



# WORK ACCIDENTS IN SPAIN AFTER THE LAST LEGAL REFORMS

**249409** .Global topics in occupational health and safety



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# Presenter Disclosures

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**The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

**NO RELATIONSHIPS TO DISCLOSE**

# WORKPLACE ACCIDENTS IN THE WORLD

- According to ILO estimates, in 2001 the economically active worldwide population was 2,836,897,404 people, of which 2,164,739,590 were employed.
- Taking the data of industrial accidents in 2001, the number of fatal workplace accidents in the world, estimated for 2005, was 351,251, while total accidents with more than three days absence from work accounted for more than 268 million.
- The total number of occupational illnesses and workplace deaths in the world increased by at least 2.2 million, according to ILO data.

<http://www.ilo.org/public/english/protection/safework/accidis/index.htm>

# WORKPLACE ACCIDENTS IN THE WORLD

- The World Health Organization (WHO) considers type of employment contract and working conditions to be the most important causes of workplace accidents.
- The objective of WHO is to clarify the relationship between workers' health and factors such as different types of jobs, underemployment, and the threat of unemployment.
- At the same time WHO is seeking knowledge that can lead to occupational health policies and measures that improve the health of workers and their families.

# WORKPLACE ACCIDENTS IN THE WORLD

- The National Institute for Occupational Safety and Health (NIOSH) in the U.S. and the Canadian Center for Occupational Health and Safety (CCOHS) have reached similar conclusions.

# WORKPLACE ACCIDENTS IN THE WORLD

- The National Institute for Occupational Safety and Health (NIOSH) is the U.S. federal agency responsible for conducting research and making recommendations for the prevention of diseases and injuries associated with work. The Institute is part of the Center for Disease Control and Prevention (CDC).

# WORKPLACE ACCIDENTS IN THE WORLD

- Among the possible causes of increased risk of accident, the NIOSH lists the following: the outsourcing of the most dangerous jobs, lack of experience and familiarity with operations in hazardous workplaces, the lack of safety training and preventive equipment, and limited access to preventive measures such as screening programs.
- The inadequacy of certain components of existing safety standards and the health and compensation system, all of which were designed for another economic era, also play an important role. For example, millions of precarious workers in the United States are not covered by insurance against illness and work-related injuries.

# WORKPLACE ACCIDENTS IN THE WORLD

- The Canadian Center for Occupational Health and Safety (CCOHS) has released the findings of a scientific discussion forum on the subject and has created a page inviting participation in a survey where people can relate experiences and express opinions on changes needed to address the situation.
- Their reports add to the line of research on employment and working conditions and health launched by the World Health Organization (WHO).



