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Recessions and Disability Experience Around The World

Peter Banthorpe

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Agenda

- Quick Primer
- Prior studies of recessions and disability experience:
  - US
  - Canada
  - Australia
  - South Africa
  - UK
- Experience during the last recession
- Conclusions

A Quick Primer

Recessions

- Generally defined as “two consecutive quarters of negative growth”;
- Associated indicators:
  - Company earnings fall;
  - Unemployment rises;
  - Consumer and business confidence falls;
- Recent Recessions
  - Late 2000’s recession
  - Early 2000’s recession (US only)
  - Early 1990’s
  - Early 1980’s

What is bad for disability experience?

Booming economy	Recession
Pro-cyclical effects	**Anti-cyclical effects**
– More pressure to work harder; – New staff are inexperienced so have more accidents; – More relaxed claims management; – Tightness in labour market leads to less healthy recruits;	– As pay/benefits decline attractiveness of disability increases; – Employer cost control, substitute for redundancy.

Prior studies of recessions and disability experience

United States

- Effect of Economy on Group LTD Claims (1977)
- M&A Impact on Group LTD Incidence (2000)
- Unum Incidence Study (2004)
- Aetna Incidence Study (2009)

Effect of Economy on Group LTD Claims (1977)

- Study by Donald Doudna, Assistant Professor, Central Michigan University
- Developed linear model to predict GLTD claim rates.

Effect of the Economy on Group Long Term Disability Claims

DONALD J. DOUDNA

ABSTRACT

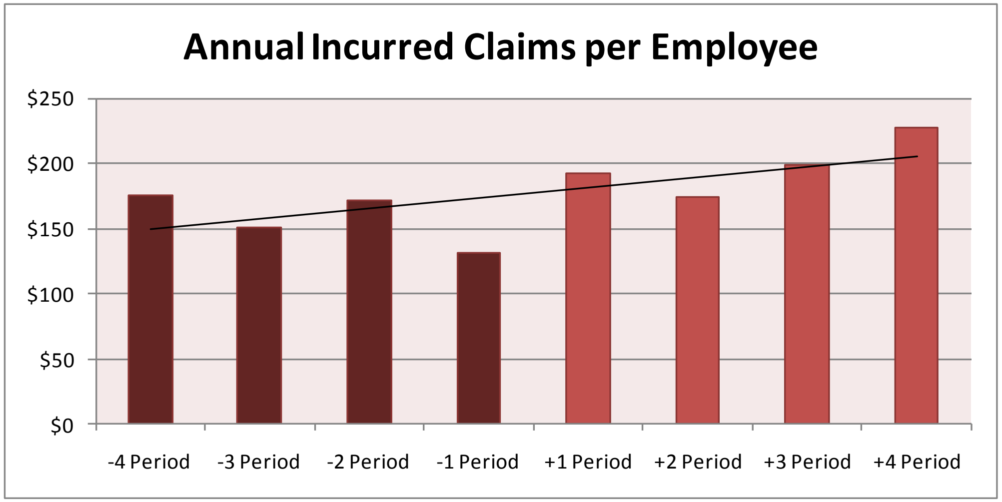
This article seeks to isolate the effect of selected economic variables on group long-term disability claims. It demonstrates quantitatively that disability claims are responsive to shifts in the economy and suggests a model for predicting changes in disability claim rates. This model may be useful in designing and costing a viable group long-term disability insurance program.

Effect of Economy on Group LTD Claims (1977) Conclusions

- Majority of claim rate movement driven by:
    - unemployment,
    - corporate profits,
    - consumer sentiment,
    - seasonality
- Of these, unemployment was the most significant factor

M&A Impact on Group LTD Incidence (2000)

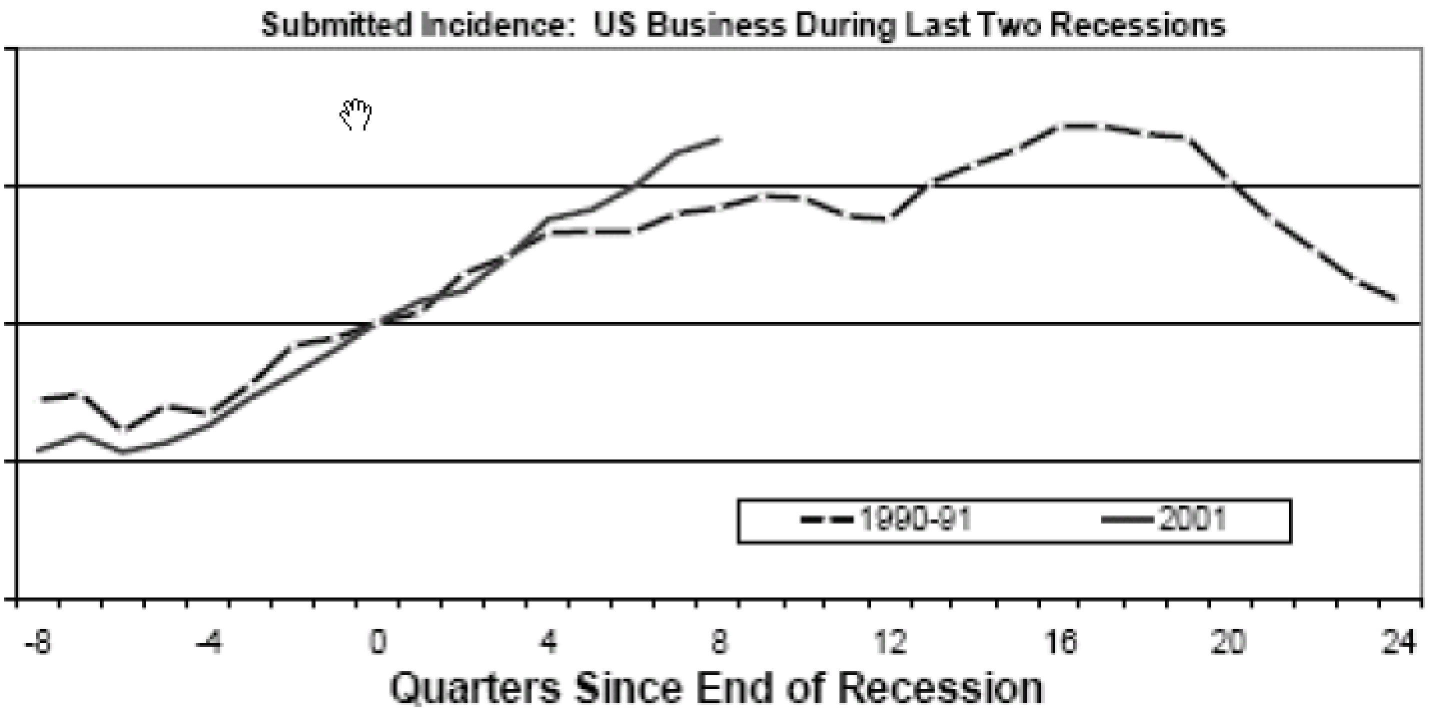
- Study by one U.S. insurer found LTD incidence rates and loss ratios increased immediately after M&A activity*



- Incidence rates 10-15% higher after M&A date
- Annual incurred claims per employee were 21% higher
- Activity not driven by psychiatric, age, or severity

*Source: ING (RGA) Reinsurance Disability Forum, 2000, Vol. 7, No. 2

Unum Incidence Study (2004)



Incidence is indexed to the end of each recession.

