



**AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY**

The Irish Agriculture and Food Development Authority

# **Farm Fatalities in Ireland (1993 – 2014)**

## **Data Visualisation**

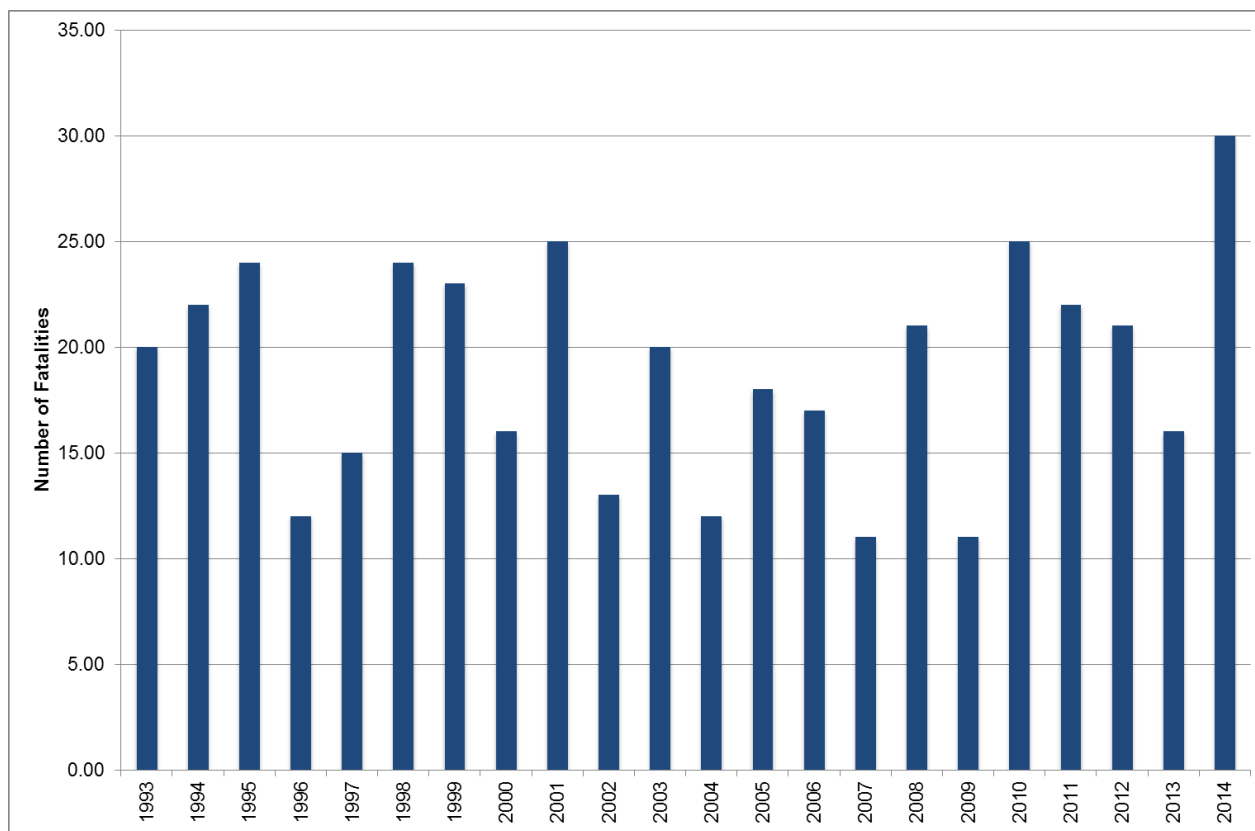
Dr David Meredith,

Rural Economy Development Programme, Teagasc, Ashtown,  
Dublin 15

