Wage inequality in Europe: The role of pay setting.

Wage inequality increases in many industrialised countries, including large parts of Europe (OECD, 2015). This constitutes a problem of fairness as well as being a hinder on further economic growth. Recent research – making use of detailed matched employer-employee datasets – has shown that a disproportionate part of this inequality is due to firms increasingly differing in their pay structures and the premia they pay to workers (e.g. Card et al., 2013; Criscuolo et al., 2020; ILO, 2016; Song et al., 2019; Tomaskovic-Devey et al., 2020).

Firm performance increasingly diverges with more productive firms leaving laggards further behind (Berlingieri et al., 2017). These productivity differences affect employees if firms share their rents – for instance through payment schemes where employees receive bonuses depending on performance, for instance through stocks. This raises the issue of how employers set their wages and the extent to which workers are directly affected by firm performance. Several studies have highlighted that inequality in other types of compensation – either non-wage benefits such as pensions or health insurance (Kristal et al., 2020; Pierce, 2010) or bonuses that are in some way linked to individual, group or firm based performance (Bryan and Bryson, 2015; Bryson et al., 2013; Lemieux et al., 2009) are distributed less equally than base wage and add to overall income inequality. Previous studies have shown some increase over time in the United States (Kristal et al., 2020; Lemieux et al., 2009) and to a lesser extent in Europe (Bryson et al., 2013).

The same macro-economic and institutional factors associated with the increase in wage inequality – increasing globalisation and digital change, liberalisation, and declining bargaining power of trade unions – can influence the firm's performance as well as its wage setting decisions.

The paper answers three related questions. **First**, **how has wage inequality** – both within and between firms – **changed over time** and does this differ strongly between different groups of countries? **Second**, what is the **effect of different wage setting decisions at the firm level** – performance pay, firms gain sharing – on wage inequality and how has this changed? **Third**, can the variation between countries and sectors and over time **be explained by macro-economic drivers** – digitalisation and globalisation – or institutional changes – employment protection legislation and collective pay agreements.

We expect that wage inequality between firms was an important part of overall increases in wage inequality. We further expect that the receipt of non-standard forms of pay – such as performance pay and especially firms gain sharing – contribute to wage inequality because they (1) provide bonuses to those already having higher pay, with higher education and standard working contracts, and (2) this relation has increased over time as firms increasingly compete for the more desirable workers. Finally, we expect firm differences to play a larger role in sectors which are more affected by new technologies or more open to trade as: (1) there are larger productivity differences between firms in such sectors; and (2) there is more scope for complementarities which makes the search for appropriate candidates more costly increasing their rent.

We investigate firm differences in pay setting from the early 2000s to 2015 using two different European micro-level datasets: the European Working Conditions Survey (EWCS) and the Structure of Earnings Survey (SES). These are augmented at the country-sector-year level with data on digitalisation and ICT capital; globalisation and trade openness; and institutional data such as trade union presence, collective bargaining coverage, and employment protection legislation. We carry out the analysis on all EU member states.

We first use descriptive analysis to decompose changes in wage inequality into a within and between firm components. Second, we use random and fixed effects linear probability models to estimate the probability of receiving performance pay or firms gain sharing and how it depends on individual, but also contextual factors. Finally, we use similar models to estimate the wage premium due to performance pay or firms gain sharing.

Preliminarily, we find:

- Increasing divergence in pay between firms is an important contribution to wage inequality.
- The receipt of bonuses linked to firm performance contribute to inequality with workers in the higher percentiles of earnings much more likely to receive these. This inequality has also increased over time. Individual performance pay is less problematic for inequality.
- Earnings are more dependent on own and firm performance for those on standard contracts and more highly educated. This increases over time.
- Firms gain sharing – which links the firm performance to individual wages – becomes increasingly more likely in sectors characterised by more globalisation and especially more digital change.
- Trade union representation increases the probability of firms gain sharing, but decreases the probability of individual performance pay.

This paper then points to the importance of considering firm wage setting mechanisms as an important contributor to overall wage inequality.

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