

Impacts of economic turbulence on Commercial Bureau Scores

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Credit Scoring and Credit Control XI, Edinburgh 2009



The questions that we seek to investigate are: -

Do scorecards deteriorate in a predictable way?

Does economic change have an impact on scorecard performance?

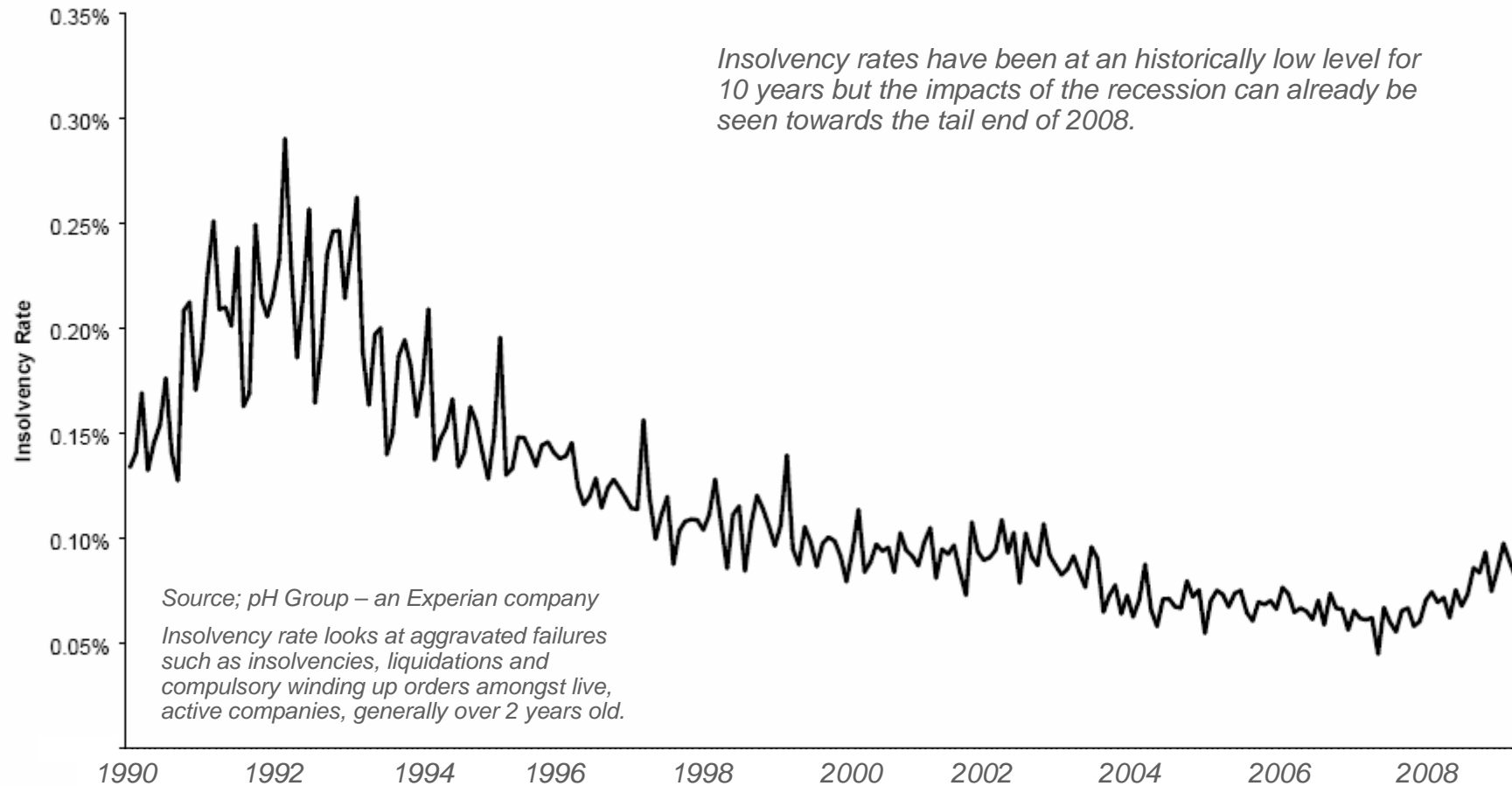
Can the changes in scorecard performance be traced back to changes in predictive variables?

Can we categorise variables by how they will change and by how much?

Can we build more stable scorecards by using this information in our variable selection?

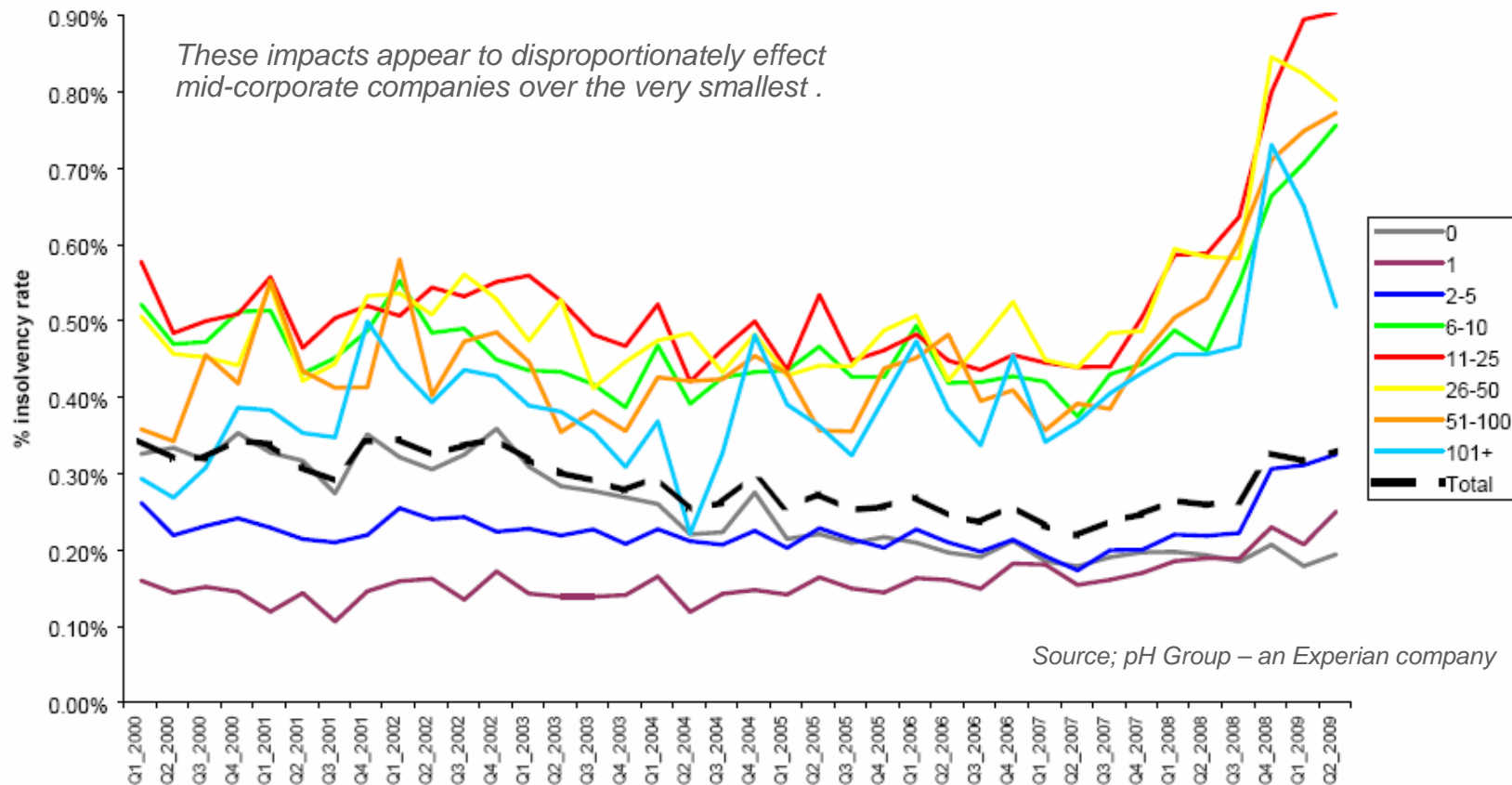
Historical context ...

