



# Institute of Actuaries of India

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## **Analysis of Experience in Health Insurance**

1<sup>st</sup> capacity Building Seminar in Health Insurance

3<sup>rd</sup> September 2012

Anurag Rastogi, Bajaj Allianz General Insurance Company Limited

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# Agenda

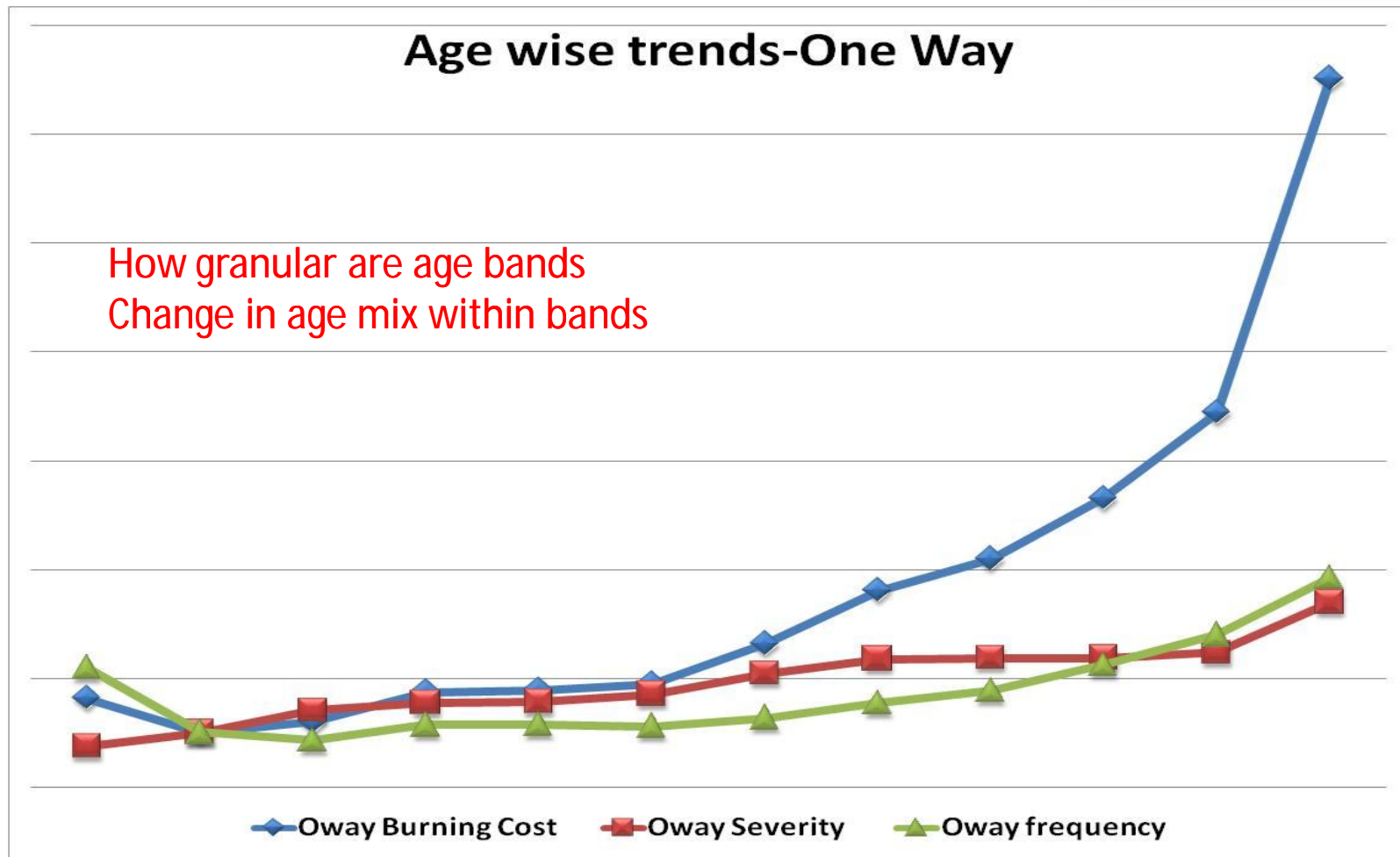
- Individual health insurance analysis
- Group health insurance analysis
- The ticking time bomb
- Challenges of implementation

