Challenges to Global and European Occupational Health Services in the Era of Globalization

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Former President of ICOH
Measuring globalisation

KOF Index of Globalization
(ETH Zurich)

The Index measures the three main dimensions of globalization:

• Political
• Economic
• Social

In addition to three indices measuring these dimensions, it calculates an overall index of globalization and sub-indices referring to:

• Actual economic flows
• Economic restrictions
• Data on information flows
• Data on personal contact
• Data on cultural proximity.

OBS! Data are available on a yearly basis for 207 countries over the period 1970 – 2013:

Top 15:

The Netherlands, Ireland, Belgium, Austria, Switzerland, Singapore, Denmark, Sweden, Hungary, Canada, Finland, Portugal, Norway, Cyprus, Spain

Maastricht Globalisation Index, MGI
(University of Maastricht, the Netherlands)

• Political
• Economic
• Social & Cultural
• Technical
• Ecological

OBS! Data available on 117 countries:

Top 15:

Belgium, Netherlands, Switzerland, United Kingdom, Austria, Germany, Ireland, Sweden, Malaysia, France, Norway, Jordan, Denmark, Israel, Spain
Enterprises of the World (World Bank 2015)

Multinationals
- Total number: about 60 000 to 80 000
- Employment 6 million workers
- Economy: Contribute to 25% of the world total GDP

Micro-, small and medium-sized enterprises, MSMEs
- 365-445 million enterprises
  - 25-35 million formal
  - 285-345 million informal
- 85-99% of all enterprises in the countries
- Create 4 out of 5 new jobs
- Provide 45% of total employment in EEs
- Contribute to 33% of GDP in EEs

Impact of globalization
- Enterprises will be fragmented, size distribution widened and shift in balances
- 600 million new jobs needed by 2030. Virtually all should be provided by MSMEs.
- Working conditions often poor
- Sustainability weak: <5 yr average life for 1/3, 5 yr for 1/3 and over 5 yr for 1/3.
10 + 1 Grand challenges of the post-industrialising work life

1. Globalization and internationalization, continuous change and insecurity: growing competition,
2. Demographic change & inclusive work life (growing mobility, vulnerable groups, ageing, disabled, young workers, feminization, migrants, child workers)
3. Global stress epidemic and psychosocial quality of work
4. NCDs, work-related diseases and new occupational diseases
5. New technologies, including nanotechnologies
6. Old and new phycical and chemical exposures including ergonomics
7. Biological agents and new infections
8. Climate change and green jobs
9. Innovative and creative work life, growing demands for competence and productivity, multi-skills and their continuous development through life-long learning
10. Reconciliation of work life and other sectors of life (family, social, leisure)
11. Business ethics slipping
1.1 billion non-farm jobs
Created, 84% in developing Economies: Elimination of poverty

245 million
increase of college graduates in the labor force

40% of labour force growth in ICs was foreign borne

1 in 5
new non-farm jobs in developing economies associated with exports (2000–10)

75 million young unemployed 15-24 yr in 2010

3.5 billion
projected 2030 global labor force, up from 2.9 billion today

38 million–40 million
potential shortage of college-educated workers in 2020

40 million
new health jobs

45 million
potential shortage of workers with secondary education qualified to work in labor-intensive manufacturing and services in developing economies

60%
share of India, other South Asian nations, and Africa in global labor force growth

360 million
additional older people who are not part of the global labor force by 2030

A global labor market emerges (1980–2010)

... and market challenges intensify (2010–30)

Evolution of Safety & Health paradigms

STAGE I
Sporadic
voluntary

STAGE II
Reactive
Injury treatment
Compensation

STAGE III
Risk-oriented
Preventive

STAGE IV
Structural safety
Safety culture
Vision Zero

SAFETY I  SAFETY II  SAFETY III  SAFETY IV

Coverage


Vision Zero

RISK
Fatal occupational accidents and rates 1975-2010. (The rate has since then declined to 0.8/100000)
2 million deaths from occupational and work-related diseases a year.
New health outcomes related to globalization

