

**Technical appendix. Quantile regressions and decomposition**

As shown in Koenker and Bassett (1978) and Koenker and Hallock (2001), quantile regressions lead to the estimation of the  $\theta^{th}$  quantile of a dependent variable  $y$  conditional on covariates  $x$ . The  $\theta^{th}$  quantile is the value of  $q(\theta)$  such that  $\Pr(y \leq q_\theta / x) = \theta$  for  $\theta \in [0;1]$  and it is assumed that  $q(\theta)$  is linear in  $x$ , i.e.  $q_\theta = x\beta(\theta)$ . Specifically, let  $w_i$  be the log hourly wage of individual  $i$  and  $x_i$  a vector of explanatory variables excluding the gender dummy FEMALE. We estimate the following model separately for the low-tech and the high-tech groups:

$$q_\theta(w_i|x_i) = x_i' \beta(\theta) + FEMALE_i \gamma(\theta) \quad (A1)$$

where  $q_\theta(w_i|x_i)$  is the  $\theta^{th}$  conditional quantile of  $w_i$ . The set of coefficients  $\beta(\theta)$  provides the estimated rate of return to the covariates at the  $\theta^{th}$  quantile of the log hourly wage distribution.

Let us denote by  $\beta^f$  and  $\beta^m$  the returns to individual characteristics  $x^f$  and  $x^m$  for females and males. The gender wage gap can be decomposed as:

$$x^m \beta^m(\theta) - x^f \beta^f(\theta) = [x^m - x^f] \beta^f(\theta) + x^m [\beta^m(\theta) - \beta^f(\theta)] \quad (A2)$$

where  $[x^m - x^f] \beta^f(\theta)$  is the part of the gender pay gap explained by differences in the labor market characteristics between women and men. The term  $x^m [\beta^m(\theta) - \beta^f(\theta)]$  captures the fraction of the gap which is attributable to differences in the returns to these characteristics. To implement the decomposition at the various quantiles, we follow the method described in Machado and Mata (2005).

We generate the counterfactual density that would arise if women were given men's labor market characteristics but continued to be "paid like women" in the following way. First, we draw  $n$  numbers at random from the interval  $[0;1]$ , say  $\theta_1, \theta_2, \dots, \theta_n$ . Then, using the female dataset, we estimate the quantile regression coefficient vectors  $\beta^f(\theta_i)$  for  $i=1, \dots, n$ . Finally, we make  $n$  draws at random with replacement from the male dataset, denoted by  $x_i^m$ , for  $i=1, \dots, n$ . The counterfactual density is then generated as  $y = x_i^m \beta^f(\theta_i)$  for  $i=1, \dots, n$ .

## Appendix with additional results (not for publication)

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