Source: UnumProvident LTD Block; SOA 2004 Spring Meeting

Conclusions of Unum Incidence Study

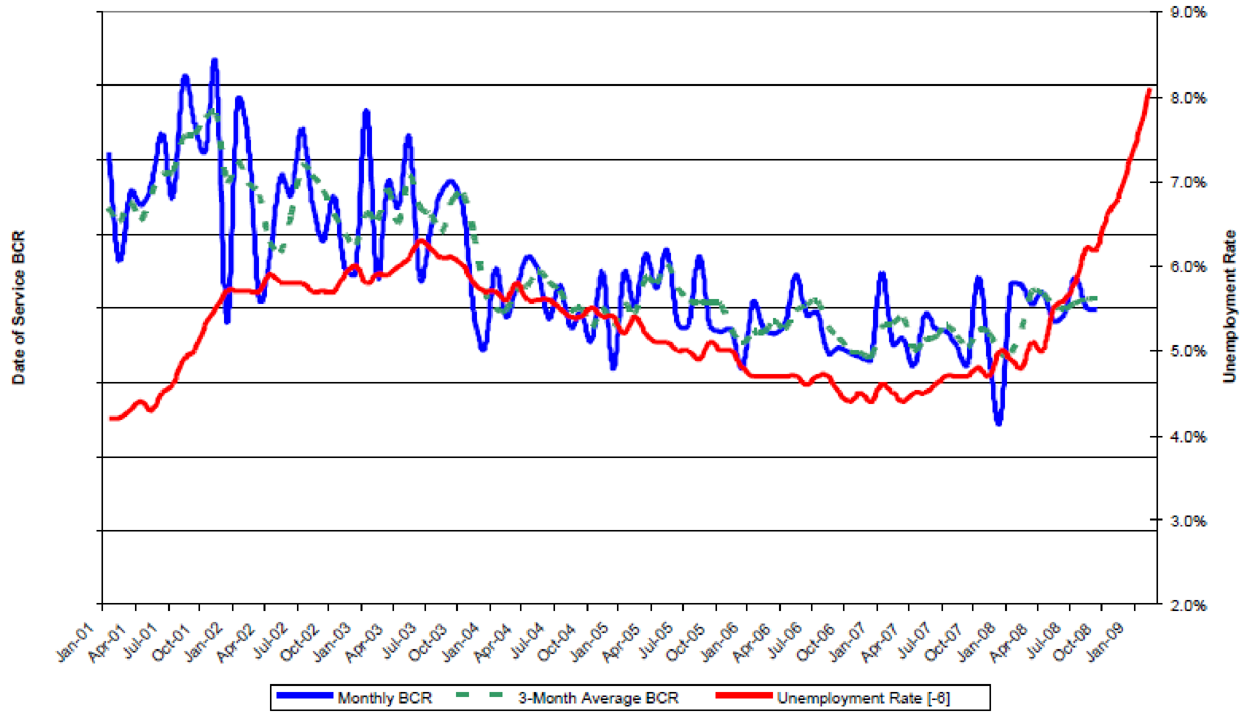
Indicator	When Indicator is…	Pd. Incidence Avg
Unemployment Rate	less than 5.7%	100
	5.7% or higher	112
Consumer Confidence	108 or higher	100
	91 to 107	105
	90 or less	111
Spread Between 10-Year Treasury Yield and Fed Funds Rate	less than 230 bp	100
	230 bp or more	110
Employment Growth	1.4% or greater	100
	less than 1.4%	106

Based on UnumProvident Corporation's Total Paid Incidence 1Q88-4Q02 (60 Quarters) - *indexed to 100*

2009 Aetna Study: LTD Benefit Cost Ratio

We want you to know®
Aetna®

Correlation coefficient
As of Jan'09 +0.70 (adj. for recent shock)
+0.44 (without adj for shock)



Reasonably <u>high correlation</u> with unemployment

Source: Hartford Actuaries Club (Jeff Stock, Aetna) – June 3, 2009

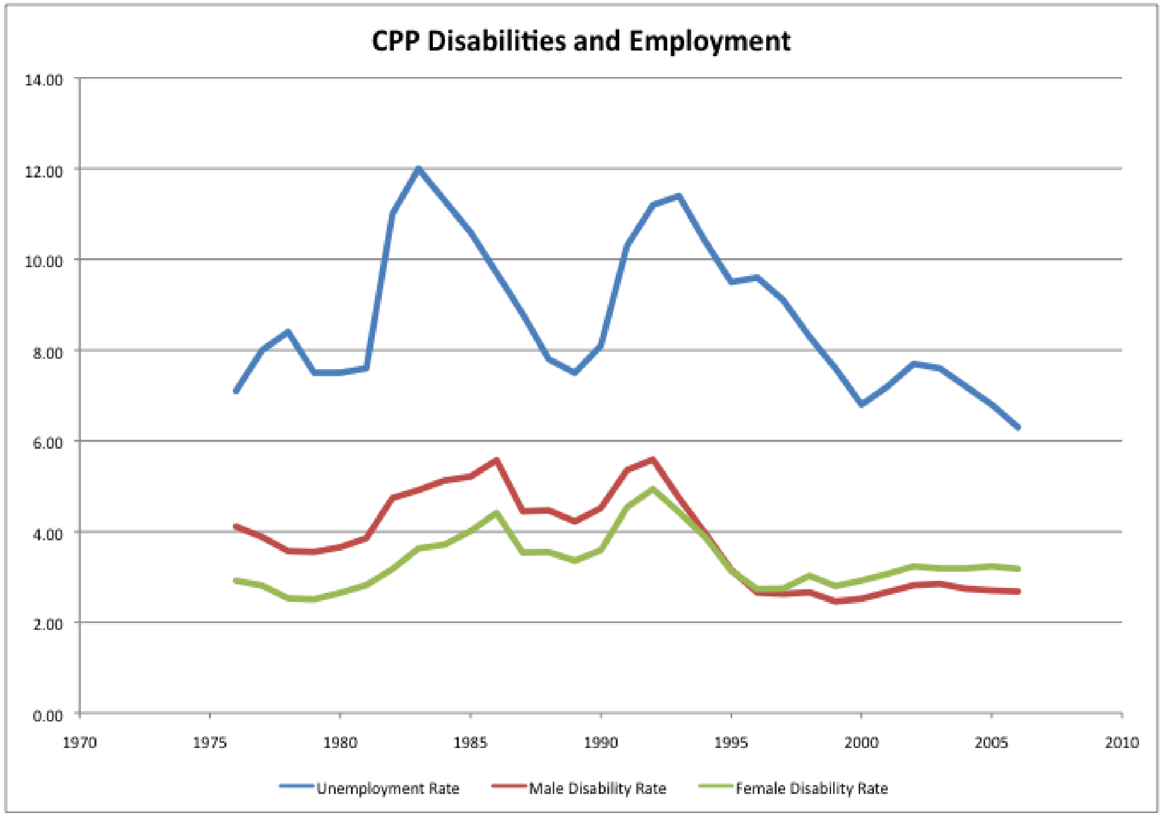
Studies Outside of the U.S. (and UK!)

- Canadian Studies
  - CPP Data – incidence rates of public plan
  - Workers Comp Data – incidence rates
  - CIA Data – termination rates

- Australian Study
  - Individual DI – incidence rates & claim durations

- South Africa Study
  - Individual DI Lump Sum – incidence rates

Canadian Incidence Rates – CPP Data



Like U.S. SSDI, the CPP approval rates move with unemployment rate

Canadian Incidence Rates Workers Compensation

Pro-cyclicality - Claim frequencies *decrease* during recessions for the following reasons:

1. **Inexperienced Workers** – young inexperienced workers have much higher WC claim rates than veteran employees, and are the first to be let go during recessions.
2. **Equipment** – older, less safe equipment mothballed during recessions.
3. **Overtime** – additional load and faster pace of work during economic booms results in fatigue and higher injury rates.
4. **Hazardous Occ Cycle** – swings in employment are more pronounced in hazardous industries such as construction, reducing injury rates during recessions.
5. **Job Preservation** – fear of losing job during recession may result in workers deferring claim filings.

Source: *Workers' compensation and the business cycle*, Institute for Work & Health, March 2009

Canadian Termination Rates – CIA Data

A/E ratios generally improved over time regardless of changes in unemployment!

Australian Analysis of Economic Link

Disability Experience and Economic Correlations – Service & Ferris (2001)

- 1974-1995 experience period
- Analysis of incidence rates and claim durations against economic measures
- 24 economic variables pared down to 12 including: Unemployment, Consumer Confidence, GDP, Bankruptcies, Vehicle Registrations, Hours Worked, Participation Rate, Dwelling Approvals

Australian Analysis of Economic Link

Disability Experience and Economic Correlations – Service & Ferris (2001)

- A select few economic variables demonstrated high correlation with disability experience: "the results are credible evidence which supports the widely held view that disability experience is materially affected by economic conditions."

