Work-related musculoskeletal disorders in the EU

Impact assessment results

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Work-related musculoskeletal disorders in the EU

Extent of the problem

Work-related musculoskeletal disorders (WRMSDs)?

- Impairments of muscles, joints, tendons, ligaments, nerves, blood circulation system
- In upper limbs (neck, shoulders, arms, wrists, hands), back and lower limbs
- Symptoms: discomfort, pain, decreased body function, invalidity
- **WR**MSDs: caused or aggravated primarily by **work**

Causes? Risk factors?

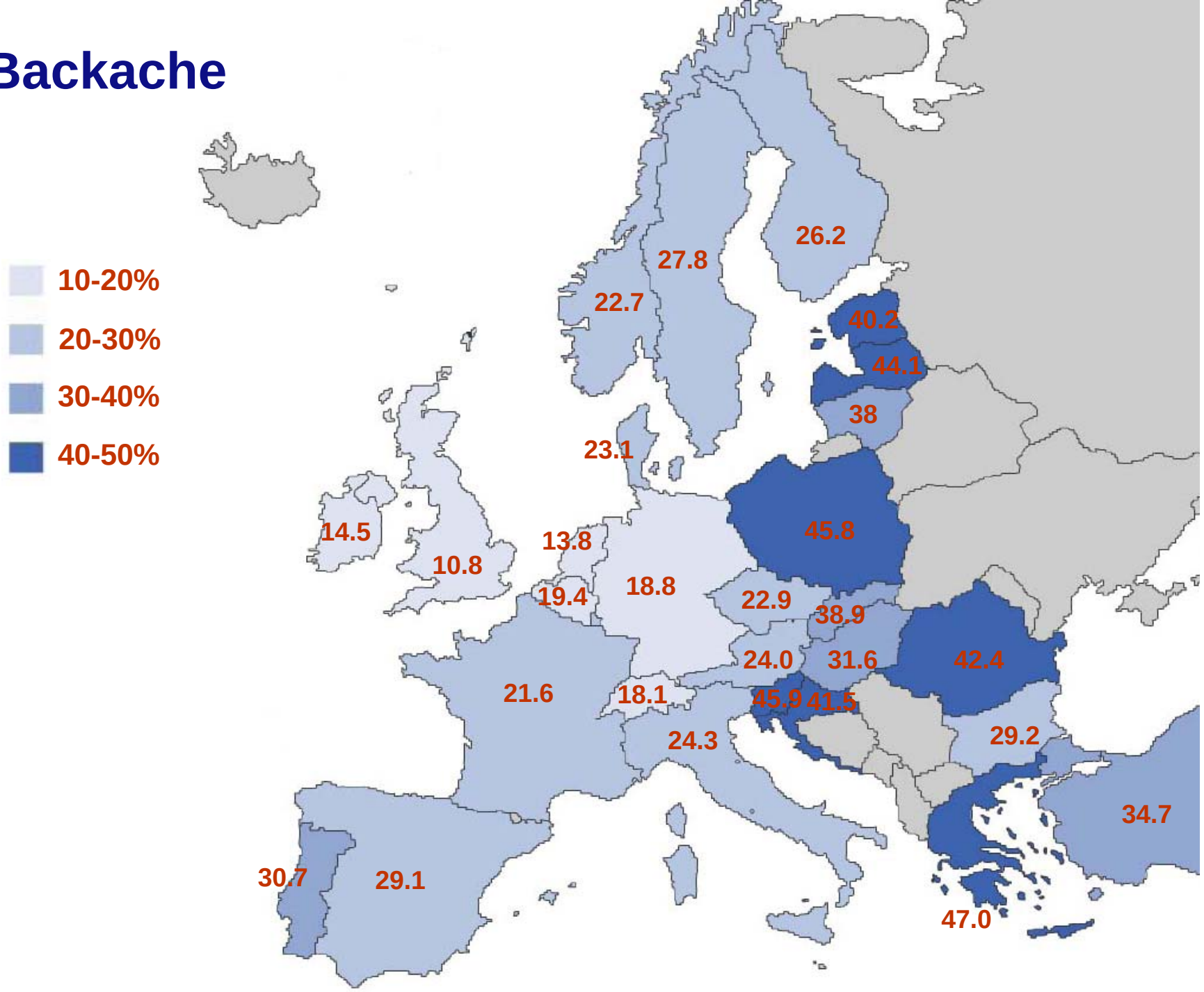
- Multifactorial problem: mixture of personal (genetic and behavioural) and environmental factors
- Work-related risk factors:
  - Physical (biomechanical) risk factors:
    - Manual handling of loads
    - Forced/prolonged/awkward body positions (posture)
    - Tasks involving increased effort or force
    - Repetitive work
    - Exposure to vibrations
  - Psychosocial risk factors:
    - Psychological: time pressure, job insecurity, poor promotion prospects, lack of information or equipment that is necessary, constant disruptions, etc.
    - Social: isolation, hostility between co-workers, lack of social support from co-workers or supervisors, etc.

Self-reported WRMSDs

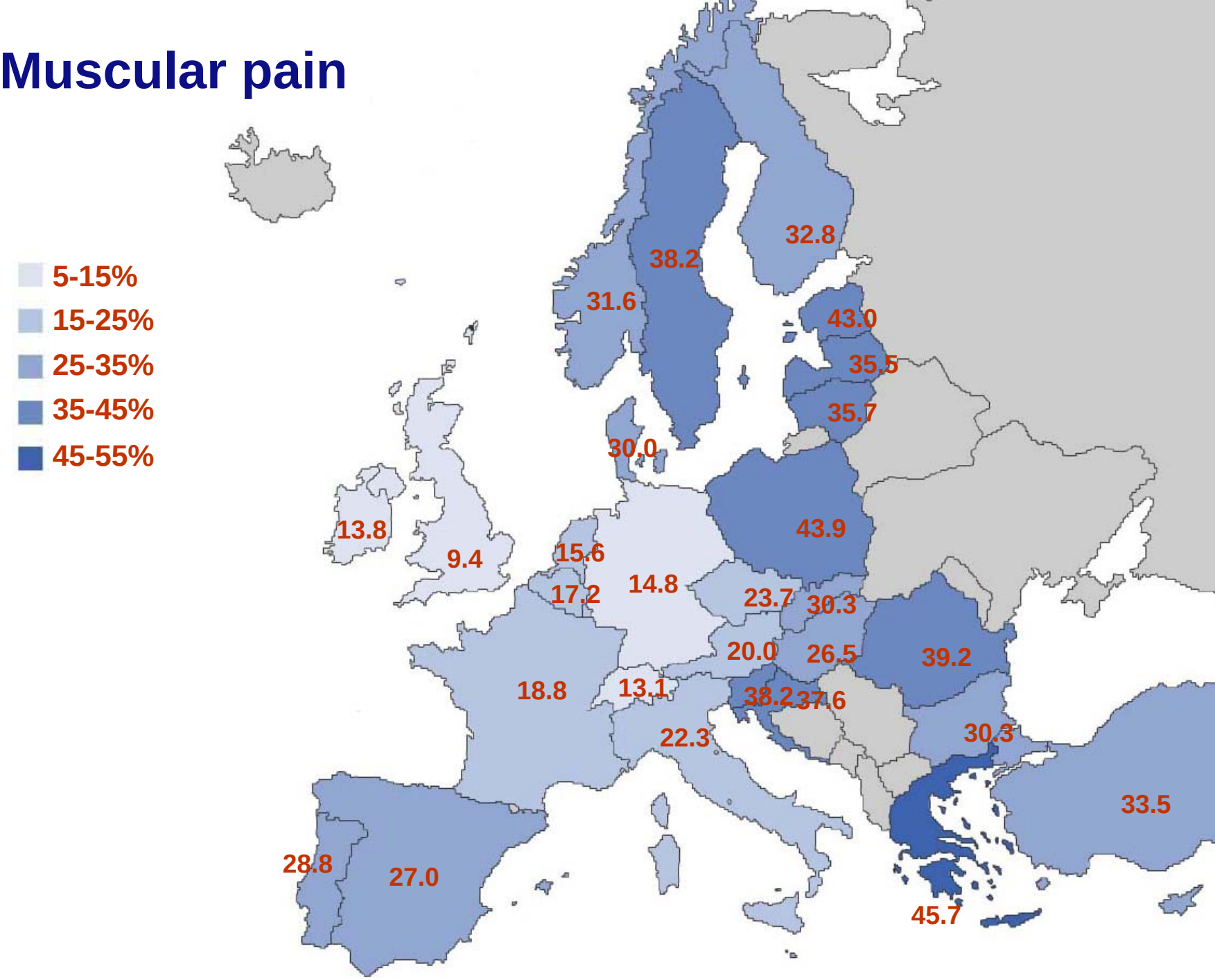
- European Survey on Working Conditions (ESWC, by European Foundation for the Improvement of Living and Working Conditions)
- *"Does your work affect your health in terms of ...?"*
- 4th ESWC (2005):
  - Work-related backache (±25%) and muscular pain (± 23%) are the most often reported symptoms by workers within the EU (31 MS)
  - ~ 60 million workers
  - 🚹 > 🚺 (gender gap: 4.3% for backache and 3.5% for muscular pain)