Dr John McNamara, Health and Safety Officer, Teagasc, Kildalton,  
Co. Kilkenny

# TRENDS IN FATALITIES

# Number of Fatalities: 1993 – 2014

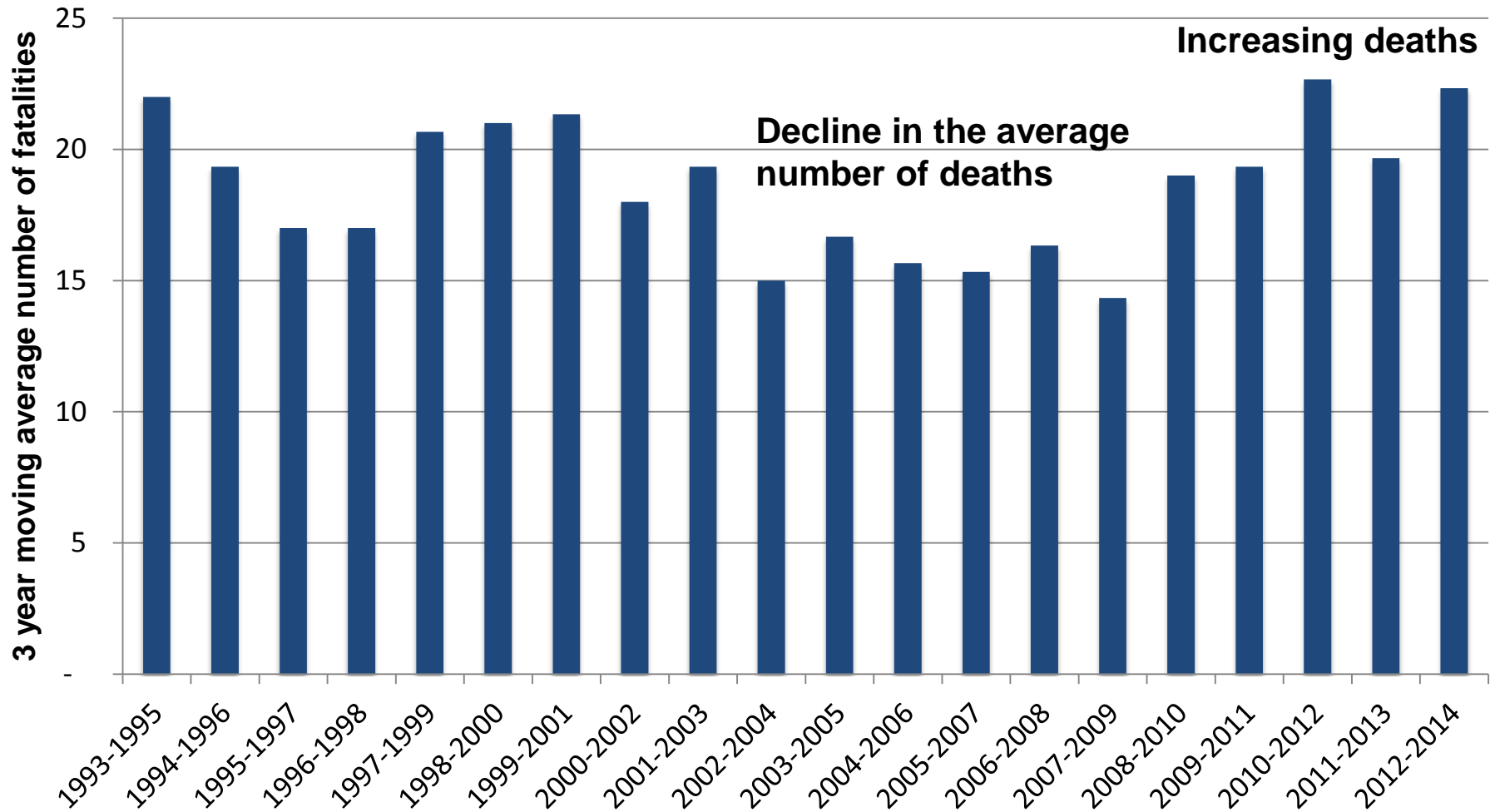


- No obvious trend
- Substantial annual variation
  - Average = 19
  - StDev = 5.29
- The impact of 2014 is substantial but part of a recent trend.
  - The average was 18.45 and StDev 4.75.

