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Effects of Shifts in Inflation on the Work of General Insurance Actuaries in Australia

James Purvis and Jacqueline Reid
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Presented at the 2024 All Actuaries Summit

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Background: GI Seminar - 2010

Institute of Actuaries of Australia

Inflation Risk in General Insurance

Prepared by John De Ravin and Mike Fowlds

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This paper has been prepared for the Institute of Actuaries of Australia's (Institute) 17th General Insurance Seminar. The Institute Council wishes it to be understood that opinions put forward herein are not necessarily those of the Institute and the Council is not responsible for those opinions.

The Institute of Actuaries of Australia
Level 7 Challis House 4 Martin Place
Sydney NSW Australia 2000
Telephone: +61 2 9233 3466 Facsimile: +61 2 9233 3446
Email: actuaries@actuaries.asn.au Website: www.actuaries.asn.au

Background: Actuaries Summit - May 2024

About "Slow and Steady"

Many of us overlook financial strategies that could make a big difference to our lives over time. Getting every aspect of our finances right is not easy – our financial system is complicated and it's hard to understand it all. Unfortunately that means that sometimes we miss out on opportunities to build financial security.

But getting a few things right can make a big difference in the long run. In Aesop's famous fable, it is the tortoise rather than the hare that wins the race, and all the tortoise needed to do was plod steadily in the right direction.

This is not a "get rich quick" book, but it does list 100 financial strategies for building wealth. Some are relevant to teenagers and young adults, others to families with young children, others to families in the wealth building phase, and still others to pre-retirees, retirees and those needing additional care late in life.

Each strategy commences with a very short section on who might be interested in that particular strategy. Then some background information is provided and the key point of the strategy is explained. There is a section on "how to do it" for every strategy and in many cases there is a table that shows you how much you might save over the longer term if you follow that strategy. Again and again, the book shows that small differences will accumulate to a lot over a period of decades.

About the Author

John De Ravin is a retired actuary whose career included work in the Australian Government Actuary's office, in two insurance companies and in two of the world's leading reinsurers. He has degrees in Science and Economics from ANU, an MBA from Macquarie University and a Graduate Diploma in Financial Planning from Finsia. He is a Fellow of the Actuaries Institute, a Fellow of Finsia and a CPA.

He hopes this book will be helpful to thousands of Australians who are trying to make good financial decisions.

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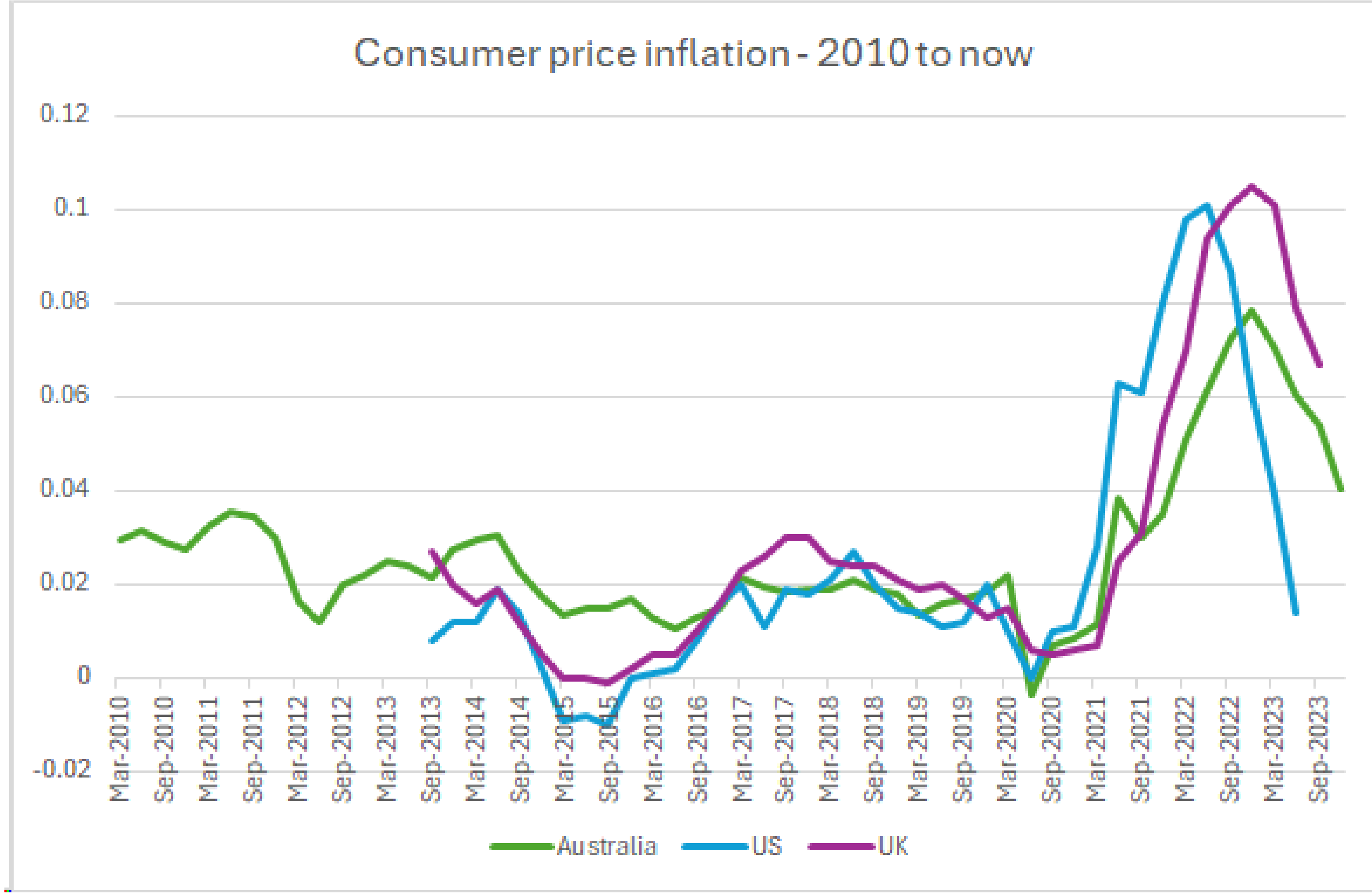
Background: GI Seminar - 2010 to Actuaries Summit - May 2024



