Young firms, job quality and inclusiveness*

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Abstract

This paper analyses jobs in young firms, compared to older ones, in terms of wages, contract security and inclusiveness. Exploiting matched employer-employee data from France and Portugal, we show that the apparent wage penalty in young firms is largely a compositional artifact driven by lower employee tenure. Once we account for tenure and sorting, the penalty disappears and reverses into a small wage premium. Furthermore, young firms are significantly more likely to offer open-ended contracts than incumbents, suggesting they must bundle pay and security to attract talent. Regarding inclusiveness, we document a trade-off: young firms reduce gender wage gaps and offer women comparable or more favourable contract conditions, but primarily act as 'ports of entry' for foreign workers, hiring them at higher rates while maintaining wage and contract security differentials. These findings suggest that fostering business dynamism can promote employment growth without compromising job quality.

Keywords: young firms; job quality; inclusiveness
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1 Introduction

Young firms and start-ups disproportionately contribute to employment creation in market economies (Criscuolo et al., 2014; Haltiwanger et al., 2013). While this quantity

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effect is well established, considerably less attention has been devoted to the *quality* and *inclusiveness* of the jobs they create. Conversely, the large empirical literature on job quality seldom accounts for the firm dimension. This paper aims to fill this gap by investigating systematic differences between jobs at young versus older incumbent firms along two dimensions: (1) job quality, focusing on wages and contract security, and (2) their inclusiveness, focusing on outcomes for women and foreign workers – defined as foreign-born in France and foreign nationals in Portugal – including both the quality of their jobs and whether young firms hire from these groups at higher rates than incumbents.

We exploit rich linked employer-employee data (LEED) from France and Portugal, which allow us to track workers across firms and time. The two countries provide contrasting institutional settings: France features a relatively dynamic ecosystem with an "up-or-out" pattern where successful entrants scale up rapidly, while Portugal is characterised by a more static environment dominated by micro-firms with lower post-entry growth. The granularity of the data helps address key identification challenges – notably sorting and omitted variable bias – by allowing us to include worker fixed effects that control for time-invariant unobserved heterogeneity. Our preferred specifications therefore identify the young-firm premium from workers observed in both young and older firms over the panel.

Our findings challenge the narrative of precarious young-firm employment. Once we account for tenure and worker sorting, the apparent wage penalty in young firms disappears and reverses into a conditional wage premium of approximately 0.4% to 0.7%. Furthermore, despite their higher exit risk, young firms are significantly more likely to offer open-ended contracts than incumbents, suggesting they bundle pay and security to attract talent. Regarding inclusiveness, the picture is nuanced. Young firms reduce gender wage gaps relative to incumbents, even after controlling for a comprehensive set of confounders. They also offer women more favourable contract conditions in France, while in Portugal no significant gender difference in contract security is observed. At the same time, they act as "ports of entry" for foreign workers, hiring them at substantially higher rates, though these workers face a persistent wage penalty and less secure contracts.

These findings carry policy relevance in the context of widespread declines in business dynamism (Calvino et al., 2020) and acute shocks to business registrations, such as those observed during the COVID-19 pandemic (OECD, 2020, 2021). If young firms create jobs that are both good and inclusive, then missing generations of new firms – due to declining entry rates or adverse shocks – may be even more costly than previously thought. More broadly, inclusiveness and workers' well-being are of intrinsic value, and high-quality employment has been linked to firm performance and aggre-

gate outcomes such as productivity and labour force participation (Cazes et al., 2015; Erhel and Guergoat-Larivière, 2010). Our results therefore reinforce the importance of fostering business dynamism alongside inclusive labour market policies.

A few caveats on scope are worth noting at the outset. Because LEED are based on administrative sources, they record objective and observable aspects of job quality – wages, contract type, hours worked – but do not capture subjective dimensions such as job satisfaction or task variety.[1] Wages, our primary measure, are only a partial proxy for total compensation: workers in older firms may receive fringe benefits not recorded in the data, which could bias comparisons in favour of young firms. We supplement the wage analysis with evidence on contract security (open-ended vs. fixed-term contracts), though the overall net effect of these opposing dimensions falls beyond the scope of this paper.

This paper contributes to several strands of literature. First, we add to the growing body of work on wages in young firms (Brixy et al., 2006; Burton et al., 2018; Schmieder, 2023; Block et al., 2018) by simultaneously accounting for tenure, experience and worker fixed effects in a two-country panel setting, showing that the widely documented wage penalty is a compositional artifact. Second, we extend the analysis beyond wages to contract security, documenting that young firms offer more open-ended contracts – a dimension largely overlooked in prior work. Third, we contribute to the literature on firm age and labour market inclusiveness (Fackler et al., 2019; Coad et al., 2017; Nyström, 2012) by providing a unified framework that jointly analyses hiring patterns, wage gaps and contract security differentials for women and foreign workers across two distinct labour markets. The two-country design – covering economies with different levels of business dynamism, labour market institutions and immigration regimes – allows us to assess the generalisability of these patterns.

The rest of the paper is structured as follows. Section 2 reviews the theoretical framework and literature. Section 3 describes the administrative data and stylised facts. Section 4 outlines the identification strategy. Section 5 presents the results, and Section 6 concludes with policy implications.

[1] That job quality is a multidimensional concept encompassing aspects such as job security, task variety and training opportunities is reflected in the guidelines of several measurement initiatives (Cazes et al., 2015).

2 Literature review and theoretical framework

2.1 Job quality in young firms: risk premiums vs. resource constraints

From a theoretical perspective, the relationship between firm age and job quality – measured primarily by wages and contract security – is ambiguous, characterised by two competing mechanisms.

On the one hand, employment at young firms is inherently riskier due to higher exit rates in the first years of existence (Haltiwanger et al., 2013; Calvino et al., 2018). Young firms that lack an established reputation face acute informational frictions: prospective employees cannot easily assess their quality, viability or growth prospects. To overcome this screening problem, young firms may need to signal their type by offering attractive compensation packages – combining wage premia with secure contract arrangements – even beyond what a standard compensating-differentials framework would predict.[2] Furthermore, young firms may offer non-monetary benefits such as flatter hierarchies and greater task variety. Regarding contracts, while fixed-term arrangements are often adverse for labour market entrants (Blanchard and Landier, 2002), young firms may incentivise workers to accept the risk of the firm's potential exit by offering open-ended contracts.