# **INDIVIDUAL HEALTH INSURANCE ANALYSIS**

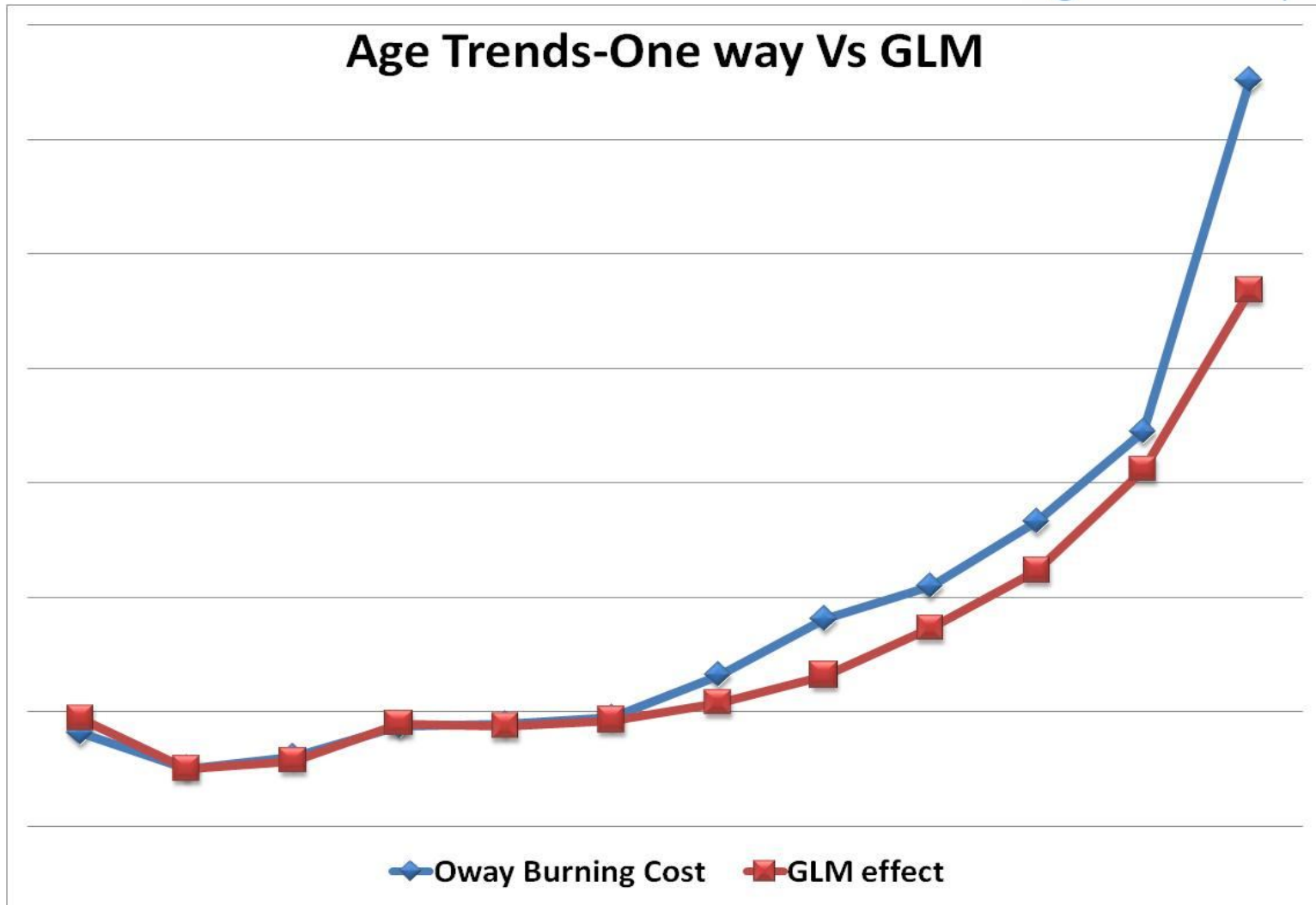
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# Individual Health Insurance Analysis

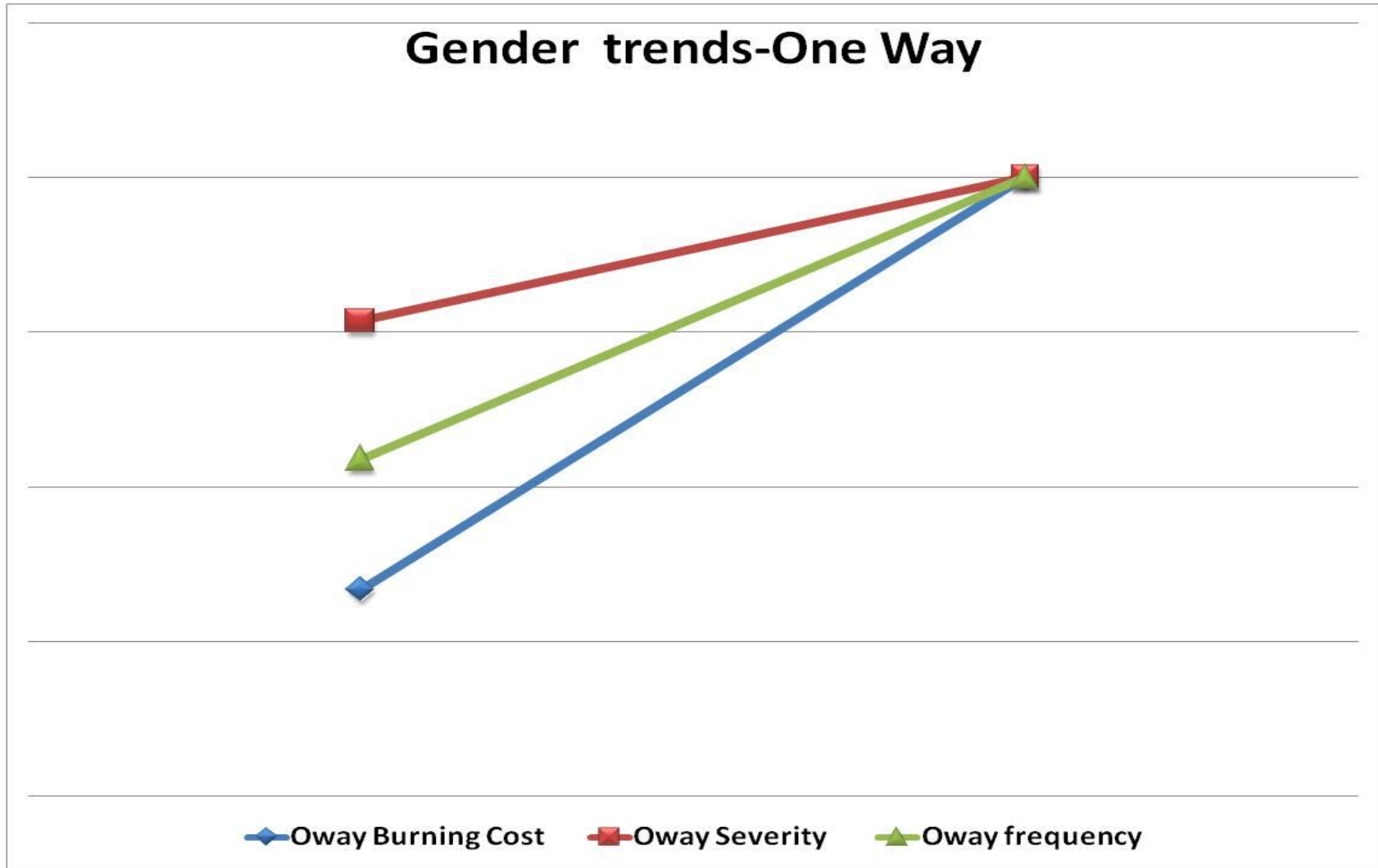
- Ensuing slides are based on Bajaj Allianz data and may carry the bias of company's business practices and customer profile.
- To protect data confidentiality, factor levels and their relativities have been removed from X&Y axes
- The analysis is based on four years' exposure & claims data and follows AY approach
- Effect of year on year claims inflation has been stripped out in the multivariate effect but not in the one way effect
- Appropriate IBNR has been built in both one way and GLM effect
- All GLM effects are true model effects before smoothing



