**Supplementary online material: How do HRM practices improve employee satisfaction? Economic and Industrial Democracy**

### Table S.1. Results of synthesis of evidence of HRM bundle and job satisfaction

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Reference** | **Country, year(s) of data collection** | **Sample size**  | **Level(s) of HRM measures** | **Number of HRM in the bundle(s)** | **HRM-job satisfaction effect** |
| Böckerman, et al. (2012) | Finland, 2003 | Employees: 3,755 | Employee  | 1 bundle, 4 practices | + |
| Boxall and Macky (2014) | New Zealand, 2009 | Employees: 1016 | Employee | 4 bundles, 35 practices | + (except 1 bundle) |
| Chowhan et al. (2016) | Canada, 1999 to 2004 | Employees: 49,344 | Employee  | 4 bundles, 10 practices | + |
| Den Hartog et al. (2013) | Netherlands, 2010s | Employees: 2,063Employers: 449 managers (1 hotels and restaurants firm, 119 workplaces) | Employer and employee  | 1 bundle, 10 practices | Independent levels: +, both levels at the same time:employee:+, employer: 0  |
| Edgar and Geare (2005) | New Zealand, 2000s | Employees: 572Employers: 37 | Employer and employee  | 4 bundles, 80 practices | Independently levels:Employee, 3 bundles +Employer: 1 bundle +, 1 - |
| Godard (2001) | Canada, 1997-1998 | Employees: 508 | Employee | 1 bundle, 14 practices | Inverted U shape |
| Godard (2010) | Canada (excluding Québec), 2003-2004 | Employees: 750 | Employer | 3 bundles, 28 practices | + |
| Gould-Williams(2003) | UK-Wales,2000-2001 | Employees: 191 | Employee | 1 bundle, 10 practices | + |
| Guest (1999) | UK-1997 | Employees: 1,000 | Employee | 1 bundle, 10 practices | + (indirect effect) |
| Heffernan and Dundon (2016) | Ireland, 2010s | Employees (3 firms): 187  | Employer | 1 bundle, 28 practices | - (but no effect when relational-distributive justice is introduced) |
| Hoque (1999) | UK, 1995 | Employers (Hotel): 200 | Employer | 1 bundle, 11 practices | + |
| Huang et al. (2016) | Taiwan, 2011 | Employers: 50; Employees: 450 | Employer | 1 bundle, 27 practices | + (happiness including job satisfaction) |
| Kalmi and Kauhanen (2008) | Finland, 2003 | Employees: 3,611 | Employee | 1 bundle, 5 practices | + |
| Katou and Budhwar (2006) | Greece, 2002 | Employers: 130 | Employer | 1 bundle, 9 practices | + |
| Macky and Boxall (2007) | New Zealand, 2006 | Employees: 424 | Employee | 1 bundle (and sub- bundles),15 practices | + (but weak complementarities) |
| Martin (2018) | Luxembourg, 2013 | Employees: 14,248 | Employee | 1 bundle, 4 practices | + |
| Mohr and Zoghi (2008) | Canada, 1999-2002 | Employees: ~25,000 | Employee | 1 bundle, 7 practices | + |
| Nishii et al. (2008) | US, 2000s | Employees (1 retail firm): 4,208 | Employee  | 1 bundle, 5 practices, 5 HR attribution | + for quality & employee enhancement; - for cost & employee exploitation, 0 for union compliance |
| Ogbonnaya et al. (2017) | UK-Britain, 2004 and 2010 (only Health Service) | Employers, 2004: 1,7332010: 386; Employees,2004: 22,4512010: 164,916 | Employer | 1 bundle, 10 practices | + |
| Park et al.(2003) | Japan, 1999-2000 | Employers (US and Russian multinational subsidiaries): 52 | Employer | 1 bundle, 10 practices | + (attitudes including job satisfaction) |
| Ramsay et al. (2000) | UK-Britain, 1998 | Employers: ~1,500 Employees: ~16,000  | Employer | 1 bundle, 12 practices | + (pay satisfaction) |
| White and Bryson (2013) | UK-Britain, 2004 | Employees: 11,854  | Employer | 1 bundle, 43 practices | J-shaped effect |

