

Work contracts determinants and labour market outcomes in Spain

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Motivation

- The literature on work contracts, especially from the demand perspective is scarce
- Usually only certain work contracts are analysed, but not all at once, and rather from the perspective of general labour market outcomes than detailed characteristics of employers' demands
- OJA contains detailed information on work contracts and work characteristics. The literature grows rapidly, but work contracts have not been given much attention. Lightcast data prevail in international literature.
- Spanish government introduced a labour market reform that came into effect in 2022. The reform was aimed to decrease the use of fixed-term contracts and encourage companies to use of unlimited-duration contracts

Related literature

- Earlier Southern European countries' reforms were directed to easing constraints to fixed-term contracts. García-Pérez (2018) analyse the effects of such a liberalization through the perspective of 1984 Spanish labour market reform. Daruich et al. (2023) focus on the effects of such a reform in 2001 in Italy.
- Latest direction of Employment Protection Legislation (EPL) heads toward diminishing the use of temporary contracts, including southern European countries.
- Cahuc et al. (2022) analyse general labour market effects of legal regulations directed to restricting fixed-term contracts in Portugal.

Related literature, cont.

- Klinker and ter Weel (2024) use administrative data for the Netherlands on Dutch citizens employment in 2017-2023 to analyse the effects of three reforms, with the last one from 2020 reducing the attractiveness of temporary work contracts.
- Bottasso et al. (2023) study the effects of Italian reform implemented in 2015 called the “Jobs Act.” The reform reduced firing costs for permanent employees and tightened temporary contracts’ regulation to increase job stability.
- Grasso and Tatsiramos (2023) examine the effects of another Italian labour law reform. The reform from 2018 raised the costs of fixed-term contracts while keeping the costs of permanent contracts unchanged. They use online job offers from Lightcast.

Aims

- Present the structure of the online job vacancy market in Spain considering various work contracts in contrast with survey-based research that show the structure of job vacancies based only on traditional work contracts.
- Describe the changes in the structure of vacancies in Spain across work contracts, remunerations and other job position characteristics since 2018; with special reference to the effect on the type of contract of the 2022 Spanish labour market reform.
- Analyse the determinants of the employment contracts offered and their remuneration, paying special attention to regulatory changes and the skills demanded by companies.

Data

- We use Cedefop data on OJA
- The database comes from Eurostat and is a part of Web Intelligence Hub (WIH) of the European Statistical System (ESS)
- We use microdata for Spain in the period 2018Q3-2024Q2.
- We filtered out all missing records (OJAs with missing values) and OJAs that appeared in more than one region (some OJAs had the same unique identifier but were posted in multiple regions) from the original Cedefop database. The final dataset contains 3,026,955 observations.
- Wage equation reduces sample to 656,070 observations
- We utilize (almost) all variables, including company characteristics and, especially, job position requirements, including ESCO-defined skills