**Job insecurity**
- Chronic stress
- Elevated morbidity & mortality
  - CVDs,
  - Cancers (hazardous chemicals, radiations)

**Working hours**
- Shift work
- Diabetes
- CHD & stroke
- Breast cancer?
- Lowered psychological work ability

**Mobility related diseases**
- Pandemics
- Microbials-related
- Migrants diseases
Figure 16: Rankings of global DALYs for top 25 risk factors, 1990-2010

Global loss of health by occupational causes
(Takala et al World 2014)

• Globally, more than 2.3 million people die each year from occupational accidents or work-related diseases (2 million)
• 317 million occupational accidents a year (86 000 a day) 1000 worker deaths for injuries and 5 600 for illnesses every day
• 2 % of all Daly loss
• 4 to 6% of annual GDP is lost as a result of occupational diseases and accidents (5% in Europe)
Diseases

(Source: Årodsson 2004: B. Årodsson, Lund University, Department of Sociology: Globalisation and transformation 2004)

Solvents

Asbestos

Risk / Work Environmental problems

Graph showing the trend of Asbestos-related environmental problems over time from 1925 to 1998.
<table>
<thead>
<tr>
<th>Country</th>
<th>Working Life Expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>44.4</td>
</tr>
<tr>
<td>Switzerland</td>
<td>41.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>40.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>39.6</td>
</tr>
<tr>
<td>Norway</td>
<td>39.6</td>
</tr>
<tr>
<td>Denmark</td>
<td>39.3</td>
</tr>
<tr>
<td>UK</td>
<td>38.1</td>
</tr>
<tr>
<td>Germany</td>
<td>37.5</td>
</tr>
<tr>
<td>Finland</td>
<td>37.4</td>
</tr>
<tr>
<td>Austria</td>
<td>36.9</td>
</tr>
<tr>
<td>Portugal</td>
<td>36.9</td>
</tr>
<tr>
<td>Cyprus</td>
<td>36.3</td>
</tr>
<tr>
<td>Estonia</td>
<td>36.2</td>
</tr>
<tr>
<td>Latvia</td>
<td>35.0</td>
</tr>
<tr>
<td>EU28</td>
<td>35.0</td>
</tr>
<tr>
<td>EU27</td>
<td>35.0</td>
</tr>
<tr>
<td>Euro area (18)</td>
<td>34.9</td>
</tr>
<tr>
<td>Euro area (17)</td>
<td>34.9</td>
</tr>
<tr>
<td>Spain</td>
<td>34.7</td>
</tr>
<tr>
<td>France</td>
<td>34.6</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>34.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>34.1</td>
</tr>
<tr>
<td>Lithuania</td>
<td>34.0</td>
</tr>
<tr>
<td>Slovenia</td>
<td>33.6</td>
</tr>
<tr>
<td>Slovakia</td>
<td>32.8</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>32.5</td>
</tr>
<tr>
<td>Belgium</td>
<td>32.2</td>
</tr>
<tr>
<td>Poland</td>
<td>32.1</td>
</tr>
<tr>
<td>Greece</td>
<td>32.0</td>
</tr>
<tr>
<td>Romania</td>
<td>31.9</td>
</tr>
<tr>
<td>Italy</td>
<td>29.0</td>
</tr>
</tbody>
</table>
Coverage of workers by OHS in the world

ICOH NS 47 Country survey results:

- OHS policy in 70% of countries
- >50% coverage in 38% of countries
- Variation in coverage 3% - 100%, average 19%
- Estimated world coverage at the maximum 15.5%

(Source Rantanen et al. 2013)
Active ageing index

Three domains:
- Employment
- Independent life
- Social participation
- 22 indicators

