Υγεία και Ασφάλεια στην Εργασία Δείκτες & προσδιοριστικοί παράγοντες: Η περίπτωση της Ελλάδας

(Health and Safety at work – Indicators and Determinants: The Greek case)

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ΕΚΠΑ ΜΙΘΕ

Purpose of this study

- Present OSH Legislation Framework & empirical research
- Point out the knowledge gaps & methodological shortcomings
- Investigate the casual relationship between Absence from wok and Job Satisfaction

Greek OSH Legislative Framework

- First attempt 19th century
- Law 1568/85 “Hygiene & Safety of the Employees”
- Blue-collar jobs were excluded
- Over than 100 OSH statutes, including laws, decrees, decisions
- List of occupational diseases is inadequate
- Lack of trained personnel at workplaces
- Lack of occupational health inspectors
- Lack of education and information among employees and employers regarding occupational health
- Lack of preventive measures
- Lowest spending on social public policies compared to the EU average

Policy Recommendations by EU Commission

- H&S Framework Council Directive 89/391 => prevention principles to all occupational risks
- H&S strategy 2007-2013 => 25% reduction of work accidents within 2013
- 2nd program of Community health action (2008-2013) & European Pact for Mental Health and Well-being
- Life & wellness enterprise programs (e.g. J&J Hellas => work-life balance program)
- Low attention to rehabilitation & reintegration – active in disabled workers
- EL.ET.YP.E, Centers of education ,social support & training
- Prevention, retention, rehabilitation & reintegration of workers with MSDs
- Integrated e-learning for managing job retention & return to work project => reduce early retirement & older workers life extension
- Youth - investing & empowering => support young workers & increase older employees

Indicators & data sources

Indicators	Data sources
Occupational accidents	Social Insurance Institute, Body of Work Inspection, National Statistical Service of Greece,
Fatal occupational accidents	Social Insurance Institute, Body of Work Inspection, National Statistical Service of Greece
Occupational diseases	Social Insurance Institute
Mental health	National Statistical Service of Greece, European Foundation for the Improvement of Living & Working Conditions
Occupational stress	Not available
Absenteeism	Social Insurance Institute, European Foundation for the Improvement of Living & Working Conditions
Job quality & job satisfaction	European Foundation for the Improvement of Living & Working Conditions
Costs for health & safety at work measures	Not available

There are also secondary indicators such as age, sex, region, size of the firm, type of injury, the part of body injured, casual agents & diagnosis of occupational diseases etc.

