AUTOMOBILE INSURANCE
IN LEBANON AND NORTH AMERICA
A COMPARATIVE STUDY

A Research Topic
Presented to Business Division
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In Partial Fulfilment
of the Requirements for the Degree
Master of Science in Business Management

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A COMPARATIVE STUDY

The following professors nominated to serve as the advisors of
the above candidate have approved his research work.

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SIGNATURE
DEDICATION

TO

MY DEAREST MOTHER
&
MY BELOVED WIFE
ACKNOWLEDGEMENTS

I would like to extend my thanks to all those who helped me throughout the preparation of this project.

I am mainly grateful to the personnel of the Association of Insurance Companies in Lebanon, and the Motor Vehicles Department for the valuable data and information they gave me access to.

Also, I extend my admiration to the persons I interviewed and thank them for their time and responsiveness.

Among all, my advisors provided the invaluable assistance. I thank Professor Yusuf Shibli for his continuous guidance, precious orientation, and understanding. I thank Doctor Abdallah Dah for his comments as well as appreciation.

Last but not least, is my recognition for my family members, my mother for her patience and encouragement, and my wife for the valuable time she spent in the layout of this project.

To all the above persons, I attribute the success of this work.
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Mr. Elie Bathiche. General Manager, Bathiche Insurance Agency.
CHAPTER ONE

Purpose, Scope & Methodology

I - PURPOSE:

Economies of the western countries, enjoying organized societies, continuously seek additional security for members in an attempt to provide for them the best of "peace of mind" that would render them more productive and career oriented after being in a "safe" environment. Needless to say that members of the Lebanese society do not enjoy this peace of mind because of the deteriorating situation they have been living in since 1975. Deterioration includes security conditions, social conditions, and finally and probably the most important are economic conditions.

As a result of the above, no average Lebanese individual is still able to sustain hardship in the monetary sense of the word. Moreover, no social guidance programs are available to teach him/her organize, avoid, prevent, or cope with catastrophes. One of the main sources of consumer spending in Lebanon nowadays, and probably the most expensive is that of hospitalization. Another important spending outlet is the cost of purchasing a car and maintaining it in a good working condition.

Perhaps a major reason for spending on hospitalization and maintenance is the car accident which might vary in magnitude from minor to serious to very serious or severe. A prudent human being would try to, either avoid such risk, prevent it if possible, or transfer it to a responsible capable organization, such as an insurance company. The question is whether
Automobile Insurance in Lebanon is capable to solve such problems and assume these risks or not. This is the main idea of study in this project, in which the system prevailing in Lebanon with all its coverages, problems and interrelated needs is compared to the most advanced systems in the world, namely those of North America.

The second part of this study analyzes new coverages to be suggested, pricing models, and means to improve Automobile Insurance in Lebanon.
Automobile Insurance, with all its coverages and possible extensions, constitutes one of the widest lines of insurance ever known. In fact, all insurance companies in the U.S.A. and Canada have separate departments for the underwriting of automobile risks. All Insurance Institutes in the above countries and others offer complete courses for the study of this line at a college level.

In connection with this project, my study considers the liability part for Property Damage coverages and Bodily Injury coverages, as well as the part for own damage. To that effect, an in-depth analysis of these coverages, existing as well as suggested is provided as it is the core of the recommendations. A new compensation scheme whose advantages and disadvantages are to be considered, is introduced. Suggestions for the elimination of existing exclusions are made with a detailed statement of reasons.

Finally, a real life accident case is analyzed under the existing coverages and the suggested ones, and a comparison of the benefits and compensation is presented.
The study consists of five chapters as follows:

Chapter One  -  Purpose, Scope & Methodology of study
Chapter Two  -  Review of Literature on Automobile Insurance
Chapter Three  -  The Lebanese Automobile Insurance Industry
Chapter Four  -  Automobile Insurance in North America
Chapter Five  -  Recommendations for improvement of the Lebanese Automobile Insurance System
Automobile Insurance is a wide line and is generally dealt with in most of the introductory books on insurance. Nevertheless, it was very hard to locate more advanced books on this issue.

I tried to collect the following data:

1. Collection of information related to Automobile Insurance in its general sense, including history of Automobile Accidents, attempts towards Automobile Insurance, and Automobile Insurance evolution and experience.

This information was gathered from books, magazines and published material collected from B.U.C. library, A.U.B. library, U.S.J. library, the Insurance Association and some private books and publications. All this material would be listed in the bibliography.

2. Information about Automobile Insurance in Lebanon, including existing experience, problems faced, and needs; In addition, some statistical results were required to assist the analysis. Actually, gathering such information was very hard due to the fact that it was rarely published. In compensation, a set of interviews with managers in insurance companies and insurance consultants were conducted, out of which a part of the needed information was derived. Also, in this part, as well as in the coming parts I had to rely partly on my own experience in the Lebanese Insurance Industry and in the Canadian Insurance Industry where I had the chance to work as an Underwriting Manager in Lebanon and as Company Underwriter in Canada.
The analysis of the existing Lebanese Automobile Insurance system was mainly based on the standard general conditions adopted by all insurance companies in Lebanon.

The statistical data used and projected in this study was provided by the Association of Insurance Companies in Lebanon and by the Lebanese Motor Vehicle department. In addition, some statistical data was derived from Lebanese published books to be listed in the bibliography.

3 - Information about the new doctrines and Automobile Insurance schemes in effect lately in North American countries.
In this section, information was derived from books published by the Insurance Institute of Canada as text books taught in Canadian Universities, general insurance books, insurance reports, and specifically the Ontario Motorists Protection Plan general conditions. In addition, some information was provided from my personal experience in the Canadian Insurance Industry.

Finally, a detailed bibliography for all books and publications that assisted me in my study is provided later in this project, in addition to detailed footnotes for selected material.
It is rather important to mention that I had some limitations in gathering statistical data for such reasons:

A - A minimum of such data is published either in local magazines and newspapers or by Insurance companies themselves who do not publish financial results.

B - The data supplied by the Association of Insurance Companies in Lebanon is considered to be representative of 80% of the universe due to the fact that only companies comprising 80% of the Automobile Insurance market are supplying such information, thus, approximation of figures is applied to the best of the purpose of this study.

C - Data provided by the Motor Vehicle Department does not also reflect the real number of vehicles in use due to non-cancellation of the licences of cars burned and destroyed by war.
CHAPTER TWO

REVIEW OF LITERATURE ON AUTOMOBILE INSURANCE

I - HISTORY:

Since the beginning of history, man became involved in domestic trading activities that took the form of services in the early stages, and later developed into more complex forms of domestic and foreign trade thus leading to the business environment which one is observing nowadays. As a result, individuals usually found themselves confronted with circumstances that might endanger their being, as well as their belongings. They were exposed to risk. For example, when selling the service of construction, the threat of being injured or killed was always there; trading goods was always subject to such risks as loss due to drowning if transported by sea, burning during storage, theft by thieves, and others from the countless list of risks. This leads to a conclusion that risk is a fact of life for individuals as well as businesses, and consequently, societies began to feel the consequences of such risks of survival continuation, and thus realized that if such losses are to be born by one person, it would be a heavy burden and he would not be able to assume its results. In contrast, if such losses are to be shared by the whole society, its results would be less severe and thus bearable without affecting the continuation of survival. From here, the idea of insurance emerged.
"Insurance is the method of sharing the losses of
the few individuals who suffer them among the many
in the group who do not". 1

In fact, as an application of this theory, the code of Hammurabi, written
by the King of Babylon around the year 2000 B.C. was the first or among the
first implementations. It stated that "If a man was robbed and the bandits
were not caught, he should describe his loss before God and the local
administration would make restitution for the loss. If a life was involved, then
a specified sum of silver was paid to his family". 2 Obviously, this was a mere
description of the principles of robbery and life insurance.

Since that time and after, Insurance became an enthusiastic escort for
technological and social advancements, and the word "insurance" turned out
to become a necessity of life. As ships were invented, and sea shipments
began, Marine Insurance emerged to provide coverage for the goods
transported and for the ship hull itself. As machines were introduced,
Machinery Breakdown Insurance was launched to cover them and their risk.
Similarly, as automobiles were driven, Automobile Insurance was introduced to
cover them and their accidents.

Aircrafts, computers, electronic devices and space shuttles are examples
of latest technologies for which insurance coverages were derived as soon as
these inventions were brought to reality, not to mention other types of
insurance that proved to be as helpful for societies and businesses such as

1 The Insurance Institute of Canada, Principles and Practice of Insurance, (Canada: The Insurance Institute
of Canada; 1989) p. 5

2 Ibid, p. 8
Life Insurance, Health Insurance, Worker's Compensation, Fire Insurance, Earnings Insurance and other coverages.

There is no doubt that the automobile, as a commercial product that could be owned by almost any human being, was put into mass or commercial production during the twentieth century. Nevertheless, its risks were identified for before that, at stages where its use was a privilege of certain levels of people and its ownership was very rare during the periods when it was a new invention.

Actually, the first attempts of this invention took place during the year 1770 when J. Cugnot, a French citizen, developed the first vehicle that moved by the power generated from a specific device rather than being pulled to move. This vehicle was propelled by steam developed in a large boiler which was suspended in front of the vehicle, and this was the first attempt to use steam in automotive locomotion. Later, and in that same century, G. Gurrey – an English inventor – was the first to make an extensive use of steam as means of traction and power generation for movement on the roads.

Although the production of such vehicles continued since that period and on, its first legal recognition as an automobile happened in year 1831 at the British House of Commons where a special committee reported that the automobile movement was considered as fully established. However, in face

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3 The Insurance Institute of Canada, Automobile Insurance, (Canada: The Insurance Institute of Canada; 1989) p. 1

4 Ibid, p. 1
of this recognition, prohibitive and excessive tolls were charged on the
highways because of the popular prejudice against this new invention. It was
at that time when the risks and damages created by automobiles were
identified, and as a first move in the form of preventive action, it was required
that a man walking with a red flag by day and a red lantern at night should
keep one hundred yards (around 92 meters) in advance of every automobile.

After the occurrence of numerous car accidents, insurance companies
which existed originally since 1601, realized that they were confronting a new
potential line of business. Studies related to the type of accidents occurring,
the volume and type of damages resulting and the parties suffering these
losses were conducted and consequently Automobile Insurance coverages were
released.

The development of Automobile Insurance since those days up till now
is to be discussed within the context of chapter IV. Nowadays, and for many
years, the automobile has been regarded as an indispensable monster. It is
true that it has been proven that the automobile is the most commonly and the
widest means of transportation used in the world, but it has also been proven
that it is the most consistently effective lethal weapon for death, injury, and
property destruction. 5

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To own a vehicle, as vital as it seems nowadays, places the owner and user under specific risks that have their impact on one's normal life, and that are not properly appreciated in most of the times.

In an attempt to risk management, automobile owners are required to perform the following steps to reduce or avoid the impact of accidents they might face in their every day use of their vehicles:

A - Identify the risks they might face.
B - Estimate the probability and seriousness of the potential losses.
C - Consider methods of meeting these risks.
D - Implement and evaluate the decisions made.

These four steps of risk management, that are applicable to all types of risks, are to be considered individually and discussed as applicable to the automobile risk itself.

A - Risk Identification:

Owning an automobile, driving it, using it, and operating any part therefrom, places one under the risk of automobile accidents that might cause

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damages. The type of damage caused in an automobile accident can take the form of either property damage or damage to persons represented by bodily injury. Consequently, one could face damage to his own property which is his/her automobile and its contents, as well as damage to others’ property being their automobiles, their contents, others’ houses, shops, trees, pets and so on. In the mean time, one could face damage to persons in the form of bodily injury to him/herself and his/her family members or friends that might be in his/her automobile, as well as bodily injury to third parties that might be in his/her automobile, in the other automobile with which he/she collided, or in other cases as pedestrians or occupants of houses or shops that he/she might accidentally damage.

Actually, both forms of damage would involve financial losses that would vary in magnitude according to the type and seriousness of the accident. In the case of property damage, the worst that could come is to face total loss of such property whereby one’s financial loss would be equal to the value of this property. In contrast, and in the case of bodily injury, the financial loss involved can never be estimated because it would be a function of the seriousness of the injury and the medical fees involved, in addition to the opportunity costs involved represented by the loss of earnings of the injured person or the damaged property in other cases, as well as the pain and suffering that would be exerted on the injured person.

If a human being or a member of his family were injured, the consequences, as hard as it could be, might be less severe than if a third party was injured. This would lead us to consider the principle of liability.
Most of the risks one faces every day are considered natural risks. That is, the losses that might occur would be the result of natural or physical causes, such as the risks of fire, flood, disability or premature death. In contrast, the liability risk is purely an artificial creation of the law although it arises normally as a result of an accident which is a physical cause; however, this physical cause is always the consequence of a certain act performed by a certain person.

In essence, liability could be defined as:

"The possibility that a person or those for whom he is responsible will be required to pay certain sums in discharge of a responsibility imposed by law".\(^7\)

A breakdown of this definition would denote a consideration of three distinct variables constituting it. The first variable deals with the identification of the responsibility bearer; the second deals with the value of indemnity required, and the third deals with the extent of the responsibility.

"A person or those for whom he is responsible", part of the above definition dictates that, it is not only the driver of the automobile who is held responsible for the damages caused by an accident, rather, the owner of the said automobile is, in some cases, held responsible in conjunction with the driver for such damages, especially if the driver was knowingly violating any

\(^7\) James L. Alhearn, Risk and Insurance, (U.S.A.: West Publishing Co; 1977) p. 100
of the major laws concerning eligibility to drive.

"Certain sums", is the variable directly related to the amount of indemnity to be decided upon by the court. This part is what creates the major uncertainty for the responsible party because the potential loss is open-ended in that it might be for unexpected amounts, unlike property damage accidents that would be set in between two limits, the highest being the value of the property itself. Consequently, what is important in the liability risk is not only its frequency, but more important is its size. In this context, in Risk Management terminology, it is said that if losses are relatively small and very frequent, it is possible to budget for them, but it is the large infrequent loss that people find very difficult to budget for, and thus try to transfer it through the use of insurance. Consequently, as liability losses are in most of the cases very serious and large, they are considered very significant even though their probability is low.

"Imposed by law" is the third variable in deciding the impact of liability. It denotes that liability levels are decided by laws created by courts that are in turn managed by human beings who, according to the simplest theories of human nature, have a tendency to help the injured person on the expense of the wealth of the party causing the injury; they do so because they assume that it is enough for the injured what he/she suffered from pain, and it is time for the person who caused this pain to pay for it, at least monetarily, even if it was not intentional.
Legal Origin Of Liability & the Tort System:

To interfere with, or endanger the rights of others is by itself an illegal act. What decides this is normally a system of laws which is designed to govern and protect the rights of citizens under a specific jurisdiction represented by the Tort system.

A tort, could be defined as:

"A wrongful act or omission arising in the course of social relationships other than contracts, which violates a person's legally protected right, and for which the law provides a remedy in the form of action for damage".  

Under the Tort system, four major types of liability are distinguished, out of which only one constitutes the basis for automobile liability; another is uninsurable or hardly is; a third has no relation to our study, and the fourth constitutes a basis for new insurance coverages under Automobile Insurance.

i - Negligence, is what constitutes the basic concept for liability that arises from a direct action of a specific person. It is in fact the veil under which lies the concept of insurance coverage for automobile liability accidents which is dealt with in the next section of this chapter.

ii - Intentional Tort, being an act committed for the purpose of

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8 J.A. Donaldson, Casualty Claim Practice. (Homewood III: Richard D. Irwin Inc.; 1964) p. 15
injuring another person or causing damage to his/her property. Such acts normally give rise to court actions which might result in monetary indemnity and other sanctions. Liability arising from intentional torts is rarely insurable and considered separately due to the fact that it is of criminal origin, and thus excluded in the general conditions of most policies including the Automobile Policy.

iii - Torts involving Statutory liability, usually denote situations where the injured person, proving that an event has occurred, becomes automatically entitled to recovery. This form of torts involves Worker's Compensation statutes and does not apply to automobile accidents.

iv - Absolute Liability constitutes the concept of strict liability. This concept dictates that even if a person has exercised all the care necessary to avoid injuring another, and nevertheless he/she does, then he/she would be assumed liable, regardless of fault. This concept of No-Fault liability is becoming more and more popular, and getting to be the basis for new Automobile Insurance doctrines.