Monthly Insolvency Rates 1990 - May 2009



Historical context ...

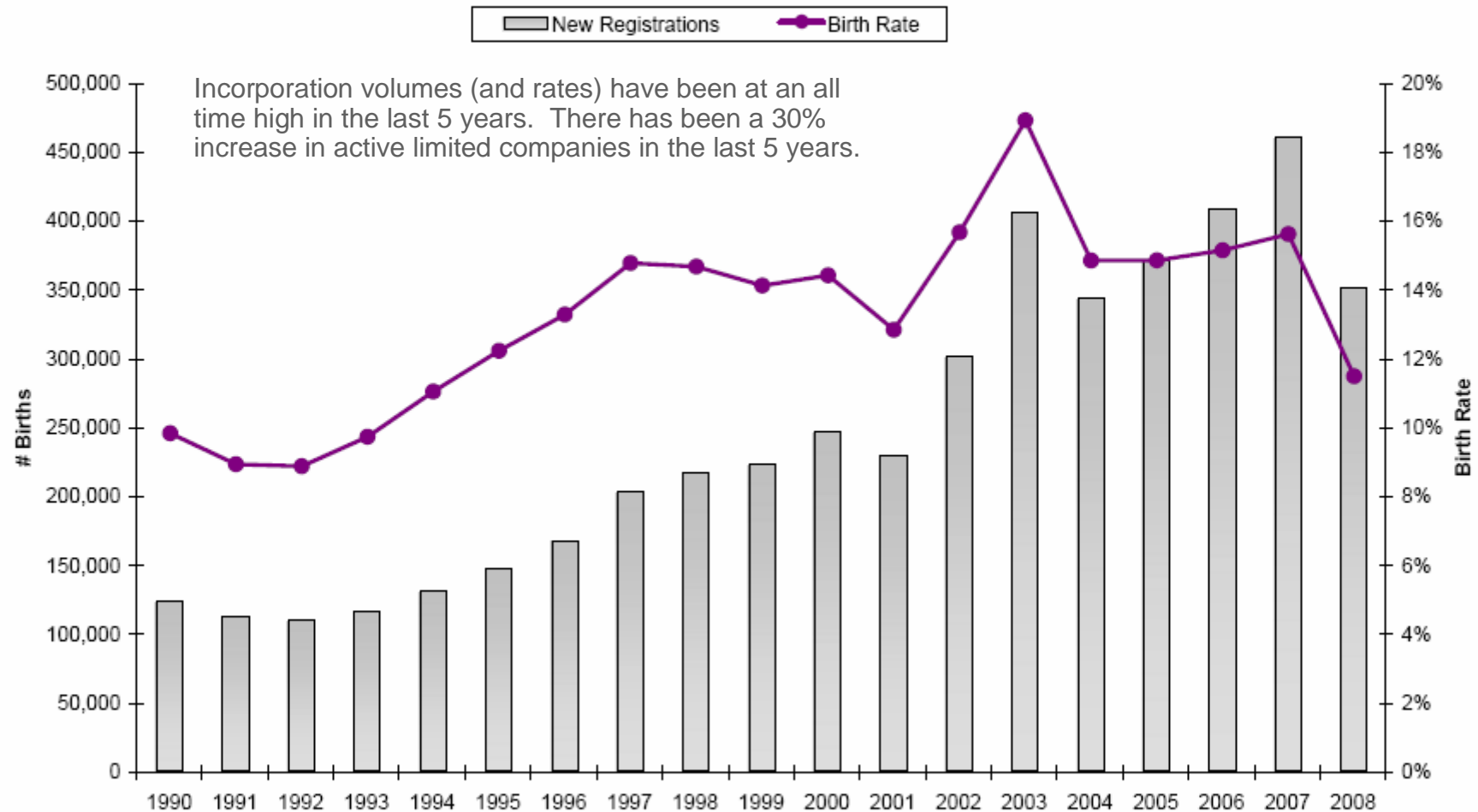
Quarterly UK insolvency rates 2000 - May 2009 by Employment size band
 - excludes firms under 24 months old in each quarter's calculation -