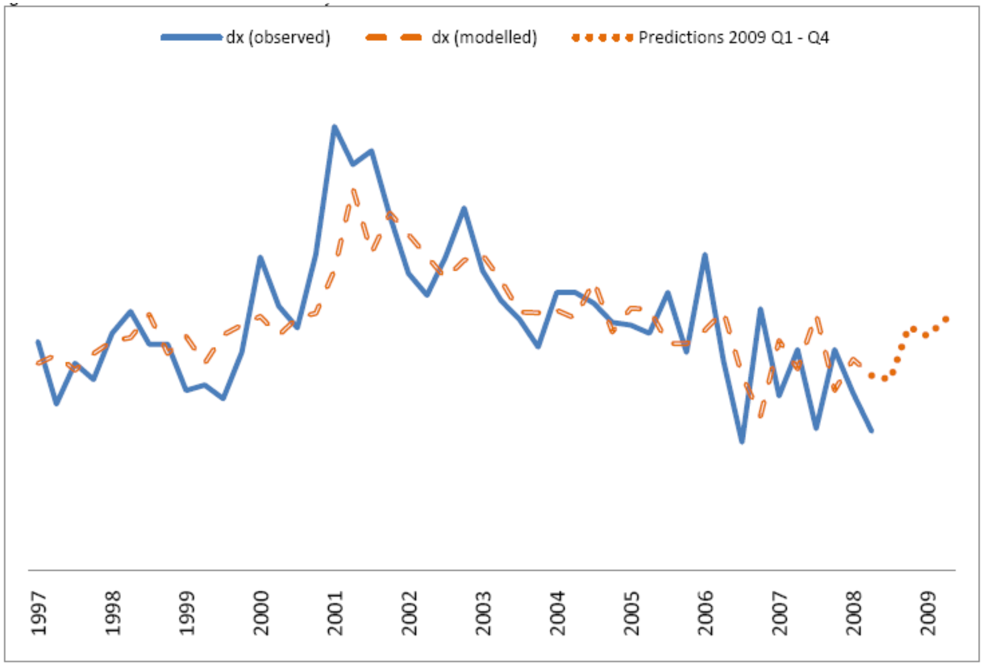
Disability Metric	Economic Variables	R^2 value
Incidence	Participation rate Bankruptcies	0.604
Claim Duration (14 day EP)	Long-term Unemployment Bankruptcies	0.545
Claim Duration (30 day EP+)	Long-term Unemployment	0.545

- "Determining the relationship between disability and the economy is a subjective and complicated process."

South Africa Disability Incidence Study

Schriek & Lewis (2010)

- Study of Individual DI (lump sum) claim incidence over last decade
- Regression analysis performed using: Unemployment, Consumer Confidence, Business Confidence, and GDP
- R^2 statistic of nearly 50% implies that half of IDI claim rates are explained by the model



UK Studies

- Renshaw and Haberman (1998)
- Renshaw and Haberman (1999)

The cyclical appearance of these curves leads to the suggestion of an association with indices of the economic cycle, and a pausible causal link. In particular, there is a pronounced local minimum in the years 1981-82 (the depth of which is somewhat more extreme than that predicted by the model) coupled with a localised maximum in the years 1990-91. We note that Haberman & Walsh (1998) found difficulties in establishing a plausible causal link with a range of economic measures, albeit for a more restricted data set. This remains an area for future investigation.

Summary of Past Studies

- US, Australian and South African market appears to be anti-cyclical;
- Canadian market probably anti-cyclical;
- Conflicting views on UK;

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Experience During the Last Recession

Experience During the Last Recession

- US Surveys
  - RGA Survey on Economic Impact (2009)
  - EMPAQ Annual Report (2009)
  - CDA Claims Survey (2010)
  - RGA Survey on 2010 LTD Claim Activity
- US Carrier Results
- Some International Perspectives

RGA Reinsurance Industry Survey Incidence Rates

- Majority of participants felt economy had minimal impact on incidence or that incidence rates had declined
- “Some industries with increasing incidence rates are offset by tendency of employees in other sectors to hang on to their employment or RTW more quickly in order to avoid losing job”
- “We have experienced more instances in which claims submitted were not eligible because their hours were reduced below plan”

RGA Reinsurance Industry Survey
Recovery Rate

- 78% felt recession had not affected recovery rates, however…
- 56% felt recession has dampened employers' willingness to support RTW
- "There is less willingness to hold jobs open or make accommodation to allow some to return to work"

EMPAQ Annual Report (2009)

- Developed by NBGH, survey of employers to provide benchmarking statistics
- “Recession Fueled Decline in LTD Claims in 2009”
- “Long-Term Disability Costs Surged” (?)
- The facts:
  - ✓ Incidence dropped by 26% from 2008 (4.6/1,000 to 3.4/1,000)
  - ✓ Average Cost per Claim increased by 25%

National Business Group on Health
EMPAQ® ANNUAL REPORT
PROGRAM YEAR 2009

Improving Health, Productivity & Human Capital

Executive Summary

The Employer Measures of Productivity, Absence and Quality™ (EMPAQ®) was developed by the National Business Group on Health to provide employers with a way to measure the health and productivity of their workforce. EMPAQ® consists of a set of standardized metrics that allow large employers to benchmark themselves against other employers within their industry and the nation in eight different program areas: short-term disability, long-term disability, workers' compensation, group health, family and medical leave, incidental and total absence, as well as employee assistance programs and health management programs.

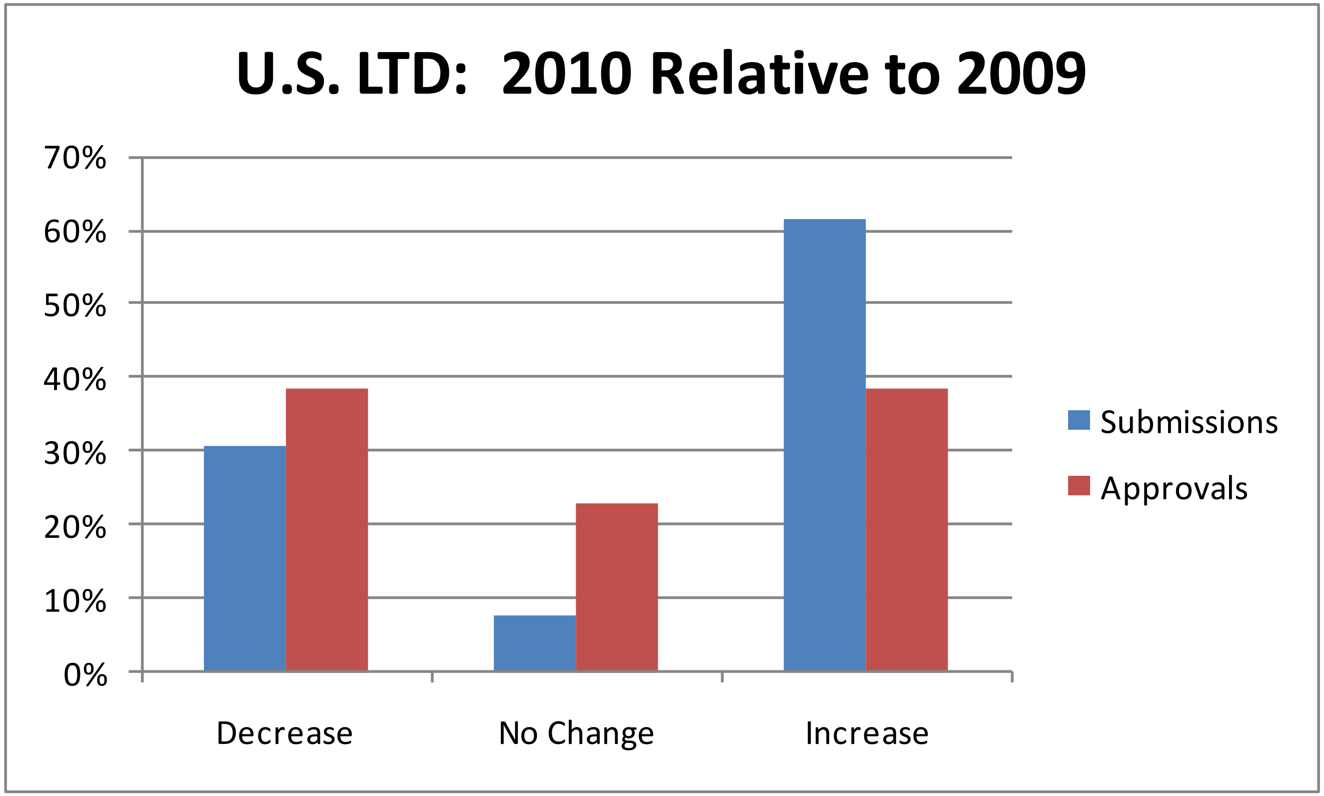
Results from this year's EMPAQ® Annual Report show the challenges that the 648 employers who submitted data faced in 2009 in terms of managing absenteeism and increasing productivity. Although it is too early to analyze health and productivity metrics over the entire cycle of the recession, we can begin to observe trends from the 2009 program year data indicating that this recession may not have behaved like previous recessionary periods. The following key findings offer valuable insight as employers struggle with the rising costs of providing these benefits at a time when they least have the resources for it.

