ACT 471 Assignment 3

Part 3: Government and Industry Insurance Programs

1. (7 points)
   1. (1 point) Briefly describe 2 methods of loss subsidization that the government insurer can use to fill insurance needs unmet by private insurance

**Ans:**

The first method is to tax taxpayers for the insurance program even those who do not benefit from the program. Another method involves charging less than the actuarial cost of providing insurance coverage and making up the difference through government-provided funds.

* 1. (2 points) Identify and briefly describe 2 reasons for government participation in insurance, other than to fill insurance needs unmet by private insurance.

**Ans:**

One reason for government participation is the compulsory purchase of insurance. When the government requires individuals or businesses to obtain insurance such as automobile insurance to meet social responsibilities, they might step in to make sure the mandatory insurance is affordable and available, even for less profitable customers. Some states felt obliged to offer insurance to individuals who cannot find a private market. In theory, the cost of insurance would be cheaper if offered by a not-for-profit government agency.

Another reason for government participation in insurance is convenience. It’s easier for the government to set up a program quickly in order to meet the gap in the market. The legislature can appropriate funding for the new program. It might take longer for the private market to find the necessary capital. A government program may also be already set up to provide certain types of services needed by the insurance program.

* 1. (1 point) For each of the reasons provided in part b., briefly describe 1 situation in which the reasoning for government participation may not be justified

**Ans:**

For the reason related to the compulsory purchase of insurance, if the private insurance companies are able to provide the insurance product that is available and affordable for all, then the reasoning for government participation may not be justified, especially when the government’s expense/cost ratio is higher than that of the private sector and the government is not efficient enough. Moreover, in a situation of perfect competition, the government’s profit margin might tends to be zero and the cost of insurance may not be cheaper, which is not reasonable for government participation in this case.

For the second reason of convenience, if the private market is able to provide the insurance product or set up a program quickly in order to meet the gap in the market, then the reasoning for government participation may not be justified, especially when the legislature cannot appropriate funding for the new program and it takes longer for the government to find the necessary capital.

* 1. (3 points) Identify 3 evaluation criteria for government insurance programs and evaluate the performance of the Québec's public automobile insurance plan based on these criteria.

**Ans:**

The first criterion is whether the provision of insurance by the government is necessary or whether it achieves a social purpose that cannot be provided by private insurance. The second criterion is whether the government insurance program is insurance or a social welfare program. The third criterion is whether the government insurance program is efficient and accepted by the public.

1. (6 points)
   1. (3 points) Describe 3 reasons for historical limited availability of flood insurance in Canada

**Ans:** The first reason is that private sectors are worried about adverse selection. It could happen that only high-risk properties end up purchasing flood insurance such that there are not many low-risk policyholders to subsidize when losses occur. The second reason is that the flood maps are not up to date by the government. Without proper flood maps, insurers are not able to accurately classify risks. The third reason for the limited availability of flood insurance is underinvestment in infrastructure. Flood infrastructure is not adequate-invested or well-maintained, which leads to a larger risk of failure.

* 1. (1 point) Explain 1 precondition that is essential to establishing a strong flood risk management culture which is not included within your response to part a.

**Ans:** One precondition is that flood insurance is affordable. We need to be able to provide affordable protection for high-risk customers in order to ensure maximum participation in flood insurance.

* 1. (1 point) Explain why government involvement in a national flood program may still be needed to supplement the flood coverage offerings from private insurers.

**Ans:** Government involvement increases awareness of flood risk. The government needs to promote active flood risk reduction, especially on the part of homeowners and insurers, and convey risk-assessment information to all participants which means the flood map should be reasonably available. Government involvement also improves risk identification. They need to make sure the flood maps are improved, up-to-date, and well-maintained. Also, if there are investments in flood defense infrastructure, it should be reflected in flood maps. Government involvement also mitigates risks. The government needs to reduce the number of Canadians living in high-risk areas and invest in flood mitigation such as maintaining dams. They also need to subsidize high-risk policyholders. Finally, they also need to limit access to government funding for disaster relief to encourage their own risk mitigation through the purchase of insurance. In this case, people may be more aware and able to mitigate their own flood risk and flood insurance will be more available and affordable for everyone.

* 1. (1 point) Flood coverage for personal property has not been typically offered by private insurers in Canada. Describe 1 reason why insurers have historically paid for a large proportion of these losses.

**Ans:** The financial results of the FARM are pooled among all insurance companies who write in the province based on participation ratios. Participation ratio is determined separately for each of 5 classes of business, and the profit/loss is allocated by class to each member

1. (2 points) Identify 2 similarities and 2 differences between the Ontario and Alberta RSPs.

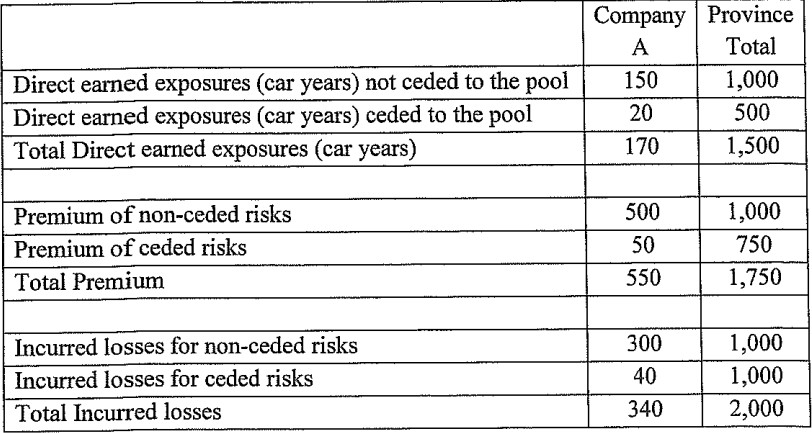
**Ans:**

Similarities: Both Ontario and Alberta RSPs allow insurers to transfer 5% of their non-fleet written exposures to an industry-wide pool except GRID. Alberta Non-GRID is also 5%. Both RSPs are invisible to both consumers and intermediaries. The financial results of the RSPs are pooled among all members.

Differences: Alberta GRID does not have a limit of transferred risks while Ontario RSP only allows insurers to transfer 5% of their non-fleet written exposures to an industry-wide pool. ‘

In Alberta, the participation ratio is calculated based on their market share of PPV, non-fleet, TPL direct earned exposures that are not ceded to an RSP. In Ontario, 50% of their participation ratio is determined by non-RSP market share and 50% is based on RSP market share (earned exposure).

1. (6.5 points) The following information is provided for the RSP in Nova Scotia. All amounts are in 000’s.



Company A exclusively writes business in Nova Scotia and their usage is below the RSP maximum total allowable transfer limit. Assume expenses are 0%.

* 1. (1 point) Calculate the loss ratio for Company A on their share of the risk-sharing pool

500/300

* 1. (1 point) Calculate the total loss ratio for Company A which includes the results of the risk sharing pool

550/340

* 1. (1.5 points) Suppose the above information were for Ontario. Calculate the difference in participation ratio for Company A.

50% \* 150 + 50% \* 20

* 1. (2.5 points) Calculate the revised total loss ratio for Company A if they choose not to cede any risks to the RSP

550/340

* 1. (0.5 points) Propose how the company can use the RSP to lower its total loss ratio.