On the other hand, young firms typically face severe resource constraints and liquidity shortages compared to incumbents. These financial frictions may constrain their ability to pay competitive wages, leading them to hire workers with lower reservation wages, such as less experienced employees or those facing barriers to entry in established firms (Ouimet and Zarutskie, 2014).

Empirical evidence has evolved significantly with the availability of Linked Employer-Employee Data (LEED). Earlier literature generally identified a wage penalty associated with new firms (Brixy et al., 2006; Shane, 2009; Nyström and Elvung, 2014). However, more recent studies suggest that this penalty disappears, or converts into a premium, when controlling for workforce characteristics – specifically tenure (Block et al., 2018). Since tenure is mechanically lower in young firms, failure to control for it biases wage estimates downward. Studies explicitly addressing this sorting and tenure bias, such as Adrjan (2018) for the UK, Burton et al. (2018) for Denmark, and Schmieder (2023) for Germany, tend to find a wage premium, particularly among surviving or high-growth young firms. Conversely, Nyström and Elvung (2014) find a penalty in Sweden using a matching approach, while Nyström and Zhetibaeva Elvung (2015) note that job switch-

[2]Under classical compensating differentials, workers would accept either higher pay *or* better non-wage amenities to offset risk, but not necessarily both. The fact that young firms appear to offer both suggests a signalling or screening mechanism, whereby firms use the compensation bundle to attract workers in the presence of asymmetric information about firm quality (Ouimet and Zarutskie, 2014).

ers moving to new firms are more likely to transition into lower-wage jobs. Importantly, the time horizon matters: Fackler et al. (2022) follow German workers over ten years and document persistent income disadvantages from joining a start-up, suggesting that short-run premia may not translate into long-run gains. Babina et al. (2019) further document that the age–wage profile of young firms reflects both compositional differences in their workforce and distinct pay dynamics as firms mature.

2.2 Inclusiveness and inequality

The role of young firms in fostering labour market inclusiveness is similarly subject to opposing theoretical forces, particularly regarding gender and foreign-born workers.

Regarding gender, the literature documents a persistent gap, with fewer female founders and higher barriers to funding (OECD/European Commission, 2021; Guzman and Kacperczyk, 2019; Lassébie et al., 2019). Given that founders are more likely to hire employees of the same gender (Weber and Zulehner, 2010; Hensvik, 2014), the predominance of male founders may bias hiring against women. Conversely, sorting mechanisms may lead women to self-select into young firms. If young firms offer greater flexibility to compensate for lower stability, they may attract women prioritising work-life balance, even at the cost of lower wages (Owoo and Lambon-Quayefio, 2022; Adda et al., 2017). Empirical evidence remains mixed: Nyström (2012) finds women are less likely to be employed in new firms in Sweden, while Coad et al. (2017) find heterogeneous results. Furthermore, job instability in young firms may deter women planning for maternity (Adsera, 2004; Huttunen and Kellokumpu, 2016), suggesting that the interaction between firm age and gender wage gaps is complex. Finally, self-selection of women into lower-paying firms has been widely documented, e.g., by Cardoso et al. (2016), and Card et al. (2016), who find that firm-specific pay premia account for around one fifth of the gender wage gap in Portugal, while Gupta and Rothstein (2005) find similar patterns in Denmark.

Regarding foreign-born workers, young firms may act as "ports of entry" for outsiders who face discrimination or barriers to entry in the internal labour markets of incumbent firms. Evidence from Sweden and Denmark indicates that young firms hire relatively more migrants (Nyström, 2012; Coad et al., 2017). Neuman (2021) further notes that immigrant entrepreneurs are more likely to hire other immigrants. Recent evidence from Germany confirms that young firms find it easier to recruit during downturns, particularly by hiring labour-market entrants who face reduced outside options (Brixy and Murmann, 2025). However, quantity does not necessarily imply quality. Fackler et al. (2019) find that while German start-ups are more likely to hire disadvantaged groups (women and migrants), these workers suffer from wage penalties exceeding those observed in older firms. Understanding these dynamics is important because

early-career employment in young firms can have lasting trajectory effects: while some evidence suggests negative long-run wage consequences (Sorenson et al., 2021; Fackler et al., 2022), other studies argue that the diverse task environment in young firms accelerates skill acquisition (Lazear, 2004; Miranda et al., 2018; Bryson et al., 2017), potentially acting as a stepping stone for disadvantaged workers (Tåg et al., 2016).

This paper investigates whether young firms merely provide employment volume for these groups or whether they also offer inclusive job quality and pay.

3 Data and descriptive statistics

3.1 Data sources

Our analysis relies on rich administrative Linked Employer-Employee Data (LEED) from France and Portugal, which allow us to track workers across firms and time.

For France, we use the *Déclarations Administratives de Données Sociales* (DADS) panel, compiled by the French Statistical Institute (INSEE). This dataset covers a $1/12^{th}$ representative sample of the private sector workforce (workers born in October), summing to over 1 million individuals per year. Due to a number of breaks in the data series before 2002, the results presented in this paper rely on the time period 2002–2017. Importantly, while the worker sample is a $1/12^{th}$ draw, firm-level variables, such as firm size, are computed considering the full population of workers in the firm.