Council for Disability Awareness (CDA) Annual LTD Claims Review

- 2010 Survey of insurers (75% of the commercial disability insurance) regarding 2009 claim activity
- Most companies observed little evidence that the recession has broadly impacted claims in any significant way.
- Most companies report little change in claim incidence or termination rates.
  - 71% reported **incidence** of new claims to be unchanged
  - 47% of companies report no change in **termination** rates
    (24% with minimal increases, 12% minimal decreases)
- No material diagnostic shifts. Musculoskeletal holding steady at roughly 25% and Mental Disorders at 7%
- Some companies report that return-to-work programs are less effective in the current environment, due to the lack of jobs to return qualified claimants to.

RGA Survey: 2010 Claim Activity

- Survey of 13 U.S. group disability insurers
- Results indicate submissions increased during 2010, but not necessarily approvals (particularly regarding musculoskeletal claims)



RGA Survey: Changes in STD and LTD Claim Activity for 2010, as Compared to 2009

2009 Aetna Study: LTD Incidence Rates

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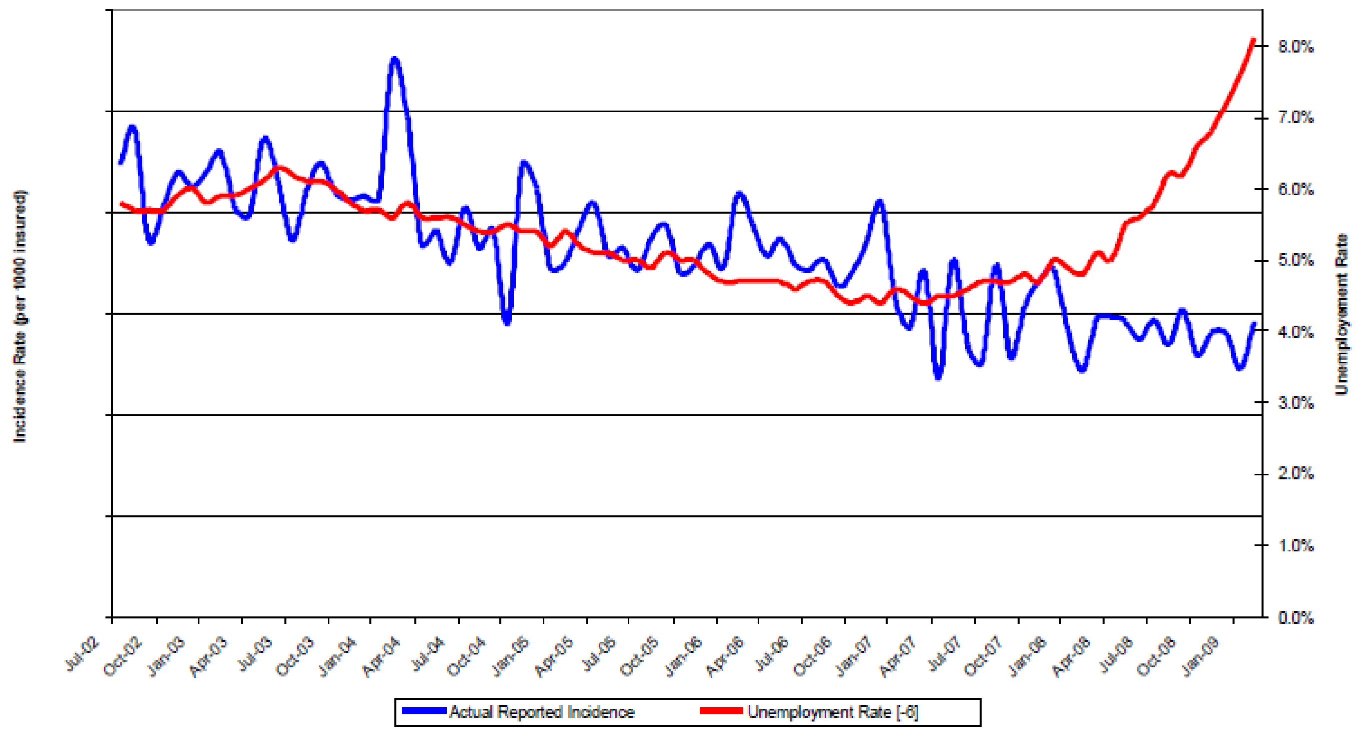
Correlation coefficient
As of Aug'08 +0.62
As of Jan'09 +0.16
+0.67 (adj. for recent shock)
Statistical significance level 99.99%



Incidence rates unaffected by current recession

So why limited correlations for this recession?

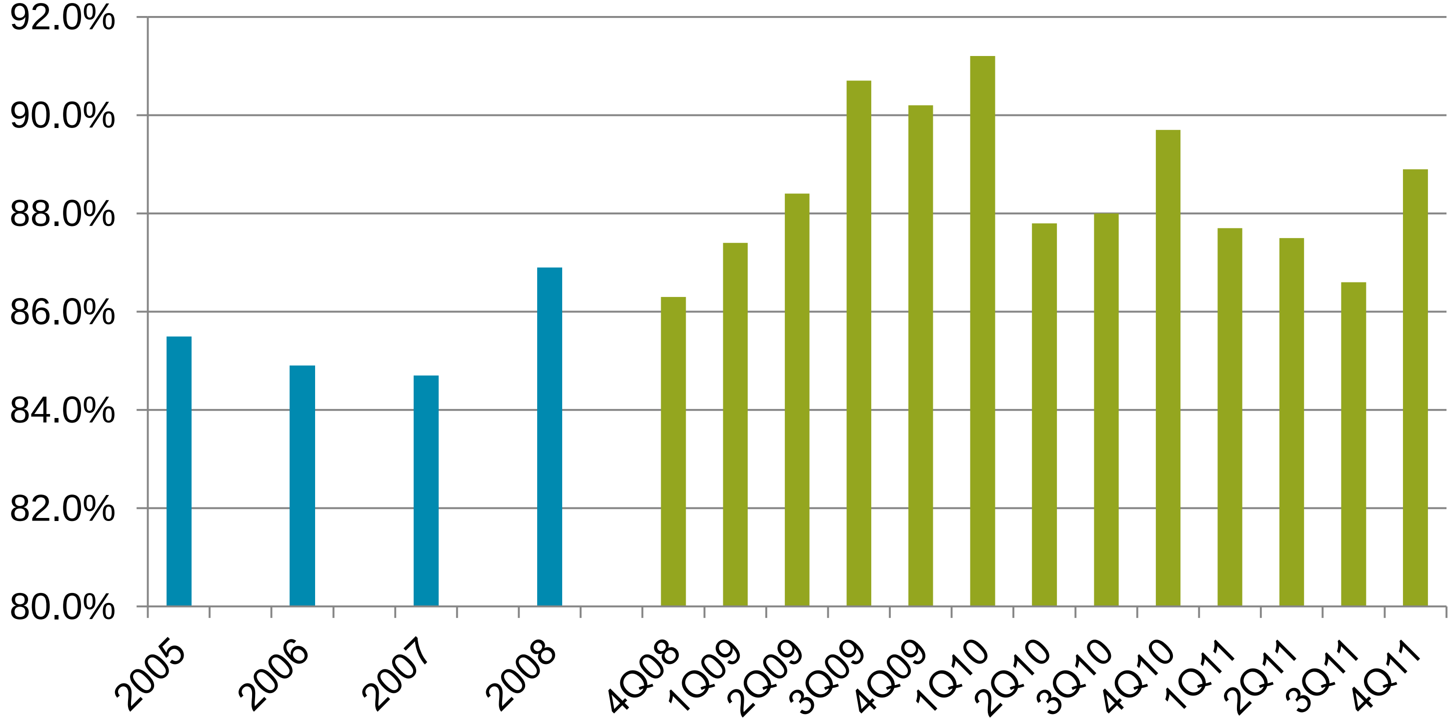
This Recession was "steep and deep" compared to 1990 & 2001

