## Online Appendix of: Labor in the Boardroom

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## A Theoretical Appendix

# A.1 Baseline Hold-Up Model: Comparative Statics of Investment to Bargaining Power Parameters $\phi$ and $\iota$

We here formally derive the properties of the comparative static of capital stock choice  $K^*$  to worker bargaining power parameters  $\phi$  (in wage setting) and  $\iota$  (in input choice).

**Capital Choice** In period 1, the objective function in the bargaining is:

$$\max_{K} \{ \iota \log S^{1W}(\phi, \bar{L}, K) + (1 - \iota) \log S^{1F}(\phi, \bar{L}, K) \}, \tag{A.1}$$

where the surpluses of the parties depend on period 2 Nash bargaining:  $S^{1W}(\phi, \bar{L}, K) = \phi S^2(K, \bar{L})$  and  $S^{1F}(\phi, \bar{L}, K) = (1 - \phi)S^2(K, \bar{L}) + (c' - c)K$ , with  $S^2(K, \bar{L}) = F(K, \bar{L}) - b\bar{L} - c'K$ .

The optimality condition for *K* is:

$$\iota \frac{S_K^{1W}}{S^{1W}} + (1 - \iota) \frac{S_K^{1F}}{S^{1F}} = 0. \tag{A.2}$$

Where the subscript K indicates the partial derivative of the function with respect to K. The second-order condition, a property we will use for the comparative statics below and the value of which we define as B, is:

$$\iota\left(\frac{S_{KK}^{1W}S^{1W} - S_{K}^{1W}S_{K}^{1W}}{S^{1W}S^{1W}}\right) + (1 - \iota)\left(\frac{S_{KK}^{1F}S^{1F} - S_{K}^{1F}S_{K}^{1F}}{S^{1F}S^{1F}}\right) < 0. \tag{A.3}$$

The Effect of Worker Bargaining Power in Wage-Setting,  $\phi$ , on  $K^*$  To characterize the effect of  $K^*$  on  $\phi$  totally differentiate first-order condition (A.2) with respect to  $K^*$  and  $\phi$  in the neighborhood of  $K^*$ :

$$B \times dK^* + \underbrace{\left[\iota\left(\frac{S_{K\phi}^{1W}S^{1W} - S_K^{1W}S_{\phi}^{1W}}{S^{1W}S^{1W}}\right) + (1 - \iota)\left(\frac{S_{K\phi}^{1F}S^{1F} - S_K^{1W}S_{\phi}^{1F}}{S^{1F}S^{1F}}\right)\right]}_{\equiv A} d\phi = 0.$$
 (A.4)

<sup>&</sup>lt;sup>39</sup>Period 2 Nash bargaining allocates surplus so that  $S^{2W}(w^*, \bar{L}, K) = \phi S^2(K, \bar{L})$  and  $S^{2F}(w^*, \bar{L}, K) = (1 - \phi)S^2(K, \bar{L})$ . Period 1 and period 2 surpluses are related as follows:  $S^{1W} = S^{2W}$  and  $S^{1F} = S^{2F} + (c' - c)K$ .

And therefore,

$$\frac{dK^*}{d\phi} = \frac{A}{-B}. (A.5)$$

By SOC (A.3), -B > 0. We will now evaluate A and hence the sign of  $\frac{dK^*}{d\phi}$ . Note that

$$S^{1W} = \phi S^2 \qquad S^{1F} = (1 - \phi)S^2 + (c' - c)K \tag{A.6}$$

$$S_{\phi}^{1W} = S^2$$
  $S_{\phi}^{1F} = -S^2$  (A.7)

$$S_K^{1W} = \phi S_K^2$$
  $S_K^{1F} = (1 - \phi)S_K^2 + (c' - c)$  (A.8)

$$S_{K\phi}^{1W} = S_{\phi K}^{1W} = S_K^2$$
  $S_{K\phi}^{1W} = S_{\phi K}^{1F} = -S_K^2$ . (A.9)

Therefore

$$S_{K\phi}^{1W}S^{1W} - S_K^{1W}S_{\phi}^{1W} = S_K^2\phi S^2 - \phi S_K^2S^2 = 0 \tag{A.10}$$

(the first parenthesis in A=0). Recall also that from FOC (A.2),  $\frac{S_K^{1F}}{S^{1F}}=-\frac{\iota}{1-\iota}\frac{S_K^{1W}}{S^{1W}}$ . Note also that  $S_\phi^{1F}=-S_\phi^{1W}$  and  $S_{K\phi}^{1F}=-S_{K\phi}^{1W}$ . Therefore, A becomes:

$$A = \left[ \iota \left( \frac{S_{K\phi}^{1W} S^{1W} - S_K^{1W} S_{\phi}^{1W}}{S^{1W} S^{1W}} \right) + (1 - \iota) \left( \frac{S_{K\phi}^{1F} S^{1F} - S_K^{1F} S_{\phi}^{1F}}{S^{1F} S^{1F}} \right) \right]$$
(A.11)

$$= (1 - \iota) \left( \frac{S_{K\phi}^{1F}}{S^{1F}} - \frac{S_K^{1F}}{S^{1F}} \frac{S_{\phi}^{1F}}{S^{1F}} \right)$$
 (A.12)

$$= -(1 - \iota) \frac{S^{1W}}{S^{1F}} \left( \frac{S^{1W}_{K\phi}}{S^{1W}} + \frac{\iota}{1 - \iota} \frac{S^{1W}_{K}}{S^{1W}} \frac{S^{1W}_{\phi}}{S^{1W}} \right)$$
(A.13)

$$= -(1 - \iota) \frac{S^{1W}}{S^{1F}} \left( \frac{1}{1 - \iota} \frac{S_K^2}{S^{1W}} \right) \tag{A.14}$$

$$= -\left[\frac{S_K^2}{(1-\phi)S^2 + (c'-c)K}\right] \frac{(1-\iota)\phi S^2}{(1-\iota)\phi S^2}$$
(A.15)

$$< 0,$$
 (A.16)

provided that  $\iota < 1$ ,  $\phi > 0$ ,  $S^2 > 0$ .

Since A < 0 and -B > 0, we have now shown that

$$\frac{dK^*}{d\phi} < 0 \tag{A.17}$$

for any level of  $\iota$  < 1, provided that  $\phi$  > 0 and  $S^2$  > 0.

The Effect of Worker Bargaining Power in Investment,  $\iota$ , on  $K^*$  We totally differentiate FOC (A.2) with respect to  $K^*$  and  $\iota$ :

$$B \times dK^* + \underbrace{\left[\frac{S_K^{1W}}{S^{1W}} - \frac{S_K^{1F}}{S^{1F}}\right]}_{=C} d\iota = 0.$$
 (A.18)

so,

$$\frac{dK^*}{d\iota} = \frac{C}{-B}. (A.19)$$

Again by SOC (A.3), -B > 0. We will now evaluate the sign of C, which determines the sign of  $\frac{dK^*}{dt}$ .

Recall that from FOC (A.2),  $\frac{S_K^{1F}}{S^{1F}} = -\frac{\iota}{1-\iota} \frac{S_K^{1W}}{S^{1W}}$ . Therefore, *C* becomes:

$$C = \left[ \frac{S_K^{1W}}{S^{1W}} - \frac{S_K^{1F}}{S^{1F}} \right] \tag{A.20}$$

$$= \left[ \frac{S_K^{1W}}{S^{1W}} + \frac{\iota}{1 - \iota} \frac{S_K^{1W}}{S^{1W}} \right] \tag{A.21}$$

$$=\frac{1}{1-\iota}\frac{S_K^{1W}}{S^{1W}}\tag{A.22}$$

$$=\frac{1}{1-\iota}\frac{\phi S_K^2}{\phi S^2} \tag{A.23}$$

$$> 0.$$
 (A.24)

Since C > 0 and -B > 0,

$$\frac{dK^*}{d\iota} > 0 \tag{A.25}$$

for any level of  $1 > \phi > 0$ . If  $\phi = 0$ , i.e workers have no power in setting the wage, then  $w^*$  is equal to b and does not depend on K. Therefore, for  $\iota = 1$  any K is a solution, while for  $\iota < 1$  we have efficiency ( $F_K = c$ ) and  $K^*$  does not depend on  $\iota$  ( $\frac{dK^*}{d\iota} = 0$ ).

## A.2 Endogenous Labor

Here we relax the assumption of exogenous labor and assume instead that labor L is chosen contemporaneously to K with the same bargaining parameter  $\iota$ . The stage 1 objective function in Nash bargaining is now

$$\max_{K,L} \{ \iota \log S^{1W}(\phi, K, L) + (1 - \iota) \log S^{1F}(\phi, K, L) \}, \tag{A.26}$$

where stage-2 surplus is anticipated to be Nash bargained as above. Note that L only enters the surplus of the respective parties through aggregate period-2 surplus:  $S^{1W}(\phi, K, L) = \phi S^2(K, L)$  and  $S^{1F}(\phi, K, L) = (1 - \phi)S^2(K, L) + (c' - c)K$ , where  $S^2(K, L) = F(K, L) - bL - c'K$ . Hence, both parties will agree on choosing the optimal level of L regardless of bargaining powers, given by:

$$\iota \frac{S_L^{1W}}{S^{1W}} + (1 - \iota) \frac{S_L^{1F}}{S^{1F}} = 0 \Leftrightarrow S_L^2 \left[ \iota \frac{\phi}{U} + (1 - \iota) \frac{(1 - \phi)}{V} \right] \Leftrightarrow S_L^2 = 0 \Leftrightarrow F_K = b. \tag{A.27}$$

 $L^*$  does not depend on  $\phi$  or  $\iota$  directly but only through K; for any change in K,  $L^*$  adjusts such that  $F_L(K, L) = b$  and hence:

$$\frac{dL^*}{dK} = -\frac{F_{LK}}{F_{LL}}. (A.28)$$

Moreover, the results (A.17) on  $\frac{dK^*}{d\phi}$  < 0 and (A.25) on  $\frac{dK^*}{dt}$  > 0 continue to hold in the case with endogenous L. The formulae (A.5) and (A.19) still hold, with B now being a function of the Hessian of the objective function which we can again sign by appealing to the second order condition.<sup>40</sup>

As a result, employment effects inherit the qualitative properties of the capital effects in this extended setting as long as  $F_{LK} > 0$ . Going forward, we therefore consider the general setting with endogenous labor. Therefore, the results derived for capital effects with fixed labor above correspond to the partial effects  $\frac{\partial K}{\partial \phi} = \frac{A}{-B}$  and  $\frac{\partial K}{\partial \iota} = \frac{C}{-B}$  in the model with endogenous labor (with the seemingly fixed labor level set to the originally optimal

$$\tilde{B} = \left[\frac{\partial^2 \Omega}{\partial L^2}\right]^{-1} \left[\frac{\partial^2 \Omega}{\partial K^2} \frac{\partial^2 \Omega}{\partial L^2} - \frac{\partial^2 \Omega}{\partial K \partial L} \frac{\partial^2 \Omega}{\partial L \partial K}\right]$$

where  $\Omega(K, L; \phi, \iota) = \iota \log S^{1W}(\phi, K, L) + (1 - \iota) \log S^{1F}(\phi, K, L)$  is the objective function of the bargaining. Note that  $\tilde{B} < 0$  by SOC.

<sup>&</sup>lt;sup>40</sup> To see this, take the total derivative of the FOCs (A.2) – now with endogenous labor – and (A.27) with respect to L, K and the parameter of interest. Use the latter to replace dL as a function of dK in the former. This yields (A.4) and (A.18), with B being replaced by

one). However, the total capital effects  $\frac{dK}{d\phi} = \frac{A}{-\tilde{B}}$  and  $\frac{dK}{d\iota} = \frac{C}{-\tilde{B}}$  (while having the same sign as in the fixed-labor setting) also reflect endogenous adjustment in labor (with  $\tilde{B}$  defined in Footnote 40).

## A.3 Additional Comparative Statics: Capital-Labor Ratio, and Profits

We now derive the additional comparative statics of profit and the capital labor ratio, and do so in the aforementioned extended model with endogenous labor.

The Effect of Worker Bargaining Power on  $\frac{K}{L}$  Denote the bargained capital-labor ratio by  $R = \frac{K}{L}$ . The effect of a parameter  $\psi \in \{\phi, \iota\}$  on R is:

$$\frac{dR}{d\psi} = \frac{1}{L}\frac{dK}{d\psi} - \frac{K}{L^2}\frac{dL}{d\psi} \tag{A.29}$$

$$= \frac{1}{L} \left[ 1 + \frac{K}{L} \frac{F_{LK}}{F_{LL}} \right] \frac{dK}{d\psi}, \tag{A.30}$$

where the second equality uses (A.28). The capital-labor ratio will move in the same direction as capital,  $\operatorname{sign}(\frac{d\frac{K}{L}}{d\psi}) = \operatorname{sign}(\frac{dK^*}{d\psi})$ , if and only if  $F_{LK} < -\frac{L}{K}F_{LL}$ , that is if the complementarity between K and L is not too large for the labor response (to the capital increase) to outpace the capital response.

**Profits and**  $\phi$  Recall that profits  $\pi(\phi, K, L) \equiv S^{1F}(\phi, K, L) = (1 - \phi)S^2(K, L) + (c' - c)K$ , where  $S^2(K, L) = F(K, L) - bL - c'K$ . The effect of  $\phi$  on profits is given by

$$\frac{d\pi}{d\phi} = \frac{\partial\pi}{\partial\phi} + \frac{\partial\pi}{\partial K}\frac{\partial K}{\partial\phi} + \frac{\partial\pi}{\partial L}\frac{\partial L}{\partial\phi}.$$
 (A.31)

First,  $\frac{\partial \pi}{\partial \phi} = -S^2$  is the mechanical effect of  $\phi$  i.e. a transfer of surplus from the firm to the workers holding (K, L) fixed.