Symptom	%
Backache	24.7
Muscular pain in shoulders, neck and/or upper, lower limbs	22.8
Fatigue	22.6
Stress	22.3
Headaches	15.5
Irritability	10.5
Injuries	9.7
Sleeping problems	8.7
Anxiety	7.8
Eyesight problems	7.8
Hearing problems	7.2
Skin problems	6.6
Stomach ache	5.8
Breathing difficulties	4.8
Allergies	4.0
Heart disease	2.4
Other	1.6

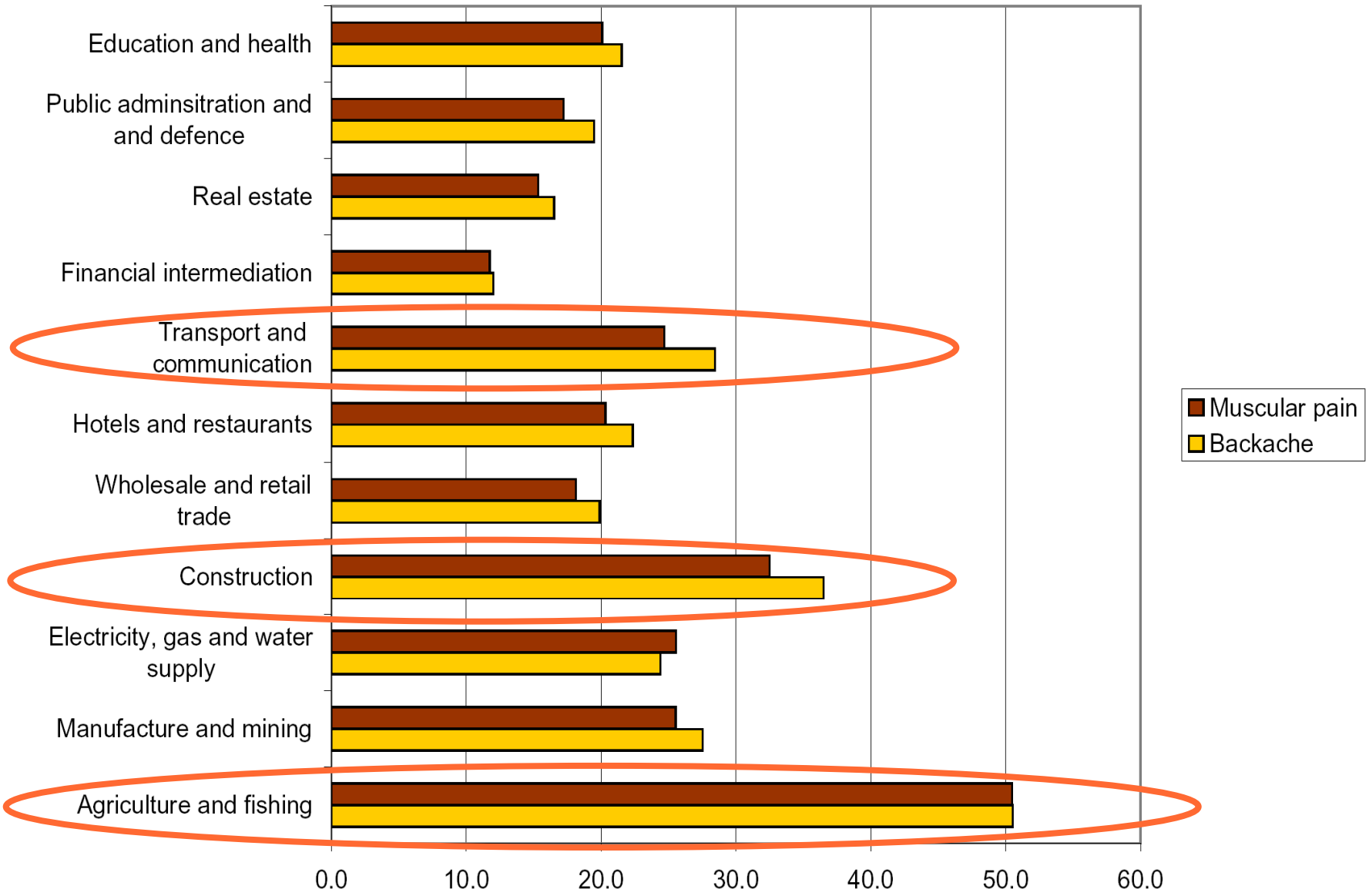
Backache


10-20%
20-30%
30-40%
40-50%
26.2
27.8
22.7
40.2
44.1
38
23.1
45.8
14.5
13.8
10.8
18.8
19.4
22.9
38.9
24.0
31.6
42.4
21.6
18.1
45.9
41.5
29.2
24.3
34.7
30.7
29.1
47.0