For Portugal, we employ the *Quadros de Pessoal* (QP), a mandatory census collected by the Ministry of Labour, Solidarity and Social Security (MTSS). It covers all private sector firms with at least one employee. Due to changes in occupational classifications, we restrict our analysis to the 2010–2021 period.[3]

A key distinction lies in the identification of immigrant workers. The French data identify individuals based on their place of birth ("foreign-born"), which includes naturalised citizens. The Portuguese data use legal nationality to identify "foreigners", thereby excluding naturalised immigrants. This asymmetry implies that the French definition captures a broader – and likely better-integrated – population of non-native workers, while the Portuguese definition is restricted to individuals who retain foreign nationality. If naturalised immigrants face smaller wage penalties than non-naturalised foreigners, the French estimates of the foreign-worker wage gap would be attenuated relative to what a narrower definition would yield, and vice versa for Portugal. Despite this measurement difference, the empirical results are remarkably consistent across the two countries (see section 5), suggesting that the underlying patterns are robust to these definitional differences.

[3]Robustness checks considering the period 2000 to 2021 confirm the main results.

3.2 Variable definitions

The main outcome variable is a monetary measure of job quality, defined as the gross hourly wage (pre-tax and before the deduction of social security contributions). It comprises commissions, bonuses, extra pay, stock options, and premia (including in-kind) for the French data. Similarly, for Portuguese workers, it comprises extra pay and bonuses. Social security contributions paid by the employer are not included.[4] [5]

This paper also considers a non-monetary measure of job quality, focusing on contract security provided by different types of employment contracts. The analysis investigates whether the contracts offered by young firms are more or less secure than those provided by older firms, using information on open-ended versus other types of contracts that have a fixed end date. This information is only available from 2006 onwards for the French data.

Following the standard literature (e.g., Haltiwanger et al. (2013)), we classify firms as "Young" if they are aged 5 years or less. All other firms are classified as "Old". Alternative age cut-offs were therefore tested, including employing more than one cut-off at a time, with no qualitative impact on the results obtained.

Key worker characteristics available in the data are age, gender, and place of birth or nationality. In addition to their role as control variables, gender and nationality or place of birth are also used for defining disadvantaged groups.[6] The French DADS do not provide detailed information on nationality or place of birth for foreign-born individuals.[7]

Arguably the most important firm level control variable, firm size is highly correlated with firm age because young firms are typically small. Larger firms also tend to pay higher wages, thus, it is important to disentangle firm age from firm size. Firm size is measured as the number of workers at a firm at the end of the year and enters in logged form in the econometric analysis.[8] Another key firm level control variable is industry, which is also aggregated into macro-sectors (defined according to the national accounts

[4] Additional discussion about data cleaning is reported in the Appendix.

[5] Robustness checks for Portugal confirms that the baseline results are qualitatively unchanged when bonuses and premia are excluded from the wage measure.

[6] The French DADS contains information on workers' place of birth, while the Portuguese QP provides detailed information on nationality.

[7] For workers born in France, it is possible to distinguish those born in metropolitan France (*France métropolitaine*) from those born in the "Départements et Régions d'Outre-Mer" (DROM), the French overseas departments. Separating the DROM-born workers from those born in metropolitan France is relevant because their labour market outcomes turn out to be significantly different than those of French-born employees. Treating them as a homogeneous group would therefore dilute the results for the reference group. Robustness checks confirm that including them in the reference group does not affect the main results. However, a separate detailed investigation for this group is not carried out given its sample size. DROM-based firms are excluded from the analysis, whose focus is on firms based in metropolitan France.

[8] Other functional forms, such as the introduction of different size categories, have been tested, without substantial changes to the results for the coefficients of interest.

A7 classification), for which a separate analysis is also carried out for manufacturing and market services. Analysis at the aggregate level includes industry information, according to the national account A38 classification.

Further control variables relate to job attributes and include working time arrangements, which are either full- or part-time. This variable tends to be particularly relevant for analyses relating to gender pay gaps, as women – more often than men – are employed on part-time contracts, which typically pay lower hourly wages.[9] Another important control variable, occupation, is also highly relevant for pay gaps due to the well-documented self-selection of women and migrants into low-paying occupations. The French DADS distinguish between 32 job types, including qualified and unqualified work in different industries as well as administrative, technical, artistic, scientific, agricultural, clerical, and managerial and executive positions, among others. The Portuguese QP contains occupation information according to the International Standard Classification of Occupations (ISCO-08). Finally, both datasets provide information on the date of entry of a worker into the firm, even when that date precedes the time period covered by the dataset, allowing the construction of a precise tenure variable that is not truncated. This variable is particularly important for the analysis, as it allows controlling for the fact that workers at young firms have, by construction, lower average tenure, hence addressing an important source of omitted variable bias.[10] Additional to tenure at the firm, years of private-sector labour market experience is also calculated for each worker. For French workers, experience is defined as the difference in years between the current year of observation and the earliest year on record. For Portuguese workers, labour market experience is defined as the number of years observed in the dataset from 2002 to the current observation year.[11]

3.3 Descriptive statistics

Table 1 presents summary statistics for young and old firms in both countries. Three main stylised facts emerge.

[9] While contract type is considered a job quality outcome in itself, it can also be a transmission channel of wages and is therefore not included as a separate control variable in the preferred specification of the wage regressions. Robustness of key results to the inclusion of the contract type variable is tested, with results changing only marginally.

[10] This information can also be used to calculate an – imperfect and truncated – proxy for the time of entry into the labour market. The younger the worker at the time of appearing in the dataset, the higher the likelihood that the first recorded job is also the first employment of the worker. This information is, however, only relevant in a cross-sectional context given that the point of entry into the labour market is fixed over time for a worker, and hence included by default in the worker fixed effects in a panel data model.

[11] These proxies for labour market experience, while informative, have some limitations driven by data availability. For instance, they may underestimate true experience, e.g. for older cohorts, for workers experiencing career interruptions or that have experience outside the country analysed.

First, there is a substantial unconditional "wage penalty" in young firms. Average hourly wages are approximately 14% lower in France and 16% lower in Portugal compared to older incumbents. However, as we explore in Section 5, this raw gap masks significant heterogeneity.

Second, young firms have a distinct workforce composition. Their employees are younger (by roughly 1.5 years in France and 2.5 years in Portugal) and, by definition, have significantly lower tenure (roughly 1 year vs 5–8 years). This suggests that comparing wages without accounting for these characteristics would be misleading.