Second, we consider  $\frac{\partial \pi}{\partial K} \frac{\partial K}{\partial \phi}$ . Here, we have already shown that  $\frac{\partial K}{\partial \phi} < 0$  in Equation (A.17), a case that extends to the endogenous labor setting as shown in the previous section. Since  $\frac{\partial \pi}{\partial K}|_{K=K^*} \leq 0$ , we find that  $\frac{\partial \pi}{\partial K} \frac{\partial K}{\partial \phi} \geq 0$ .<sup>41</sup>

Finally, 
$$\frac{\partial \pi}{\partial L} = (1 - \phi)S_L^2 = 0$$
 by FOC (A.27), and therefore  $\frac{\partial \pi}{\partial L} \frac{\partial L}{\partial \phi} = 0$ .

<sup>41</sup> By FOC (A.2),  $\iota \frac{S_K^{1W}}{S^{1W}} + (1-\iota)\frac{1}{\pi}\frac{\partial\pi}{\partial K} = 0$ . When  $\iota = 0$ , it reduces to  $\frac{\partial\pi}{\partial K} = 0$ . When  $\iota = 1$ , it reduces to  $S_K^{1W}(\phi,K,L) = 0$ , which implies  $S_K^2(K,L) = 0$  and then  $\frac{\partial\pi}{\partial K} = (1-\phi)S_K^2(K,L) + (c'-c) = c'-c < 0$ . When  $\iota \in (0,1)$ , the FOC implies  $\frac{\partial\pi}{\partial K} = -\frac{\iota}{1-\iota}\frac{\pi}{S^{1W}}S_K^{1W} < 0$  since  $S_K^{1W}|_{K=K^*} = \phi S_K^2 = \phi(F_K - c') > 0$ .

So overall, we can consider three cases. For  $\iota=0$ ,  $\frac{\partial \pi}{\partial K}|_{K=K^*}=0$  (see Footnote 41), and we only have the mechanical effect:  $\frac{d\pi}{d\phi}=\frac{\partial \pi}{\partial \phi}=-S^2<0$ .

With  $1 > \iota > 0$  there is some attenuation of the negative effect of  $\phi$  on profits, but it is not sufficient to reverse it:  $\left| -S^2 \right| > \left| \frac{\partial \pi}{\partial K} \frac{\partial K}{\partial \phi} \right|$ .

Finally, for  $\iota = 1$ , we again only have the mechanical effect, since the effect of  $\phi$  on  $K^*$  is inconsequential, as workers always set inputs to maximize  $S^{1W} = S^{2W} = \phi S^2$ .

So we have

$$\frac{d\pi}{d\phi} = -S^2 \text{ for } \iota \in \{0, 1\} \text{ and } -S^2 < \frac{d\pi}{d\phi} < 0 \text{ for } \iota \in (0, 1).$$
 (A.36)

**Profits and**  $\iota$  The effect of  $\iota$  on profits is given by

$$\frac{d\pi}{d\iota} = \frac{\partial\pi}{\partial\iota} + \frac{\partial\pi}{\partial K}\frac{\partial K}{\partial\iota} + \frac{\partial\pi}{\partial L}\frac{\partial L}{\partial\iota}.$$
 (A.37)

First, the direct mechanical effect on profits is zero i.e.  $\frac{\partial \pi}{\partial \iota} = 0$ . Second, evaluating  $\frac{\partial \pi}{\partial K} \frac{\partial K}{\partial \iota}$ , we find that  $\frac{\partial \pi}{\partial K}|_{K=K^*} \leq 0$  (see Footnote 41) and  $\frac{\partial K}{\partial \iota} > 0$  per Equation (A.25) (which extends to the context with endogenous labor). Finally,  $\frac{\partial \pi}{\partial L} = (1 - \phi)S_L^2 = 0$  by FOC in Equation (A.27). So we have (for  $\iota > 0$ ):<sup>43</sup>

$$\frac{d\pi}{d\iota} < 0. \tag{A.38}$$

$$\frac{d\pi}{d\phi} < 0 \iff -S^2 + S_K^{1F} \frac{\partial K}{\partial \phi} + S_L^{1F} \frac{\partial L}{\partial \phi} < 0 \iff -S^2 + S_K^{1F} \frac{S_K^2}{S^{1F}B} + 0 < 0 \iff B < \frac{S_K^{1F}}{S^{1F}} \frac{S_K^2}{S^2}$$
(A.32)

$$\iff \iota\left(\frac{S_{KK}^{1W}S^{1W} - S_{K}^{1W}S_{K}^{1W}}{S^{1W}S^{1W}}\right) + (1 - \iota)\left(\frac{S_{KK}^{1F}S^{1F} - S_{K}^{1F}S_{K}^{1F}}{S^{1F}S^{1F}}\right) < \frac{S_{K}^{1F}}{S^{1F}}\frac{S_{K}^{2}}{S^{2}},\tag{A.33}$$

where the second implication uses Equations (A.5) and (A.15), and in the second line we use the definition of B in (A.3). Recall that from FOC (A.2),  $\frac{S_K^{1F}}{S^{1F}} = -\frac{\iota}{1-\iota} \frac{S_K^{1W}}{S^{1W}} = -\frac{\iota}{1-\iota} \frac{S_K^2}{S^2}$ , that  $S_{KK}^{1W} = \phi S_{KK}^2$  and that  $S_{KK}^{1F} = (1-\phi)S_{KK}^2$ . After some replacements and rearrangement, the condition becomes:

$$S_{KK}^{2} \left( \frac{\iota \phi}{S^{1W}} + \frac{(1-\iota)(1-\phi)}{S^{1F}} \right) - \iota \left( \frac{S_{K}^{2}}{S^{2}} \right) \left( \frac{S_{K}^{2}}{S^{2}} \right) - (1-\iota) \left( -\frac{\iota}{1-\iota} \frac{S_{K}^{2}}{S^{2}} \right) \left( -\frac{\iota}{1-\iota} \frac{S_{K}^{2}}{S^{2}} \right) < -\frac{\iota}{1-\iota} \frac{S_{K}^{2}}{S^{2}} \frac{S_{K}^{2}}{S^{2}}$$
 (A.34)

$$S_{KK}^{2} \left( \frac{\iota \phi}{S^{1W}} + \frac{(1 - \iota)(1 - \phi)}{S^{1F}} \right) - \frac{\iota}{1 - \iota} \frac{S_{K}^{2}}{S^{2}} \frac{S_{K}^{2}}{S^{2}} < -\frac{\iota}{1 - \iota} \frac{S_{K}^{2}}{S^{2}} \frac{S_{K}^{2}}{S^{2}}. \tag{A.35}$$

Given that at the optimum  $S_{KK}^2 < 0$  and the parenthetical term is positive, the condition holds. <sup>43</sup>Due to the envelope theorem  $\frac{d\pi}{d\iota} = 0$  out of an initial level of  $\iota = 0$ .

<sup>&</sup>lt;sup>42</sup>This derivation is easier using the notation  $S_K^{1F} = \frac{\partial \pi}{\partial K}$ .

## B Data Appendix

## **B.1** Data Construction

## B.1.1 Versions of Bureau van Dijk Orbis Data

This section details the construction of our main data set. To construct the most comprehensive data set of firms' financial information, we draw on several versions of the Bureau van Dijk Orbis data set. **Bureau van Dijk WRDS** data sets are the Orbis data sets pulled from Wharton Research Data Services. **Orbis Historical** data sets have information on additional firms beyond those still included in the BvD data. **EBDC** data sets also have information on firms beyond the 10 years available from BvD and are based on data by the LMU-ifo Economics & Business Data Center (EBDC). **Dafne** is a database by Bureau van Dijk with additional information on German firms. Specifically, we draw on the following data sets:

- 1. **Orbis Historical, legal information**, which contains date of incorporation and corporation type,
- 2. **Orbis Historical, contact information**, which contains firm location,
- 3. **Orbis Historical, industry classification**, which contains various industry classifications, including NACE Rev. 2,
- 4. **Orbis Historical, financial information**, which contains data from income statements and balance sheets,
- 5. **Orbis Historical, ownership information**, which contains information on shareholders and ultimate owners,
- 6. **Bureau van Dijk WRDS, ownership**, which also contains information on shareholders and ultimate owners,
- 7. **Bureau van Dijk WRDS, industry classification**, which contains various industry classifications, including NACE Rev. 2,
- 8. **Bureau van Dijk WRDS, managers**, which contains information on members of supervisory and executive boards,
- 9. **EBDC**, **financial and contact information**, which contains the date of incorporation, corporation type, industry classifications, and information from income statements and balance sheets.

10. **Dafne, trade register entry information**, which contains the date of the firm's first entry into the German Trade Register (*Handelregister*) in the Dafne data set.

## **B.1.2** Preparing the Financial Data Sets

We begin by identifying the ID numbers of firms incorporated from 1990 through 1999 in both the Orbis Historical and EBDC financial data sets.

We then de-duplicate the financial data for these firms so that there is one observation per year for each firm:

- 1. Unconsolidated reports take precedence over consolidated reports.
- 2. If the firm-year has an unconsolidated statement with a consolidated companion (consolidation code: U2) and an unconsolidated statement without a consolidated companion (consolidation code: U1), take the latter.
- 3. If there are two unconsolidated statements of the same type, take the one that is filed as an annual report.
- 4. If there are still duplicates within firm-year, take the statement with the latest date in the year.

For the Orbis Historical financial data, we then merge the Orbis Historical and Bureau van Dijk WRDS industry classification files using the BvD ID, specifically the NACE Rev. 2 designations. If the industry classification is missing from the Orbis Historical file, we fill it in with the Bureau van Dijk WRDS file.

#### **B.1.3** Pooling Orbis Historical and EBDC Financial Data Sets

We then pool the Orbis Historical and EBDC financial data. If a firm-year observation exists in both files and has non-missing information in both, we prioritize the (larger and better filled) Orbis Historical data.

For the industry classifications, this then means that our order of priority for industry classification is Orbis Historical, Bureau van Dijk WRDS, and then EBDC.

## **B.1.4** Incorporation Date Adjustment

Some firms have different incorporation dates in the Orbis Historical and EBDC data sets. In this case, we take the earlier incorporation date.

The 1994 reform of the Corporation Law stipulates that the incorporation date relevant to the worker representation mandate is the date of entry into the German Trade Register (*Handelsregister*). In the 1990s, the firm's date of trade register entry was often up to a few months after the establishment date of its charter (*Feststellung der Satzung*).

To use the most accurate legally relevant incorporation date, we replace the incorporation date in the Orbis Historical/EBDC data sets with the date of first trade register entry from the Dafne data set if the date of first trade register entry is within one year (365 days) of the firm's assigned incorporation date. If the Dafne date is more than a year before or after the incorporation date in the Orbis Historical/EBDC data sets, we assume that the first trade register entry date reported in the Dafne data set is not the true first entry date.

## **B.1.5** Board Composition Data

We use information on board composition from the Bureau van Dijk WRDS data set, which is a cross section from 2018 at the individual-position-firm level. We have access to a similar data set from Orbis Historical, but there were fewer firms and observations were often unfilled. After isolating firms incorporated in the 1990s, we take the following steps to adjust the data to the firm level:

- 1. We label any position with the words "Aufsichtsrat" or "Supervisory Board" as a supervisory board position. Individuals with both supervisory and non-supervisory positions make up only 0.15% of the data and are dropped. We can then aggregate the data to the firm-individual level, where each individual is either supervisory or non-supervisory.
- 2. We calculate **tenure** as the number of years between the individual's earliest appointment date and 2018.
- 3. We calculate **size** as the number of individuals in supervisory and non-supervisory positions.
- 4. We label individuals as **a PhD/professor** if their name contains "Prof", "Professor", "Doktor", or "Dr."
- 5. We label **aristocratic names** as those with "von", "v." "Graf", "Gräfin", "Baron", "Baronin", "Freiherr", "Frhr", "Freifrau", "Frfr", or "zu".
- 6. We identify **gender** from a gender indicator in the data set.

7. We then are able to aggregate to the firm level and thereby measure shares and presence of various groups in supervisory and non-supervisory boards.

## **B.1.6** Ownership Data

We use information on ownership, i.e. shareholders, from both the Bureau van Dijk Orbis Historical and the Bureau van Dijk WRDS data sets. The procedure to obtain the state and family ownership conditions in each data set is described below. Using the Orbis Historical data set, we additionally drop firms classified as branches from our analysis.

**Bureau van Dijk Orbis Historical** We first obtain shareholder-subsidiary links, which are separated by year into eleven different files for the period 2007 to 2017. We consider both archived and active links and loop over each file.

We use the GUO 50 variable, which identifies the Global Ultimate Owner of the firm that directly or indirectly controls more than 50% of the voting stock, to identify shareholders classified as "Public Authorities, States, Governments". These are type-S shareholders in the Orbis Historical database. We then tag all firms whose domestic ultimate owner possessing more than 50% of the firm was a type-S shareholder at any point in time. Our state ownership restriction excludes these tagged firms from the analysis.

To construct the 100% family ownership variable, we consider both direct and indirect ownership, since a firm can assert the same codetermination exception through indirect ownership (i.e. through an intermediate firm). We can observe the percentage of direct or indirect ownership by year associated to a shareholders BvD ID. First, we drop all firms not classified as AGs or GmbHs. We only consider global ultimate shareholder links classified as families or individuals and obtain their last name. In practice, this is usually the first word of the shareholder name, since the naming convention in the Orbis Historical Ownership files is to order last names first. There are two general exceptions to this that we identified. The first occurs when family names are listed as, e.g. "Familie Porsche". A second exception applies to last names beginning with the word "von". In both of these cases, we simply take the second word in the shareholder name to obtain shareholder last name.

We then aggregate the percentage of direct or indirect ownership by firm, year, and last name. To deal with rounding issues we compute direct or indirect ownership across all shareholders to see if the percentages either add to 100 exactly or to a number between 99.9 (inclusive) and 100. In the second case, if the total for same last name and the total for all shareholders add to the exact same number, we assume there was a rounding error and treat the firm as if it were 100% owned by a single family. This is consistent with

the procedure we employed for the WRDS data below. We tag the firms whose aggregate direct or indirect ownership percentage by firm, year, and last name equal 100%. Our family ownership restriction excludes these tagged firms from the analysis.