***Table S.2. Measures of HRM practices included in the HRM bundle at the workplace and the******employee level***

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Exposure (measured at the workplace level) | Perception (measured at the employee level) |
| **Participation** **in the organizational life** | Meeting between management and the staff | What is the frequency of meetings between senior management and all employees?Annually, Biannually, Quarterly orMonthly = 1; Less than once per year = 0 | As regards information and communication within your company, how do you rate the usefulness of meeting(s) between employees and management?Very useful or Moderately useful = 1; not useful or does not exist = 0 |
| Changes with employees involved | From your experience, what percentage of the total duration of these meetings is used by employees in order to express themselves or ask questions?Up to a quarter of the time; Up to half of the time or More than half the time = 1; No time = 0 | Do you participate in decisions concerning major changes within your company? Yes = 1; No = 0 |
| Attitude surveys | Does senior management seek to stimulate employees’ participation by Internal survey(s)?Yes = 1; No = 0 | As regards information and communication within your company, how do you rate the usefulness of Internal survey(s) organized by the management?Very useful or Moderately useful = 1; Not useful or Does not exist = 0 |
| Quality circle | What proportion of employees is currently involved in groups who meet voluntarily and regularly to identify and solve problems related to their work?At least 25% = 1 ; 0-24% = 0 | Are you involved in a group which meets regularly to identify and resolve problems related to its work? (quality groups or quality circles)Yes = 1; No = 0 |
| **Team working** | Autonomous team work | What proportion of the employees (not senior executives) currently works in a team where the members jointly decide how work is done?At least 25% = 1 ; 0-24% = 0 | Based on two survey questions: Work in a team of at least 3 people whose members supervise team work = 1; otherwise = 0 |
| Job rotation | Are your employees (not senior executives) able to perform the tasks of other colleagues in their absence?Yes, at the team level; Yes, for all positions = 1 ; Only for some strategic jobs or no = 0 | When you are absent for one week, what proportion of your tasks must you catch up on when you return?Nothing or just a small proportion; Less than half = 1; More than half or Almost all my work = 0 |
| **Development** | Development included in the strategy | Does your enterprise have internal mechanisms to encourage employees to develop their skills and their career?Yes = 1; No = 0 | Do you agree or disagree with the following statement: My company encourages its staff to develop their competences and their careers?Agree or Strongly agree = 1 ; Strongly disagree or Disagree = 0 |
| Training | In 2012, what proportion of employees (not senior executives) has received training days taken on working time?At least 25% = 1 ; 0-24% = 0 | In the last 12 months, have you attend training related to your work paid by your company?Yes = 1; No = 0 |
| Appraisal | Among your employees (not senior executives), how many benefit from an annual appraisal?At least 25% = 1 ; 0-24% = 0 | In the last 12 months, did you have at least one appraisal interview?Yes = 1; No = 0 |
| **Family-friendly** | Flexible working hours | What proportion of the employees (not senior executives) can choose the time at which they begin and end their work day?At least 25% = 1 ; 0-24% = 0 | Do you have flexible working hours (you decide yourself when you start and stop work, taking into account certain daily fixed time slots)?Yes = 1; No = 0 |
| Work-life balance | Does the following extra-legal benefits are offered to your employees (not senior executives)? At least one of the following: slot in a childcare centre; financial assistance for childcare; financial assistance to take care of the elderly and / or disabled; days off for family reasons above the legal minimum = 1; otherwise = 0 | Do you agree or disagree with the following statement: My company implements policies which permit a good work-life balance?Agree or Strongly agree = 1; Strongly disagree or Disagree = 0 |
| Working at home in work hours | Do the following arrangements on employees' working time (not senior executives) exist in your enterprise: Working at home in normal working hours? Yes, for most employees or yes, but only for some employees = 1; No = 0 | Does your company permit you to do working at (or from) home in normal working hours? If yes, do you make use of this possibility?Sometimes or often = 1; Never=0 |
| **Incentives** | Individual pay incentive | Does your compensation system include premiums or bonuses linked to individual performance?Yes = 1; No = 0 | Do you have a fixed or variable salary (depending on productivity ...)?Variable or Fixed + a variable element = 1; Fixed =0 |
| Fringe benefits | Does the following fringe benefits are offered to your employees (not senior executives)? At least one of the following: company car or car fee participation; supplementary pension or life insurance; meal vouchers = 1; otherwise = 0 | Do the following fringe benefits are offered to you? At least one of the following: company car or car fee participation; supplementary pension or life insurance; meal vouchers = 1; otherwise = 0  |

