Online Appendix for "The Stability of Dividends and Wages: Effects of Competitor Inflexibility"

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Appendix A: Theoretical foundations

In this section, we consider a firm which is exposed to risk in an output market with Cournot competition. We show that the firm's risk exposure depends on the production costs of competing firms, and we analyze efficient risk sharing between a representative shareholder and a representative worker of the firm. We thereby obtain a framework for discussing the results and the power of our empirical analysis.

We consider a firm f with n competitors. The firms produce a homogeneous output at different constant marginal costs. For our purposes, it suffices to distinguish between the marginal production cost of firm f, denoted by c_f, and the average marginal production cost of the competing firms, denoted by $\bar{c}_c$. The relative difference between firm f's production cost and the competing firms' average production cost, x, is given by:

$$x := \frac{c_f - \bar{c}_c}{\bar{c}}, \tag{1}$$

where $\bar{c}$ is the average production cost of all firms in the industry: $\bar{c} := (c_f + n\bar{c}_c)/(n+1)$.

The output price is given by a linear inverse demand function: $p(Y) := a - bY$, where Y is the firms' aggregate output. The firms play a Cournot-Nash game in which each firm chooses its output optimally, taking the other firms' output as given.[1] It is straightforward to show that firm f optimally produces a positive output if the intercept of the inverse demand function a exceeds the industry's average production cost $\bar{c}$ by a sufficiently high percentage:

$$m := \frac{a - \bar{c}}{\bar{c}} > x\frac{n(n+2)}{n+1}. \tag{2}$$

We assume that the above-stated condition holds, and refer to the parameter m as the mark-up parameter. Cournot analysis yields that firm f's equilibrium profit is:

$$\pi(m) := \frac{(a(m) + n(\bar{c}_c - c_f) - c_f)^2}{b(n+2)^2} = \frac{(\bar{c}(1+m) - n\bar{c}x - \bar{c}(1 + xn/(n+1)))^2}{b(n+2)^2}, \tag{3}$$

where $a(m) := \bar{c}(1+m)$, and we have used the facts that $\bar{c}_c - c_f = -\bar{c}x$ and $c_f = \bar{c}(1+xn/(n+1))$.

[1] See the literature started by Kreps and Scheinkman (1983) for foundations of Cournot analysis in terms of a game in which firms compete in prices after choosing production capacities.

We next analyze firm f's exposure to changes in the mark-up parameter.[2] Suppose that the firm chooses its output conditional on observing one of two possible values of the mark-up, $\{m_+, m_-\}$, where $m_\pm = m_0(1 \pm g/2)$, $g > 0$, and the values of g and m_0 are set so that both values of m satisfy assumption (2). Then the mark-up variation induces the following variation in firm f's profit:

$$\Delta\pi := (\pi(m_+) - \pi(m_-)) \approx g\, \pi(m_0)\, \eta(x), \tag{4}$$

where $\eta(x)$ measures the elasticity of firm f's profit with respect to the mark-up parameter:[3]

$$\eta(x) := d\log(\pi(m))/d\log(m)|_{m=m_0} = \frac{2m_0}{m_0 - x\frac{n(n+2)}{n+1}} \approx 2\left(1 + \frac{x}{m_0}\frac{n(n+2)}{n+1}\right). \tag{5}$$

The above-stated expressions formalize the idea that a firm's risk exposure depends on the production costs of competing firms. In our model, a lower value of competitors' average production cost corresponds to a higher value of the parameter x, defined in expression (1). If firm f's competitors can produce at lower cost, the firm's profit will respond to the mark-up variation with a higher elasticity $\eta(x)$.[4] Intuitively, a change in the mark-up parameter m causes a larger change in firm f's profit if the firm's competitors can produce output at lower cost because the competitors will then respond less to the shock, aggravating its effect on firm f.

In our empirical analysis, we will draw on the idea that a firm's risk exposure depends on the production costs of competing firms. Like the parameter x in the model above, our empirical index of competitor inflexibility decreases in the production costs of a firm's competitors.[5] In the remainder of this section, we refer to the parameter x as competitor inflexibility.