In addition to the above, we tag firms classified as "Branch" independently of their status as shareholder or LLCs. These are type-Q shareholders in the Orbis Historical database. Our branch restriction excludes these tagged firms from the analysis.

**Bureau van Dijk WRDS** After isolating firms incorporated between 1989 and 1999, we take the following steps to adjust the data to the firm level:

- 1. A variable contains the share that each shareholder owns in the firm. We convert the non-numerical designations:
  - We remove the symbols >, <, and  $\pm$ .
  - We convert the following designations to 100%:
    - WO (wholly owned)
    - VE (vessel), which does not appear in our ownership file
    - T (sole trader)
    - FC (foreign company), i.e. marking a foreign firm
  - We convert "NG" (negligible) to 0.01%.
  - We convert "MO" (majority-owned) and "CQP1" (50% + 1 share) to 50.01%.
- 2. We identify **state shareholders** as those with shareholder type S (public authorities, states, governments) or those with "KfW Bankengruppe" in their name. The KfW is a German state-owned development bank. We consider the total share owned by these shareholders as the **proportion state-owned** in the firm.
- 3. We define family ownership in two ways:
  - (a) If there is only one shareholder, and that shareholder is of shareholder type I (one or more known individuals or families), then the firm is defined as fully family-owned.
  - (b) Take the last name of all shareholders of shareholder type I (one or more known individuals or families). In practice, this is the last word of the shareholder name, since this is either an individual's last name or the family name only (e.g. "Familie Porsche"). Sum the shares owned by each last name for each firm. If a firm has at least 99.99% of all shares owned by one last name, then we designate

it as fully family-owned. If it has at least 50% of all shares owned by one last name, we designate it as partially family-owned.

4. We then sum all shares owned by the state and by individuals, aggregating to the firm level.

#### **B.1.7** Orbis-ADIAB

Next, we describe the construction of the Orbis-ADIAB data from IAB below.

Establishment-History-Panel (BHP) Data The Establishment History Panel (Betriebs-Historik-Panel, BHP) data contains aggregations of individual social security records by establishment ID. It is composed of cross-sectional data sets since 1975 for West Germany and 1991 for East Germany. Every cross section contains all establishments in Germany with at least one employee subject to social security on June 30th. Since 1999, also establishments consisting solely of one marginal part-time employee are included. The BHP data contains information about the branch of industry and the location of the establishment. Furthermore, there is the number of employees liable to social security per establishment, as well as marginal part-time employees (since 1999), both in total and broken down by various demographic and skill categories.

Integrated Employment Biographies (IEB) Database The Orbis-ADIAB database contains spells from the Integrated Employment Biographies (IEB), i.e. worker-level information, which for this merged data set is restricted to the years 1990 to 2014. The source is administrative records on employees from the notification process to the social security institutions in Germany as well as from internal processes of the German Federal Employment Agency. Every employer in Germany is obligated to submit at least once a year a notification on each of his employees to the social security institutions. Information submitted includes daily exact information on the start and the end date of employment, along with gender, educational attainment, (qualitative) information on full- or part-time work, occupation, place of residence, and the gross wages paid to the employee for the covered period, among others. If an employee is continuously employed all year, the recorded beginning and end dates of employment are January 1st and December 31st.

**Linking the Data** Schild (2016) and Antoni et al. (2018) describe the linking process in detail. The data set was created by linking administrative employer-employee data at the establishment level with Orbis financial and production data at the firm level. In a first

step, a cross-walk between BvD company IDs and BHP establishments and hence BHP ID was established by applying records linkage techniques based on firms' names, industry and other characteristics. The match rate for stock corporations, i.e. the legal form affected by the reform we study, is the highest among all legal forms at 70.34% (see Schild, 2016; Antoni et al., 2018, , who also describe the linking process and the data set more generally). This BvD ID/establishment ID crosswalk is conducted for cross sections from 2006 to 2014. Based on the resulting crosswalk, additional waves of BHP establishment data for previous years were merged.

**Preparation of the Linked Data** For the preparation of our final analysis data, we start with the Orbis component of the Orbis-ADIAB data.

- 1. We exclude all firms with an incorporation date before December 31, 1989. We keep the most recent incorporation date in case there are multiple entries per firm identifier.
- 2. Our version of the data includes two variables for the incorporation date. One only includes the year of incorporation, while the other contains more detailed information on this date. The detailed variable was extracted from a more recent version of the Orbis database. We restrict the sample to cases in which the year of incorporation in the more recent and detailed variable matches with the year information in the less detailed version of this variable.
- 3. For the purpose of applying our standard Orbis-based sample restrictions to the pre-Orbis years for which we have IAB matched employer-employee data but no Orbis data (recall that most variables in the Orbis part of the Orbis-ADIAB data are only populated as of 2006, so our ORBIS-ADIAB panel goes back earlier but only for the IAB variables), we extrapolate a given Orbis firm's earliest non-missing Orbis variables to these pre-2006 years. Then, we keep only the firms we observe in the Orbis Historical / WRDS / EBDC / Dafne data (detailed in Appendix Section B.1.1) after we apply our standard sample restrictions and cleaning procedures, which we detail below in Appendix Sections B.2.2 and B.2.3.
- 4. We aggregate information stemming from the BHP and IEB data to the firm-year level by BvD ID. (For the establishment-level variables, we weight by the establishment's share of total firm employment.)
- 5. We drop any spells from the worker-level data with earnings of less than 1 Euro per day. We also exclude spells indicating single or lump-sum payments.

- 6. In order to form occupational groups we rely on the classification introduced by Blossfeld (1987).
- 7. We construct the firm- and worker-level AKM effects by following Card, Heining, and Kline (2013) but relying on the firm level rather than establishment-level information and drawing on information from 1990 to 2009. We also conduct this analysis on the basis of the fuller Orbis-ADIAB firm sample before restricting the sample to the firms observed in our main sample, described in Appendix Section B.1.1.

#### **B.1.8** Additional Data Sources

We draw on two additional, separate data sources.

Firm Panel Data: Mannheim Enterprise Panel (MUP) We draw on data from the Mannheim Enterprise Panel provided by Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim, a firm panel data set containing information on incorporations and exits (see Bersch et al., 2014, for detailed information). Comprehensive data on incorporations are provided by Creditreform e.V., Germany's largest credit rating agency, based on official registers and are available from 1991 onward for corporations.

We apply the same industry restrictions in the MUP data as in our overall sample as described below in Section B.2.3. Importantly, we cannot apply the same restrictions regarding state and family ownership since such information is not recorded in the data. In addition, we cannot restrict the analysis to firms above the 10 employee threshold as employment is not comprehensively recorded in the relevant sample years.

**Hoppenstedt Aktienführer** We also draw on the Hoppenstedt Aktienführer covering all *listed* German firms from 1979 to 2015 including data on worker representatives on firms' supervisory boards.<sup>44</sup> We focus on consolidated statements from firms and drop state-owned enterprises.

## **B.2** Sample Construction

We describe how we construct our main analysis sample from the merged Orbis Historical / WRDS / EBDC / Dafne data set.

<sup>&</sup>lt;sup>44</sup>The historical Hoppenstedt Aktienführer data have been digitized through a project by the German Research Foundation (*DFG*) and were retrieved from https://digi.bib.uni-mannheim.de/aktienfuehrer/.

## **B.2.1** Corporation Type

Before cleaning, we keep all firms ever labeled as one of the following corporation types:

## Stock corporations

- *Aktiengesellschaft* (Public limited company)
- KGaA (Limited partnership by shares)
- *GmbH & Co. KGaA* (Limited liability company and partnership by shares)

## Limited liability companies (LLCs)

- *GmbH* (Limited liability company)
- *GmbH & Co. KG* (Limited liability company and partnership)

Our standard analysis sample uses all observations where firms are labeled as one of these corporation types, but we keep all observations for all firms labeled as one of these corporations in their earliest observation and at their earliest (pre-trade register entry adjustment) incorporation date.

## **B.2.2** Sample Cleaning Procedure

After adding the board composition and ownership data sets, we construct our sample as described below, broadly following the criteria in Gopinath et al. (2017) where applicable to our data set. We deviate slightly from the cleaning procedure in Gopinath et al. (2017) in three ways. First, we generally set variable values to missing instead of dropping firm-year observations. Second, for the internal consistency of balance sheet information, we set each of the variable values in the numerator to missing if the values of the ratios are outside of the [0.999, 1.001] interval, as opposed to dropping firm-year observations that are below the 0.1 percentile or above the 99.9 percentile of the distribution. Third, we also set fixed assets, added value, and wage bill to missing if zero or negative. We detail our sample cleaning procedure as follows:

- 1. Drop if number of months is fewer than 12 or observation year precedes incorporation year
- 2. Set total assets to missing if zero or negative
- 3. Set operating revenues to missing if zero or negative
- 4. Set employment to missing if negative

- 5. Set employment to missing if greater than 2 million
- 6. Set sales to missing if negative
- 7. Set tangible assets to missing if negative
- 8. Set fixed assets to missing if zero or negative
- 9. Set added value to missing if zero or negative
- 10. To check for the for the internal consistency of balance sheet information, we generate the following ratios from BvD variables and set the variables in the numerator to missing if less than 0.999 or greater than 1.001, i.e. if the sum is more than 0.1% away from the composite value.
  - (a) (Tangible assets + Intangible assets + Other fixed assets) / Fixed assets
  - (b) (Stocks + Debtors + Other current assets) / Current assets
  - (c) (Fixed assets + Current assets) / Total assets
  - (d) (Capital + Other shareholders' funds) / Shareholders' funds
  - (e) (Long-term debt + Other non-current liabilities) / Non-current liabilities
  - (f) (Loans + Creditors + Other current liabilities) / Current liabilities
  - (g) (Non-current liabilities + Current liabilities + Shareholders' funds) / Total shareholders' funds and liabilities
  - (h) (EBIT + Depreciation) / EBITDA
- 11. Set shareholders' funds, total shareholders' funds and liabilities to missing if Total shareholders' funds and liabilities are less than Shareholder's funds
- 12. Generate the following ratio and set all variables in construction to missing if less than 0.9 or greater than 1.1
  - (a) (Total shareholders' funds and liabilities Shareholders' funds) / (Current liabilities + Non-current liabilities)
  - (b) (Total assets Current liabilities Non-current liabilities) / Shareholders' funds
- 13. Set to missing if any of the following is negative:
  - (a) Current liabilities
  - (b) Non-current liabilities

- (c) Current assets
- (d) Loans
- (e) Creditors
- (f) Other current liabilities
- (g) Long-term debts
- 14. Set long-term debts and liability variables to missing if long-term debts are larger than total liabilities (Current liabilities + Non-current liabilities)
- 15. Set to missing if wage bill is negative or zero
- 16. Set to missing if intangible assets are negative
- 17. Set to missing if tangible assets are zero or missing
- 18. Set to missing tangible assets if tangible assets are larger than total assets
- 19. Set to missing if depreciation is negative
- 20. Construct operating expenses by subtracting EBIT from Operating revenue. Set operating revenue and EBIT to missing if this value is negative or at or above the 99th percentile.
- 21. Set PLAT and Extraordinary P/L to missing if Extraordinary P/L is exactly equal to PLAT
- 22. Generate the following ratios and set variables in the construction to missing if it's less than the 0.1th percentile or 99.9th percentile
  - (a) Capital / Wage bill
  - (b) Tangible assets / Shareholders' funds
  - (c) Total assets / Shareholders' funds
- 23. Set to missing if Shareholders' funds are negative
- 24. Set other shareholders' funds to missing if Other shareholders' funds is less than the 0.1th percentile
- 25. Set operating revenue and material costs to missing if operating revenue material costs are negative

- 26. Generate the following ratio and set variables in construction to missing if it's less than the 1st percentile or larger than 1.1
  - (a) Wage bill / (Operating revenue Material costs)
- 27. Set current liabilities, non-current liabilities, long-term debts, and laons to missing if the fraction of total liabilities (Current liabilities + Non-current liabilities) composed of debt (Long-term debt + Loans) is greater than 0% but no more than 1%.

## **B.2.3** Sample Restrictions

After cleaning and variable construction, we drop the following industries that are either characterized by heavy state involvement or comprised of non-profit or media firms largely exempt from one-third codetermination (§ 1 (2) *DrittelbG*):<sup>45</sup>

- Electricity, gas, steam and air conditioning supply (NACE 35)
- Water collection, treatment and supply (NACE 36)
- Sewerage (NACE 37)
- Waste collection, treatment and disposal activities; materials recovery (NACE 38)
- Passenger and freight rail transport (NACE 491 and 492)
- Publishing: newspapers and magazines (NACE 5813)
- Broadcasters (NACE 60)
- Scientific Activities (NACE 72)
- Public administration and defence; compulsory social security (NACE 84)
- Education (NACE 85) excluding driving and flying schools (NACE 8553)
- Charities (NACE 87 and 88)
- Activities of membership organisations (NACE 94)
- Activities of households as employers of domestic personnel (NACE 97)

<sup>&</sup>lt;sup>45</sup>Specifically, § 1 (2) *DrittelbG* exempts enterprises that predominantly pursue political, coalitional (labor or employer representation), religious, charitable, educational, scientific or artistic goals as well as media organizations.

- Undifferentiated goods-and services-producing activities of private households for own use (NACE 98)
- Activities of extraterritorial organisations and bodies (NACE 99)

We then drop firms with more than 50% state ownership, as well as Deutsche Telekom, Deutsche Bahn, and Deutsche Post DHL (the formerly state-owned telecommunications, railway and postal service firms that were privatized in the mid-1990s), as well as the subsidiaries of these firms that we can identify in the data. To do so, we drop firms that have a Domestic Ultimate Ownership link indicating more than 50% ownership by a government entity.

In a similar fashion, we eliminate fewer than 100 firms from our analysis on the basis of one of the following criteria:

- Their links to Deutsche Telekom, Deutsche Bahn, or Deutsche Post DHL (where examples include "DB Station & Service Aktiengesellschaft", "Deutsche Telekom Strategic Investments GmbH", "Deutsche Post Grundstücks-Vermietungsgesellschaft mbH", etc.)
- Their contact information indicating their legal residence is outside of Germany (this
  drops exactly one firm in the Orbis data)
- Subsidiaries of large business groups that we identified ("Daimler AG", etc.)