## There are interesting features:

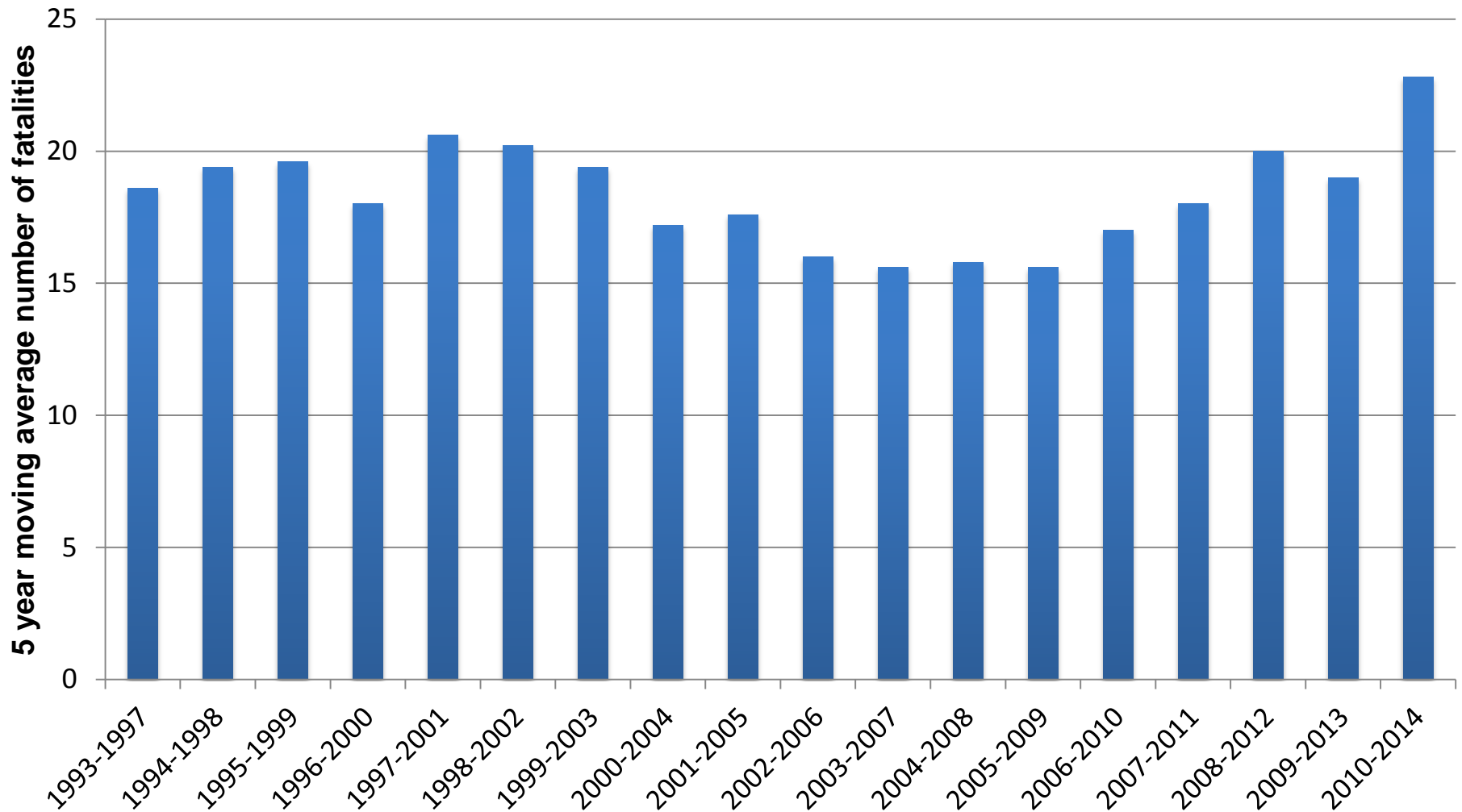
**Years with above average fatalities tend to be followed by years with lower number of fatalities – regression to the mean or something much more interesting?**