We next analyze the effect of competitor inflexibility on the risk-sharing between firm f's representative shareholder and its representative worker. The risk-sharing between the two parties will be specified in their wage contracting and will depend on their risk aversion, and their access

[2]Similar results can be derived for other model parameters. We focus on the mark-up parameter m because marginal changes in the industry's average cost $\bar{c}$ or in the slope of the inverse demand function, b, cause percentage changes in firm f's output that do not depend on x.

[3]The approximation will be used in expression (10).

[4]By focusing on changes in the parameter x, we summarize similar results that would be obtained if we separately changed the competitors' average production costs $\bar{c}_c$ or firm f's production cost c_f, rather than changing the parameter x which measures the difference $c_f - \bar{c}_c$.

[5]To avoid endogeneity problems, we will however measure each firm's competitor inflexibility without considering the firm's own production costs.

to financial markets. We assume that firm f's shareholder has access to financial markets, while the firm's worker cannot use these markets.[6]

We now relate the variation in the mark-up parameter to a systematic risk factor which can be thought of as a return that firm f's shareholder earns by holding the market portfolio. We focus on variation due to systematic risk, since variation due to idiosyncratic risk will not affect the shareholder's total return in a large economy due to diversification.[7] We model the shareholder's income from investing in the market portfolio as an endowment with two possible realizations $\{e_+, e_-\}$, where $e_\pm := 1 \pm \sigma/2$ and the subscripts indicate the two states of our model.[8] The return of the market portfolio is associated with systematic variation in the growth rate of the mark-up parameter that we specify by setting $g := \beta\sigma > 0$, so that $m_\pm = m_0(1 \pm \beta\sigma/2)$. Substituting for g in expression (4) yields the systematic variation in firm f's profit.

Wage contracting determines how the systematic profit variation translates into variation in the payoffs of firm f's shareholder and worker. A wage contract specifies a pair of wages (w_+, w_-) that the worker receives in the two states. Given these wages, firm f's shareholder receives a (liquidating) dividend $d_\pm := \pi_\pm - w_\pm$, where $\pi_\pm := \pi(m_\pm)$ denotes firm f's profit. The shareholder's total payoff is the sum of the dividend and the payoff from investing into the market portfolio, $e_\pm$.

To derive an optimal wage contract, we next specify the preferences of firm f's shareholder and its worker in terms of risk-neutral probabilities which determine their certainty equivalent payoffs. The certainty equivalent payoffs of the two parties are given by:

$$\begin{aligned} W &:= q_w w_+ + (1 - q_w) w_-, \\ D &:= q_s(d_+ + e_+) + (1 - q_s)(d_- + e_-), \end{aligned} \tag{6}$$

where W is the certainty equivalent that firm f's worker assigns to the firm's wages, D is the certainty equivalent payoff that the firm's shareholder receives, and q_w and q_s are risk-neutral

[6] This assumption is a coarse, yet standard, way to rationalize risk-transfers from firms' workers to their owners. See Danthine and Donaldson (2002) and Guvenen (2009). Berk and Walden (2013) analyze a model in which limited market participation arises endogenously in a general equilibrium in which firms' shareholders and workers engage in efficient risk sharing. We also focus on efficient risk sharing, but we analyze a partial equilibrium.

[7] Recall that, as the weight of each firm in the market portfolio goes to zero, the contribution of any given firm i to the risk of the market portfolio, σ_M^2, is $\beta_i \sigma_M^2$ if returns are jointly normal.

[8] The endowment is based on an investment into the market portfolio with a (normalized) value of one.

probabilities. The risk-neutral probabilities are specified as follows:[9]

$$\begin{aligned} q_w &:= \psi - \gamma_w \Delta w, \\ q_s &:= \psi - \gamma_s(\Delta d + \Delta e), \end{aligned} \tag{7}$$

where ψ denotes the probability of state "+", $\Delta w := w_+ - w_-$ and $\Delta d := d_+ - d_-$ denote systematic variation in firm f's wage bill and its dividend, $\Delta e := e_+ - e_- = \sigma$ depends on the volatility of the market portfolio, and γ_w and γ_s are parameters that depend on the risk-aversion of the firm's worker and its shareholder, respectively.

