



ECONOMIC & SOCIAL  
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# Trends and Determinants of Work-Related Musculoskeletal Disorders in Ireland, 2002 to 2013

## DATE

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## EVENT

IOSH Conference

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# Motivation

- 38,000 workers experienced a work-related illness in 2016. Over 740,000 days of work were lost.
- Musculoskeletal Disorders (MSD) account for half of self-reported work-related illness in Ireland.
- In UK estimated annual costs of MSD was circa £10 billion (HSE, 1999).

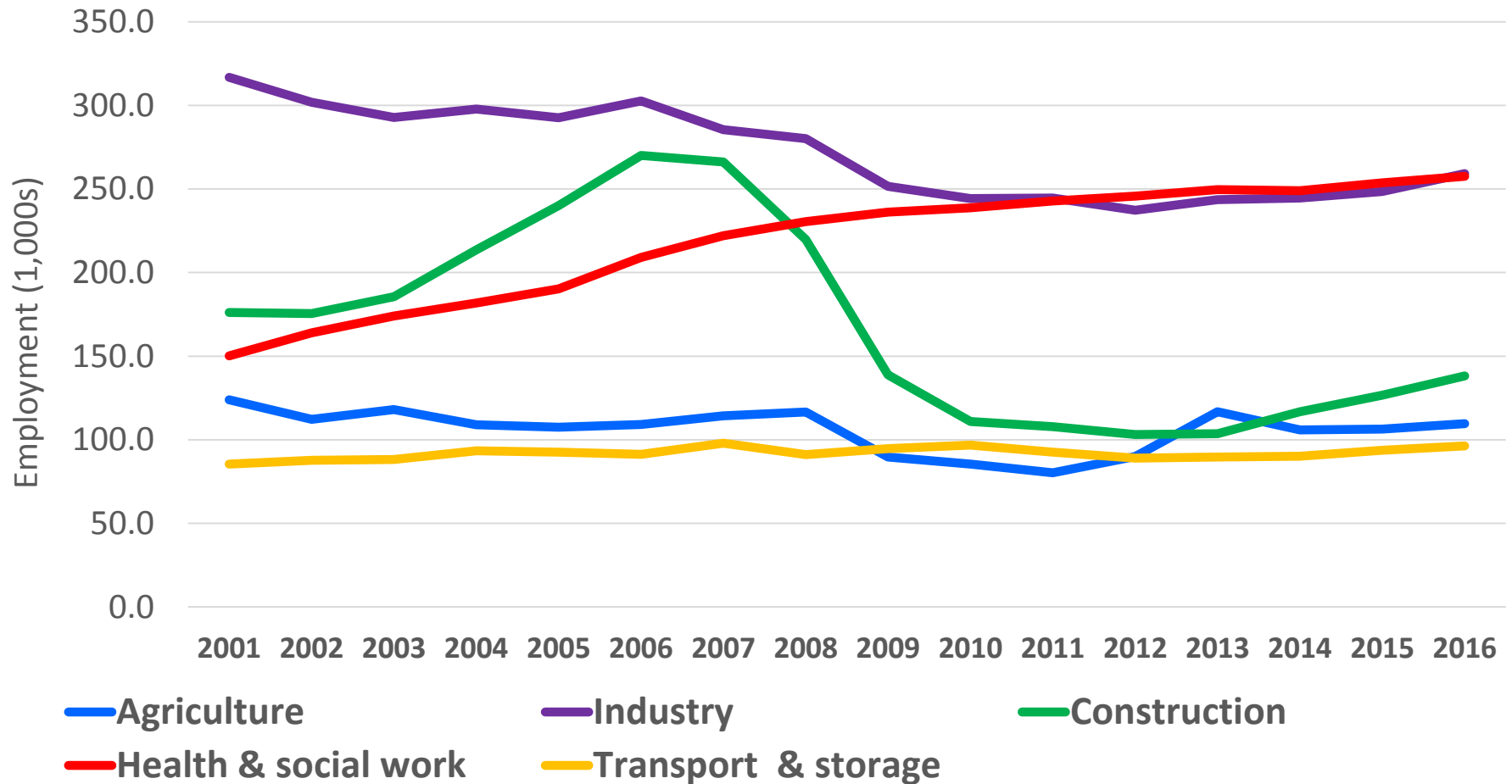
# Research Questions

- How did trends in MSD develop as the Irish economy went through a period of economic growth (2002–2007), recession (2008–2011) and early recovery (2012–2013)?
- What are the characteristics of the individual and of the job/organisation that increase the risk of MSD?