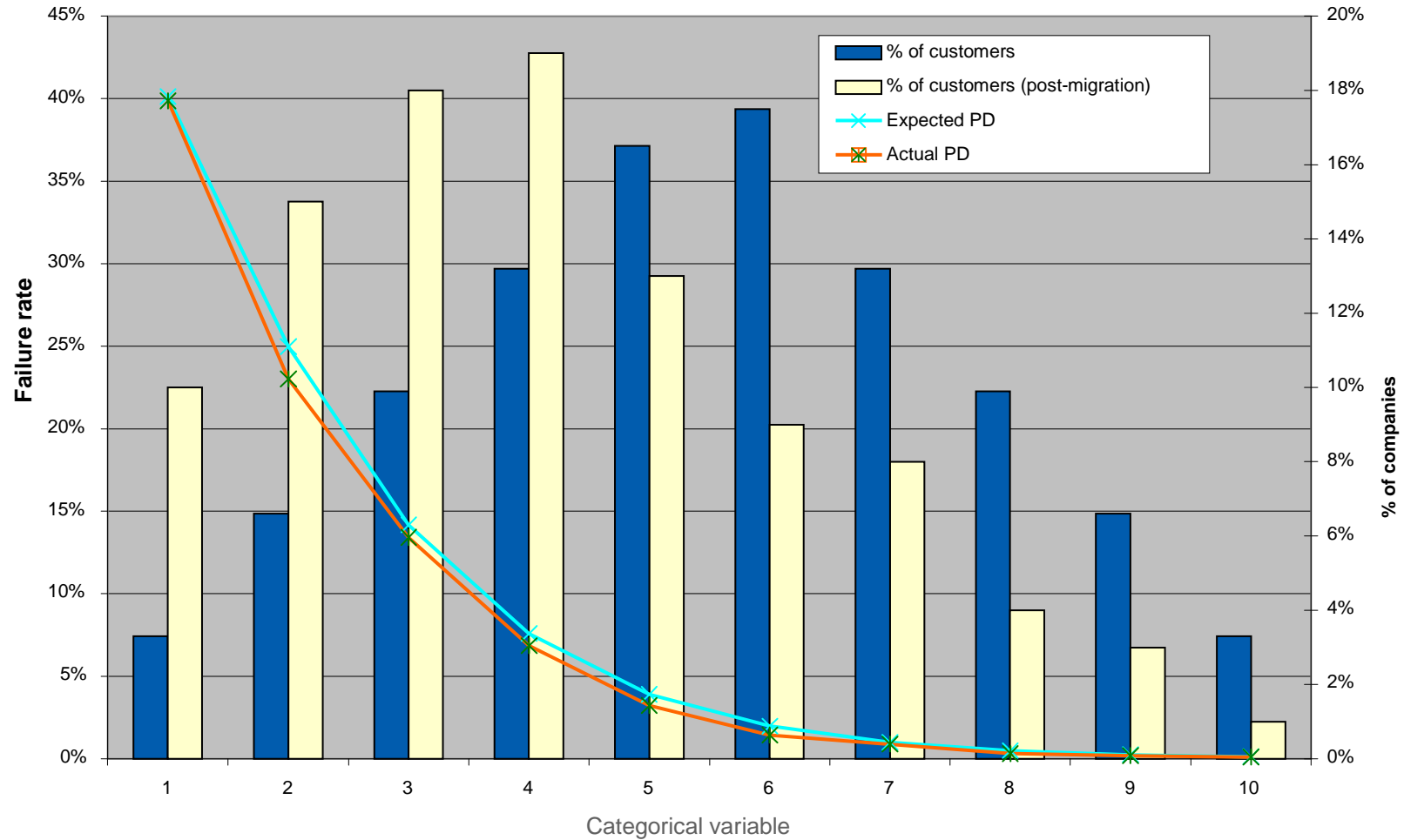
Source; pH Group – an Experian company

Historical context ...

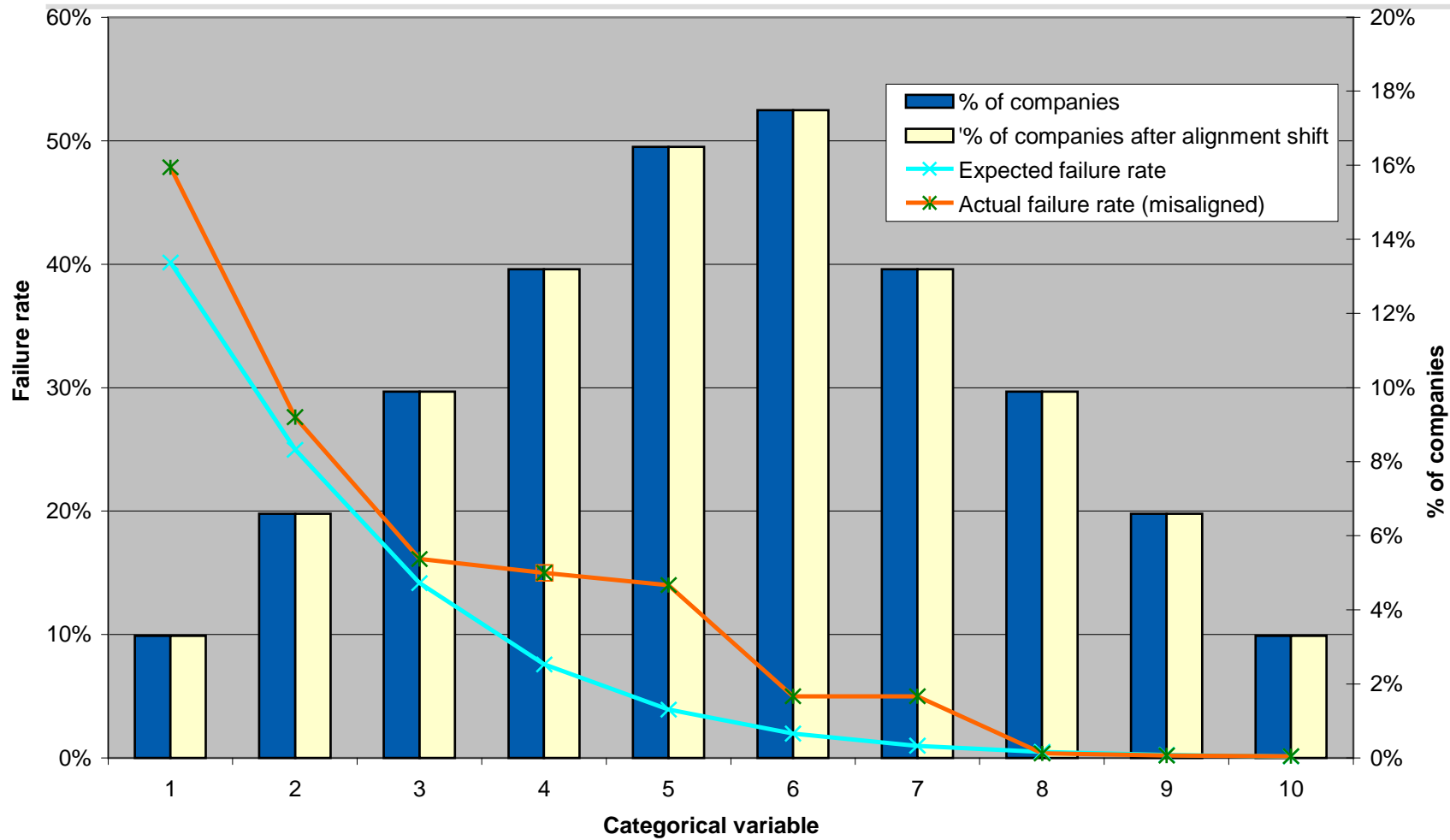
Number of Births (New Companies House Registrations) and Birth Rates 1990-2008