Our main concern at this stage is the Negligence Tort System which constitutes the basic structure behind Automobile Liability Insurance.
Negligence in its broad form is defined as:

"The omission to do something which a reasonable man, guided by those considerations which ordinarily regulate the conduct of human affairs would do, or doing something which a reasonable and prudent man would not do". 9

As to the causes of losses, a negligent act is only accounted for if it was the direct or proximate cause of the loss. In other words, it is stipulated that there should be an unbroken chain of causation from the negligent act to the resulting injury. Thus, a negligent driver who fails to avoid a collision with a second car, and drives this second one to collide with a third, would be assumed liable to both vehicles; moreover the right of action against him/her is given to the driver and occupants of the third car as well.

In summarizing the Negligence Liability, responsibility for injury or damage is asserted in the following cases:

i - The existence of a duty on the part of one person to another. (e.g. Exert care such as safe driving).

ii - Unintentional breach of that duty. (e.g. Failure to exert that care, such as overspeed).

iii - Damage or injury to the second party. (e.g. Car damage and injury to driver).

iv - A causal connection between the breach of duty and the damage or injury. (e.g. The collision between the cars of the first party and second party that caused the damage and injury).

In concluding the aspect of liability, Automobile Liability constitutes the major threat for car owners, and it also constitutes the major part of every insurance policy issued to that effect.

2 - The Own Damage Risk:

Involvement in any accident as described above would create losses for all the parties engaged. Property damage that occurs to the automobiles is considered by each owner as own damage. Although some of such damages are the liability of others, another part could not be covered by liability insurance because it might be the result of your own negligence. In this connection, a new risk faces the automobile owner.

Such risk could take different forms, all of which would result in a financial loss to the owner, represented in three broad categories:

a - Damage to the car.

b - Fire to the car.

c - Theft of the car.

a - Damage to the car includes all damages else than those caused by fire or by an excluded peril. It includes such things as damage
to the body, to the engine, wheels and attachments, glass breakage and others. Such damages are normally split into two categories according to the reason behind them. Those caused by collision or overturning constitute one category, and all the rest constitute the other.

b - Fire to the car, might be any reason other than the ones listed in the exclusions. This coverage applies to partial damage as well as total loss due to fire.

c - Theft of the car. The coverage under this category varies from country to another. In some, it includes partial theft of parts and equipment; in others, these are only covered if they come in attachment with theft of the entire car, and in the rest, only theft of the entire automobile is covered.

All above coverages under the Own Damage Risk will be analyzed in more detail in the chapters concerned with description of Automobile Insurance in Lebanon and in North America, where a comparison and a distinction of the categories are included.

As results of automobile accidents, damages of all kinds were encountered, seriousness of accidents ranged from small to very serious, fatalities occurred in large numbers, costs of such accidents went beyond imagination, and reasons for them varied consistently. The next section of this chapter deals with these variables, supply research results and denote their
impact on societies in an attempt to materialize and justify Automobile Insurance. The above discussion comes as consideration of the second step in Risk Management.

B - Potential Loss Estimation:

Potential Loss Estimation is one of the most important steps in Risk Management in general, and Automobile Risk Management in particular. Actually, this step is the major one with all the influence on the matter of deciding the ways and means of risk handling. As mentioned earlier in this study, the main considerations in deciding whether a risk is to be transferred or not are the frequency and size of the accidents resulting therefrom. Small frequent losses are not catastrophic in nature and could be budgeted for, while large infrequent ones are what matters and should be dealt with.

The automobile risk is in fact one of the very rare risks that involve both types of losses; small frequent and large infrequent ones. Actually, this is what makes Automobile Risk Management an important task to be considered attentively by every automobile owner. Identification and estimation of the type of accident and resulting losses in connection with automobiles can be generally summarized as follows.

- Small frequent losses: Are those that involve property damage losses in general because as mentioned earlier, the worst that could come is to face a total loss of the property damaged. Although most of these losses
exceed all estimated values at the time of accident due to the increasing costs of repairing automobile damages and the rising prices of spare parts, they are still assumed small as compared to losses resulting from bodily injury accidents. Nevertheless, property damage losses are increasing in value at an increasing rate to rank far above the limits that an average human being can afford, especially in Lebanon with the prevailing standards of living and extremely declining rates of pay.

Large Infrequent losses: Are those that involve bodily injury in general. Actually, bodily injury accidents might lead to different levels of seriousness of injury which might range from minor to major and might even extend to cause death. Regardless of their name, large infrequent losses are called so in comparison with property damage losses. In essence, such accidents are getting frequent enough to become one of the major causes of accidental death and disability in the world. Illustratively, motor accident fatalities in the U.S.A alone exceeded one million deaths up to year 1957, in which 41% of accidental deaths were due to automobile accidents,\textsuperscript{10} and if the trend continues, this number must have exceeded 2.5 million by today. Consequently, and in connection with automobile bodily injury accidents, the danger of liability court actions did arise and put the tortfeasor in face of a new monetary liability that might in most of the cases amount to more than the hospitalization bill itself. Undoubtedly, these types of losses, namely bodily injury and liability, are far above the limits that any

\textsuperscript{10} Hadden, Suchman & Klein, Accident Research: Methods and Approaches. (New York: Harper & Row Publishers; 1964) p. 67
automobile owner can easily afford. Actually, and in very distinct cases, car owners had to liquidate all their property to meet the consequences of a specific automobile accident.

Frequency of automobile accidents, with consideration to results and magnitude has been a major issue in North American countries since decades. In an attempt to find solutions to such catastrophes as deaths and disabilities, various research studies treated the subject of automobile accidents to draw broadlines for causes and seriousness in order to set guidelines for laws and actions that would help reduce both the frequency and magnitude of such accidents. In connection with our study, a consideration of the results of such researches would help us assess the frequencies and magnitudes of these accidents to decide whether the need for automobile insurance arises or not.

I - Loss Estimation & Probability Distributions:

In deciding which risk management method is best in given situations, the individual insured must be able to estimate the loss values he/she might be subjected to. This is done through estimation of the following variables:

i - The number and probability of possible occurrences (accidents) within the insurance period (normally one year).

ii - The value of losses per occurrence (accident) and/or

iii - The value of losses per budget period (one year).
In connection, the same data is normally needed by insurance companies to estimate total losses expected in the next budget period, which serve as basis of premium setting. Actually the above variables are derived through the use of either historical data or theoretical distributions. Historical data, if available, could be used to estimate losses based on time-series and trend analysis, while in contrast, and if no relevant historical data is available, theoretical distributions could be used to estimate such losses through the application of the Normal Distribution curve and the Poisson Distribution curve.

**a - Time-Series Analysis:**

Time-Series analysis uses the pairs or sets of observations that have been recorded over time in a particular situation. By observing the number of times the various dollar losses have occurred over a considerably long period of time, under essentially the same conditions, one can estimate the probability of each possible outcome. This estimate would actually be the number of times each outcome has occurred divided by the total number of occurrences thus leading to a proportion which is used as the probability of such occurrence. Through this observation, a trend factor is calculated and extrapolated into future periods to reflect projections of future losses. The use of this technique is only applicable if the same conditions underlying the occurrence of such losses persist. In the case of automobile risks however,

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changes are occurring constantly in the risk environment thus leading to differences in outcomes which disturb the probability distribution and the extrapolated figures would not be relevant. Some of such changes include the increases in the cost of repairs, the increase in the number of drivers, and most important, the increase in the number of exposure units (automobiles). Although some of such changes could be adjusted for, some others which are not measurable could not, such as driving attitudes, changes in safety programs and increased efficiencies of automobile engines. Nevertheless, and using such distributions, some mathematical techniques such as weighted averages and regression could be used to estimate expected losses.

b - The Poisson Distribution:

If provided with the average dollar losses that might be suffered in any one accident, and if an average frequency of such occurrence is derived, the individual insured could be able to estimate the probability of having one or more occurrences in an insurance period, and consequently could estimate his/her possible losses.

The Poisson Distribution is one of the best theoretical distributions used to estimate the probability that an individual, a household or even a business will suffer a specified number of occurrences during the next budget period (normally one year). The Poisson Distribution is used in cases where the number of exposure units is small, usually below 10 units. When such number exceeds 10, then the distribution becomes less and less skewed and approaches the Normal Distribution in shape, consequently when exposure units are more
than 10 (not obtainable in the Poisson Table), the Normal approximation for the Poisson Distribution is used in the sense that the Normal Distribution formula is used and applied on the Poisson Distribution parameters.  

For the purpose of this study, and assuming that in general a household or individual would not own more than 10 automobiles, an illustration of how to use the Poisson Distribution in setting the probabilities of different numbers of accidents would follow. In connection, the following assumptions are made:

i - Number of exposure units is below 10.

ii - Each unit can have more than one occurrence during the exposure period (one year).

iii - Accident frequency per year in a specific area or country = 16.67% i.e. one expects to have a car accident once every 5 years.

iv - In the first illustration, we have only one automobile in the household under study, and three automobiles in the second illustration.

According to the Poisson Distribution, the probability that there will be $(r)$ occurrences in the budget period is:

$$ P(r) = \frac{m^r e^{-m}}{r!} $$


Where

\( m \) is the mean or Expected Value (Accident Frequency).
\( e \) is a constant, always equal 2.71828.
\( r \) is the number of occurrences in the next period.
\( r! \) factorial is equal to \( r(r-1)(r-2) \ldots \ 1 \)

The standard deviation which is used in the normal approximation is equal to \( \sqrt{m} \).

Thus

\[
\text{i } - P(0) = \text{Probability of no accidents in this year} \\
\quad = \frac{(0.1667)^0 \times (2.71828)^{-0.1847}}{0!} = 0.8465
\]

\[
\text{ii } - P(1) = \text{Probability of one accident in this year} \\
\quad = \frac{(0.1667)^1 \times (2.71828)^{-0.1847}}{1!} = 0.1411
\]

\[
\text{iii } - P(2) = \text{Probability of two accidents in this year} \\
\quad = \frac{(0.1667)^2 \times (2.71828)^{-0.1847}}{2!} = 0.0118
\]

\[
\text{iv } - P(3) = \text{Probability of three accidents in this year} \\
\quad = \frac{(0.1667)^3 \times (2.71828)^{-0.1847}}{3!} = 0.0006535
\]
\[ v = P(4) = \text{Probability of four accidents in this year} \]

\[ = \frac{(0.1667)^4 \times (2.71828)^{-3.1467}}{4!} = 0.0000272 \]

Beyond step v, the probability approaches zero and the sum of the above five probabilities \( P(0) + P(1) + P(2) + P(3) + P(4) = 1.00 \). Multiplying the above probabilities by the average cost of an automobile accident and summing up the results gives us the average cost of accidents that might be suffered by any household that owns one automobile in illustration, one can state the following:

i - The probability of having no accidents = 64.65%

ii - The probability of having more than one accident = 

\[ 100 - 84.65 = 14.11 = 1.24\% \]

iii - The probability of having more than two accidents = 

\[ 100 - 84.65 - 14.11 - 1.13 = 0.06\% \]

E.V. = \((15000 \times 0.1411) + (30000 \times 0.118) + (45000 \times 0.006535) + (60000 \times 0.0000272)\]

\[ = 2501 - 1000 = $1501 \]

So any household having one vehicle, in a country where the cost of insurance is $1,000 and the average accidents costs $15,000, would save $ 1,501 annually through insuring this vehicle.
In considering the case of a household where 3 automobiles are owned one should review the period of time in which at least one accident is probably going to happen to any of the three automobiles. In the case of one automobile in the household, it was estimated that one accident each six years is likely to happen to that automobile. Thus in the case of three automobiles, the likelihood that accidents could occur would be:

\[ \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2} = 0.5 \]

provided the three vehicles are used by three members of the household and the probability of having or not having an accident with one of the cars is independent of the other two.

Thus: i - \( P(0) = \) probability of no accidents with any automobile in this year

\[ = \frac{(0.5)^0 \times (2.71828)^{-0.5}}{0!} = 0.606531 \]

ii - \( P(1) = \) probability of one accident with any automobile in this year

\[ = \frac{(0.5)^1 \times (2.71828)^{-0.5}}{1!} = 0.303266 \]

iii - \( P(2) = \) probability of two accidents with any automobile in this year

\[ = \frac{(0.5)^2 \times (2.71828)^{-0.5}}{2!} = 0.075817 \]

- 3(-) -
iv - $P(3) = \text{probability of three accidents with any automobile in this year}$

$$= \frac{(0.5)^3 \times (2.71828)^{-0.5}}{3!} = 0.012636$$

v - $P(4) = \text{probability of four accidents with any automobile in this year}$

$$= \frac{(0.5)^4 \times (2.71828)^{-4.5}}{4!} = 0.00158$$

vi - $P(5) = \text{probability of five accidents with any automobile in this year}$

$$= \frac{(0.5)^5 \times (2.71828)^{-6.5}}{5!} = 0.000158$$

Beyond this point, the probability approaches zero, and the sum of the above six probabilities $P(0) + P(1) + P(2) + P(3) + P(4) + P(5) = 1.00$

Also applying the resulting probabilities through multiplying each by the average cost of an automobile accident and summing up the results would give us the average cost of accidents that might be suffered by any household that owns three automobiles.
Assuming the same example of $15,000 cost of accident, but with lower
cost of insurance (three vehicles in one household) as $1,000 for the first, $900
for the second and $800 for the third, the expected value of insurance is as
follows:

\[
E.V. = (15000 \times 0.303266) + (30000 \times 0.075317) + (45000 \times 0.012636) +
(60000 \times 0.00158) + (75000 \times 0.000158) = 7,498 - 2,700 = 4,798
\]

Thus, any household that owns three vehicles, in a country where the
cost of insurance is as stated above and the average accident costs $15,000,
would save $4,798 annually through insuring all the three vehicles. For
simplicity, and to reduce time of calculations, the Poisson Distribution Table
could be used to derive the results of the calculations made.

Two variables are needed to use the table:
1. The average number of accidents per year (=0.1667 in our case) and
2. The number of vehicles owned by the insured, household, or business.

\[c \rightarrow \text{The Normal Distribution:}\]

The Normal Distribution is the probability distribution associated with
continuous random variables, whose property is that they may take on any
value within their range. Unlike the Binomial Distribution, the Normal
Distribution can not furnish the probability of the occurrence of an individual

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Inc; 1981) p. 131
value of the random variable, but it can account for the possibility that one random variable could occur more than once in a budget period; a condition that is not accepted under the Binomial Distribution which assumes that the maximum occurrence of any one variable is once in a budget period,\textsuperscript{15} thus rendering the use of this Distribution not relevant in the case of Automobile Insurance where one automobile might get engaged in more than one accident per year. Nevertheless, as the number of cases under the Binomial Distribution gets larger, the Binomial Curve gets closer and closer to the Normal Curve, but never becomes continuous. \textsuperscript{16}

Due to the fact that the Normal Distribution deals only with continuous variables, and because both, the frequency of automobile accidents and the dollar losses per accident, are continuous variables, this probability distribution proved applicable for the estimation of the two. However, as mentioned earlier, the Normal Distribution could only provide probabilities of occurrence for ranges of values. Thus, when the number of exposure units is big, the probability distribution, for both the frequency of accidents and the dollar losses per accident, approaches the Normal Bell-Shaped curve. Estimating the average frequency or the average dollar loss per accident in addition to the standard deviations for both, would enable us to estimate the probability that the frequency of accidents for the next year would be less than or greater than a specific value or even between two variables. Consequently, an estimate of the probability of dollar losses being less than


or greater than a value, or between two values could be derived.