# Context

- 2001 to 2014 period of immense labour market change in Ireland
- Shift from economic growth to crisis, including property bubble and crash
- Substantial changes in sectoral composition (eg: in 2007, 1 in 5 males employed in construction)
- Changes in working time, security, etc.

# Boom to Bust in the Irish Labour Market, 2001-2016



# Data Source and Methodology

- **Non-Fatal Injuries and Illness**
  - QNHS annual module collected by the CSO. Household survey . Years 2002 to 2013
  - N=217,700 respondents over 14 year period
  - **Injury:** has respondent incurred any injuries at work (excluding commuting) over the previous year. Not defined by absence.
  - **Illness:** experienced illnesses or disabilities believed to be caused or made worse by work.
  - Limitation – those most severely injured and out of employment for over a year exclude.
- Sector relates to the main business of the organisation
- Some differences in the design in two years when module were was fielded across Europe for EU LFS – data for 2006 and 2012.

# Definition & QNHS Measurement of Illnesses

- MSD includes inflammatory & degenerative conditions affecting bones, muscles, tendons, ligaments, joints & peripheral nerves (Punnet & Wegman 2004)
- Asked of those currently in employment or worked in last 12 months (no proxy respondents)
- How many, **illnesses or disabilities**, have you experienced during [12 month period] that you believe **were caused or made worse by your work?**
- Which best describes your most recent work related illness?

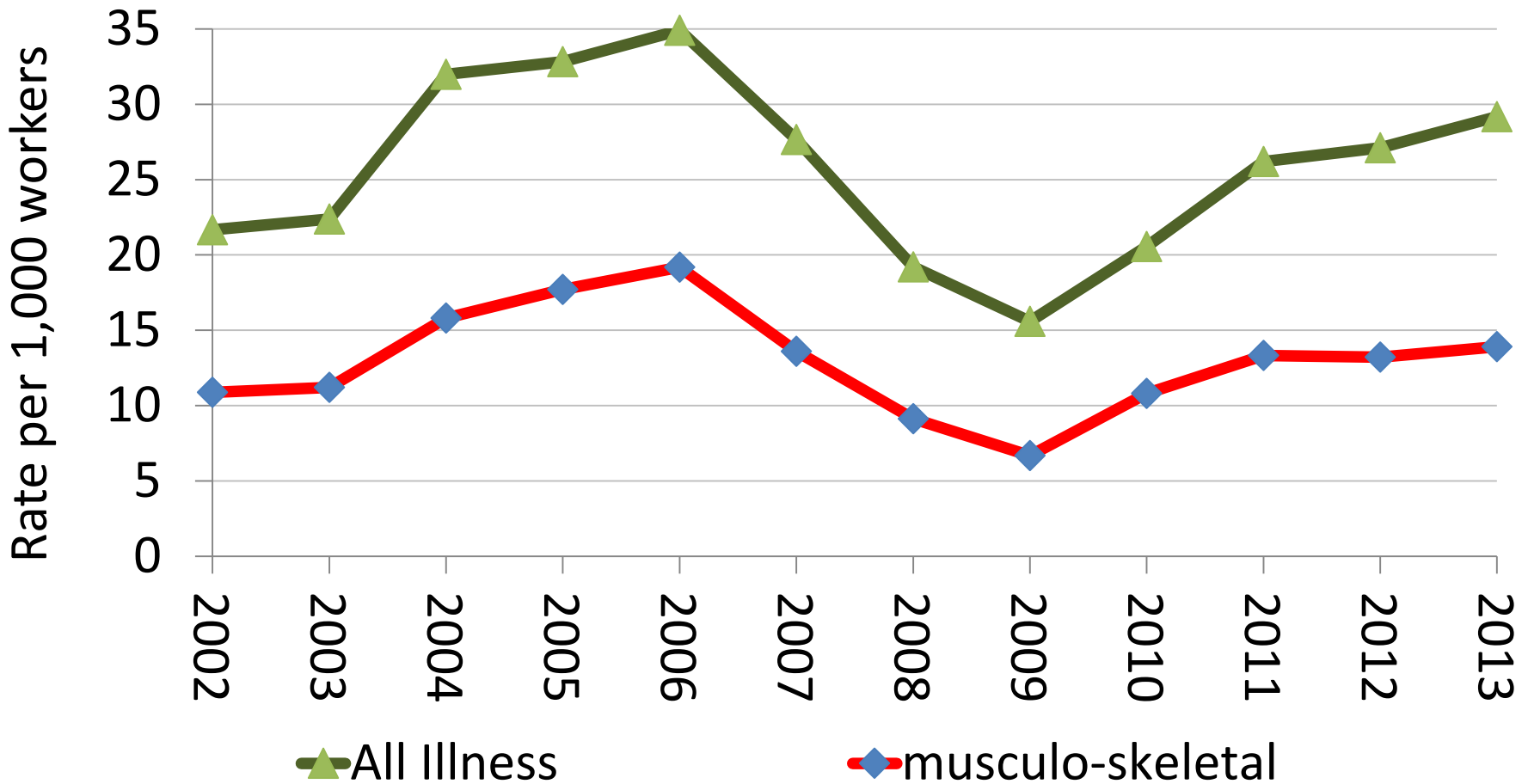
- **Bone, joint or muscle problem**

- Stress, depression or anxiety
- Headache and/or eyestrain
- Breathing or lung problem
- Heart disease or attack, or other circulatory problems