Example of a pure class migration

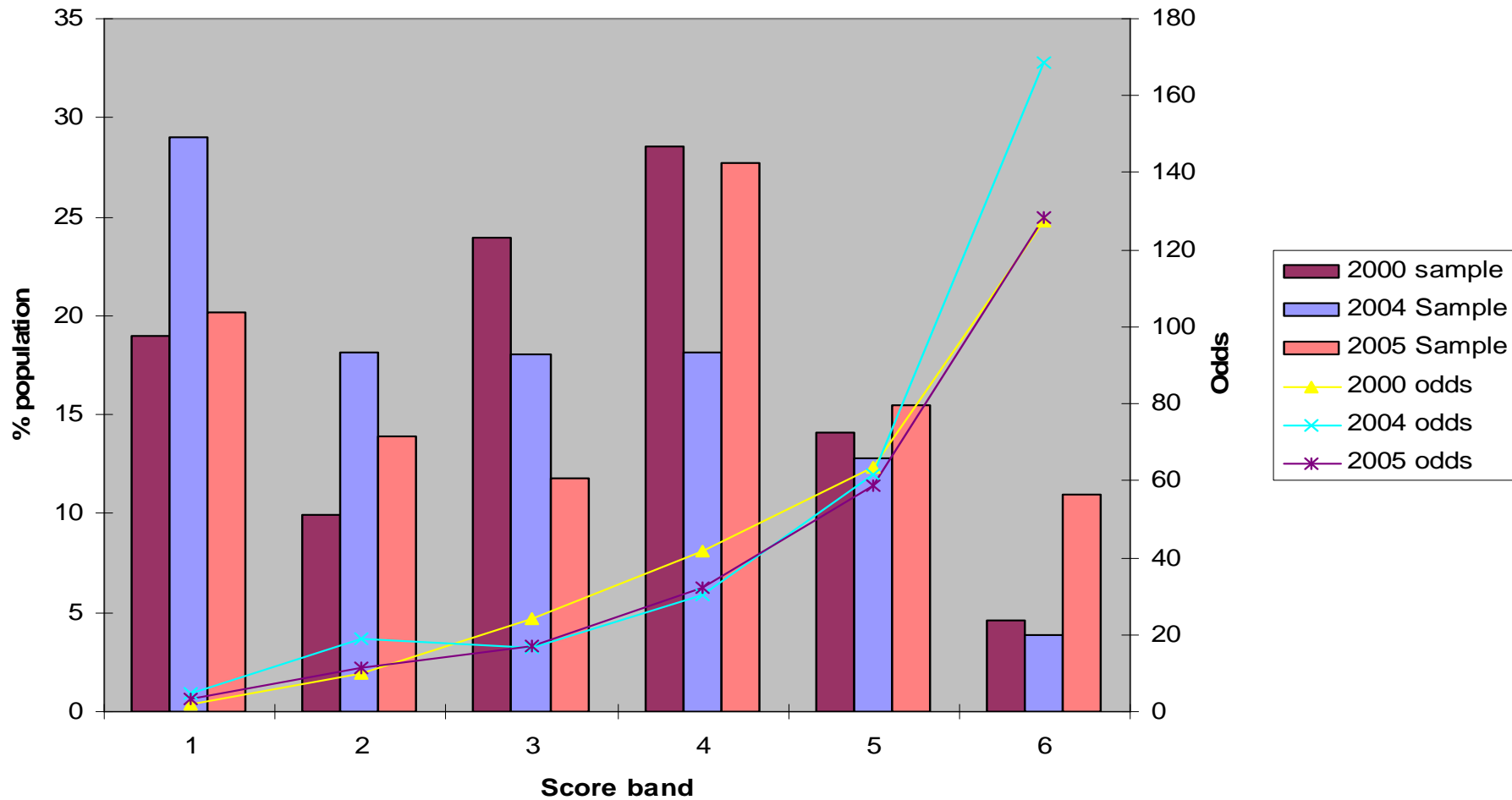


Example of a pure alignment shift



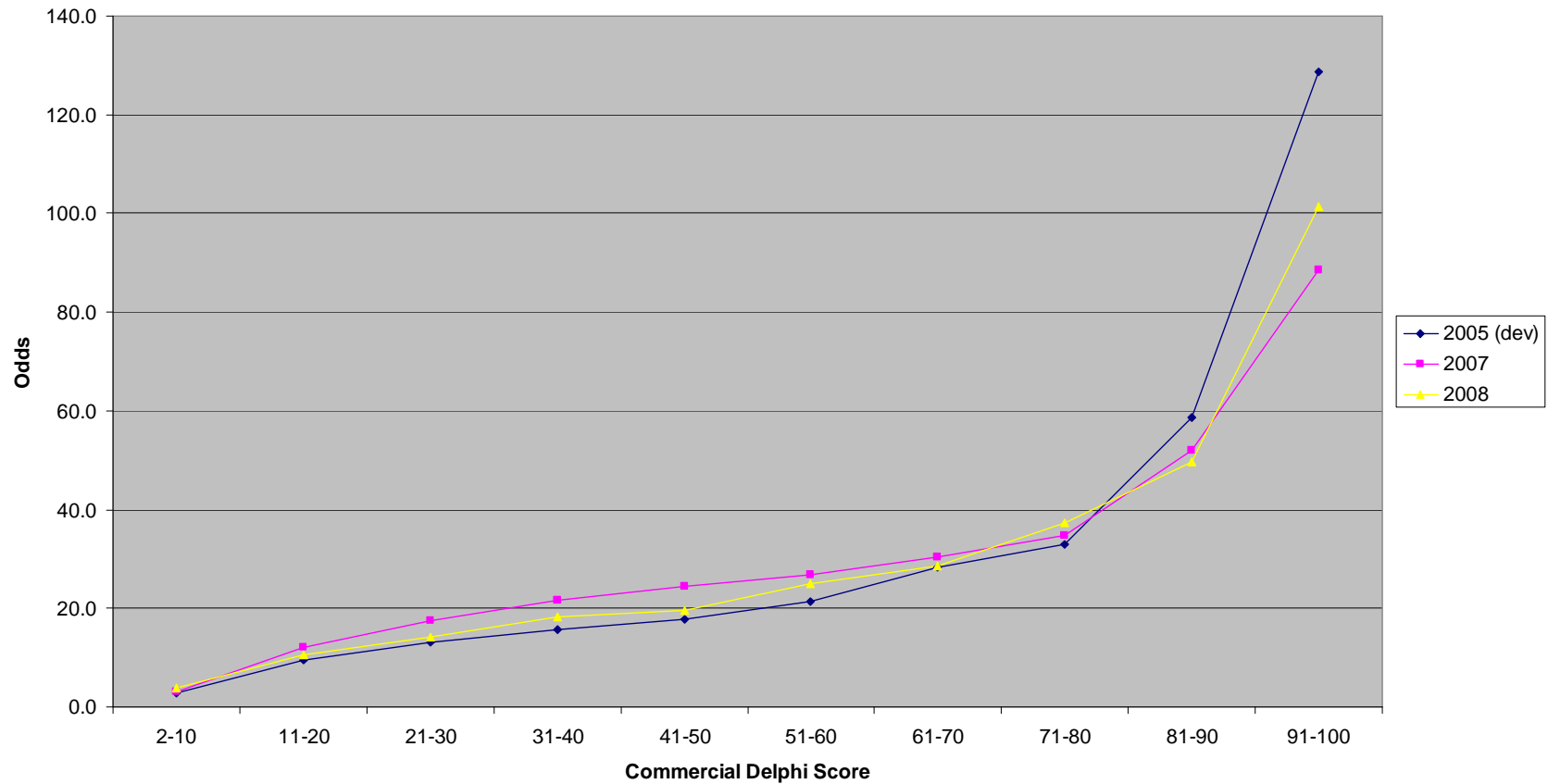
Observed Scorecard Deteriorations

Commercial Delphi Score band and odds movements 2000 - 2005



Commercial Delphi scores give relatively stable score to odds relationships