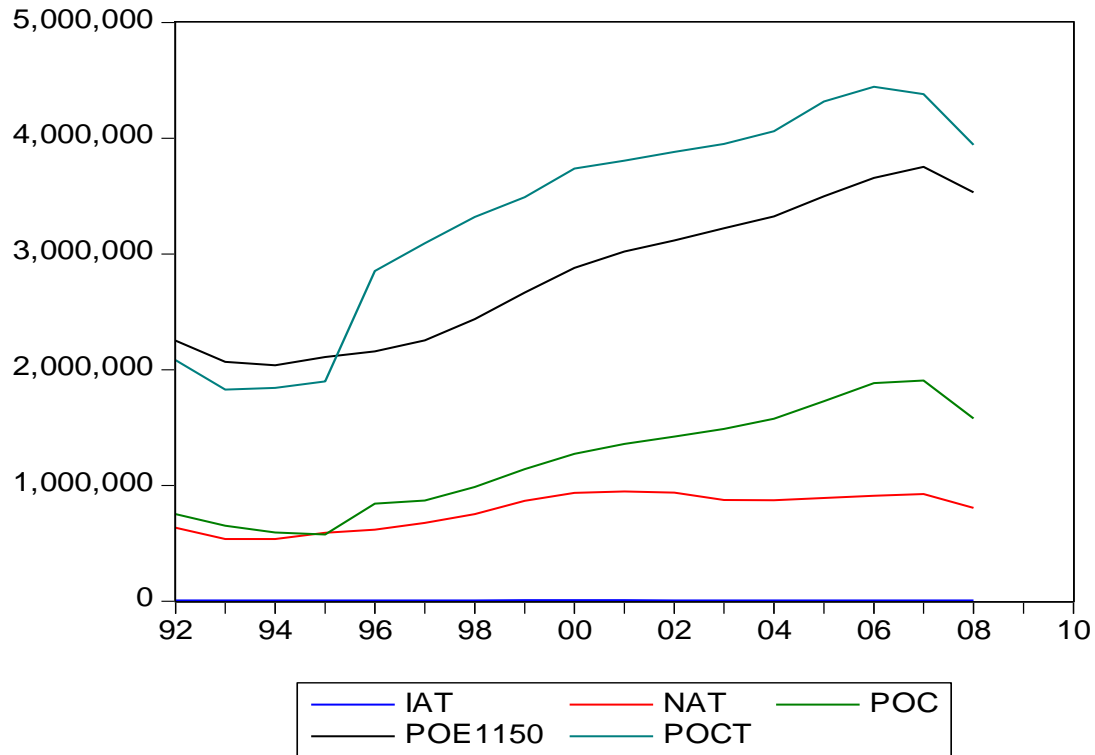
# WORKPLACE ACCIDENTS IN EUROPE

- The European Agency for Safety and Health at Work reports that every three and a half minutes someone dies in the EU due to work-related causes. Each year 142,400 people die in the EU because of occupational disease and 8,900 because of accidents. Not less than one third of these 150,000 victims per year can be attributed to working with hazardous substances in the EU, of which 21,000 are due to asbestos.  
<http://riskobservatory.osha.europa.eu/statistics/>
- In the EU there are 19 million SMEs, which employ almost 75 million workers. However, SMEs recorded a disproportionate percentage (82%) of all occupational injuries, a figure that approaches 90% with respect to fatalities.
- In Europe, workers aged 18 to 24 are at least 50% more likely to suffer work injuries than more experienced workers.

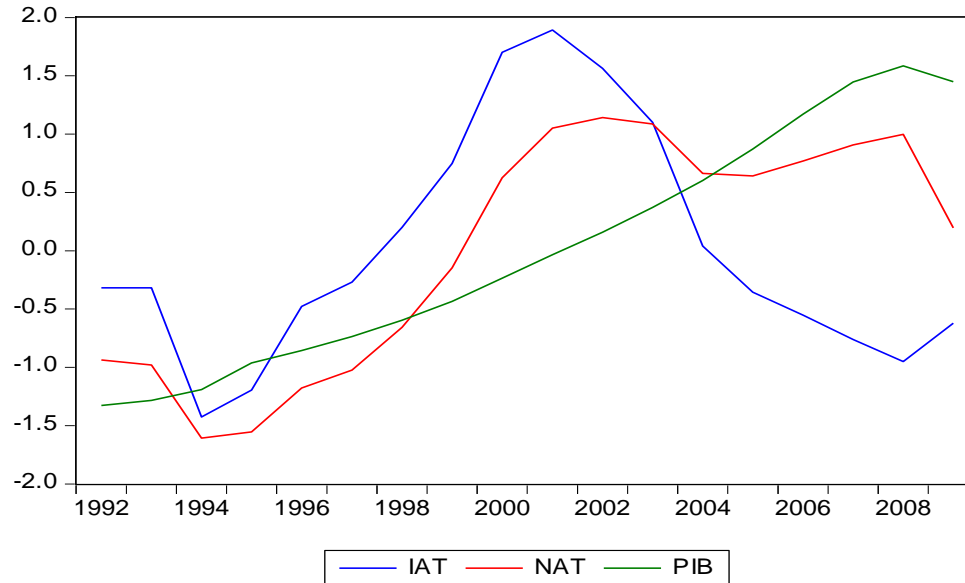
# WORKPLACE ACCIDENTS IN SPAIN

- In 1998, Spain led the ranking of occupational accidents in the European Union, accounting for 30% of the total. The highest incidence occurred among young people (16-19 years), and for workers with less than one year at their jobs.
- As a consequence of the European Union Directive on the prevention of occupational accidents, a new legal framework was published in Spain in 1995. From 2005, a shift in the evolution of the historical series of accidents at work began to be observed, albeit with significant differences among regions.