- Arrived quickly
- Hit harder / Unemployment worse
- Longer duration

Which resulted in…

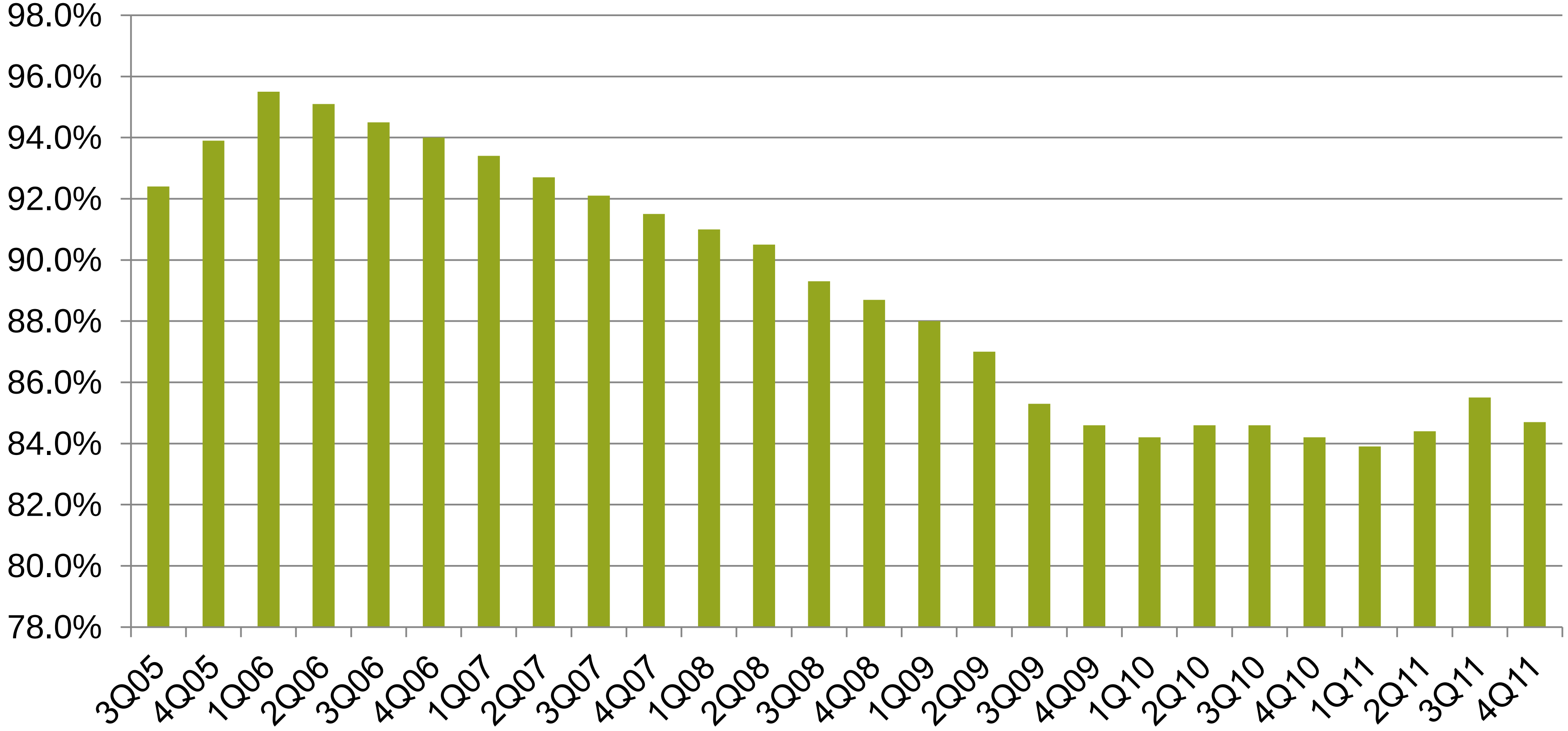
- Elimination of financial safety net for many Americans: home values (equity) and retirement savings decimated
- Earnings power was the one remaining valuable "asset" in control of the worker
- Workers worried that going on claim might jeopardize job security
- Others severed without opportunity to contemplate claim submission
- A temporary improvement in Group Disability claim rate experience for many insurers
- Concern over effects of long, slow recovery

MetLife Experience



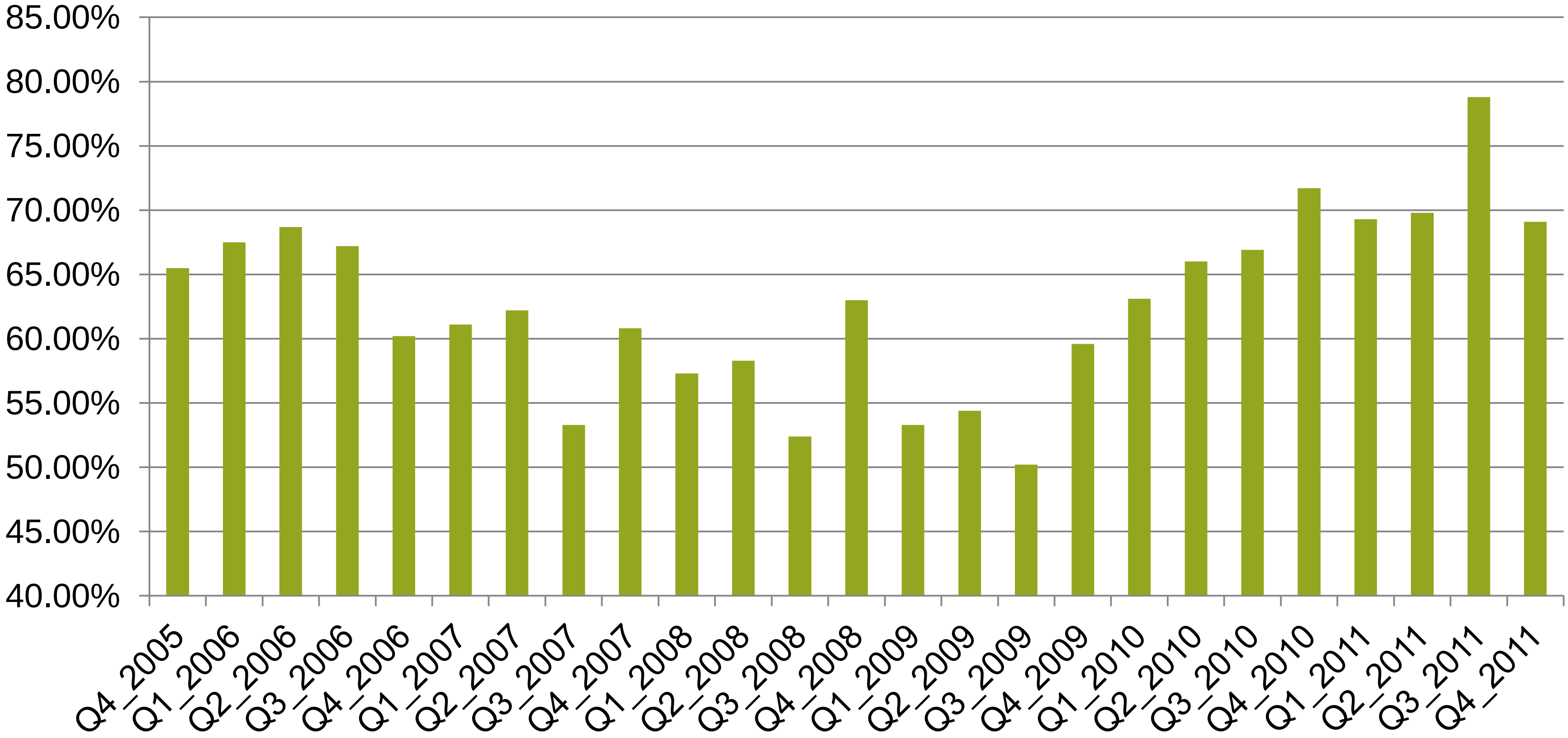
- Benefit Ratio includes Disability & Dental ; dental contributed to increase in benefit ratio
- 2009: LTD <u>incidence</u> increased, <u>recoveries</u> significantly below expectations
- 2010: LTD <u>incidence</u> remain elevated, seeing improvements in <u>recoveries</u>
- 2011: LTD <u>incidence</u> rates have dropped; loss ratios improving