Efficient risk-sharing between firm f's worker and shareholder requires equating the agents' marginal rates of substitution between their payoffs in the two states. The resulting wage variation is given by:

$$\Delta w = (\sigma + \Delta\pi)\frac{\gamma_s}{\gamma_s + \gamma_w}. \tag{8}$$

This expression shows that the wage difference Δw increases in the systematic variation of firm f's profit, $\Delta\pi$, and in the return volatility of the market portfolio. The ratio $\gamma_s/(\gamma_s + \gamma_w)$ measures the risk aversion of the firm's shareholder relative to that of the firm's worker. The higher this risk aversion, the more systematic risk will be borne by the firm's worker. If $\gamma_s > 0$ and $\gamma_w > 0$, firms will strike a trade-off between wage stability and dividend stability.

Equation (8) shows that the efficient degree of wage variation depends on the variation in the sum of firm f's profit and its shareholder's endowment. This matters for our empirical analysis because the endowment could include payoffs correlated with firm f's profit variation, e.g. payoffs from derivatives positions that the firm's shareholder uses to hedge against the profit variation. In fact, such hedging could be key to reducing wage variation and it could eliminate effects of competitor inflexibility on wages. For example, the shareholders of competing firms could use derivatives markets to share risk with each other and third parties, allowing the firms to pay similarly stable wages even if they are subject to competitor inflexibility to different extents.

[9] This specification results from an approximation of marginal utility as a linear function of the difference between the payoff that an agent receives in a state s, and the agent's expected payoff. For example, the worker's marginal utility in the high-wage state is $MU_+ := \psi - \kappa_w(w_+ - \bar{w})$, where κ_w measures the worker's risk aversion, and $\bar{w} = \psi w_+ + (1-\psi)w_-$ is the expected wage paid by firm f, where ψ is the probability of state "+". The risk-neutral probability q_w is defined as follows: $q_w := \psi(MU_+/\bar{MU})$, where $\bar{MU}$ denotes the worker's expected marginal utility. Then, $q_w = \psi - \gamma_w \Delta w$ with $\gamma_w := \kappa_w \psi(1-\psi)$. q_s is defined similarly, and $\gamma_s := \kappa_s \psi(1-\psi)$, where κ_s measures the risk aversion of firm f's shareholder.

A more fundamental null hypothesis results from changing our specification regarding the risk-neutral probabilities in expression (7). Note that the risk-neutral probability of firm f's shareholder, q_s, depends on the systematic variation in the firm's dividend. This implies that the variation of the wage across the two states affects both the worker's and the shareholder's risk-neutral probabilities in expression (7): $\Delta d = \Delta\pi - \Delta w$. Alternatively, one could argue that the shareholder's risk neutral probability q_s remains exogenous in wage contracting since firm f takes its shareholders risk preferences as given. If the firm's dividend variation Δd does not affect the probability q_s, we would obtain an expression like in (8), but without $\Delta\pi$ appearing on the right-hand side:

$$\Delta w \quad = \sigma \tfrac{\gamma_s}{\gamma_s + \gamma_w}. \tag{9}$$

This result is obtained because, by taking its shareholder's risk preferences as given, firm f behaves in wage contracting as if its shareholder is risk-neutral at the margin. The firm thus ends up prioritizing wage stability over dividend stability even though its shareholder may be risk averse in that the risk-neutral probability q_s may differ from the physical probability ψ. Rather than ignoring its shareholder's risk aversion, firm f would simply treat this risk aversion as exogenous.

In our empirical analysis, we test whether wage stability depends on the degree of competitor inflexibility as a determinant of the variation $\Delta\pi$, i.e., the stability of firm f's profit. We do so by comparing firms that compete with each other, but are subject to different degrees of competitor inflexibility. The arguments in the above-stated paragraphs suggest that, instead of affecting the stability of firms' wages, competitor inflexibility should affect the stability of their payouts to shareholders since the shareholders can either hedge themselves against payout variation or they supposedly don't mind this variation. In the first case, the effects of competitor instability should depend on the availability of hedging opportunities. Where firms' shareholders can hedge against payout variation, competitor inflexibility should not affect wage stability. In the second case, firms should generally prioritize wage stability over payout stability.

