

Dual returns to experience

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Summary of Banco de España Working Paper no. 2211

In recent years, the use of short-term work arrangements, such as temporary contracts, has become widespread in many European countries, where labor markets are relatively more rigid and regulated than those in the United States and the United Kingdom (ter Weel, 2018). In the case of Spain, before 2022, more than 90% of the contracts signed each month were fixed-term and around 25% of the workforce was under some form of temporary employment (Felgueroso et al., 2018).

Despite allowing employers to easily adapt to fluctuations in demand (Aguirregabiria and Alonso-Borrego, 2014), the impact of temporary contracts on worker's labor market careers is still debated. On the one hand, workers might benefit from their availability since they ease job finding (de Graaf-Zijl et al., 2011) and mitigate wage losses associated with skill depreciation during non-employment (Guvenen et al., 2017; Jarosch, 2021). On the other hand, they could be detrimental if they induce an unstable career (Blanchard and Landier, 2002; García-Pérez et al., 2019) or lower firm-sponsored on-the-job training (Cabrales et al., 2017; Bratti et al., 2021). Our paper studies how labor market duality affects human capital accumulation and the wage trajectories of young workers in Spain. Using rich administrative data up to 2018, we follow workers from their entry into the labor market to measure the exact time worked under open ended contracts (OECs) and under fixed term contracts (FTCs). We use these precise measures of accumulated experience to estimate reduced-form wage regressions derived from a stylized framework of human capital accumulation in a dual labor market.

Our estimation results document lower returns to accumulated experience under FTCs relative to OECs. We find that, after accounting for observed match components and unobserved worker heterogeneity, one additional year of experience in permanent employment is associated with wage gains of 5%, while returns are almost 1 percentage point (pp) lower for one extra year of experience in temporary

contracts. This gap corresponds to a 18.5% higher yearly return from accumulating one more year of experience in OECs relative to FTCs. Importantly, we show that the estimated gap in returns is neither due to differences in unobserved match quality nor firms' unobserved heterogeneity:

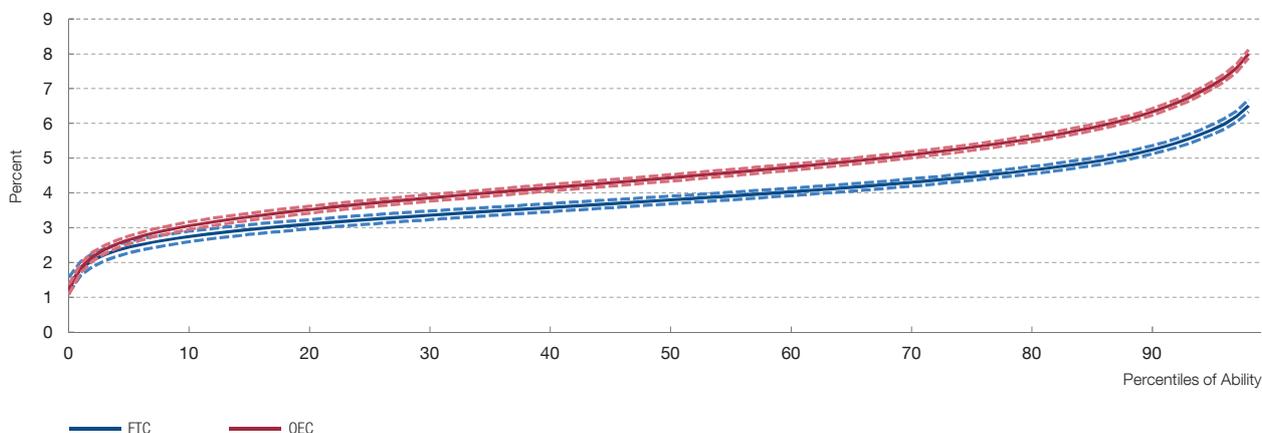
Our analysis suggests instead that the observed difference in returns is related to worse human capital accumulation under fixed-term contracts. First, we show that the gap in returns prevails among workers who switch jobs, suggesting a human capital channel since for these workers there is a clear dissociation between the job where experience is acquired and the job where it is valued. Second, we find that the gap in returns persists when workers move to jobs with similar skill requirements, while it vanishes when they move to jobs where prior accumulated skills are less portable. Thus, to the extent that the relationship between current wages and past experience reveals workers' past on-the-job learning opportunities, our results are indicative of lower skill accumulation under FTCs.

However, differences in returns to contract-specific experience vary according to worker's ability (both observed and unobserved), suggesting complementarity between workers' skills and learning opportunities. More specifically, we find that workers without a college degree face no differential returns to experience based on whether the latter was acquired under FTCs or OECs. In contrast, college graduates, while exhibiting similar returns to experience in FTCs relative to workers without a college degree, enjoy substantially higher returns to experience from permanent jobs, resulting in returns to experience accumulated in OECs that are 35% higher than in FTCs. The results are similar when we compare workers based on ability as measured by the time they have spent during their career in a high-skill occupation.

Heterogeneity in returns to experience by observed ability suggest that differences in skill acquisition across contracts might be related to individual (unobserved) ability to learn. To explore this complementarity, we incorporate the interaction between our estimate of each worker's unobserved ability and the learning benefits of FTC and

Chart 1

DUAL RETURNS TO EXPERIENCE: UNOBSERVED ABILITY



NOTES: Contract-specific returns to experience computed for each percentile of unobserved ability (individual FE) using our estimates ($\times 100$). 95% confidence bands are calculated using the clustered-wild bootstrap (100 repetitions) procedure by Cameron et al. (2008). OEC and FTC stand for experience acquired under open-ended and fixed-term contracts, respectively.

OEC into our framework.¹ Figure 1 shows that both returns are increasing with individual abilities, pointing to a strong complementarity in wages between unobserved skills and acquired experience. However, while past OEC experience has a higher reward on average, the gap in returns increases with individual ability. Comparing counterfactual wage trajectories in fixed-term and open-ended contracts reveals that workers at the top of the ability distribution (90th percentile) but employed under FTCs may face up to 16 percentage points lower wage growth 15 years after entering the labor market.

Taken together, our results indicate that labor market duality affects workers' careers over and above the instability of employment histories: experience accumulated in fixed-term contracts is less valuable, and poorer learning opportunities in temporary employment have implications for individual wage growth several years after labor market entry.

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¹ To estimate this model, we use the algorithm proposed by de la Roca and Puga (2017). The algorithm requires to guess a set of individual abilities and use them to estimate the equation. Then we obtain a new set of estimated individual abilities and use them as a new guess. We iterate this process until the absolute-value norm between two consecutive sets of abilities averaged across individuals is lower than a tolerance level that we set equal to 0.001.

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