Third, regarding inclusiveness, young firms appear to be active entry points for non-native workers. In France, foreign-born workers constitute 19% of the workforce in young firms versus 14% in incumbents. In Portugal, the difference is even larger: 11% of the workforce in young firms is foreign, compared to just 5% in older firms.

Finally, patterns in contract security differ by country. In France, young firms use fixed-term contracts only slightly more than incumbents (29% vs 25%). In Portugal, however, young firms rely heavily on temporary labour, with nearly half of their workforce (47%) on fixed-term contracts, compared to 29% in older firms. This suggests that the trade-off between wages and job security may play out differently in the two economies.

Table 1: Descriptive statistics: Young vs. Old firms in France and Portugal

	France		**Portugal**	
	Young (0–5 years)	Old (6+ years)	Young (0–5 years)	Old (6+ years)
Workforce characteristics				
Share of total workforce (%)	15.97	84.03	12.34	87.66
Mean worker age (years)	35.60	37.13	37.48	40.07
Mean tenure (years)	1.15	4.99	1.12	7.75
Share of entrants (%)	13.85	8.70	11.47	4.85
Job quality measures				
Mean hourly wage ()	14.04	16.26	4.51	5.38
Fixed-term contracts (%)	29.01	25.32	47.36	29.45
Part-time work (%)	27.51	22.68	7.18	6.29
Inclusiveness (Share of workers)				
Female workers (%)	39.41	40.76	44.87	48.09
Foreign workers (%)	19.04	13.68	10.96	4.94

Notes: Averages for the period 2002–2017 (France) and 2010–2021 (Portugal). 'Young' firms are defined as those aged 5 years or less.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

4 Empirical strategy

To estimate the impact of firm age on job quality and inclusiveness, we employ a Mincerian wage regression framework. Our baseline specification estimates the job quality outcome for worker i in firm j at time t as follows:

$$\begin{aligned} \ln w_{i,j,t} =& \beta_0 + \beta_1 \text{YoungFirm}_{j,t} + \beta_2 \text{Disadvantaged}_i \\ &+ \beta_3 \text{YoungFirm}_{j,t} \times \text{Disadvantaged}_i \\ &+ \mathbf{X}'_{i,t}\delta + \mathbf{Z}'_{j,t}\sigma + \mu_i + \lambda_t + \varepsilon_{i,j,t} \end{aligned} \tag{1}$$

where the dependent variable $\ln w_{i,j,t}$ is the natural logarithm of the gross hourly wage. $\text{YoungFirm}_{j,t}$ is a binary variable equal to one if the firm is aged 5 years or less, and zero otherwise. The coefficient β_1 therefore captures the conditional wage premium (or penalty) associated with young firms relative to incumbents.

To assess inclusiveness, we interact the young firm status with Disadvantaged_i, a binary indicator equal to one for specific groups (women or foreign workers/foreigners). A positive β_3 indicates that young firms reduce the wage gap for these groups relative to older firms. Note that the main effect β_2 is absorbed by the worker fixed effect μ_i in our preferred specification, as gender and origin are time-invariant.

The vector $\mathbf{X}_{i,t}$ includes time-varying worker characteristics: age (log), occupation, and working time arrangements (full- vs. part-time). Crucially, it includes a polynomial of tenure (years at the current firm) and potential experience. $\mathbf{Z}_{j,t}$ controls for firm size (log employment) and industry. λ_t represents year fixed effects. Standard errors are two-way clustered at the worker and firm level.

For our secondary outcome, contract security, we estimate a Linear Probability Model (LPM) where the dependent variable is a binary indicator equal to one if the worker holds a fixed-term contract.[12] As with the wage equation, we augment the contract security specification with the $\text{YoungFirm}_{j,t} \times \text{Disadvantaged}_i$ interaction to examine whether the contract security effects differ for women and foreign workers.

Identification

Identifying the causal effect of firm age on job quality faces two primary threats: sorting and omitted variable bias.

First, workers do not sort randomly into young firms. Theory suggests that young firms may attract individuals with different risk profiles or unobserved abilities (Bönte

[12] We prefer the LPM for its ease of interpretation. The natural alternative – a fixed-effects probit – achieves identification only from workers whose contract type changes within the panel, dropping all workers with a constant outcome and severely reducing the estimation sample. The LPM avoids this selection and, in practice, yields marginal effects very similar to nonlinear models.

et al., 2007). To address this sorting on unobservables, our preferred specification includes worker fixed effects (μ_i). This ensures that the coefficients are identified from within-worker variation – effectively comparing the wages of the same individual when employed at a young firm versus an incumbent firm.

This identifying variation comes from workers who are observed in both young and old firms during the panel – henceforth "movers". In Portugal, approximately 24% of unique workers (1.16 million) are movers; in France the share is larger, at 36%. These are not negligible subsamples. Compared to stayers, movers tend to be younger and have lower initial tenure and experience, consistent with job switching being more prevalent early in careers. They are broadly similar in terms of gender and foreign-worker composition. The dominant flow is from young to old firms (42% of Portuguese movers, 33% of French movers), reflecting natural career progression as workers move to more established employers. A substantial share moves in both directions (36% in Portugal, 51% in France), providing particularly clean within-worker variation across firm types. Workers moving from old to young firms – a smaller but non-trivial group (22% in Portugal, 17% in France) – have higher pre-transition wages and longer tenure, consistent with opportunity-driven rather than displacement-driven transitions.

Second, a mechanical correlation exists between firm age and employee tenure: workers at young firms necessarily have short tenure. Since tenure is positively correlated with wages, omitting it biases the young firm coefficient downward (leading to the "penalty" often found in early literature). By explicitly controlling for tenure (and experience), we isolate the wage differential associated with the firm's age profile, holding constant the time a worker has had to accumulate firm-specific capital. The relevant counterfactual is therefore a worker with the same tenure at a young versus an old firm. For example, while workers with three years of tenure exist in both firm types, this comparison is more common among movers who switch at relatively early tenure levels – which is precisely the identifying variation exploited by the worker fixed effects.