## Average Fatalities (3 year average)



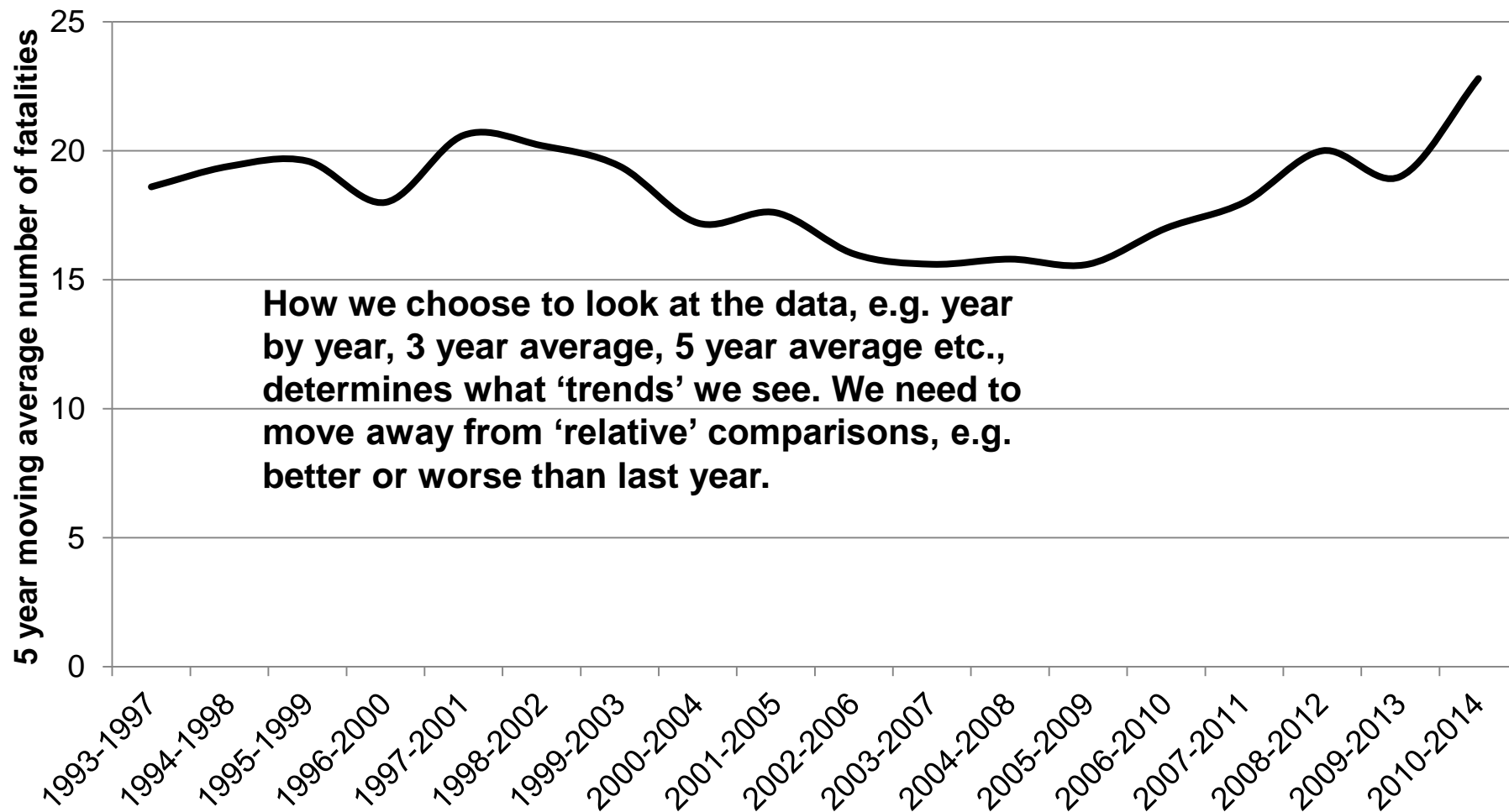
This graph depicts the smoothed average number of fatalities per three year period, e.g. 1993 – 1995, for the 1993 - 2014 period. The smoothed average has the advantage of ‘smoothing out’ some of the year-to-year variability in fatalities. For example, in 2008 there were 18 deaths, 2009 = 9 deaths and 2010 = 25. The smoothed average for 2008-2010 was 18.