Illustratively, for any normal distribution, one can state that the probability of occurrence in a specific range is as follows:

<table>
<thead>
<tr>
<th>Probability</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.27 %</td>
<td>$X \pm 1\sigma$</td>
</tr>
<tr>
<td>95.45 %</td>
<td>$X \pm 2\sigma$</td>
</tr>
<tr>
<td>99.73 %</td>
<td>$X \pm 3\sigma$</td>
</tr>
</tbody>
</table>

In addition, and through the use of the Normal Distribution Table, one could derive the probability of occurrence of a range whose two limits are either below or above the average frequency or loss ($X$).

The Normal Distribution is particularly interesting to insurance companies who continuously seek estimates of dollar losses and frequency of accidents to decide on premium levels that would cover the estimated losses and the underwriting and administrative expenses and provide for a margin of profit.

To illustrate, an insurance company expecting to insure 50,000 automobiles in the next year, and have the following estimates derived from the Normal Distribution:

Frequency: $P = 99.73\%$  
$12 < F < 18$  
$X = 15$  
$\sigma = 1$

Dollar Loss: $P = 99.73\%$  
$4250 < L < 5750$  
$X = $5000  
$\sigma = $250
In addition, the following expenses and profit margins are assumed:

- Underwriting & Administrative Expenses: Loading factor of 0.28
- Profit Margin: Loading factor of 0.07

According to the above variables, and for simplicity disregarding other factors that affect premiums such as age, sex, accident experience and similar, the premium range for the next year would be calculated as follows:

- No. of accidents: $6,000 < \lambda < 9,000$
- Total Costs:
  - (6,000 Accidents): $25,500,000 < C < 34,500,000$
  - (9,000 Accidents): $38,250,000 < C < 51,750,000$

Depending on whether the management's attitude is optimistic or pessimistic, different weighting is assigned to the above results. In this illustration, a 0.5 weighting is assigned to each, thus:

$$31,875,000 < C < 43,125,000$$

These would be the figures needed to cover the accident losses. Applying the expense and profit loadings would lead to the following:

$$43,031,250 < P < 58,218,750$$

Dividing by 50,000 automobiles, the individual premium would be in the following range:

$$860.65 < P < 1,164.35$$

Again, the factors of optimism and pessimism, in addition to other factors such as competition and safety programs introduced, would help management decide on the basic level of premium to be adopted.
In 1895 there were 300 horseless carriages, mostly imported, in operation in the U.S.A. 17 In 1977, over 135 million automobiles were registered in the same U.S.A. 18

Undoubtedly, this was a huge boost in a matter of 81 years averaging an introduction of over 1.6 million automobiles per year. Considering the essential role that automobiles are playing in modern societies, this boost is understood to be associated with progress. In connection with this tremendous shift towards usage of automobiles as means of transportation, a new and major social and economic problem was identified, namely automobile accident casualties and losses.

In the U.S.A., Automobile Accident was ranked as the third major reason for deaths, preceded by cancer and heart diseases as second and first consecutively. In contrast, Automobile Accident was ranked first as a cause of accidental death and accidental disability. What drives this matter to become a very important social issue is the fact that its consequences are increasing at an increasing rate, due to various factors accompanying the process of advancement in the field of auto assembly.

What needs to be mentioned here is the fact that this analysis considered accidents that resulted in a fatality only, whereas not all automobile accidents would be that severe. In this context, the following accident facts

17 Grant S. McClellan, Safety on the Road, (New York: The R.W. Wilson Co; 1966) p. 16
were reported during the corresponding years as such:

a - In the U.S.A., during year 1959, these facts were reported in connection with a research on Automobile Accidents published by the National Safety Council. 19

Registered vehicles = 70,400,000

Drivers' licences issued up to 1959 = 84,000,000

Property Damage accidents = 9,300,000

Non-Fatal Bodily Injury accidents = 900,000

Fatal accidents (with the possibility of more than one death per accident) = 32,300

Analysis of above data would give us an idea about the frequency of Automobile accidents in a one specific year.

b - The total accident frequency for year 1959 = Total number of accidents / Registered vehicles = 14.53%, thus one out of each 6.83 registered vehicles in any one year would be involved in an accident with consequences varying from Property Damage losses to serious Fatal losses. In this same sense, a similar research conducted in Germany in the year 1968 reported the following figures. 20

Number of insured vehicles = 14,280,036

Number of accidents = 2,244,885

Total accident frequency = 15.72%

Thus one out of each 6.36 insured vehicles in any one year would be

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involved in an accident, also with varying degrees of seriousness.

\[ e \] The Property Damage accident frequency for the same year 1959 in the U.S.A. = 13.21%, thus one of each 7.57 registered vehicles in any one year would be involved in a Property Damage accident with various magnitudes.

\[ d \] The Non-Fatal Bodily Injury accident frequency for the same = 1.20%, thus one out of each 78 registered vehicles in any one year would be involved in an accident causing a Non-Fatal Bodily Injury, and in most of the cases, Property Damage too.

\[ e \] The Fatal Bodily Injury accident frequency for the same = 0.05%, thus one out of each 2000 registered vehicles in any one year would be involved in an accident causing death to at least one person, in addition to Non-Fatal Bodily Injury to others and Property Damage in most of the cases. The total cost of the above reported accidents in the year 1959 amounted to $6.2 billion in year 1959.

In the year 1977, the total number of automobile accidents increased to above 16,000,000 accidents,\(^21\) thus denoting an increase of 56.37% over year 1959. In contrast, the number of registered vehicles in 1977 increased to above 135,000,000, thus denoting an increase of 91.76% over year 1959. Also, the cost of these accidents in 1977 increased to above $21.00 billion, thus denoting an increase of 238.71% over year 1959, as summarized in Table - 1.

Table - 1

Increase in Accident Frequency, Registered Vehicles and Costs of Accidents. 1959 - 1977

<table>
<thead>
<tr>
<th>Year</th>
<th># Accidents</th>
<th>Reg. Veh.</th>
<th>Freq.</th>
<th>Costs</th>
<th>Av. Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>10,232,300</td>
<td>70,400,000</td>
<td>14.53%</td>
<td>6.20 B.</td>
<td>$ 606</td>
</tr>
<tr>
<td>1977</td>
<td>16,000,000</td>
<td>135,000,000</td>
<td>11.85%</td>
<td>21.00 B.</td>
<td>$ 1,313</td>
</tr>
<tr>
<td>inc.</td>
<td>+ 56.37%</td>
<td>+ 91.76%</td>
<td>- 18.44%</td>
<td>+ 238.71%</td>
<td>+ 115.70%</td>
</tr>
</tbody>
</table>


An analysis of Table - 1 drives us to a set of conclusions that would clear our view as to how accidents are varying in connection with the increase in the number of vehicles, and how the corresponding costs are affected. As could be seen, the increase in the number of registered vehicles was paralleled by a smaller increase in the number of accidents, consequently, a 91.76% increase in vehicles caused only 56.37% increase in accidents thus reducing the frequency of accidents by 18.44%.

In connection, a corresponding increase in the cost of accidents of 238.70% clearly denotes that average costs per accident are becoming beyond the capabilities of an average citizen. Therefore, an average accident cost in 1959 was $ 606 and increased to $ 1,313 in 1977, thus reflecting an increase of 116.70%.
Considering the above factors of analysis, one might draw a conclusion that the increase in accidents is not perfectly offset by the increase in the number of vehicles, and consequently, accidents in the world are diminishing year after year. To a specific extent, this is true in the sense that additional traffic regulations, signals, highway designs and other variables have helped reduce the frequency of accidents in general. Nevertheless, other figures such as those reflected in Table - 1, assert that although accident frequency in general is reduced, fatalities from automobile accidents are increasing in a rate higher than that of automobile registration, thus, the decrease in accident frequency is to a high degree corresponding to a decrease in minor accidents rather than major accidents.

Table - 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Car Registration +/-</th>
<th>Fatalities +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929 - 1930</td>
<td>+ 0.08 %</td>
<td>+ 6.58 %</td>
</tr>
<tr>
<td>1930 - 1931</td>
<td>- 2.00 %</td>
<td>+ 3.30 %</td>
</tr>
<tr>
<td>1963 - 1964</td>
<td>+ 4.00 %</td>
<td>+ 9.73 %</td>
</tr>
</tbody>
</table>


Consequently, in analysis of Table - 2, one would have to consider the fact that although car registration decreased (1930-1931), fatalities increased. Hence, the cause of these fatalities is not only explained by the quantity of automobiles being operated, but rather, by the quality of the automobiles used, the attitudes of the existing as well as new drivers and probably the existence of new highway routes that might encourage speed. The above "Deadly Triangle" of car, driver and road is to be considered later in this study at stages when premium components and recommendations are to be analyzed.

In summary, and considering the question of loss estimation, it is emphasized through the above presentation of facts on accidents, their frequency and costs, that an average citizen might be able to budget for and afford most of the automobile accident losses, because over 90.92% of all these accidents involve only property damage. However, we are left with the remaining 9.12% of accidents that would involve bodily injury and/or death losses. At this stage, one would raise the principle of utility in deciding whether an average citizen benefits more from paying his/her insurance premium and saving him/herself the danger of catastrophic losses, or keeping the premium for him/herself and retaining the risk of facing a catastrophic loss and probably having to liquidate his/her property to settle the loss.

According to a research concerning the cost of automobile accidents in 1965 in the U.S.A., it was noted that a liability accident of $100,000 - $300,000 is becoming commonplace. 22

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22 Grant S. McClellan, Safety on the Road, (New York: The H.W. Wilson Co; 1966) p. 15
Considering the situation where the annual insurance premium for automobile liability at that time did not exceed $600, and as mentioned above, a liability loss could range between $100,000 and $300,000, an average prudent citizen, faced with a 14.5% chance to be involved in an accident in general out of which he is faced with a 9.12% chance to be involved in a Bodily Injury or Fatality automobile accident, would have to weigh his choices and decide accordingly.

Applying the "Expected Value" principle on both situations would lead to the following: (taking the lower limit of $100,000 for liability losses as our base and $5,000 average Property damage losses).

Expected Value of insurance = $600 * 100% = $600

Expected Value of accident = ($100,000 * 9.12%) + ($5,000 * 90.88%)

= $13,664 * 14.5% = $1,981.

This means that, if one did not insure, and he/she got involved in an accident, his/her chances are that he/she might end up paying $13,664 which constitutes the premium for 23 years of insurance, disregarding his/her moral suffering and pain if he/she caused injury to others, and considering that he/she is always able to pay his/her liability of the loss, and disregarding the fact that it is always possible that he/she gets involved in a serious accident and ends up paying $100,000 rather than the expected value of $13,664.

Moreover, in general terms, the expected value of insuring = $600 whereas the expected value of not insuring = $1,981. Therefore, to minimize his/her loss, a prudent human being would tend to insure, thus reducing his loss by 230%.
Furthermore, considering the principle of utility for a comparison of both above situations, the disutility that someone can receive from paying the annual insurance premium of say $600 in year 1965, lies far below the disutility that he/she can receive from paying a $100,000 loss, also considering that he/she is always able to pay his/her liability of the loss.

At this stage, one would have to consider discussing two different topics. The first is related to the above condition of whether an average citizen is always able to meet a huge loss such as a $100,000 accident, and the second topic is in fact the third principle in Automobile Risk Management, which is the consideration of methods to meet the Automobile Risk. In fact, a discussion of the second topic would precede as the first one would come as a part of the development of insurance and related laws discussed in the next chapter.

C - Meeting the Risk:

In its simplest forms, risk is undesirable for human beings because of such reasons as (1) the unexpected losses that might occur, and (2) the uncertainty that a person has concerning the future, regardless of the probability or magnitude of the happening. In this connection, people are prone to meet such risks, and thus, consider various methods to deal with it. In fact, not any one method could provide for a complete solution for one's risks, rather a combination of two or more of these methods might be necessary to handle a specific risk. The methods of meeting risk are:
1 - Avoidance.
2 - Prevention.
3 - Retention
4 - Transfer

A discussion of each, as applied to the case of the automobile risk is to follow.

1 - Avoidance:

Normally Avoidance deals with the risk as a whole, so one can avoid the risk of fire to his/her building through selling the building and removing the exposure as a whole. In the case of automobile accident risks, avoidance would simply mean not to own an automobile, not to drive one, and even not to ride in one. With today's style of life, and the need for transportation in performing one's every day activities, it seems very unpracticable and even impossible to avoid the automobile accident risk, rather other methods are to be considered.

2 - Prevention:

Where economically and technically feasible, prevention is by far the best method of handling risk because it allows humans to enjoy their normal life through usage and ownership of property without being worried by risks and their consequences.
In the case of automobile accident risks, loss prevention and control is becoming more and more a major issue in the western countries. To that effect, safety programs are implemented by both, government agencies as well as private associations financed mostly by insurance companies. Such programs would include provisions for better roads, better lights, better traffic regulations, driver training programs, automobile maintenance enhancement programs, speed control procedures, anti-drink-and-drive campaigns and others. To that effect, insurance companies are encouraging these programs through offering discounts for trained drivers, accident free records, conviction free records and other variables. Nevertheless, prevention as effective as it is becoming, was not able to stop automobile accidents, and in contrast, the frequency of more serious accidents is continuously increasing. Therefore, accident prevention is very important in reducing accident impacts and thus decreasing costs and insurance premiums, but could not serve as a sole solution for the issue of automobile accident risks.

3 - Retention of Risk:

When any of the other methods of handling risk is not available, or when the expected losses are very minimal and can not cause a threat to the financial well being of the person, he/she might decide to accept the risk and bear its consequences and it is said that he/she retained the risk. On daily basis, small accidents such as breakage of kitchenware at homes, a flat tire in the car and loss of office supplies at work are faced, but were never insured against. This
is mainly because the financial loss created is not consistent and is not worth insuring against.

As related to the problem of automobile accident risks, retention could form a part of the solution. Owners of vehicles who have free of accident records for four or five years and who own very old cars might, and may be should, decide to insure against liability accidents in general and bodily injury accidents, but retain the property damage to their car section. This might be a wise decision to take specially if the cost of insurance for this section is very high in comparison to the costs of repairing damages to such old vehicles.

4 - Transfer of Risk:

In relevance to our discussion of the automobile accident risks, transfer could only mean one course of action, namely insurance. The owner of an automobile can only transfer the related risks to an insurance company which, in exchange for a specific amount of payment named premium, would assume the consequences of accidents resulting from the negligence of the operator while operating that vehicle. Risk transfers existed long ago, but took forms other than insurance, and were adapted later to take the form of insurance. It is asserted that Crassus, The Roman triumvir of Caesar's time, used to make the owner of a burning building a cash offer for the building. It may be assumed that if the offer was accepted, Crassus would save whatever was possible of the property. This was a form of risk transfer.\textsuperscript{23}

D - Decision Implementation and Evaluation:

This is the last step in Risk Management, and is mainly the result of the other three. Implementation of decisions ranges from allocating budgets for catastrophes, in case it was decided to retain the risk, to contracting for insurance if it was decided to transfer the risk. However, evaluation of such decisions is only applicable either through the use of probabilities and average dollar losses to compute the corresponding Expected Values of Insurance or Retention, or using actual figures after the risk period has elapsed. Nevertheless, such evaluation is only efficient if it is considered over a long period of time, because compensation from insurance on one accident that happens 10 years after the first policy was contracted might exceed all the premiums paid during that period. Similarly, one accident retained by an individual or a company might cost more than the amounts budgeted for several years. In contrast, one might keep paying insurance premiums for years without suffering any loss. In fact, such decisions are, to a great extent, related to the attitude of the decision maker towards risk. A risk averter as compared to a risk taker might decide to contract insurance even if he/she knows that the expected value of insurance is higher than that of risk retention, and the opposite is true for risk takers.
CHAPTER THREE

The Lebanese Automobile Insurance Industry

Automobile Insurance constitutes a major line of business in all insurance companies operating in Lebanon; actually, this line represented 13.2% of total premiums collected in 1990.24 Up to date, Automobile Insurance in all its forms is still optional in Lebanon, and the main policies issued are those of Third Party Liability coverages, rather than All Risks coverages.