Methods

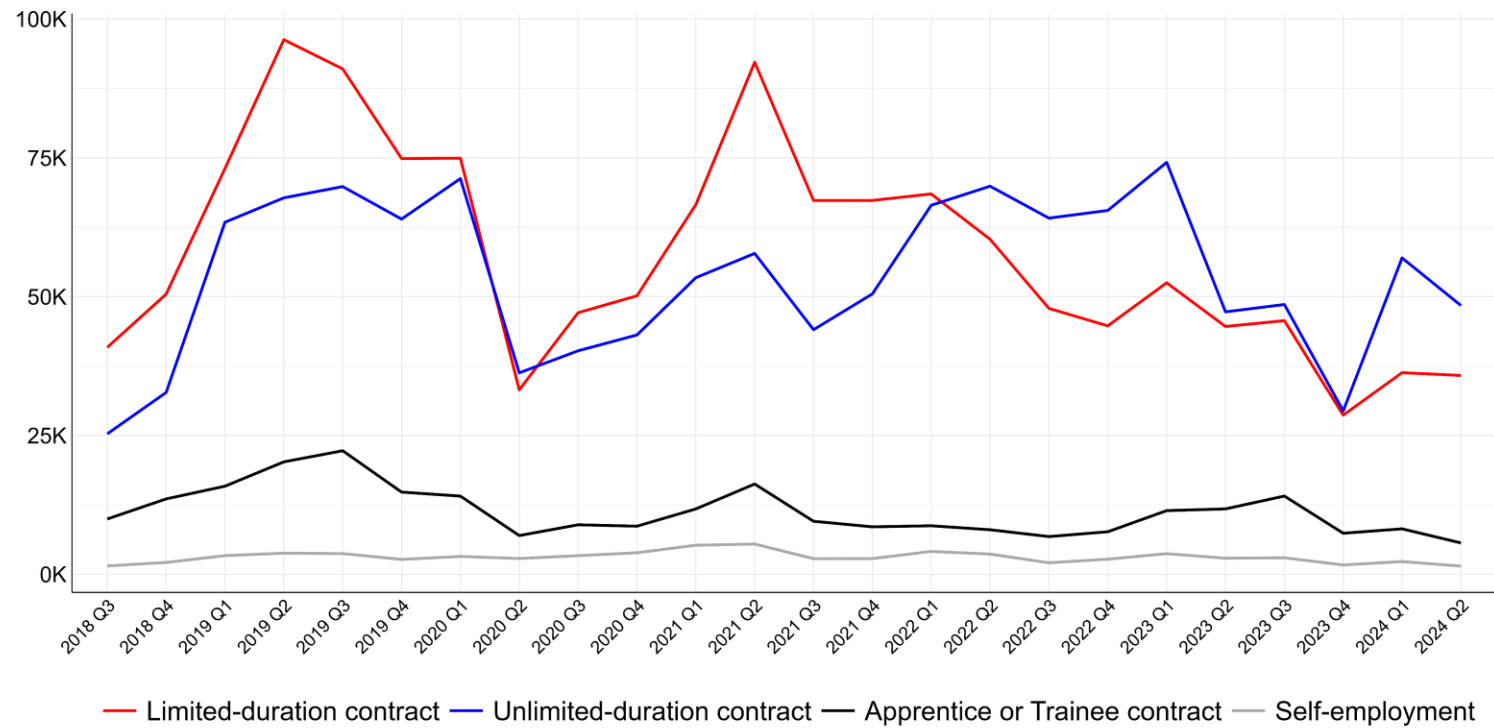
$$\begin{aligned}
 \log\left(\frac{P(WC_{k,i} = 1)}{P(WC_{0,i} = 1)}\right) &= \\
 &= \alpha_{0,k} + \sum_t \alpha_{1,t,k} Y_t + \alpha_{2,k} IR_t + \alpha_{3,k} R_{2022} + \sum_s \alpha_{4,s,k} A_{s,i} \\
 &+ \sum_g \alpha_{5,g,k} O_{g,i} + \sum_l \alpha_{6,l,k} E_{l,i} + \sum_f \alpha_{7,f,k} H_{f,i} \\
 &+ \sum_m \alpha_{8,m,k} S_{m,i} + \sum_r \alpha_{9,r,k} P_{r,i} \quad (1)
 \end{aligned}$$

$$\begin{aligned}
 \text{logit}[P(W_i \leq j)] &= \log\left(\frac{P(W_i \leq j)}{P(W_i > j)}\right) = \\
 &= \beta_{0,j} - \sum_t \beta_{1,t} Y_t - \beta_2 IR_t - \beta_3 R_{2022} - \sum_s \beta_{4,s} A_{s,i} \\
 &- \sum_g \beta_{5,g} O_{g,i} - \sum_l \beta_{6,l} E_{l,i} - \sum_f \beta_{7,f} H_{f,i} - \sum_m \beta_{8,m} S_{m,i} \\
 &- \sum_r \beta_{9,r} P_{r,i} - \sum_k \beta_{10,k} WC_{k,i} \quad (2)
 \end{aligned}$$