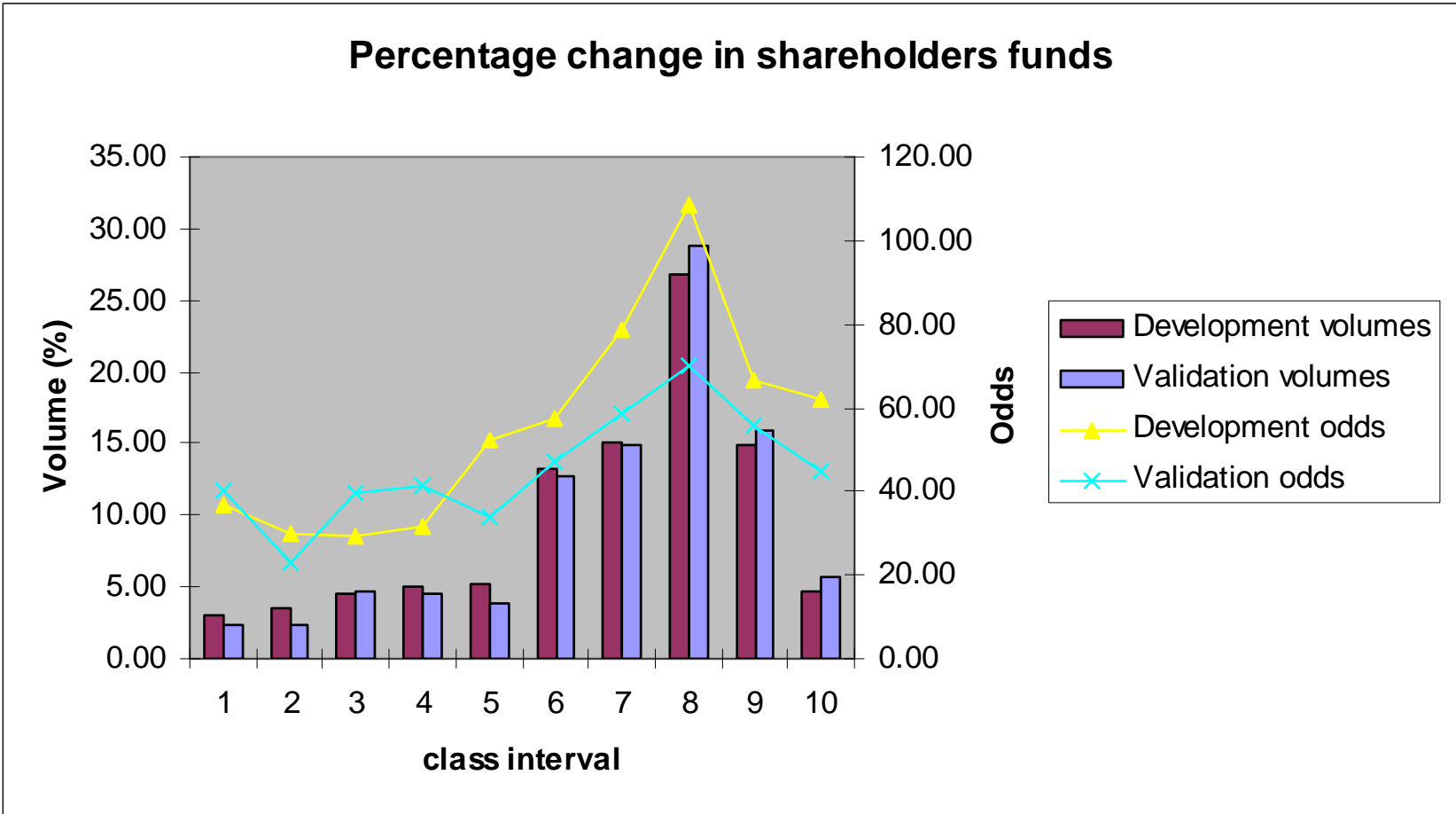
Commercial Delphi Score odds over time



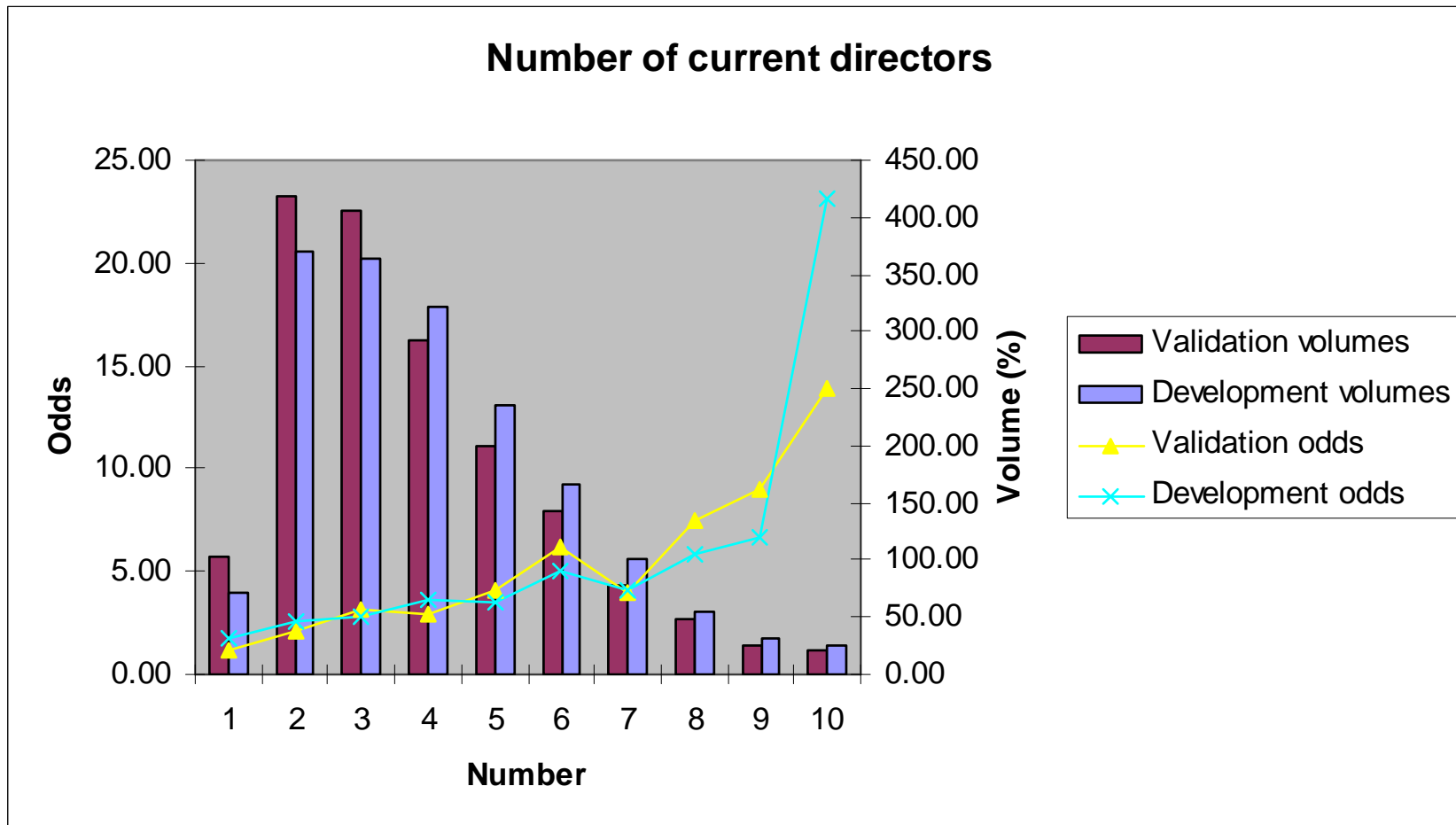
Observed Scorecard Deteriorations (Gini)

Sub pop	% Change 2005 to June 2008	% Change 2005 to October 2008	% change June to October 2008
<u>Start up Companies</u>	-7.95	-24.14	-17.6%
<u>Young companies</u>	-6.74	-7.07	-0.4%
Small	-10.18	-10.30	-0.1%
Medium	0.97	1.83	0.9%
Large	1.60	0.82	-0.8%
<u>Established Companies</u>	-8.27	-9.92	-1.8%
Small	-5.45	-6.29	-0.9%
Medium	-6.57	-8.82	-2.4%
Large	-5.35	-9.68	-4.6%
V Large	-25.53	-29.28	-5.0%