This chapter covers and analyzes the Automobile Insurance experience in Lebanon, in connection with accidents resulting, premiums collected and size of the market. In addition, analysis of coverages offered, benefits, and problems encountered and consequently the needs of the market as well as the procedures followed by companies in accepting risks, setting premiums and settling claims are presented. At the end of the chapter, a summary of problems faced and unsatisfied needs are identified and solutions are introduced in the Recommendations part of this study.

I - THE POLICY - GENERAL CONDITIONS:

All insurance companies transacting Automobile Insurance in Lebanon are required to use the standard general conditions of the policy, which are supplied by the Association of Insurance Companies in Lebanon. However, freedom is given to all companies in setting their premiums, although the Association supplies periodical minimum premiums to be applied, in an attempt to reduce the impact of price competition on the performance of this branch whose results are deteriorating as would be illustrated later in this chapter. Moreover, freedom is also given to companies in setting special conditions through which, and according to its experience, each company applies different deductibles on specific cars and drivers, sets additional exclusions if need be, and grants special discounts for particular clients. To this effect, the following analysis considers both the general conditions and special conditions of the policy in details.

The General Conditions are the main part of the policy which governs the relation between the Insured and the Insurer, specifies the coverages under each section of the policy indicated in the schedule, sets the subject and extent of such coverages, defines all the terms used in the schedule, specifies the exclusions, describes the agreements of both the insured and the insurer, in addition to specifying claim solving procedures and cancellation conditions. A consideration of the above proceeds as follows:
A - Coverages:

The standard Lebanese Automobile Insurance policy is composed of four major branches of coverage as follows:

1 - Third Party Liability
2 - Accidents to the Insured Automobile
3 - Fire to the Insured Automobile
4 - Theft of the Insured Automobile

The above coverages are supposed and intended to reimburse the victims of third party liability accidents and to protect owners and operators financially, as well as provide coverage for the owner in case of accidents to his/her car.

1 - Third Party Liability:

Third Party Liability provides financial protection against the liability imposed by law for bodily injury or property damage arising from the ownership, use or operation of an automobile. According to the general conditions of the policy, the following persons are covered:

i - The owner named in the schedule

ii - Any driver of the automobile provided he/she holds a valid driver's licence.
In contrast, the following persons are not covered:

i - Any person who rents the described automobile

ii - Garage personnel, parking personnel, and any person driving the automobile for trial or repairs.

a - Scope of coverage:

The policy covers all sums for which the insured might be held liable, arising from bodily injury or property damage caused to third parties by the insured automobile only, being driven by the persons specified above.

b - Exclusions:

The following items and cases are not covered by the policy.

i - All bodily injury or property damage caused to the insured him/herself, any driver of the automobile, employees of the insured, employees of the driver in addition to the families of such persons including spouses & children, children in law, sisters & brothers, including their spouses & children, and family members of all above persons in whatever accident disregarding its causes and consequences, whether they are driving the automobile, being occupants therein, riding or descending from it or even being outside it.
ii - Property of persons excluded under (i) above, in all its forms.

iii - Contents of the automobile including money, property & luggage

iv - All Bodily Injury or Property Damage resulting from intentional negligence and gross negligence of the owner or any person under his/her legal responsibility. (gross negligence defined as wilful misconduct or wilful error approaching intentional negligence in its context).

v - All accidents resulting from or in consequence with:
   1 - Racing, speed tests and wager.
   2 - Sabotage and burglary and attempts thereto caused by any person mentioned under (i) & (iv) above.
   3 - Exceeding the legal limit of passengers or the allowed weight of carry.
   4 - Flood, typhoon, ouragan, tornado, cyclone, earthquake, volcanic eruption and other such phenomena.
   5 - War, civil war, invasion, rebellion, foreign power, revolution, political or military usurpation, terrorism, sabotage and similar acts, explosions, projectiles and any act military or para military, under the jurisdiction of de-fact or de-jure authorities.

vi - Accidents resulting from drunken driving or drivers under the effect of any type of drugs.
vii - Accidents resulting from driving the car against the traffic sense.

viii - Accidents resulting from or in consequence with any kind of nuclear radiation or nuclear weapons.

ix - Bodily Injury or Property Damage caused to or by a private touristic automobile used for public transportation against pay, being rented, or used for any purpose other than that specified in the schedule.

In addition to the above exclusions, the Lebanese Automobile Policy could be assumed void and ineffective in the following cases:

1 - The insured does not pay the premium to the insurer.

2 - Any misrepresentation by the insured, that could affect the level of risk assumed by the insurer.

3 - Occurrence of any circumstance that might increase the risk, with the insured not informing the insurer in writing, within three days.

4 - The insured refusing to pay the additional premium resulting from item 3 above.

5 - Occurrence of any damage or mechanical breakdown to the automobile, rendering it dangerous to operate, without the Insured repairing it before usage.
In an attempt to locate the pitfalls in the Lebanese Automobile Policy, and to identify the problems faced along with this line of business, several interviews with managers in different companies as well as independent insurance advisors were held, and the results gathered. In connection, such responses are to be introduced for each section of the policy together with a sequence of analysis for such sections.

\section{Pitfalls of the Third Party Liability Coverage:}

In fact, this analysis has to be conducted in a general form as regarding each section by itself. At the end of the chapter, a separate part deals with problems and needs that are not directly related to the policy provisions and exclusions.

\subsection{1 - A first misleading point in the general conditions of the policy is directly related to the persons covered.}

In addition to the owner of the automobile, any driver with a valid driver's licence is covered while driving it, but what if the damage was caused while the automobile was not moving and thus not driven by anybody?, rather, it was operated by some person in the sense that for example, a door was opened all of a sudden, and a cyclist was hit and injured. According to the Lebanese Policy, if the person who opened the door was not holding a valid driver's licence, or was not the owner, then the accident is not covered. Thus, some additional persons should be added to the persons covered, and
simply represented as "any occupant" of the automobile.

ii - In the context of the Lebanese policy, a third party is considered to be any person other than those listed under (Exclusions) above, namely the Insured, all his/her direct family, his/her employees and their families. Consequently, if an accident occurs between someone and his son in law for example, such accident would not be covered. In addition, if one gets involved in an accident, and his/her employee or son who was riding with him/her gets injured, he/she would not be covered by the policy. Facing such circumstances, certain coverages should be included in the Automobile policy as would be suggested in the Recommendations section of this study.

iii - As long as one driver might cause injury or damage to another, and he/she might be assumed liable for such damages caused to the automobile for example, then why his/her liability does not extend to include the property that he/she carries in his/her automobile, especially if it was property of third parties?

iv - It might seem totally logical to assume accidents resulting from drunken driving or intoxicated drivers as not covered. But isn't drinking and driving or taking drugs and driving an act of negligence? And isn't the drunk driver held responsible for the damages he/she caused? Consequently, who would reimburse the innocent victim of that accident?. Questions that need to be
answered and solutions to such dilemma should be designed and implemented.

VI. Being in violation of any traffic regulation is in fact another act of negligence. Nevertheless, in such cases, as in the case of drunken driving, some sanctions must be imposed by law such as suspension of the driver's licence for a specific period, imposing monetary penalty through traffic tickets and may be other forms of penalties. But most important in case of an accident is whether the innocent party would be indemnified or not. According to the general conditions of the Lebanese Automobile policy, the insurer is free from liability towards the third party in the above cases.

It is worth mentioning that all above variables listed under Third Party Liability, including the exclusions, are applicable to all the sections of the Automobile Policy including Accidents to the Insured Automobile, its theft or fire damage.

2 – Accidents to the Insured Automobile:

The Accidents to the Insured Automobile coverage provides protection against losses caused to the insured automobile including lights, flash lights and other genuine parts necessary for its use and operation, provided such losses come as a direct result of collision or upset while being driven by a person holding a valid driver's licence.
The persons covered under this section are the same as under Third Party Liability. Also, the same excluded drivers under Third Party Liability are excluded in this section, as well as the remaining sections under discussion.

a - Scope of Coverage:

The Accidents to the Insured Automobile coverage includes all property damage occurring to the insured automobile as a direct result of collision with another vehicle or object, and upset.

b - Exclusions:

In addition to all the exclusions listed under Third Party Liability, and which apply under this and the remaining sections of the policy, the following additional exclusions are specific to section (2) Accidents to the Insured Automobile.

1 - All damage occurring to the Insured Automobile as a result of manufacturing defects, wear and tear, mechanical breakdown, depreciation, and lack of or inefficient maintenance.

2 - All damage occurring to the electrical devices and accessories being the result of electrical energy.
3 - All damage occurring to the tires unless it comes in connection with other damage to the automobile itself.

c - Pitfalls of "Accidents to the Insured Automobile" Coverage

In analyzing the coverages under this section, one can trace a very important gap that arises with consideration of all types of damages that might occur to the insured automobile and its causes. It is true that the main reasons for considerable damages to the insured automobile are collision and upset. However, when one mentions that coverage under sections 2, 3 & 4 of the Lebanese policy denotes all risks coverage, then some major causes of damage are either missed or excluded.

The insured automobile could be damaged by, other than collision and upset, a set of natural causes or human accidents that need an insurance coverage such as:

1 - Glass breakage and damage to other parts due to objects falling from buildings or constructions.
2 - Scratching, bending and breakage caused by unidentified reasons and persons.
3 - Glass breakage and damage to other parts due to attempts of theft (which did not succeed and the automobile was not stolen).
4 - Glass breakage and damage to other parts caused by natural causes such as windstorm, hail, rising water, and similar.
Notably, all above reasons are very common causes of damage, and constitute a more important motive towards all risk insurance around the world. Consequently, all of them usually happen without the owner being involved or deliberately placing his/her car under such circumstances. Thus, insurance coverage should be provided as part of the all risks sections, and suggestions to that effect would be designed in the Recommendations section of this study.

3 - Fire to the Insured Automobile:

The policy provides protection against financial loss caused to the insured automobile and its parts (as defined under 2 above) as a direct reason of fire, explosion and/or lightning.

By explosion, it is understood to be that caused by reasons other than war and its consequences and nuclear explosions as excluded by the policy.

All stipulations, definitions, and exclusions under section 1 - Third Party Liability and section 2 - Accidents to the Insured Automobile, apply to this section, and no additional exclusions were traced, thus no needs arise in connection with this coverage.

4 - Theft of the Insured Automobile:

The policy provides protection against financial loss, caused by theft or attempts thereto, to the insured automobile wherever it was. Nevertheless,
such coverage does not extend to the parts of such automobile unless theft of the entire car occurs.

If the automobile was parked in a parking lot, coverage extends to include the parts when theft or attempts thereto occur by breakage, climbing, violence, murder or attempts of murder or the use of false keys. Normally, a deductible on accidents related to this coverage is placed in the general conditions of the Lebanese Automobile Policy.

One point of interest arises in this consequence, which is the reimbursement for damage or loss of parts of the automobile, namely results of partial theft. Such cases are excluded by the policy conditions, and regardless of the value of losses, the insured is not reimbursed. However, all stipulations, definitions and exclusions under sections 1 & 2 above are applicable to this section, and no additional needs other than as mentioned herein are traced.

**B - Agreements and Obligations of the Insured:**

The insured agrees to abide by such rules in order for him/her to be eligible for reimbursement and coverage in case of accidents:

1. Payment of the premium specified in the schedule against which he/she gets a receipt duly signed by the company or legal agent.
2. Preserve the insured automobile in good working conditions, subject to surveys, maintenance and repairs when need be.
3. In case of accidents, when own damage is covered, the insured is
supposed to protect the damaged car against further damage, at his/her own expense.

4 - In case of accidents, the insured is supposed to present his/her declaration within three days, with all relevant information that might help establish degrees of fault.

5 - In case of accidents, he/she shall not agree on responsibilities or pay any sum in consequence, and he/she shall not undertake any repairs on his/her car as well unless the insurer agrees to that in writing.

C - Agreements and Obligations of the Insurer:

The insurer agrees, against the premium paid to him/her by the insured to assume liability and offer coverage as stipulated in the general conditions and up to the limits specified in the schedule and against the risks denoted therein.

D - Cancellation:

The insured has the right to ask for cancellation whenever he/she deems necessary, provided he/she pays the premium for the period in which he/she was insured, according to the short rate schedule specified in the conditions.

The insurer has the right to cancel the policy whenever he/she desires, provided he/she informs the insured in writing, and cancellation becomes effective only after eight days following the written notice being sent by
registered mail. Consequently, the insurer shall refund the insured by the part of premium for the remaining period on pro-rata basis.

E - Special Conditions:

Unlike general conditions, these are the variable conditions set by the insurer, and normally deal with abnormal risks and states of nature. Following is a set of special conditions used by some Lebanese companies in face of special states of nature and degrees of risk involved with particular insureds.

1 - Setting a deductible on accidents caused by drivers who are less than 25 years old, or who hold a drivers' licence issued since less than one year.

2 - Setting a deductible on damages to the insured automobile.

3 - Setting additional deductibles for theft of the insured automobile.

4 - Specifying named drivers and restricting usage of the automobile to them only. This is usually applicable on cars with high speeds and sports cars.

Such conditions are normally typed on the schedule of the policy which includes description of the vehicle, name of the owner, his/her address, coverages granted, amounts and limits of insurance, and the premium charged.
II - BASIS OF AUTOMOBILE RISK REJECTION:

All the interviewed managers and advisors agreed to the fact that Automobile insurance risks in Lebanon are very rarely rejected by a company, and if it was, probably that would not be based on scientific measures and relevant data.

It is very well known that in Lebanon, there is no application for Automobile Insurance. Consequently, the only data provided to the company, by the agent in most of the cases, would be as such:

1 - Name and address of Insured.
2 - Period and amount of insurance.
3 - Coverages required.
4 - Specifications and usage of the automobile.

Clearly, according to the above information, no one could scientifically establish the degree of risk involved, and hence can not decide whether such a risk should be accepted or declined. In this connection, however, some insurers have decided to decline all individual risks involved with sports cars and ones with fast engines such as B.M.W., V.W. Golf GTI, Fiat Racing and other similar categories.

In some other cases, agents are declining risks where the owner of the automobile is young and very well known for his/her bad experience with driving. As would be illustrated later in this study, the scientific assessment of Automobile Risks could only be attained through the consideration of a set
of variables that are as well to be used in pricing different risks to be insured.

III - BASIS OF PRICING AUTOMOBILE RISKS:

In connection with the above, and due to the lack of relevant information, all Automobile insurers in Lebanon follow the same primitive procedure of pricing risks. This is done according to the power of the vehicle itself measured in horse power, regardless of the driver, his/her age, sex, experience with accidents, conviction in driving or any other variable.

Table - 3 constitutes a representative sample of a pricing model used by the Lebano-German Assurance & Reinsurance Co. S.A.L.

