

The German Management and Organizational Practices Survey

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The GMOP – Overview

- Joint project: IAB, IfW, infas
- Study design and questionnaire based on MOPS 2010
- Population
 - Sample drawn from administrative data linked with commercial data
 - Establishments in manufacturing
- Time frame
 - Field phase: 2014/2015
- 1,927 interviews

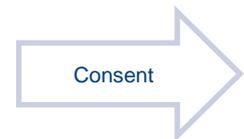
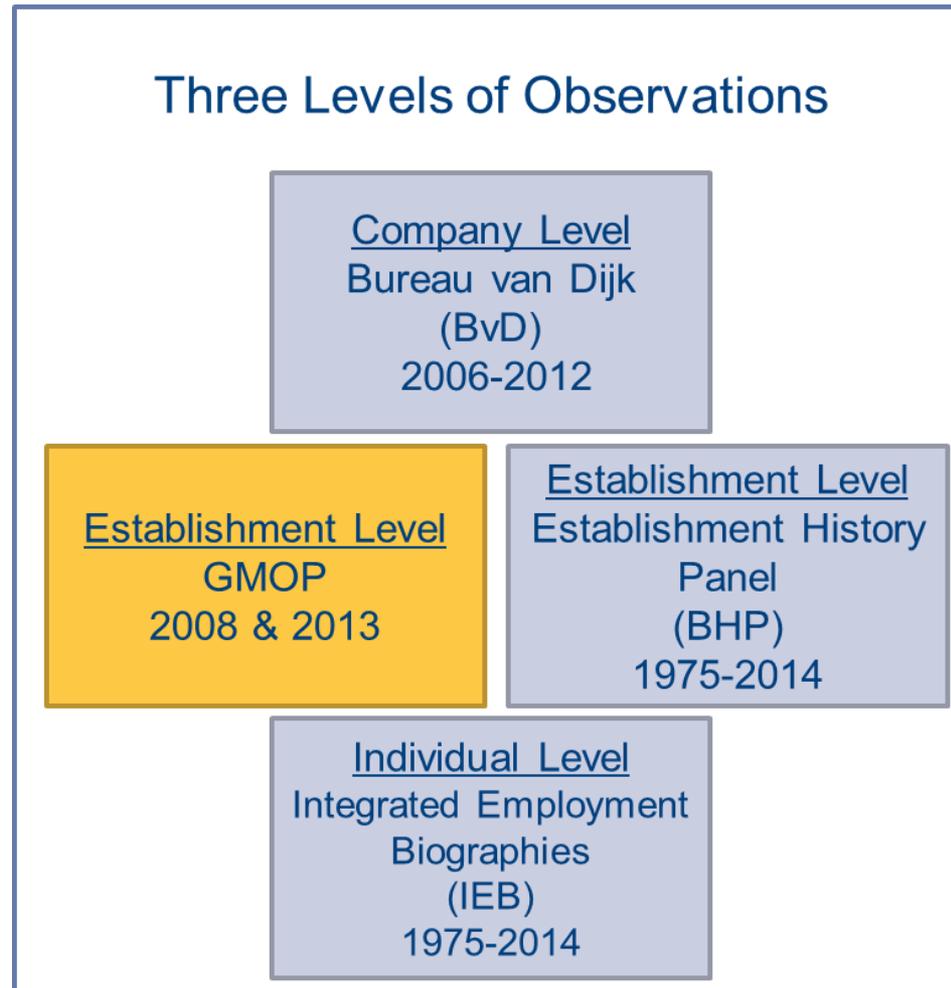


Sample Restrictions



- German administrative data: BHP 2011
 - Universe of German establishments with at least one employee subject to social security contributions
- Linked with Bureau van Dijk's Orbis database
 - Company-level financial data
- Manufacturing and construction industries
- 25 or more employees
- Stratified sample
 - Industry (5 categories)
 - Size (3 categories)
 - Region (4 categories - urban/rural)

Consent to linkage:
53%



Consent to Linkage



- Informed consent to linkage mandated by law
- Assumption: Highest-level managers are more likely to consent
 - Authority and capacity to answer (Snijkers et al., 2013)

Respondent's job title	Total	Linkage Consent (%)
CEO	1,256	61
Manager of multiple establishments	84	40
Manager of one establishment	186	38
Manager within an establishment	220	43
Non-manager	62	27
Other/NA	119	38
Total	1,927	

Who Consents to Linkage?

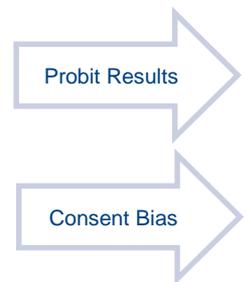


Results of probit estimations

- Respondent gender and tenure have no effect
- CEOs more likely to consent compared to other positions (22%)
- Consent probabilities decrease with decreasing hierarchical positions

Consent to linkage bias

- Small significant bias only for independence of firm



Field Phase



- Mixed mode simultaneous approach
 - 71% PAPI vs. 29% CAWI
- Target group: High-level managers
 - 65% CEOs
 - 81% male
- 1,927 valid interviews
 - In 2014/15
 - Retrospective questions for 2008 and 2013
- Response rate: 6%



Response Rates by Strata



	Number of establishments in the gross sample	Number of participating establishments	Response rate (%)
Size			
25-49 employees	15,875	739	4.6
50-99 employees	8,825	588	6.5
100 and more employees	8,147	600	7.2
Industry			
Food and consumption	3,509	197	5.5
Consumer products	2,766	190	6.8
Industrial goods	5,201	381	7.1
Investment/durable goods	13,916	863	6.0
Construction	7,455	296	3.9
Total	32,847	1,927	5.9

Response Rate and Representativity

Comparison of Means



	Total Population		GMOP Respondents		Difference (2)-(1)		GMOP Weighted	
Number of employees (ln)	4.2	(0.9)	4.3	(0.8)	0.1	***	4.1	(0.8)
Female employees (share)	26.5	(21.0)	27.0	(19.0)	0.6		26.6	(19.6)
Qualified employees (share)	85.9	(11.3)	86.5	(10.4)	0.6	**	86.4	(10.6)
Trainees/apprentices (share)	4.8	(5.7)	4.7	(5.1)	0.0		4.9	(5.5)
Mean age of employees	42.1	(4.1)	42.2	(3.8)	0.1		42.1	(3.9)
Median wage of employees	90.5	(30.4)	90.7	(27.7)	0.2		89.6	(27.2)
Age of establishment	23.8	(12.0)	23.9	(11.9)	0.4		23.6	(12.1)
Observations	~50,800		~1,880				~1,880	

Notes: Standard deviation in parentheses. Number of observations may vary with variables due to missing observations. Asterisks indicate significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Own calculations based on the GMOP survey and the BHP 2011.