We also drop stock corporations wholly owned by individuals with the same last name. The reason is that even before 1994, the law always exempted stock corporations wholly owned by one family from one-third codetermination so that such firms were not affected by the 1994 reform. We describe how we identify such family stock corporations in Appendix Section B.1 above.

We then exclude all remaining not-for-profit or firms in the data if we can observe their not-for-profit legal status in their names as non-profits are largely exempt from one-third codetermination (§ 1 (2) *DrittelbG*). In Germany, not-for-profit status can be inferred by observing a letter "g" prefixed to the corporation type "AG" or "GmbH". We thus exclude all firms where we can find either a "gAG" or "gGmbH" string in their name.<sup>46</sup>

Lastly, we drop all firms classified as branches by either the WRDS or the Orbis Historical sources, as well as firms with fewer than 10 employees as locked-in firms with very few employees are exempt from board-level codetermination (Müller-Glöge et al., 2019, DrittelbG § 1 Rn. 8).

<sup>&</sup>lt;sup>46</sup>Only few firms carry the "gAG" prefix in our data, therefore our industry restrictions described above are more relevant for excluding firms not subject to codetermination.

#### **B.3** Variable Construction

#### **B.3.1** Financial Variables

After cleaning, we construct the following financial variables.

- Debt = Loans + Long-term Debt
- Non-Debt Liabilities = Current Liabilities + Non-Current Liabilities Debt
- Labor Share =  $\frac{\text{Wage Bill}}{\text{Value Added}}$
- Net Cash Flow from Financial Activities

$$= \frac{1-\text{Year Change in Capital} + 1-\text{Year Change in Debt}}{\text{Total Assets}}$$

- Cost of Debt =  $\frac{\text{Interest Paid}}{\text{Debt}}$
- Leverage =  $\frac{\text{Debt}}{\text{Debt+Shareholders' funds}}$
- KZ Index

- We exclude dividends, which are not included in the BvD data.
- HP Index = -0.737(Log (Inflation Adjusted) Total Assets) +0.043(Log (Inflation Adjusted) Total Assets)<sup>2</sup> -0.040(Yeas since Incorporation as AG)

- We exclude dividends, which are not included in the BvD data.

```
+0.033(\frac{\text{EBIT}}{\text{Total Assets}})
                                                 Market Value of Equity
    + 0.006( Total Shareholder Funds and Liabilities - Shareholders Funds + 0.999( Total Assets)
• Z-Score for Private Firms
= 0.717(\frac{\text{Working Capital}}{\text{Total Assets}}
    - 0.717( Total Assets )
+ 0.847( Other Shareholders Funds )
    + 0.420( Total Shareholder Funds and Liabilities - Shareholders Funds )
+ 0.998( Turnover Total Assets)
• Z-Score four variable for Private Firms
= 3.25 + 6.56(\frac{\text{Working Capital}}{\text{Total Assets}})
+ 3.26(\frac{\text{Other Shareholders Funds}}{\text{Total Assets}})
+ 6.72(\frac{\text{EBIT}}{\text{Total Assets}})
                                                  Shareholders Funds
    + 1.05( Total Shareholder Funds and Liabilities - Shareholders Funds
• O-Score
    = -1.32
    - 0.407(Log (Inflation Adjusted) Total Assets)
+ 6.03( Total Shareholder Funds and Liabilities - Shareholders Funds
   Total Assets

-1.43(\frac{\text{Working Capital}}{\text{Total Assets}})

+0.0757(\frac{\text{Current Liabilities}}{\text{Current Assets}})

-2.37(\frac{\text{Profit (Loss) for Period}}{\text{Total Assets}})

-1.83(\frac{\text{Profit before Taxes} + Depreciation}{\text{Total Shareholder Funds and Liabilities}} - \text{Shareholders Funds})

+0.285(\text{Indicator for (Lagged Profit for Period} + Two Period Ago Profit for Period)} < 0)
                                                         Total Assets
    -0.521(\frac{11000 \text{ Period}}{\text{Abs(Profit for Period)}}) + \text{Abs(Lagged Profit for Period)})
• Dummy Low Reserves = \mathbb{1}_{\{Other Shareholders Funds < 0.1*Capital\}}
• Dummy Negative Profit = 1{Profit for Period < 0}
• Dummy RE more than 1/2 CE = \mathbb{1}{Other Shareholders Funds \geq 0.5 * \text{Capital}}
                                             Other Shareholders \mathsf{Funds}_{t+1} – Other Shareholders \mathsf{Funds}_t
• Retained Profit Share<sub>t</sub> =
                                                                                 Profit for Period<sub>t</sub>

    Retained Profit Share Excluding Profits,

        Other Shareholders Funds_{t+1} – P/L for Period_{t+1} – Other Shareholders Funds_t + P/L for Period_t
                                                                           P/L for Period<sub>t</sub>
• Retained Earnings<sub>t</sub> = \frac{\text{Other Shareholders Funds}_t}{\text{Total Assets}_t}
```

• Average Debt Maturity<sub>t</sub> = 
$$\frac{\text{Long Term Debt}_t + \text{Loans}_t}{\text{Loans}_t}$$

## **B.3.2** Firm-Level TFP Construction

Using the sample of firms incorporated five years around the reform cutoff date (i.e. 1989 to 1999), we keep all observations between 2005 and 2015 with non-missing values for industry classification, wage bill, and value-added. We apply the sample restrictions described in Appendix Section B.2.3. We then calculate industry-specific labor shares:

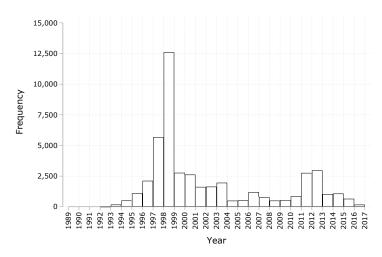
- 1. For each 2-digit NACE industry i and year t, we calculate the total wage bill and total value-added and divide the first by the second. Call this  $\alpha_{it}$ .
- 2. Within *i*, we replace any  $\alpha_{it} \ge 1$  with the highest  $\alpha_{it}$  among all *t* that is less than 1.
- 3. We calculate the industry-specific average share  $\alpha_i$  across all years t.
- 4. We then merge these industry-specific values back into the sample and calculate TFP based on fixed assets for every firm *f* of industry *i* and year *t*:

$$TFP_{ft} = \log(\text{Value Added}_{ft}) - \alpha_i \log(\text{Employment}_{ft}) - (1 - \alpha_i) \log(\text{Fixed Assets}_{ft})$$

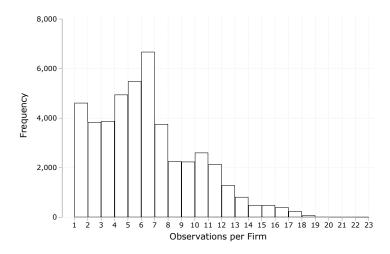
## C Additional Figures

Figure C.1: Distribution of Observations in the Bureau van Dijk Data

## (a) Distribution of Year of First Observation

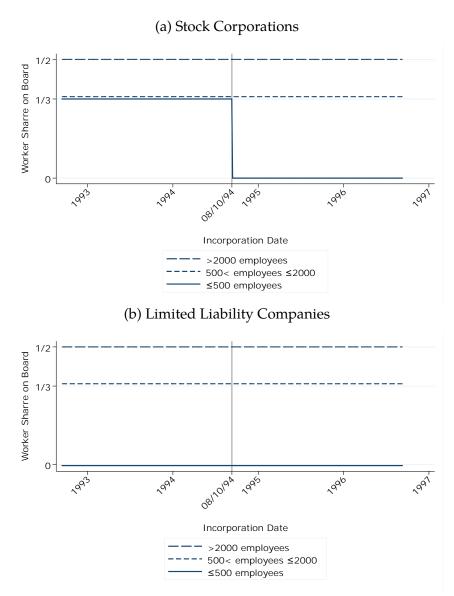


## (b) Distribution of Number of Firm-Year Observations



*Note*: The figure reports the distribution of the first year and the number of years firms are observed in our BvD data set. The sample is restricted to stock corporations (*AGs*) and limited liability companies (*GmbHs*) with 10 or more employees incorporated within two years of the reform date of August 10, 1994. See Appendix Section B for more information on the sample construction. See Appendix Table D.1 for additional summary statistics.

Figure C.2: Mandates for Shared Governance (Worker-Elected Directors) on Supervisory Board by Incorporation Date

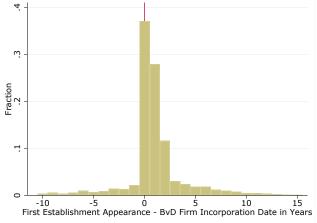


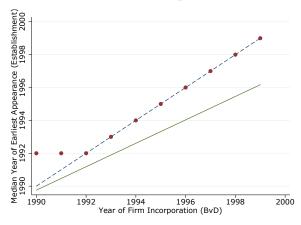
*Note*: The figure illustrates the share of worker-elected directors on the supervisory board by incorporation date as mandated by codetermination law (*MitbestG* and *DrittelbG*). Stock corporations incorporated before August 10, 1994 are mandated to have one-third worker representation on the supervisory board and parity if they have more than 2,000 employees. Family firms with fewer than 500 employees are exempt from shared governance unless they reach 500 employees. Stock corporations incorporated on or after August 10, 1994 cannot have workers on the supervisory board if they have fewer than 500 employees and are mandated to have one-third worker representation on the supervisory board between 500 and 2,000 employees and parity if they have more than 2,000 employees. The rules for LLCs broadly resemble those for stock corporations incorporated on or after August 10, 1994. See Section 3 for more information.

Figure C.3: Validation Exercises in Administrative IAB Data

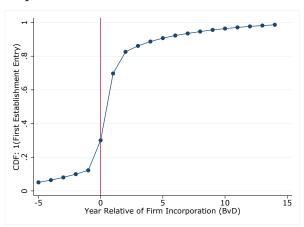
(a) Histogram of First Appearance Date of IAB Establishments vs. Firms' BvD Incorporation Dates (b) First Appearance Date of IAB Establishments

(b) First Appearance Date of IAB Establishments vs. Firms' BvD Incorporation Dates



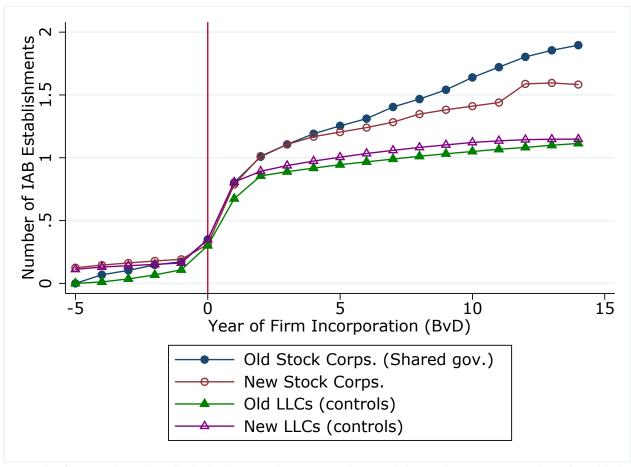


# (c) IAB Establishment Entry Around BvD Incorporation Date



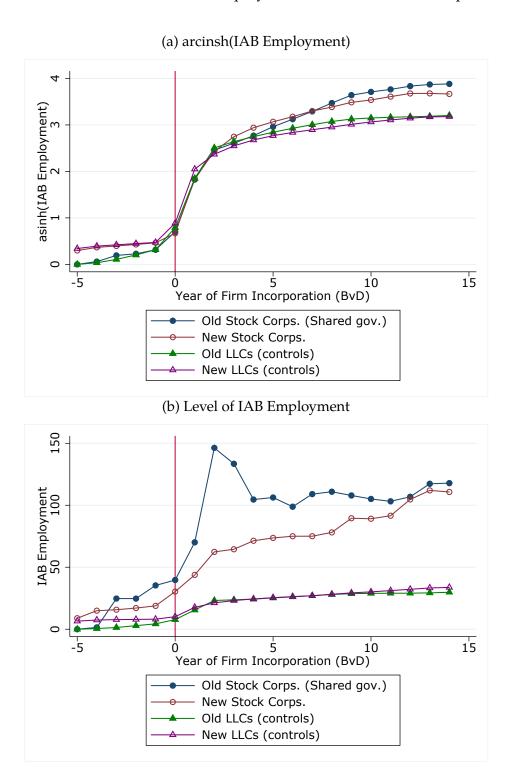
*Note*: The figure is based on the Orbis-ADIAB data and shows data for firms incorporated in the 1990s. Panel (a) plots a histogram of the date of the first appearance of an establishment in the administrative data relative to a firm's incorporation date as reported in BvD Orbis (based on the Commercial Register). For more than 50% of firms, the first occurrence of an establishment in the administrative IAB data is within a year of the BvD incorporation date. There is a small tail of establishments that appear in the administrative data before the legal incorporation. This could be due to the fact that establishments can keep the same establishment number even if the legal form or ownership of the firm changes or due to mismeasurement in the BvD incorporation date. There is a larger tail of first appearances after the legal incorporation. This could be due to the fact that the match between firm records (including the incorporation date) and establishments only occurs for the years between 2006 and 2014. As a consequence, we will miss establishments that had existed at some point before 2006 but closed by 2006, e.g., due to a firm's location change. In Panel (b), we provide a binned scatter plot of the first appearance date of establishments (median) in the administrative data against firms' BvD incorporation dates, along with the slope of the regression line. The figure also includes the diagonal in dashed blue. From 1990 to 1992, the average first appearance date in the administrative data is about a year or two after the legal incorporation. From 1993 onward, the mean first appearance date in the administrative data tracks the legal incorporation date very closely. In Panel (c), we plot the cumulative distribution function of establishment entry around the incorporation year. There is a sharp jump from about 0.1 to 0.7 from the year before legal incorporation to the year after.