# WORKPLACE ACCIDENTS IN SPAIN

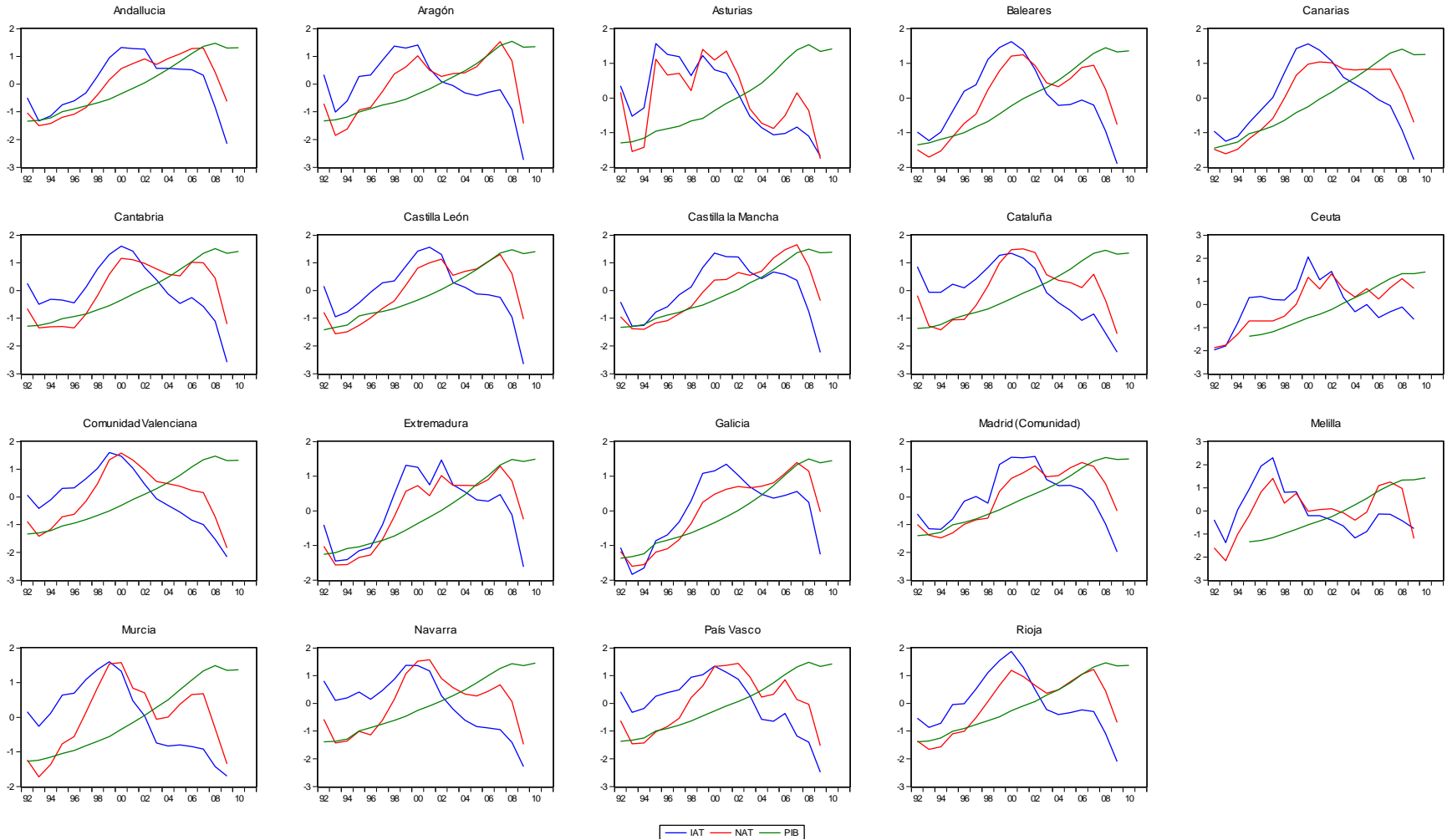


# WORKPLACE ACCIDENTS IN SPAIN



# WORKPLACE ACCIDENTS IN SPAIN

## REGIONS



# WORKPLACE ACCIDENTS IN SPAIN

- Recent studies published in prestigious journals, both national and international, confirm that workers with permanent contracts, who have more training and work experience, are associated with reduced workplace accidents in Spain.
- This is in line with previously mentioned investigations of the World Health Organization (WHO).

# WORKPLACE ACCIDENTS IN SPAIN

- This paper quantifies the effects of legal reforms introduced in 1995.
- Our hypothesis is that the reform has had a positive impact on the prevention of occupational hazards.
- We also try to confirm whether workers' age, business size, and employment conditions remain the primary structural causes of workplace accidents. Finally, we will check for significant differences in the behavior of Spanish regions.

# WORKPLACE ACCIDENTS IN SPAIN

obs	IAT	NAT	N	LPIAT
1992	6160.1	635213	10311732	-2.723497
1993	5460.5	537848	9849794	-2.851477
1994	5606.6	537625	9589145	-2.823527
1995	6059.8	589661	9730701	-2.740982
1996	6191.9	616237	9952309	-2.718009
1997	6488.2	676644	10428840	-2.668102
1998	6834.3	752882	11016227	-2.612426
1999	7437.4	867772	11667680	-2.521364
2000	7558.4	935274	12373968	-2.503918
2001	7349.9	946600	12880664	-2.534143
2002	7057.2	938188	13294054	-2.577935
2003	6386.5	874724	13696453	-2.684988
2004	6136.4	871724	14205788	-2.727604
2005	6011.8	890872	14818723	-2.749445
2006	5880.1	911561	15502474	-2.772995
2007	5760.3	924981	16057862	-2.79485
2008	5069.1	804959	15879722	-2.757027
2009	4130.7	617440	14947623	-3.144541