Trade-Offs

- Comparability vs. adaptation to local settings
 - Ex. „right to work“ in US vs. employee protection in GER

- Survey length vs. information density
 - US: Linkage to ASM
 - GER: „Enhanced“ sample and additional background questions

- Retrospective closed-ended questions for 2008 and 2013

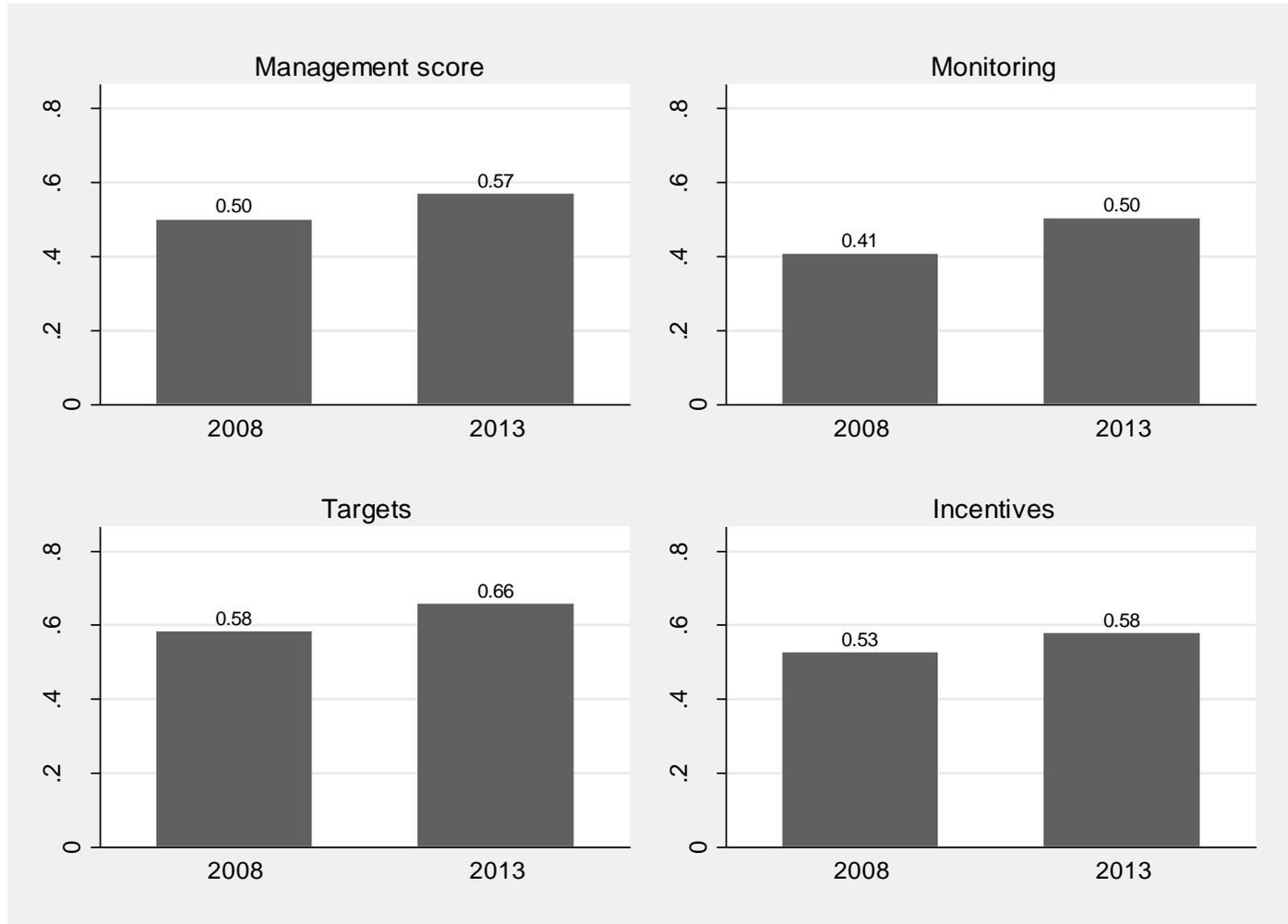
- Background information and economic conditions

- ⇒ - Establishment size
- Qualification structure
- Productivity and competition
- Ownership (foreign, family)
- Works council and collective agreement
- ⇒ - Great Recession

- 16 questions on management practices as in MOPS

- Monitoring
- Targets
- Incentives

Management Practices



Notes: Weighted. Source: Own calculations based on the GMOP survey.