Figure C.4: BvD Firms' Number of IAB Establishments Relative to BvD Incorporation Date



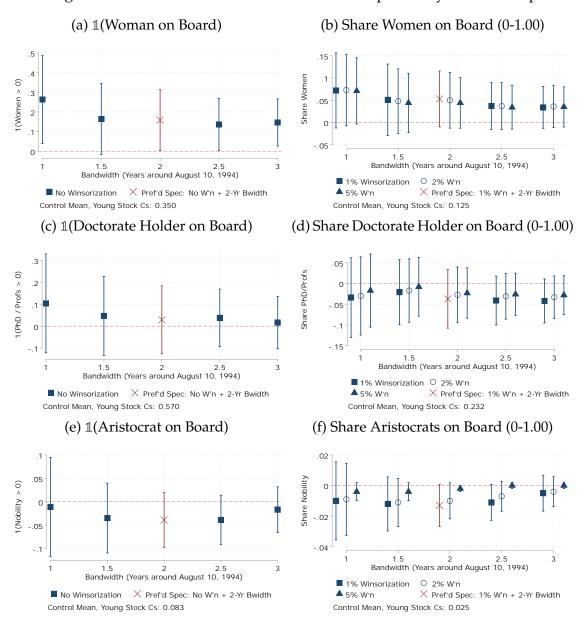
*Note*: The figure is based on the linked BvD Orbis-ADIAB data and shows the average number of establishments for firms incorporated in the 1990s. The navy line with solid circles plots the number of establishments for stock corporations incorporated before August 10, 1994 and the maroon line with hollow circles plots the number for stock corporations incorporated after the cutoff date. The green line with solid triangles and purple line with hollow triangles do so for old and new LLCs respectively.

Figure C.5: BvD Firms' Sum of IAB Employment Relative to BvD Incorporation Date



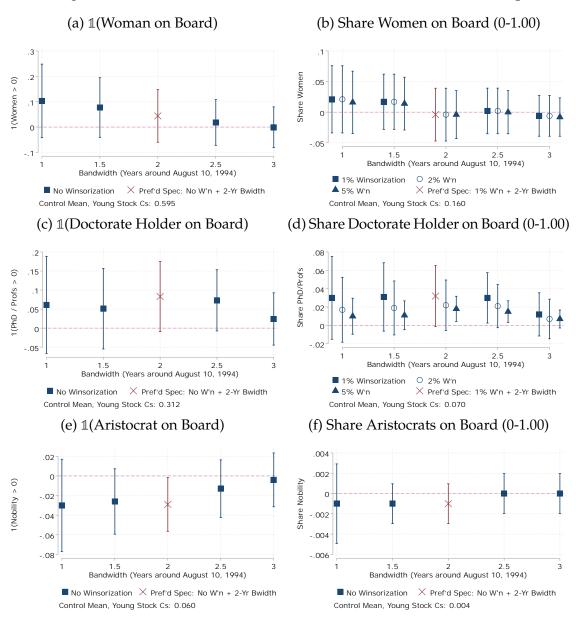
*Note*: The figure is based on the Orbis-ADIAB data and shows employment data for firms incorporated in the 1990s. Panels (a) and (b) plot employment as arcinsh(employment) and in levels, respectively. The navy line plots employment for stock corporations incorporated before August 10, 1994 and the maroon line employment for stock corporations incorporated after the cutoff date. The green line with solid triangles and purple line with hollow triangles do so for old and new LLCs respectively.

Figure C.6: Effect of Shared Governance on Supervisory Board Composition



*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on supervisory board composition at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. All specifications include industry fixed effects. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. Indicator outcomes are not winsorized. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

Figure C.7: Effect of Shared Governance on Executive Board Composition



*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on executive board composition at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. All specifications include industry fixed effects. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. Indicator outcomes are not winsorized. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

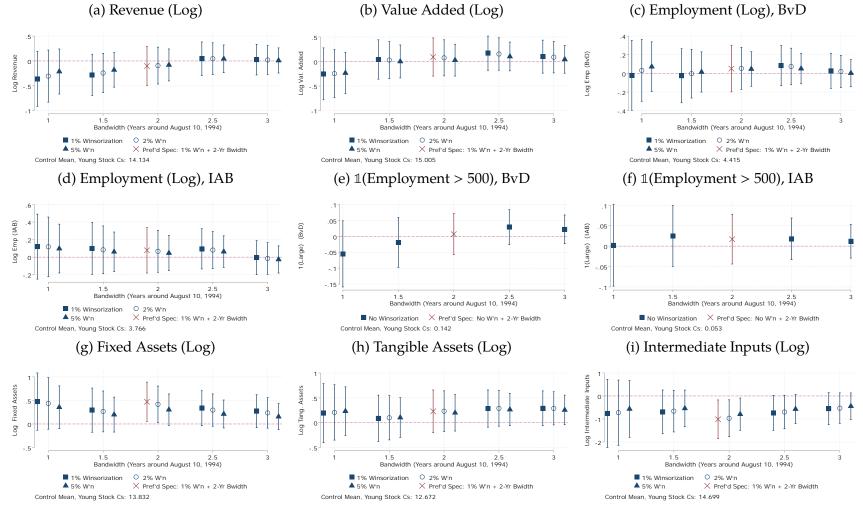


Figure C.8: Effect of Shared Governance on Firm Scale

*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on firm scale at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. Indicator outcomes are not winsorized. All specifications include industry-by-year fixed effects. The IAB label denotes outcomes from Orbis-ADIAB data. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

(a) Value Added per Worker (b) Value Added per Worker (Log) (c) Fixed Assets per Worker 100000 150000 Log VA / Emp. VA / Emp. 50000 1.5 2 2.5 Bandwidth (Years around August 10, 1994) 1.5 2 2.5 Bandwidth (Years around August 10, 1994) 1.5 2 2.5 Bandwidth (Years around August 10, 1994) O 2% W'n O 2% W'n O 2% W'n 1% Winsorization ■ 1% Winsorization X Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth Control Mean, Young Stock Cs: 9.0e+04 Control Mean, Young Stock Cs: 9.859 Control Mean, Young Stock Cs: 2.5e+05 (e) Capital Share (d) Fixed Assets per Worker (Log) (f) TFP (Fixed Assets) -.05 2.5 Bandwidth (Years around August 10, 1994) Bandwidth (Years around August 10, 1994) Bandwidth (Years around August 10, 1994) O 2% W'n O 2% W'n ■ 1% Winsorization O 2% W'n ■ 1% Winsorization 1% Winsorization X Pref'd Spec: 1% W'n + 2-Yr Bwidth ▲ 5% W'n X Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth Control Mean, Young Stock Cs: 9.217 Control Mean, Young Stock Cs: 0.301 Control Mean, Young Stock Cs: 6.998 (g) Value Added / Revenue 1.5 2 2.5 Bandwidth (Years around August 10, 1994) O 2% W'n 1% Winsorization ▲ 5% W'n X Pref'd Spec: 1% W'n + 2-Yr Bwidth

Figure C.9: Effect of Shared Governance on Productivity and Capital Intensity

*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on productivity at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. All specifications include industry-by-year fixed effects. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

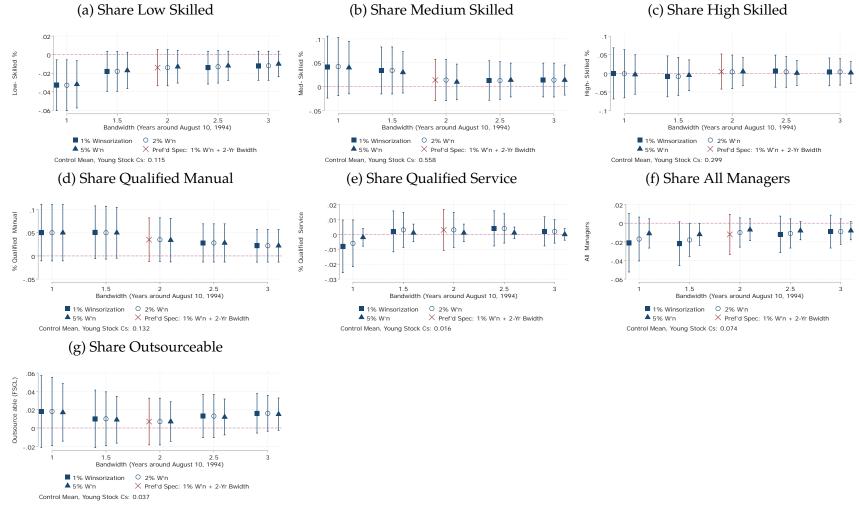
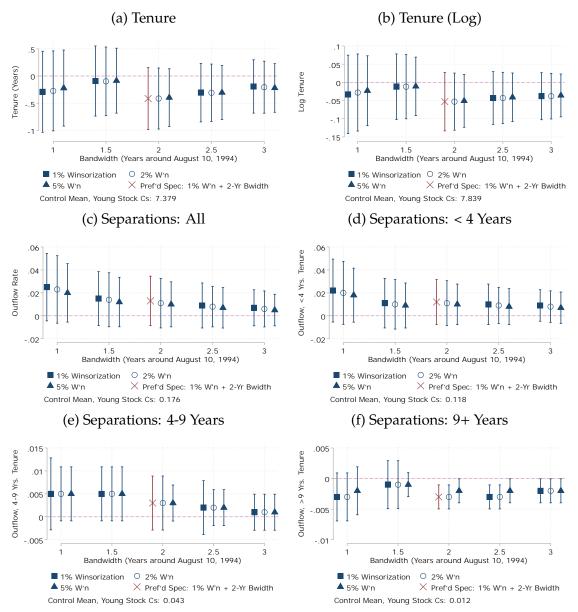


Figure C.10: Effect of Shared Governance on Skill Structure (Matched Employer-Employee Data)

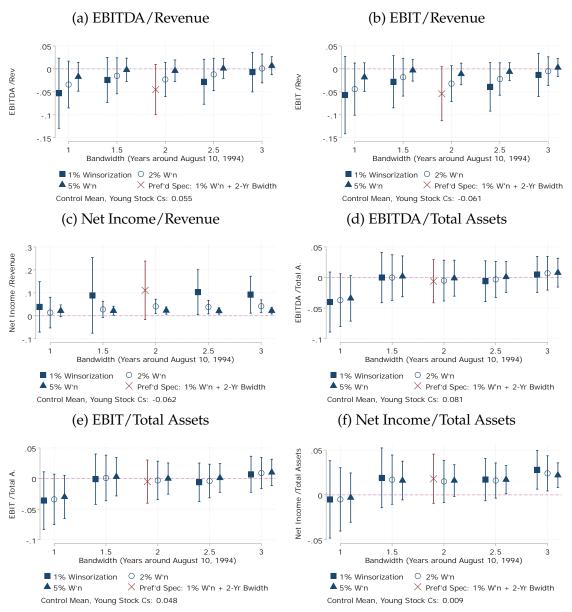
*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on skill structure at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. All specifications include industry-by-year fixed effects. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

Figure C.11: Effect of Shared Governance on Tenure (Matched Employer-Employee Data)



*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on tenure at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. Indicator outcomes are not winsorized. All specifications include industry-by-year fixed effects. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

Figure C.12: Effect of Shared Governance on Profitability



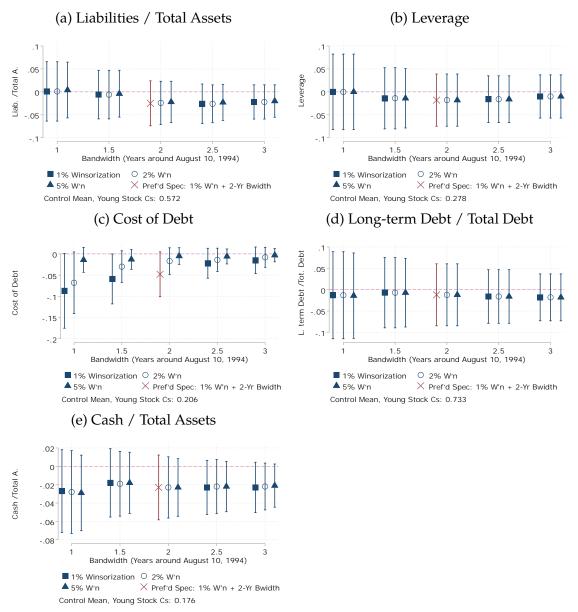
*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on profitability at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. All specifications include industry-by-year fixed effects. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

(a) Mean Wage (Log) (b) AKM Firm Effects (c) Wage, 25th Pct. (Log) Log Mean Wage .05 .05 .05 .05 1.5 2 2.5 Bandwidth (Years around August 10, 1994) 1.5 2 2.5 Bandwidth (Years around August 10, 1994) 1.5 Bandwidth (Years around August 10, 1994) O 2% W'n ■ 1% Winsorization O 2% W'n O 2% W'n ■ 1% Winsorization X Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth Control Mean, Young Stock Cs: 4.581 Control Mean, Young Stock Cs: 0.542 Control Mean, Young Stock Cs: 4.313 (d) Median Wage (Log) (e) Wage, 75th Pct. (Log) (f) Share Above Social Security Maximum 75th Pct og Median Wage .05 Log Wage, Bandwidth (Years around August 10, 1994) Bandwidth (Years around August 10, 1994) Bandwidth (Years around August 10, 1994) O 2% W'n O 2% W'n ■ 1% Winsorization ■ 1% Winsorization O 2% W'n ■ 1% Winsorization ▲ 5% W'n × Pref'd Spec: 1% W'n + 2-Yr Bwidth X Pref'd Spec: 1% W'n + 2-Yr Bwidth ▲ 5% W'n X Pref'd Spec: 1% W'n + 2-Yr Bwidth Control Mean, Young Stock Cs: 4.521 Control Mean, Young Stock Cs: 4.728 Control Mean, Young Stock Cs: 0.115 (g) Within-Firm Wage Ratio (Log(p75/p25)) .04 1.5 2 2.5 Bandwidth (Years around August 10, 1994) ■ 1% Winsorization ○ 2% W'n ▲ 5% W'n X Pref'd Spec: 1% W'n + 2-Yr Bwidth Control Mean, Young Stock Cs: 0.398

Figure C.13: Effect of Shared Governance on Wages (Matched Employer-Employee Data)

*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on wages at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. All specifications include industry-by-year fixed effects. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

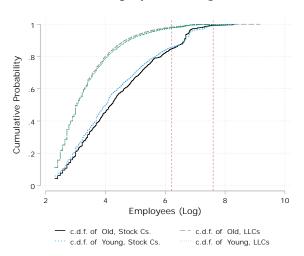
Figure C.14: Effect of Shared Governance on Capital Structure, Leverage, and Cost of Debt



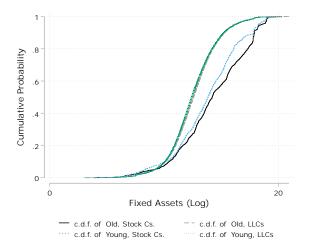
*Note*: The figure plots difference-in-differences estimates of the reduced-form effect of shared governance on capital structure, leverage, and cost of debt at different bandwidths of incorporation dates relative to August 10, 1994 and different winsorization levels. The square maroon marker denotes our preferred 2-year bandwidth and 1% winsorization specification. All specifications include industry-by-year fixed effects. The vertical bars denote confidence intervals based on standard errors clustered at the firm level.