Demography
- 1/6 of Europeans was 65+ in 2012
- In 2060 1/3 will be 65+
- Historic ageing: Increase in median age 8.3 years since 1960 = 4 hrs every day
- Will continue at 3.4hr/day by 2060.
### Examples of vulnerable groups of workers (Rantanen et al. HIAP 2012)

<table>
<thead>
<tr>
<th>Group</th>
<th>Typical vulnerabilities</th>
<th>Global estimate &amp; trend</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Young workers 15-24</strong></td>
<td>Short work experience, limitations to physical work load, elevated risk of accidents (males), youth discrimination, High risk of unemployment (75 million)</td>
<td>617 million Trend: Developed economies −, Developing countries +</td>
<td>ILO 2011</td>
</tr>
<tr>
<td><strong>Female workers</strong></td>
<td>Double workload Reproductive health Low pay, unpaid work, working poverty Precarious, part-time or informal status</td>
<td>1.28 billion (40% of global workforce) Trend +</td>
<td>ILO 2010</td>
</tr>
<tr>
<td><strong>Aged workers 65+</strong></td>
<td>High occurrence of chronic disease Physical working capacity declines Limitations to e.g. shift work Risk of unemployment and age discrimination</td>
<td>102.5 million (20% of all 65+) Trend +</td>
<td>UNCEAD 2010</td>
</tr>
<tr>
<td><strong>Child workers</strong></td>
<td>Age 10-14 or -17. Physical, chemical, biological and psychological hazards. Prevents participation in school</td>
<td>215 million Trend -</td>
<td>IPEC 2008, ILO 2012</td>
</tr>
<tr>
<td><strong>Migrant workers</strong></td>
<td>Short work experience, language difficulties, cultural adjustment, health problems, accident risks</td>
<td>105 million Trend +</td>
<td>ILO 2010</td>
</tr>
<tr>
<td><strong>Workers with handicaps, chronic diseases and disability</strong></td>
<td>Limitations in physical work ability, Vulnerability to hazardous exposures and workloads. Need for work and workplace adjustment, measure for work ability, health monitoring and follow-up</td>
<td>785 million (24% globally, 18.4% in the EU) Trend +</td>
<td>ILO 2010, Karjalainen 2003</td>
</tr>
<tr>
<td><strong>Unemployed</strong></td>
<td>Longer unemployment increases stress symptoms, psychological depression, elevates blood pressure and stress-related disorders sleep disorders, increased mortality from cardiovascular disorders and possibly suicides, and economic difficulties, affects working skill and competence and economy of the worker and family</td>
<td>200 million Trend; Short term + Long term -</td>
<td>ILO 2011, Canadian public health association</td>
</tr>
<tr>
<td><strong>Working poor</strong></td>
<td>Poverty increases numerous health problems, affects nutrition and work ability The poorest workers may not be able to pay for health services for themselves and family members..</td>
<td>900 million Trend -</td>
<td>Canadian public health association 1996, ILO 2011</td>
</tr>
</tbody>
</table>
Needs of the global occupational health system

Regulations with obligation to the employer for organization of OH services (Ratification of ILO Convention No. 161) –> Universally covering infrastructure= "Occupational Health Services for All"

Translating the enormous OH research knowledge into workplace level OH practice

Training of about 600 000 new OH experts, OHPs, OHNs

Changing orientation from Occupational Medicine only to Comprehensive Occupational Health
### Risk of work disability pension by job or worker characteristics

7-year follow-up, n=3600, (Polvinen, Finnish Centre for Pension 2009)