Questionnaire – New Questions

- Existence and composition of the board of directors (6)
- ⇒ ■ Rating questions (5)

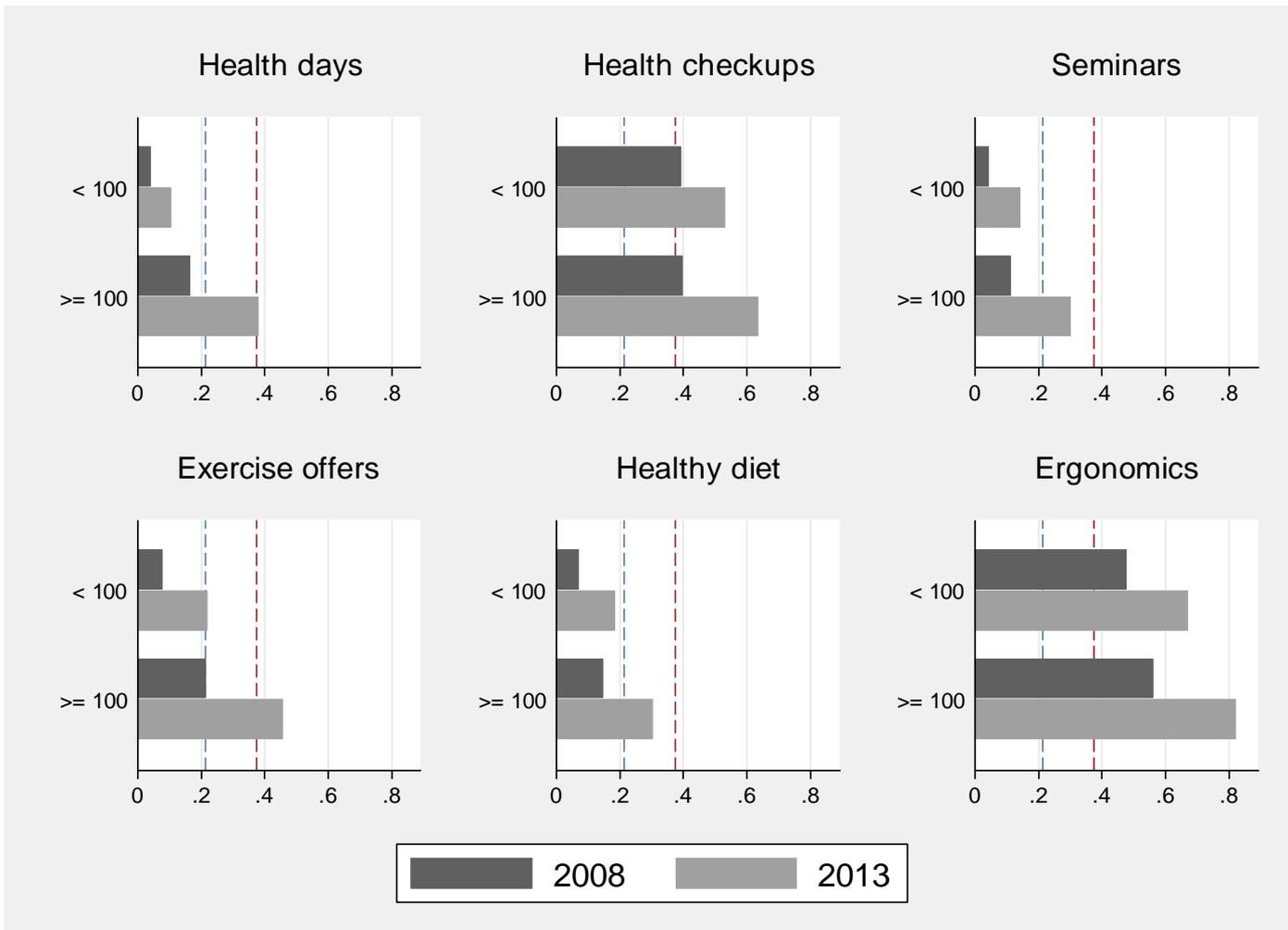
3. From your point of view, how important are key performance indicators to make business decisions?

 Please check one box.

Very important	Rather important	Rather unimportant	Very unimportant
1	2	3	4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- ⇒ ■ Work-life balance (5)
- Health measures (6)

Individual Health Measures and Establishment Size



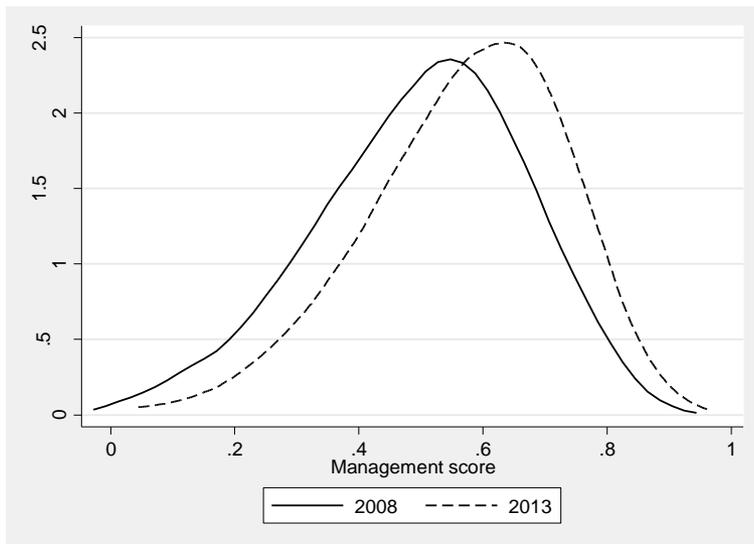
Notes: Weighted. Dotted lines represent the average health score for 2008 and 2013.

Source: Own calculations based on the GMOP survey.



Results: Heterogeneity in the Management Score

Distribution of the Management Score in 2008 and 2013



Management Score Across Establishment Sizes 2013



Results: Comparison with the US

- Average management score is higher in US
- Link between management and productivity is stronger for the US:

	Germany	US <small>(Bloom et. al 2013)</small>
Increase in the management score by 0.1 points is associated with an increase in labor productivity by...	6.2%	13.6%

- Possible explanations:
 - ⇒ - Smaller establishments (lack of necessity, higher costs)
 - ⇒ - Lower labor market flexibility and employee voice
 - ⇒ - Driven by monitoring and incentives

■ GMOP Survey

- On-site use at the RDC in Nuremberg and its outposts (and JoSuA)



■ Further information on the GMOP at the RDC:

- http://fdz.iab.de/en/FDZ_Data_Access/FDZ_On-Site_Use.aspx
- http://fdz.iab.de/en/FDZ_Establishment_Data/GMOP.aspx
- Laible, M.- C. & Görg, H. (2017). The German Management and Organizational Practices (GMOP) Survey. Jahrbücher für Nationalökonomie und Statistik, online first, doi:10.1515/jbnst-2017-1003.