Steep increase in pure risk costs at higher ages is a cause of concern and a social challenge in making health insurance available to elderly population

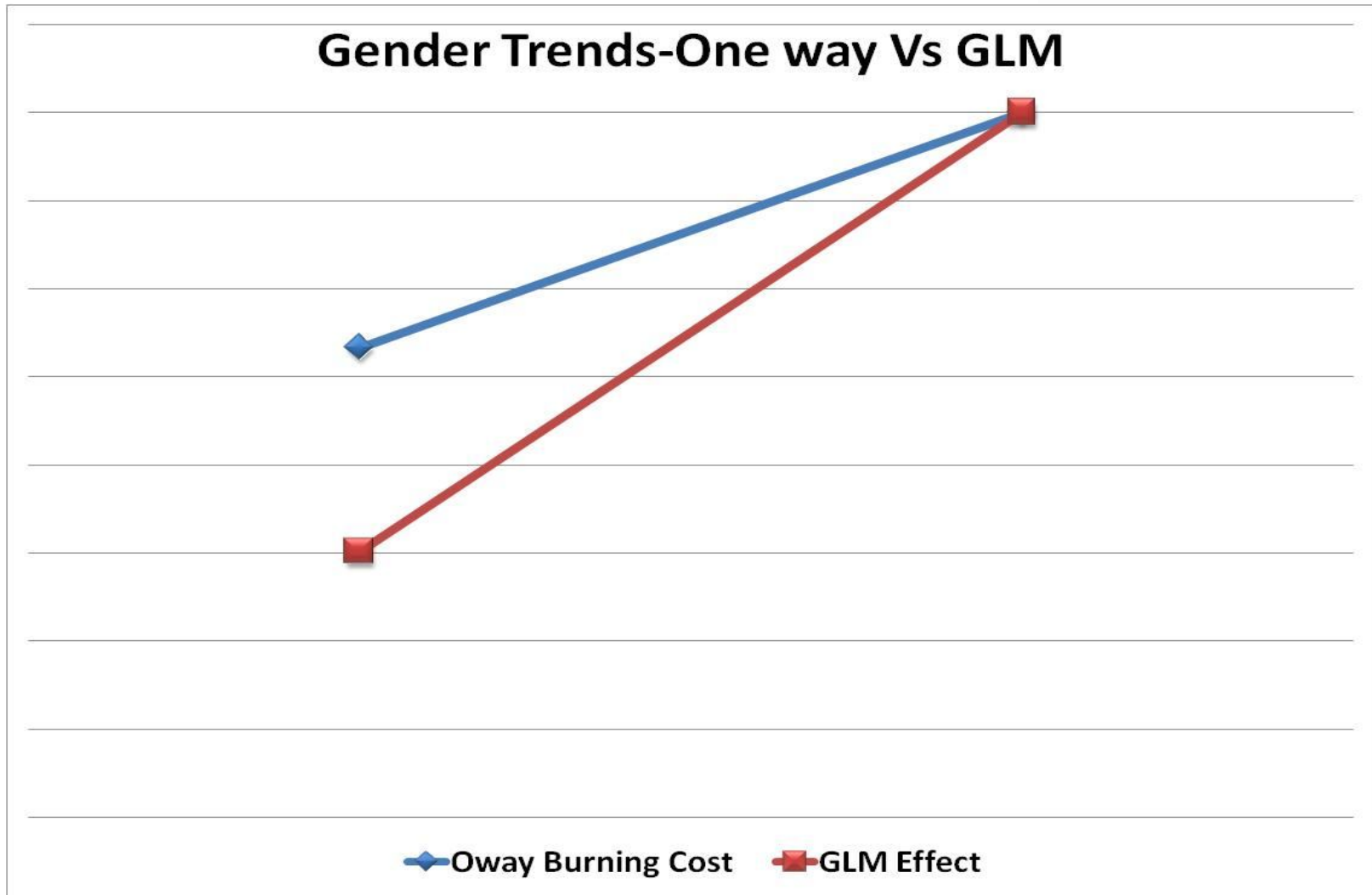


GLM effect of age is much milder than one way effect, but still cause of concern