Table - 3
Automobile Tariff Applicable as from 15/3/1992

<table>
<thead>
<tr>
<th>LIMIT</th>
<th>U.S.$ 5,000</th>
<th>U.S.$ 10,000</th>
<th>U.S.$ 20,000</th>
<th>U.S.$ 50,000</th>
<th>B.I:Unltd P.D:50,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 15</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>120</td>
</tr>
<tr>
<td>16 - 24</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>95</td>
<td>125</td>
</tr>
<tr>
<td>25 - 32</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>130</td>
</tr>
<tr>
<td>33 +</td>
<td>75</td>
<td>85</td>
<td>95</td>
<td>105</td>
<td>135</td>
</tr>
</tbody>
</table>

Even if one assumes that speed is one of the major reasons of accidents in the world, one would have to denote that the horse-power variable is not any more a true measure for the speed of a car. With the new technological advancements, it is very easy to find a 15 horse-power small Honda wagon for example, whose speed is more than double that of a 54 horse-power Chevrolet.

Clearly, and according to the pricing strategy used by Lebanese insurers, Automobile Insurance is not fairly priced. Thus, an insured with a very clean record of accidents and convictions, aged above 50 years and drives his 24 horse-power Mercedes during weekdays from and to his/her office, located 15 kilometres away from home, would pay the same insurance premium paid by his 24-year-old neighbour who has been licensed since two years, and since then had three accidents with his/her 22 horse-power B.M.W Turbo Power, and who works as a salesman in a company located 30 kilometres away from his/her home. Consequently, no driver in Lebanon would be motivated to drive safely in order to reduce his/her insurance premium or gain some discounts on his/her clean record, or be afraid from accidents that might increase his/her insurance premium drastically, rather, regardless of his/her accidents and convictions record, one would have to pay the same insurance premium as any other insured who owns a similar horse-power car.

However, means of building a scientific pricing model would be illustrated later in the Recommendations section of this study.
Perhaps one of the major aspects to be considered in this connection is the fact that only a small portion of registered vehicles in Lebanon are insured. According to Table – 4, only 7.12% of registered vehicles in Lebanon were insured during year 1990, a ratio that had been declining since 1987 until it became 50% less during 1990. Statistics show that the number of registered vehicles in Lebanon at the end of year 1991 was 1,005,944, however, no new figures for insured vehicles were obtained.

### Table – 4

**Numbers & Percentages of Insured Vehicles vs. Registered**

<table>
<thead>
<tr>
<th>Year</th>
<th>Registered Vehicles</th>
<th>Insured Vehicles</th>
<th>Ratio %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>590,537</td>
<td>85,989</td>
<td>14.73</td>
</tr>
<tr>
<td>1988</td>
<td>651,728</td>
<td>90,214</td>
<td>13.84</td>
</tr>
<tr>
<td>1989</td>
<td>703,411</td>
<td>53,566</td>
<td>7.62</td>
</tr>
<tr>
<td>1990</td>
<td>761,032</td>
<td>54,224</td>
<td>7.12</td>
</tr>
<tr>
<td>1991</td>
<td>1,005,944</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>


Nevertheless, expectations denote that the percentage would face a further decrease from past years due to the huge increase in the number of registered vehicles that are to be owned by members of families who do not insure their automobiles, as deduced from past experience, and due to the decreasing awareness of the Lebanese population in this regard.

Actually, the above figures render one suspicious about the future of Automobile Insurance in Lebanon, because according to the Theory of Large Numbers, the degree of risk involved in any line of insurance is considerably reduced with large numbers of exposures, and considerably increased with smaller numbers of exposures, with the probability remaining the same. Thus, 54,224 exposures out of 761,032 would not render the relative frequency of accidents that differs from the underlying probability be negligible or approaches zero.

Consequently, results of this line of insurance could vary considerably, and in connection, premiums also could vary to cover the resulting losses.
### Table - 5
Automobile Insurance Loss Ratio & Frequency of Accidents

<table>
<thead>
<tr>
<th>Year</th>
<th>Frequency %</th>
<th>Loss Ratio %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>26</td>
<td>76</td>
</tr>
<tr>
<td>1983</td>
<td>28</td>
<td>74</td>
</tr>
<tr>
<td>1984</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>1985</td>
<td>26</td>
<td>90</td>
</tr>
<tr>
<td>1986</td>
<td>24</td>
<td>97</td>
</tr>
<tr>
<td>1987</td>
<td>28.6</td>
<td>101</td>
</tr>
<tr>
<td>1988</td>
<td>27</td>
<td>93</td>
</tr>
</tbody>
</table>

\[ X = 26.60 \]
\[ \sigma = 1.50 \]
\[ X = 68.50 \]
\[ \sigma = 10.14 \]


In Table - 5, the Means and Standard deviations for both variables were calculated. In comparing the standard deviations of Frequency (representing the probability of an accident) with that of Loss Ratio (representing the degree of risk = losses / premiums), one concludes that in return to a probability deviation of 1.5% of accidents, we are facing a degree of risk deviation of 10.14%. In other words, for every deviation of 5.64% from the average probability of accidents in Lebanon, the insurance industry is confronted with an 11.45% deviation from the average degree of risk.
Actually, the above discrepancy could only be avoided if and only if a large number of exposures is applied and thus, variations from the mean would tend to zero and become negligible for both, the Frequency of accidents and the Loss Ratio.

From another point of view, the results displayed in Table - 5 undoubtedly denote a deterioration in the results of Automobile Insurance in Lebanon. Actually, a 26.60% average frequency of accidents lies high above the averages for Europe and North America which varies between 12% and 17% as mentioned earlier in this study. In connection, a high average Loss Ratio of 88.50% which represents the volume of claims paid / premiums collected, depicts a very high ratio denoting, with no doubt, losses in this line of business specially if we consider the average operating expenses to be around 25% of the total annual premiums.

Results of accident frequencies for years 1989 & 1990 which amounted to 18% & 17% respectively, were not included in the analysis due to the fact that in these years the density of traffic was reduced considerably due to the major events that struck the country, thus rendering the results not representative of the actual state of nature.

Another major aspect of Automobile Insurance in Lebanon was traced in analyzing the statistical data available. This aspect is directly related to the considerable increases in cost of repairs and hospitalization costs as compared to the increases in insurance premiums for the last eight years.
<table>
<thead>
<tr>
<th>Year</th>
<th>Exchange Rate</th>
<th>Average Premium</th>
<th>Dev. +/- %</th>
<th>Av. Cost/Accident</th>
<th>Dev. +/- %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>4.73</td>
<td>$88.37</td>
<td>-</td>
<td>$261.31</td>
<td>-</td>
</tr>
<tr>
<td>1983</td>
<td>4.53</td>
<td>113.46</td>
<td>+28.39</td>
<td>305.08</td>
<td>+16.84</td>
</tr>
<tr>
<td>1985</td>
<td>16.42</td>
<td>41.96</td>
<td>-63.02</td>
<td>126.50</td>
<td>-58.54</td>
</tr>
<tr>
<td>1986</td>
<td>38.37</td>
<td>30.05</td>
<td>-28.38</td>
<td>97.52</td>
<td>-22.91</td>
</tr>
<tr>
<td>1987</td>
<td>224.74</td>
<td>22.03</td>
<td>-26.69</td>
<td>54.50</td>
<td>-44.11</td>
</tr>
<tr>
<td>1988</td>
<td>409.23</td>
<td>35.67</td>
<td>+61.92</td>
<td>86.14</td>
<td>+58.06</td>
</tr>
<tr>
<td>1989</td>
<td>496.23</td>
<td>43.80</td>
<td>+22.79</td>
<td>131.24</td>
<td>+52.36</td>
</tr>
<tr>
<td>1990</td>
<td>850</td>
<td>39.85</td>
<td>-9.02</td>
<td>152.50</td>
<td>+16.20</td>
</tr>
</tbody>
</table>


**Fuad Awad,** The Economics of Coincidence & Disaster in Lebanon. (The Beirut Review, Vol. I #2) (Fall 1991) P. 51

Actually, two distinct conclusions could be derived from the above figures.

1. Both the insurance premiums as well as the costs of accidents are reduced considerably during the above period, due to the drastic devaluation of the Lebanese currency in face of other currencies as denoted in Table - 6 above.
2 - Although both were moving in harmony and in the same direction during the first years of the decade, it seems clear that, during the last two years, the cost of accidents is climbing high above the increase in insurance premium, actually an average increase of 2.55% per year for Cost of Accidents was faced by an average decrease of 2.00% per year for premiums.

V - PROBLEMS AND NEEDS OF THE AUTOMOBILE INSURANCE MARKET:

In reference to the statistical data provided, and according to the different responses supplied by the persons interviewed to that effect, a set of problems and needs in the Lebanese Automobile Insurance market were traced, to which solutions and suggestions are to be designed, based on the experience of Automobile Insurance in North America.

However, such problems stem basically from the fact that members of the Lebanese society are still not aware of the benefits of insurance in all fields and specially in the automobile field, mainly due to the lack of orientation through programs in different media that should be initiated by both, the government and insurance companies.
Table – 7
Extent of Adequate Compensation for Insured & Uninsured Accidents

<table>
<thead>
<tr>
<th></th>
<th>Insured Accidents</th>
<th>Uninsured Accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp.</td>
<td>69 %</td>
<td>17 %</td>
</tr>
<tr>
<td>Perm.</td>
<td>63 %</td>
<td>32 %</td>
</tr>
<tr>
<td>Fatal</td>
<td>77 %</td>
<td>11 %</td>
</tr>
</tbody>
</table>


In a research conducted in the U.S.A. regarding adequate compensation for accidents resulting in disabilities and deaths only for insured as compared to uninsured cases, the figures displayed in Table – 7 were the results. It showed that in above 60% of Insured cases, compensation was adequate, in contrast, in above 70% of Uninsured cases there was no compensation at all. Although such research is not possible to conduct in Lebanon due to the lack of data, it is assumed that results in Lebanon could be similar if not worse.

However, even with the existence of optional Automobile Insurance in Lebanon, problems are faced by all the three parties involved: the Public, the Insurer, and the Government. An identification of such problems is to follow for each party by itself.
A - Problems Facing The Public:

1 - Over 90% of the registered cars in Lebanon are uninsured, and in most of the cases, owners are financially unable to meet losses of accidents. What happens to the innocent victim ?

2 - Hit and Run accidents are causing the same problem as above.

3 - Even if insured, establishing at fault degrees and levels of responsibilities is a long process, so the victim or tortfeasor would have to pay for the hospitalization, if any, and to the damages, and later receive reimbursement if he is entitled to, which could happen years later. Hospitals are not accepting any case without down payment or insurance. What if both parties were not able to pay ?

4 - Coverage in the Lebanese Automobile policy is denied in such cases:
   * Drunken driving and intoxicated drivers.
   * Any accident while driver is in contradiction with traffic laws.
   * Any accident in connection with mechanical breakdown.
   A question arises at this stage. If such an accident occurs, and the tortfeasor is unable to pay, who reimburses the innocent victim or more important who pays for hospitalizing him/her ?

5 - Coverage in the above policy only includes third parties, then if the driver, family member, employee or relative is injured, they are not covered. If they were financially unable as is the driver, which is the
case with most of the Lebanese people nowadays, who would reimburse or hospitalize them?.

6 - In most of the cases, the limit of insurance is not adequate, either due to the fast inflation, or due to the fact that the insured is choosing low limits to reduce his/her premium. There is a major need for minimum adequate limits to be sold by insurance companies, and imposed by law.

7 - Limits of coverage include Bodily Injury and Property Damage with no priorities of payment. The need for two different limits arises to adequately cover both losses.

8 - Coverage for any kind of property being inside the car at the moment of accident, regardless of the owner, is denied in our policy. Such a coverage should be designed and offered, specially that some property could be real valuable.

9 - A main problem, being the reason for most of the above, is that most car owners in Lebanon are financially unable to meet the accidents they might cause. To that effect, Financial Responsibility laws are not enacted in Lebanon to avoid such accidents, thus any person is allowed to purchase, use and operate a vehicle without consideration of the resulting damage he/she might cause.
B - Problems Facing The Insurer:

1 - Considering the low portion of insured automobiles in Lebanon, and considering the Theory of Large Numbers, insurance companies are facing higher degrees of risk in this line of business.

2 - Claims' Fraud is at its maximum in Lebanon, as a result, some accidents are attributed to insured vehicles while they are caused by uninsured ones, thus making insurance companies pay claims for uninsured vehicles too.

3 - The Automobile Insurance portfolio in Lebanon, being as small as it is, drives insurance companies to compete blindly on it. Due to restricted general conditions and Unwillingness of some companies, such competition is taking the form of price competition rather than better coverages and services. Consequently, the Automobile Insurance class of business is becoming a major cause of loss to the insurers underwriting it.

4 - Automobile maintenance in Lebanon is at its minimum, thus rendering most cars hazardous to use. Additional accidents are occurring and additional losses are incurred. In the mean time, the government is not interfering to at least prohibit registration of damaged and dangerous vehicles.
C - Problems Facing The Government:

1 - Also considering the small portion of insured vehicles, the government is not benefiting enough from taxes on this line of business, whose proceeds are, and should be, used to maintain highways, roads, traffic signals and lights to reduce the probability of accidents.

2 - Due to lack of insurance, or low limits in case of any, the ministry of health is assuming most of the hospitalization expenses resulting from such accidents without collecting any portion or proceeds from the policy premium, or without imposing special taxes on uninsured vehicles. All these problems are to be dealt with, and suggestions for corrective courses of action to be designed in the Conclusion and Recommendations.

The Lebanese Automobile Insurance system, as it currently stands, does not serve as an efficient means of protection for owners, users and occupants of automobiles. Considering the fact that the automobile is increasingly becoming a social need, one would have to recognize its accidents as becoming a social burden which should be shared by all members of the society. To that effect, the existing system needs to be updated following the above social recognition, in order to create a safer society and relieve its members from existing worries thus making them more productive and efficient. Recommendations for such updating procedure are to be introduced in the last section of this study.
CHAPTER FOUR

Automobile Insurance in North America

I - DEVELOPMENT:

For decades, and since Automobile Insurance was introduced in North America, continuous revisions on existing systems were activated in attempts to create safer societies and provide for adequate compensation to innocent injured parties, victims of automobile accidents.

At the early stages of automobile insurance, when it was totally based on the tort liability system, societies used to be confronted with situations whereby the parties involved in an automobile accident were unable to meet their financial responsibilities. In face of that, and as the first phases of development, laws and legislations requiring every automobile owner to prove his/her ability to meet outcomes of accidents in case of any, before he/she can register his/her car, were enacted.

Actually, after the Tort Liability System was in effect for a long period of time, criticism of this system constituted the grounds for the enactment of the above laws and for the passing of new insurance programs that seemed to overcome such criticisms. Nevertheless, defense of this system in its existing form or in a slightly modified version responded to the arguments of the criticism in an attempt to prove its superiority over other suggestions to that effect.

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Under this section of the chapter, a consideration of the criticisms of the tort liability system, the defense and the new laws and programs introduced would follow, to help us benefit from past experience of countries that were one day facing the same problems we are facing nowadays, and confronted with the process of implementing effective systems to enhance public safety and social stability. Such consideration would deal with the statutes passed to emphasize the legal liability of motorists and would include the following:

A - Criticism of Tort Liability System.
B - Defence of Tort Liability System.
C - Financial Responsibility laws.
D - Unsatisfied Judgement funds.
E - Compulsory Insurance laws.
F - Automobile Compensation, No-Fault automobile insurance.