Thank you for your attention!

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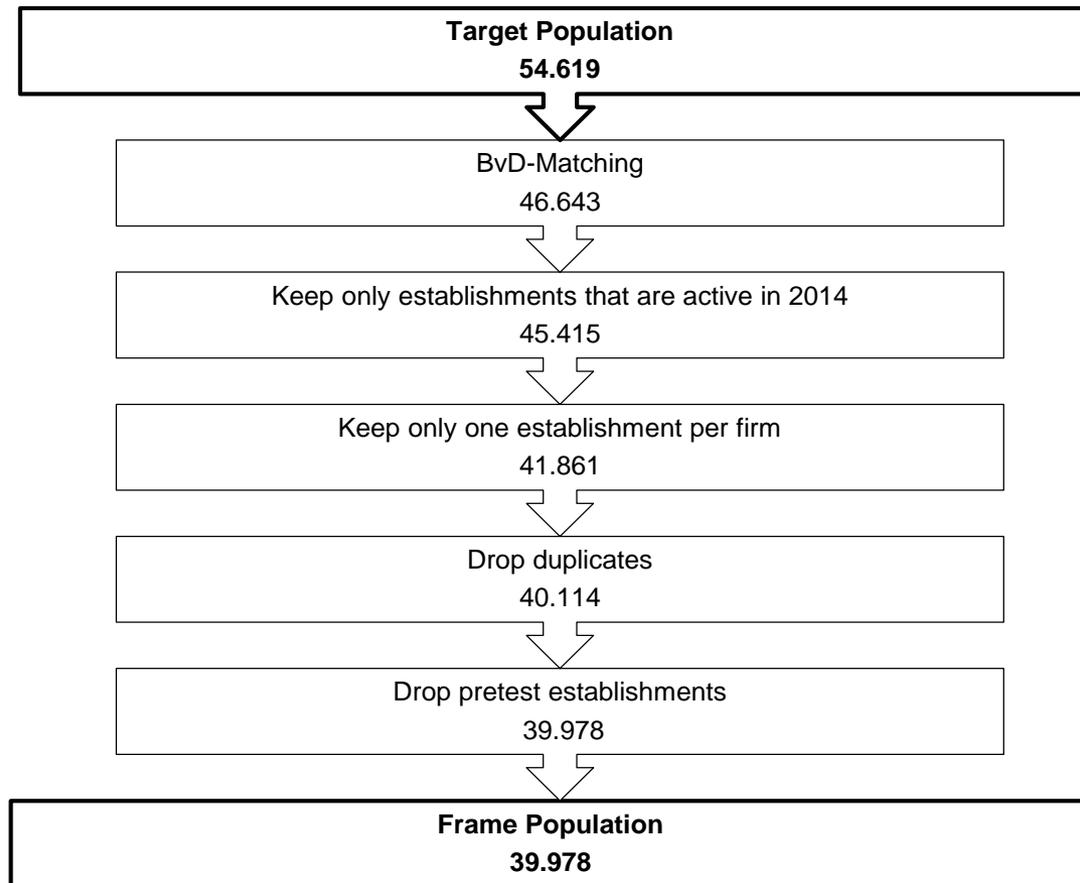
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Presented Results Taken From:

- Broszeit, S., Fritsch, U., Görg, H., & Laible, M.-C. (2016). Management Practices and Productivity in Germany. IZA Discussion Paper No. 10370, Bonn: Institute for the Study of Labor.
- Broszeit, S. & Laible, M.-C. (2017). Examining the Link Between Health Measures, Management Practices and Establishment Performance. IAB Discussion Paper 26/2017, Nuremberg: Institute for Employment Research.
- Broszeit, S., & Laible, M.-C. (2016a). German Management and Organizational Practices Survey (GMOP 0813): Data Collection. FDZ-Methodenreport 06/2016, Nuremberg: Institute for Employment Research.
- Broszeit, S., & Laible, M.-C. (2016b). German Management and Organizational Practices Survey (GMOP 0813): Data Documentation. FDZ-Datenreport 09/2016, Nuremberg: Institute for Employment Research.
- Broszeit, S., & Laible, M.-C. (2017). The German Management and Organizational Practices (GMOP) Survey: Survey Design and Data Quality. FDZ-Methodenreport 02/2017, Nuremberg: Institute for Employment Research.

Population Restrictions for Sampling



Possible Concerns

- Response Rates
 - Comparisons of means show that sample is representative of target population
- Recall Bias
 - Comparisons of administrative and survey data show that recall bias keeps within limits
- Unit Non-Response
 - Probit estimations for taking part in the survey show that systematic unit non-response of specific establishments did not occur
- Linkage Consent Bias
 - Comparisons of means show no consent bias

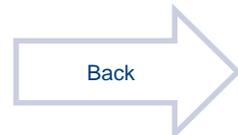
Insights from the Pretest: Response Rates are Problematic