By using expression (4) to substitute for $\Delta\pi$ in expression (8), we obtain the following specification regarding the effects of competitor inflexibility on firm f's wage- and dividend-variation:[10]

$$\begin{aligned} \Delta w &\approx \tfrac{\gamma_s}{\gamma_s+\gamma_w}\Delta\pi_0 + \theta_w \Delta\pi_0\, x + \tfrac{\gamma_s}{\gamma_s+\gamma_w}\sigma, \\ \Delta d &\approx \tfrac{\gamma_w}{\gamma_s+\gamma_w}\Delta\pi_0 + \theta_d \Delta\pi_0\, x - \tfrac{\gamma_s}{\gamma_s+\gamma_w}\sigma, \end{aligned} \tag{10}$$

where the approximations are based on the approximation for the elasticity $\eta(x)$ stated in expression (5), $\Delta\pi_0 := \beta\sigma\, \pi[m_0]\eta(0)$ denotes the profit variation that an average-cost ($x = 0$) firm would experience due to the variation in the mark-up parameter, and θ_w as well as θ_d are coefficients defined as follows:

$$\theta_w := \frac{n(n+2)}{n+1}\frac{1}{m_0}\frac{\gamma_s}{\gamma_s+\gamma_w}, \text{ and } \theta_d := \frac{n(n+2)}{n+1}\frac{1}{m_0}\frac{\gamma_w}{\gamma_s+\gamma_w}. \tag{11}$$

The results in expression (10) are the theoretical counterparts to the regressions in our empirical analysis. The coefficients θ_w and θ_d describe the trade-off that firms strike between wage and dividend stability so that workers and shareholders share risks associated with competitor inflexibility. In our regressions, we use variation in the aggregate sales of a firm's competitors as a proxy for the variation denoted by $\Delta\pi_0$. Instead of using competitors' aggregate sales, we could use their average sales as a proxy for $\Delta\pi_0$. We prefer to use aggregate sales since there is considerable variation in data availability regarding small firms, and this variation has a stronger effect on average sales than on aggregate sales. By using aggregate sales instead of average sales, we obtain regression coefficients that are effectively normalized by the number of firms in a market, n. This normalization is desirable because the "raw" coefficients θ_w and θ_d are roughly linear in n (since $n(n+2)/(n+1) \approx n$). Our regressions estimate these coefficients as those of the interaction of competitors' aggregate sales and our measure of competitor inflexibility. This interaction term corresponds to the interaction $\Delta\pi_0 x$ in expression (10).

[10]The precise results are: $\Delta w = (\beta\sigma\, \pi(m_0)\, \eta(x) + \sigma)\gamma_s/(\gamma_s+\gamma_w)$, $\Delta d = (\beta\sigma\, \pi(m_0)\, \eta(x) - \sigma\, \gamma_s/\gamma_w)\gamma_w/(\gamma_s+\gamma_w)$.

Appendix B: Summary statistics: country breakup

Table IA1:
Summary statistics - country breakup

This table shows the number of firm-year observations in Panel A of Table 2 by country. Columns (1) to (4) report the number of observations by country for regression specifications that use first differences between log-values of firm-level sales (Δ SALES), total wage payments (Δ WAGES), total payouts (Δ POUT), and total employment (Δ EMP) as dependent variables. The column "Futures" reports the year in which electricity futures markets where introduced in a country.

Country	Δ SALES	Δ WAGES	Δ POUT	Δ EMP	Futures
North America					
CA	154	8	118	2	–
USEI	390	267	327	230	<2001
USTI	17	5	10	5	2010
USWI	112	64	98	62	<2001
Total	673	344	553	299	
Latin America					
AR	12	14	3	–	–
BR	189	167	121	128	–
CL	33	4	27	2	–
CO	10	2	9	–	–
PE	45	25	36	10	–
Total	289	212	196	140	
Scandinavia					
DK	9	9	–	8	2001
FI	336	302	10	254	<2001
NO	875	758	6	6	<2001
SE	298	110	5	85	<2001
Total	1,518	1,179	21	353	
Central and Western Europe					
AT	36	32	20	28	2003
BE	41	47	–	41	2005
CH	117	114	66	101	2015
DE	1,044	1,012	73	854	2003
ES	279	241	46	218	2007
FR	116	98	33	62	2005
GB	181	170	48	164	2001
GR	39	12	8	10	–

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Table IA1 – continued from previous page