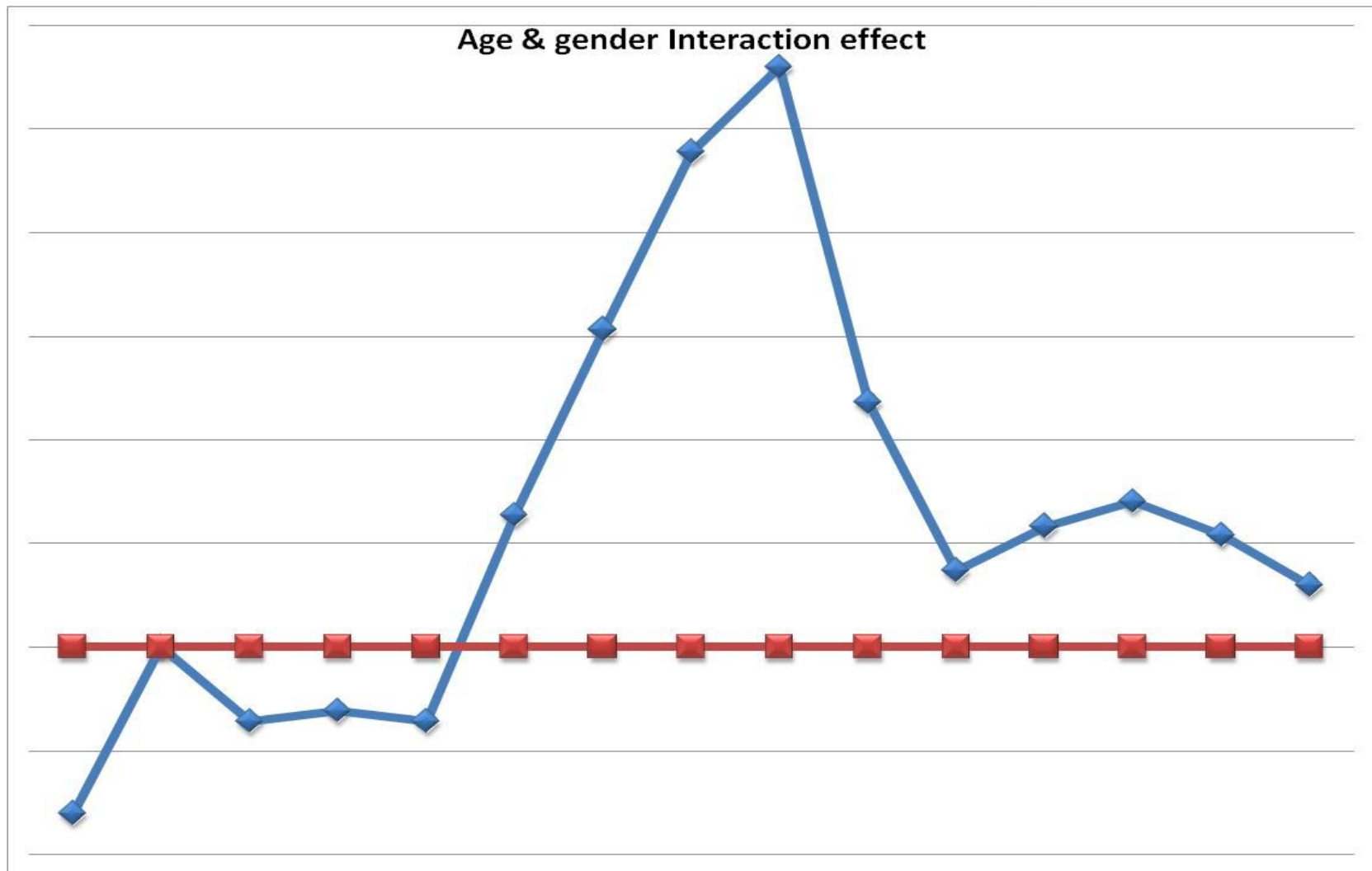
Gender is not a common rating factor but the effect of gender is fairly strong in claims experience

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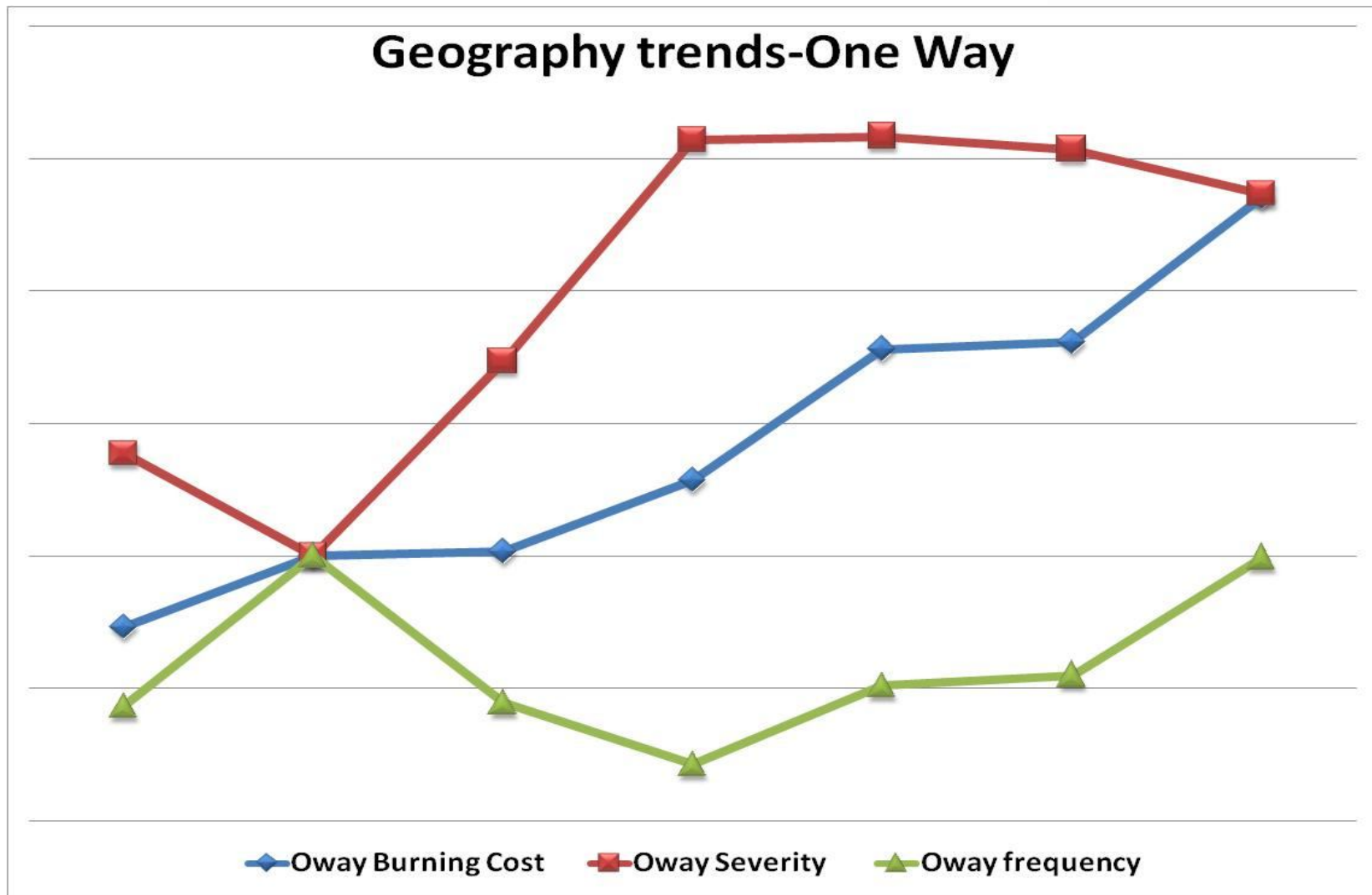