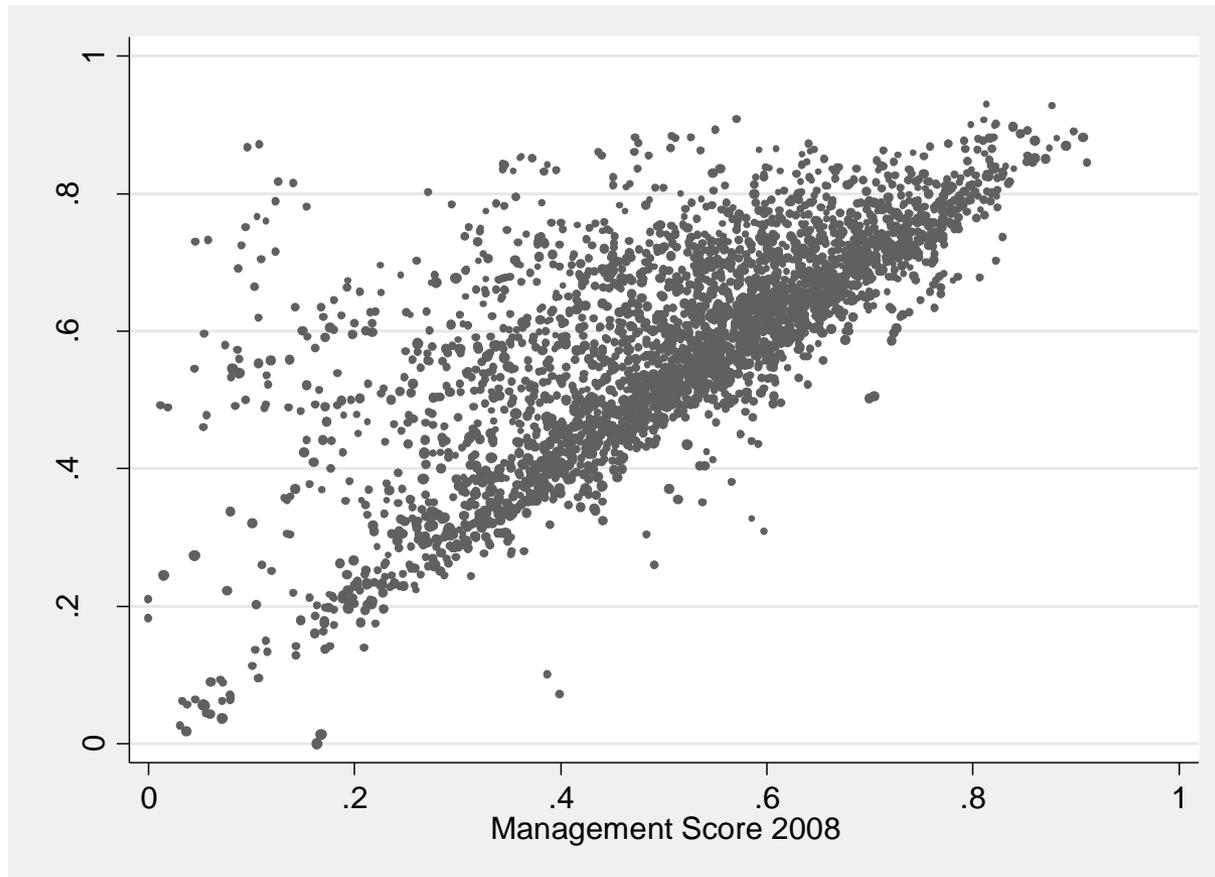
- Refinement calls to obtain name and E-Mail of target manager
 - Establishments with > 50 employees had high refusal rates and low accessibility of contact person
- Low response rates in pretest
 - Response rates higher for establishments with refinement calls
 - Addressing survey to contact person had no observable effect for larger establishments
- Consequences:
 - Refinement calls in field phase only for establishments with <50 employees

Possible Reasons for Low Response Rates

- Bypassing gatekeepers (Snijkers et al., 2013)
 - Dispatching survey to right person (at the right moment)
- Survey content may not appeal to all
 - First question: “problems in production”
- Practitioner’s observations at the IAB
 - Establishments are over-surveyed
 - Increasing demand for establishment sample drawings but few comprehensive sample drawing designs
- Pretest indicated need to increase willingness to participate
 - Incentive: Report of main results sent to participants
 - But: Only 42% consented to receiving results



Recall Bias: Changes in the Management Score Between 2008 and 2013



Notes: Weighted observations. 5 percent random noise added for data protection reasons. Only observations with valid values for 2008 and 2013. Number of observations: 1,576. For the calculation of the management score see Broszeit, Fritsch, Görg and Laible (2016).

Source: Own calculations based on the GMOP survey.

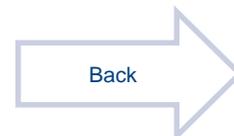
Consent to Linkage



- Advantages of linking surveys and administrative data (f.ex. Winkler, 1995; Sala et al., 2010)
 - Cost-effective
 - Reduction of respondent burden
 - Parallelism of information – data quality
- Drawbacks: Informed consent to linkage mandated by German law (Federal Data Protection Act, 2013, Part I, Section 4; Code of Social Law X, 2013, Section 75)

Consent to Linkage	Frequency	%
Yes	1,021	53
No	606	31
Not authorized/NA	300	16
Total	1,927	100

Categories not authorized and NA taken together due to data security reasons.

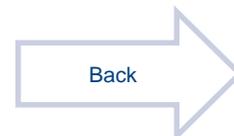


Who is Most Likely to Consent ?



Consent to Linkage	Marginal Effects	
	(1)	(2)
Gender (Female = 1)	0.017 (0.032)	0.031 (0.034)
Tenure	0.001 (0.001)	0.001 (0.001)
CEO	0.223*** (0.027)	baseline
Manager of multiple establishments		-0.202*** (0.061)
Manager of one establishment		-0.239*** (0.041)
Manager within an establishment		-0.215*** (0.041)
Non-Manager		-0.356** (0.065)
Observations	1,702	1,645

Marginal Effects of probit estimation. Controls are establishment size, industry and settlement. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1



Linkage Consent Bias

	(1) Full data		(2) Linkage consent		(3) Linkage consent bias
	N	Mean	N	Mean	Difference
Employees	1,812	159.68	983	150.14	-9.54
Managers	1,867	13.33	1,004	12.86	-0.46
Non-Managers	1,828	147.40	990	138.47	-8.93
Executive board (D)	1,887	0.20	1,011	0.20	-0.01
FDI (D)	1,893	0.23	1,010	0.22	-0.01
Exports (D)	1,898	0.69	1,012	0.71	0.02
Offshoring (D)	1,598	0.16	850	0.14	-0.02
Innovations (D)	1,759	0.79	948	0.80	0.01
Foreign Ownership (D)	1,921	0.14	1,019	0.13	-0.01
Family Ownership (D)	1,882	0.60	998	0.61	0.01
Collective agreement (D)	1,890	0.40	1,008	0.42	0.01
Works council (D)	1,880	0.43	1,002	0.43	-0.00
Independent company (D)	1,911	0.79	1,016	0.82	0.03**

Notes: Not weighted. D indicates a dummy variable. Number of observations vary with variables due to missing observations. Asterisks indicate significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Own calculations based on the GMOP survey (only 2013).