Figure C.15: Cumulative Distribution Functions of Selected Outcomes

## (a) Employment (Log)



## (b) Fixed Assets (Log)



## (c) Value Added per Worker (Log)



## D Additional Tables

Table D.1: Observation Windows in the Bureau van Dijk Data

	Observations	Mean	$10^{th}$	$25^{th}$	50 <sup>th</sup>	$75^{th}$	90 <sup>th</sup>
			Pctile.	Pctile.	Pctile.	Pctile.	Pctile.
First Year Observed	46,363	2001.93	1997	1998	1999	2006	2012
Last Year Observed	46,363	2009.51	2002	2003	2013	2015	2015
Observations per Firm	46,363	6.02	2	3	6	8	11
Calendar Year (Firm-Year Observations)	278,878	2005.70	1998	2000	2003	2012	2014

*Note:* The table documents the first and last appearance as well as the observations per firm for the firms in our BvD data set. The sample is restricted to stock corporations (*AGs*) and limited liability companies (LLCs, *GmbHs*) with 10 or more employees incorporated within two years of the reform date of August 10, 1994. See Appendix Section B for more information on the sample construction. See Appendix Figure C.1 for the distribution of firm-years in the sample.

Table D.2: Corporate Group Structure and Presence of Shared Governance at the Corporate Group Level

	(1)	(2)	(3)
Panel A: Part of	Corporate	Domestic Corp.	Corp. Group
	Group	Group	w/ > 2000  Emp.
	•		•
Diff-in-Diff	0.084**	0.040	-0.005
	(0.036)	(0.038)	(0.021)
DiD	0.092**	0.047	-0.009
Industry FE	(0.037)	(0.039)	(0.022)
Control Mean: Stock Cs	0.579	0.532	0.107
", LLCs	0.317	0.275	0.044
N, Stock Cs	452	452	452
N, LLCs	37,268	37,268	37,268
Panel B: Parent of	Corporate	Domestic Corp.	Corp. Group
	Group	Group	w/ > 2000  Emp.
Diff-in-Diff	0.045	0.022	0.008
	(0.038)	(0.038)	(0.010)
DiD	0.057	0.030	0.009
Industry FE	(0.039)	(0.039)	(0.011)
Control Mean: Stock Cs	0.358	0.340	0.026
", LLCs	0.136	0.123	0.002
N, Stock Cs	452	452	452
N, LLCs	37,268	37,268	37,268
Panel C: Subsidiary of	Corporate	Domestic Corp.	Corp. Group
Tuner c. substantly of	Group	Group	w/ > 2000  Emp.
	Group	Group	Wy z 2000 Emp.
Diff-in-Diff	0.039	0.018	-0.014
	(0.035)	(0.034)	(0.019)
	()	()	(2.2.2.)
DiD	0.035	0.017	-0.019
Industry FE	(0.035)	(0.034)	(0.019)
,	,	, ,	,
Control Mean: Stock Cs	0.221	0.193	0.082
", LLCs	0.181	0.153	0.042
N, Stock Cs	452	452	452
N, LLCs	37,268	37,268	37,268

*Note:* Panel A reports specifications with outcomes related to status as either parent or subsidiary of a corporate group. A corporate group is defined by a set of business entities ultimately owned (i.e. directly or indirectly) by one corporation with a higher than 50% ownership stake in the other business entities. The indicators for parent (Panel B) or subsidiary (Panel C) indicate that a firm is a subsidiary or a parent of a corporate group, respectively. (*The table note continues on the next page.*)

(*Table note continued from previous page.*) To shed light on codetermination at the corporate group level, we distinguish domestic groups (with a parent firm incorporated in Germany) and those that are ultimately owned by a firm outside of Germany. We also distinguish by corporate group employment of more than 2,000 employees. Domestic corporate group employment is defined as the sum of yearly employment aggregated across all German corporations within the corporate group (where the ultimate corporate owner can be located outside of Germany), regardless of their date of incorporation. We aggregate employment considering all types of firms to build the 2,000-employee indicator.

The table reports the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of the reform date of August 10, 1994. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated *on or after* August 10, 1994. Robust standard errors are reported in parentheses. Stars denote statistical significance: \*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01.

In addition to the regression results, which we discuss below, the control means for the indicators in column (3) above are informative as they indicate whether firms may be subject to codetermination at the group level. Among the stock corporations in our sample, 10.7% are part of a corporate group with more than 2,000 domestic employees. These control means suggest that 10.7% of stock corporations in our sample incorporated after the 1994 reform are subject to parity codetermination at the corporate group, which kicks in above 2,000 employees. That is, a German corporate group is subject to parity codetermination at the group level if the aggregate domestic employment of business entities in the group exceeds 2,000 employees. Business entities are to be counted as part of a corporate group if the group is the ultimate owner of a majority of the shares (§ 5 *MitbestG*, § 17 *AktG*). Codetermination at the business entity level is not affected by the presence or absence of codetermination at the group level.

We cannot credibly calculate the presence of one-third codetermination at the corporate group level because a stricter legal standard for defining corporate groups applies there: business entities are only counted towards a corporate group for the purposes of one-third codetermination if they are completely integrated into the group (*Eingliederung*) or if a domination agreement of the group over the unit exists (§ 2 (2) *DrittelbG*). Domination agreements are empirically rare (e.g., Lieder and Hoffmann, 2017, find that 3 to 7% of stock corporations are governed by such agreements) and not reported in the data.

The regression results reveal a higher probability of being a part of a corporate group but not on membership in a domestic corporate group or in a group with more than 2,000 employees at domestic business entities. Across specifications, we do not find statistically significant effects and point estimates are close to zero with standard errors of about 2 to 4ppt.

Table D.3: Differential Trends for Incorporation of Stock Corporations

	(1)	(2)
	1(Incorporated as AG)	1(Incorporated as AG)
Incorporation Date	0.0023**	0.0019*
1	(0.0011)	(0.0011)
1(Post-Reform)	0.0001	0.00001
,	(0.0021)	(0.0021)
Inc. Date $\times$ 1(Post-Reform)	0.0011	0.0012
,	(0.0018)	(0.0018)
Constant	0.0128***	0.0125***
	(0.0014)	(0.0014)
Industry FE	No	Yes
N, Firms	46,417	44,218
N, Stock Cs	616	574
N, LLCs	45,801	43,644
Adj. R <sup>2</sup>	0.001	0.039

*Note:* This table reports estimates of whether the reform had an effect on firms' decision to incorporate as a stock corporation (AG). We test for differential trends before and after the reform by interacting an indicator for whether the firm incorporated post-reform with a continuous time trend variable (denominated in years) for incorporation date relative to August 10, 1994. The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of the reform date of August 10, 1994. Column (1) reports the basic specification, and column (2) includes industry (i.e. 2-digit NACE designations) fixed effects. See Appendix Section B.2 for details on the sample construction. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.4: 1994 Reform and Industry Composition of Stock Corporations

NACE Industry Classification	(1)	(2)	NACE Industry Classification	(1)	(2)
			,		
A: Agriculture, forestry, fishing	-0.002	-0.002	K: Financial and insurance activities	0.001	0.001
	(0.010)	(0.010)		(0.028)	(0.028)
Control Mean: Post-Reform Stock Cs	0.009	0.009	Control Mean: Post-Reform Stock Cs	0.114	0.114
", Post-Reform LLCs	0.013	0.013	", Post-Reform LLCs	0.009	0.009
B: Mining and quarrying	-0.0002	-0.0002	L: Real estate activities	0.010	0.010
	(0.0003)	(0.0003)		(0.011)	(0.011)
Control Mean: Post-Reform Stock Cs	0.0000	0.0000	Control Mean: Post-Reform Stock Cs	0.009	0.009
", Post-Reform LLCs	0.0006	0.0006	", Post-Reform LLCs	0.009	0.009
C: Manufacturing	-0.013	-0.012	M: Professional, scientific, and technical activities	-0.016	-0.016
C. Martanetaring	(0.031)	(0.031)	The forestonal, scientific, and technical activities	(0.037)	(0.037)
Control Mean: Post-Reform Stock Cs	0.154	0.154	Control Mean: Post-Reform Stock Cs	0.237	0.237
", Post-Reform LLCs	0.196	0.196	", Post-Reform LLCs	0.142	0.142
, Fost Reform Elecs	0.170	0.170	, FOST REFORM ELECS	0.142	0.142
E: Water supply, sewerage, waste management/remediation	-0.0001	-0.0001	N: Administrative and support service activities	-0.008	-0.008
	(0.0001)	(0.0001)		(0.015)	(0.015)
Control Mean: Post-Reform Stock Cs	0.0000	0.0000	Control Mean: Post-Reform Stock Cs	0.034	0.034
", Post-Reform LLCs	0.0001	0.0001	", Post-Reform LLCs	0.027	0.027
F: Construction	0.006	0.006	P: Education	-0.0001	-0.0001
1. Construction	(0.007)	(0.007)	1. Education	(0.0002)	(0.0002)
Control Mean: Post-Reform Stock Cs	0.006	0.006	Control Mean: Post-Reform Stock Cs	0.0002)	0.0002)
", Post-Reform LLCs	0.044	0.044	", Post-Reform LLCs	0.0000	0.0000
, 1 OSI-REIOTH ELCS	0.044	0.044	, Tost-Reform ELCs	0.0002	0.0002
G: Wholesale and retail trade; repair of motor vehicles	0.010	0.010	Q: Human health and social work activities	-0.0007	-0.0009
	(0.025)	(0.025)		(0.003)	(0.003)
Control Mean: Post-Reform Stock Cs	0.077	0.077	Control Mean: Post-Reform Stock Cs	0.003	0.003
", Post-Reform LLCs	0.200	0.200	", Post-Reform LLCs	0.012	0.012
H: Transporting and storage	-0.019	-0.019	R: Arts, entertainment, and recreation	0.003	0.003
	(0.025)	(0.025)		(0.013)	(0.013)
Control Mean: Post-Reform Stock Cs	0.083	0.083	Control Mean: Post-Reform Stock Cs	0.022	0.022
", Post-Reform LLCs	0.171	0.171	", Post-Reform LLCs	0.032	0.032
T. A	0.006	0.006	C. Others as a district	0.002	0.002
I: Accommodation and food service activities	0.006	0.006	S: Other services activities	0.003	0.003
C + 114 P + P ( C + 1 C	(0.005)	(0.005)	G . 114 P . P. C. 1.C.	(0.006)	(0.006)
Control Mean: Post-Reform Stock Cs	0.0000	0.0000	Control Mean: Post-Reform Stock Cs	0.003	0.003
", Post-Reform LLCs	0.029	0.029	", Post-Reform LLCs	0.006	0.006
J: Information and communication	-0.004	-0.005	N, Firms	44.164	44,164
,	(0.032)	(0.032)	N, Sh. Corp.	538	538
Control Mean: Post-Reform Stock Cs	0.160	0.160	N, Non-Sh. Corp.	43,626	43,626
				,	0.972
", Post-Reform LLCs	0.047	0.047	Joint P-Value	0.972	

*Note:* This table reports estimates of the effect of shared governance on the industry composition of stock corporations. Formally, we use indicators for each NACE Rev. 2 Classification 1 industry code as outcomes for DiD specifications as in equation (11). Column (1) reports the basic specification from equation (11), and column (2) includes quarter-of-incorporation fixed effects. We visually report the estimates from column (1) in Figure 4. See Appendix Section B.2 for details on the sample construction.

Table D.5: **Placebo Reforms in 1998 and 2002**: Effect on Supervisory Board Demographic Composition

	1(Women	Share	1(PhD/Profs	Share	1(Nobility	Share
	> 0)	Women	> 0)	PhD/Profs	> 0)	Nobility
	(1)	(2)	(3)	(4)	(5)	(6)
	. , ,		Panel A: Placebo	• •		
DiD	-0.089	-0.025	-0.065	0.019	-0.011	-0.006
Industry FE	(0.082)	(0.034)	(0.085)	(0.037)	(0.036)	(0.010)
Control Mean: Stock Cs	0.345	0.134	0.477	0.200	0.043	0.012
", LLCs	0.575	0.162	0.475	0.144	0.036	0.006
N, Firm-Years	1,064	1,064	1,064	1,064	1,064	1,064
N, Stock Cs	794	794	794	794	794	794
N, LLCs	270	270	270	270	270	270
		]	Panel B: Placebo	Reform in 200	02	
DiD	-0.027	-0.046	0.104	0.050	-0.021	-0.0007
Industry FE	(0.081)	(0.033)	(0.082)	(0.037)	(0.036)	(0.009)
Control Mean: Stock Cs	0.390	0.151	0.457	0.181	0.077	0.021
", LLCs	0.599	0.153	0.516	0.143	0.074	0.014
N, Firm-Years	1,037	1,037	1,037	1,037	1,037	1,037
N, Stock Cs	794	794	794	794	794	794
N, LLCs	243	243	243	243	243	243

*Note:* The table reports placebo analyses for the specifications for supervisory board composition reported in Table 2. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated *on or after* August 10, 1998 or August 10, 2002. Robust standard errors are reported in parentheses; we do not cluster here as we only have one observation per firm. Stars denote statistical significance: \* p < 0.10, \*\*\* p < 0.05, \*\*\*\* p < 0.01.