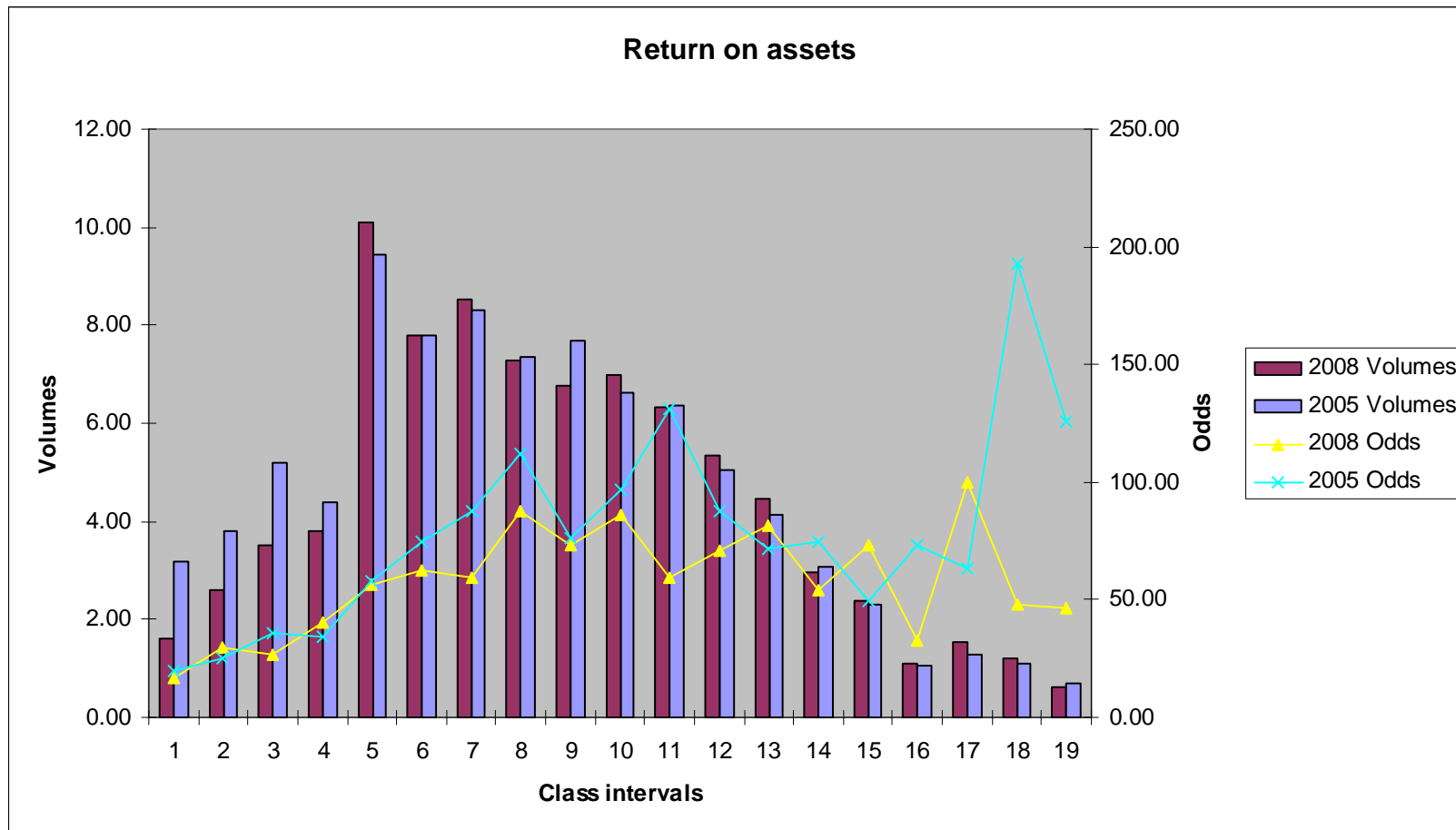
Can we trace changes in performance back to individual variables?