GLM effect of gender is much more pronounced than one way effect



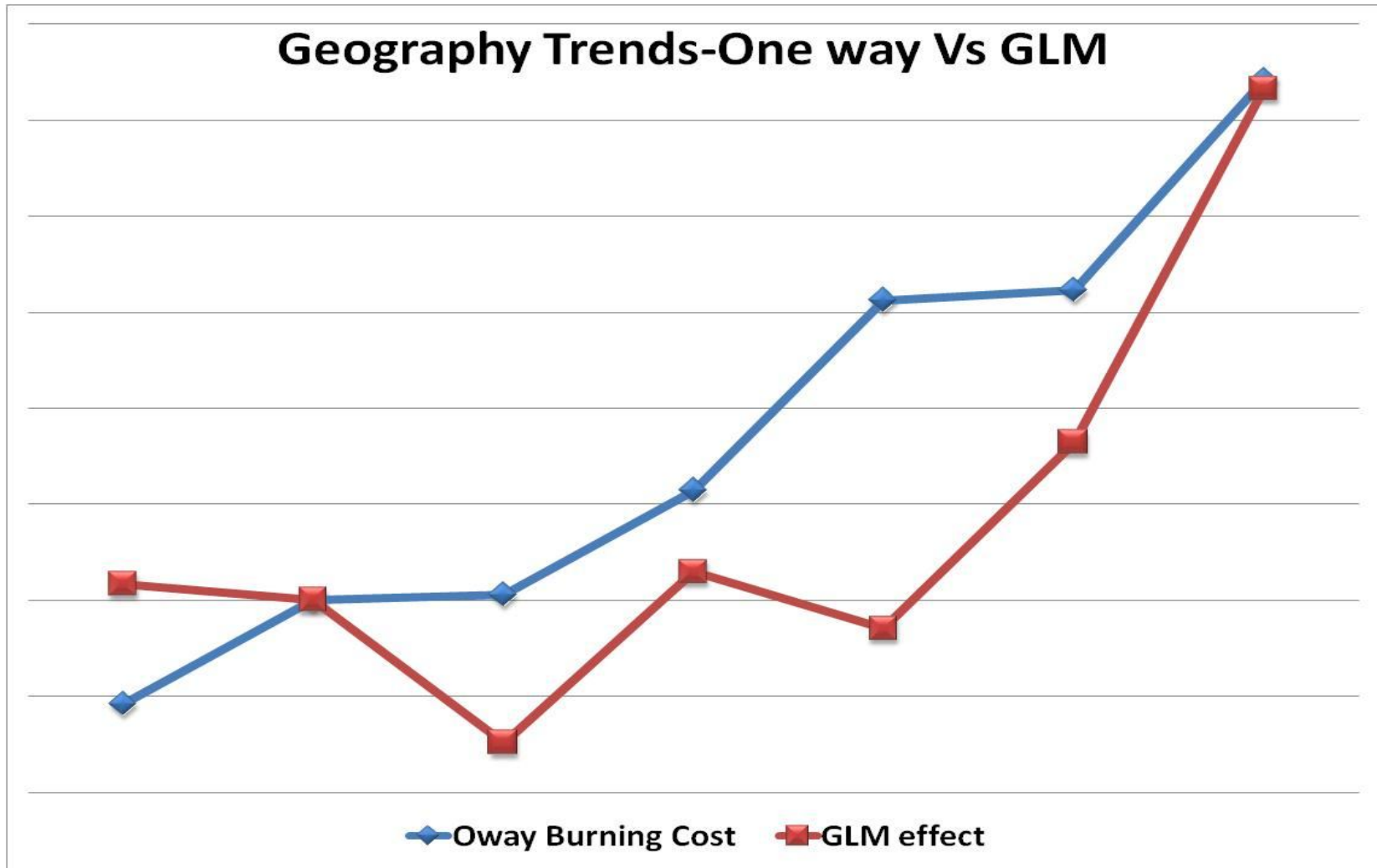


Need to take care of age & gender interaction



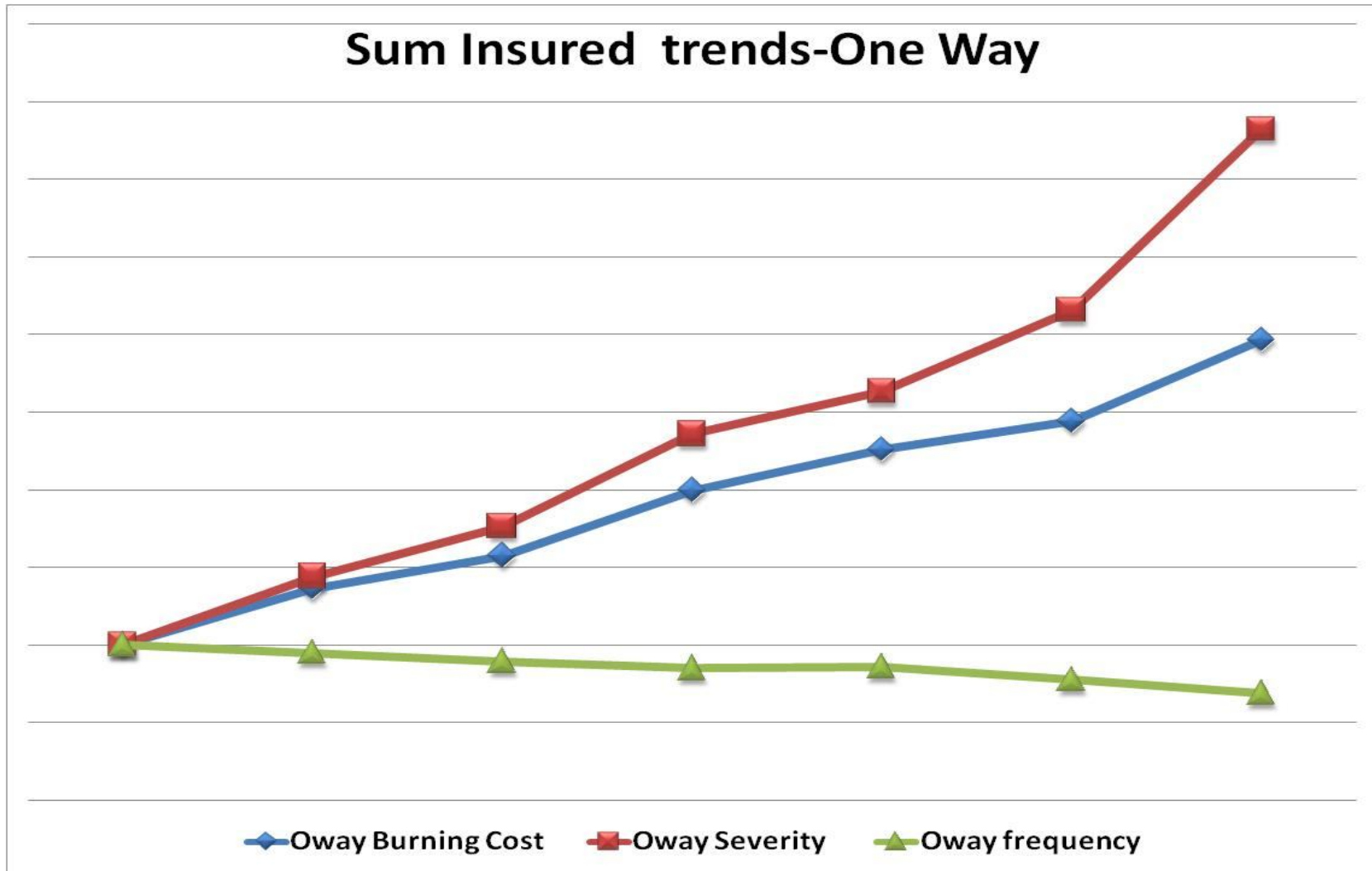
Claims experience varies widely from one geography to another. Need to watch out for change in business mix by geography