<table>
<thead>
<tr>
<th>Job /worker characteristics</th>
<th>Risk of disability pension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 50-55/30-39</td>
<td>7x</td>
</tr>
<tr>
<td>Education level basic/high</td>
<td>3.4x</td>
</tr>
<tr>
<td>Income €/year 10000/ &gt;20000</td>
<td>1.7x</td>
</tr>
<tr>
<td>CHD+ /CHD -</td>
<td>5x</td>
</tr>
<tr>
<td>Physical fitness good/poor</td>
<td>4.2x</td>
</tr>
<tr>
<td>Psychological exhaustion yes/no</td>
<td>3.8x</td>
</tr>
<tr>
<td>Cynicism</td>
<td>2.6x</td>
</tr>
<tr>
<td>Heavy job/Light job</td>
<td>1.45x</td>
</tr>
<tr>
<td>Job satisfaction poor/good</td>
<td>2.62x</td>
</tr>
</tbody>
</table>
What causes work disability?
Sterud 2013: 45% of work disability attributed to work.

<table>
<thead>
<tr>
<th>Factor</th>
<th>PAR (two models)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level of supportive leadership</td>
<td>9.57-6.55</td>
</tr>
<tr>
<td>Bullying/harassment</td>
<td>7.55</td>
</tr>
<tr>
<td>Monotonous work</td>
<td>30.37-19.29</td>
</tr>
<tr>
<td>Neck flexion</td>
<td>12.90-11.17</td>
</tr>
<tr>
<td>Awkward lifting</td>
<td>15.04</td>
</tr>
<tr>
<td>Squatting/kneeling</td>
<td>10.03</td>
</tr>
<tr>
<td>Standing</td>
<td>29.93-21.28</td>
</tr>
<tr>
<td>Heavy lifting</td>
<td>3.06</td>
</tr>
<tr>
<td>Whole-body vibration</td>
<td>3.30-3.02</td>
</tr>
<tr>
<td>Heavy physical work</td>
<td>5.09-3.45</td>
</tr>
</tbody>
</table>

Low level of education, female gender, age, psychological distress, ergonomics
Paradigm (Rantanen, modified from ICF WHO 2004)

General functionality

Social functionality

- Family, Partner
- Contact network
- Stimuli
- Participation
- Social support

Performance

Physical fitness

- Muscular
- Mobility
- Medicines
- Sleeping
- Early diagnosis

Cognitive

- Competence
- Memory
- Learning
- Verbal ability
- Thinking

Psychological

- Feeling
- Hearing
- Metakognition
- Life styles
- Awareness
B. What is your advice on policies for sustainable work life for ageing workers?

Often Work capacity > Work ability. In optimal conditions (= Decent Work)

Comprehensive PMWA paradigm

- Health $R^2 0.39$
- Competence $R^2 0.13$
- Work/Life balance $R^2 0.14$
- Social security
- Ageing culture
  - Age management $R^2 0.13$
- Work organization $R^2 0.33$
- Work environment $R^2 0.33$
- Employment policy

Expected effective retirement age, all new retirees on an earnings-related pension

- For 50-year-olds
- For 25-year-olds
What to do for maintaining work ability of older workers?

- **Physical work ability:**
  - Regular exercise, low intensity aerobic, muscular strength
  - Weight control, healthy life styles, no tobacco, no alcohol
  - Good health care: promotion, prevention, care, rehabilitation

- **Psychological work ability:**
  - Continual stimuli, memory exercises, memory tools.
  - Social networking
  - Positive approach, respect, trust, zero tolerance for age discrimination
  - Cultural activities: **Choir singing**

- **Cognitive work ability:**
  - Continuous learning
  - Ensuring physical health
  - Collecting new experiences
  - Strengthening metacognition
  - Good sleep

- **Social work ability:**
  - Prevention of isolation (inclusive labour market);
  - Maintaining and development of social networks; hobbies, near-networks,
  - Active participation
The Finnish Model for Integrating to work of workers with lowered work ability
(MoSAH Finland 2015)

- Partial sickness allowance
- Partial disability pension
- Leaving a pension dormant
- Disability allowance
- Rehabilitation allowance
- Reimbursement of rehabilitation costs
- Allowances for voluntary adult studies