Source: Australian Bureau of Statistics. Series ID A2325846C

Office for National Statistics, Harmonised Index of Consumer Prices (HICP) from Eurostat

US Bureau of Labor Statistics, US HICP

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What is in the paper: defining Inflation

Given there is no consistently adopted definition of superimposed inflation in Australia, it would seem necessary for a clear and explicit definition with every use.

Chart – Similarities in definition of inflation (in general insurance actuarial practice) in Australia compared to US and UK

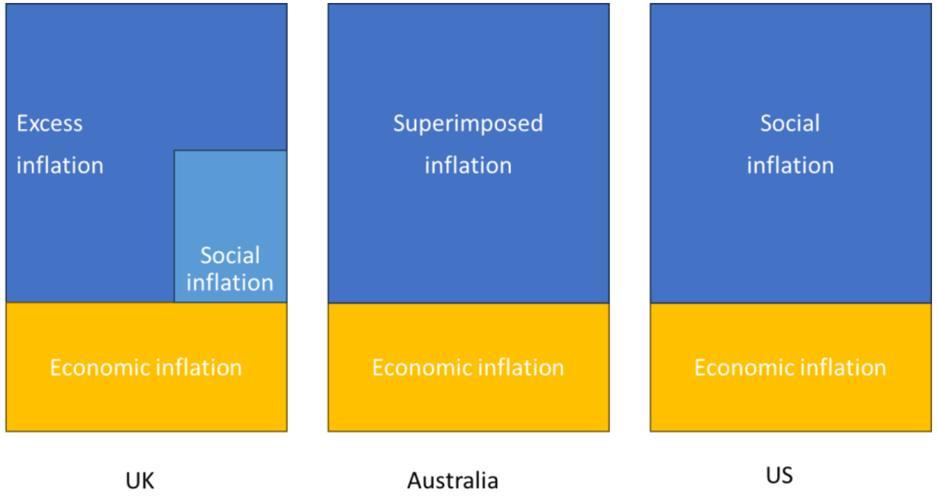
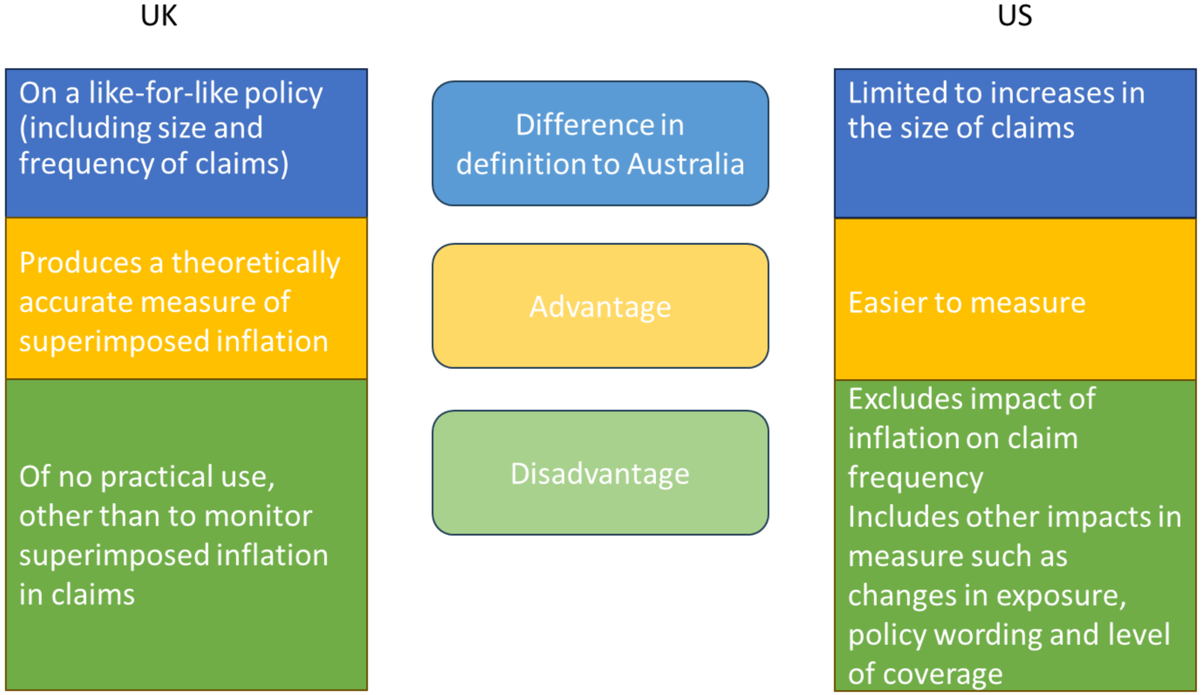