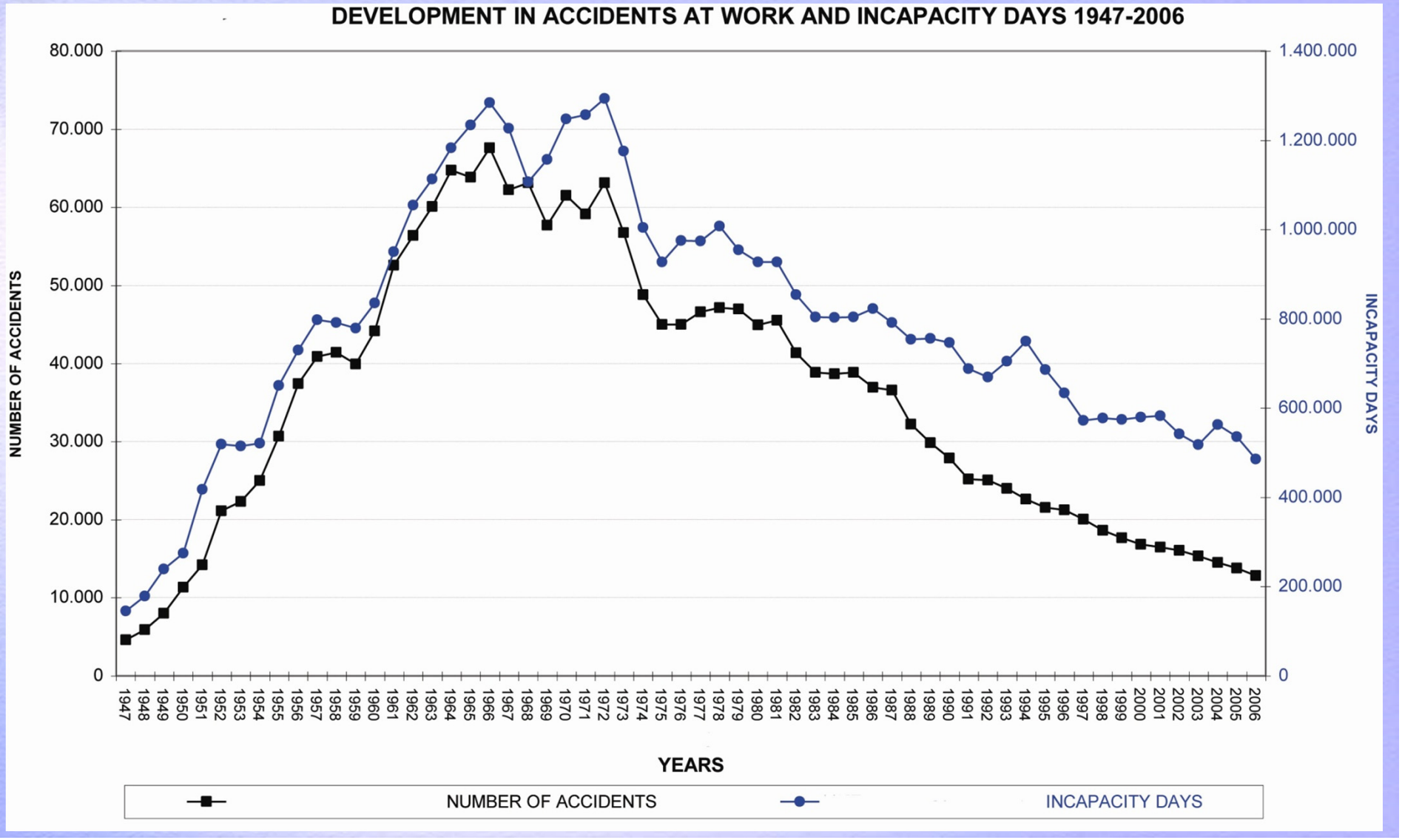
Empirical Research on OSH & Datasets

- **Empirical research in Greece inadequate**
  - Lack of large sample data
  - Lack of data on a larger time span
  - No advanced econometric tools (only one Greek study employed logistic regression)
  - Descriptive statistics tools
- **3 official public datasets in Greece (EL.STAT., IKA, SEPE)**
  - Discrepancy in the data (different samples & recording)
  - Public sources are limited
  - Lack of data (absenteeism, job satisfaction, occupational stress)