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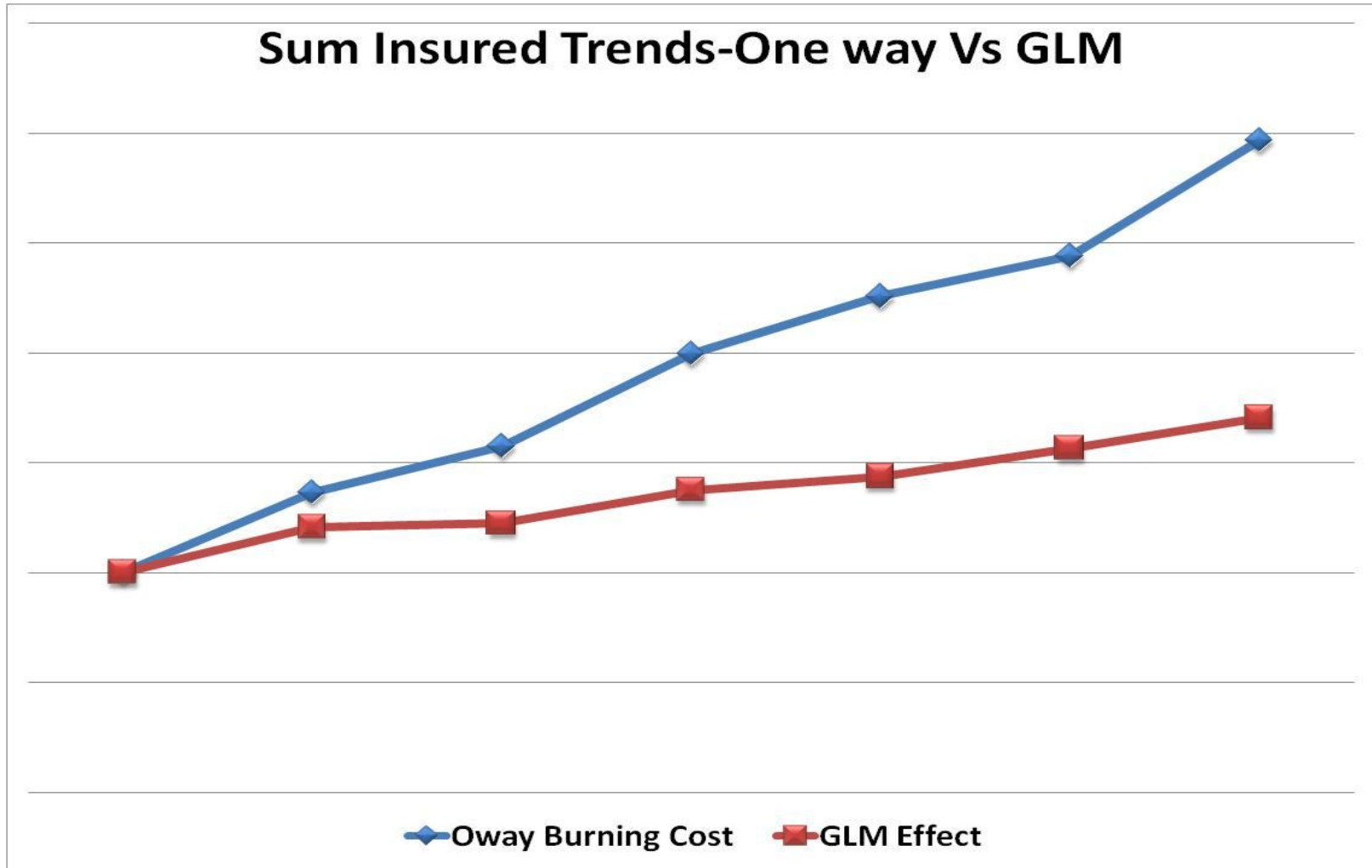
However the variance is much less pronounced per GLM and can change the perception of some geographies