The next section of this chapter constitutes an in-depth analysis of one of the latest and very advanced automobile insurance systems, namely the Ontario Motorist Protection Plan, currently adopted by the Province of Ontario - Canada. This would serve as a tool for comparison with the current Lebanese system for which alterations derived from the Canadian system, if applicable, are to be designed.
Being based upon negligence, the tort system is mainly involved in deciding the degree of fault of parties involved in the accident. A tiresome and mostly impossible task to perform because drivers and occupants usually have difficulty to reconstruct the accident; witnesses are not always as reliable as they should be and juries might be affected by external factors such as the appearance of the defendant, severity of injury on the victim, and most important the eloquence of their lawyers.

Another argument states that Automobile Insurance has always insulated the negligent driver from the financial losses he/she is responsible for. Thus, determining his/her degree of fault does not punish him/her financially nor encourage him/her to drive safely.

A third and very important criticism is that tort liability cases tend to take a lot of time at court to be recovered, thus the victim would have to bear the expenses until being indemnified. It was proved that 42% of tort liability cases took more than six months to settle. But what if the victim was not able to bear such expenses?. Moreover, no matter when recovery takes place if it does, it is usually accompanied by certain legal costs and expenses such as lawyer's fees, transportation expenses and lost wages. Such expenses in most of the cases constitute more than 25% of the recovered amount.

Finally, tort liability recoveries proved to be inequitable in the sense that persons with small losses such as $500 or less were indemnified more than

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four times their losses, while those with huge losses of above $25,000 recovered an average of quarter their losses. Actually, it has been realized that judges tend to be generous with small losses, in consideration of pain and suffering, and tend to be very selective in considering large losses.

B - Defense of Tort Liability System:

In face of the above criticisms, which to a great extent seem logical, defense as to the above system considered such facts:

Although the tort liability system might need some modifications, it should not be expected to compensate all injured victims for all such losses. In fact, each should be compensated according to his/her degree of innocence, and consequently should bear the results of his/her negligence.

Moreover, fault determination has never been as a complicated matter as it seems. In some cases, there was no question concerning who was at fault and who was innocent. In connection, blaming the negligent party is an ethical matter and its psychological effects should not be underestimated. In the mean time, although being at fault is covered by insurance, later implications have a financial impact on the negligent party through higher insurance rates and in some cases difficulty to secure insurance at all.

It is true some cases were not settled for several months or years after the accident, but most of them were, within a reasonable period. Actually, the same study mentioned earlier showed that 58% were settled within six months, out of which 38% were settled within two months and a major part of claims do
not go to court.

In contrast, any new plan to be introduced would have its collection and administration fees and expenses, and the consideration of pain and suffering would also exist. Actually, such losses as pain and suffering and newly fright and mental anguish are considered as very real losses for which victims should be compensated although their economic property losses might be very low.

C - Financial Responsibility Laws:

This legislation exists all over U.S.A. and Canada in the states and provinces where Compulsory Insurance is not activated, and applies on non-residents of Compulsory Insurance States. This law suspends the car registration, the driver's licence and sometimes both if the owner or driver of such car fails to furnish security for payment of losses arising from an accident up to specified limits. This requirement applied on all drivers or owners involved in a specific accident, and is usually effective within a short period following the accident. In other cases, persons who fail to pay losses of an accident within a specified period of time would be required to provide proof of financial responsibility with respect to future accidents, and so might be the case for drivers convicted of serious traffic violations.

The security acceptable in such cases could either be in the form of cash deposits, or surety bonds. Since this is not practicable for an average citizen, insurance policies which are also accepted became essential for such persons, as a result, more and more drivers began purchasing automobile insurance.
Actually, a major drawback of this system is that it is only required by persons with serious convictions or accident history, while others who are equally prone to accidents are not required to insure. Moreover, this security is only required after the accident occurs, and thus, citizens have to pay damages for the existing accident, lawyer's fees, and court costs and in addition buy insurance against future accidents, and the real problem lies in cases where a driver proves to be financially unable to meet the above.

D - Unsatisfied Judgement Funds:

These funds had been set up by law in some states in U.S.A. and Canada. Normally, such funds are designed to meet unsatisfied judgements caused by irresponsible, financially unable drivers as well as hit-and-run drivers causing bodily injury or property damage for which the injured party is unable to recover. These funds are financially supported by contributions from uninsured motor-licences and some assessments imposed on insurance companies.

In some states and provinces, insurance coverages against the above are provided, either voluntarily in Non-Compulsory Insurance states, or as a part of the policy in states with Compulsory Insurance. Nevertheless, such funds are still necessary over and above insurance coverages since in some cases uninsured persons such as pedestrians are injured by hit-and-run vehicles.
E - **Compulsory Insurance**

Was first enacted in the U.S.A. in 1927, in the state of Massachusetts, and since then was followed by other states in the U.S.A., Canada, and most of the European countries, in addition to numerous countries in other parts of the world. Its basic concept is that each registered vehicle should carry a certain minimum amount of insurance for property damage and bodily injury.

Compulsory Automobile Insurance provided the simplest, most effective way to handle the problem of uncompensated automobile accident victims. Nevertheless, it had been subject to criticisms regarding matters of interest to insurance companies, the government and individual insureds as well. Arguments noted that Compulsory systems forced insurers to accept risks they would rather reject, were very difficult to enforce, were subject to political pressures to reduce premiums, made injured parties become more claims-conscious and made courts more liberal when they know an insurance company is involved. Consequently, in face of such arguments and since their introduction, Compulsory Systems were subject to continuous revisions and modifications that lead to existing systems proving to be as effective as deemed by modern societies. In this connection, it is rather important to mention that the Compulsory System could be applied in connection with any of the other laws discussed in this section. More aptly, all Compulsory Systems applicable in North America are a combination of two or more related laws in addition to the basic insurance system.

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The No-Fault Legislation had its grounds following continuous criticism of the Tort Liability System as mentioned earlier. Actually, the first No-Fault liability system that resulted in No-Fault Automobile Insurance was tried in the province of Saskatchewan—Canada. All liability systems discussed earlier were based on the principle of Negligence, which asserts that only persons guilty of negligence are required to pay for losses caused by accidents.

As hard as it might seem, courts in the U.S.A. had to handle all negligence cases with what is connected thereto, from costs of courts and fees to lawyers and other costs with a fact that damages for injuries are uncertain.

The main idea behind the No-Fault system is based on the theory that automobile injury costs are a social rather than an individual responsibility. Thus some losses, especially bodily injury losses, are to be compensated for each victim regardless of him/her being at fault or not. Some investigation in the U.S.A. during year 1967 showed that only 50% of the economic losses of victims in automobile accidents were recovered from various sources including tort liability claims, life and health insurance, sick leaves, workmen's compensation, automobile insurance and others. Out of these, tort liability claims were about one third of the amount recovered, or only one sixth of the total value of losses.


In implementing a No-Fault system, it is supposed that all above losses would have been recovered due to the fact that each victim is entitled for compensation regardless of him/her being partly or totally responsible.

II - THE ONTARIO MOTORIST PROTECTION PLAN:

This plan is the only standard Automobile Insurance coverage offered by all insurance companies underwriting this class in the Canadian province of Ontario. It was introduced in June 22nd 1990. Although Ontario was believed to become the only North American state to offer a choice of either the tort liability automobile insurance, or the No-Fault plan, it ended up implementing a standard compulsory No-Fault system with the application of some additional agreements, coverages, and issues to be discussed in the following sections.

The O.M.P.P. policy form constituted of four sections as follows:

A - Third Party Liability (Bodily Injury & Property Damage)
B - Accident Benefits (No-Fault Benefits)
C - Loss or Damage to the Insured Automobile
D - Uninsured Automobile Coverage

Each of the above sections is to be dealt with in particular, meanwhile highlighting new concepts, requirements by law, and scope of coverage as regarding persons covered, risks covered, and amounts of coverage.
A - Third Party Liability:

As is the case in other countries, Third Party Liability insurance under this plan is designed to provide financial protection for the Insured’s legal liability for injury to other people and damage to the property of others, arising out of the ownership, use, or operation of the automobile. This coverage is compulsory under the O.M.P.P. What should be noted here is that this plan considers that legal liability to others could arise either from the operation of the owned automobile described in the policy, or from the operation of certain other automobiles by the person or persons insured. Thus, this plan recognizes more than one insured person, and recognizes the liability caused through the use of more than one automobile as would be illustrated later.

1 - Threshold for Liability for Injury:

In order to reduce the losses incurred by insurers, and expenses bared by insureds due to lawyers’ fees and collection expenses, this and other plans in North America prohibit liability suits unless the injuries suffered meet a certain definition known as the "Threshold". According to the O.M.P.P., neither the owner of an automobile or its occupants, nor any persons present at the accident are liable in an action for bodily injury, unless as a result the injured person has died or has sustained:

a - permanent serious disfigurement; or
b - permanent serious impairment of an important bodily function caused by injury which is physical in nature.\textsuperscript{30}

Whether a case meets the threshold or not is decided usually by a judge. In case it does not, then the only possible recovery is that specified in section (B) "Accident Benefits – No-Fault" of the policy.

Due to the presence of this threshold liability, the need for higher-than-minimum limits of insurance continued to exist.

Property damage liability accidents are settled according to the degrees of fault. For this, the "Fault Settlement Chart" \textsuperscript{31} was designed. It codifies the likely splits in liability between drivers in given situations. However, damages of at fault drivers are only settled by their own insurers if they have the collision cover.

\section{Persons Covered:}

Under O.M.P.P. the following are covered:

\begin{itemize}
\item[a -] the named insured
\item[b -] any person who drives the automobile with the Insured’s consent.
\item[c -] an occupant of the automobile; defined as driver, passenger, or a person getting into or out of the automobile.
\end{itemize}

\textsuperscript{30} The Insurance Institute of Canada, \textit{Ontario Automobile Insurance}, (Canada: The Insurance Institute of Canada; 1990) p.7

\textsuperscript{31} Ibid, p. 8
3 - Persons not covered:

The following persons are not covered:

a - An occupant of an automobile operated
   (i) - without the consent of the owner, or
   (ii) - by an excluded driver.

b - An occupant, if the insured drives or operates the vehicle:
   (i) - while he/she is not authorized to drive.
   (ii) - for any illicit or prohibited trade or transportation.
   (iii) - in any race or speed test.

Similarly, there is no coverage if the insured allows others to operate the automobile as specified above.

4 - Absolute Liability Law:

The Absolute Liability Law is a major step towards solving one of the most important problems of automobile insurance which is the financial inability of parties to meet the expenses arising from accident losses.

Under this law, the insurer is required to make payment of third party liability claims under an automobile insurance contract even though the insured has:

a - violated the conditions of the policy

b - made a misrepresentation either in the application or in respect
of a claim.31

According to this law, it is stipulated that where the insurer is required to
make such payments, the most that he/she is required to pay is the "minimum
limits" of the province where the accident occurred, regardless of the policy
limits. Moreover, and since such payments are made because of the law rather
than the policy, according to the agreements of the policy, the amounts paid
are recoverable from the insured.

5 - Direct Compensation - Property Damage:

Direct Compensation is another important change in the handling of
Third Party Liability Property Damage to vehicles' claims. This procedure is
aimed to speed up the solving of claims and to reduce the costs of claim
handling due to the expected absence of litigation. This procedure states that
insureds will deal only with their own insurers, and will not have to claim
against the third party's insurer.

Actually, the province of Quebec has had similar legislation for several
years, in connection of which less litigation and speedier settlements were
anticipated and demonstrated.

This litigation was legally stipulated as follows:

a - If both vehicles are insured under automobile policies issued by
licensed insurers in Ontario and damage occurs in Ontario.

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32 The Insurance Institute of Canada, Ontario Automobile Insurance, (Canada: The Insurance Institute of
Canada; 1990) p. 10
b - The insured is then entitled to recover for the damages to the automobile & its contents, and for loss of use from the insured's insurer as though the insured were a third party.

c - Recovery against the own insurer is based on the degree of fault set out in "Fault Determination Rules" which are provided for in the legislation under O.M.P.P.

d - Provision is made that an insured can still sue if unsatisfied with the degree of fault and/or settlement, but such action would be against the insured's insurer, not the third party insurer.

e - The insured is prevented from suing any other person involved in the accident for such damage or loss of use. Similarly the insurer who pays the claim can not subrogate (claim over) against other parties or their insurer(s).

f - Physical Damage cover, i.e., collision or comprehensive, is not affected by these provisions. 31

6 - Amount of Insurance:

The Compulsory Third Party Liability coverage under O.M.P.P. is subject to what is known as "Minimum Limits" below which no insurance company is allowed to issue policies. The inclusive bodily injury and property damage limit is Cdn. $200,000, with a priority of payments of Cdn. $190,000 for injury and Cdn. $10,000 for property damage in case claims from one accident exceeded the inclusive limits.

31 The Insurance Institute of Canada, Ontario Automobile Insurance. (Canada: The Insurance Institute of Canada; 1990) p. 11
7 - **Exclusions:**

a - All amounts in excess of the Part A limit of liability and additional payments provided for by the policy.

b - Liability arising from contamination of property carried in the automobile.  

8 - **Additional Agreements of Insurer:**

Actually, these agreements provide the insured with benefits in addition to Third Party Liability coverage. Consequently all payments that might be effected by the insurer in respect of these Additional Agreements are in addition to the "limits" insured under Part A.

Following is a summary of the Additional Agreements, the insurer agrees to:

a - Investigate, negotiate and make settlements of claims.

b - Defend civil actions, i.e., lawsuits against the insured.

c - (i) Pay court costs taxed against the insured.

(ii) Pay interest on the insured portion of judgements for damages against the insured.

d - Reimburse the insured for out-of-pocket costs for immediate medical aid. This applies whether or not the insured is legally liable. Such agreement acts as a motive to the insured to help provide fast medical aid to injured persons in an attempt to reduce further costs and reduce fatalities, both from a social as

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well as economic point of view.

e - The insurer will pay up to the minimum limits of the jurisdiction in the province where the accident occurs in Canada.

f - The insurer agrees that it will not use a defense in the jurisdiction where the accident occurred that it would have been able to use in the insured's "home" province (or territory) if such a defence may not be used where the accident occurred. 35

9 - Agreements of Insured:

a - The insurer is irrevocably appointed the insured's attorney to conduct civil defence(s) in actions arising out of the ownership, use or operation of the automobile.

This "ties in" with the insurer's agreement to defend the insured in such actions.

b - The insured agrees to reimburse the insurer for any amounts the insurer would have to pay because of a statute relating to automobile insurance which amount the insurer would not otherwise be liable to pay under the policy.

This is in fact a reference to Absolute Liability payments discussed earlier according to which the insurer would have to pay all accidents, even if it was not covered, and in such cases would be reimbursed by the insured.

35 The Insurance Institute of Canada, Ontario Automobile Insurance, (Canada: The Insurance Institute of Canada; 1993) p. 9
B - Accident Benefits - No-Fault:

The Accident Benefits section is the second compulsory part of the O.M.P.P. It comprises a main difference from the Lebanese Automobile policy in the sense that it provides coverage for the driver, his dependents and any other occupant of the automobile, who are excluded from the coverage of the Lebanese policy. The main purpose of this section is to provide medical care and weekly indemnity coverage, in addition to other incorporated covers and some optional ones.