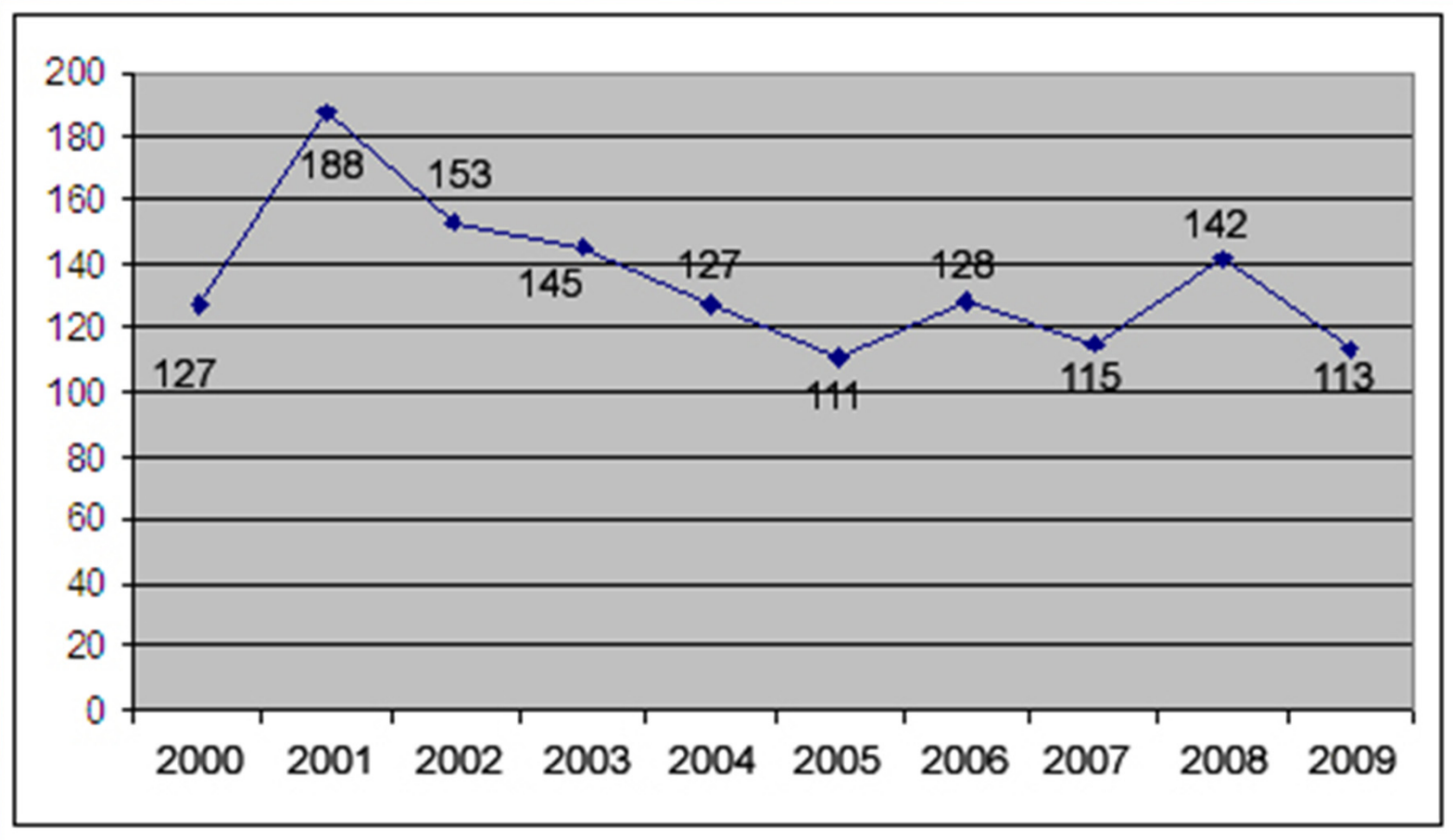
Accidents at work *(reported to IKA & SEPE)*

Year	IKA	SEPE	Year	IKA	SEPE
1990	27.846	6.258	**2000**	16.822	4.032
1991	25.185	5.951	**2001**	16.483	5.155
1992	25.063	5.206	**2002**	16.031	6.021
1993	23.959	5.160	**2003**	15.310	6.235
1994	22.608	4.852	**2004**	14.490	6.333
1995	21.540	-	**2005**	13.755	6.044
1996	21.255	-	**2006**	12.845	6.255
1997	20.046	-	**2007**	-	6.561
1998	18.615	-	**2008**	-	6.657
1999	17.658	-	**2009**	-	6.381

Accidents at Work & Incapacity Days reported to IKA 1947- 2006



Fatal Accidents reported to SEPE *(2000-2009)*



* Numbers of individuals

Occupational Diseases

The following trends are recorded in IKA reports (2003-2009)

- Recording from 2003 up to 2009
- An initial effort to record occupational diseases but not full recording yet
- Methodology for European Occupational Diseases
- 112 different cases which are re-examined by the committees in a fixed time