Unum US Experience



- Solid performance during recession
- Occasional deterioration in LTD incidence rates offset by higher recoveries
- 2Q11 incidence uptick from 1st quarter, but lower than second half of 2010

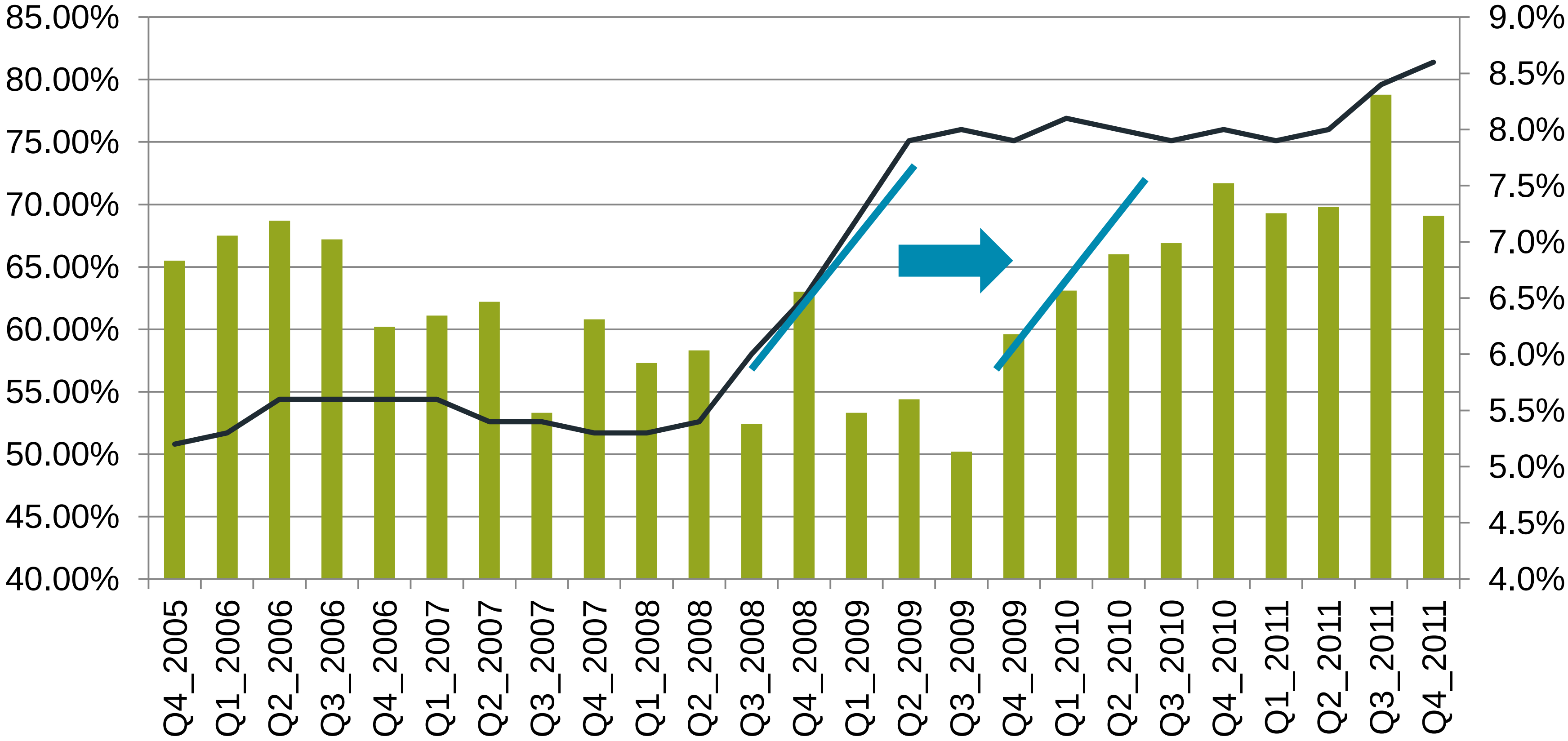
Unum UK Experience



- Benefit Ratio includes Group Life as well as Group Disability
- UNUM UK about one-third of the size of UNUM US.
- Mid 2009 reflects historically low incidence of Group Disability claims

Source; UNUM Quarterly Financial Updates

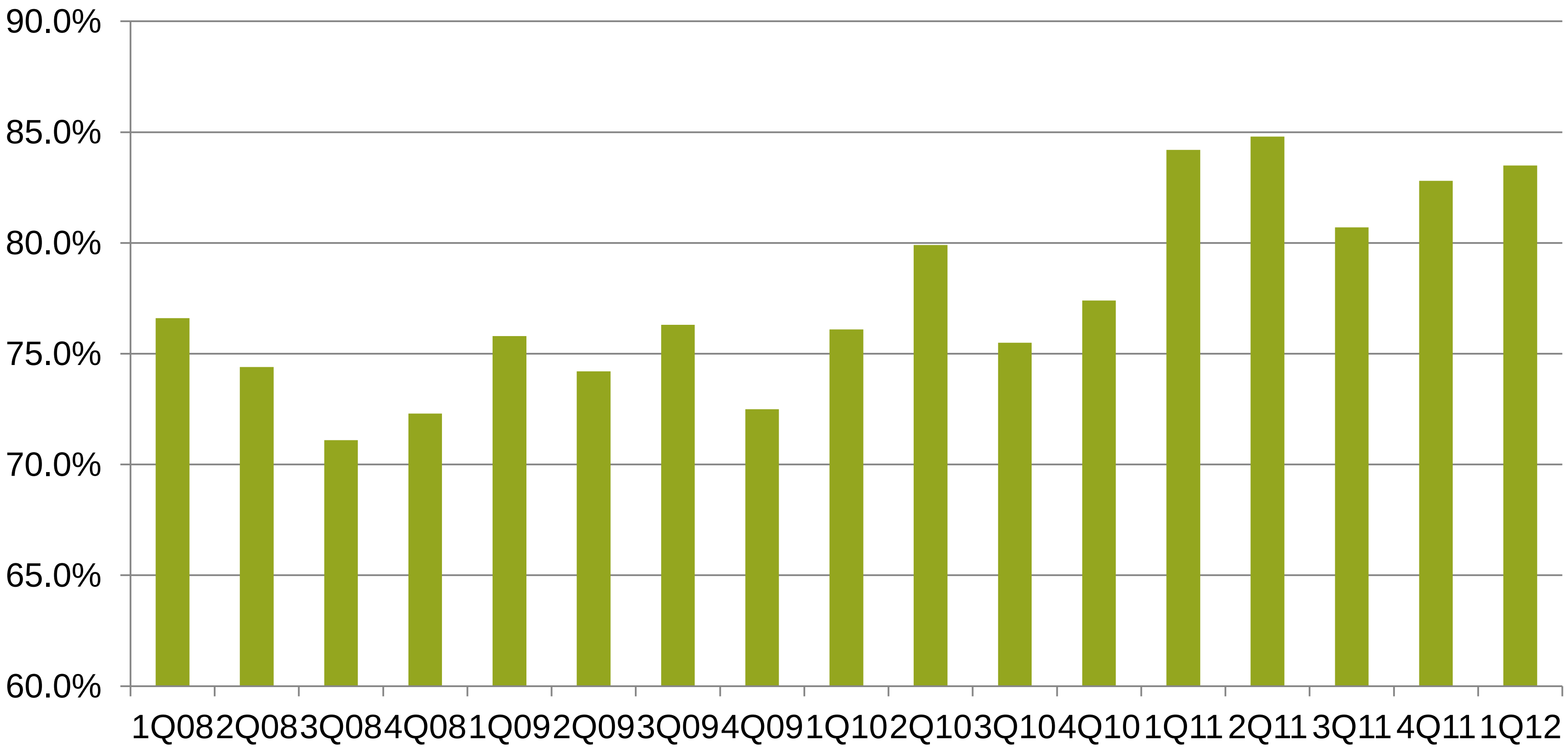
Unum UK Experience / UK Unemployment Rate