We also estimate alternative specifications including firm fixed effects and two-way fixed effects (AKM style) as robustness checks. However, identifying firm age effects with firm fixed effects relies on the subset of firms that cross the 5-year threshold during the panel, which may introduce survival bias (Adrjan, 2018). We therefore retain the worker fixed-effects model as our preferred specification.

A related concern is that wages are only observed in surviving firms. If young firms that pay the lowest wages are also the most likely to exit, the estimated premium is upward-biased. In the data, five-year survival rates are substantially lower for the youngest firms – approximately 29% for age-0 firms versus 39% in France and 58% in Portugal for firms aged 11 or more. Survival selection likely biases the estimated premium upward, to the extent that exiting young firms are disproportionately low-

wage, though the direction is not unambiguous.

5 Results

5.1 Job quality: Wages

We begin by establishing the baseline relationship between firm age and wages. Table 2 presents our preferred estimates using high-dimensional fixed effects to control for sorting and workforce composition.

Initial OLS estimates (reported in detail in Appendix Tables A.1 and A.2) replicate the standard "young firm wage penalty" found in early literature. Without controlling for worker heterogeneity, employees in young firms earn approximately 10% less in France and 12% less in Portugal than those in incumbent firms. However, this gap is largely driven by workforce composition. As shown in the descriptive statistics, young firms hire younger workers with significantly lower tenure.

Table 2 demonstrates that once we account for unobserved worker heterogeneity (via worker fixed effects) and explicitly control for tenure and experience, the wage penalty disappears entirely. In fact, it reverses into a small but statistically significant wage *premium*. Column (1) shows that for France, working in a young firm is associated with a 0.4% wage premium ($\beta_1 = 0.0042$) compared to working in an incumbent firm, holding the individual constant. Column (2) shows a similar pattern for Portugal, with a premium of roughly 0.7% ($\beta_1 = 0.0066$).

This reversal highlights the critical role of tenure in wage determination. Because tenure is mechanically capped at the age of the firm, workers in young firms have had less time to accumulate firm-specific human capital (and the associated tenure-wage growth) than their counterparts in older firms. Omitting tenure therefore biases the young firm coefficient downward. When we compare similar workers with similar tenure, young firms actually pay slightly more – consistent with the signalling and screening mechanisms discussed in Section 2.1: young firms lacking an established reputation may need to offer attractive compensation packages to overcome informational frictions in the labour market.

The magnitude of the premium is modest.[13] The main takeaway is therefore not that young firms pay substantially *more*, but rather that the widely documented wage penalty is a compositional artifact: once workforce differences are accounted for, there

[13]Replacing the binary young-firm indicator with a set of firm age group dummies (0–1, 2–3, 4–5, 6–10, 11+ as the reference category) confirms that the premium is not driven by a particular age bin. In Portugal, the premium declines almost linearly with firm age, with the youngest firms (0–1 years) displaying the largest premium and firms aged 6–10 already indistinguishable from incumbents. In France, the profile is inverted-U shaped, peaking for firms aged 2–3. In both countries, the binary classification at 5 years captures the relevant age range of the premium.

is no evidence that young firms offer lower pay for comparable workers.[14]

Table 2: Wages in young firms: baseline panel estimates

	(1) France	(2) Portugal
Young firm	0.0042***	0.0066***
	(0.0012)	(0.0011)
Log(Firm size)	0.0071***	0.0163***
	(0.0003)	(0.0012)
Observations	15,385,144	24,453,479
Tenure & experience	Yes	Yes
Worker FE	Yes	Yes
Firm FE	No	No
Year FE	Yes	Yes
Controls	Yes	Yes

Notes: Robust standard errors clustered at the worker and firm level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The dependent variable is the log of gross hourly wages. 'Controls' include a polynomial of tenure, potential experience, occupation, and part-time status.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

We confirm this finding using alternative specifications. Firm fixed-effects and two-way fixed-effects models (reported in the Appendix Tables A.3 and A.4) yield qualitatively similar results, though they rely on the more restrictive variation of firms crossing the age threshold.

5.2 New hires

As an additional check, we restrict the sample to new hires – workers appearing in a given firm for the first time. This approach provides an alternative way of removing the bias arising from comparing workers with different tenure at young and older firms, and has been implemented frequently in the literature, e.g. by Adrjan (2018) and Burton et al. (2018).

Table 3 confirms the findings obtained when controlling directly for tenure: a small positive wage premium associated with working at a young firm appears, with young firms paying between 0.3% and 0.7% more than incumbents. The OLS estimates

[14]The wage premium is broadly robust across sectors, though magnitudes differ. In France, the premium is driven primarily by manufacturing ($\beta_1 = 0.0136$) rather than services. In Portugal, the premium is consistent across both sectors ($\beta_1 \approx 0.008$). Detailed sectoral results are available upon request.

(Columns 1 and 3) already show a positive premium for new hires, and the worker fixed-effects specification (Columns 2 and 4) yields similar magnitudes, confirming that the premium is not an artifact of the tenure specification.

Because workers' labour market experience is imperfectly measured in the data at hand, there may still be undetected differences in the hiring patterns of young compared to old firms with regards to the previous work experience of newly hired employees. Adding worker fixed effects when focusing on new hires addresses work experience accumulated before the sample period, but differences may still arise from experience gained later in a worker's career. Omitted variable bias can thus arise not only from experience at the firm, but also from experience on the labour market more generally, as more experience is rewarded with higher wages. As an additional robustness test, a time-varying variable recording accumulated years of observed work experience is added to the worker fixed-effects specification. Results indicate a smaller, but still positive and significant wage premium for newly hired workers at young firms, corroborating the main findings.