Occupational Diseases (briefly)

- 99 males & 13 females
- Most of the cases are elementary occupations workers & crafts & related trades workers
- Basic diagnoses: allergic contact dermatitis, toxic effect of metals & asthma
- Casual agents: chemical & industrial agents

Mental health

- Sampling research of National statistical service of Greece in 2008 (mental health effects at work)
- >1% violence or harassment
- <13% work-load or time pressure

Sex	**Harassment**	**Violence**	**Work-load or Time Pressure**
Male	17.828 (0,6%)	22.225 (0,8%)	377.517 (13,7%)
Female	16.028 (0,9%)	6.935 (0,4%)	209.349 (11,9%)
Total	**33.856 (0,7%)**	**29.160 (0,6%)**	**586.866 (13%)**

Mental health

- Sampling research of 5th European Working Condition Survey in 2010
- 34 countries including Greece
- Men sustain greater mental health effects than women

	Verbal Abuse	Physical Violence	Bullying / Harassment	Threats	Discrimination
Male	8,4%	1,5%	3,7%	5,3%	7,3%
Female	5,0%	,3%	2,8%	3,2%	9,9%
Total	**7,1%**	**1,0%**	**3,4%**	**4,5%**	**8,3%**

Occupational Stress

- 2nd most reported work – related health problem in EU => hypertension, heart diseases, headaches, burnout => absenteeism, tardiness, errors => high economic costs, corporal injuries, loss of human lives
- 22% workers from EU report occupational stress
- No statistics in Greece yet
- Recent research about occupational stress & professional burnout

➢ *Policemen, nurses, physicians, librarians, doctors, teachers => most reported: emotional exhaustion, negative self - image, depression, boredom, no job satisfaction*

OSH Costs

- Financial cost of absenteeism => limited investigation
- Limited knowledge of the extent, causes, costs of absence & occupational accidents (considerable cost)
- ELINYAE studies about OSH costs

e.g. Prevalence & Incidence approaches => cost of subsidies, retirement pensions, lost contribution due to occupational accidents (2007 study)

e.g. Elefsina shipyards (1991) => total cost ≈19.817,73€

✓ Direct cost (absent days+work-related costs)≈3.352€

✓ Indirect cost (working hours lost+insurance expenditure)≈16.466 €

e.g. DEI (Power Public Corporation) occupational accidents cost estimation 1994-1995

Financial costs of work-related accidents in DEI (1994 & 1995)