- Skin problem

- Disease (virus, bacteria, cancer or other type of disease)
- Hearing problem
- Other types of complaint
- Not applicable

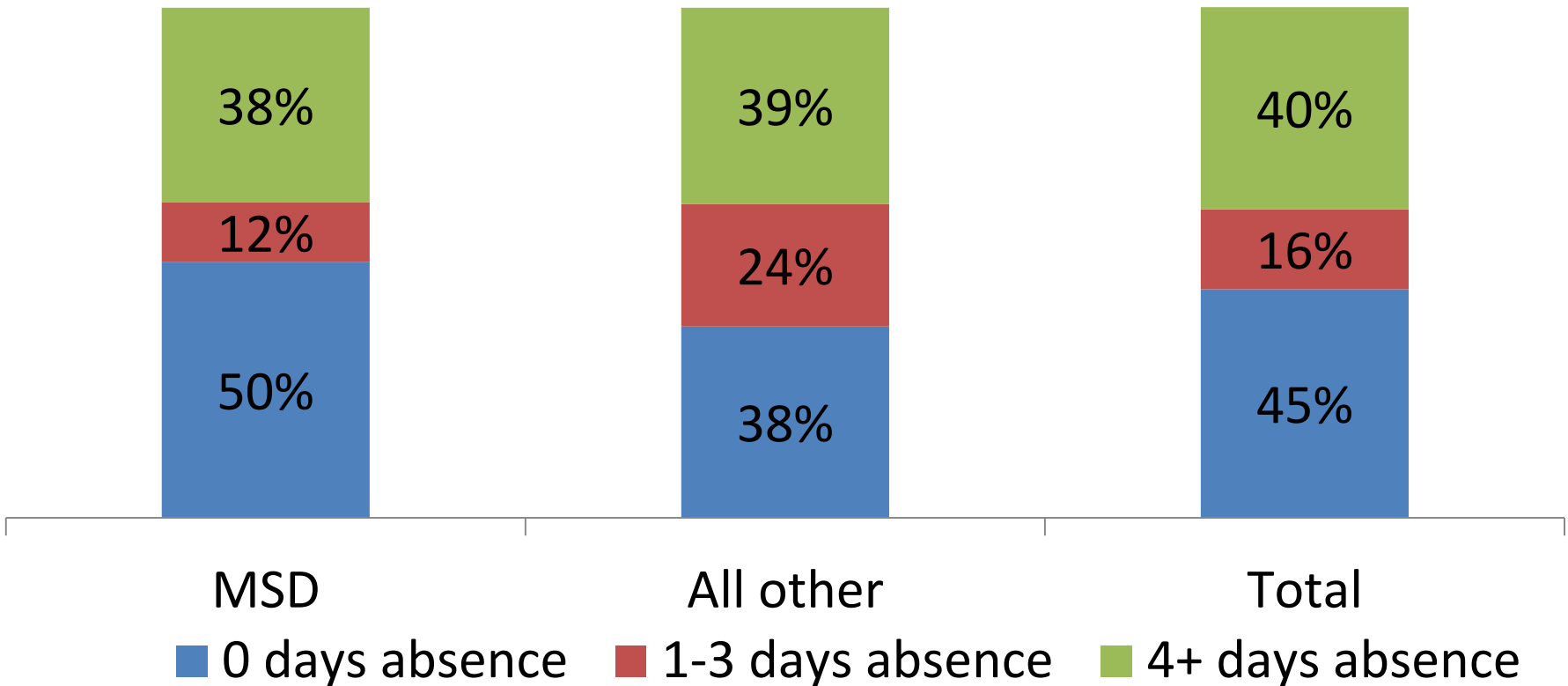