Table 3: Wage premia for new hires

	(1)	(2)	(3)	(4)
	France		Portugal	
	OLS	Worker FE	OLS	Worker FE
Young firm	0.0045**	0.0034***	0.0049	0.0043***
	(0.0018)	(0.0009)	(0.0032)	(0.0016)
Observations	2,683,245	1,798,993	4,655,276	4,655,276
R-squared	0.59	0.84	0.37	0.76

Notes: Robust standard errors clustered at the worker and firm level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The dependent variable is the log of gross hourly wages. All specifications include year fixed effects, occupation, industry, part-time status, and log firm size. Worker FE columns additionally include worker fixed effects. The sample is restricted to workers in their first observed year at the firm.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

5.3 Inclusiveness: gender and origin

We next investigate whether the wage effects of young firms differ for disadvantaged groups. Table 4 presents the estimates for the interaction term β_3 (YoungFirm $\times$ Disadvantaged) from our preferred worker fixed-effects specification. A positive coefficient indicates that the wage gap for the disadvantaged group is smaller in young firms compared to incumbents.

As noted in the descriptive statistics, young firms do not hire a higher share of

women than incumbents. However, Panel A of Table 4 reveals that they foster greater wage equity. The interaction term for female workers is positive and significant in both countries ($\beta_3 = 0.0070$ for France; $\beta_3 = 0.0072$ for Portugal). This implies that while women earn less than men overall (a gap absorbed by the fixed effect), this penalty is reduced when they work in a young firm. In Portugal, for instance, the gender wage gap is approximately 0.7 percentage points smaller in young firms than in older firms for the same individual.

Panel B presents the results for foreign-born workers (France) and foreign nationals (Portugal). Here, a different pattern emerges. Descriptive data showed that young firms act as active entry points, hiring a significantly higher share of non-native workers (19% vs 14% in France; 11% vs 5% in Portugal). However, this quantity effect does not translate into a quality premium. The interaction coefficient is negative and statistically significant in both countries ($\beta_3 = -0.0068$ for France; $\beta_3 = -0.0075$ for Portugal).

This suggests that while foreign workers find it easier to enter the labour market through young firms, they face a slightly larger wage penalty there than they would in established incumbents. This is consistent with young firms leveraging the lower reservation wages of workers who face barriers to entry elsewhere (Fackler et al., 2019). [15]

For Portugal, where the data provide detailed information on nationality, we can examine whether this pattern varies by origin group. The QP identifies 216 nationalities, with Brazil, India, Cabo Verde and Ukraine as the main countries of origin among foreign workers. Exploiting this granularity, we find that young firms pay approximately the same as older firms for workers with nationality from EU, Eurozone, OECD and other developed countries – groups that command substantial unconditional wage premia (8–14% relative to all other workers) and presumably have stronger outside options. The negative interaction documented above is driven by nationals of Portuguese-speaking countries, the only subgroup that faces a statistically significant wage penalty of approximately 0.5% from working in a young firm compared to an older one.[16]

[15] Using the same Portuguese matched employer-employee data, Ibn Brahim et al. (2025) find that the monthly wage penalty for immigrant workers is attenuated in new ventures. The difference with our findings likely reflects the choice of wage measure – monthly rather than hourly – and differences in the set of controls, notably the omission of tenure and labour market experience, both of which are shown to be important confounders of the firm age-wage relationship in this paper.

[16] Portuguese-speaking countries are defined as countries that have Portuguese as an official language. The classification of developed countries follows OECD, *Climate Finance Provided and Mobilised by Developed Countries in 2013–18*, Annex C.

Table 4: Inclusiveness: Differential wage effects in young firms (Worker FE)

	(1) France	(2) Portugal
Panel A: Gender		
Young Firm	0.0031**	0.0035***
	(0.0012)	(0.0013)
Young Firm × Female	0.0070***	0.0072***
	(0.0008)	(0.0013)
Panel B: Foreign		
Young Firm	0.0052***	0.0088***
	(0.0013)	(0.0011)
Young Firm × Foreign	-0.0068***	-0.0075***
	(0.0008)	(0.0021)
Tenure & experience	Yes	Yes
Worker FE	Yes	Yes
Firm FE	No	No
Controls	Yes	Yes
Observations	15,385,144	24,453,479

Notes: Robust standard errors clustered at the worker and firm level. *** $p < 0.01$, ** $p < 0.05$. The main effects of gender and foreign are absorbed by the Worker FE. Controls' include a polynomial of tenure, potential experience, occupation, log firm size, industry, and part-time status.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

5.4 Contract security

Finally, we examine a non-monetary dimension of job quality: contract security. We estimate a LPM where the dependent variable is 1 if the worker has a fixed-term (temporary) contract and 0 if they have an open-ended (permanent) contract.

Table 5 illustrates a striking reversal similar to the wage results. Columns (1) and (3) show the OLS estimates without tenure controls: unconditionally, young firms are associated with a higher probability of using fixed-term contracts (not significant in France). This aligns with the perception of young firms as precarious.

However, once we control for tenure and unobserved worker heterogeneity (Columns 2 and 4), the coefficient on 'Young Firm' becomes negative and highly significant. In France, working at a young firm *reduces* the probability of holding a fixed-term contract by 3.7 percentage points. In Portugal, it reduces the probability by 4.1 percentage points. This indicates that for a worker with a given tenure, young firms are actually more likely to offer open-ended contracts than incumbents. Combined with the wage premium documented above, this suggests that young firms bundle both pay and con-

tract security to attract workers – consistent with the signalling interpretation outlined in Section 2.1.

Table 5: Probability of holding a fixed-term contract (LPM)

	(1)	(2)	(3)	(4)
	France		Portugal	
	OLS	Worker FE	OLS	Worker FE
Young Firm	0.0013	-0.0365***	0.1105***	-0.0413***
	(0.0033)	(0.0020)	(0.0034)	(0.0022)
Tenure & experience	No	Yes	No	Yes
Worker FE	No	Yes	No	Yes
Firm FE	No	No	No	No
Observations	13,446,067	13,129,977	24,453,479	24,453,479

Notes: Robust standard errors clustered at the worker and firm level. *** $p < 0.01$, ** $p < 0.05$. Dependent variable is binary (1=Fixed-term, 0=Open-ended). Columns (1) and (3) include only year fixed effects, occupation, industry, log firm size, and part-time status. Columns (2) and (4) additionally include worker fixed effects, a polynomial of tenure, and potential experience.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

Table 6 extends the contract security analysis to examine differential effects for disadvantaged groups. The results mirror the wage inclusiveness findings. For foreign workers, the interaction term is positive and significant in both countries ($\beta_3 = 0.0087$ for France; $\beta_3 = 0.0339$ for Portugal), indicating that the contract security advantage of young firms is reduced – or reversed – or this group. While young firms are generally more likely to offer open-ended contracts, foreign workers in young firms are approximately 0.9 to 3.4 percentage points less likely to receive such contracts relative to their native counterparts in the same type of firm. This reinforces the pattern documented in the wage analysis: young firms act as ports of entry for foreign workers, but on less favourable terms across both monetary and non-monetary dimensions of job quality.