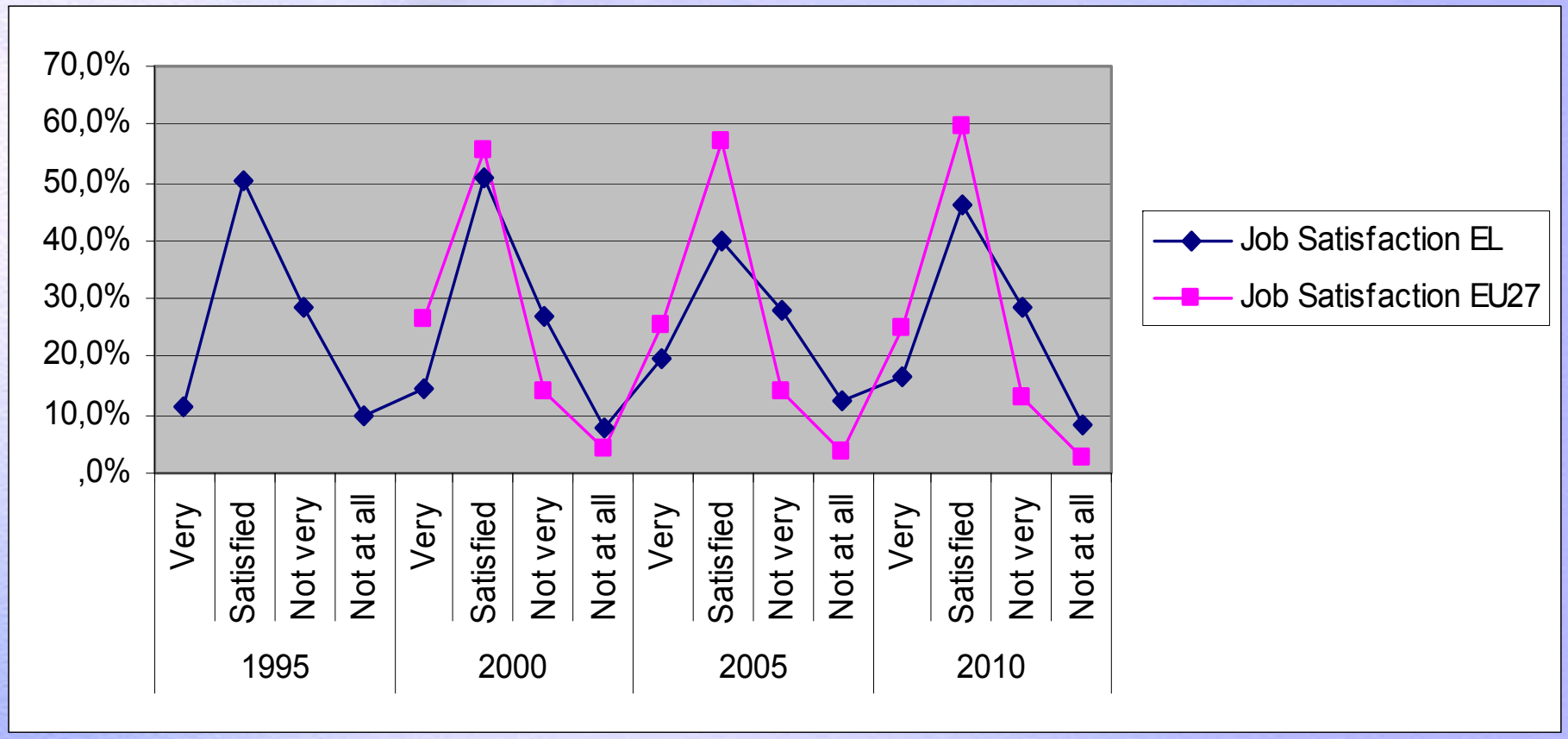
Cost factors	Costs (€) 1994	Costs (€) 1995
Subsidy cost	257.473	374.487
Compensation cost	24.980	50.595
Retirement cost	79.712	172.926
Health care cost	47.897	37.007
Worker replacement cost	257.473	374.487
Working hours lost cost	6.261	9.132
Direct cost	410.062	635.013
Total Expenditures	673.796	1.018.633

Job Satisfaction

- Strong determinant of individual performance & efficiency, labour turnover and union membership.
- *Research concerning educators, nurses, teachers, accountants, employees in mental health sector => Autonomy, career prospects, working conditions, salary, organizational structure*
- *Public sector ≠ private sector*