- $WC_{k,i} = 1$ if OJA i offer contract alternative k ($WC_{k,i} = 0$ otherwise); k takes the value “0” (LD contract, base outcome), “1” (UD contract), “2” (SE) and “3” (AT).
- labour reform dummy variable (R_{2022}) that takes the value of 1 since April 2022
- yearly dummy variables (Y_t , $t = 2018$ to 2024)
- intra-annual national inflation rate (IR_t)
- sector of activity ($A_{s,i}$)
- the occupation group ($O_{g,i}$)
- the level of education required ($E_{l,i}$)
- the type of working hours ($H_{f,i}$)
- skill or skills required ($S_{m,i}$)
- the single province or combination of provinces (NUTS 3 regions) linked to the OJA ($P_{r,i}$).

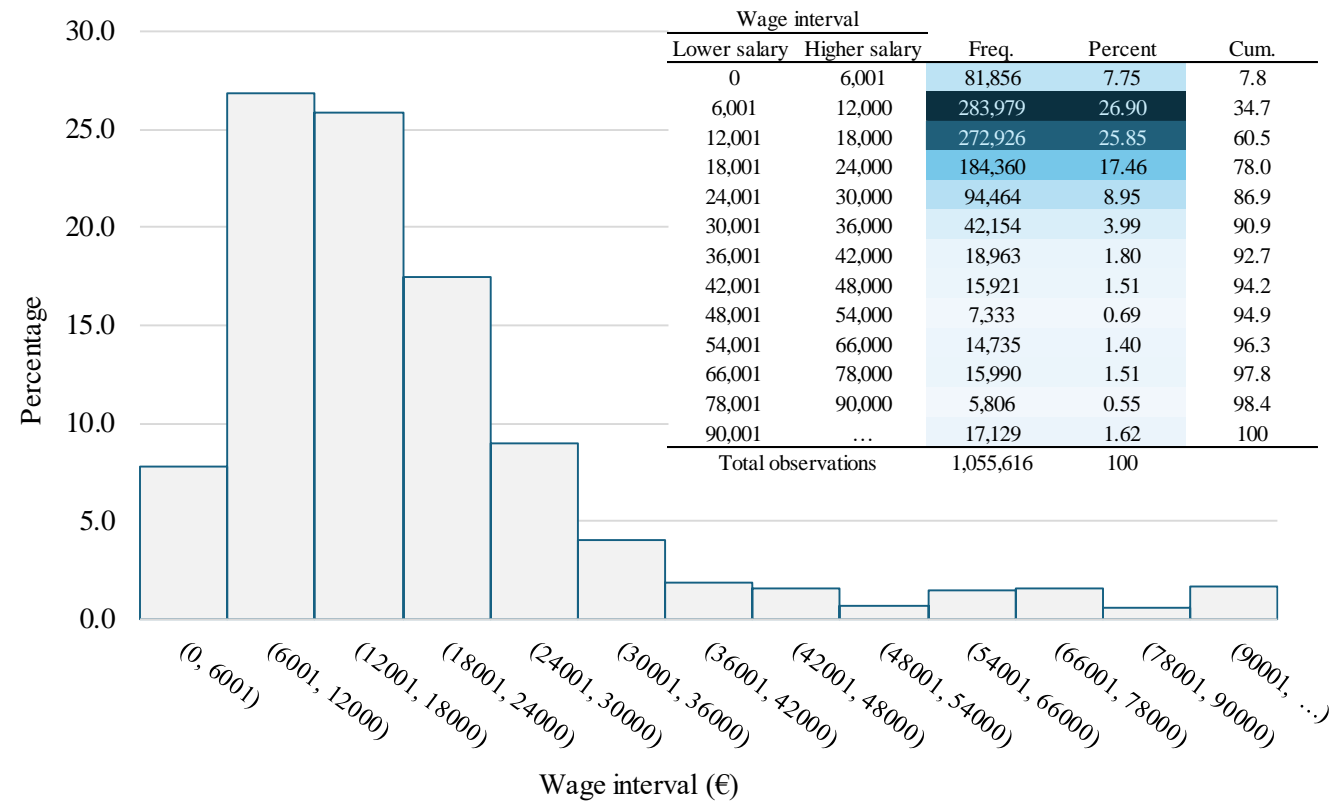
Descriptives

Work contracts in Spanish OJA

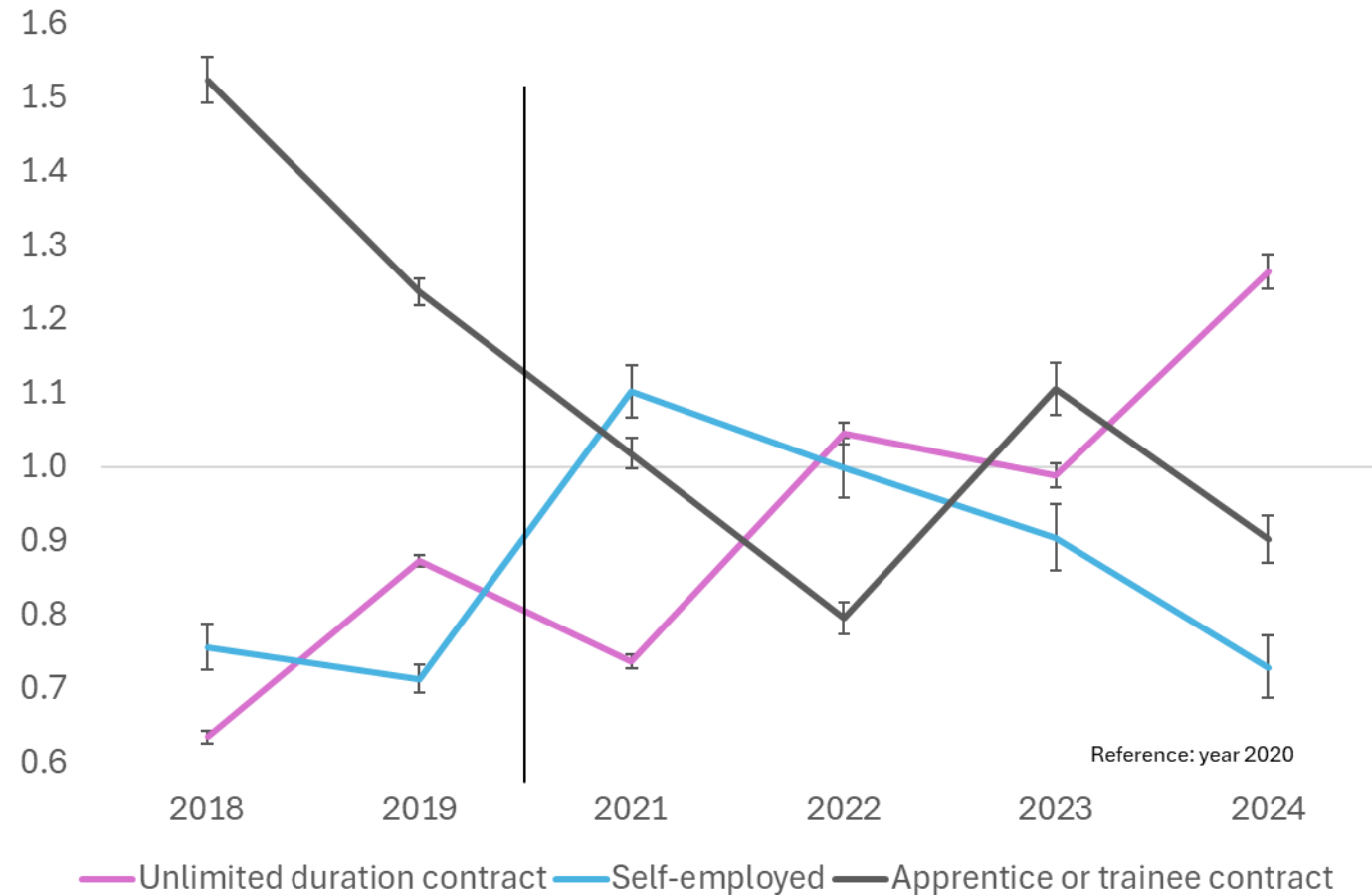


Descriptives

Wage distribution of the online job ads



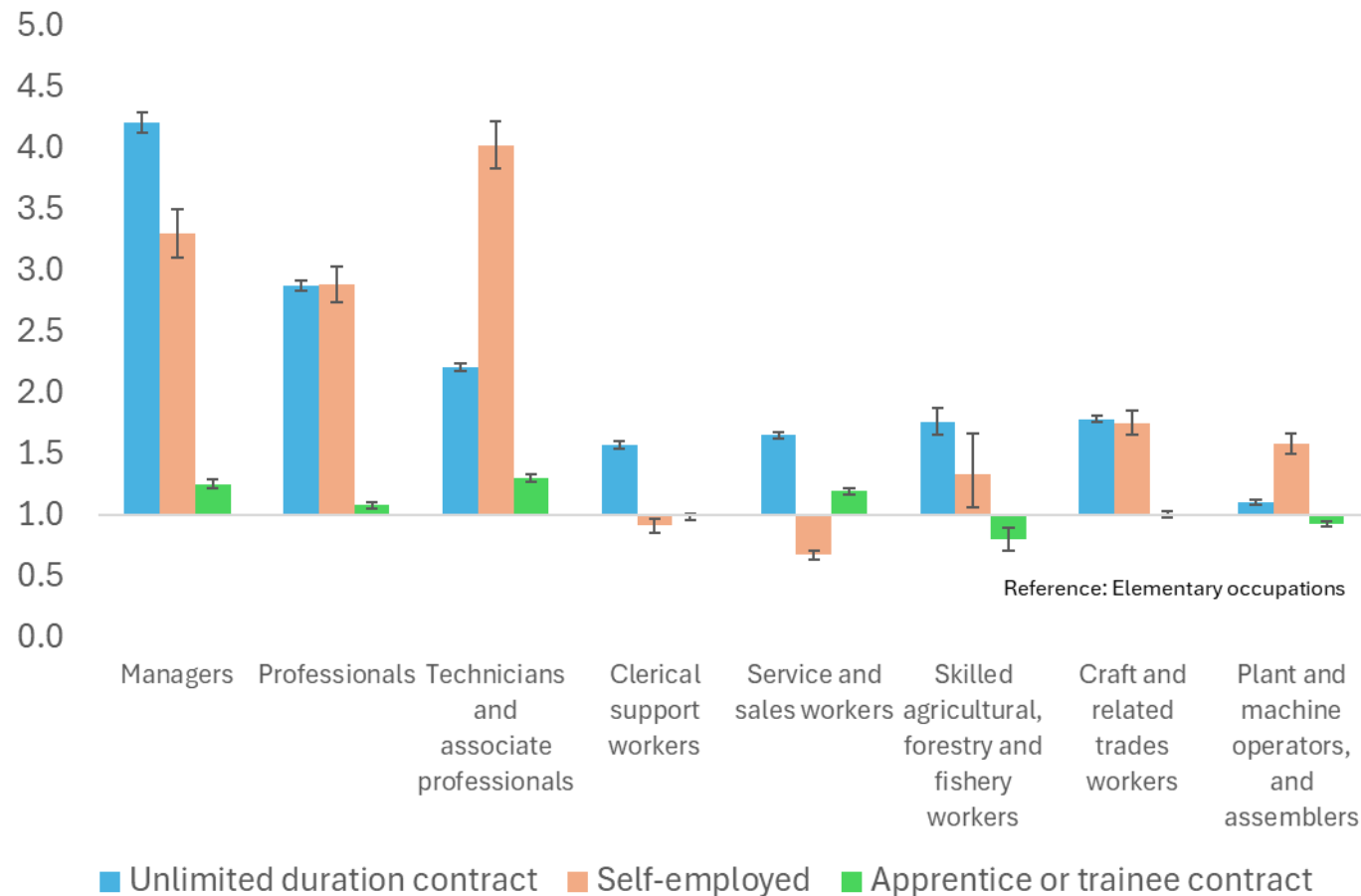
Results – time trends



Time trends

- The use of all other contracts than limited-duration ones increased.
- The unlimited-duration contracts use especially increased over time.
- However, it was with the cost of all other contract types, including self-employment and apprenticeships.

Results – occupations



Occupation

- Better job-related skill level and higher job position was generally connected with higher demand for contracts other than the limited-duration ones
- It is especially visible for unlimited-duration contracts, in which for example for managers relative to elementary occupations, the relative risk of preferring unlimited-duration contracts relative to limited-duration ones by companies is expected to increase by a factor of 4.21