## Average Fatalities (5 year average)



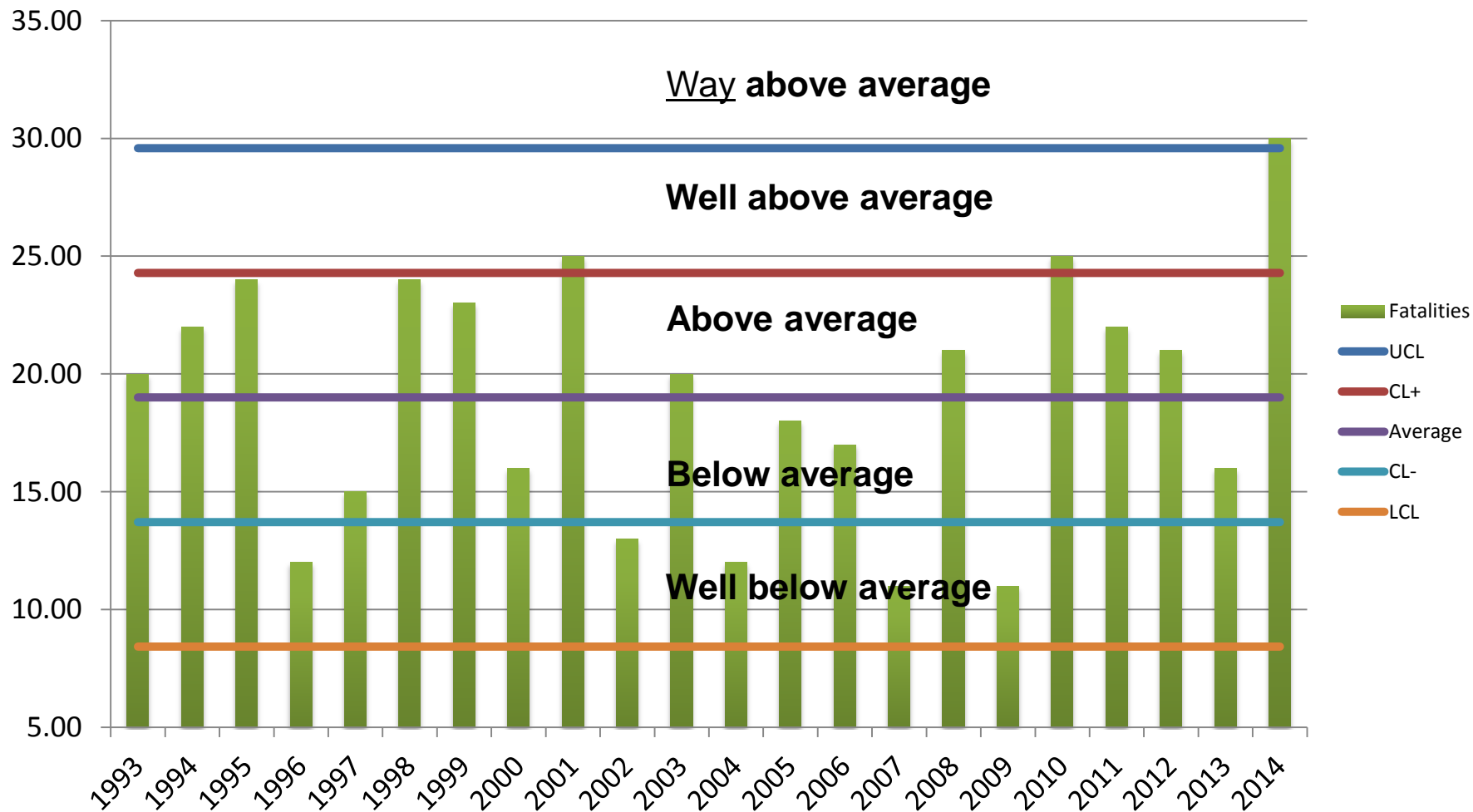
**This graph is similar to the previous one. The difference is the use of a five year period. The use of a longer period has the result of suppressing the year to year variation. It is useful in the identification of longer-run trends. We see the recent trend towards increasing fatalities started during the 2006 – 2010 period. This suggests an association with changes in the farm population**

