For firms further upstream, their stake relative to sales must be larger so as to align their objectives better with the production chain as a whole.

3.2 Cross-section Elasticities

We will now argue for the usefulness of the following Cobb-Douglas representation of receivables in cross-section

$$\log(\text{receivables}) \simeq \alpha + \varepsilon \log(\text{payables}) + (1-\varepsilon)\log(\text{sales}) \tag{21}$$

We do so by showing that the cross-section elasticity ε is determined by the degree of vertical integration along the production chain. Before demonstrating this claim formally, it is useful to give some intuition.

In our model, firms hold receivables so as to have a stake in the project as a whole. The stake is measured by the size of the firm's *net* receivables. When a firm has large accounts payable, it must hold correspondingly large accounts receivable to achieve a given size of stake. When firm i is large relative to firm $i+1$, the need to hold large receivables derives mainly from firm i's own value-added, rather than from the value of intermediate inputs from its upstream supplier. If the value of the intermediate input is small, firm i has low payables to firm $i+1$ and there is no need to hold very large receivables in order to have a sufficient stake in the production chain. So, if firm i is large relative to firm $i+1$, receivables are explained mainly by firm i's *sales*, rather than by its *payables*. For this reason, the elasticity ε is lower in production chains where firm size increases rapidly going downstream.

Let us demonstrate this claim more formally. Note that (21) can be written as

$$\log\left(\tfrac{\text{receivables}}{\text{sales}}\right) \simeq \alpha + \varepsilon \log\left(\tfrac{\text{payable}}{\text{sales}}\right)$$

so that ε is the elasticity of the ratio of receivables to sales with respect to the ratio of payables to sales. By using the flow counterparts to these quantities,