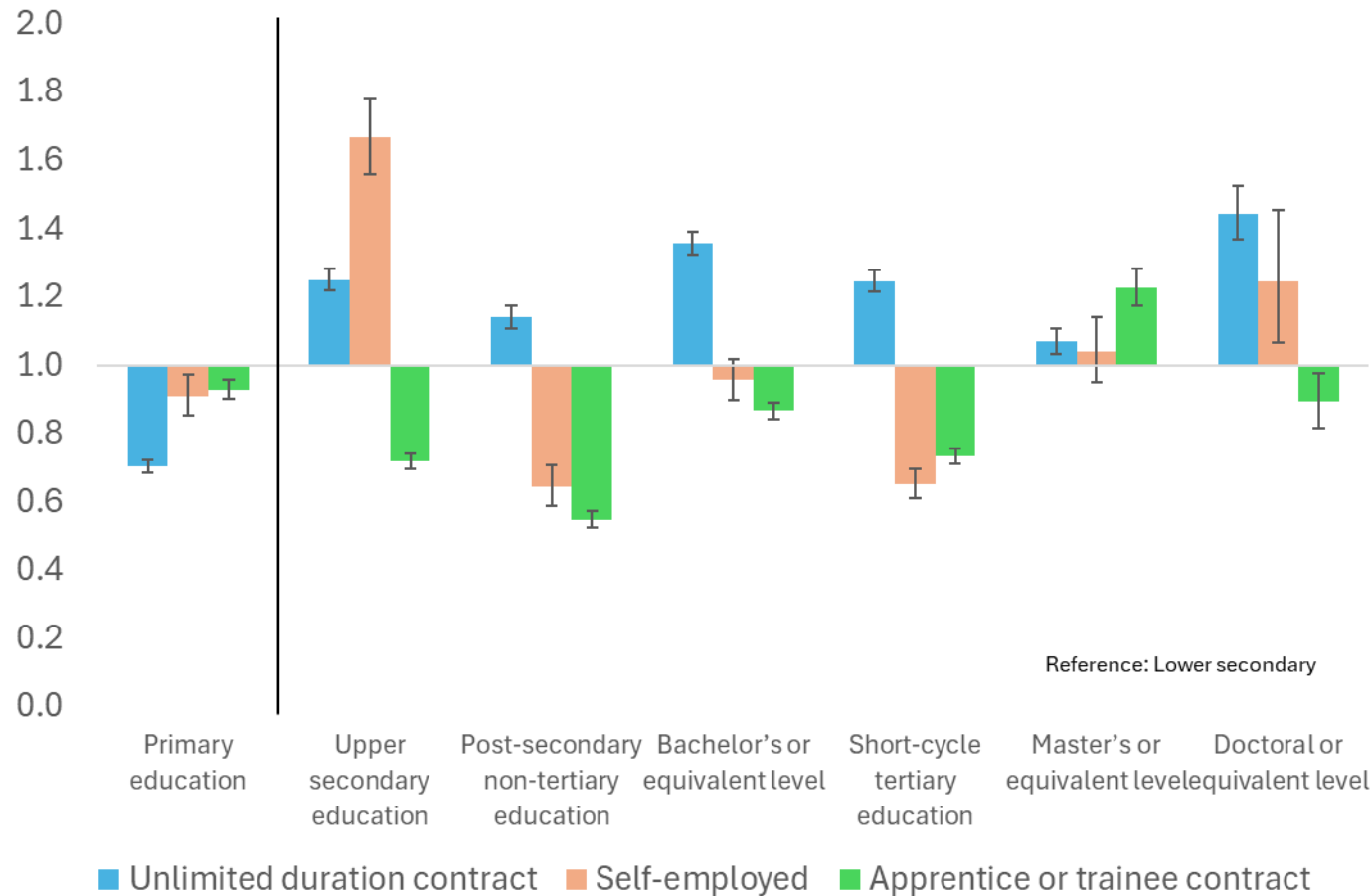
Industry

- Industries connected to advanced technologies much more preferred unlimited-duration contract (e.g. ICT companies) or self-employment (e.g. financial companies) than limited-duration contracts

Educational attainment

- Educational attainment requirements in job offers was especially related with self-employment. This contract was directed mostly to upper-secondary educated persons, but it's demand also increased with tertiary education level. The highest educated persons were mostly offered an unlimited-duration contract

