Application Gabaix Landier 2008

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Repo: Dropbox/JulieLenoirScPo/_GabaixLandier/Application_Gabaix-Landier07

Readme: /ReadMe.txt

Data generator (all years): Data/dataconst.do

Data: Data/data_Gabaix_Landier.csv

R code (solving the model): Gabaix_Landier_app.R

Julia code (solving the model): Gabaix_Landier_app.jl

Method

The size of the firm is expressed as:

$$(7) \quad S(n) = An^{-\alpha} \Leftrightarrow \log\left(S(n)\right) = \log(A) - \alpha\log(n)$$

It is decreasing in n: the 1st firm is the biggest, the 500th firm is the smallest.
The wage is obtained by:

$$(13) \quad w(n) = \frac{A^{\gamma}BC}{\alpha\gamma - \beta}n^{-(\alpha\gamma-\beta)}$$

It should also decreasing in n: the 1st CEO being the most competent, we expect him to be matched with the biggest firm. We therefore in a case of Positive Assortative Matching.

To find the optimal wages, we need to estimate A to be able to compute the wage. The other variables are calibrated (see Gabaix Landier (2007) IV.A.

Application

The model is calibrated as following:

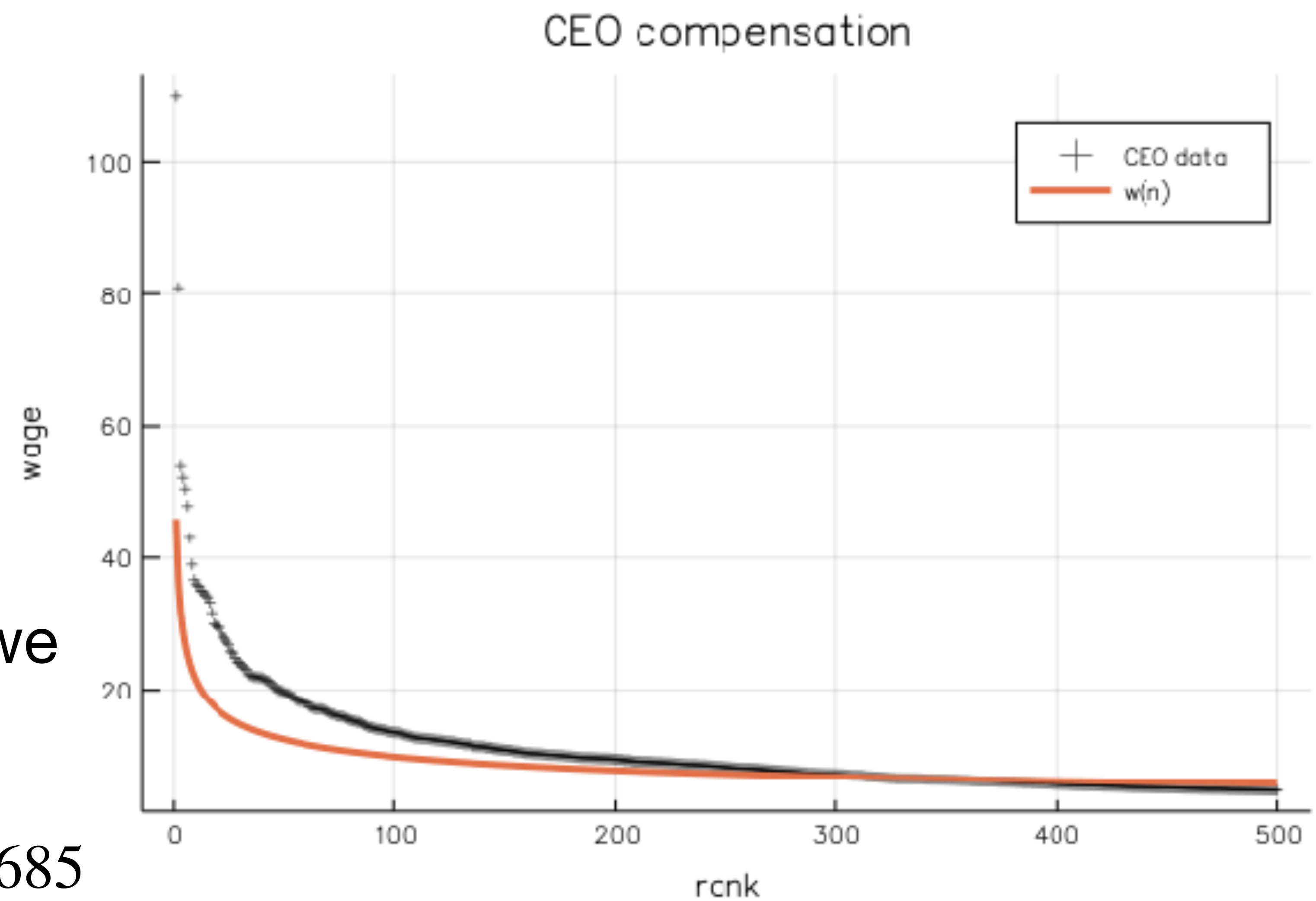
$$\gamma = 1 \qquad B = 1$$

$$\alpha = 1 \qquad C = 2.8 \times 10^{-6}$$

$$\beta = \frac{2}{3}$$

Using OLS on equation (7), we obtain[1]:

$$\widehat{\log(A)} = 15.514 \Leftrightarrow \hat{A} = 5{,}465{,}685$$



Using that, we are able to compute $w(n)$. See above[2].

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[1]Note that with the regression we also obtain $\hat{\alpha} = -0.982167$ which is consistent with the Zipf's Law the authors make use of.

[2]Graph obtained with Gabaix_Landier_app.jl