Country	Δ SALES	Δ WAGES	Δ POUT	Δ EMP	Futures
IE	13	4	–	4	–
IT	399	366	79	292	2009
NL	14	9	–	6	2005
PT	72	48	5	42	2007
Total	2,351	2,153	378	1,822	
Eastern Europe and Russia					
BA	25	12	2	–	–
BG	14	12	–	7	–
CZ	159	144	7	114	2008
HR	7	7	–	7	–
HU	2	2	2	2	2012
LT	4	2	–	2	–
PL	67	22	17	14	2009
RO	9	9	–	9	2014
RU	201	115	54	32	2011
UA	15	–	–	–	–
Total	503	325	82	187	
Asia					
CN	320	138	92	114	–
IN	321	316	198	126	–
JP	117	–	100	–	–
KR	8	5	4	2	–
LK	16	7	16	4	–
MY	57	55	36	29	–
PH	51	47	28	28	–
PK	42	43	23	–	–
SG	4	4	4	3	–
TH	32	25	32	10	–
TR	54	18	2	8	2012
VN	46	–	20	–	–
Total	1,068	658	555	324	
Australia and New Zealand					
AU	36	27	14	10	2003
NZ	54	42	41	9	2010
Total	90	69	55	19	
Grand Total	**6,492**	**4,940**	**1,840**	**3,144**	

Appendix C: Additional robustness tests

In this section, we present a variety of additional robustness tests that augment the robustness checks presented in Section 5. First, we report estimates of regressions explaining wages and payouts to shareholders when we restrict our sample to country-years with at least 10 firms or without a dominant player (no firm with a market shares $>$ 25%). These estimates appear in Table IA2. Second, we report estimates from horse-race specifications in which our measure of competitor inflexibility competes against measures of country-level gross replacement rates and labor market tightness. This robustness check is inspired by the results of Ellul, Pagano, and Schivardi (2018) who show that these variables drive cross-country variation in the risk-sharing between firms' workers and owners.[11] The estimates appear in Table IA3. Third, we report estimates obtained by modifying our measure of competitor inflexibility. The estimates in Table IA4 result from instrumenting our measure of competitor inflexibility with data from plants that started to operate before the year 1996. We thus measure competitor inflexibility based on data about plants that were operating already well before the start of our sample period. Fourth, Table IA5 presents estimates based on alternative measures of competitor inflexibility, i.e. measures obtained by including wind, solar, and coal power plants in the set of low variable cost (LVC) plants. Finally, in Table IA6, we present estimates of the relationship between competitor inflexibility and average wages and payouts. The robustness checks in this Online Appendix confirm that competitor inflexibility destabilizes firms' payouts to shareholders, but there is no evidence for a destabilizing effect on wages.

[11] Ellul, Pagano, and Schivardi (2018) also test for differences between temporary and permanent labor productivity shocks, using an identification strategy similar to the one proposed by Guiso, Pistaferri, and Schivardi (2005). We cannot replicate these tests because our sample period is too short.

Table IA2:
Robustness check: sample selection and competitive markets

This table reports estimated elasticities of wages and payouts with respect to variation in competitors' aggregate sales. The sample period is 2002-2014. All variables are defined in Section 3. The analysis is based on the specifications of Table 5. In the first two columns, we drop all firm-years for which we have less than 10 observations per country-year to compute aggregate sales. In the last two columns, we drop all firm-years in which a firm's market share exceeds 25 percent. Standard errors (in parentheses) are clustered by country. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

	10 Firms		25% Mkt SH	
Dependent Variable	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT
Δ AGG SALES	0.130	−0.780**	0.057	−0.805**
	(0.119)	(0.372)	(0.107)	(0.326)
× CINFLX	−0.161	2.744***	−0.048	2.086***
	(0.360)	(0.563)	(0.368)	(0.567)
× HHI	0.367	0.190	0.695	3.765***
	(0.614)	(2.082)	(0.633)	(1.273)
× OINFLX	0.016	−0.173	−0.003	−0.077
	(0.198)	(0.386)	(0.214)	(0.416)
CINFLX	0.231	−0.306	0.412***	0.468
	(0.155)	(0.685)	(0.160)	(0.868)
HHI	0.170	1.748	−0.264	−0.178
	(0.193)	(1.331)	(0.349)	(0.893)
OINFLX	0.028	0.170	0.027	0.117
	(0.051)	(0.182)	(0.063)	(0.200)
Control Variables	Yes	Yes	Yes	Yes
Fixed Effects	F,Y	F,Y	F,Y	F,Y
Cluster	C	C	C	C
N	1,150	1,150	1,096	1,096
R^2	0.041	0.073	0.039	0.058
Q1(CINFLX)	0.115*	−0.172	0.101**	−0.051
Q3(CINFLX)	0.036	1.190***	0.077	0.979***