Actually, the Accident Benefits-No-Fault section of the O.M.P.P. is in its entirety a new coverage which is not, and had never been, included in the Lebanese policy. This coverage is increasingly being adopted by additional states and provinces in North America. Nowadays, more than 30 of them apply No-Fault Automobile insurance in one of its different forms. 36

The main features of the No-Fault Benefits are as follows:

1 - Persons Covered:

In addition to the original named insured, the following persons are covered under the No-Fault Benefits.

a - for accidents in Ontario, any occupant of the automobile.

b - for accidents outside Ontario, any occupant of the automobile who is living and ordinarily present in Ontario.

c - the named insured, spouse, and any dependent of either of them

while occupants of any other automobile.

d  - any person involved in an accident with the automobile not being occupant of any automobile.

e  - the named insured, spouse, and any dependant of either of them not the occupant of an automobile who is involved in an automobile accident (i.e. as a pedestrian)

f  - the named insured, spouse and any dependant not involved in the accident but who suffers psychological or mental injury as a result of an accident involving physical injury to defined family members.

g  - any person involved in an accident involving the automobile who has no recourse against any other insurer either of the vehicle they were riding in or which struck them.

h  - same coverage applies to insured, spouse, and dependants in cases of rented cars, or cars supplied for use (such as company cars).

Recovery in case of Bodily Injury is certain, and its priorities occur in the following sequence. All persons claim Accident Benefits from their own automobile insurer. If there is no such insurance, benefits are payable by the insurer of the automobile which they are riding. If such automobile was not insured, then recovery can be made from the insurer of any automobile involved in the accident. Finally, if no recovery is possible from any of the above sources, the benefits will be paid by the Ontario Motor Vehicle Accident Claims Fund which is financed through assessments of insurance companies.
2 - No-Fault Benefits Schedule:

In No-Fault, benefits comprise financial reimbursement for injury, death, funeral expenses and weekly income. These benefits are as follows:

a - Cdn. $500,000 for each person covered for Supplementary Medical and Rehabilitation Benefits for:

(i) - medical, psychological, surgical, dental, hospital, chiropractic, nursing and ambulance services and services of physiotherapists;
(ii) - prostheses, dentures, prescription eyewear, hearing aids and other medical or dental services;
(iii) - rehabilitation, life-skills training and occupational counselling and training;
(iv) - transportation to and from treatment, counselling and training sessions, including transportation for an assistant;
(v) - home renovations to accommodate the needs of the injured person;
(vi) - other goods and services whether medical or non-medical in nature, which the insured person requires because of the accident.

Insurers may require a medical or psychological report. However, they are required to make all payments pending resolution of disputes.

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37 The Insurance Institute of Canada, *Ontario Automobile Insurance* (Canada: The Insurance Institute of Canada; 1990) p. 15
There is also provision to pay the expenses incurred by family members in visiting the injured person during his treatment. The Benefit period for each injured person is the longer of:

(i) ten years; or
(ii) twenty years less the age of the victim on the day of the accident.

b - Cdn. $500,000 (limit $3000 per month) for each insured person for:
   (i) cost of a care-giver, or income lost by persons giving care
   (ii) expenses in caring for the injured persons

c - cost of repair or replacement of clothes, prostheses, dentures, prescription eyewear and other medical devices damaged in the accident.

d - Cnd. $3,000 Funeral expenses per person covered.

e - Cnd. $ 25,000 Death benefits to surviving spouse.
   25,000 to dependents if not survived by spouse.
   10,000 to each dependent surviving.
   10,000 for a deceased dependant to the person on whom dependant or surviving spouse was dependant, or if both are deceased, to other surviving dependants.

f - Weekly benefits as follows:

   For each person covered who sustains physical, psychological or mental injury and as a result suffers substantial inability to perform the tasks of his occupation or employment, provided that at the time of accident, he must have been.
   (i) employed or self employed.
(ii) - on a temporary layoff.

(iii) - holding a firm offer for employment within one year from the date of accidents.

Moreover, such suffering is covered when it happens within two years from the date of accident. Also Unemployed persons receive this benefit if they have worked any 180 days in the preceding 12 months period.

The amount of weekly benefits amount to 80% of the gross weekly income less any payments collected for loss of income and subject to a maximum of Cdn. $600 per week. By this, No-Fault weekly benefits constitute excess insurance to other sources of income recovery. Unless it is established that continuous inability to engage in any occupation occurred, weekly benefits is limited to 156 weeks (3 years) subject to a waiting period of one week. However, if continuous disability occurs, weekly benefits are payable for life.

For injured persons having no income such as students or non-working spouses, the weekly benefit is limited to $185. Where the injured person is a primary care-giver, an additional $50 per week is paid to each dependant below 16 years of age.

In contrast with medical payments paid under all circumstances, weekly benefits are not paid for the driver only, if:

(i) - he was convicted of drunken driving at the time of the accident.

(ii) - he refuses to provide a breath sample at the time of the
accident.

(iii) - he was operating a vehicle which was not insured at the time of the accident.

(iv) - he was not authorized by law to drive the automobile.

(v) - he was operating the automobile without the owner's consent at the time of the accident.

In connection with this schedule, some optional benefits could be purchased by the insured prior to the accident. These benefits are as such:

(i) - increase Funeral benefits to $7,500

(ii) - increase Death benefits to $50,000 & $10,000

(iii) - increase Weekly income to $750 or $950 or a maximum of $1,050

(iv) - increase primary care-giver to $100

C - Loss of or Damage to Insured Automobile:

The loss of or Damage to Insured Automobile part of the policy provides financial coverage for the insured against direct and accidental loss of or damage to the automobile and its equipment. This part includes the following:

1 - All Perils

2 - Collision or Upset

3 - Comprehensive

4 - Specified Perils

The choice of coverage among these sub-sections is possible for each
insured according to his/her perception and needs for coverage.

1 - All Perils:

The All Perils coverage is the broadest among the list. It is mutually exclusive with the remaining covers in the sense that it combines and broadens the protection provided by the three together. Hence, it is not necessary for the customer to purchase subsection ii, iii, & iv above in addition to the "All Perils" protection. This subsection is usually subject to a deductible amount for any type of accident, which is normally higher than the deductibles on any other subsection.

2 - Collision or Upset:

The "Collision or Upset" coverage provides protection against Collision with another object, or by Upset. Normally, a collision involves the insured car striking another car, but in the context of the policy it includes one vehicle accidents where the insured car strikes a tree or a wall or any other object. The surface of the ground and an attached trailer are also included under the definition of "other objects". A typical deductible of $250 is placed on this coverage.
3 - Comprehensive:

The "Comprehensive" coverage is complementary to the "Collision or Upset" coverage in the sense that it protects the insured vehicle against any peril other than Collision or Upset. These two covers are usually purchased together, and the "Comprehensive" coverage is sometimes substituted by the "Specified Perils" coverage. A typical deductible of $50 is placed on this coverage, but does not apply if loss was due to fire, lightning or theft of the entire automobile.

4 - Specified Perils:

The "Specified Perils" coverage provides protection for the insured vehicle against certain specified perils as follows:

a - Fire and Lightning
b - Theft or attempted theft
c - Windstorm and Hail
d - Earthquake
e - Explosion
f - Riot or civil commotion
g - Falling or forced landing of aircraft (or parts thereof)
h - Rising water
i - The stranding, sinking, burning, derailment or collision of any conveyance in or upon which the automobile is being transported.

As could be seen, glass breakage is not included under "Specified
Perils" and for this purpose the "Comprehensive" coverage is often bought. A deductible similar to that of Comprehensive is placed on this coverage.

5 - Exclusions:

The exclusions to this part of the policy are directly related to the insured or any person driving with his/her consent being able to operate the insured vehicle safely. In this connection, the insurer is not liable under this part of the policy if the insured drives or allows any one else to drive

a - while under the influence of intoxicating substances to an extent influencing his/her ability to control the automobile.

b - if the driver is convicted of an offense under a provision of the law in Ontario or other jurisdictions in Canada or the United States of America as related to such occurrences, provided it arouse out of, or was related to the operation, care or control of an automobile.

(i) - causing death or bodily harm by criminal negligence
(ii) - dangerous operations of motor vehicles
(iii) - failure to stop at the scene of an accident
(iv) - operation of automobile while impaired or with more than 80 mg. alcohol in blood.
(v) - refusal to comply with demand for breath sample
(vi) - operating a motor vehicle while disqualified from doing so.
Additional Coverage:

Provided the insured had purchased a combination of the coverages under the above part III of this chapter such as Collision and Comprehensive or All perils, he/she would be granted the following additional coverage:

a - Damage to a temporary substitute automobile which is defined as one used by the insured instead of the named automobile being not in use due to breakdown, damage or repair.

b - Loss of use by theft, provided total theft of the named automobile occurs.

Uninsured Automobile Coverage:

The Uninsured Automobile Coverage is designed to protect the insured when the party at fault had no insurance or was a hit-and-run driver. In all but one state in North America (Michigan) insurers are required to offer it to applicants and is Compulsory in 19 states. 38

This coverage is Compulsory under the O.M.P.P. and according to its conditions, each insured claims compensation from his/her own insurer. Under this coverage a distinction between unidentified and uninsured is to be made.

Unidentified automobile cover is for bodily injuries only. To recover for property damage and damage to the vehicle, the "at fault" automobile must be identified but not insured. This provision is applied to reduce the abuse of

insureds who might claim hit-and-run for single car accidents especially if they had no collision cover. Under this coverage, in addition to the insured, any occupant of the automobile is covered. Moreover, the insured and his dependants including spouse and dependants are covered while occupants of an uninsured automobile or when struck by an uninsured or unidentified automobile. The amount of coverage under this part is limited to the minimum compulsory limit in Ontario or the minimum limit where the accident occurred, whichever is less, with priorities of payment of 95% bodily injury and 5% property damage subject to a maximum of $25,000 for property damage. 35

III - BASIS OF PRICING AUTOMOBILE INSURANCE IN NORTH AMERICA:

Establishing automobile rates in North American insurance companies is a long process that takes into consideration sets of variables, out of which one combination would suit each automobile risk, and accordingly its rate or premium is established. Such variables are in fact a variety of states of nature regarding the insured persons, the automobile itself, and the territory where such an automobile is normally used and parked in. Automobile risks are usually divided into the following major classes:

A - Private passenger (pleasure and business use).
B - Commercial vehicles (trucks and delivery autos).
C - Public autos (busses and taxicabs).

35 The Insurance Institute of Canada, Ontario Automobile Insurance. (Canada: The Insurance Institute of Canada; 1990) p. 16
D - Garage risks (road and dealership risks).
E - Non-Owned autos.

For the sake of this study, our concern is limited to the private passenger automobile risk which in turn is considered from the aspect of the hazard presented by all or any of the following:

A - Territory (use and parking).
B - Use of automobile.
C - Driver.
D - The automobile itself.

Before discussing each of the above four variables, it is worth mentioning that different rates and premiums are applied on each coverage purchased, and the sum of all such premiums would constitute the total policy premium to be paid by the insured. Moreover, variations of the above factors would alter the premium level through the application of either a discount or a loading factor to the base premium normally set according to the policy limits to meet the average level of losses and expenses in addition to providing a specific profit margin for insurance companies.

A - Territory: In the insurance industry, and based upon past experience, it is believed that various types of automobile risks vary from one territory to another. It had been traced that Injury and Property damage claims arising from automobile accidents are more frequent in
congested areas and large cities than in rural areas. Consequently, it is believed that Third Party Liability and Collision exposures are greater in cities and as a result premiums should be higher. Moreover, Theft losses are also more frequent in cities due to the fact that in rural areas people know each other, and the owner of each automobile is known, so strangers are easily traced. Whereas in cities, a car is parked for hours before the owner returns, and nobody knows who the owner is, thus giving the thief enough time to finish the job.

E—Use of Automobile: It is very common in North America to find two automobiles of the same make and model paying different premiums. Actually this could be due to many factors the most common being the use of the car itself. A taxicab, as compared to a private car, is used sometimes for 24 hours a day whereas the other is not used more than 1/4 of this time. In addition, a cab driver is more prone to drive faster than a normal driver in an attempt to finish his/her journey as fast as possible to win another, wherever a normal driver heading home is not in such a hurry. Sometimes, two similar private vehicles pay different premiums in the sense that a salesman/woman might drive his/her car for above 25,000 miles a year, whereas an office employee using his/her car to and from business and for pleasure on week-ends only might not drive it for more than 10,000 miles a year.

---

C - Driver: It might seem surprising to state that any driver may be placed in one out of 210 rating classes according to his/her age, sex & marital status, and even being a good student or not in addition to taking a driver training course or not.\(^{41}\) Although western societies are requiring to reduce discrimination in insurance rates according to such personal factors, it had been illustrated through past experience that these factors are real determinants of the frequency and seriousness of automobile accidents, thus accidents increase in age groups between 18 and 23 inclusive, \(^{42}\) and accidents are more frequent as well as more serious among male rather than female drivers. \(^{43}\)

D - The Automobile itself: The automobile itself is also an important factor in automobile rate determination. Each automobile to be insured is assigned to a specific class which is determined as a combination of the performance of the car, its susceptibility to damage and its price or market value at time of insurance. A normal consideration of performance would be set at one of the following levels: \(^{44}\)

1 - Standard performance
2 - Intermediate performance
3 - High performance

---


\(^{42}\) Haddon, Suchman & Klein, Accident Research - Methods and Approaches, (New York: Harper & Row Publishers; 1964) p. 134


4 - sports car
5 - Rear engine.

Susceptibility to damage also has its impact on class determination for various automobiles. American cars are assumed to be less susceptible to damage than Japanese cars, and so are German cars.

After setting the final rating factor according to all above variables, further adjustments are applied in regards to accident records and conviction records of possible drivers. Free of accident and violations records are granted specific discounts, whereas records with accidents above certain limits or serious violations (such as drunken driving) are charged penalties that vary with the number and nature of accidents and violations.

IV - BASIS OF AUTOMOBILE RISK REJECTION:

Insurers are allowed to accept and reject risks according to their perception of insurability in most parts of North America. However, legislations have been enacted to make sure that every motorist finds insurance for him/herself and his/her automobile. The most common experience to that effect is the formation of Automobile Insurance pools reinsured by all automobile insurers in that specific state. According to such legislation, any person with a valid driver’s license is eligible for insurance and should be accepted by the pool specially if rejected by other private insurers. Reinsurance for these pools is shared among auto insurers.
according to their share in the market, and normally premiums changed are higher than those of insureds with acceptable records. In short, insurance availability in North America is almost comprehensive, and no driver is deliberately left uninsured.

V - EXPERIENCE OF AUTOMOBILE INSURANCE IN NORTH AMERICA

Because Automobile Insurance is Compulsory in most of the states and provinces in North America, and due to the Financial Responsibility Laws enacted in the other states where it is not compulsory, a very large portion of registered automobiles are insured. Moreover, and considering the large number of vehicles registered, Automobile Insurance became one of the most important lines of business among most insurance companies operating in North America and underwriting this line. Actually it amounted to 32.5% of the total insurance market in U.S.A. in year 1979.

According to Table - 8 which constitutes of results for eight randomly selected North American Insurance companies, Automobile Insurance premiums ranged from 28.0% to 76.6% of total premiums underwritten by each of these companies during 1980 & 1981. What needs to be noted is that all these companies underwrite all lines of insurance and not only personal insurance lines.