# Trends in MSD, 2002-2013





# Length of Absence in 12 Months, Most Recent Work-Related Illness

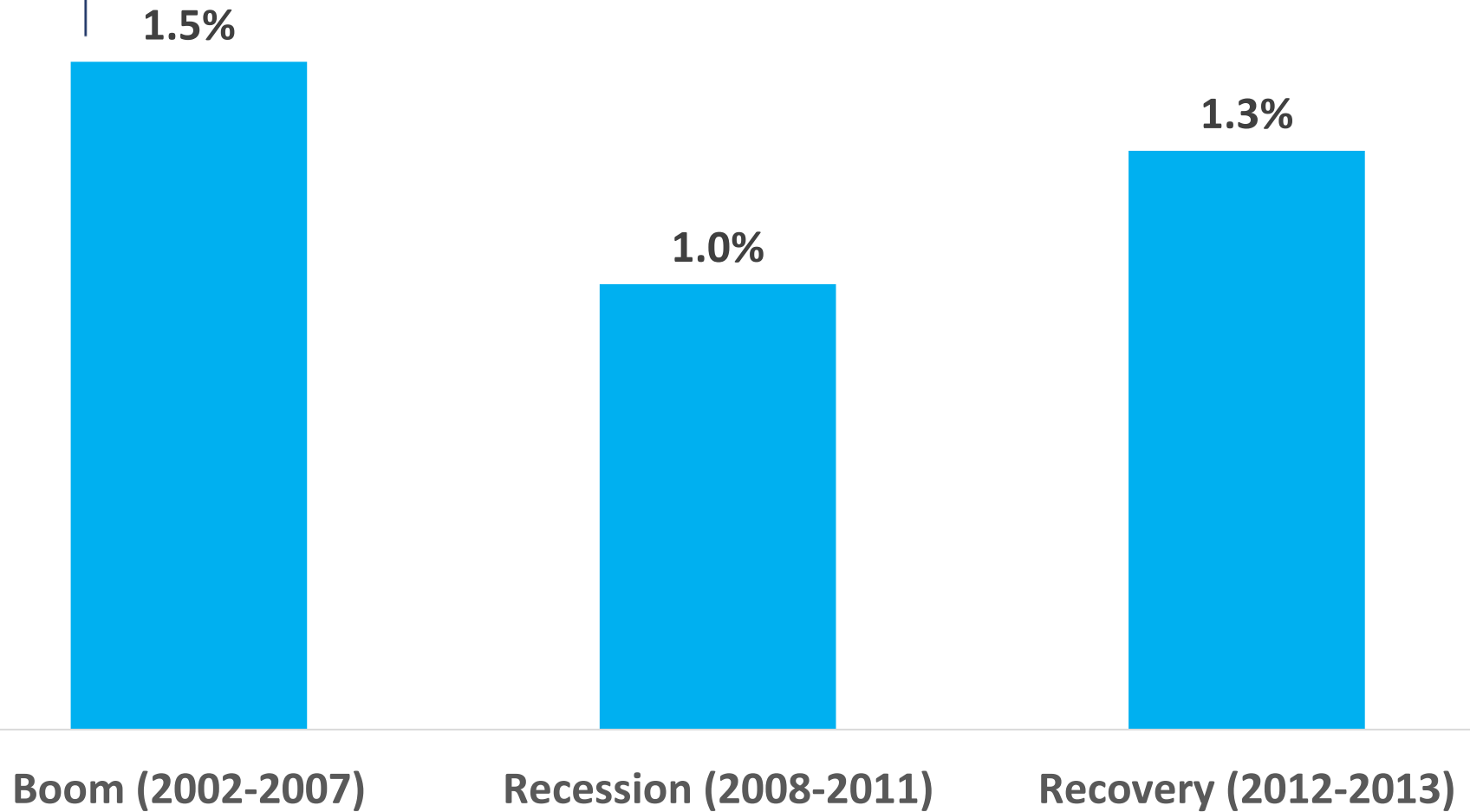
*Analysis includes all illness, even if there was no absence*