Calculating the Management Score

- Strategy as in Bloom et al. (2013): More structured MP imply “better” management
- Structured = MP that are more specific, formal, frequent or explicit
- Steps:
 1. Use only observations with at least 11 non-missings (out of 16)
 2. Normalization of questions on a 0 to 1 scale
 3. Unweighted average of normalized responses
- One management score per establishment in interval [0;1]

Please guess: How many key performance indicators were approximately monitored at this establishment?
 Please only provide information for the year for which you did not provide an answer in question 4.

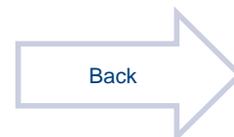
Examples for key performance indicators are: metrics on production, cost, output, quality, inventory, energy, absenteeism and delivery on time

 Please check one box for each year.

	2008	2013
1-2.....	<input type="checkbox"/> 1	<input type="checkbox"/> 1
3-9.....	<input type="checkbox"/> 2	<input type="checkbox"/> 2
10-49.....	<input type="checkbox"/> 3	<input type="checkbox"/> 3
50 or more.....	<input type="checkbox"/> 4	<input type="checkbox"/> 4
I do not know.....	<input type="checkbox"/> 8	<input type="checkbox"/> 8

Rating the answer categories:

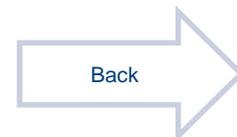
- 1-2 → 0
- 3-9 → 1/3
- 10-49 → 2/3
- 50 or more → 1



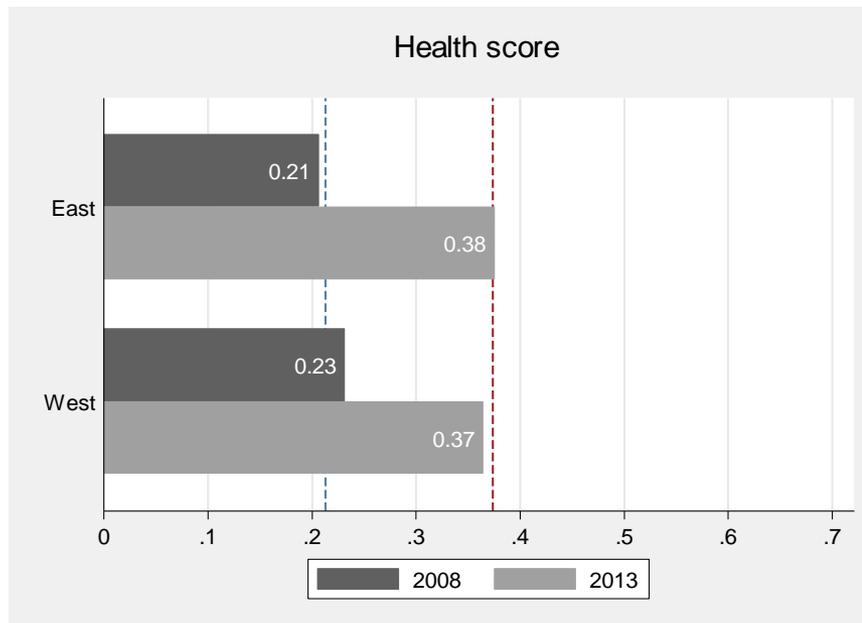
Great Recession and Management Practices



Notes: Weighted. Dotted lines represent the average management score for 2008 and 2013.



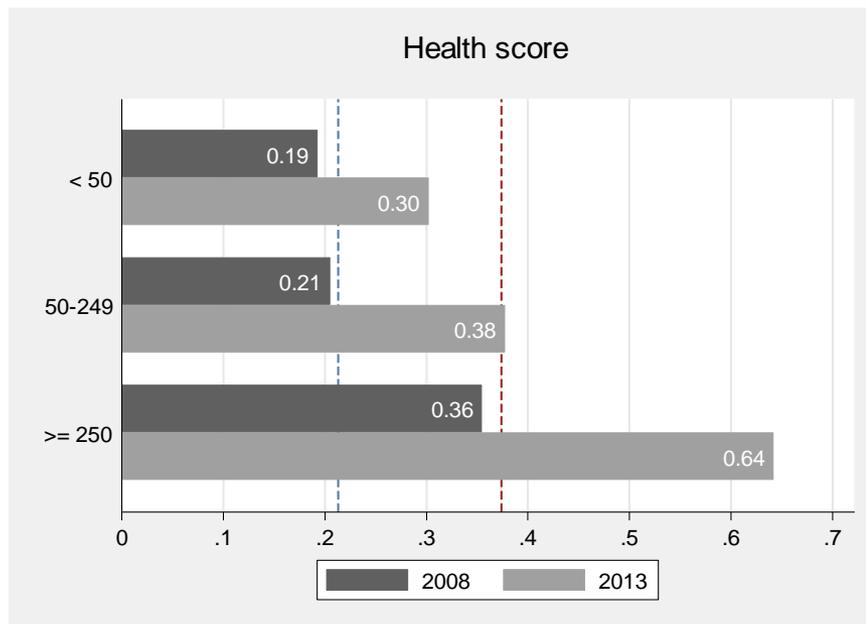
Differences between West and East Germany



Notes: Weighted. Differences for the regions are not statistically significant for the health score. Differences for the regions are statistically significant at the 1%-level for the management score. Dotted lines represent the average health and management scores for 2008 and 2013. Source: Own calculations based on the GMOP survey.