IAT: Index to laboral accident per 100000 people

NAT: Total laboral accidents

N: Population at risk

LPIAT: logit

*Source: National Institute of Statistics and Ministry of Labour of Spain*



# LABOR EMPLOYED IN SPAIN

obs	PIB	POC	POE110	POE1150	POCT
1992	355,228,120.15	745.95	868.65	2251.95	2081.43
1993	366,332,407.77	644.53	834.40	2068.28	1826.55
1994	389,391,090.60	587.33	780.58	2037.28	1841.53
1995	447,205,000.00	568.95	778.68	2109.85	1897.30
1996	473,855,000.00	842.28	2454.63	2157.75	2852.83
1997	503,921,000.00	868.20	2492.40	2252.63	3090.75
1998	539,493,000.00	986.25	2587.38	2437.10	3319.98
1999	579,942,000.00	1139.55	2669.63	2665.58	3489.93
2000	630,263,000.00	1272.80	2798.10	2877.60	3738.25
2001	680,678,000.00	1359.20	2910.80	3020.00	3806.80
2002	729,206,000.00	1421.70	2998.50	3116.00	3882.80
2003	782,929,000.00	1486.70	3064.50	3220.10	3950.70
2004	841,042,000.00	1575.40	3159.90	3323.00	4059.90
2005	908,792,000.00	1726.90	3313.40	3498.50	4316.30
2006	984,284,000.00	1883.70	3467.00	3656.50	4443.90
2007	1,053,537,000.00	1906.00	3543.40	3751.50	4381.00
2008	1,088,124,000.00	1657.98	3497.30	3531.30	3942.70
2009	1,053,914,000.00	1258.13	3274.70	3108.30	3168.70
2010	1,062,591,000.00	1085.25	3179.70	2959.70	3033.20

PIB: Gross domestic product at current prices

POC: Employed in the construction

POE110: Population employed in companies 1 to 10 employess

POE1150: Population employed in companies 11 to 50 employess

POET: Population employed with temporary contracts

Source: National Institute of Statistics and Ministry of Labour of Spain

# WORKPLACE ACCIDENTS IN SPAIN

- To accomplish this, two different econometric estimates have been made, by means of panel data model techniques, the first with aggregate data for the whole country from 1992 to 2010, and the second with regional data for the period 1999-2010.

# Aggregate data for the whole country from 1992 to 2009

Dependent Variable : LPIAT (logit)			
Variable	Coefficiente	Exp(coeficiente)	P-Value
<b>PIB</b>	<b>4.18E-10</b>	<b>1</b>	0.2556
<i>POE110</i>	<b>-0.000402</b>	<b>0.999598081</b>	0.0021
<i>POE1150</i>	<b>-0.000535</b>	<b>0.999465143</b>	0.0002
<i>POCT</i>	<b>0.0008</b>	<b>1.00080032</b>	0.0003
<b>POC</b>	<b>-1.49E-04</b>	<b>0.999851011</b>	0.6386
<b>C</b>	<b>-2.932129</b>	<b>0.053283477</b>	0.0000
<b>FICTI03*PIB</b>	<b>-1.82E-10</b>	<b>1</b>	0.0799

# Panel regional data for the period 1999-2009

Dependent variable: IAT					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
PIB	-2.13E-05	8.10E-07	-26.26154	0	
POE110	-2.107594	0.269076	-7.832697	0	
POE1150	2.158421	0.398571	5.415395	0	
POCT	13.72765	0.194807	70.46788	0	
POC	-6.347956	0.473006	-13.42045	0	
C	5333.706	35.65338	149.5989	0	
FICTI02	-954.1479	17.36603	-54.94336	0	

# Panel regional data for the period 1999-2009 Cross-section fixed

CROSSID	Effect
ANDALUCIA	-3490.688
ARAGON	-182.9848
ASTURIAS	2052.925
BALEARES	2394.076
CANARIAS	277.5455
CANTABRIA	658.2737
CASTLEON	-59.22606
CASTMANCHA	1222.023
CATALU	-2416.439
COMVALEN	-516.4452
EXTREMADURA	-576.3965
GALICIA	-863.5146
MADRID	-3006.271
MURCIA	1486.722
NAVARRA	1349.598
PAISVASCO	705.6953
RIOJA	965.1081

# WORKPLACE ACCIDENTS IN SPAIN

- In accordance with previous studies, the results confirmed that the regulatory change in the prevention of occupational hazards has had a positive impact on reducing workplace accidents. They also confirm the existence of distinct regional behaviors. Finally, we verified that the conditions of employment and job insecurity continue to be the principal structural causes of industrial accidents in Spain.

**THANK YOU FOR YOUR ATTENTION**



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