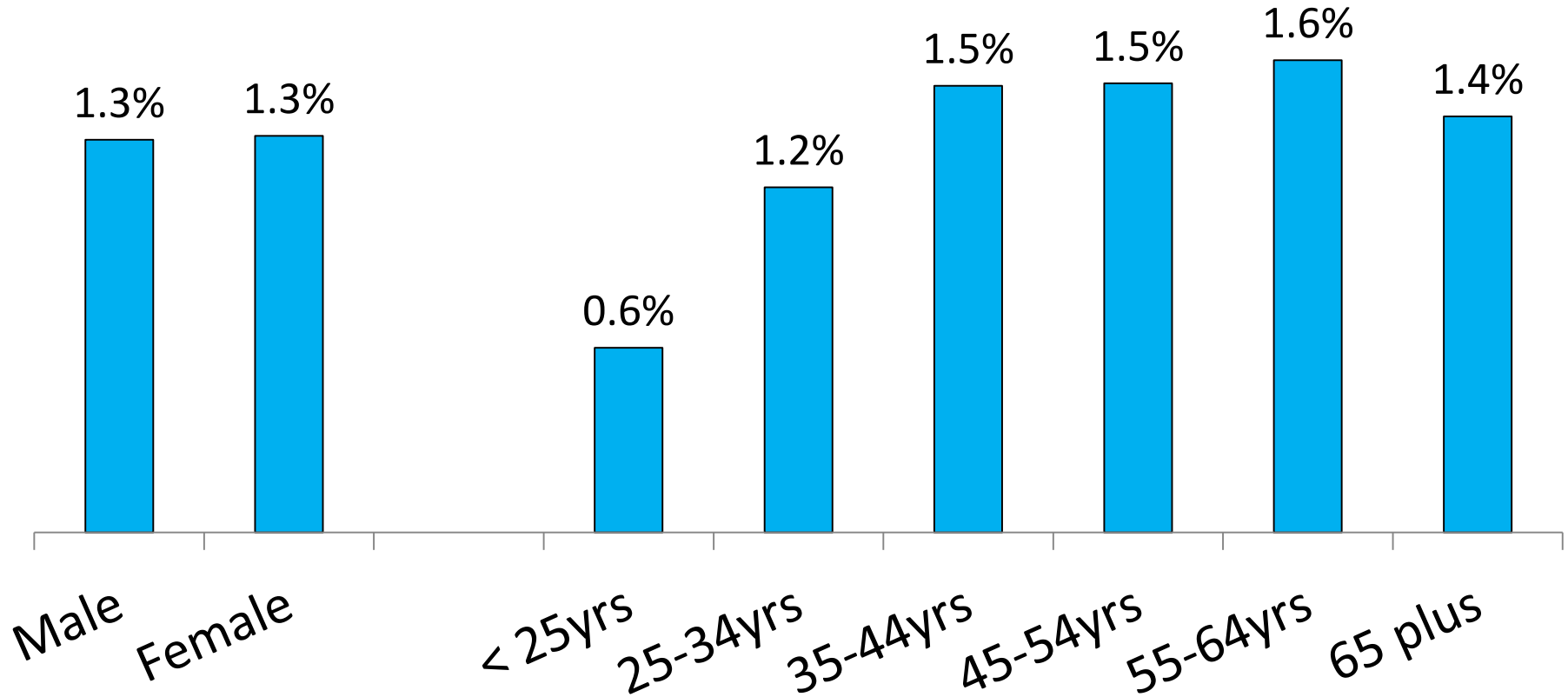
# Method: logistic regressions

- The following graphs present adjusted risk of experiencing MSD across a range of categories.
- Models ‘control’ for a range of other factors to get independent effect of each characteristic (eg. effect of age holding sector, hours of work etc. constant).
- We test effect of economic cycle with control for boom, recession and recovery period.