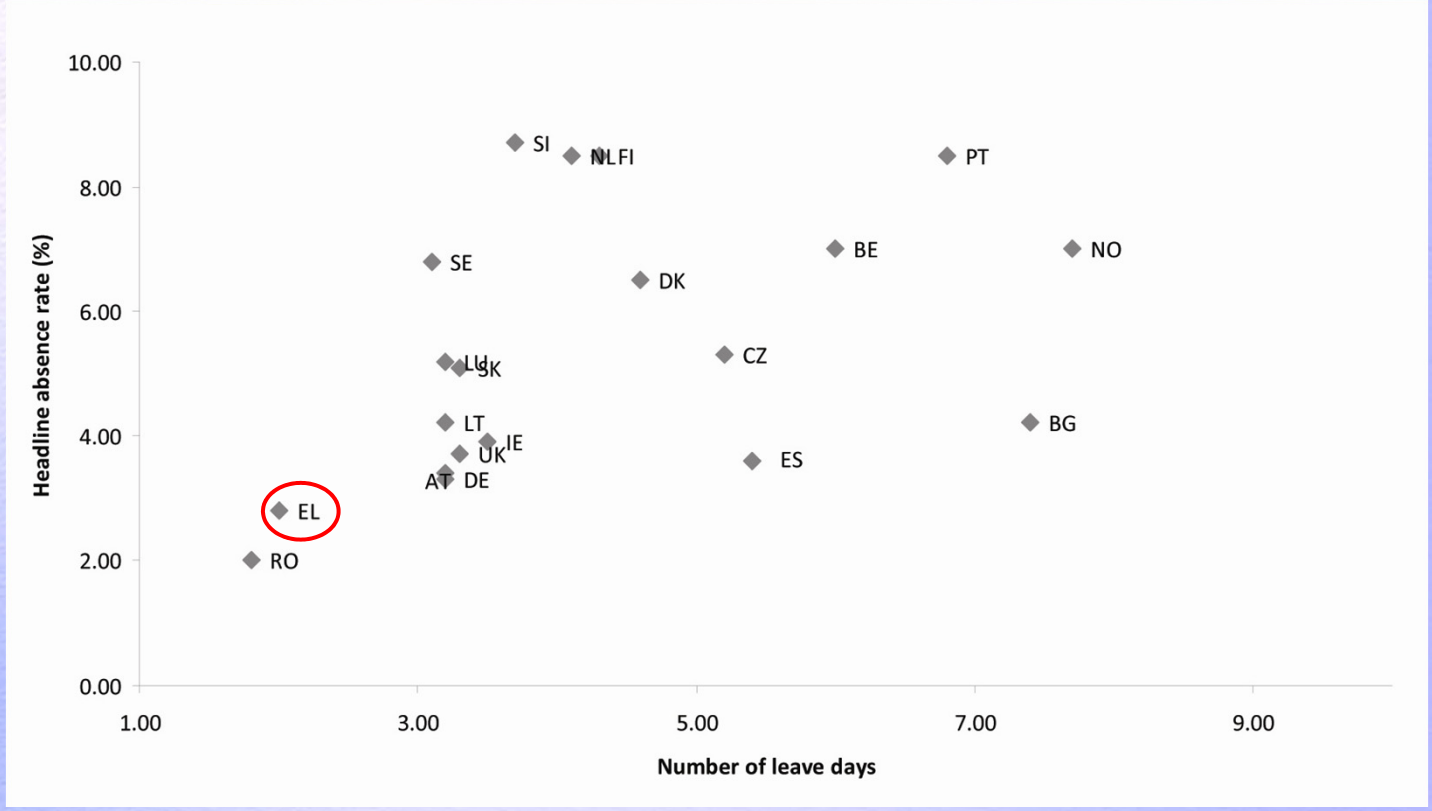
Job Satisfaction

The percentage of job satisfaction in Greece is lower than in 27 EU countries (5th European Working Condition Survey, 2010)