## Average Fatalities (5 year smoothed average)



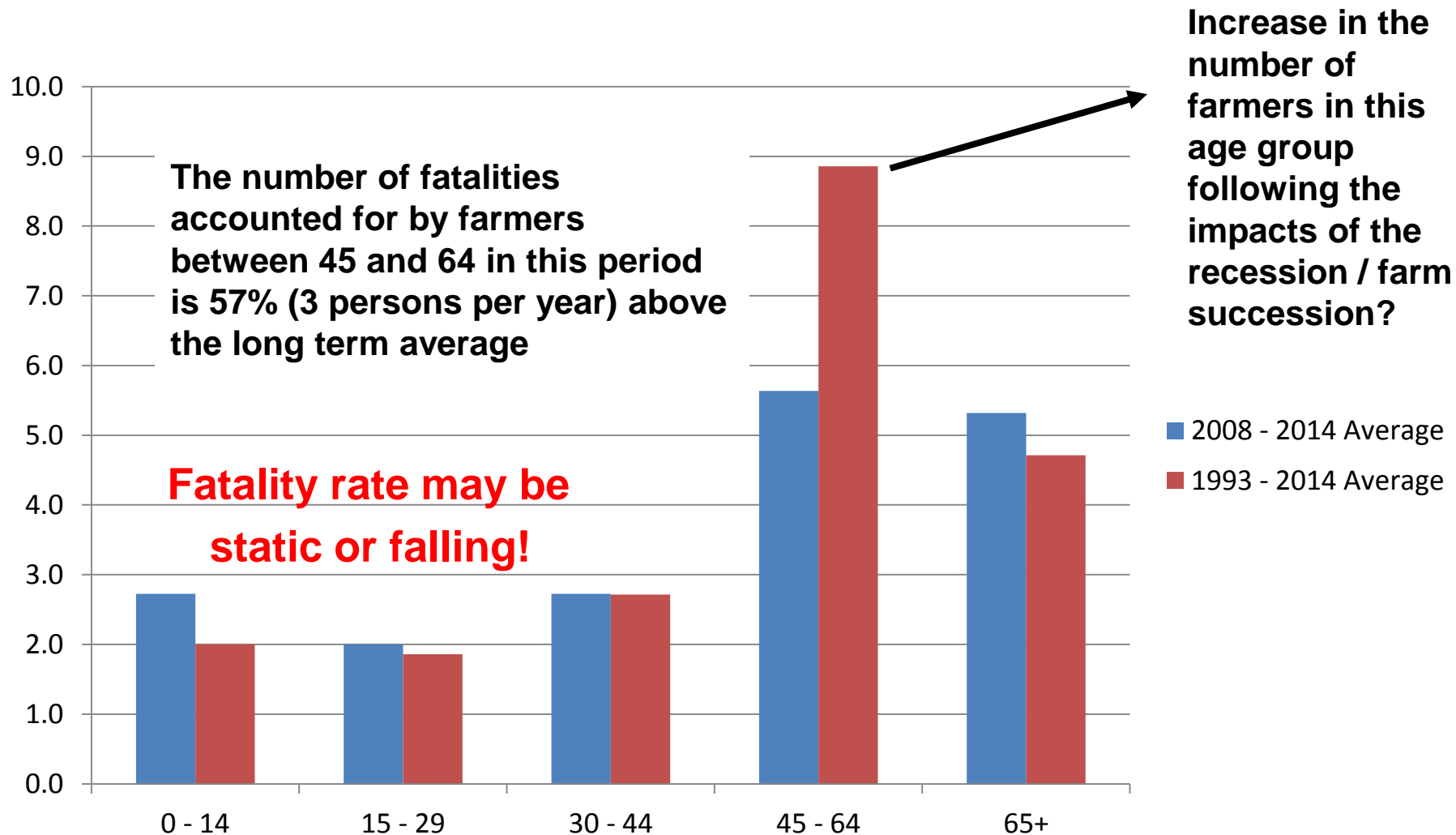
# Statistical Process Control

Using this approach we see that, since 2008, fatalities are generally above average