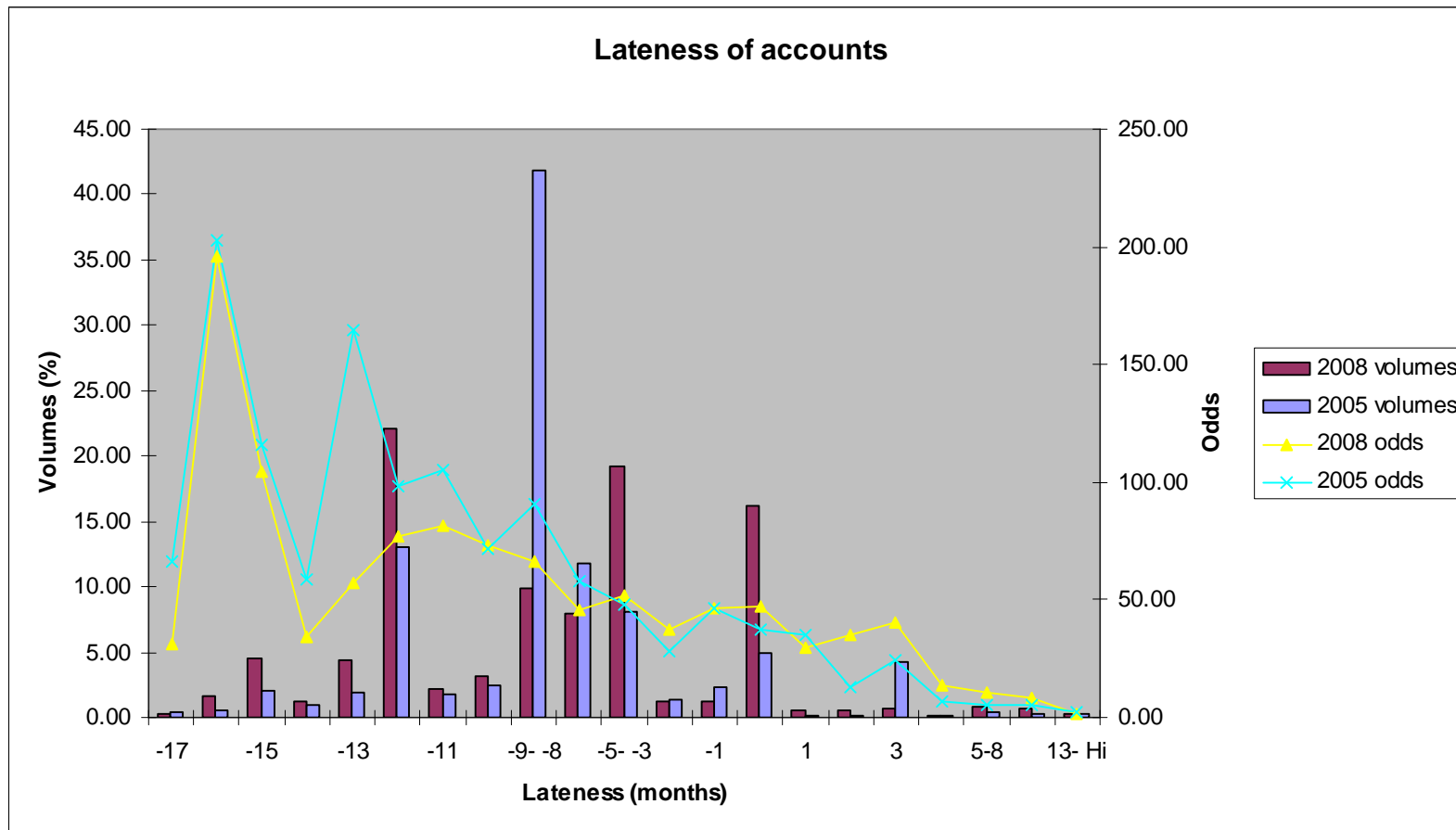
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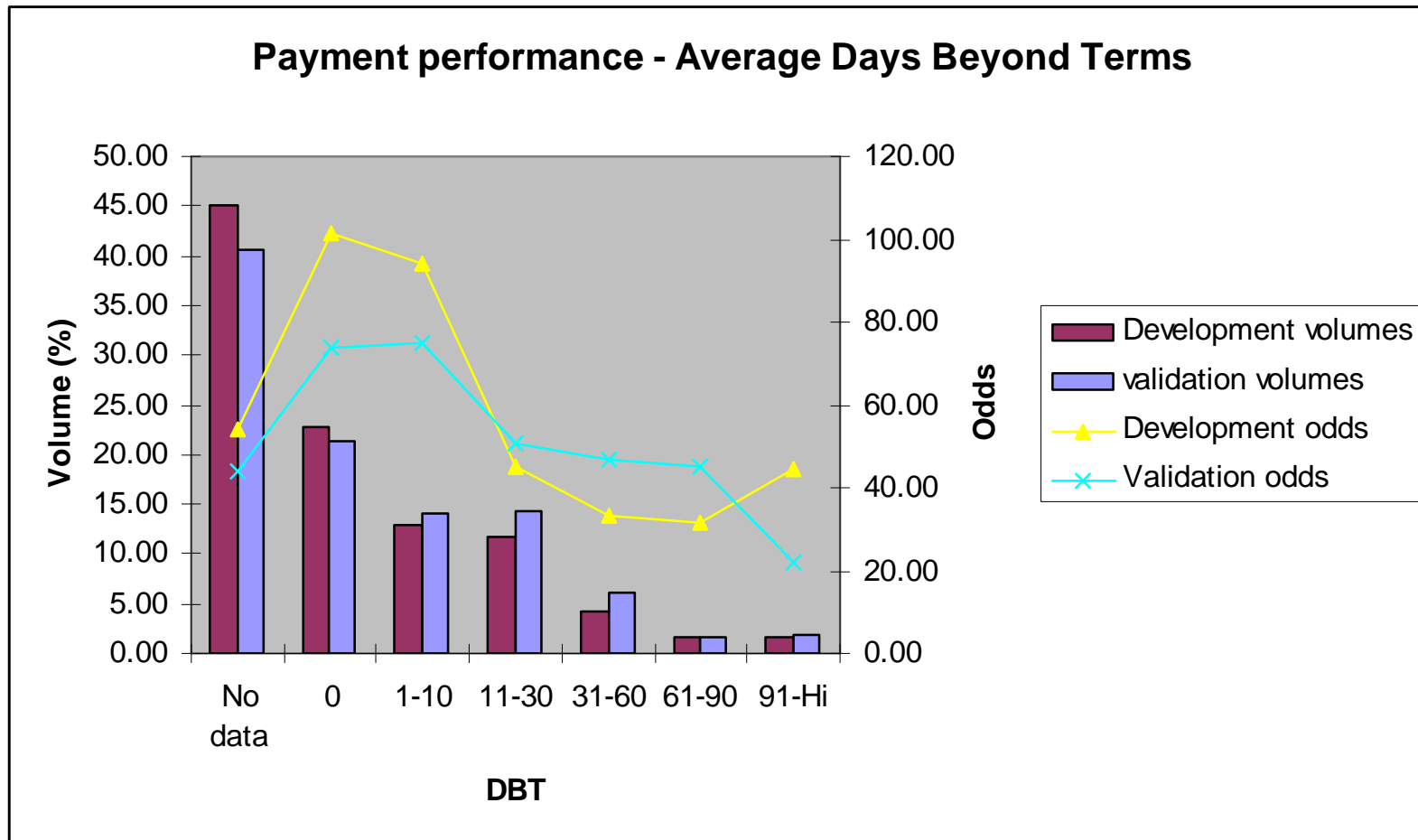
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Do scorecards deteriorate in a predictable way?

The scorecards didn't deteriorate in the way that I had predicted!

The variables that I expected to exhibit class migrations did not do so in a classical way.

Key point is that whilst we may be observing the start of the recessions impact on failure rates, we may not be seeing its impact on the descriptive data.

The variables that I expected to exhibit alignment shifts did not do so.

The non-static nature of the overall population means that these variables are more fluid than predicted. For instance, the high growth rate in companies has changed the overall profile of limited companies over the last 5 years.

Does economic change have an impact on scorecard performance?

Economic turbulence changes failure rates. As the scorecard variables are not manifesting pure class migration, this will have an impact on the scorecard's ability to rank risk and accurately predict failure rates.

Economic turbulence also changes the scorecard variables in terms of volume distributions and predictive nature.

The combination of these factors has had a significant impact upon the observed scorecards

Does economic change have the expected impact on scorecard variables?

No.

“Class Migration” variables have by and large not had sufficient time to move due to long time lag between cause and observed effect.

Even variables that we might expect to react quicker to changing economic conditions have not behaved as expected. The payment performance trade credit data shows a small class migration but a large alignment shift.

“Alignment shift” variables have also been impacted by other events skewing expected impacts and making future shifts unpredictable.

Can we predict how variables will change and use this in model development?

Not yet.

No variable examined so far has exhibited the classical class migration that would result in it being a stable scorecard attribute.

The fact that over a period of relative stability these variables showed unexpected and inexplicable variations suggests that we would struggle to predict future changes with any degree of confidence.

Summary of Results

Over periods of economic stability, the changes in scorecard performance are slow and steady.

The pace of economic change appears to accelerate the pace that scorecard deteriorations occurs at.

These changes appear to impact scores as class migrations rather than major alignment shifts, in this instance.

The manifestation of these impacts in individual variables does not occur in the expected way.

Further research is needed to determine whether variables can consistently be categorised as “Point in time” or “Through the Cycle”

The evidence seen so far does not build a case for selecting variables for scorecard development based on their apparent stability.

Conclusions ...or how to live in an ever changing world

- Selecting variables with a view to stability is sensible scorecard development practice.
- It would be foolish to assume that doing this alone will result in a stable scorecard
- Unexpected population migrations and alignment shifts will occur...so
- ...There is no substitute for close scorecard monitoring and regular model redevelopment, especially at a time of rapid change.

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