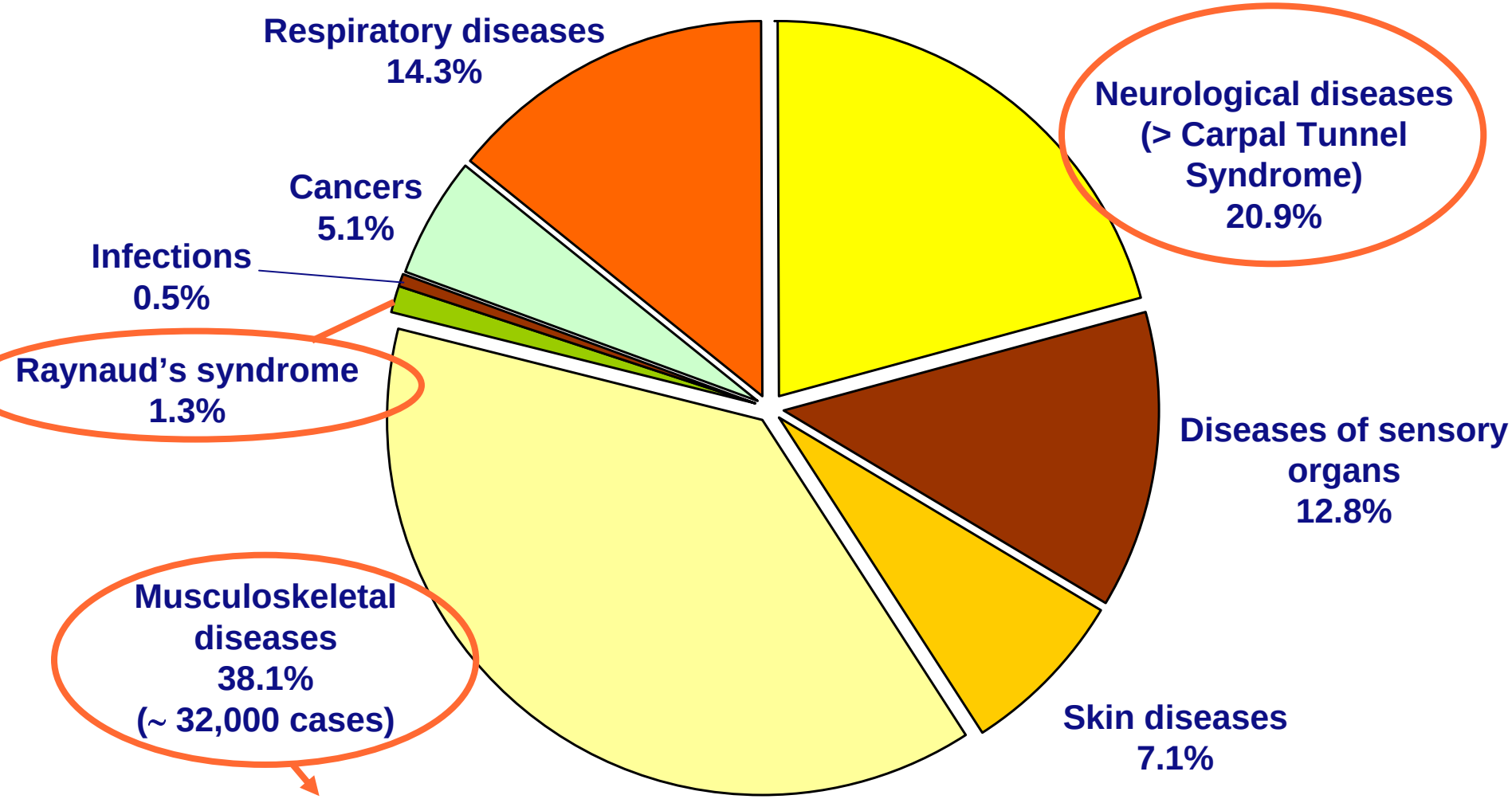
Muscular pain



Sector


Education and health
Public adminsitration and and defence
Real estate
Financial intermediation
Transport and communication
Hotels and restaurants
Wholesale and retail trade
Construction
Electricity, gas and water supply
Manufacture and mining
Agriculture and fishing
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Muscular pain
Backache

Recognised WRMSDs (EODS obligatory list, 2005)



Arthrosis of the elbow; meniscal lesions; **hand or wrist tenosynovitis**; bursitis of elbow; bursitis of knee; **epicondylitis**; arthrosis of the wrist

Trends

- Self-reported WRMSDs: ESWC 2000 ⇨ 2005
  - Increase in Estonia, Greece, Ireland, Latvia, Lithuania, Poland, Slovenia
  - Status quo in Hungary
  - Decrease in other Member States

- Recognised WRMSDs: EODS 2000 ⇨ 2005
  - Increase of musculoskeletal diseases and neurological diseases (carpal tunnel syndrome)
  - Differences between Member States

Consequences for European business and society

Direct costs:

- Insurance
- Compensation
- Medical costs
- Administrative costs

Indirect costs:

- Hiring and training of new employees
- Reduced productivity levels
- Effects on quality of work
- ...

(ANACT, 2005)

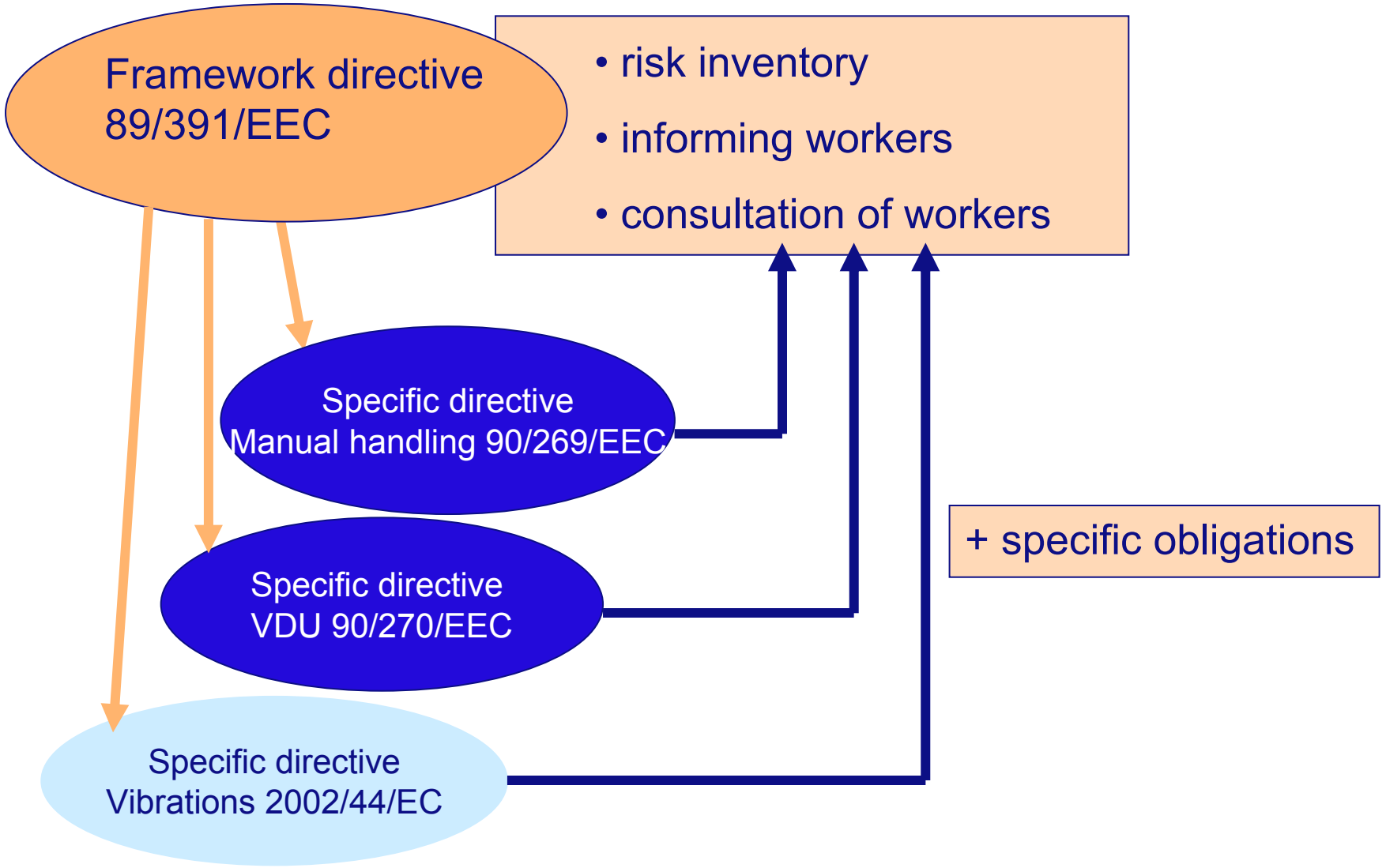
Costs

- Cost due to WRULDs ~ 0.5-2% of GNP (European Agency for Safety and Health at Work, 1999)
- Netherlands (Min SZW, 2005) : total yearly cost due to RSI ~ 2.1 billion euros
  - Sickness absence ~ 962 million euros
  - Productivity loss ~ 808 million euros
- Germany (BAuA) : productivity loss due to WRMSD ~ 0.4-0.6% of GNP in 2002-2004

Work-related musculoskeletal disorders in the EU:

The impact assessment study

European directives



Aim of impact assessment study

To assess the impact of potential EU initiatives to prevent WRMSDs, leading to recommendations on the EU regulatory (legislative) or non-regulatory (non-binding) policy option that is the most promising approach

Methodology of impact assessment

EU Guidelines on Impact assessment:

- Define objectives of MSD prevention policies
- Choose and describe policy options →
- Define impact indicators and causal model →
- Assess impacts, direction, intensity and likelihood (quantitative, semi-quantitative, qualitative)
- Comparison of options and choosing most promising

EU Policy options that will be evaluated

1. Status quo, no additional EU action
2. Non binding initiatives at EU level
3. Technical update of existing EU directives
4. Technical update of existing EU directives + non binding initiatives at EU level
5. New EU legislation aimed at simplifying (but addressing all risk factors)
6. New EU legislation aimed at simplifying (but addressing all risk factors) + non binding initiatives at EU level

Policy option 1 - Status quo (no change)

Current EU policy related to the prevention of MSDs:

- EU-legislation; two specific EU directives on MSDs:
  - Manual handling directive
  - Display screen directive (VDU)
  - (+ Vibrations directive)

- Non-binding EU-initiatives:
  - EU-campaigns (e.g. European Weeks)
  - European social dialogue activities (e.g. sector agreement agriculture)

1

Policy option 2 - Community initiatives of a non-binding (non-regulatory) nature

Dissemination of information;

- Continuation of activities like campaigns (Lighten the load, SLIC), dissemination of practical guides
- More focused approach on target groups (new member states, SMEs)
- Sector-specific risk assessment tools

Community recommendation; e.g. encouraging member states to:

- Develop and improve measures to improve prevention
- Encourage national social partners to cooperate and reach agreements on a collective approach

Encouragement of a sectoral approach;

- By encouragement of European social dialogue at sector level
- By a community recommendation

Encouragement of social dialogue;

- Apart from social dialogue at sector level, EU social dialogue could lead to agreements that exceed sector agreements

Policy option 3 - Technical update existing legislation

- This policy option contains no change, except for a technical update of the existing directives, in particular with regard to technical annexes
- The technical update will concern technical requirements arising from new machines, materials, routines, etc.
- The technical update will not concern the definition of hazard thresholds (however, existing thresholds can be changed due to a technical update), defining hazard thresholds is part of policy option 5.