Chart – Differences in definition of inflation (in general insurance actuarial practice) in the US and UK, compared to the theoretical definition in Australia.



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What is in the paper: monitoring the effects of Inflation (frequency and severity)

Claim frequency

- Compensation culture
- Conditional fee arrangements
- Claim management companies
- Advertising by solicitors/claim management companies
- Stricter definition of liability
- Economic conditions
- Traffic density
- Road safety
- Population growth
- Number of physicians
- Safety education
- Merger/takeover activity
- Risk management initiatives

Claim size or severity

- Retail price inflation
- Wage inflation
- The courts act
- NHS recoveries
- Judicial inflation
- Inflation of legal costs
- Increasing number of heads of damage
- Medical advances
- Interest rates
- Large claims
- Contributory negligence on employers liability claims
- Claims handling procedures

Aggregate claim costs

- Legislative changes
- Tort reform
- Court decisions
- Changing weather patterns
- Car design
- Demographics
- Changes in deductibles
- Changes in policy terms
- Underwriting decisions

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Taken from Sheaf et al

What is in the paper: monitoring the effects of Inflation

(the impact on claims, premiums, profitability, investments, capital & actuarial valuation methods)

- Certain classes of general insurance business are more closely linked to economic inflation than others.
- Claims inflation in different classes of general insurance business may lead, lag or coincide with economic inflation.
- Inflation has a direct negative impact on profitability via rising claims costs.
- The main underwriting response is to reprice insurance risks that exhibit elevated claims costs.
- General insurers' investment income is largely protected against inflation.
- A short-term sharp increase in inflation is expected to have a negative impact on the capital requirements of general insurers.
- The use of explicit inflation adjustment techniques in Australia meant that actuaries in Australia were better positioned than their UK counterparts when inflation shifted significantly in 2022.

What is in the paper: Forecasting Inflation

- There is a long history of economists, actuaries and others, such a government treasuries, not forecasting significant and sometimes protracted surges in inflation…
- …which have had severe effects on important financial institutions such as defined benefit retirement funds, life insurers and general insurers
- Forecasting inflation is very difficult, even in the short term (1 year)…
- …and arguably more difficult in the longer term (5 years plus)
- The difficulty of using economic models to forecast inflation has been well documented over several decades…
- Ben Bernanke is the latest to do so…

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Update since the paper was published: Forecasting Inflation

Ben Bernanke recently (April 2024) found that the Bank of England (a central bank) had made significant errors in forecasting because it:

- did not put adequate resources into developing and maintaining its forecasting models
- did not put enough effort into ensuring the quality of data used in models
- accepted market consensus uncritically as a major input
- had a bias toward making incremental changes in successive forecasts, together with the use of human judgements that papered over problems with the models, which may slow recognition of important structural changes in the economy
- did not make appropriate allowances for lags which were known to exist

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Update since the paper was published: Forecasting Inflation

Bernanke proposed that a forecasting framework should include at least the following key elements:

- rich and realistic representations of the monetary transmission mechanism, allowing for alternative channels of transmission;

- empirically based modelling of inflation expectations, with a distinction between short-term (e.g. one-year) and longer-term (e.g. five to ten years) expectations, and without the assumption that longer-term inflation expectations are always well-anchored; and

- models of wage-price determination that allow gradual adjustment and causation from prices to wages as well as from wages to prices, the financial sector, the housing sector, the energy sector, and other key components of the UK economy.

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Discussion: some questions

How has the increase in CPI impacted on claims experience, valuation methods/process, premiums, reserves?

How do you:

- forecast inflation – own model or externally sourced?
- allow for the uncertainty in inflation forecasts?

Will the factors driving excess insurance inflation (superimposed inflation) continue to drive excess inflation no matter what happens to economic inflation?

Will the fiscal deficits of many governments continue to add not just to economic inflation but also to superimposed inflation (e.g. via schemes such as the NDIS which can change the propensity to claim more broadly)

Do you always identify which of the two alternate definitions of superimposed inflation you are utilising?

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Thank you

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