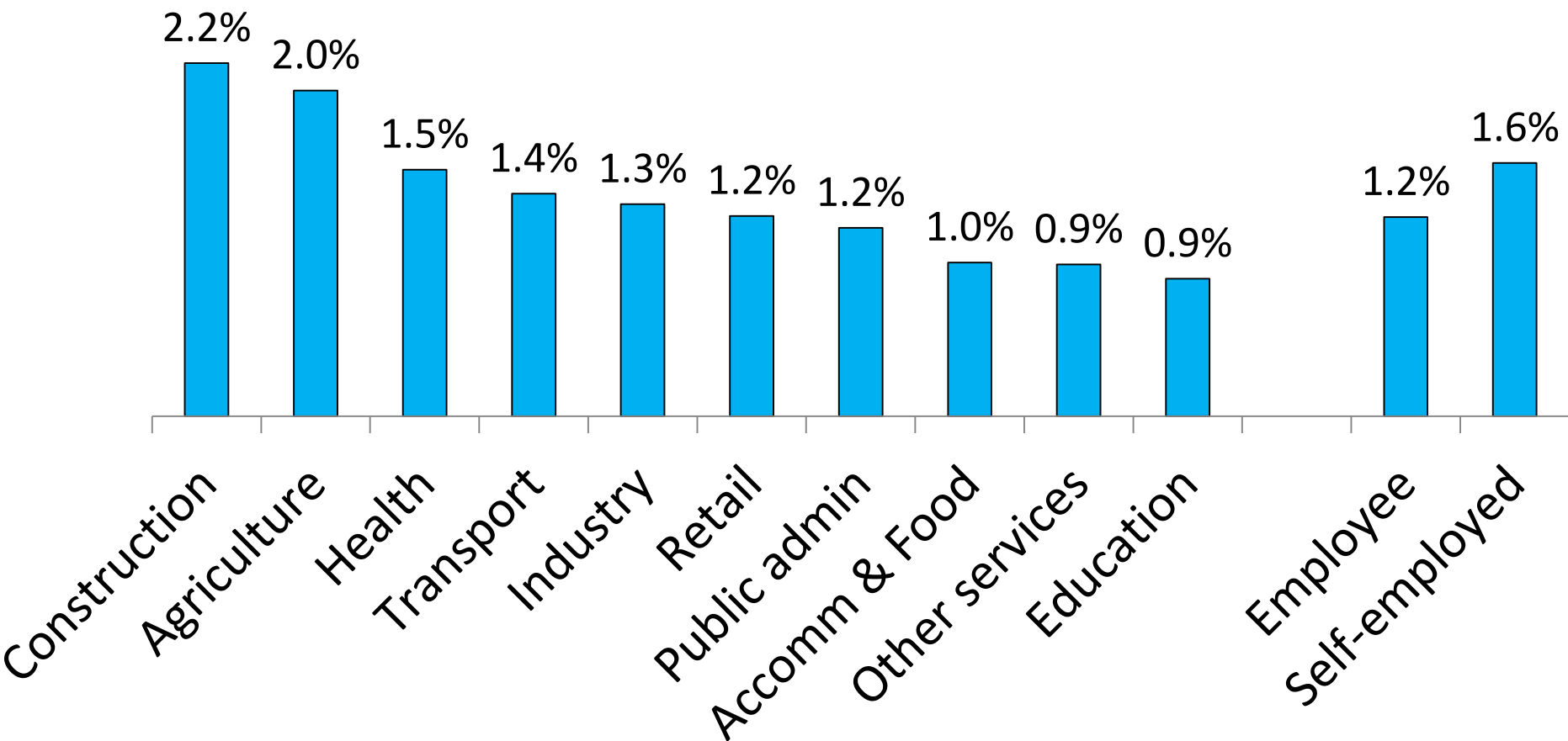
# Expected % Experiencing MSD over Time, 2002-2013



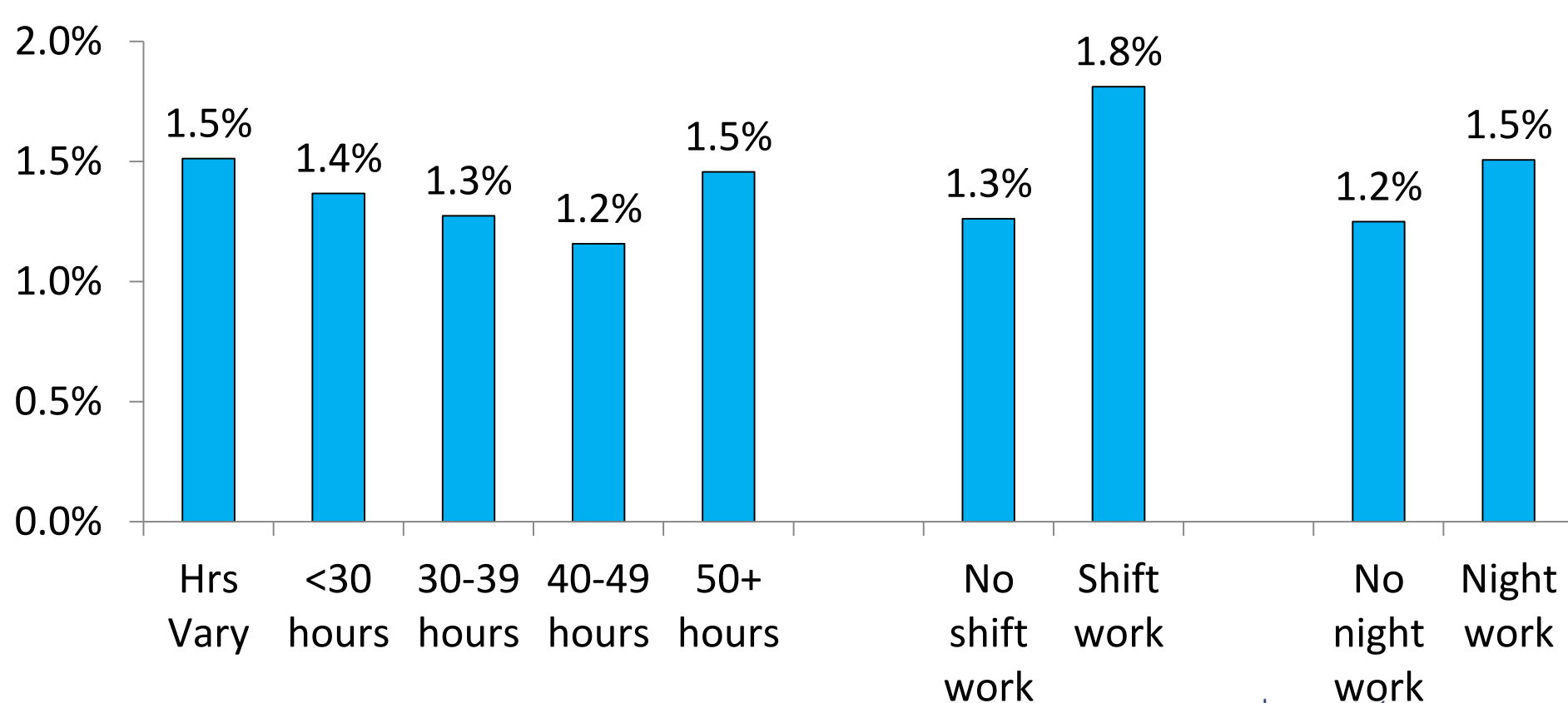
# Expected % Experiencing MSD by Personal Characteristics & Status, 2002- 2013