***Table S.3. Descriptive statistics***

|  |  |  |
| --- | --- | --- |
|  | Mean | T-test p-value |
|  | Whole sample | LL | HL | LH | HH | HH versus LL | HH versus HL | HH versus LH |
| Job satisfaction (0-10) | 6.30 (2.18) | 5.46 | 5.59 | 7.03 | 6.93 | 0.00 | 0.00 | 0.10 |
| **Individual characteristics** |  |  |  |  |  |  |  |  |
| Male | 0.69 | 0.65 | 0.67 | 0.76 | 0.68 | 0.06 | 0.33 | 0.00 |
| ***Age*** |  |  |  |  |  |  |  |  |
| 16-30 years (ref.) | 0.18 | 0.17 | 0.16 | 0.18 | 0.20 | 0.00 | 0.00 | 0.03 |
| 30-49 years | 0.65 | 0.63 | 0.68 | 0.65 | 0.65 | 0.12 | 0.05 | 0.84 |
| 50 years and more | 0.17 | 0.20 | 0.16 | 0.17 | 0.15 | 0.00 | 0.26 | 0.01 |
| ***Nationality*** |  |  |  |  |  |  |  |  |
| Luxembourgish (ref.) | 0.18 | 0.15 | 0.17 | 0.19 | 0.22 | 0.00 | 0.00 | 0.02 |
| German | 0.14 | 0.12 | 0.13 | 0.16 | 0.13 | 0.30 | 0.76 | 0.02 |
| Belgian | 0.15 | 0.13 | 0.14 | 0.17 | 0.16 | 0.03 | 0.16 | 0.31 |
| French | 0.31 | 0.29 | 0.36 | 0.23 | 0.32 | 0.02 | 0.01 | 0.00 |
| Portuguese | 0.14 | 0.22 | 0.13 | 0.16 | 0.08 | 0.00 | 0.00 | 0.00 |
| Other nationality | 0.08 | 0.08 | 0.07 | 0.09 | 0.09 | 0.39 | 0.05 | 0.80 |
| ***Family situation*** |  |  |  |  |  |  |  |  |
| Living with partner | 0.79 | 0.80 | 0.80 | 0.81 | 0.77 | 0.03 | 0.04 | 0.00 |
| Child | 0.59 | 0.60 | 0.61 | 0.60 | 0.56 | 0.01 | 0.00 | 0.00 |
| ***Level of education*** |  |  |  |  |  |  |  |  |
| Less than secondary education (ref.) | 0.18 | 0.24 | 0.18 | 0.20 | 0.12 | 0.00 | 0.00 | 0.00 |
| Secondary  | 0.45 | 0.51 | 0.47 | 0.47 | 0.38 | 0.00 | 0.00 | 0.00 |
| Post-secondary education | 0.38 | 0.25 | 0.35 | 0.33 | 0.50 | 0.00 | 0.00 | 0.00 |
| Commuting time (1-8)1 | 4.11 (1.98) | 4.01 | 4.22 | 3.95 | 4.17 | 0.00 | 0.42 | 0.00 |
| **Occupational characteristics** |  |  |  |  |  |  |  |  |
| ***Occupations*** |  |  |  |  |  |  |  |  |
| Professional and managers | 0.21 | 0.09 | 0.16 | 0.24 | 0.31 | 0.00 | 0.00 | 0.00 |
| Associate professionals | 0.20 | 0.15 | 0.21 | 0.17 | 0.23 | 0.00 | 0.09 | 0.00 |
| Clerical | 0.15 | 0.12 | 0.16 | 0.12 | 0.17 | 0.00 | 0.43 | 0.00 |
| Sellers and service personals | 0.10 | 0.15 | 0.11 | 0.09 | 0.07 | 0.00 | 0.00 | 0.01 |
| Craftsmen | 0.17 | 0.23 | 0.18 | 0.19 | 0.12 | 0.00 | 0.00 | 0.00 |
| Plant operatives | 0.08 | 0.08 | 0.09 | 0.09 | 0.06 | 0.01 | 0.00 | 0.01 |
| Non-qualified operatives (ref.) | 0.09 | 0.18 | 0.08 | 0.10 | 0.04 | 0.00 | 0.00 | 0.00 |
| Full time | 0.89 | 0.86 | 0.89 | 0.92 | 0.89 | 0.00 | 0.91 | 0.01 |
| Permanent contract | 0.93 | 0.94 | 0.93 | 0.92 | 0.93 | 0.52 | 0.90 | 0.18 |
| Tenure (months) (6-590) | 117.75 (98) | 113.97 | 115.44 | 119.67 | 120.64 | 0.02 | 0.07 | 0.76 |
| Unionized | 0.30 | 0.32 | 0.32 | 0.27 | 0.28 | 0.00 | 0.01 | 0.31 |
| Hourly wage (10.41-68.68) | 21.78 (11.5) | 17.67 | 20.47 | 22.65 | 24.79 | 0.00 | 0.00 | 0.00 |
