The Request for Proposal (RFP) is addressed to researchers who work on longitudinal studies outside of the Property Casualty (P&C) insurance industry and asks them to demonstrate how they would approach the problem of estimating future claim payments on policies sold by a P&C insurance company. This note is intended to provide enough background on that task that researchers outside of the P&C industry can make some informed decisions when setting up and interpreting their model results.

Estimating future claim payments is a common task for members of the Casualty Actuarial Society (CAS) who are P&C actuaries. The commonly used term for that exercise in the industry is loss reserving. CAS members tend to not think of loss reserving as a longitudinal study and one purpose of this note is to make clear how one can frame the loss reserving analysis problems in terms of a longitudinal study plus provide enough domain background

The claims that are in the sample data set are meant to provide a representative sample of the type of claim activity that can occur when a P&C insurance company sells a liability policy (one that provides coverage to the policyholder against third party claims) that is written on an occurrence basis. When P&C insurance companies sell policies the most common form of the policy is one where the policy term is for one year and it is written on an occurrence basis. Using an occurrence policy form means that the insurance company agrees to pay claims where the incident that led to a claim occurred within the time period for which the policy is in effect subject to the cause of loss for the claim falling under one of the coverage categories listed in the policy term. Typically, there a limits inserted in the policy form which define a limit on the amount which the company will pay on a claim.

Claims can be reported to the P&C insurance company after the policy effective date has expired if the policy was written on an occurrence basis. For example, if a policy has an inception date of 01/01/2009 and expires on 12/31/2009, the insurance company may have an obligation to pay damages on behalf of the policyholder for a claim that is reported after 12/31/2009, if the incident that led to the claim occurred between 01/01/2009 and 12/31/2009 subject to confirming that the nature of the claim is covered under the list of coverages written into the policy contract and subject to policy limits written into the policy.

This leaves the P&C insurance company with the task of estimating its liabilities for policies that have been sold. Typically, a company will organize its historical claim payment records so as to match costs (claim payments) against earnings (earned premium from policies sold). Claim payments (both historical paid to date and estimated future claim payments) are commonly organized by accident date (the date the incident occurred) so as to match costs (claim payments) against earnings (the policy premium earned on a pro-rata basis). A common way of using the accident date is to assign claims both paid to date and estimated future payments to an accident year which for a given year means any claims with the incident date falling between January 1st of that year and December 31st of that year are assigned to that year. For example, a claim with an incident date of 05/12/2009 would be assigned to accident year 2009.

The accident years form groups (one could also use quarters, months or even days as groups) and the claim activity is measured and monitored on a regular basis by time period as the cohort of claims is first reported then evaluated and settled over time. That grouping of claims and then measuring activity on a regular basis over an extended time period lends itself to the longitudinal study format.