

Appendices to the paper “Age and opportunities for promotion” by Sofia Machado and Miguel Portela

Appendix A Construction of the sample

To get the sample used in the study we started by creating a panel of firms merging the cross-sectional 1986 to 2005 files available on *Quadros de Pessoal*. The aim was to obtain a panel including just new firms. Thus, the variable *Year of Creation* available on each cross-sectional file for firms is crucial.

From the above panel we started by eliminating the firms reporting two or more different years of creation (4% of the observations dropped), to avoid misinterpretations. After identifying the year in which the firm firstly appears in the dataset and signalling the moment when the firm is created, we kept the firms for which the year of creation coincides with the first year of appearance in the dataset (Panel A).

Next, we turned our attention to the workers’ panel. In situations where there existed more than one observation for worker/year we kept just the observation related to the main job (the one with higher reported hours of work). Workers with 30¹ or less hours/week of work were removed from the sample. This was done in order to assure some attachment to the labor market. Also we kept just employees aged 15 to 75². A relevant variable in this panel is the *Date of Admission at the Firm* since it is used to create the *Promotion* indicator as well as the *Tenure* variable. Therefore, we checked for inconsistencies in the variable such as: *Date of Admission* higher than the year of the survey. Also, if the reported *Date of Admission* for the pair worker/firm was always the same, missing values on *Date of Admission* for that pair were replaced by the reported non-missing value. We have also replaced inconsistencies (like decreasing *Date of Admission* over time) with the value reported more than half of the times. The remaining inconsistencies and missing values on this variable were dropped (Panel B).

Afterwards, sorted by firm and year, we merged Panel A with Panel B obtaining a panel of new firms and their workers. Firms that did not present information on workers from the year of creation and firms that had workers hired (*Date of Admission*) before the year of

¹ In Van Bastelaer *et al.* (1997) a definition of part-time work is presented for international comparison. In some countries, like the United States, 35 hours of work a week is the normal threshold for a worker to be classified as a part-timer. That is the benchmark in the papers by Blank (1988) and Hirsch (2005). In other countries, like the United Kingdom, working 30 or fewer hours per week is the boundary in the definition of part-time employment. I consider this 30 hours threshold to define part-time employment in Portugal.

² For comparison, in the empirical analysis we have also used a subsample of workers aged 15 to 65.

creation were excluded. Finally, we have included firms with more than two years of survival in the market. The above exclusions resulted in a sample with 1,033,767 observations, for 416,170 workers, 44, 920 firms and 437,498 spells firm/worker.

Appendix B Distribution of firms' survival times and distribution of promotions

Table B1: Distribution of firms' survival times

Number of years of survival	Frequency	Percent
3	9,407	20.94
4	9,685	21.56
5	2,285	5.09
6	5,231	11.64
7	3,941	8.77
8	3,530	7.86
9	2,862	6.37
10	2,245	5.00
>10	5,734	12.77
Total	44,920	100

Source: Computations from the authors based on *Quadros de Pessoal*, 1986-2005.

Table B2: Distribution of promotions

Number of promotions	Frequency	Percent
0	352,473	84.69
1	46,158	11.09
2	11,817	2.84
3	3,619	.87
4	1,255	.30
5	470	.11
6	204	.05
7	85	.02
8	36	.01
9	32	.01
10	7	.00
11	6	.00
12	3	.00
13	2	.00
14	1	.00
15	2	.00
Total	416,170	100

Source: Computations from the authors based on *Quadros de Pessoal*, 1986-2005.