| Sum of ICT (0-6)2 | 1.78 (1.69) | 1.06 | 1.58 | 1.76 | 2.38 | 0.00 | 0.00 | 0.00 |
| Sum of harmful working conditions (0-4)3 | 0.85 (1.26) | 1.14 | 1.00 | 0.79 | 0.61 | 0.00 | 0.00 | 0.00 |
| **Workplace characteristics** |  |  |  |  |  |  |  |  |
| ***Size*** |  |  |  |  |  |  |  |  |
| 15-49 employees (ref.) | 0.31 | 0.45 | 0.28 | 0.39 | 0.20 | 0.00 | 0.00 | 0.00 |
| 50-99 employees | 0.13 | 0.14 | 0.14 | 0.16 | 0.11 | 0.00 | 0.01 | 0.00 |
| 100-249 employees | 0.18 | 0.18 | 0.17 | 0.21 | 0.17 | 0.48 | 0.93 | 0.00 |
| 250 employees and more | 0.38 | 0.23 | 0.41 | 0.24 | 0.52 | 0.00 | 0.00 | 0.00 |
| ***Sector*** |  |  |  |  |  |  |  |  |
| Industry (ref.) | 0.14 | 0.21 | 0.11 | 0.16 | 0.09 | 0.00 | 0.05 | 0.00 |
| Construction | 0.17 | 0.17 | 0.20 | 0.19 | 0.15 | 0.01 | 0.00 | 0.00 |
| Trade, accommodation and food service | 0.21 | 0.20 | 0.24 | 0.20 | 0.20 | 0.78 | 0.00 | 0.78 |
| Transportation and storage | 0.07 | 0.05 | 0.09 | 0.05 | 0.09 | 0.00 | 0.33 | 0.00 |
| IT and communication | 0.05 | 0.04 | 0.04 | 0.08 | 0.04 | 0.81 | 0.50 | 0.00 |
| Finance | 0.19 | 0.10 | 0.19 | 0.17 | 0.25 | 0.00 | 0.00 | 0.00 |
| Other services | 0.17 | 0.22 | 0.13 | 0.15 | 0.18 | 0.00 | 0.00 | 0.01 |
| Foreign owned | 0.38 | 0.29 | 0.36 | 0.38 | 0.45 | 0.00 | 0.00 | 0.00 |
| Multisite firm | 0.58 | 0.71 | 0.51 | 0.73 | 0.48 | 0.00 | 0.05 | 0.00 |
| Number of concurrent on the market (1-3)4 | 2.11 (0.78) | 2.22 | 2.04 | 2.15 | 2.06 | 0.00 | 0.43 | 0.00 |
| More than 20 years of activity | 0.72 | 0.67 | 0.74 | 0.65 | 0.77 | 0.00 | 0.03 | 0.00 |
| Percentage of graduate employees (1-4)5 | 2.07 (1.09) | 1.60 | 2.11 | 1.91 | 2.42 | 0.00 | 0.00 | 0.00 |
| Percentage of colleagues with the same gender | 0.68 (0.25) | 0.71 | 0.67 | 0.72 | 0.65 | 0.00 | 0.00 | 0.00 |
| Percentage of colleagues with the same nationality | 0.43 (0.27) | 0.45 | 0.44 | 0.45 | 0.41 | 0.00 | 0.00 | 0.00 |
| Observations | 8,373 | 1,993 | 1,834 | 1,465 | 3,081 |  |  |  |

*Notes*: Weighted statistics. Reference categories are identified with (ref.). Standard deviations are shown in parentheses for non-binary variables (only on the whole sample). P-value refers to a two-sided t-test of mean equality between groups.

1 8 categories from less than 10 minutes to 1 hour and more.

2 Internet, email, ERP - Enterprise Resource Planning, workflow, Intranet, groupware.

3 Adverse factor that affects the employee for a large part of the work time (noise, vibrations, extreme temperatures; radiation, rays or chemical or biological agents; lifting or moving heavy loads; performing rapid, repetitive, monotonous movements; uncomfortable working position).

4 Coded as: 1for less than 6; 2 for 6-25; 3 for more than 25.

5 Coded as: 1 for 0-5%; 2 for 6-24%; 3 for 25-49%; 4 for 50% and more.