Policy option 4 - Technical update of existing legislation combined with non-binding initiatives

- Policy option 3 and policy option 2 combined
- As one of the potential non-binding initiatives, one can think of communication campaigns to bring the legislation update to the attention of companies (but also all the other types of activities, such as sector agreements, dissemination of communication etc)

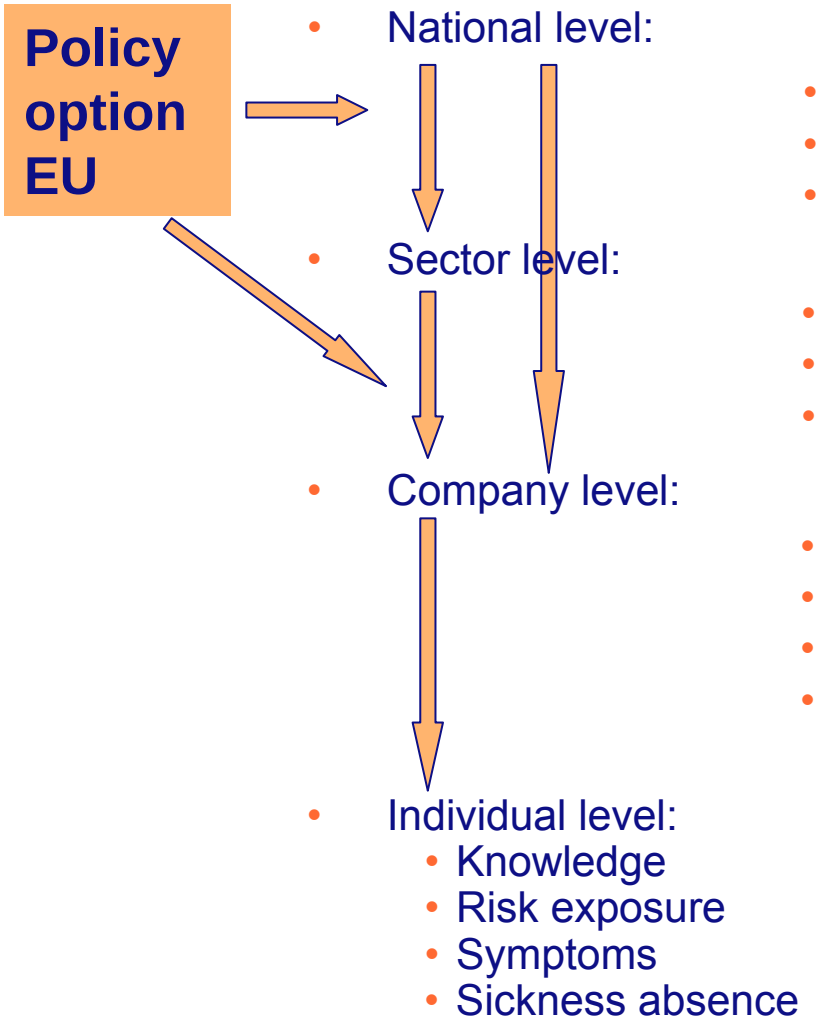
Policy 5 - What would ‘simplifying’ encompass? (according to EC)

- One new directive instead of two on manual handling and VDU
- More streamlined framework for risk assessment and prevention: two-stage risk assessment procedure and implementation of prevention program
- Setting targets, with hazard thresholds defined in the directive
- Covering all major WRMSDs and risk factors based on latest evidence: repetition, extreme postures, static postures, contact stress
- Reducing number of reference texts, minimize redundancies and overlap, increase consistency
- Reducing administrative and technical obligations

Policy option 6 - Non-binding initiatives combined with simplifying legislation

- Policy option 5 and policy option 2 combined
- As one of the non-binding initiatives one can think of tools for risk assessment and guidelines for the implementation of preventive measures in companies. These can be general or sector-specific tools. (But also the other non-binding activities such as sector agreements, dissemination of communication.)

Impact indicators and causal pathways



- Transposition of directives / legislation
- Labour inspectorate activity
- National campaigns, prevention strategies

- Sector campaigns
- Dissemination of good practices
- Sector agreements

- Sense of urgency / awareness
- Risk assessment activity
- Training or technical and/or organizational changes
- Compensation costs (incl. legal costs and fines)

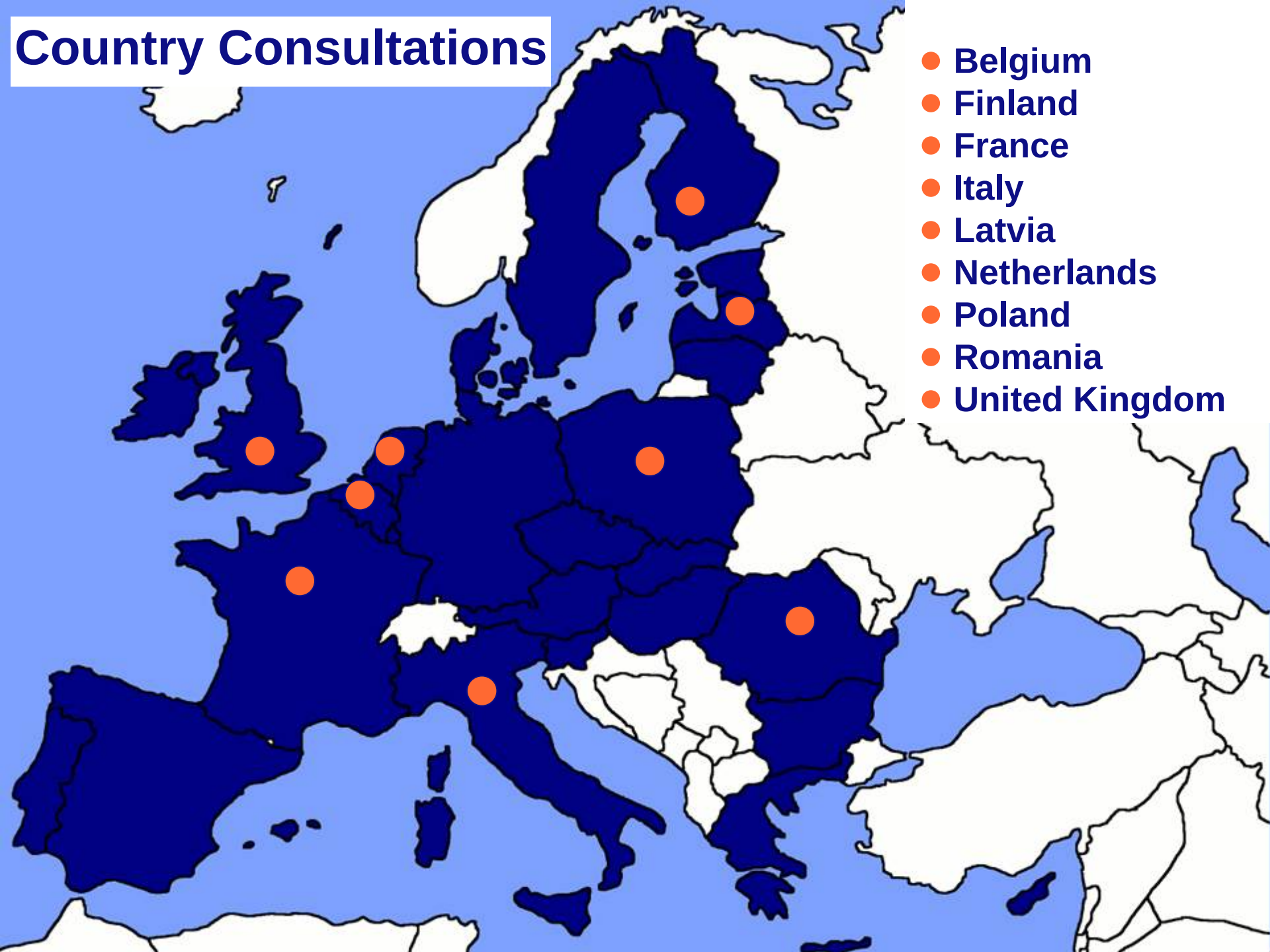
+ at all levels:

- costs
- unintended effects

Methodology of impact assessment: sources used

- Literature on effectiveness of MSD prevention policies, strategies, measures
  - VDU directive evaluated in 7 Member States: national reports from NL and UK, summary of cross-national report
  - Evaluation of Dutch OSH covenants, on working conditions agreements in sectors, among others on manual handling / physical load and VDU-work / RSI (Process evaluation and quantitative analyses comparing sectors with and without agreements)
- Expert judgment:
  - Questionnaires of 78 experts from 23 Member States: researchers, OHS, governments, employers' and employees' organizations (Austria, Lithuania, Luxembourg, Slovenia were missing)
  - Country Consultations in 9 Member States →

Country Consultations



- Belgium
- Finland
- France
- Italy
- Latvia
- Netherlands
- Poland
- Romania
- United Kingdom

Methodology of impact assessment

?

What would happen to activities **at national level, at sector level** and **at company level** regarding MSD prevention in your country

- if the current EU policy will be changed into options 2-6?
- if the current EU policy would not be changed?

?

How would you rank the policy options with respect to estimated impact?

Results of impact assessment

- Ranking from questionnaire
- Ranking from country consultations
- Semi-quantitative results based on literature, questionnaire and country consultations
- Arguments from literature, questionnaire and country consultations

Preferences of European Experts (Questionnaire)

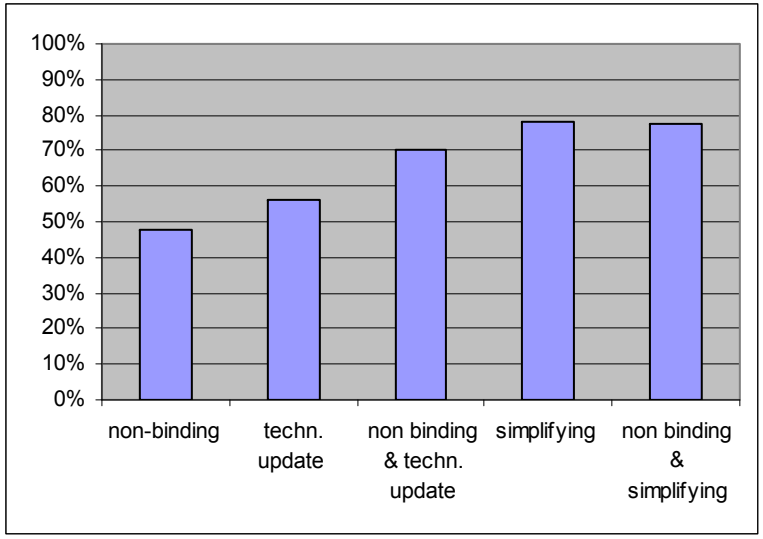


Figure 1. Percentage of experts that thinks a policy will lead to an increase in number of inspections on MSD-related risks

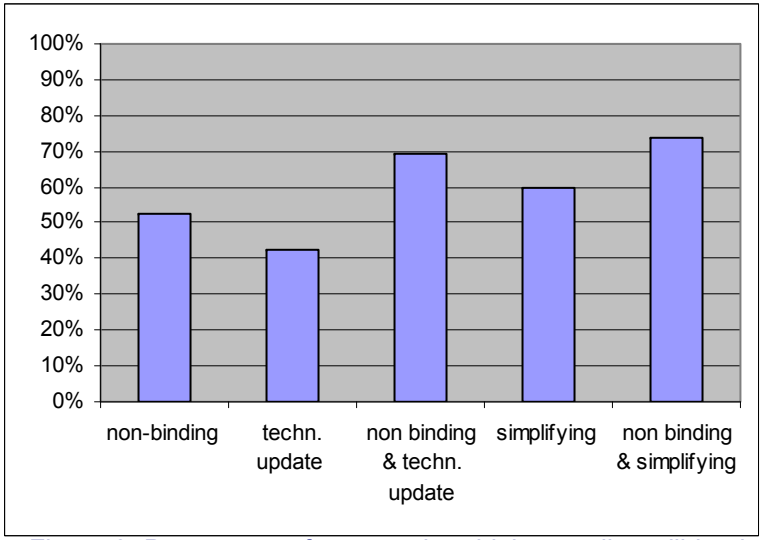


Figure 2. Percentage of experts that thinks a policy will lead to an increase in number of national agreements related to MSDs

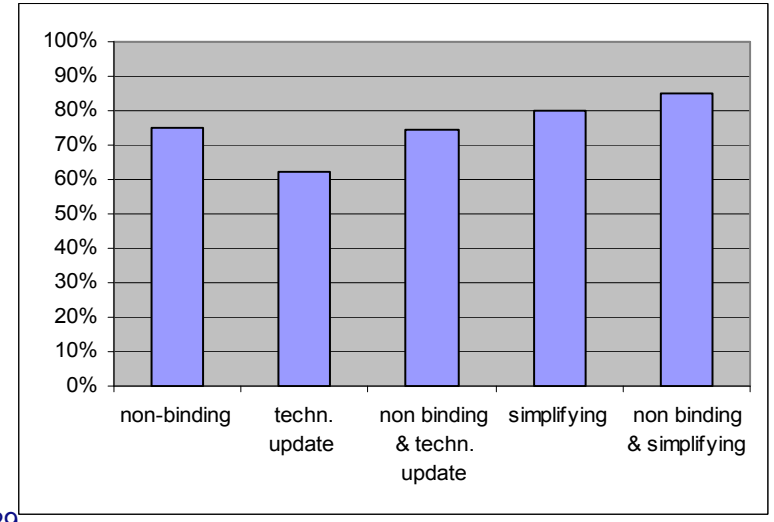


Figure 3. Percentage of experts that thinks a policy will lead to an increase in sector specific activities