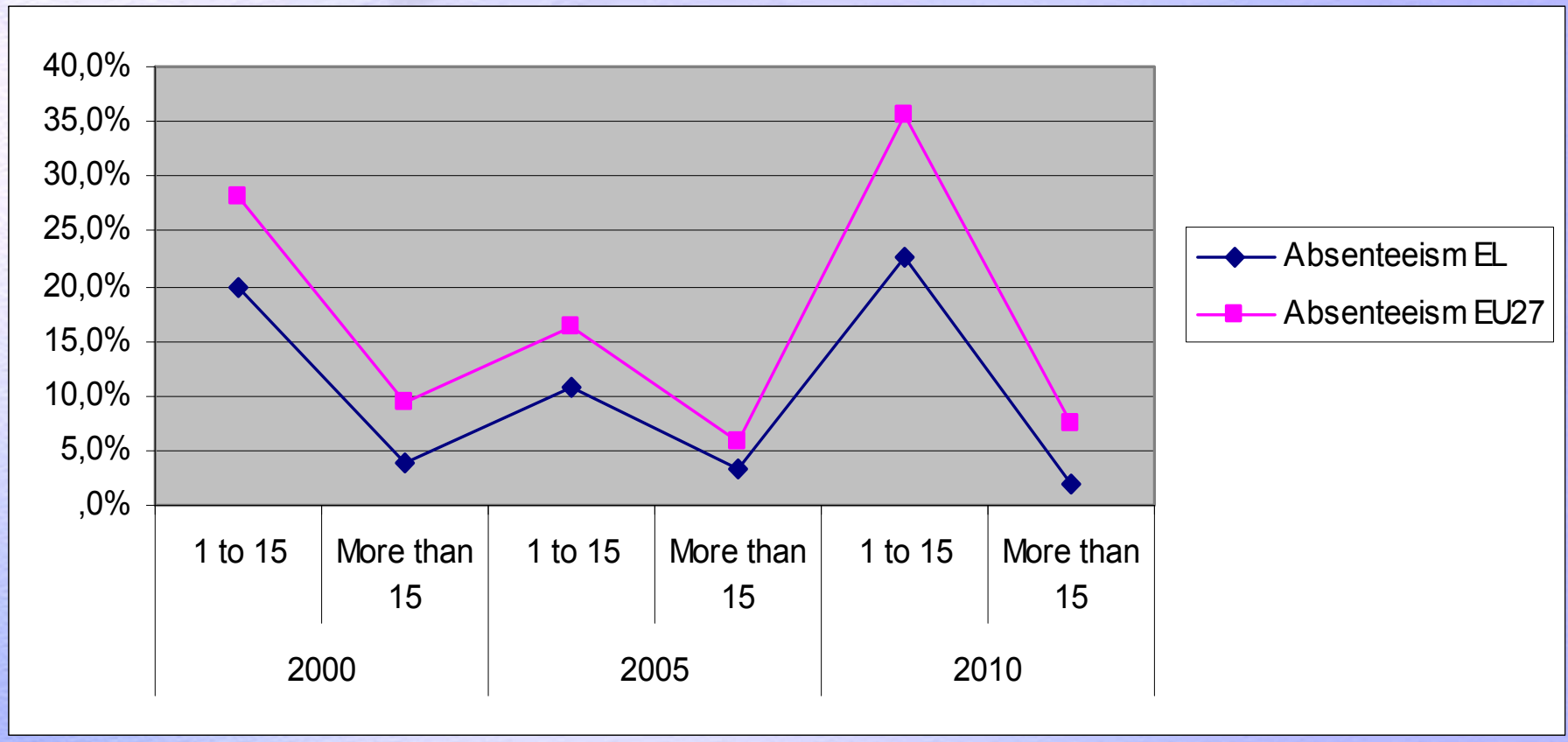
Absenteeism

- Greek Statistical Service provides No data
- Some primary data from IKA => 6.337.686 subsidy days for illness, 485.550 subsidy days for occupational accidents, 3.700.647 days for maternity leave



Absent days over the past 12 months

The percentage of absent in Greece is lower than in 27 EU countries (5th European Working Condition Survey, 2010)



Absence from Work and Job Satisfaction relationship

- Absenteeism → complex issue influenced by multiple causes (personal & organizational)
- No universal agreement concerning the relationship between absenteeism & job satisfaction (inconsistent connection)
- Some researchers find no relationship between the two (Goldberg & Waldman, 2000), while others find a weak negative relationship (Farrell & Stamm, 1988)
- Absence and job satisfaction are more strongly related under some conditions, e.g. blue collar workers (Spector, 2000)