Coaching

- Employment offices
- Job application training and job coaching
- Work and training trials
- Labour market training
- Employment subsidy
- Grant for business start-up
- Support for working condition arrangements
- Travel cost compensation
- Career planning
- Job coaching

Social security

- Measures taken at the workplace
- Accessibility
- Workplace arrangements
- Work community
- Work arrangements
- Safety at work

Labour services

- Health and social services
- Occupational health care
- Primary health care
- Special health care
- Social services

Training

- Rehabilitation
- Medical rehabilitation
- Vocational rehabilitation
- Social rehabilitation

- Vocational basic training or degree education
- Labour market training
- Job coach
- Vocational rehabilitation
- Training trial
- Apprenticeship training
- Other forms of training at workplaces
- Worktrial

Responsibilities:
- Employer or employment office
- Plans the methods to be used: work ability coordinator
- Up-to-date information on the various means, services and benefits: open web service

MINISTRY OF SOCIAL AFFAIRS AND HEALTH
OHS actions for PMWA

**Individual & Group approach**
- Basic check
- Age groups >45
- WHP
- LLL, HE
- PMWA

- Early DG
- WRDs
- WRD Prevention
- Early intervention
- Good care
- PMW RTW

- Good care
- 2nd & 3rd Prevention
- Early rehab.
- PMWA

**Actions to Work & work environment**
- Regular risk monitoring & assessment
- Structural prevention
- Primary prevention

- Job placement
- Job adjustment
- Work practices

- Job and work environment adjustment
- Lightened work
- part time work

**Long-term healthy**
Excellent work ability 28% ?

**Healthy,**
Good work ability 42%

**Diseases,**
able to work 15%

**Significant loss of health**
Poor or no work ability 15%

**For All:** Resource generating age management
"New working life"

- Comprehensive multiprofessional OHS
- PMWA
- Collaborating OHS&OSH
- Healthy Workplace
- Healthy working culture

"Old working life"

- Diagnosis and treatment of traditional ODs
- Health examinations
- OM inspection

Mono-disciplinary

- New occupational medicine
- Separate, general WHP
- Separate professional actions
- (mostly external)

Multi-disciplinary

- Combined occupational health and GP services
- Separate occup. hygiene services
COMPREHENSIVE OCCUPATIONAL HEALTH

- OCCUPATIONAL HYGIENIST
- PSYCHOLOGIST
- SAFETY ENGINEER
- OHP
- OHN
- ERGONOMICS
- HRM
- OD EXPERTS

WHP-MWA

IOH
Advisory, analytical etc support services

Company resources

OHP, PHP
PHN, OHN

Special training needed!
Sustainable work – The future of working life in Europe

• Sustainable work means achieving living and working conditions that enable people to engage in and thrive in work over their lives. Making work sustainable throughout the life course in this way requires making accommodations between the requirements of work and the needs of individuals as both evolve over time.

• Sustainable work, as a concept that champions the improvement of working conditions and the adaptation of work to the needs of people, is an end in itself and needs no justification. But it has a clear economic imperative too. By making work more sustainable, it is hoped that:
  • more people can be brought into the labour market;
  • workers are able and wish to remain in the labour market until a later age.

• Neither of these goals is simple; each embraces multiple aspects of living and working conditions that interact to bring about work that is sustainable over the life course.

• The first, enabling more people to engage in paid work, means addressing issues that keep people out of the labour market. Such issues can include health problems or disabilities, skills gaps, responsibilities for caring for children or other relatives, and also difficulty in finding a job.

• The second, allowing workers to remain longer in the labour market, is centred on job quality, the work environment itself and the interaction between these and the health of workers.
For all of us in the era of globalization….

_Es ist nicht genug zu wissen; Man muss auch anwenden._

_Es ist nich genug zu wollen; Man muss auch tun._

_Johan Ludvig von Goethe_

_Knowing is not enough; we have also to apply._

_Willing is not enough; we must also do._