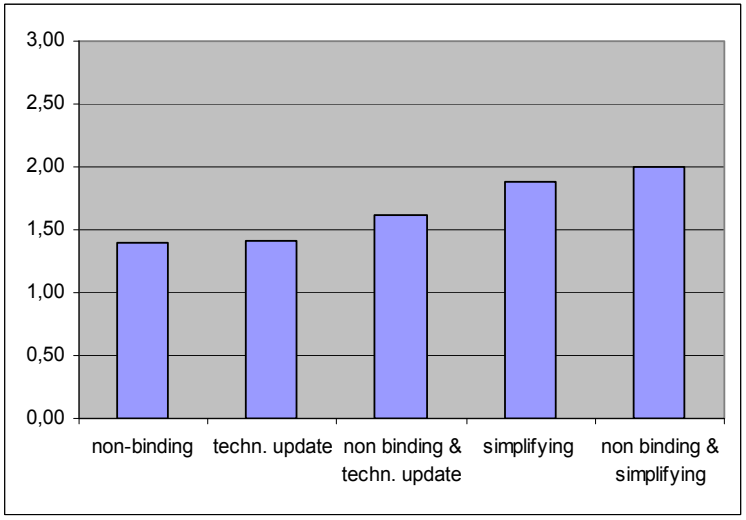
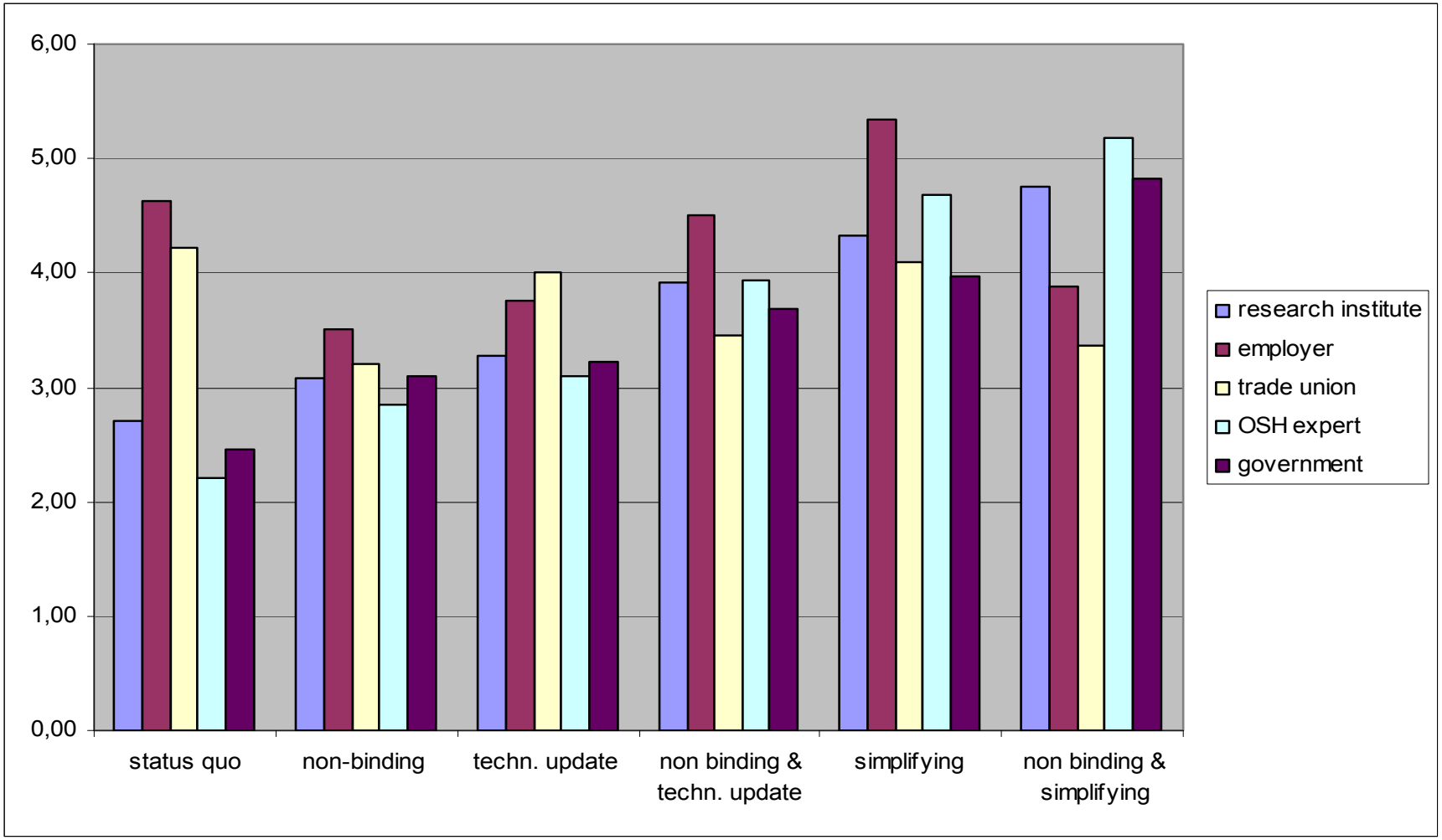


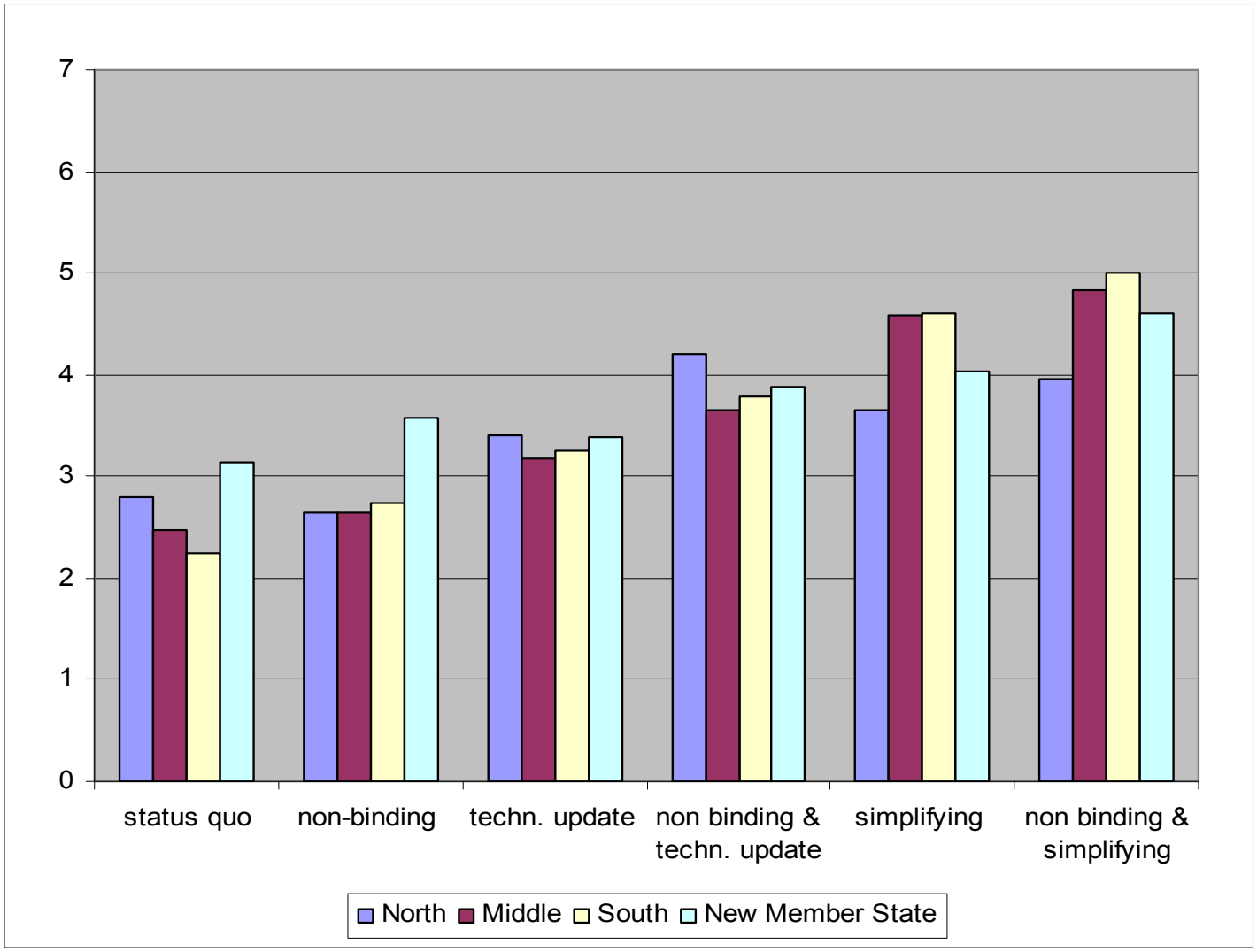
Figure 4. Assessment of impact of experts of different policy options on MSD prevention activities at company level

Preferences of European Experts (Questionnaire)



Ranking of policy options, based on all four indicators, according to function

Preferences of European Experts (Questionnaire)