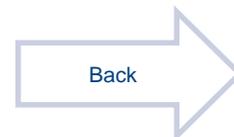


Development of the Management and Health Scores Across Establishment Sizes

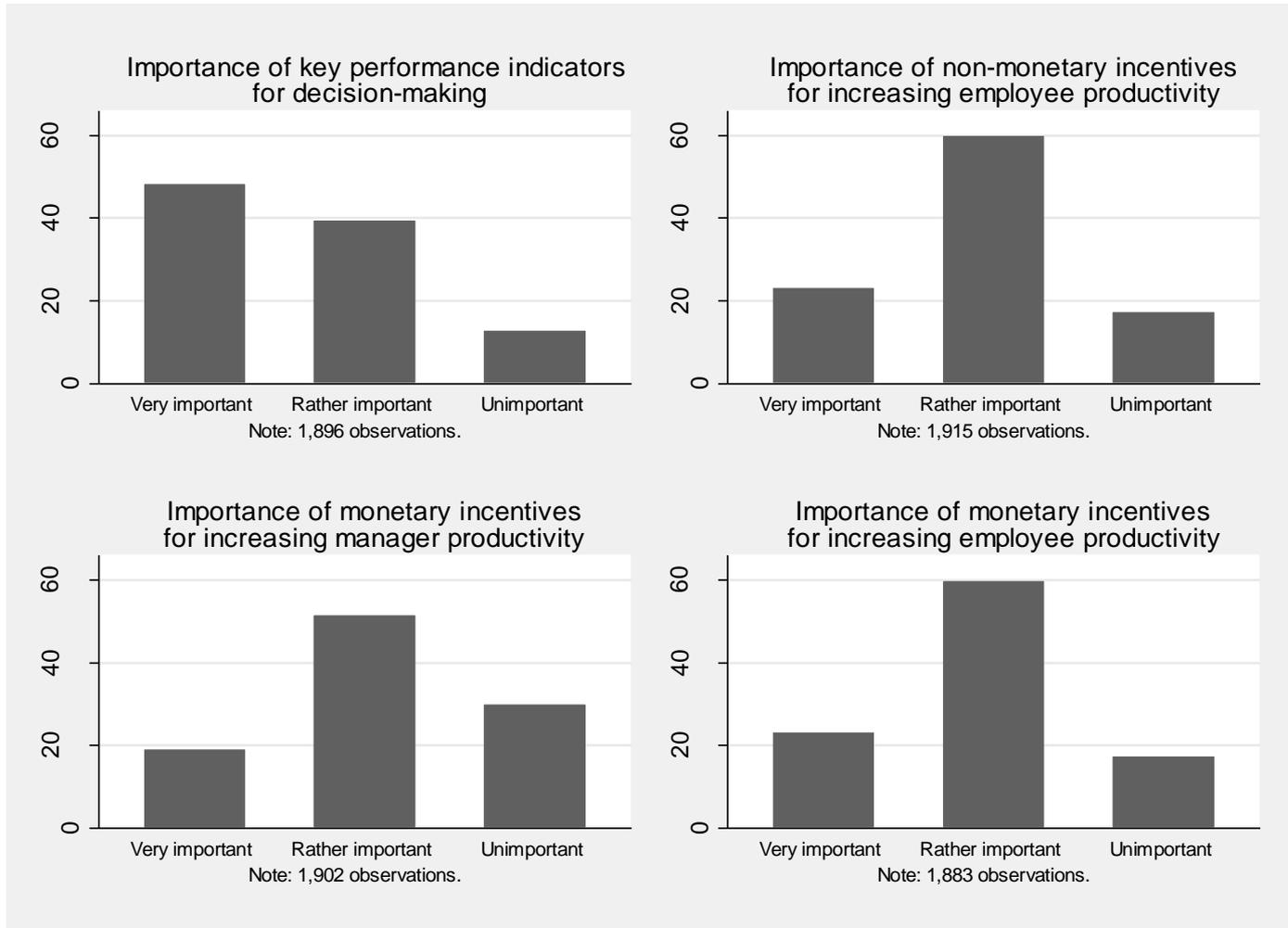


Notes: Weighted. Differences for establishment sizes are statistically significant at the 1%-level. Dotted lines represent the average health and management scores for 2008 and 2013.

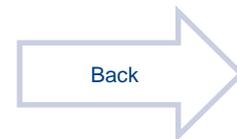
Source: Own calculations based on the GMOP survey.