- 6 Quarter lag to unemployment rate increase

Unemployment data source: ONS, LF2Q, ILO Unemployment Rate; UK, Aged 16-64

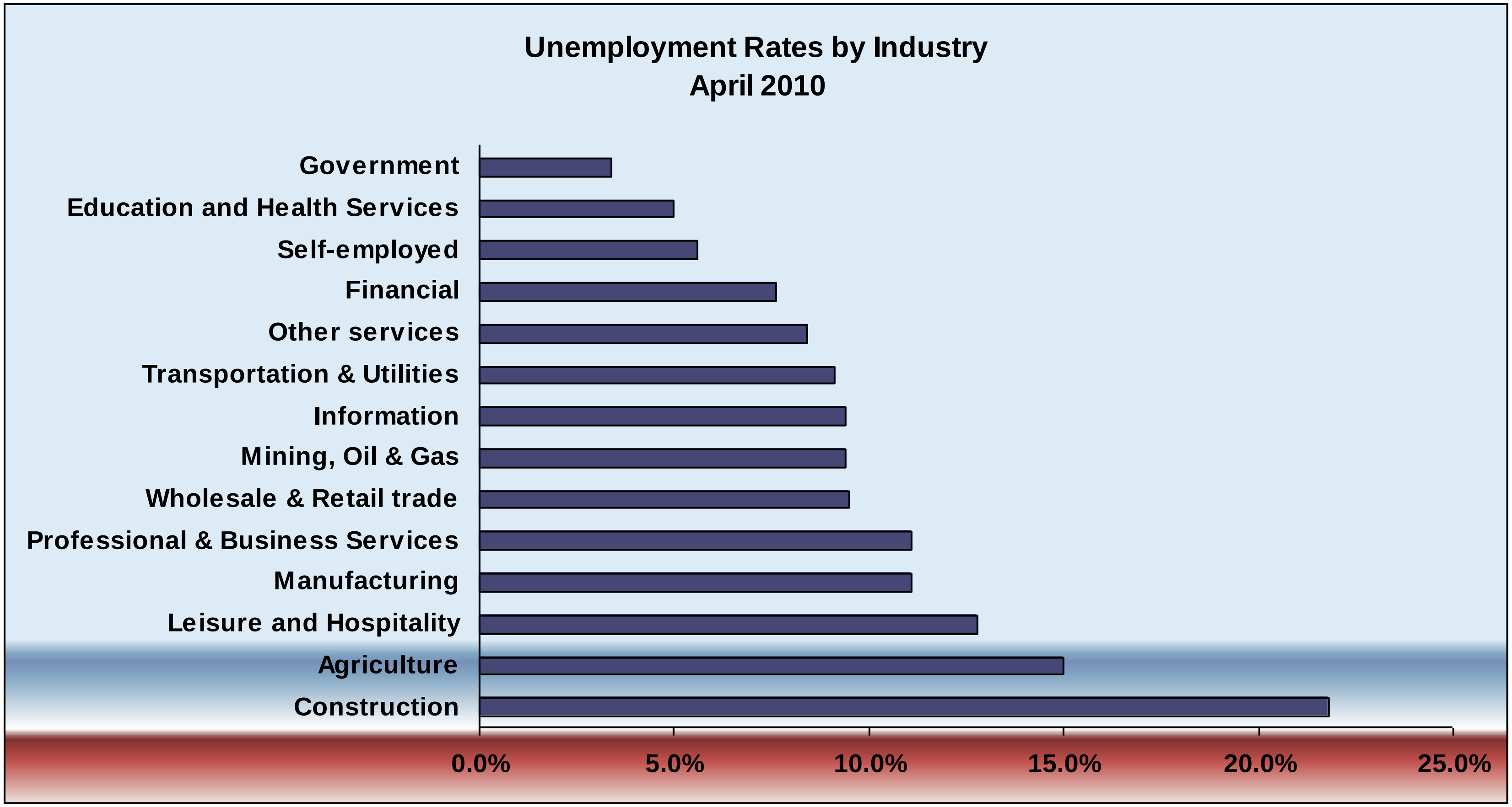
Standard Insurance Company



- Solid results during recession, including record low benefit ratio at 3Q08
- Deterioration since 4Q10

Recessions Are Not Equal Opportunity Events

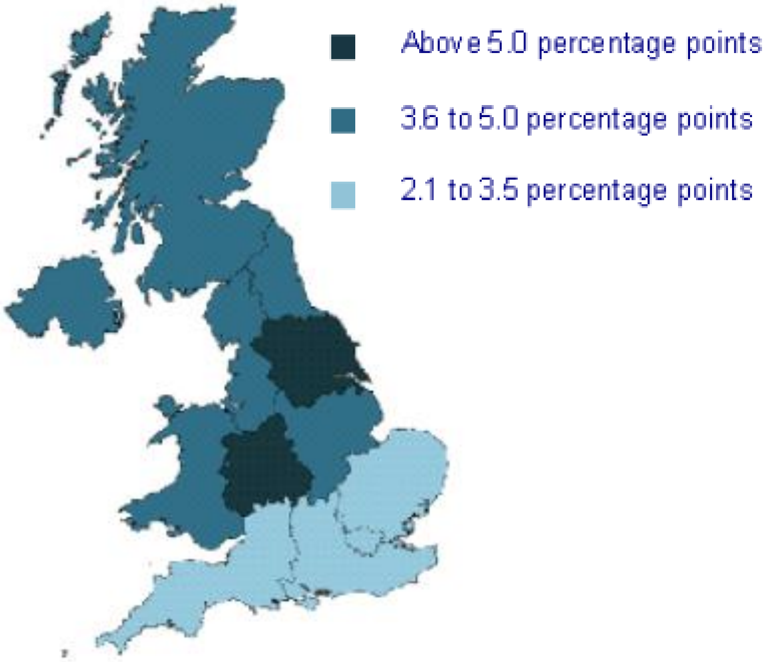
US Unemployment Rates By Industry



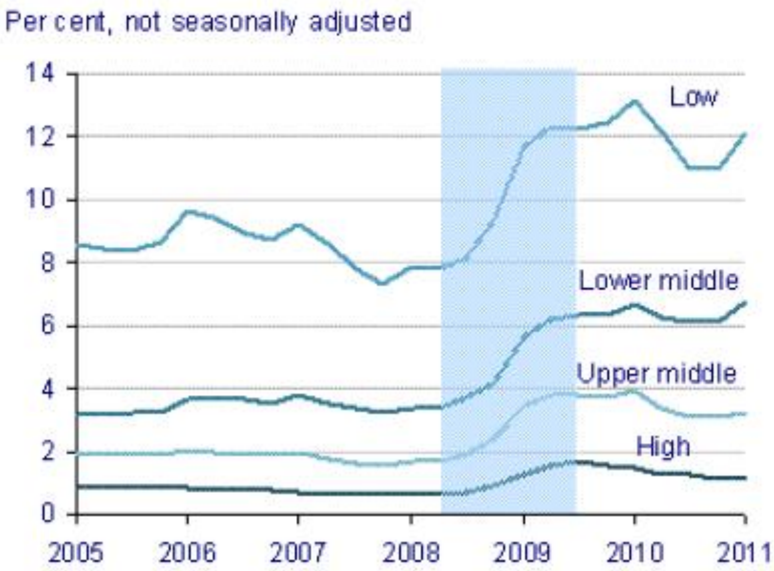
Source: www.bls.gov
Table A-14. Unemployed persons by industry and class of worker, not seasonally adjusted

Recessions Are Not Equal Opportunity Events UK By Geography and Skill Level

Increase (difference between low and peak) in unemployment rates by region, United Kingdom, Jan-Mar 2005 to Mar-May 2011