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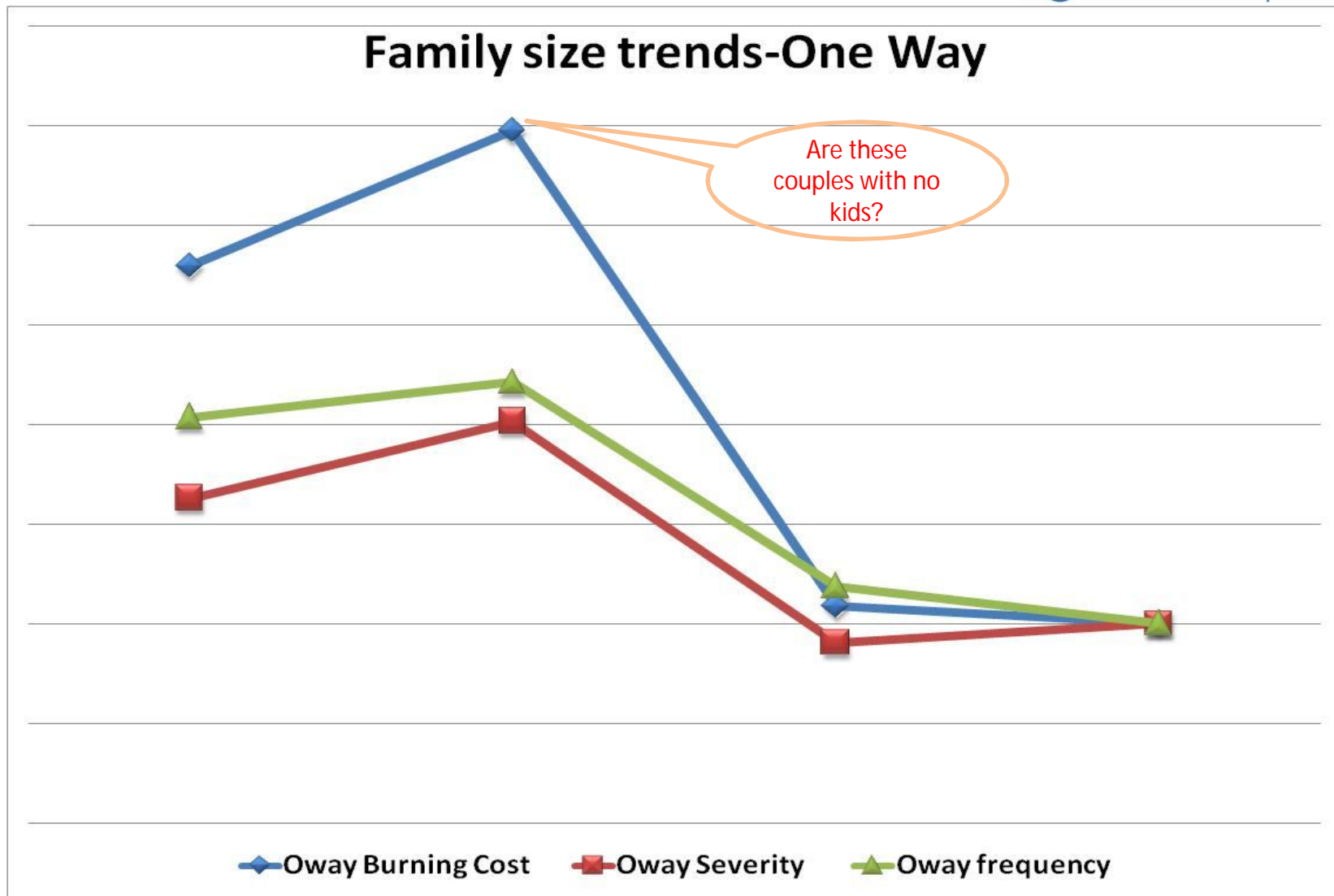


While the claims frequencies come down with higher SI, the severity & risk cost increases

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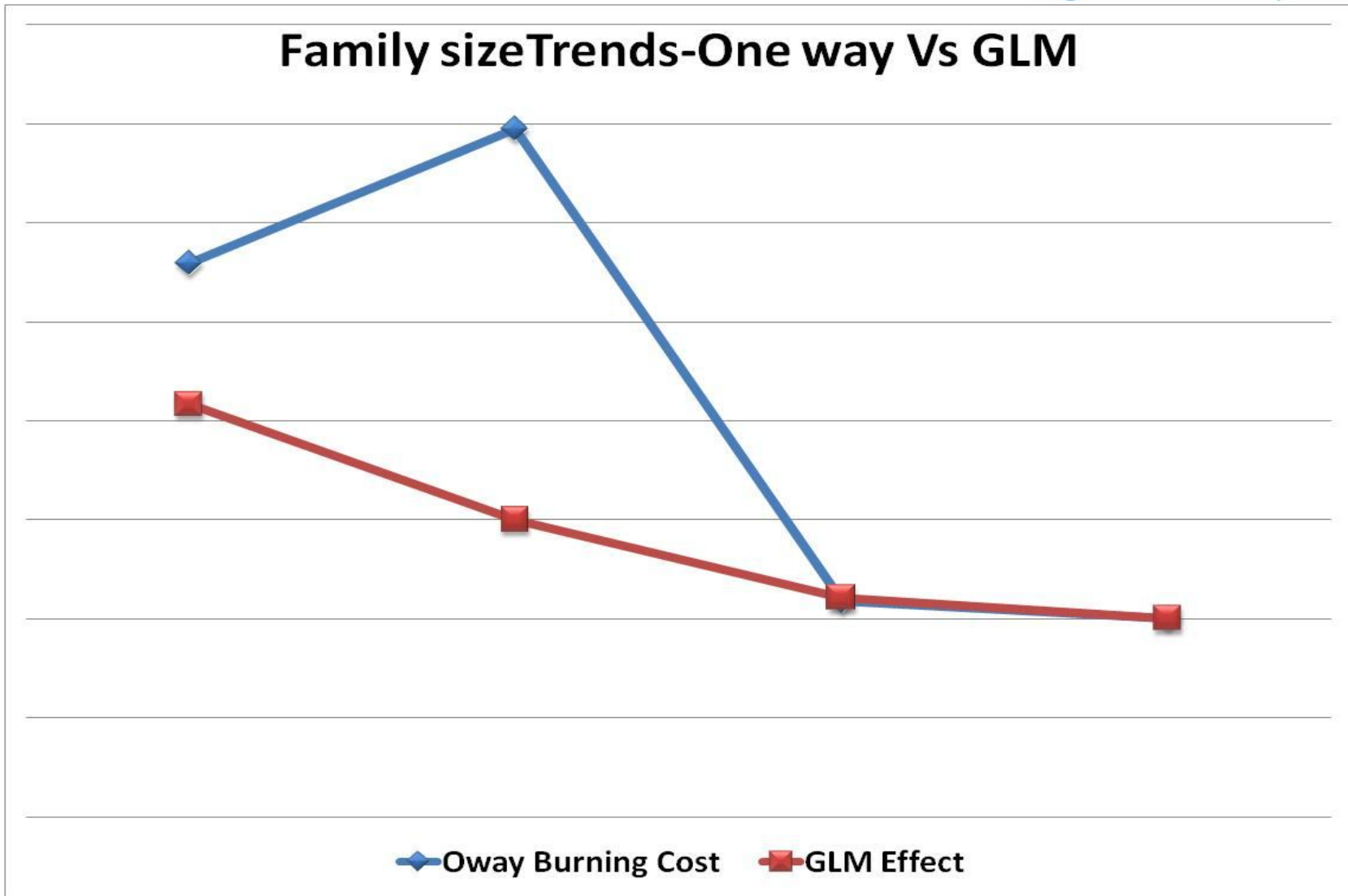