For women, the pattern differs across countries. In France, the interaction is negative and statistically significant ($\beta_3 = -0.0187$), indicating that women in young firms are even more likely to hold open-ended contracts than men in the same type of firm. In Portugal, the interaction is small and not statistically significant, indicating that the contract security advantage of young firms applies equally to men and women. Combined with the finding that young firms reduce gender wage gaps, this paints a broadly positive picture: young firms offer women not only more equitable pay but also comparable or more favourable contract conditions.

Table 6: Contract security and inclusiveness in young firms (Worker FE, LPM)

	(1) France	(2) Portugal
Panel A: Gender		
Young Firm	-0.0292***	-0.0396***
	(0.0019)	(0.0024)
Young Firm × Female	-0.0187***	-0.0037
	(0.0015)	(0.0024)
Panel B: Foreign		
Young Firm	-0.0381***	-0.0437***
	(0.0020)	(0.0023)
Young Firm × Foreign	0.0087***	0.0339***
	(0.0014)	(0.0041)
Tenure & experience	Yes	Yes
Worker FE	Yes	Yes
Firm FE	No	No
Controls	Yes	Yes
Observations	13,129,977	24453479

Notes: Robust standard errors clustered at the worker and firm level. *** $p < 0.01$, ** $p < 0.05$. Dependent variable is binary (1=Fixed-term, 0=Open-ended). The main effects of gender and foreign are absorbed by the Worker FE. 'Controls' include a polynomial of tenure, potential experience, occupation, and part-time status.
Source: Authors' calculations based on DADS (France) and Quadros de Pessoal (Portugal).

6 Concluding remarks

This paper is among the first to simultaneously investigate the quality and inclusiveness of jobs in young versus older firms. The analysis exploits rich linked employer-employee data for France and Portugal, which allow addressing a number of identification challenges, such as self-sorting of workers into young firms due to risk preferences or innate ability, as well as omitted variable bias from differing levels of employee tenure and experience. Furthermore, the two-country design offers insights into economies with relevant differences in economic structure, business dynamism, and labour market institutions.

The main findings on job quality are broadly aligned across the two countries. Being employed at a young firm does not entail a wage penalty relative to an older one, once workers with similar characteristics are compared. Workers with similar characteristics receive equal, or even slightly higher, pay at young firms. A negative wage gap appears only when workers' tenure is not accounted for – reflecting the fact that young firms mechanically employ workers with lower tenure, rather than paying less for comparable work. Young firms also tend to provide more contract security in terms of open-ended contracts, once similar workers are compared. The combination of a small wage premium and higher propensity for open-ended contracts is consistent with young firms needing to signal their quality to prospective employees in an environment of informational frictions. These findings are confirmed when focusing on new hires, an alternative approach that avoids the potential biases arising from imperfectly measured tenure and experience.

In terms of inclusiveness, although a gender wage gap is observed in both types of firms, it tends to be smaller in young firms, by around 0.3 and 0.7 percentage points in France and Portugal, respectively. In France, this is accompanied by a higher propensity to offer open-ended contracts to women, while in Portugal no significant gender difference in contract security is observed, suggesting that the flatter pay structures or less entrenched wage scales in young ventures may reduce some structural sources of gender inequality. Young firms do not seem to employ more women than incumbents, but they appear to offer a more equitable pay structure for those they do hire. Regarding foreign workers, young firms employ a considerably higher share of foreign-born workers (in France) and foreigners (in Portugal), providing a relevant entry point into the labour market. However, wage gaps between native and non-native workers appear overall higher in young firms, and this disadvantage extends to contract security: foreign workers in young firms are also less likely to receive open-ended contracts relative to their native counterparts. In the case of Portugal, additional analysis highlights that the wage penalty in young firms is driven by nationals of Portuguese-speaking countries, while workers from EU, Eurozone, OECD and other developed countries do not face a significant differential between young and old firms.

These findings have relevant implications for economic policy. In addition to their well-documented contribution to job creation, young firms appear to provide jobs that – once controlling for confounding factors – are at least equally paid and more often open-ended than those in incumbent firms. They also appear to contribute to the reduction of gender wage gaps. These patterns are consistent with business dynamism not coming at the cost of job quality, and may provide additional motivation for reducing the barriers faced by new and young firms. At the same time, challenges in terms of labour market inclusiveness persist, notably the lower shares of women in both young and old firms, gender wage gaps even after accounting for several confounding factors, and wage and contract security gaps for foreign workers. It therefore remains important to promote inclusive labour markets alongside policies fostering business dynamism.

While comprehensive in several respects, this analysis could be extended in a number of directions. Future work may consider additional disadvantaged groups, such as workers returning to the labour market after an unemployment spell, or specific age groups, conditional on data availability. Future analysis could also focus on different subgroups of young firms, for instance based on their post-entry performance, and further extend the analysis to a longer-term perspective on workers' careers. The different findings regarding the role of young firms for women and foreign workers may also warrant further investigation in other country contexts.