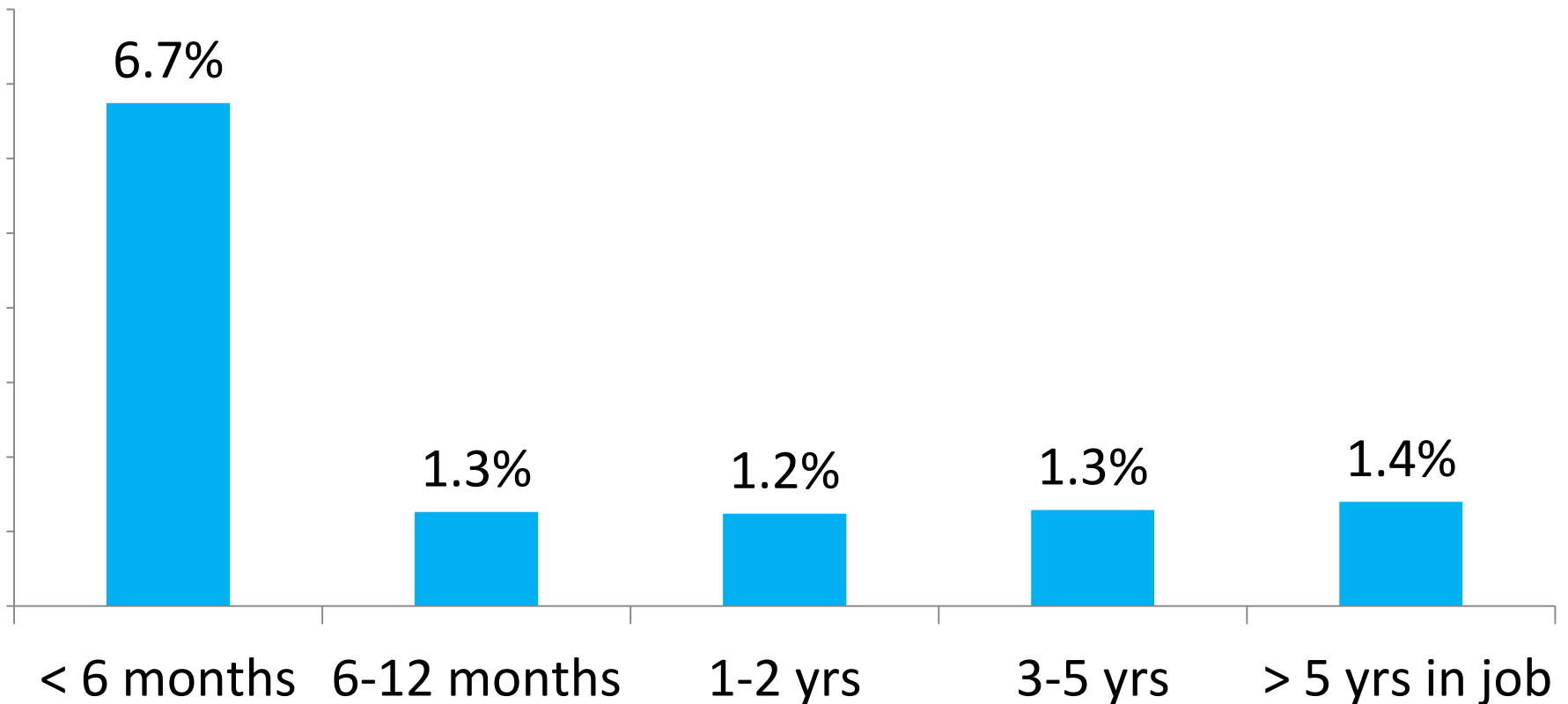
# Expected % Experiencing MSD by Sector & Status, 2002-2013