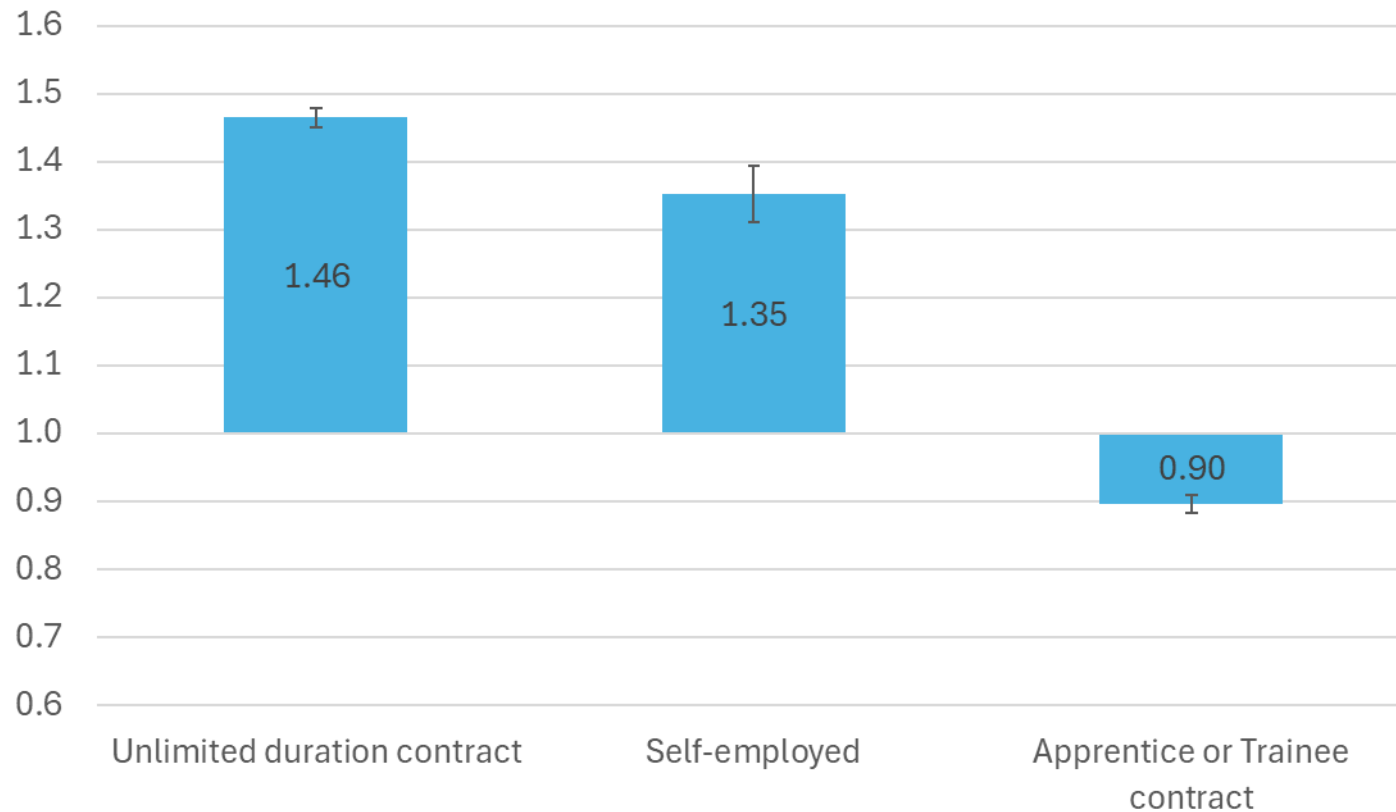
Results – education & skills



Skill

- Single skills were demanded mostly in limited-duration contracts. Obvious exceptions are transversal skills and competences.
- Unlimited-duration contracts, self-employment, and even apprenticeships and trainings were more abundant in skill demand, containing many skills.
- We identified and measured the importance of the most often occurring skill combinations (bundles).
- Interns are mostly required communication, working with computers, and self-management skills, connected with knowledge of business and ICT.
- Self-employment contracts demand the most versatile persons with many transversal skills.
- Unlimited-duration contracts are abundant with skill combinations, especially for highly specialized individuals.

Results – wages by contract



- Our model suggests that the labour reform may have had a negative effect on nominal wages; that is, it has reduced the probability of a worker being placed in a higher wage interval by 7.5%
- Taking the LD contract as a reference, UD contracts increase the probability of being in a higher salary level by 46%, while this increase is 35% in the OJAs that offer SE.
- Full-time offers double that probability (compared to part-time offers).
- The required skills that most increase the probability of being in a higher salary range are Social sciences, journalism and information; Working with machinery and specialised equipment; and Constructing

Conclusions

- The inclusion of non-traditional work contracts in online job offers may be valuable for analysing the structure of job vacancies, as work contracts differ in their structures. That is why OJA may significantly support JVS in showing non-traditional work contracts.