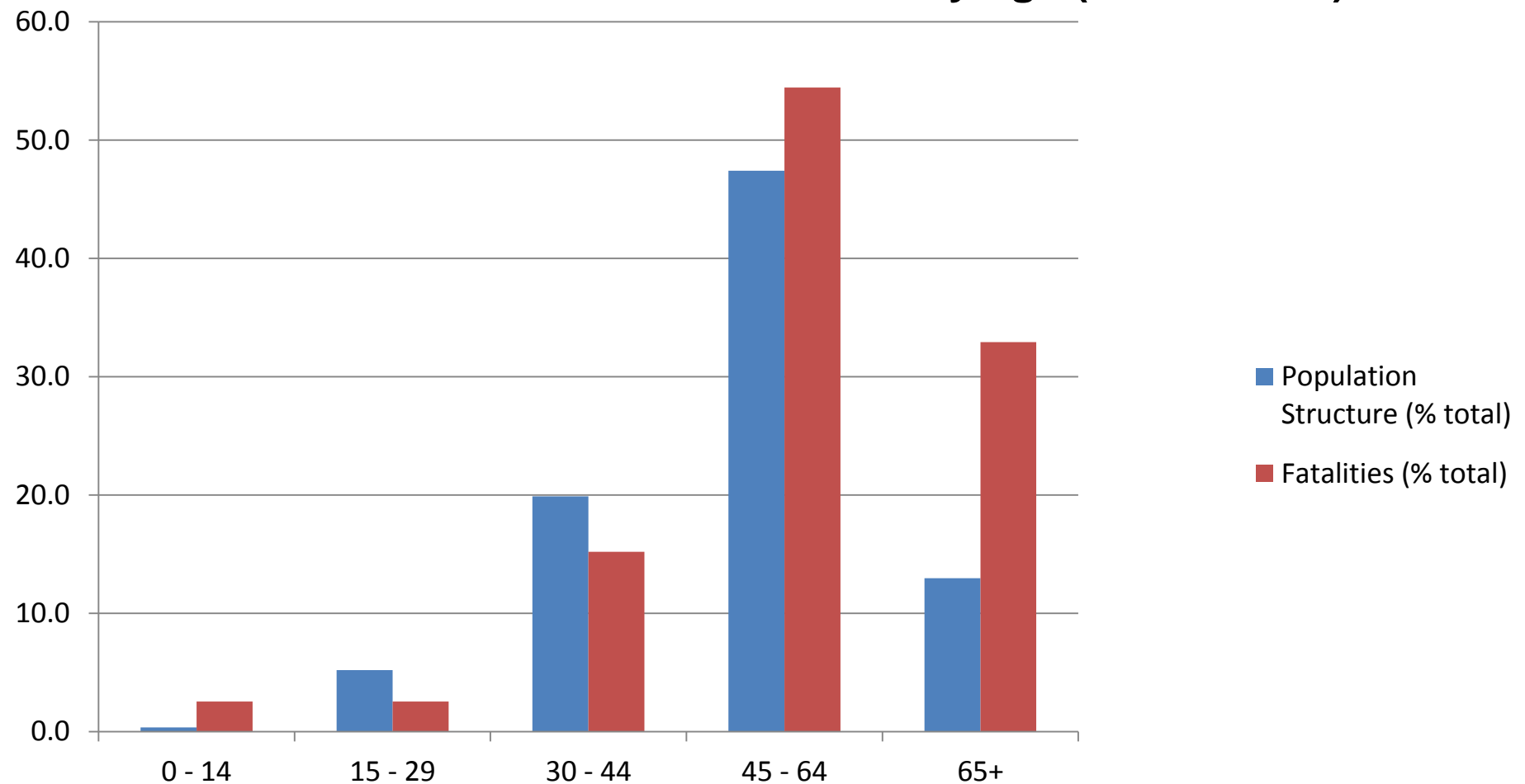


# What's behind recent trends in farm fatalities? (2008 – 2014)



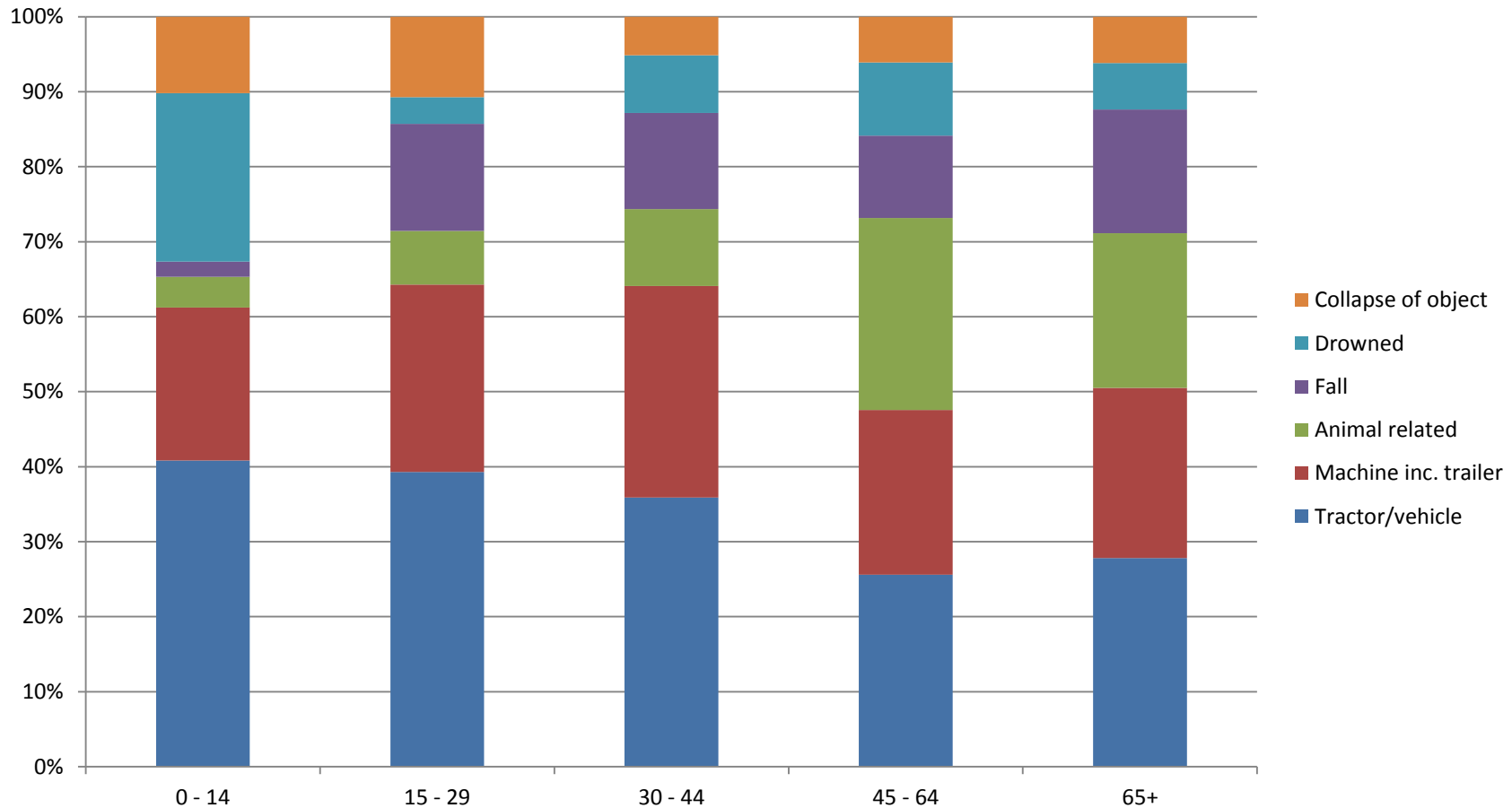
The increasing number of deaths amongst this population is most likely associated with an increase in the number of farmers in this age group following the impacts of the recession which saw a large number of people returning to farming following the loss of off-farm employment. It is also possible that this population is growing as a consequence of farm succession, i.e. relatively younger people (those in their 40s and fifties) are inheriting farms.

## Relative distribution of farm fatalities by age (2011 – 2014)



**The increasing number of deaths amongst this population is most likely associated with an increase in the number of farmers in this age group following the impacts of the recession which saw a large number of people returning to farming following the loss of off-farm employment. It is also possible that this population is growing as a consequence of farm succession, i.e. relatively younger people (those in their 40s and fifties) are inheriting farms.**

# Age and types of fatalities



The type of fatality changes over the lifecourse, younger people are more likely to experience a fatal accident involving a tractor, machinery or by drowning. Farmers over 45 years of age die from accidents generally involving trips/falls, machinery/tractors and

# Conclusions / Recommendations

- We need to move from relative comparisons in the number of fatalities to consideration of the rate of fatalities e.g. number of deaths per hour worked.
- We need to change how we consider 'trends'; annual comparisons are natural but not particularly useful in terms of developing a strategy. Consideration should be given to setting strategic targets e.g. to reduce deaths below the long run average (19 per year) in the next X number of years.
- We need to enhance awareness amongst farmers and encourage change in behaviours that result in accidents. Research will explore the effectiveness of discussion groups in terms of their capacity to influence safety behaviour on farms.

# ACKNOWLEDGEMENTS

We would like to express our appreciation to the HSA for providing the data used in this analysis and their support for research into occupational health and safety issues on farms

# Age Structure of Annual Farm Fatalities