Data & Methodology

- European research survey => 1001 participants (Greece-UK), 45-65 years old (Sociold project)
- STATA →Tobit model (more consistent, reliable and less biased than the OLS model (Sturman, 1996)

$$Aj=\alpha 1+\alpha 2\ JSj\ +\alpha 3Xj+\varepsilon A$$

Model outputs

	OLS		TOBIT	
Variable	**Coef.**	**t-stat**	**Coef.**	**t-stat**
Age	.1694638	0.42	-.1760954	-0.08
Males	10.49176	2.34 **	99.09221	3.46 **
fixedcontr~t	-7.031383	-2.70 **	-37.14601	-0.50
temporaryc~t	2.279484	0.56	42.00175	0.64
Educlow	1.639077	0.45	14.08396	0.42
Educmiddle	9.25437	1.92	55.70413	1.89
Lnjobsatisf	-4.918878	-4.08 **	-21.58677	-4.22 **
industrydu~1	-8.424329	-1.44	23.11932	0.28
industrydu~2	-.19483	-0.03	62.61307	1.27
industrydu~3	-4.242494	-0.67	14.00291	0.34
industrydu~5	2.818667	0.33	79.01094	1.52
industrydu~6	2.095163	0.25	-10.37384	-0.16
industrydu~7	-.9018672	-0.16	26.22377	0.75
Dummyuk	20.12243	4.18 **	121.3065	4.15 **
wealth_5	-2.714202	-0.72	-28.145	-0.91
_cons	-24.66702	-0.99	-487.9872	-3.65 **
N	1001		1001	
R^2	0.0664			
Pseudo R^2			0.0288	
F(15, 985)	1.82			
Log likelihood			-932.03101	

Endogeneity

- Theoretically, Job Satisfaction can simultaneously be affected by Injury Absenteeism

$$JSj=\gamma 1+\gamma 2Xj+\gamma 3Z+\varepsilon js$$

- Z variable has to be highly correlated with Job Satisfaction but does not affect Injury Absenteeism directly. Z variable: "*spouse' s contribution to the overall household income*".

Model outputs

	OLS		TOBIT	
Variable	**Coef.**	**t-stat**	**Coef.**	**t-stat**
Age	-.353554	-0.84	-3.436051	-1.04
Males	22.86924	1.87	177.7451	2.95 **
fixedcontr~t	7.901691	0.74	53.6337	0.53
temporaryc~t	16.69592	1.44	125.7885	1.37
Educlow	-2.6915	-0.55	-12.76569	-0.32
Educmiddle	6.268631	1.38	41.30185	1.25
Lnjobsatisf_pr	-15.7264	-1.80	-91.46024	-1.98 *
industrydu~1	-7.624397	-1.49	33.36843	0.39
industrydu~2	1.85126	0.32	82.10118	1.57
industrydu~3	-2.532072	-0.41	19.81656	0.46
industrydu~5	8.687869	1.01	119.4528	1.97 *
industrydu~6	10.76065	0.98	44.27452	0.59
industrydu~7	.7557147	0.12	35.03581	0.95
Dummyuk	37.46283	2.39 *	249.2506	3.09 **
wealth_5	4.226295	0.85	11.68954	0.27
_cons	-31.66521	-1.13	-558.8731	-3.88 **
N	1001		1001	
R^2	0.0325			
Pseudo R^2			0.0214	
F(15, 985)	1.78			
Log likelihood			-939.03839	

Results

- Weak negative relationship between injury absenteeism and job satisfaction using Tobit model.
- ➢ Low level of employee job satisfaction is associated with an increase in the number and frequency of absent days
- According to prior research, all of the predictors would relate to absenteeism, but only three had significant relationship (males, job satisfaction, industry 5 (transport & communication) and uk)

Conclusions

- Need for prevention strategies & enforcement of the existing safety regulations
- More intense & systematic inspections at workplaces
- Training & OSH education
- Stricter monitoring measures by SEPE
- Great research gap => More systematic research (on the determinants of injuries, the injury effects on job, productivity)
- Absenteeism => more systematic research & comparisons with similar findings from other countries

Thank You!

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