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Appendix

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Table A.1: Wages in young firms, step-by-step inclusion of controls – France

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Young firm	-0.0987***	-0.0644***	-0.0578***	-0.0341***	-0.0236***	-0.0235***	-0.0167***	0.0061***	0.0069***
	(0.0069)	(0.0033)	(0.0054)	(0.0035)	(0.0037)	(0.0034)	(0.0017)	(0.0018)	(0.0035)
Controls	No	Ind	Size	Size, Ind	+Age	+Indiv	+Job	+Tenure	All
Observations	16,021,270	16,021,270	15,731,486	15,731,486	15,731,486	15,731,486	15,726,733	15,726,733	15,731,486
R-squared	0.07	0.08	0.22	0.23	0.29	0.31	0.62	0.62	0.32

Note: Selected coefficients shown. Each column adds controls cumulatively: (1) no controls; (2) industry; (3) firm size; (4) industry and firm size; (5) worker age; (6) individual characteristics (gender, nationality/place of birth); (7) occupation; (8) tenure and experience (preferred OLS specification). All specifications include year fixed effects. Robust standard errors clustered at the worker and firm level in parentheses.
Source: Authors' calculations based on DADS.

Table A.2: Wages in young firms, step-by-step inclusion of controls – Portugal

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Young firm	-0.1344***	-0.1140***	-0.0624***	-0.0597***	-0.0463***	-0.0379***	-0.0259***	0.0188***	
	(0.0084)	(0.0063)	(0.0049)	(0.0039)	(0.0038)	(0.0037)	(0.0024)	(0.0033)	
Controls	No	Ind	Size	Size, Ind	+Age	+Indiv	+Job	+Tenure	All
Observations	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479
R-squared	0.02	0.16	0.05	0.19	0.20	0.36	0.49	0.51	0.39

Note: Selected coefficients shown. Each column adds controls cumulatively: (1) no controls; (2) industry; (3) firm size; (4) industry and firm size; (5) worker age; (6) individual characteristics (gender, nationality/place of birth); (7) occupation; (8) tenure and experience (preferred OLS specification). All specifications include year fixed effects. Robust standard errors clustered at the worker and firm level in parentheses.
Source: Authors' calculations based on Quadros de Pessoal.

Table A.3: Wages in young firms, full panel estimates – France

	(1)	(2)	(3)	(4)	(5)	(6)
	Worker FE		Firm FE		2-way FE	
Young firm	-0.0107***	0.0042***	-0.0031	0.0080***	0.0008	0.0081***
	(0.0012)	(0.0012)	(0.0020)	(0.0019)	(0.0023)	(0.0021)
Tenure/Exp	NO	YES	NO	YES	NO	YES
Observations	15,385,144	15,385,144	15,509,643	15,509,643	15,172,621	15,172,621
R-squared	0.84	0.84	0.73	0.73	0.87	0.87

Note: Each panel reports estimates under worker fixed effects (Columns 12), firm fixed effects (Columns 34), and two-way worker and firm fixed effects (Columns 56). Odd columns exclude tenure and experience controls; even columns include them. All specifications include year fixed effects, occupation, industry, log firm size, and part-time status. Source: Authors' calculations based on DADS.

Table A.4: Wages in young firms, full panel estimates – Portugal

	(1)	(2)	(3)	(4)	(5)	(6)
	Worker FE		Firm FE		2-way FE	
Young firm	-0.0027**	0.0066***	-0.0129***	-0.0013	-0.0050***	0.0014
	(0.0011)	(0.0011)	(0.0017)	(0.0018)	(0.0015)	(0.0015)
Tenure/Exp	NO	YES	NO	YES	NO	YES
Observations	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479	24,453,479
R-squared	0.89	0.89	0.71	0.72	0.92	0.92

Note: Each panel reports estimates under worker fixed effects (Columns 12), firm fixed effects (Columns 34), and two-way worker and firm fixed effects (Columns 56). Odd columns exclude tenure and experience controls; even columns include them. All specifications include year fixed effects, occupation, industry, log firm size, and part-time status. Source: Authors' calculations based on Quadros de Pessoal.

Table A.5: Probability of fixed-term contract (Detailed specifications)

	France (Worker FE)		Portugal (Worker FE)	
	With Tenure	New Hires	With Tenure	New Hires
Young firm	-0.0365***	-0.0423***	-0.0413***	-0.0355***
	(0.0020)	(0.0019)	(0.0022)	(0.0030)
Observations	13,129,977	1,422,743	24,453,479	24,453,479
R-squared	0.70	0.67	0.68	0.52

Note: With Tenure' columns report the baseline worker fixed-effects specification. 'New Hires' columns restrict the sample to workers in their first observed year at the firm. All specifications include year fixed effects, occupation, industry, log firm size, and part-time status.
Source: Authors' calculations based on DADS and Quadros de Pessoal.

Data cleaning

Wages. In the construction of the hourly wage variable using the DADS, wages have been set equal to the respective year's French minimum wage at the lower end of the wage distribution. All observations recording values lower than 90% of the minimum wage have been dropped from the analysis, as well as hourly wages 10 times higher than the sample average for an individual. Hourly wages are based on full-time equivalents, computed as hours worked divided by 1,820 (equivalent to the French standard work week of 35 hours times 52 weeks), and capped at 1. Using the QP, wages have been set equal to the respective year's Portuguese minimum wage at the lower end of the wage distribution, except for internships and apprentices. Hourly wages are based on the reported monthly wages and hours worked, in the month of October. Hourly minimum wages are based on 173 hours per month.

Age of employees. In the DADS data, individuals younger than the legal minimum age have been dropped from the sample, as have workers older than the compulsory retirement age of 70. In the QP data, workers with less than 16 years of age were dropped.

Sectors. The macro-sector classification adopted in the analysis reflects the national accounts A7 industry classification, including: Agriculture, Forestry and Fishing; Mining and quarrying; Manufacturing; Electricity, gas, water, and waste; Construction; Non-Financial Market Services; and Non-Market Services. Some results are presented separately for Manufacturing and Non-Financial Market Services (labelled "Services"). Industry fixed effects included in the regressions are defined according to the 2-digit ISIC Rev. 4 industry classification. The following macro-sectors were dropped from the DADS panel: Agriculture, Forestry and Fishing; Mining and quarrying; Electricity, gas, water, and waste; and Non-Market Services.