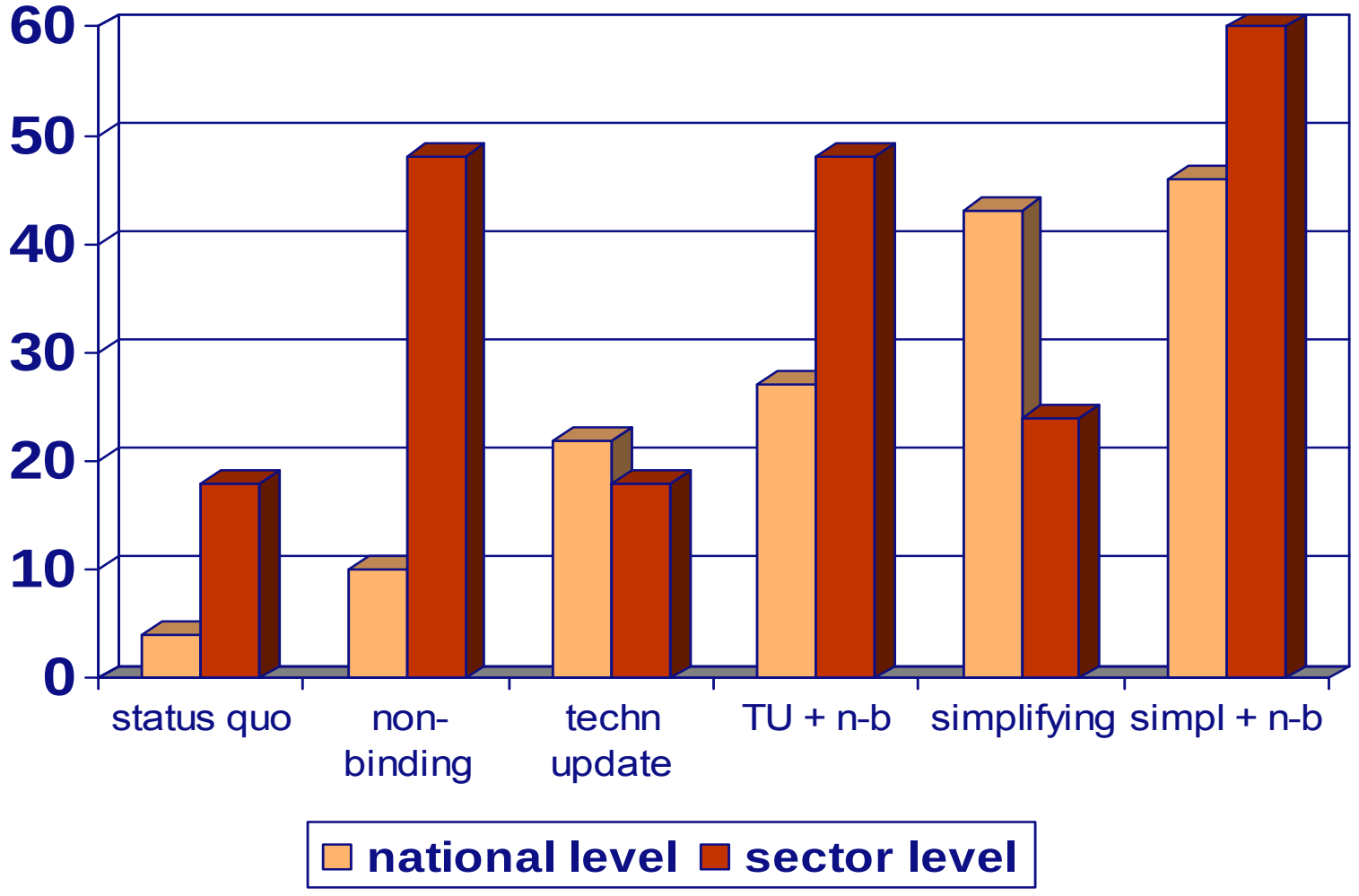


Ranking of policy options, based on all four indicators, according to region

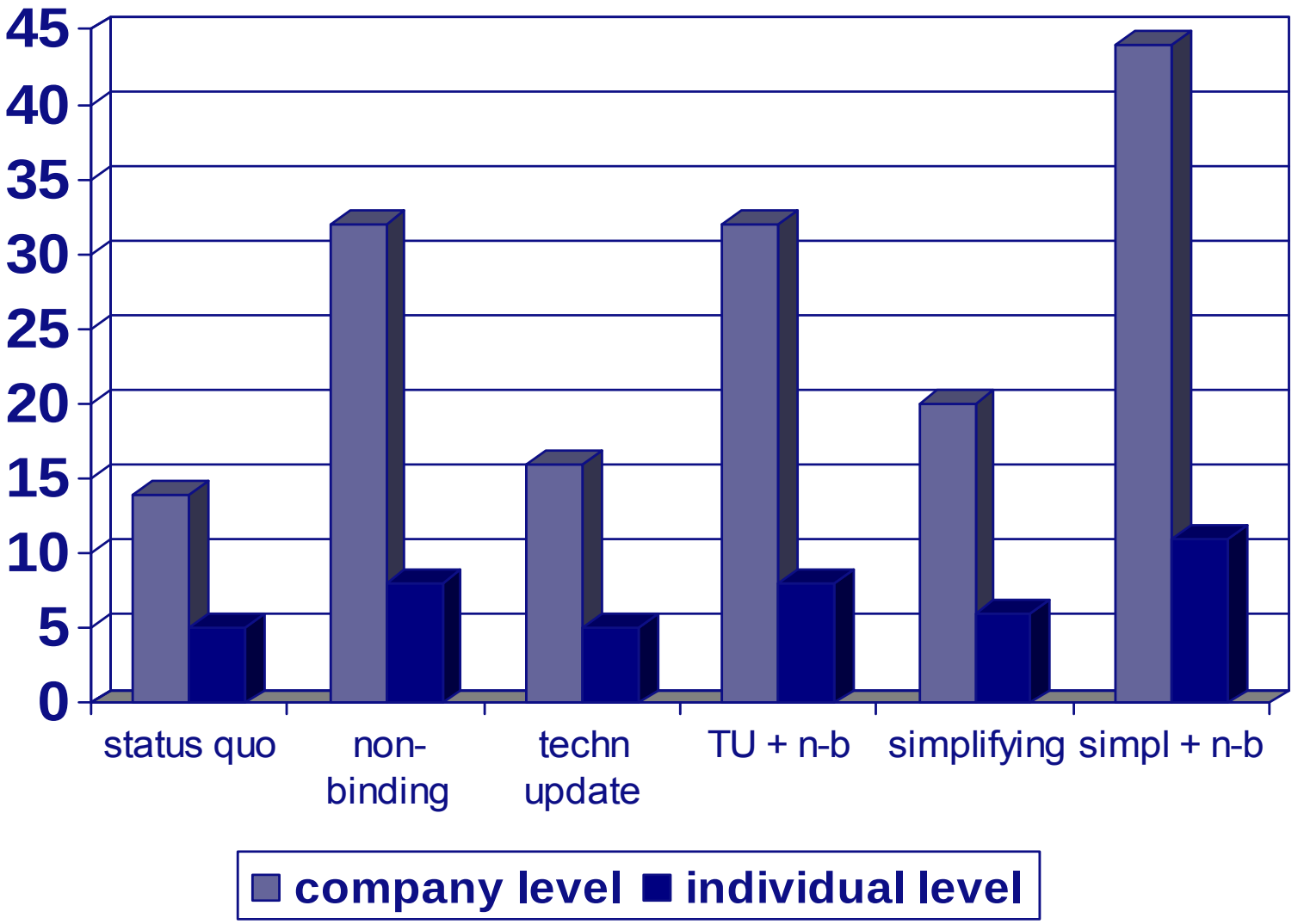
Rankings from country consultations

Policy Options	Poland	Nether-lands	Finland	Belgium	Latvia	Italy	France	Roma-nia	United king-dom
1 .. no additional EU action would be taken regarding MSD prevention									
2 .. non binding initiatives at EU level would be taken regarding MSD prevention	OSH cons	**3** Lab. insp. Empl Ministry							Empl
3 .. legislation regarding MSD prevention would be technically updated			Empl						
4 .. technical update of existing EU directives + non binding initiatives at EU level	**2** Res Empl		**Top 3** Res Empl Ministry	**3**	**3**	**3**	**2/3**	**3**	Pol. mak
5 .. new EU legislation aimed at simplifying (but addressing all MSD risk factors) would be implemented	**3**	**2**	**Top 3** Tr. union	**2**	**2**	**2**	**2/3**	**2**	**Top 3** Res Erg Cons
6 .. new legislation aimed at simplifying (but addressing all risk factors) + non binding Initiatives	**1** OSH cons Res Ministry	**1** Res Ergon. OSH cons Tr. union	**Top 3** Ministry	**1**	**1**	**1**	**1**	**1**	**Top3** Res Erg. Cons

