

**The labour market of young graduates in Portugal:  
The effect of higher education reform and economic recession**

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**Abstract**

This research compares the impact of different contractual arrangements on the wages of young graduates that entered the labour market after the implementation of the Bologna Process (2006-2007) and the onset of the economic recession in 2008 in Portugal. We draw on Portuguese linked employer-employee data – Quadros de Pessoal in 2007 and 2011 and define young graduates as those aged between twenty one and twenty four years, with a bachelor or master degree, and up to three years of tenure with a firm. Our goal is to capture the situation of young graduates before the global financial crisis of 2008-2009 and in the context of the external financial assistance (2011) that led to an economic adjustment programme in Portugal.

We estimate the impact of different contractual arrangements, notably flexibility (stability), part-time (full-time) and occasional jobs, on wages in order to ascertain which type of contract imposes the highest (lowest) penalty (benefit). Five types of contractual arrangements emerges from these dimensions: *Standard* (stable and full-time), *Insecure* (flexible and full-time), *Underemployed* (stable and part-time), *Precarious* (flexible and part-time) and *Occasional* work. We also explore the impact of other individual and demand-side variables on the wages of young graduates. We assume multiple dimensions of contracts and use a treatment-outcome model for multinomial choice of contractual arrangements Deb and Trivedi (2006a, 2006b) to estimate the wage differentials among workers hired under different contractual arrangements (Suleman and Figueiredo 2018).

Descriptive statistics indicate that *Insecure* jobs prevail in the graduates' labour market, while *Underemployed* jobs are less used solutions. However, *Precarious* and

*Occasional* jobs increased during the crisis, in addition to *Standard* ones. This evidence unveils increasing segmentation of the labour market.

Estimates from econometric model show that Portuguese labour market differentiates undergraduates and post-graduates, as well as fields of education. For example, even in the context of recession, post-graduates are less likely to be *Underemployed* or in a *Precarious* job. The graduates from humanities, language, and arts are more likely to be in either stable (*Underemployed*) or flexible (*Precarious*) part-time jobs. The graduates of technical fields of education (e.g. health, engineers) are, on the contrary, less likely in those types of non-standard jobs. However, the economic recession has probably contributed to some relevant changes. Between 2007 and 2011 health graduates increased the probability of being in stable and part-time (*Underemployed*), while engineers become assigned to *Precarious* jobs.

This evidence illustrates firms' decision regarding employment relationship. The evidence shows large firms increased *Precarious* arrangements in 2011, i.e. during recession. Certain services tend to use more flexible arrangements than others and, more importantly, this tendency increased from 2007 to 2011. Administrative and support service activities and education activities are the main users of flexible contracts. We also observe a growing trend towards the use of more flexible arrangements, notably *Occasional* jobs. In 2011, this occurred notably in consultancy, health activities, and arts and recreational activities.

Furthermore, the findings are consistent with wage differentials among graduates engaged in different contractual arrangements. Graduates in all types of flexible contracts have a wage penalisation, although this was greater in some cases than others. In 2007, there was a larger wage penalisation for being *Underemployed* or in an *Insecure* job, but in 2011 the most flexible contracts (*Precarious* and *Occasional* jobs) were the most penalised. The findings suggest in addition that labour market did not differentiate under and master graduates in 2007, but in 2011 post-graduates had a wage benefit of 9.3%. Furthermore, the wage penalisation for graduates in teaching, training and education sciences decreased and the wage benefit of health and social care workers increased from 2007 and 2011. Working in certain sectors became less attractive in 2011. Overall, the wages are lower in almost all industries and high-paying services in 2007 offered lower wages in 2011. These industries include information and communication, consultancy, administrative and support service activities, and health.

The estimates illustrate changes in the use of flexible arrangements which are associated with supply- demand-side variables. Post-graduates were in some way protected against flexible contracts, while graduates from health and engineering were more likely to have *Precarious* jobs in 2011. Firms of a certain size and some industries started using flexible

contracts, especially the most flexible arrangements. The findings show a slight deterioration of job quality in recent years, especially associated with the economic recession. However, the results corroborate segmentation arguments in that high-stratum jobs have stable contracts and high-wages, and that jobs with different flexible arrangements have low wages. This raises the question about the impact of higher education reform and economic recession.

We consider that the vertical differentiation inside graduation is a consequence of the higher education reform. Portuguese labour market differentiated master graduates in 2011 but not in 2007. A few years after the implementation of the Bologna Process, there was a monetary return on post-graduate education. Our findings also show that post-graduates are protected from some flexible arrangements: in 2011 master degree holders were less likely to be in part-time jobs, but in 2007 there were no statistically significant differences between graduates and post-graduates in any flexible jobs.

Our findings suggest that the economic crisis has affected the job quality of graduates in Portugal. Although the *Insecure* contracts are widespread in the labour market of young graduates, large firms increased the use of *Precarious* contracts in 2011. Furthermore, those flexible contracts impose larger penalization during recession.

Policy makers and higher education institutions need to address the simultaneous impact of the Bologna process and the economic crisis on the employment of graduates in Portugal in the last decade. While the former created segmentation between under and master graduates, the economic recession led firms to increase the use of most flexible contractual arrangements. This process deserves therefore different political responses. On the one hand, we have changes in skill requirements, which may increase the uncertainty among young people and their families about investments in education. On the other hand, policy makers should create incentives that encourage better job quality to compensate those investments.

## References

- Deb, Partha; Trivedi, Pravin. 2006a. "Maximum simulated likelihood estimation of a negative binomial regression model with multinomial endogenous treatment", *Stata Journal*, 6(2): 246–255.
- ;—. 2006b. "Specification and simulated likelihood estimation of a non-normal treatment-outcome model with selection: application to health care utilization", *Econometrics Journal*, 9(2): 307–331.

Suleman, F., and M. C. Figueiredo. 2018. "Wage differentials within a female dominated occupation: Domestic workers in informal and flexible jobs in Portugal." *International Labour Review*, 157(1): 129-152.