- The Spanish regulation of work contracts that came into force in 2022 resulted in a decline in the demand for limited-duration contracts, and in an increase in the demand for unlimited-duration contracts, but at the same time, it contributed to a decline in the offered wages.
- The COVID-19 pandemic contributed to a significant increase in the use of self-employment contracts, while it did not affect other contract types.
- The best job offers in terms of contract type and remuneration usually require a mix of specific skills or knowledge and transversal skills.

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References

- Bottasso, A., Bratti, M., Cardullo, G., Conti, M., & Sulis, G. (2023). Labor Market Regulation and Firm Adjustments in Skill Demand. IZA Discussion Papers No. 16262.
- Cahuc, P., Carry, P., Malherbet, F., & Martins, P. S. (2022). Employment effects of restricting fixed-term contracts: Theory and evidence. IZA Discussion Paper No. 14999.
- Daruich, D., Di Addario, S., & Saggio, R. (2023). The effects of partial employment protection reforms: Evidence from Italy. *Review of Economic Studies*, 90(6), 2880-2942.
- García-Pérez, J. I., Marinescu, I., & Vall Castello, J. (2019). Can fixed-term contracts put low skilled youth on a better career path? Evidence from Spain. *The Economic Journal*, 129(620), 1693-1730.
- Grasso, G., & Tatsiramos, K. (2023). The impact of restricting fixed-term contracts on labor and skill demand. IZA Discussion Paper No. 16496.
- Klinker, I., & ter Weel, B. (2024). Wages and Employment in the Netherlands, 2017–2023. *De Economist*, 1-24.