Studies: Variations in employment earnings within and between firms

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While the productivity gap between the top 10% of firms in the productivity distribution and other firms in the Canadian economy has increased since 2000, it has not resulted in a widening of the employment earnings distribution. The employment earnings gap between workers in the top and bottom ends of the earnings distribution has actually declined over the same time period.

Two studies released today examine trends in the dispersion in individual employment earnings and the relationship of these trends to the growing firm-level productivity dispersion in Canada. The growing dispersion in firm-level productivity has been associated with the rapid development of digital technologies that favours the growth of capable adopters and innovators. These two studies shed light on the potential impact of digitalization on individuals' earnings via the link between productivity and pay.

While the overall dispersion in individual employment earnings declined by 1.0% over the 2000-to-2013 period, the dispersion increased in the upper half of the employment earnings distribution and declined in the lower half of the distribution. The difference in earnings between top earners (90th percentile) and the median earners increased by 4.5%, while the difference between the median earners and earners at the bottom (10th percentile) decreased by 5.2%. These changes in the individual employment earnings distribution appear consistent with the changes in the firm-level productivity dispersion, where the difference between the 90th and 50th percentiles in productivity increased faster than the difference between the 50th and 10th percentiles.

There isn't a one-to-one correspondence between the firm-level productivity distribution and the individual employment earnings distribution because productivity is only one of many firm characteristics that affect earnings, and doesn't account for differences among workers. Average earnings across firms can also be related to differences in firm size, multinational status, age, industry, and geographic location. Earnings among individuals within a firm can differ because of differences in gender, education, occupation, experience and tenure.

To understand the relative contribution of each factor, the overall individual employment earnings dispersion is decomposed into the part that can be accounted for by differences among workers within firms and differences across firms. In any given year, it is found that roughly 60% of the dispersion in individual employment earnings is accounted for by worker characteristics within firms, and the remaining 40% by firm characteristics. The decline in the overall individual employment earnings dispersion is accounted for by changes in worker characteristics and their associated returns. The variance in the average employment earnings paid by firms is relatively stable, either slightly increasing or decreasing depending on the measures of dispersion used.

The fact that the widening productivity dispersion did not result in large increases in overall earnings dispersion across individuals or dispersion of average employment earnings across firms suggests that there are factors counteracting the impact of productivity. Increases in the minimum wage are shown to raise the employment earnings of individuals in the 10^{th} percentile. Furthermore, the growing dominance of firms that have capitalized on new digital technologies may have reduced the bargaining power of workers in certain occupations.

The studies "Understanding Developments in Individuals' Earnings Dispersion in Canada Using Matched Employer–Employee Data" and "Decomposing the Between-firm Employment Earnings Dispersion in the Canadian Business Sector: The Role of Firm Characteristics," which are part of the *Analytical Studies Branch Research Paper Series* (**11F0019M**), are now available.

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