The GLM effect of sum insured is much milder than the one way effect



Is the larger family size spreading the risk better or there is anti-selection against insurers by single or smaller families

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Smother GLM effect and less pronounced for small family sizes

# Other factors for Individual Health analysis

- Floater Vs. non floater cover
- Medically under-written status
- Own renewal Vs. other company renewal
- Cross product holding
- Network Vs. non network provider(for severity only)
- Cross subsidy analysis
- .....



# **GROUP HEALTH INSURANCE ANALYSIS**

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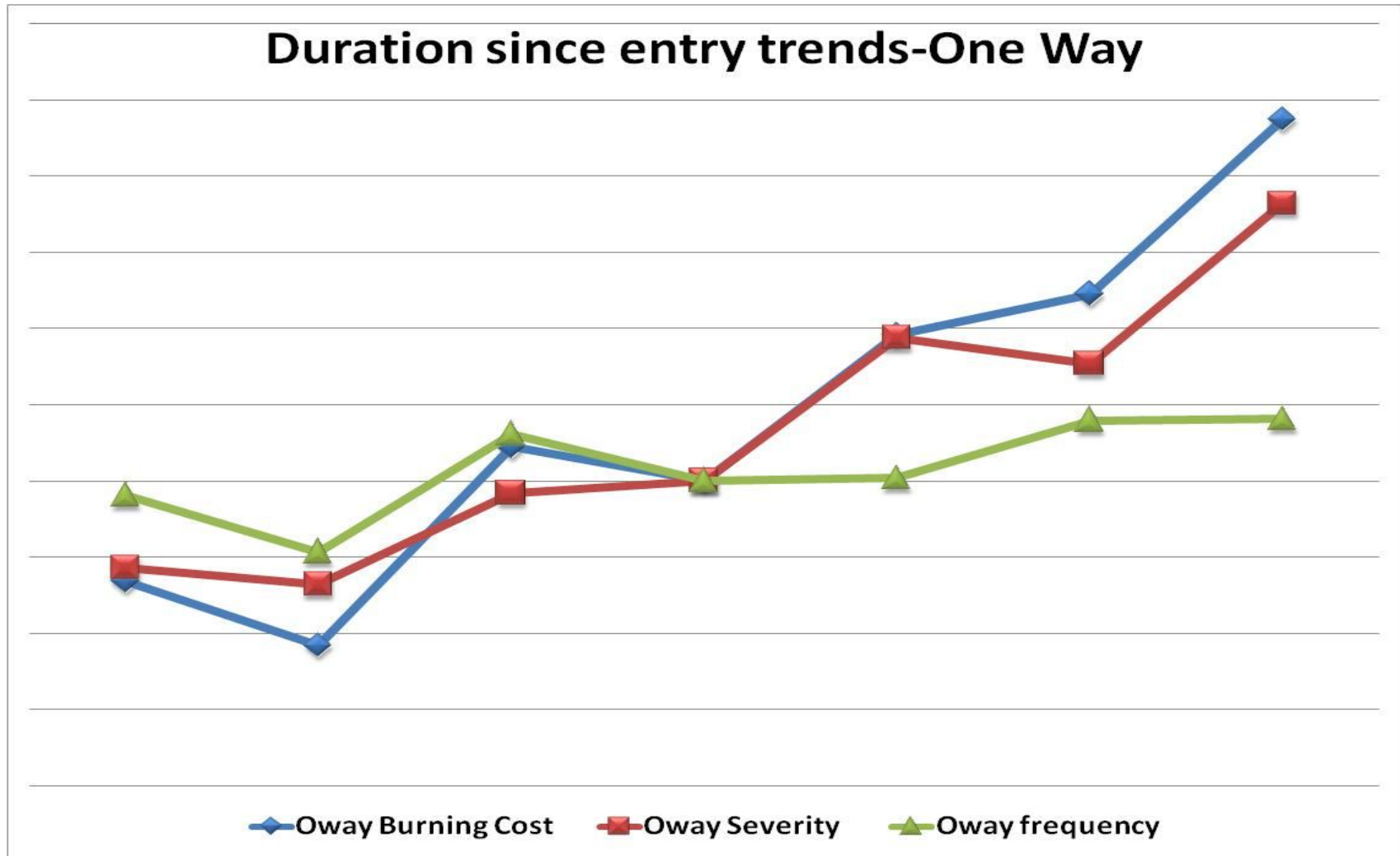
# Group Health Analysis

- In addition to factors analyzed for individual health
  - Co payment status/amount
  - Sum insured on floater basis or otherwise
  - Group size
  - Industry category
  - Occupation category
  - Maternity benefit coverage
  - Pre existing disease coverage
  - Room rent restriction amount

*The GLM effect of some of these factors may completely change the perceptions gathered from one way analysis*

# **THE TICKING TIME BOMB**

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The more loyal the customer, the larger the risk cost to insurer??

# Duration since entry trend - challenges

- New business subsidizing the existing portfolio?
- Oft heard responses
  - Write more new business???
  - Charge higher premium on successive renewals??
  - Create a deferred benefit reserve??
  - ?????

# Challenges

- Credibility of data available with individual insurers and lack of availability of industry wide data
- Implementability of the findings of experience analysis
  - Sales pressures
  - Competition
  - Lack of appreciation
- Poor data capture in proposal forms

# Thanks

Questions?