Semi-quantitative impact assessment, step 1



Semi-quantitative impact assessment, step 2 and 3



Policy option 1: Status Quo

Advantages / impacts	RI	Disadvantages / impacts	RI
A positive influence on occupational safety and health	C	Still work needs to be done with regard to transposition of EU directives into national legislation	A
Campaigns were important for raising awareness	B	Labour inspectorates have problems with enforcement due to insufficient resources, in particular with regard to SMEs	A
		Risk factors (e.g. repetitiveness, static load) are missing	A
		Labour inspectorates lack specific standards	D
Some valuable developments at sector level	A		
		The level of information of employers and workers, in particular in small- and medium-sized enterprises appears to be insufficient to reach all target groups	C
		VDU directive provision on training too vague, many other provisions of VDU and manual handling directive unknown to employers	A
		SMEs stay behind in risk assessment activities and preventive measures	C
		Conflicting MSD-Trends in Europe, no clear picture of decrease	A
Productivity increased since implementation of VDU directive	B	A lot of discussions take place in companies on threshold levels due to the lack of thresholds in the legislation	D

Policy option 6: Technical update and non-binding init

Advantages / impacts	RI	Disadvantages / impacts	RI
EU Campaigns aimed at WRMSDs are important for raising awareness	B	European or national campaigns only have short-term effects	C
All risk factors included	A	Many ministries and other experts do not approve of exact thresholds; there are doubts about feasibility of setting threshold levels for different situations	D
Norms are set at European level, which leads to uniformity and clarity	D	Process of setting threshold levels is time consuming (translating scientific evidence into practical norms) and costly	D
Community recommendations may lead to sector agreements	E		
European sector agreements may lead to national sector agreements	E		
Sector agreements probably will cause an increase of prevention efforts in companies	B		
A positive effect of sector agreements on exposure and symptoms can be expected in the future	C	Sector agreements are often only concluded in sectors that do not need it, sectors with poor working conditions do not volunteer	D
OSH-covenants in The Netherlands led to positive impacts: dissemination of good practices, increase of trust between social partners, increase of preventive measures, awareness and knowledge	B		
Norms have been proven successful in other working conditions (asbestos, toxic substances)	D		
Financial incentives will work	C		
The administrative burden will decrease because the thresholds are clear and fewer discussions are necessary in employees councils and between employers and employees	D	Administrative burden will not decrease because there will be more thresholds and more risk factors	D

Conclusions

- No consensus
- Option 6, combination of simplification legislation addressing all risk factors and non-binding initiatives is preferred by most experts in questionnaire and country consultations
- Based on literature and expert opinion, option 6 is estimated to have the most impact
- Much debate about the specific content of this option: threshold levels are thought of as indispensable by some, but as undesirable by others; EU opts for ‘limits of attention’

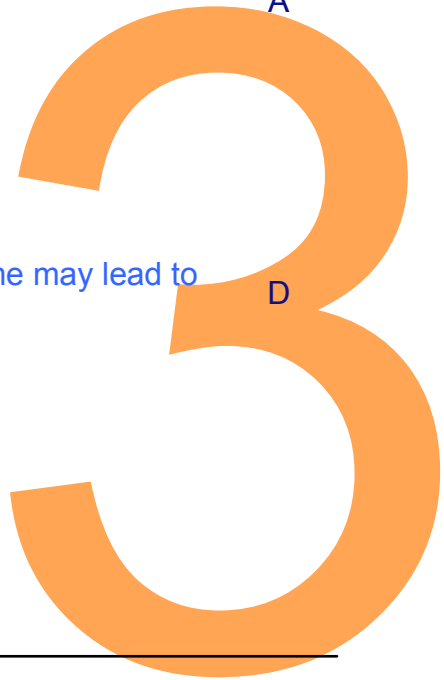
Thank you very much for your attention !

Policy option 2: Non-binding initiatives

Advantages / impacts	R	Disadvantages / impacts	R
EU Campaigns aimed at WRMSDs are important for raising awareness	B	The impact of EU non-binding activities at national level (labour inspectorate activities, national legislation, campaigns) is limited	C
A more focused approach of future non-binding initiatives will reach groups that need it most (SMEs, new Member States)	C		
Community recommendations and European sectoral agreements may lead to national activities and sector agreements	E		
Sector agreements probably will cause an increase of risk assessment and prevention efforts in companies	B	European or national campaigns only have short-term effects	C
A positive effect of sector agreements on exposure and symptoms can be expected in the future	C	Sector agreements are often only concluded in sectors that do not need it, sectors with poor working conditions do not volunteer	D
OSH-covenants in The Netherlands led to positive impact: dissemination of good practices, increase of trust between social partners, increase of preventive measures, awareness and knowledge	B	Sector agreements could lead to different threshold levels in different types of industry, while they refer to the same physical load	D
Financial incentives will work	C	Discussions and research within sector organizations are repeated unnecessarily	D

Policy option 3: Technical update

Advantages / impacts	RI	Disadvantages / impacts	RI
Might lead to an increase in the number of labour inspections on MSD risks	D	A technical update needs to be transposed into national legislation, which may take some time and effort	A
		Without non-binding initiatives a technical update will lack impact	C
		Risk factors (e.g. repetitiveness, static load) are missing	A
		Too many changes in short time may lead to high costs in companies	D



Addition of impacts, and number of disadvantages disappear:

- European or national campaigns only have short term effects
- Without non-binding initiatives a technical update will lack impact
- The impact of technical update on sector activities will be negligible

4

Policy option 5: Simplifying legislation / all risk factors

Advantages / impacts	RI	Disadvantages / impacts	RI
This policy option might have favourable consequences for the labour inspectorate activities	D	Many ministries and other partnersdo not approve of exact thresholds; there are doubts about feasibility of setting different threshold levels for different situations	D
All risk factors included	A		
norms are set at European level, which leads to uniformity and clarity	D	Process of setting threshold levels is time consuming (translating scientific evidence into practical norms) and costly	D
Norms have been proven successful in other working conditions (asbestos, toxic substances)	D	Without non-binding initiatives (risk assessment tools, guidelines, campaigns) little effect expected	C
The administrative burden will decrease because the thresholds are clear and fewer discussions are necessary in employees councils and between employers and employees	D	Administrative burden will not decrease because there will be more thresholds and more risk factors	D

Semi-quantitative impact assessment

	Status Quo:	Non- bind init:	Techn update	Techn update + non-bind	Simpli/ all risk factors:	Simpl + non-bind init
National level						
National legislation or regulations	3[A]	3[C]	15[A]	15[A]	25[A]	25[A]
Labour inspectorate activity	0[E]	1[E]	6[D]	6[D]	9[D]	9[D]
National campaigns, prevention strategies	1[E]	6[E]	1[E]	6[E]	9[E]	12[E]
impact national:	**4**	**10**	**22**	**27**	**43**	**46**
Sector level						
Sector campaigns	3[A]	8[E]	3[C]	8[C]	4[C/D]	10[C/D]
Dissemination of good practices	3[A]	8[E]	3[C]	8[C]	4[C/D]	10[C/D]
Sector agreements	3[A]	8[E]	3[C]	8[C]	4[C/D]	10[C/D]
impact sector x 2:	**18**	**48**	**18**	**48**	**24**	**60**
Total impact score step 1:	**22**	**58**	**40**	**75**	**67**	**106**

Semi-quantitative impact assessment

	Status Quo:	Non- bind init:	Techn update	Techn update + non-bind	Simpli/ all risk factors :	Simpl + non-bind init
Company level						
Awareness	4[A]	12[C]	6[E]	12[E]	8[E]	15[C]
Risk assessment	4[E]	12[E]	4[C]	12[E]	6[E]	15[E]
Training/preventive actions	4[E]	6[B]	4[C]	6[B/C]	4[E]	12[B/C]
Compensation costs	2[E]	2[E]	2[E]	2[E]	2[E]	2[E]
Total impact score step 2:	**14**	**32**	**16**	**32**	**20**	**44**

Semi-quantitative impact assessment

	Status Quo:	Non- bind init:	Techn update	Techn update + non-bind	Simpli/ all risk factors :	Simpl + non-bind init
Individual level						
Knowledge	1^E	2^E	1^E	2^E	2^E	3^E
Risk exposure	2^E	3^E	2^E	3^E	2^E	4^E
Symptoms	1^E	2^E	1^E	2^E	1^E	3^E
Sickness absence	1^E	1^E	1^E	1^E	1^E	1^E
Total impact score step 3:	**5**	**8**	**5**	**8**	**6**	**11**


F. Pot


F. Pot


M. Borrowska
A. Cammarota
Italy


J. Kanca
Latvia


N. Gras
J. Schmidt


A. Valeckova