# Expected % Experiencing MSD by Work Characteristics, 2002-2013



# Adjusted % for MSD for Job Tenure Adjusted Full-year equivalent (per month worked), 2002-2013



# Annual Inspection Rate per 1,000 workers, 2001-2013

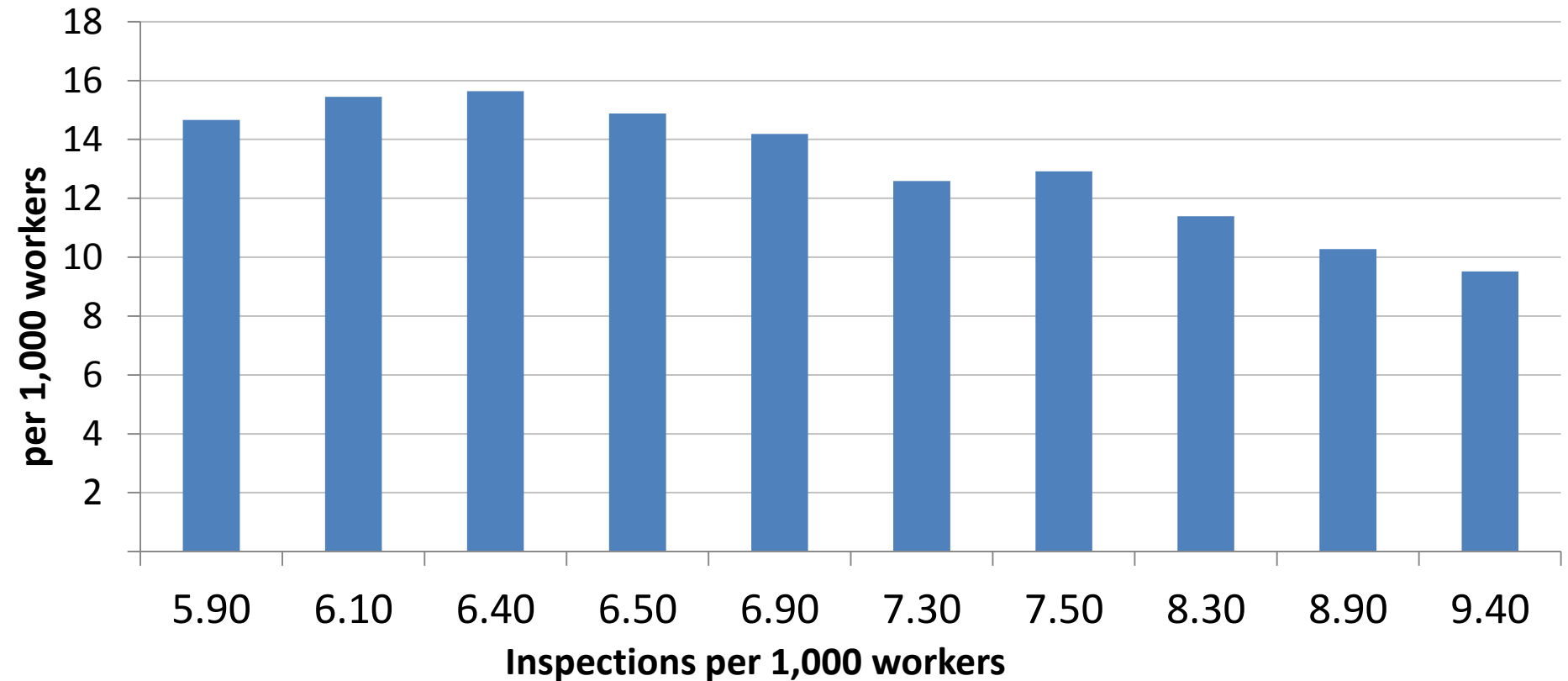


Source: HSA annual reports

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# Modelled MSD rate per 1,000 workers by Inspection Rate



Source: HSA annual reports

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# Conclusions: Lessons for Policy

- Monitoring of high-risk sectors (agriculture & construction) and practices (e.g. shift work, night work)=>specific attention and options for changes in work organisation.
- Targeting of specific groups with high risks
  - Older workers=> adapt working conditions
  - self-employed workers
  - New recruits – training & supervision
- Correlation with inspection rate suggests monitoring, general regulation and prevention effort makes a difference
- Pro- cyclical relationship mean that without countervailing action rates will increase in recovery

# Thank You