Table D.6: **Placebo Reforms in 1998 and 2002**: Effect on Executive Board Demographic Composition

	1(Women	Share	1(PhD/Profs	Share	1(Nobility	Share
	> 0)	Women	> 0)	PhD/Profs	> 0)	Nobility
	(1)	(2)	(3)	(4)	(5)	(6)
		Pa	anel A: Placebo	Reform in 1	1998	
DiD	0.046	-0.005	0.023	0.004	-0.002	-0.000009
Industry FE	(0.036)	(0.015)	(0.030)	(0.010)	(0.012)	(0.001)
Control Mean: Stock Cs	0.598	0.182	0.291	0.071	0.042	0.004
", LLCs	0.418	0.181	0.072	0.023	0.013	0.001
N, Firm-Years	33,435	33,435	33,435	33,435	33,435	33,435
N, Stock Cs	1,020	1,020	1,020	1,020	1,020	1,020
N, LLCs	32,415	32,415	32,415	32,415	32,415	32,415
		P	anel B: Placebo	Reform in 2	2002	
DiD	-0.020	-0.015	0.025	0.005	-0.009	-0.001
Industry FE	(0.035)	(0.017)	(0.028)	(0.012)	(0.011)	(0.001)
Control Mean: Stock Cs	0.516	0.181	0.209	0.065	0.023	0.003
", LLCs	0.383	0.172	0.069	0.024	0.012	0.001
N, Firm-Years	29,074	29,074	29,074	29,074	29,074	29,074
N, Stock Cs	933	933	933	933	933	933
N, LLCs	28,141	28,141	28,141	28,141	28,141	28,141

*Note:* The table reports placebo analyses for the specifications for executive board composition reported in Table 2. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated *on or after* August 10, 1998 or August 10, 2002. Robust standard errors are reported in parentheses; we do not cluster here as we only have one observation per firm. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.7: Placebo Reforms in 1998 and 2002: Effect on Firm Scale

	Log	Log Value	Log Emp	1(Emp> 500)	Log	Log	Log
	Revenue	Added	(BvD)	(BvD)	Fixed A.	Tang. A.	Intermediate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A	: Placebo Refor	m in 1998		
DiD	0.123	-0.215	0.136*	0.022	0.105	-0.172	-0.199
Industry-Year FE	(0.127)	(0.158)	(0.075)	(0.015)	(0.173)	(0.170)	(0.327)
Control Mean: Stock Cs	13.602	15.007	3.805	0.047	13.544	12.118	13.929
", LLCs	12.435	14.859	3.404	0.026	12.411	12.061	14.819
N, Firm-Years	165,923	41,755	234,862	234,862	120,603	118,606	24,577
N, Stock Cs	1,323	514	1,559	1,559	891	880	325
N, LLCs	37,674	8,822	44,659	44,659	25,968	25,698	6,415
			Panel E	3: Placebo Refor	m in 2002		
DiD	-0.143	-0.308*	-0.082	-0.029	-0.121	-0.150	-0.189
Industry-Year FE	(0.159)	(0.175)	(0.095)	(0.022)	(0.181)	(0.168)	(0.468)
Control Mean: Stock Cs	16.071	15.691	3.809	0.083	13.523	12.518	15.030
", LLCs	15.111	14.831	3.396	0.022	12.314	11.980	14.706
N, Firm-Years	75,294	36,733	137,504	137,504	115,764	113,833	21,638
N, Stock Cs	812	393	1,090	1,090	894	885	253
N, LLCs	22,566	8,259	31,438	31,438	26,089	25,751	6,012

Note: The table reports placebo analyses for the specifications reported in Table 3. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated *on or after* August 10, 1998 or August 10, 2002. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.8: Placebo Reforms in 1998 and 2002: Effect on Productivity and Capital Intensity

	77.1 A 1.1	T 774	T: 1 A	T T: 1 A	TED	<i>C</i> 1	X7.1 A.1.1.1
	Value Add.	Log VA	Fixed A.	Log Fixed A.	TFP	Capital	Value Added
	per Emp	per Emp	per Emp	per Emp	(Fixed A.)	Share	/Revenue
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A	: Placebo Refor	m in 1998		
DiD	-15.718	-0.170	21.094	0.092	-0.215**	0.008	0.055
Industry-Year FE	(13.569)	(0.116)	(26.512)	(0.144)	(0.101)	(0.027)	(0.087)
Control Mean: Stock Cs	128.807	10.511	141.021	9.551	7.047	0.352	0.648
", LLCs	71.313	10.570	35.017	8.917	7.727	0.252	0.374
N, Firm-Years	41,755	41,755	121,971	120,603	41,183	40,750	30,660
N, Stock Cs	514	514	894	891	511	526	467
N, LLCs	8,822	8,822	26,219	25,968	8,683	8,640	7,687
			Panel E	: Placebo Reform	m in 2002		-
-							
DiD	-14.677	-0.090	-7.301	-0.072	-0.069	-0.025	0.029
Industry-Year FE	(12.433)	(0.094)	(21.680)	(0.138)	(0.082)	(0.029)	(0.048)
,	,	,	,	,	,	,	,
Control Mean: Stock Cs	110.152	11.030	102.648	9.671	7.615	0.305	0.435
", LLCs	67.581	10.657	35.690	8.898	7.880	0.245	0.378
N, Firm-Years	36,733	36,733	117,698	115,764	36,071	35,486	26,208
N, Stock Cs	393	393	902	894	391	396	344
N, LLCs	8,259	8,259	26,388	26,089	8,145	8,055	7,126

*Note:* The table reports placebo analyses for the specifications reported in Table 4. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated *on or after* August 10, 1998 or August 10, 2002. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.9: Placebo Reforms in 1998 and 2002: Effect on Profitability

	EDIED A	EDÆ	NT . T	EDIED	EDIT	NT - T
	EBITDA	EBIT	Net Income	EBITDA	EBIT	Net Income
	/Revenue	/Revenue	/Revenue	/Total A.	/Total A.	/Total A.
	(1)	(2)	(3)	(4)	(5)	(6)
		Pa	nel A: Placebo	Reform in 1	.998	
DiD	-0.031	-0.034	-0.330	-0.025	-0.020	-0.031**
Industry-Year FE	(0.036)	(0.040)	(0.223)	(0.017)	(0.016)	(0.014)
Control Mean: Stock Cs	-0.060	-0.115	-0.184	0.076	0.039	0.014
", LLCs	0.061	0.028	0.010	0.134	0.085	0.050
N, Firm-Years	31,297	31,153	28,107	41,397	41,169	38,769
N, Stock Cs	495	498	497	547	549	544
N, LLCs	<i>7,</i> 700	7,692	7,471	8,741	8,723	8,599
		Pa	nel B: Placebo	Reform in 2	002	
DiD	-0.008	-0.009	-0.036	0.0007	0.005	0.004
Industry-Year FE	(0.020)	(0.021)	(0.044)	(0.018)	(0.017)	(0.014)
Control Mean: Stock Cs	0.022	-0.014	-0.007	0.094	0.049	0.023
", LLCs	0.022	0.027	0.009	0.034	0.049	0.050
N, Firm-Years	26,501	26,419	23,987	35,844	35,726	34,233
-	·	-	•	•	,	
N, Stock Cs	350	350	347	399	399	395
N, LLCs	7,109	7,107	6,943	8,132	8,126	8,058

Note: The table reports placebo analyses for the specifications reported in Table 8. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated on or after August 10, 1998 or August 10, 2002. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.10: Placebo Reform in 1998 and 2002: Effect on Capital Structure, Leverage, and Cost of Debt

	Liabilites		Cost of	Long-Term Debt	Cash
	/Total A.	Leverage	Debt	/Total Debt	/Total A.
	(1)	(2)	(3)	(4)	(5)
		Panel A	: Placebo	Reform in 1998	
DiD	-0.016	0.001	-0.010	0.059**	-0.006
Industry-Year FE	(0.020)	(0.024)	(0.019)	(0.025)	(0.014)
Control Mean: Stock Cs	0.564	0.284	0.143	0.729	0.194
", LLCs	0.674	0.372	0.121	0.822	0.163
N, Firm-Years	121,921	71,239	23,752	49,584	119,463
N, Stock Cs	892	776	435	649	889
N, LLCs	26,221	20,291	6,377	15,896	25,889
		Panel B	: Placebo	Reform in 2002	
DiD	-0.033*	-0.027	-0.002	-0.033	0.009
Industry-Year FE	(0.018)	(0.025)	(0.020)	(0.029)	(0.014)
Control Mean: Stock Cs	0.646	0.372	0.125	0.773	0.171
", LLCs	0.698	0.401	0.111	0.828	0.160
N, Firm-Years	117,658	67,994	21,781	48,312	115,044
N, Stock Cs	902	775	315	626	894
N, LLCs	26,384	20,365	6,131	16,009	26,016

Note: The table reports placebo analyses for the specifications reported in Table 9. Panels A and B replicate our DiD specification in (11) for placebo samples and placebo reforms on August 10, 1998 and 2002, respectively (rather than August 10, 1994, when the actual reform occurred). We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of August 10, 1998 on Panel A and within two years of August 10, 2002 on Panel B. We use 2-digit NACE designations for industry fixed effects. See Appendix Section B for more information on the sample construction. The control means refer to observations of firms incorporated on or after August 10, 1998 or August 10, 2002. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.11: Effect of Shared Governance on Distribution of Employment and of Fixed Assets

	Rank (1)	1(Above 10 <sup>th</sup> Percentile) (2)	1(Above 25 <sup>th</sup> Percentile) (3)	1(Above 50 <sup>th</sup> Percentile) (4)	1(Above 75 <sup>th</sup> Percentile) (5)	1(Above 90 <sup>th</sup> Percentile) (6)			
	(1)	(2)		nployment (Bvl		(0)			
Diff-in-Diff	1.710	-0.021	-0.001	0.017	0.023	-0.006			
	(2.583)	(0.017)	(0.030)	(0.041)	(0.038)	(0.025)			
DiD	1.678	-0.012	0.004	0.019	0.024	-0.006			
Year FE	(2.581)	(0.017)	(0.030)	(0.041)	(0.038)	(0.025)			
DiD	1.006	-0.023	-0.012	0.005	0.021	-0.010			
Industry FE	(2.550)	(0.018)	(0.030)	(0.040)	(0.038)	(0.025)			
DiD	0.428	-0.016	-0.011	-0.0002	0.017	-0.014			
Industry-Year FE	(2.513)	(0.018)	(0.030)	(0.040)	(0.038)	(0.025)			
Level at Percentile: Stock Cs	49.59	13.52	24.18	61.46	231.61	1,311.27			
", LLCs	49.99	10.55	13.46	22.71	47.94	120.78			
N, Firm-Years	278,878	278,878	278,878	278,878	278,878	278,878			
N, Stock Cs	616	616	616	616	616	616			
N, LLCs	45,801	45,801	45,801	45,801	45,801	45,801			
			Panel B	: Fixed Assets					
Diff-in-Diff	4.449	-0.004	0.038	0.016	0.075*	0.034			
	(2.708)	(0.020)	(0.032)	(0.042)	(0.040)	(0.032)			
DiD	4.377	0.002	0.042	0.019	0.076*	0.034			
Year FE	(2.707)	(0.019)	(0.032)	(0.042)	(0.041)	(0.032)			
DiD	4.758*	-0.0008	0.042	0.019	0.074**	0.040			
Industry FE	(2.477)	(0.019)	(0.032)	(0.040)	(0.037)	(0.029)			
DiD	4.759*	0.007	0.051	0.031	0.082**	0.039			
Industry-Year FE	(2.552)	(0.019)	(0.032)	(0.042)	(0.039)	(0.031)			
Level at Percentile: Stock Cs	47.85	48.85	234.22	1,103.31	6,960.97	75,967.94			
", LLCs	49.31	14.28	43.72	177.44	824.06	5,617.32			
N, Firm-Years	114,844	114,844	114,844	114,844	114,844	114,844			
N, Stock Cs	360	360	360	360	360	360			
N, LLCs	24,625	24,625	24,625	24,625	24,625	24,625			

Note: The table reports the DiD effects of shared governance following specifications (11), with indicators for whether the underlying continuous outcome variable exceeds various percentiles in the control group in a year-by-legal-form cell. In the first column, we construct a rank variable by dividing the relative position of each firm (sorted in ascending order by each outcome) by the number of positions observed in its own year-by-legal-form cell, and then scaling this by a factor of 100. The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of the reform date of August 10, 1994. We use 2-digit NACE designations for industry fixed effects. Non-indicator outcomes are winsorized at the 1% level by year. See Appendix Section B for more information on the sample construction. For the first column, the level at percentile line refers to the control mean of the rank variable. For columns 2 to 6, this refers to the levels at cutoff percentile refer to the value of the underlying variable in the control group by firm legal type at each percentile cutoff. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.12: Effect of Shared Governance on Distribution of Value Added per Worker and of Fixed Assets per Worker