Table IA3:
Robustness check: controlling for alternatives to wage insurance

This table reports estimated elasticities of wages and payouts with respect to variation in competitors' aggregate sales. The sample period is 2002-2014. All variables are defined in Section 3. The analysis is based on the specifications of Table 5. GRR is a country-level measure of unemployment support, i.e. the average gross replacement rate in the first two years of unemployment. LMT is a measure of labor market tightness, i.e. the reciprocal of the long-term unemployment rate. Standard errors (in parentheses) are clustered by country. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

Dependent Variable	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT
Δ AGG SALES	−0.020	−0.497	0.174	−0.791	−0.059	−0.726
	(0.114)	(0.452)	(0.121)	(0.484)	(0.124)	(0.494)
× CINFLX	−0.407	1.609**	−0.174	1.913***	−0.420	1.478*
	(0.286)	(0.743)	(0.284)	(0.636)	(0.288)	(0.755)
× HHI	−0.088	−0.230	0.197	1.154	−0.045	−0.020
	(0.513)	(1.498)	(0.514)	(1.678)	(0.507)	(1.534)
× OINFLX	−0.080	−0.172	0.008	−0.130	−0.080	−0.166
	(0.192)	(0.406)	(0.175)	(0.349)	(0.190)	(0.412)
× GRR	1.218***	0.245			1.281***	0.705
	(0.349)	(1.331)			(0.356)	(1.339)
× LMT			−0.057	0.808	0.169	1.065*
			(0.109)	(0.607)	(0.264)	(0.568)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	F,Y	F,Y	F,Y	F,Y	F,Y	F,Y
Cluster	C	C	C	C	C	C
N	1,118	1,118	1,279	1,279	1,118	1,118
R^2	0.050	0.062	0.039	0.063	0.051	0.066
Q1(CINFLX)	0.235***	−0.092	0.146**	−0.264	0.222***	−0.160
Q3(CINFLX)	0.037	0.691*	0.062	0.667*	0.018	0.560

Table IA4:
Robustness check: instrumenting measures of competitor inflexibility with data of power plants in operation before 1996

This table reports estimated elasticities of wages and payouts with respect to variation in competitors' aggregate sales. The sample period is 2002-2014. We instrument both inflexibility measures with the equivalent measures that are exclusively based on data about power plants in operation prior to 1996, i.e. well before the start of our sample period. All variables are defined in Section 3. The analysis is based on the specifications of Table 5. Standard errors (in parentheses) are clustered by country. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

Dependent Variable	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT
Δ AGG SALES	0.257**	−0.528	0.275**	−0.509	0.272**	−0.578
	(0.102)	(0.365)	(0.115)	(0.362)	(0.116)	(0.352)
× CINFLX	−0.231	1.556**	−0.573*	1.573*	−0.464	1.701*
	(0.204)	(0.749)	(0.315)	(0.894)	(0.335)	(0.885)
× HHI	0.130	0.630	0.040	0.659	0.007	0.656
	(0.542)	(1.609)	(0.571)	(1.661)	(0.577)	(1.593)
× OINFLX			0.333	−0.007	0.287	0.030
			(0.205)	(0.586)	(0.223)	(0.591)
CINFLX	−0.070	−0.376	−0.039	−0.015	0.048	−0.442
	(0.257)	(1.071)	(0.267)	(1.149)	(0.279)	(1.157)
HHI	0.356	1.149	0.348	1.000	0.327	1.163
	(0.270)	(1.052)	(0.266)	(1.092)	(0.266)	(1.143)
OINFLX			0.040	0.297	0.088	0.441
			(0.081)	(0.257)	(0.096)	(0.398)
Control Variables	No	No	No	No	Yes	Yes
Fixed Effects	F,Y	F,Y	F,Y	F,Y	F,Y	F,Y
Cluster	F	F	F	F	F	F
N	1,062	1,062	1,062	1,062	1,021	1,021
R^2	0.039	0.053	0.037	0.052	0.047	0.071
Q1(CINFLX)	0.215***	−0.147	0.152**	−0.123	0.172***	−0.164
Q3(CINFLX)	0.103	0.610*	−0.127	0.643	−0.054	0.664