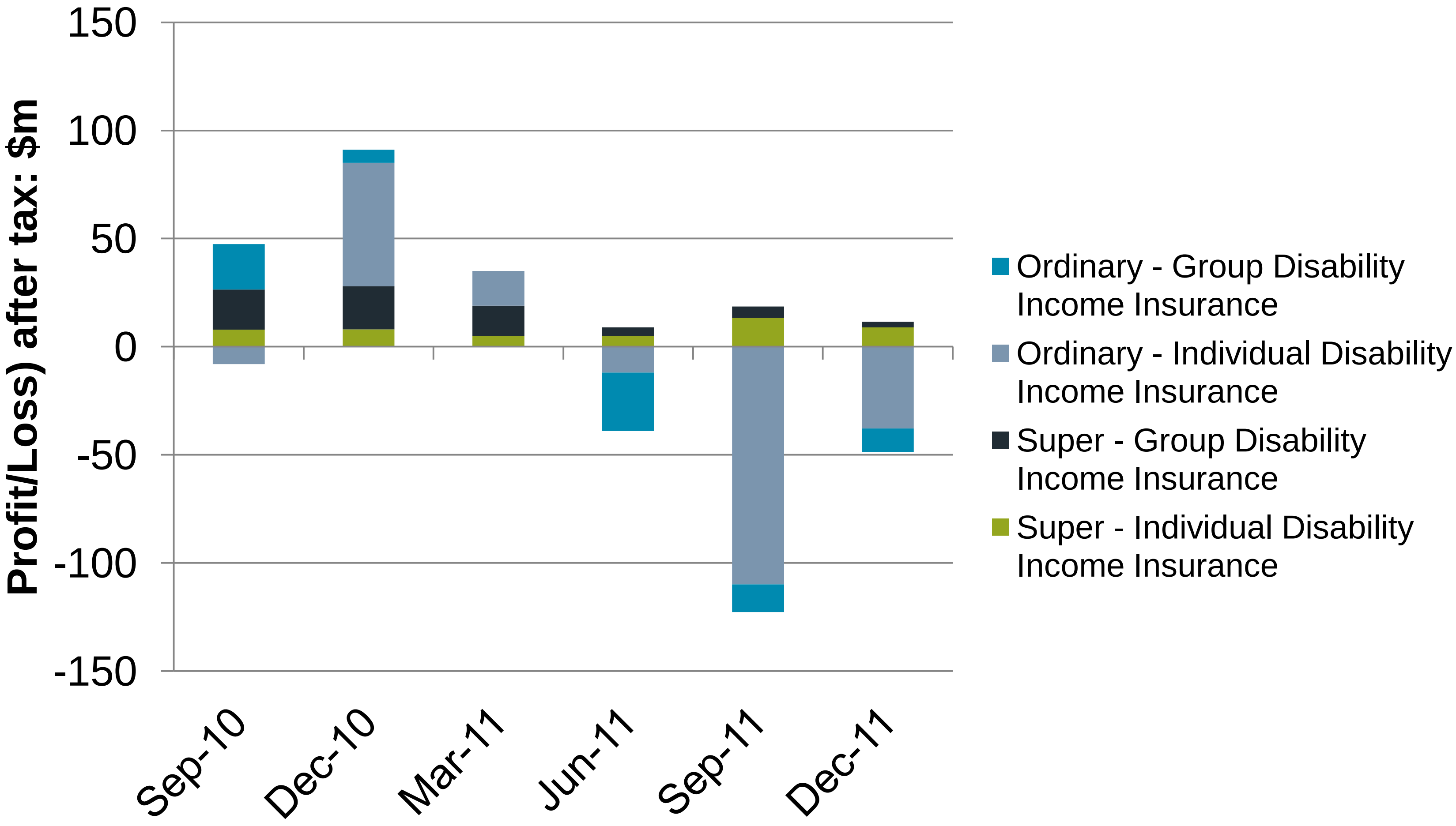
Claimant proportions by skill level of usual occupation, 2005 to 2011, United Kingdom



Source: ONS. Unemployment During the Economic Downturn - 2011

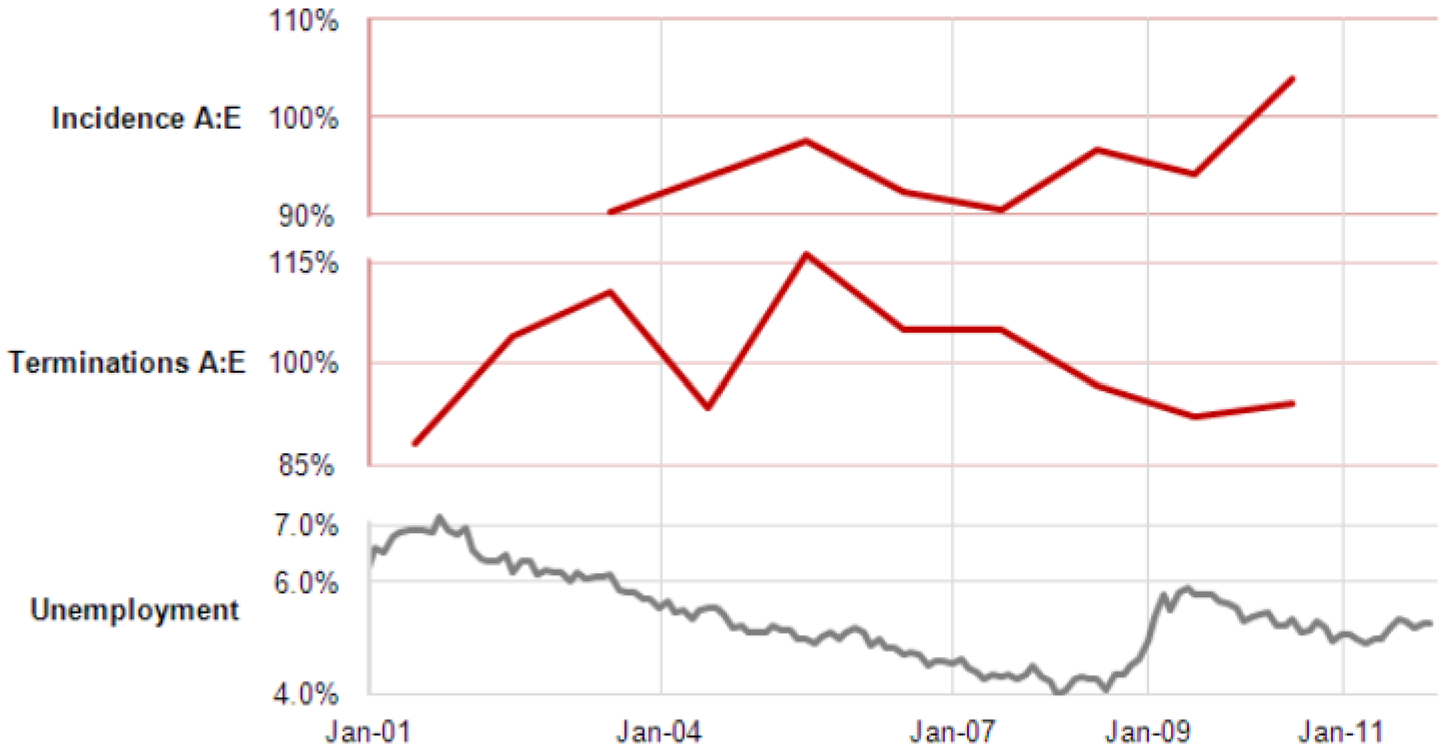
Australian Industry Disability Income Experience

Net of Tax Profit Quarterly



Source: Presentation to the Australian Actuaries Institute Financial Services Forum – April 2012

Australian Industry Disability Income Experience



Source: RGA

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Conclusions

Conclusions

- Relationship between LTD claim experience and unemployment rates have been discovered (from past recessions);
- No two recessions are the same
  - Overall impact can be different;
  - Impact on certain industries can be different;
- Time changes everything;
- Policyholder behavior goes beyond regression analysis;
- Life is not linear, there are tipping points, extrapolation can be dangerous.

Conclusions

- Correlation analysis is not futile – Economy does affect policyholder behavior, tendencies and relativities can be discovered, but complex nature means there is no simple formula that ongoing analysis and deeper understanding of drivers is warranted;

- The economy also correlates with other assumptions needed to price and reserve for IP e.g. Interest rates.

Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.