	Rank (1)	1(Above 10 <sup>th</sup> Percentile) (2)	1(Above 25 <sup>th</sup> Percentile) (3)	1(Above 50 <sup>th</sup> Percentile) (4)	1(Above 75 <sup>th</sup> Percentile) (5)	1(Above 90 <sup>th</sup> Percentile) (6)
	(1)	(2)		e Added per W		(0)
Diff-in-Diff	6.142**	-0.029	0.029	0.053	0.093**	0.093***
	(3.119)	(0.026)	(0.041)	(0.052)	(0.045)	(0.036)
DiD	6.025*	-0.022	0.034	0.055	0.089**	0.089**
Year FE	(3.111)	(0.026)	(0.041)	(0.052)	(0.045)	(0.036)
DiD	8.526***	-0.028	0.046	0.095*	0.123***	0.110***
Industry FE	(3.204)	(0.027)	(0.042)	(0.053)	(0.046)	(0.035)
DiD	8.909***	-0.013	0.072*	$0.104^{*}$	0.133***	0.116***
Industry-Year FE	(3.276)	(0.027)	(0.042)	(0.054)	(0.047)	(0.036)
Level at Percentile: Stock Cs	48.56	19.98	31.63	46.93	77.77	163.00
", LLCs	50.80	9.97	17.30	29.41	62.86	98.71
N, Firm-Years	40,066	40,066	40,066	40,066	40,066	40,066
N, Stock Cs	246	246	246	246	246	246
N, LLCs	8,334	8,334	8,334	8,334	8,334	8,334
			Panel B: Fixed	d Assets per Wo	orker	
Diff-in-Diff	6.780***	0.004	0.076**	0.082**	0.027	0.091***
	(2.584)	(0.020)	(0.030)	(0.041)	(0.040)	(0.033)
DiD	6.713***	0.009	0.080***	0.084**	0.026	0.088***
Year FE	(2.580)	(0.020)	(0.030)	(0.041)	(0.040)	(0.033)
DiD	7.360***	0.009	0.084***	0.089**	0.033	0.097***
Industry FE	(2.387)	(0.019)	(0.030)	(0.039)	(0.037)	(0.031)
DiD	7.391***	0.016	0.097***	0.097**	0.036	0.095***
Industry-Year FE	(2.455)	(0.019)	(0.030)	(0.040)	(0.039)	(0.033)
Level at Percentile: Stock Cs	46.72	1.49	3.36	12.05	64.46	359.24
", LLCs	49.23	0.59	1.60	5.23	18.42	60.65
N, Firm-Years	116,018	116,018	116,018	116,018	116,018	116,018
N, Stock Cs	360	360	360	360	360	360
N, LLCs	24,850	24,850	24,850	24,850	24,850	24,850

*Note:* See note for Appendix Table D.11.

Table D.13: Effect of Shared Governance on Distribution of Capital Share and Value Added / Revenue

	Rank	1(Above 10 <sup>th</sup> Percentile)	1(Above 25 <sup>th</sup> Percentile)	1(Above $50^{th}$ Percentile) (4)	1(Above 75 <sup>th</sup> Percentile)	1(Above 90 <sup>th</sup> Percentile) (6)				
	(1)	(2) (3) (4) (5) Panel A: Capital Share								
		i and it. Capital Share								
Diff-in-Diff	8.440**	-0.016	0.027	0.107**	0.133**	0.059*				
	(3.461)	(0.015)	(0.039)	(0.054)	(0.052)	(0.035)				
DiD	8.348**	-0.008	0.034	0.112**	0.133**	0.057				
Year FE	(3.447)	(0.013)	(0.039)	(0.055)	(0.052)	(0.035)				
DiD	9.636***	-0.013	0.043	0.125**	0.144***	$0.064^{*}$				
Industry FE	(3.134)	(0.015)	(0.038)	(0.049)	(0.048)	(0.034)				
DiD	9.617***	-0.001	0.053	0.142***	0.148***	0.065*				
Industry-Year FE	(3.158)	(0.014)	(0.038)	(0.049)	(0.050)	(0.035)				
Level at Percentile: Stock Cs	46.77	0.02	0.10	0.24	0.46	0.72				
", LLCs	50.02	0.03	0.10	0.21	0.37	0.57				
N, Firm-Years	39,110	39,110	39,110	39,110	39,110	39,110				
N, Stock Cs	249	249	249	249	249	249				
N, LLCs	8,213	8,213	8,213	8,213	8,213	8,213				
			Panel B: Valu	e Added / Reve	enue					
Diff-in-Diff	7.740*	0.025	-0.021	0.039	0.119**	0.143***				
	(4.155)	(0.031)	(0.055)	(0.068)	(0.060)	(0.048)				
DiD	7.637*	0.034	-0.014	0.042	0.117**	0.141***				
Year FE	(4.141)	(0.031)	(0.055)	(0.068)	(0.060)	(0.048)				
DiD	7.864**	0.021	-0.022	0.043	0.123**	0.148***				
Industry FE	(3.172)	(0.028)	(0.043)	(0.052)	(0.053)	(0.045)				
DiD	7.123**	0.027	-0.023	0.045	0.115**	0.142***				
Industry-Year FE	(3.269)	(0.028)	(0.046)	(0.053)	(0.055)	(0.047)				
Level at Percentile: Stock Cs	46.87	0.08	0.23	0.41	0.57	0.74				
", LLCs	49.79	0.12	0.21	0.35	0.53	0.69				
N, Firm-Years	27,722	27,722	27,722	27,722	27,722	27,722				
N, Stock Cs	227	227	227	227	227	227				
N, LLCs	7,086	7,086	7,086	7,086	7,086	7,086				

*Note:* See note for Appendix Table D.11.

Table D.14: Effect of Shared Governance on Firm Scale Excluding Former East Germany

	Log Revenue (1)	Log Value Added (2)	Log Emp (BvD) (3)	1(Emp> 500) (BvD) (4)	Log Fixed A. (5)	Log Tang. A. (6)	Log Intermediate (7)
Diff-in-Diff	0.846*** (0.314)	0.040 (0.236)	0.243* (0.138)	0.023 (0.034)	0.441* (0.231)	0.193 (0.260)	-0.725 (0.555)
DiD	0.110	0.019	0.214	0.021	$0.433^{*}$	0.184	-0.992*
Year FE	(0.226)	(0.228)	(0.137)	(0.034)	(0.239)	(0.259)	(0.531)
DiD	0.466	0.136	0.206	0.022	0.515**	0.252	-0.563
Industry FE	(0.325)	(0.253)	(0.138)	(0.035)	(0.214)	(0.236)	(0.490)
DiD	0.067	0.131	0.159	0.016	0.533**	0.295	-0.866*
Industry-Year FE	(0.214)	(0.216)	(0.134)	(0.035)	(0.225)	(0.231)	(0.452)
Control Mean: Stock Cs	13.963	15.059	4.258	0.142	13.720	12.613	14.709
", LLCs	10.989	14.770	3.350	0.022	12.465	12.143	14.785
N, Firm-Years	185,554	35,135	254,730	254,730	101,819	100,415	18,882
N, Stock Cs	495	222	580	580	329	329	143
N, LLCs	36,863	7,515	<b>42,</b> 591	42,591	22,032	21,835	5,315

Note: The table reports the effect of shared governance on the outcomes related to firm scale. We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of the reform date of August 10, 1994 outside of former East Germany. We *exclude* firms whose address is in any of the following NUTS-1 regions (the *Bundesländer* of former East Germany and Berlin, i.e. both East and West Berlin): Mecklenburg-Vorpommern, Brandenburg, Berlin, Sachsen-Anhalt, Thüringen, or Sachsen. We use 2-digit NACE designations for industry fixed effects. Non-indicator outcomes are winsorized at the 1% level by year. See Appendix Section B for more information on the sample construction and Appendix Figure C.8 for the specification with industry-year fixed effects at additional bandwidths and winsorization levels. The control means refer to observations of firms incorporated *on or after* August 10, 1994. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

Table D.15: Effect of Shared Governance on Productivity and Capital Intensity **Excluding Former East Germany** 

	Value Add. per Emp	Log VA per Emp	Fixed A. per Emp	Log Fixed A. per Emp	TFP (Fixed A.)	Capital Share	Value Added /Revenue
Diff-in-Diff	(1) 51.043**	(2) 0.110	(3) 52.896**	0.330	(5)	(6) 0.067**	(7) 0.241**
	(22.909)	(0.254)	(25.001)	(0.202)	(0.293)	(0.034)	(0.121)
DiD	42.913**	0.141	53.367**	0.391**	0.118	0.066**	0.229**
Year FE	(16.657)	(0.182)	(25.237)	(0.196)	(0.235)	(0.033)	(0.116)
DiD	45.350***	0.205	57.308**	0.399**	-0.030	0.076**	0.254**
Industry FE	(14.014)	(0.248)	(23.816)	(0.198)	(0.190)	(0.031)	(0.117)
DiD	42.251***	0.218	57.429**	0.465**	-0.012	0.075**	0.158*
Industry-Year FE	(13.766)	(0.146)	(25.320)	(0.184)	(0.120)	(0.032)	(0.090)
Control Mean: Stock Cs	84.536	9.926	96.063	9.186	6.871	0.294	0.444
", LLCs	68.749	10.485	32.182	8.964	7.650	0.255	0.360
N, Firm-Years	35,135	35,135	102,911	101,819	33,282	34,203	23,149
N, Stock Cs	222	222	329	329	217	225	204
N, LLCs	7,515	7,515	22,244	22,032	7,001	7,406	6,270

Note: The table reports the effect of shared governance on the outcomes related to productivity and capital intensity. We report the results of DiD specifications as in (11). The sample is restricted to stock corporations (AGs) and limited liability companies (LLCs, GmbHs) with 10 or more employees incorporated within two years of the reform date of August 10, 1994 outside of former East Germany. We *exclude* firms whose address is in any of the following NUTS-1 regions (the *Bundesländer* of former East Germany and Berlin, i.e. both East and West Berlin): Mecklenburg-Vorpommern, Brandenburg, Berlin, Sachsen-Anhalt, Thüringen, or Sachsen. We use 2-digit NACE designations for industry fixed effects. Non-indicator outcomes are winsorized at the 1% level by year. See Appendix Section B for more information on the sample construction and Appendix Figure C.9 for the specification with industry-year fixed effects at additional bandwidths and winsorization levels. The control means refer to observations of firms incorporated *on or after* August 10, 1994. Standard errors clustered at the firm level are reported in parentheses. Stars denote statistical significance: \* p < 0.10, \*\*\* p < 0.05, \*\*\* p < 0.01.

Table D.16: Effect of Shared Governance on Indices for Financial Constraints and Distress

	HP	KZ	Z Score,	Z Score,	О	WW			
	Index	Index	5 Vars	4 Vars	Score	Score			
	(1)	(2)	(3)	(4)	(5)	(6)			
	Panel A: 1(Above Median)								
Diff-in-Diff	-0.0002	-0.029	0.085	0.060	-0.037	0.094			
	(0.040)	(0.062)	(0.061)	(0.053)	(0.057)	(0.078)			
	(0.0.20)	(0.00-)	(0.00-)	(0.000)	(0.001)	(0.01.0)			
DiD	0.004	-0.022	0.081	0.057	-0.036	0.101			
Year FE	(0.041)	(0.061)	(0.061)	(0.053)	(0.057)	(0.078)			
	,	,	,	, ,	,	,			
DiD	0.011	-0.042	0.093*	0.038	-0.058	0.012			
Industry FE	(0.039)	(0.057)	(0.055)	(0.054)	(0.056)	(0.055)			
•									
DiD	0.020	-0.026	0.096*	0.041	-0.056	0.008			
Industry-Year FE	(0.041)	(0.058)	(0.057)	(0.056)	(0.058)	(0.055)			
Control Mean: Stock Cs	0.504	0.507	0.508	0.507	0.509	0.509			
", LLCs	0.500	0.500	0.500	0.500	0.500	0.501			
N, Firm-Years	116,059	28,314	27,103	37,925	28,657	19,426			
N, Stock Cs	361	237	227	244	228	219			
N, LLCs	24,856	6,904	6,921	8,083	6,608	5,866			
		Panel	B: 1(Above	e 80th Perce	entile)				
Diff-in-Diff	0.089**	-0.028	$0.095^*$	0.035	0.026	0.077			
	(0.040)	(0.042)	(0.050)	(0.043)	(0.042)	(0.062)			
DiD	0.090**	-0.025	$0.088^{*}$	0.029	0.026	0.075			
Year FE	(0.040)	(0.043)	(0.050)	(0.043)	(0.042)	(0.062)			
DiD	0.097***	-0.030	0.113**	0.025	0.007	0.040			
					(0.040)	(0.040)			
Industry FE	(0.038)	(0.043)	(0.047)	(0.043)	(0.040)	(0.044)			
DiD	0.101**	-0.027	0.108**	0.017	0.020	0.026			
Industry-Year FE	(0.040)	(0.044)	(0.049)	(0.044)	(0.040)	(0.043)			
maddiy icui i L	(0.010)	(0.011)	(0.01)	(0.011)	(0.010)	(0.010)			
Control Mean: Stock Cs	0.206	0.211	0.213	0.210	0.212	0.214			
", LLCs	0.200	0.201	0.201	0.201	0.201	0.201			
N, Firm-Years	116,059	28,314	27,103	37,925	28,657	19,426			
N, Stock Cs	361	237	227	244	228	219			
N, LLCs	24,856	6,904	6,921	8,083	6,608	5,866			
	,	,	,	,	,	,			

*Note:* The table reports the effect of shared governance on financial distress risk (Altman (2000) z-score, and Ohlson (1980) o-score), and financial constraints (Whited and Wu (2006), Kaplan and Zingales (1997), and Hadlock and Pierce (2010) indices). See Appendix Section B.3 on their construction. The indices are split into indicators by median (Panel A) or 80th percentile (Panel B) in our baseline sample control group in a year-by-legal-form cell, with 1 indicating higher risk or constraints. We report the results of DiD specifications as in (11). The sample is corporations incorporated within two years of the reform. The control means refer to observations of firms incorporated *on or after* August 10, 1994. Our interpretation is mixed due to noisily estimated effects, except for significantly positive effects on the z-score (but only in the 5-variable variant for public firms, but no the 4-variable variant more appropriate for our largely private sample), and for the HP index if evaluated at the top-20% cutoff but not at the median. These effects necessarily reflect the increase in e.g. assets (which either enter quadratically or as denominators). Standard errors clustered at the firm level are in parentheses. Stars denote statistical significance: \*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01.