	Trade employees
Employment conditions			
Seniority			
Less than 1 year	0.170	0.267	0.201
Between [1;3] years	0.262	0.322	0.317
Between [4;6] years	0.166	0.149	0.187
7 or more years	0.401	0.262	0.295
Labor shortage (Yes)	0.172	0.237	0.182
Overemployment (=1)	0.117	0.105	0.047
Earnings			
Wage			
< 1 minimum wage	0.182	0.253	0.184
[1;3] minimum wage	0.654	0.655	0.722
>3 minimum wage	0.164	0.092	0.094
Hours			
Hours worked			
> 48 hours per week	0.085	0.066	0.100
< 44 hours per week	0.560	0.556	0.338
Between [44;48] hours per week	0.355	0.378	0.562
Overtime HoW (Yes)	0.794	0.785	0.830
Occupational safety			
Workplace			
Agricultural land or martime prop.	0.059	0.006	0.002
On the street	0.077	0.042	0.102
Doorstep selling	0.084	0.015	0.010
Homeoffice or employer's office	0.779	0.936	0.886
Type of business			
Public	0.210	0.089	0.002
Private and small	0.200	0.146	0.212
Private and large	0.591	0.765	0.787
Social Security coverage			
0 rights	0.066	0.111	0.071
1 right	0.037	0.057	0.034
2 rights	0.015	0.017	0.012
3 rights	0.078	0.091	0.047
4 rights	0.804	0.723	0.836

Note: HoW: hours of work.
Source: Own elaboration based on data from ECH-INE.

Table A.2 - Polychoric correlation of original variables

	SS coverage	Type of business	Seniority	Hours worked	Overtime HoW	Wage	Income decile	Overemployment	Labor shortage	Workplace
SS coverage	1									
Type of business	0.35	1								
Seniority	0.31	0.36	1							
Hours worked	0.30	-0.12	-0.02	1						
Overtime HoW	0.60	0.18	0.11	0.21	1					
Wage	0.50	0.49	0.45	0.22	0.26	1				
Income decile	0.45	0.50	0.48	0.18	0.21	0.97	1			
Overemployment	-0.05	-0.11	-0.12	0.37	0.05	-0.02	-0.04	1		
Labor shortage	0.33	0.21	0.33	0.15	0.20	0.36	0.35	0.03	1	
Workplace	0.31	0.40	0.12	-0.12	0.23	0.18	0.14	-0.11	0.06	1

Note: HoW: hours of work.
Source: Own elaboration based on data from ECH-INE.

Table A.3 - Eigenvalues and percentage of variance explained by Principal Component Analysis

	Eigenvalue		
Component	Total	% of variance	Cumulative %
1	2.94	0.29	0.29
2	1.86	0.19	0.48
3	1.60	0.16	0.64
4	0.89	0.09	0.73
5	0.78	0.08	0.81
6	0.60	0.06	0.87
7	0.56	0.06	0.92
8	0.43	0.04	0.97
9	0.31	0.03	1.00
10	0.03	0.00	1.00
Determinant of the matrix correlation			0.11
KMO measure of sampling adequacy			0.72

Source: Own elaboration based on data from ECH-INE.

Table A.4 - Rotated component loadings after PCA

	PC 1	PC 2	PC 3
Employment conditions			
Seniority	**0.44**	-0.10	-0.13
Labor shortage	**0.31**	0.02	0.15
Overemployment	-0.04	-0.01	**0.54**
Eearnings			
Wage	**0.53**	0.02	0.07
Income decile	**0.55**	-0.04	0.04
Hours			
Hours worked	0.06	0.12	**0.64**
Overtime HoW	-0.07	**0.63**	0.15
Occupational safety			
Workplace	-0.07	**0.52**	-0.35
Type of business	**0.30**	0.18	-0.31
Social Security coverage	0.14	**0.52**	0.11

Note: HoW: hours of work.
Source: Own elaboration based on data from ECH-INE.

Table A.5: Individual weights in QoE index

	PC1	PC2	PC3
Income decile	0.15		
Wage	0.13		
Seniority	0.09		
Labor shortage	0.05		
Type of business	0.04		
SS coverage		0.08	
Hours worked			0.15
Overemployment			0.10
Workplace		0.08	
Overtime HoW		0.12	

Note: HoW: hours of work.
Source: Own elaboration based on data from ECH-INE.

Table A.6 - Descriptive statistics: sociodemographic indicators

	All salaried	Tourism employees	Trade employees
Sex			
Male	0.527	0.519	0.561
Female	0.473	0.481	0.439
Age			
[15;18]	0.016	0.036	0.023
[19;25]	0.159	0.269	0.255
[26;35]	0.262	0.265	0.293
[35;60]	0.562	0.431	0.429
Education			
Skilled	0.244	0.178	0.153
Unskilled	0.756	0.822	0.847

Source: Own elaboration based on data from ECH-INE.