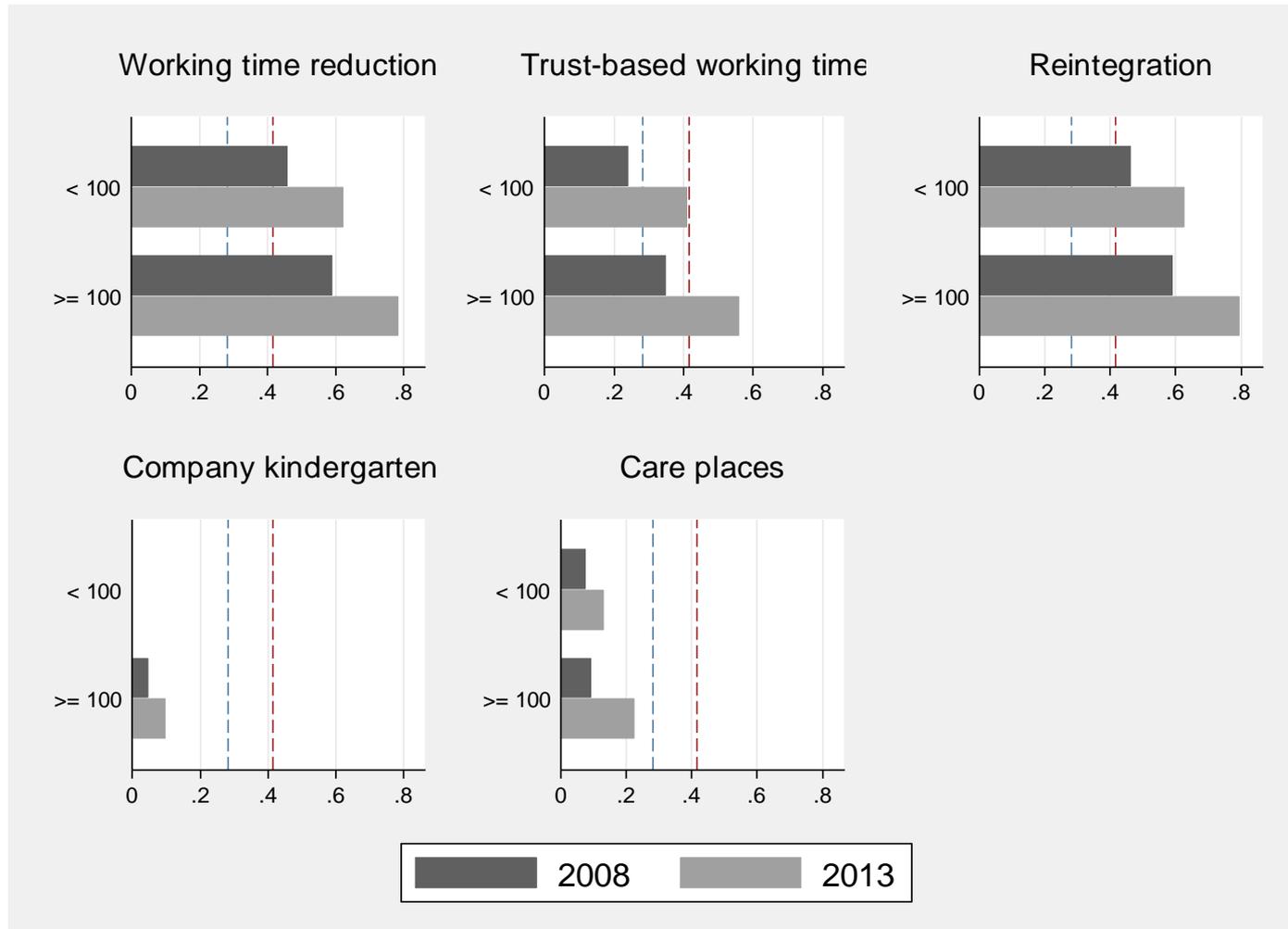
Rating Questions



Notes: Weighted. Source: Own calculations based on the GMOP survey.



Work-Life Balance Measures



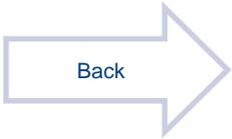
Notes: Weighted. Share of small establishments with company kindergartens not depicted due to data protection. Dotted lines represent the average work-life balance score for 2008 and 2013.



Results: Driven by Monitoring and Incentives

Dependent Variable: Labor Productivity	Incentives	Targets	Monitoring	All
Incentives	0.354*** (0.090)			0.278*** (0.093)
Targets		0.130** (0.065)		0.013 (0.070)
Monitoring			0.426*** (0.108)	0.344*** (0.121)
Controls: Size, qualification structure, engagement abroad, exports, year, industry, settlement, noise	yes	yes	yes	yes
Observations	1,763	1,763	1,763	1,763
Adjusted R-squared	0.133	0.125	0.135	0.140

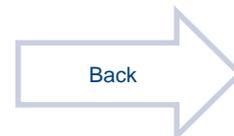
Notes: OLS estimation with pooled data. Clustered robust standard errors at the establishment level are in parentheses. Noise controls include gender, tenure and position of respondent as well as a dummy for answering online. Asterisks indicate significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.



Results: Establishment Size Categories

Dependent Variable: Labor Productivity	Establishment Size Categories		
	<50	50-249	>=250
Management Score	0.386* (0.202)	0.529*** (0.137)	1.190*** (0.429)
Establishment controls: Size, qualification structure, foreign ownership, works council, engagement abroad, exports	yes	yes	yes
Further controls: Year, industry, settlement, noise	yes	yes	yes
N	618	960	194
Adjusted R ²	0.31	0.15	0.12

Notes: OLS estimation with pooled data. Clustered robust standard errors at the establishment level are in parentheses. Noise controls include gender, tenure and position of respondent as well as a dummy for answering online. Asterisks indicate significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

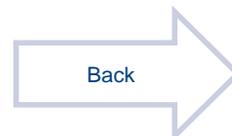


Results: Management Practices and Labor Productivity

Dependent Variable: Labor Productivity	Family ownership		Competition		Works council	
	No	Yes	Low	High	No	Yes
Management score	0.549*** (0.181)	0.540*** (0.155)	0.407*** (0.149)	0.892*** (0.195)	0.384** (0.167)	0.817*** (0.270)
Controls: Size, qualification structure, engagement abroad, exports, year, industry, settlement, noise	yes	yes	yes	yes	yes	yes
Observations	668	1,082	990	773	849	321
R-squared	0.211	0.164	0.177	0.165	0.193	0.255
Adjusted R-squared	0.182	0.145	0.156	0.138	0.170	0.198

Notes: OLS estimations with pooled data. Clustered robust standard errors at the establishment level are in parentheses. Year dummy, industry dummies, settlement dummies and noise control included. Noise controls include gender, tenure and position of respondent as well as a dummy for answering online. D indicates a dummy variable. Asterisks indicate significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample standard deviations are provided upon request.

Source: Own calculations based on GMOP.



Results: Management, Health Measures and Outcomes

Dependent Variable	Labor Productivity			Median Wages		
	1	2	3	4	5	6
Health score	0.052 (0.056)		0.019 (0.059)	0.038** (0.015)		0.037** (0.016)
Management score		0.239** (0.104)	0.229** (0.110)		0.022 (0.034)	0.001 (0.036)
Observations	936	936	936	1,436	1,436	1,436
N. of establishments	468	468	468	718	718	718
Within R ²	0.147	0.156	0.156	0.228	0.223	0.228

Notes: Fixed effects estimation. Controls include employees (ln), foreign ownership (D), independent company (D), works council (D), engagement abroad (D), exports (D), crisis (D), women (share), highly qualified (share), mean age of employees (ln), age of establishment (ln), East Germany (D), year (D), 2-digit industry levels, settlement, noise variables (gender, tenure, position and answering method) and a dummy for deviations between the survey and administrative data. Clustered robust standard errors at the establishment-level are in parentheses. Asterisks indicate significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Source: Own calculations based on the GMOP survey and the BHP.