Table IA5:
Robustness check: alternative measures of competitor inflexibility

This table reports estimated elasticities of wages and payouts with respect to variation in competitors' aggregate sales. The sample period is 2002-2014. In the first two columns, we add solar and wind power plants to what we consider LVC plants in computing CINFLX and OINFLX (nuclear, hydro, and geothermal). In columns (3) and (4), we add coal power plants instead. We add coal, solar, and wind power plants in the last two columns. All variables are defined in Section 3. The analysis is based on the specifications of Table 5. Standard errors (in parentheses) are clustered by country. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

CINFLX incl.	Solar and Wind		Coal		Solar, Wind, and Coal	
Dependent Variable	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT	Δ WAGES	Δ POUT
Δ AGG SALES	0.155	−0.522	0.265	−1.261*	0.250	−1.243*
	(0.099)	(0.370)	(0.237)	(0.748)	(0.240)	(0.747)
× CINFLX	−0.144	1.798***	−0.371	1.939**	−0.324	1.861**
	(0.275)	(0.572)	(0.281)	(0.982)	(0.296)	(0.942)
× HHI	0.243	0.566	0.019	1.990	0.021	1.929
	(0.497)	(1.479)	(0.635)	(1.816)	(0.628)	(1.786)
× OINFLX	−0.024	−0.054	0.138	0.054	0.110	0.090
	(0.166)	(0.298)	(0.095)	(0.357)	(0.101)	(0.334)
CINFLX	0.130	−0.091	0.074	−1.066***	0.022	−1.084***
	(0.158)	(0.620)	(0.106)	(0.295)	(0.100)	(0.314)
HHI	0.062	1.101	0.122	1.039	0.137	0.912
	(0.201)	(0.976)	(0.214)	(0.995)	(0.215)	(1.020)
OINFLX	−0.007	0.162	−0.042	0.103	−0.057*	0.112
	(0.039)	(0.115)	(0.044)	(0.112)	(0.033)	(0.091)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	F,Y	F,Y	F,Y	F,Y	F,Y	F,Y
Cluster	C	C	C	C	C	C
N	1,279	1,279	1,279	1,279	1,279	1,279
R^2	0.038	0.060	0.039	0.061	0.039	0.061
Q1(CINFLX)	0.138***	−0.081	0.123*	−0.081	0.138**	−0.075
Q3(CINFLX)	0.067	0.795***	0.005	0.536**	0.035	0.515**

Table IA6:
Effects of competitor inflexibility on average wages and average payouts

This table reports coefficient estimates from regressions of average wages and average payouts on competitor inflexibility and our set of control variables. The sample period is 2002-2014. Dependent variables are the natural logarithm of wages per employee (log WPE), the ratio of wages to sales (WtS), and the ratio of payouts to sales (PtS). All control variables are defined in Section 3. We include firm and year fixed effects. Standard errors (in parentheses) are clustered by country. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

Dependent Variable	log WPE	WtS	PtS	log WPE	WtS	PtS
CINFLX	−0.056	−0.034	0.010	−0.081	−0.030	0.004
	(0.551)	(0.046)	(0.027)	(0.520)	(0.051)	(0.028)
HHI	0.084	0.077	0.009	0.436	0.005	0.003
	(0.432)	(0.056)	(0.030)	(0.426)	(0.062)	(0.032)
OINFLX	0.025	0.007	0.003	0.016	0.004	−0.001
	(0.085)	(0.011)	(0.006)	(0.095)	(0.009)	(0.006)
Size				0.070**	−0.004**	−0.002
				(0.035)	(0.002)	(0.002)
Leverage				−0.035	−0.027***	−0.004
				(0.055)	(0.006)	(0.006)
Profitability				−0.057	−0.059	0.257***
				(0.188)	(0.047)	(0.073)
Tangibility				−0.124	−0.001	−0.008
				(0.083)	(0.010)	(0.008)
Own Capacity Growth				0.007	0.000	−0.001
				(0.005)	(0.001)	(0.001)
Fixed Effects	F,Y	F,Y	F,Y	F,Y	F,Y	F,Y
Cluster	C	C	C	C	C	C
N	4,098	4,098	4,098	3,704	3,704	3,704
R^2	0.183	0.027	0.014	0.168	0.035	0.039

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