### Table - 8
Automobile Premiums as % of All Lines

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th></th>
<th>1981</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total $</td>
<td>Auto $</td>
<td>%</td>
<td>Total $</td>
</tr>
<tr>
<td>Aetna Casualty</td>
<td>3865483</td>
<td>1335228</td>
<td>34.5</td>
<td>3930083</td>
</tr>
<tr>
<td>Allstate Insurance</td>
<td>4760678</td>
<td>3452698</td>
<td>72.5</td>
<td>5114534</td>
</tr>
<tr>
<td>American Family</td>
<td>409483</td>
<td>314025</td>
<td>76.6</td>
<td>446128</td>
</tr>
<tr>
<td>American States</td>
<td>272542</td>
<td>132997</td>
<td>48.8</td>
<td>252109</td>
</tr>
<tr>
<td>Atlantic Mutual</td>
<td>178388</td>
<td>51665</td>
<td>28.8</td>
<td>175614</td>
</tr>
<tr>
<td>Auto Owners</td>
<td>423776</td>
<td>260498</td>
<td>61.4</td>
<td>413773</td>
</tr>
<tr>
<td>Commercial Union</td>
<td>968057</td>
<td>363758</td>
<td>37.6</td>
<td>1195313</td>
</tr>
<tr>
<td>Employers Mutual</td>
<td>128531</td>
<td>56480</td>
<td>43.9</td>
<td>129574</td>
</tr>
</tbody>
</table>


Also according to Table - 8, it is clear that the percentage of Automobile Insurance among all the listed companies remained almost the same in 1980 and 1981 thus denoting the constant spread of the automobile insurance risks among all insurance companies operating in North America, and thus the volume of Automobile Insurance remains constant and increases only in parallel with the increase in the number of registered vehicles.
Table - 9
Automobile Insurance Loss Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical Auto</th>
<th>Liability Auto</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>68.1 %</td>
<td>73.7 %</td>
<td>70.9 %</td>
</tr>
<tr>
<td>1978</td>
<td>74.6 %</td>
<td>86.7 %</td>
<td>80.7 %</td>
</tr>
<tr>
<td>1979</td>
<td>71.8 %</td>
<td>75.0 %</td>
<td>73.4 %</td>
</tr>
<tr>
<td>1980</td>
<td>83.1 %</td>
<td>75.5 %</td>
<td>79.4 %</td>
</tr>
<tr>
<td>1981</td>
<td>76.1</td>
<td>86.2 %</td>
<td>81.1 %</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 77.1 \% \]
\[ \sigma = 4.1 \% \]


Table - 9 shows the loss ratio for physical Damage Automobile Insurance and Liability Automobile Insurance. A consolidation of both shows an average loss ratio for overall Automobile Insurance. These results were consolidated from those of three randomly chosen companies.

As calculated in Table - 9, the average loss ratio amounts to 77.1 % as compared to the 88.5 % of Lebanon. Also, the standard deviation of the North American results amounted to 4.1 % as compared to the 10.14 % of Lebanon.
Undoubtedly, these differences illustrate that the results of Automobile Insurance in North America could be easily and accurately estimated, in contrast, such results in Lebanon are far from accuracy and thus estimation is a tedious matter.

In connection, if Automobile Accidents are assumed to be normally distributed, then one could depict the following:

In North America, the possibility that the loss ratio would fall between two figures is as follows.

<table>
<thead>
<tr>
<th>X1</th>
<th>X2</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>73.0</td>
<td>81.2</td>
<td>68.27 %</td>
</tr>
<tr>
<td>68.9</td>
<td>85.3</td>
<td>95.45 %</td>
</tr>
<tr>
<td>64.8</td>
<td>89.4</td>
<td>99.73 %</td>
</tr>
</tbody>
</table>

In Lebanon, and according to the results depicted in Table - 5 of chapter three, the possibility that the loss ratio would fall between two figures is as follows.
<table>
<thead>
<tr>
<th>X1</th>
<th>X2</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>78.35</td>
<td>98.64</td>
<td>68.27 %</td>
</tr>
<tr>
<td>68.22</td>
<td>108.78</td>
<td>95.45 %</td>
</tr>
<tr>
<td>58.08</td>
<td>118.92</td>
<td>99.73 %</td>
</tr>
</tbody>
</table>

The results of Automobile Insurance as exhibited in the above schedule could not be used for estimation of future losses as means of setting future levels of premium, since at the 99.73 % level of confidence, the loss ratio could vary in an amount which is greater than double its minimum limit (increase 105%), and thus premiums could be set at any one level or at its double for example. Whereas at the 99.73 % level of confidence, the loss ratio in North America could only vary in the ratio of 38%.

Attributed to the above differences, increasing variations and wider differences of loss ratios are expected to continue in the Automobile Insurance Industry in Lebanon, as long as future premiums which are set to meet expected losses are not fulfilling this intention.
CHAPTER FIVE

Recommendations for Improvement of
The Lebanese Automobile
Insurance System

1 - SUMMARY OF FINDINGS:

The main objective of this study was to reveal whether the existing
Automobile Insurance scheme in Lebanon is able, as it stands, to assume the
risks resulting from automobile accidents and provide compensation for such
losses. For this purpose, a comparative analysis of both the Lebanese
Automobile Insurance system and one of the most developed systems in North
America, namely Ontario Motorist Protection Plan, was introduced.

In conclusion, the existing Lebanese system proved to be far behind that
of Ontario regarding the scope and extent of coverage, the nature of
coverages, as well as the overall performance of the system. Actually, the
Lebanese Automobile Insurance policy needs to be amended to reflect updating
of some of its coverages in addition to incorporating some new insurance
doctrines and principles which proved very effective in solving social as well
as efficiency problems.
This conclusion is based on some facts that proved to be the main deficiencies of the existing system, the solution of which would render the system as efficient as other prevailing systems in the world. These facts are as follows:

1 - The very small proportion of vehicles insured in Lebanon is having its bad effects on the insureds, the insurance companies as well as the government.

   a - The individual society members are suffering huge losses due to the financial inability of parties to the accident in meeting the resulting losses. Consequently Property Damage accidents are normally solved on "repair your own damage" basis, while Bodily Injury victims are not accepted in hospitals due to lack of Financial Responsibility including Insurance. Even with the existence of Insurance, most of the cases are not covered due to the wide range of exclusions in the policy and thus trust in Automobile Insurance is lost.

   b - Insurance companies are also suffering huge losses in this line of business, mainly because and according to the Law of Large Numbers, less exposure units mean more risk and consequently more losses. Also due to the limited number of insured vehicles, claims' fraud is increasing thus benefiting from insurance monies and increasing losses of companies. In addition, tough price competition over the small existing market is reducing prices drastically and resulting in increased losses.
c - The government is also paying its part. Due to the huge number of uninsured accidents and the resulting Bodily Injury, the Ministry of Health is supporting such cases and thus paying large amounts of money for hospitals to accept hospitalizing victims. Moreover, taxes collected from Automobile Insurance, as compared to those of other governments are minimal, and consequently no additional budgets are allocated for road and highway maintenance, traffic signals or any other safety program.

2 - Other than uninsured vehicles, a lot of people are suffering losses from accidents with unidentified automobiles and hit-and-run drivers. The Lebanese policy does not include any provisions concerning such cases.

3 - Coverage according to the Lebanese policy is limited to third parties only. Consequently, Bodily Injury of the insured, spouse, his and her family members and dependents as well as employees, employers or any relatives is not covered. Victims of such accidents are also subjected to the same type of difficulties concerning hospitalization and medical payments.

4 - Limits of insurance purchased by insureds are rarely sufficient to cover accident losses, specially if Bodily Injury occurs. There are neither minimum limits of insurance in Lebanon, nor priority of payments for Property Damage and Bodily Injury.
5 - Property transported in the insured vehicle is never covered, even if it was property of third parties.

6 - The frequency of automobile accidents and the corresponding Loss Ratio in Lebanon are very high as compared to those in North America and Europe, probably due to the increasing number and seriousness of such accidents. Consideration in this context is to be made regarding the prevailing road network, traffic lights, absence of sanctions (tickets and suspension of licence) and the increasing number of not licensed drivers, all of which contribute directly to the high frequency of accidents and high Loss Ratio.

7 - The All Risks coverage in the Lebanese policy which includes collision is very expensive due to it being very comprehensive. No breakdown of coverage into subsections that might be cheaper is present. Consequently, this coverage is rarely purchased.

8 - Pricing Automobile Insurance in Lebanon is still primitively based on the horse-power of the vehicle. Thus, accidents free applicants are paying the same premiums as those with recurring accident history. No consideration for any other variable in deciding the premium is made, consequently no pricing models and rates for various categories of cars, insureds, uses of the automobile or any combinations of it are used.
II - RECOMMENDATIONS:

The existing Lebanese Automobile Insurance System, as it is implemented nowadays, needs to be amended if it is required to provide an acceptable level of security as is the case with other systems in the world, and as was illustrated in this study through the comparative analysis of all conditions and coverages in Lebanon and North America. This amendment will consist of three phases as follows:

A - Updating of existing Coverages & Laws.
B - Introduction of new Doctrines and Techniques.
C - Government intervention.

A - Updating of existing Coverages & Laws:

Perhaps the most important updating process is to be made to the Lebanese Compulsory Automobile Insurance Law no. 105 enacted June 30, 1977, which is still not implemented till now. The updating process should consider the following:

1 - This law limits the compulsory coverage to that of Bodily Injury for Third Parties only, and according to the degree of fault of the driver. To this effect, coverage should be updated to include the persons excluded under Article 7 of this Law namely, the driver and his/her family, their dependents, employees, employers, partners and legal representatives.

46 The Ministry of Interior, Al-Jarida Al-Rasmiya, (Beirut; 1977), Issue no. 20, p. 341
2 - When this law was enacted during year 1977, the cost of Property Damage repairs was still affordable by an average citizen. That is why coverage for such losses was not included in it. Nowadays, such costs are becoming distinctly high to be afforded by car owners, consequently unpaid accident losses are drastically increasing. Inclusion of Property Damage as a compulsory coverage would solve the problem of unpaid losses.

Actually, the implementation of the Compulsory System with the amendments recommended would solve a major part of the Automobile Insurance System and Industry problems. It would result in or ameliorate the following:

1 - Less risk resulting from more exposure units (according to the Theory of Large Numbers), thus reducing losses and premiums in consequence.

2 - Better handling of Automobile Accident Injuries, whereby hospitals would accept such cases as long as a responsible insurance company is going to pay.

3 - Reduction in claims' fraud, as long as everybody is insured, which would result in a reduction in losses and consequently premiums.

4 - Expenses paid by the Ministry of Health are eliminated. Consequently, such money and the additional taxes to be collected can be spent on projects and plans to reduce accident frequency and seriousness, thus reducing losses and consequently premiums.
Some other problems could not be solved through the mere implementation of the updated Compulsory System. Rather, some additional laws and principles are to be added to eliminate the remaining problems as follows:

1 - Under Third Party Liability in the existing policy, a large number of cases are excluded. If one of these cases occur, and the owner/driver was financially unable, one would run into the same problems as before the Compulsory System. In this regard, the need for Financial Responsibility Laws, or Absolute Liability Laws, or a combination of both arises. To such problems, introduction of the above laws is recommended, whereby any accident would be paid by the insurer according to the Absolute Liability Laws, but the latter would recover from the insured in case such an accident was excluded, through provisions to that effect in the policy. In this connection, the insurer’s rights are preserved by the government and laws are to be enacted, the government might even require proofs of financial ability at the time of registration of vehicles (in addition to insurance) such as proof of employment or possession of cash money or securities.

2 - Minimum limits of Liability Insurance should be imposed by law. No insurance policy should be issued below these limits, and priorities of payment between Bodily Injury and Property Damage are to be set.
3 - It is logical and well understood that the owner/driver should bear the part of property damage losses for which he/she is responsible. Most probably, he/she would not be able to afford the part of Bodily Injury losses if these are to be treated according to the Fault-System. In this connection, introduction of the No-Fault Bodily Injury System is recommended. Each injured, regardless of fault, is to be compensated by his/her insurer as if he/she carries a personal accident policy limited to cover automobile accidents only. Coverage under this system should include all occupants of the insured automobile. It should not be understood here that insurance companies are covering a totally new risk. Actually, as long as every person would be compensated by his/her insurer, insurance companies are relieved from paying Third Party Bodily Injury claims in most of the cases, and instead are paying Direct Bodily Injury claims. This system would include coverage for weekly benefits and funeral expenses which are covered in the existing policy under Third Party Liability. The No-Fault (Accident Benefits) is to be included in the policy under a separate section.

4 - Even if the compulsory system was implemented, some special cases might occur where an uninsured vehicle is operated. In some other cases, unidentified automobiles might cause losses such as hit-and-run accidents. Coverage for such accidents should be included in the policy and the recommended coverage should include Bodily Injury and Property Damage for unidentified but uninsured vehicles, and should be limited to Bodily Injury only for unidentified vehicles. The insured would be indemnified by his/her insurer in the same way he/she would
be if the other party was insured. Consequently, if any person covered in the policy was hit by an uninsured or unidentified vehicle, being an occupant of the insured automobile, or a pedestrian, the same coverage applies but up to the minimum limits required under the compulsory system rather than the limits of the policy.

5 - As regarding the All Risks coverage, it is recommended that such coverage be broken down as follows:
   a - Collision or Upset (includes only losses resulting from collision or upset, subject to a small deductible to exclude minor claims, and could be purchased alone with the Compulsory System).
   b - Comprehensive (includes all losses other than collision or upset, also subject to a small deductible, and could be substituted by coverage c - Specified Perils).
   c - Specified Perils (consists of coverage against a set of specified perils including theft and fire, but is not as broad as comprehensive).
   d - All Risks (which includes all the above coverages and is purchased in the form of a comprehensive package).

Due to this breakdown, insureds would be able to purchase one or two sections under Own Damage according to their needs and financial ability. However, it is expected that increased sales of the collision cover be encountered especially if it was correctly priced.

6 - After implementing the above changes to the existing system, expectations of higher rates arise. However, increases in rates are not
supposed to be very sharp, because the major part of the risk covered, namely Third Party Liability, did not change. Nevertheless, the old method of rating Automobile Insurance in Lebanon which is based on the horse-power should be amended. The recommended pricing model is one that makes consideration of some factors that influence the degree of risk in connection with one or another driver. Although these factors might not have the same influence in Lebanon as in North America, this fact could only be recognized following the use of a modern computerized data-base system shared by all insurance companies to report data concerning all accidents with reference to all such factors, assumed to influence the risk level. It is very encouraging to mention that the Automobile Insurance Committee in the Association of Insurance Companies in Lebanon is considering this alternative, and efforts to acquire such a system are made. However, for the time being and due to lack of such data, results of the experience in other countries could be used and consideration of such factors to establish new rates asserted. These factors are:

a - Age and Sex of the named insured and other persons who customarily use the car.

b - Marital Status of the above persons.

c - The nature of the use of the car.

d - If the car is driven to work, the daily distance involved.

e - Make, model, and age of the automobile itself.

f - Driving records of the insured and other operators (to be derived from the computerized data-base system recommended and
includes accident experience).

g - Length of time operators had been licensed to drive.

h - Territory in which the car is garaged (mainly for theft coverage).

Different weights are given to these variables, and corresponding discounts or loadings applied to the base premium to establish the individual rating for individual insureds.

Base Premium = Pure Premium (to cover losses only) + loading for expenses and profits

C - Government Intervention:

In connection with the above recommendations, the government should assume some responsibility in helping automobile insurance in Lebanon overcome its problems, including high accident frequency, and make the implementation of the recommended system feasible. The most important steps in the concern are:

1 - Backup the Compulsory Insurance System in prohibiting the registration, renewal of registration, or operation of any vehicle that is not insured according to the conditions and limits of this system.

2 - Reinforce the "Automobile Safety Requirements" system by forbidding registration, renewal of registration, or operation of any vehicle that does not meet the above requirements through periodic inspection by technical personnel. To this effect, the enactment and implementation of the law prohibiting import of vehicles older than a specific age might prove to be part of a complete solution for the problem of hazardous
cars used in Lebanon.

3 - Re-establish modern traffic rules and regulations to meet the advancement in the automobile industry, such as speed limits, use of safety belts, proper use of headlights and signals, pedestrian movement control and drinking and driving.

4 - Implement a more comprehensive "driving Examination" system for driver licensing that includes theoretical as well as road tests. Periodic re-examination for drivers with "Dangerous Driving" records should be made, and a corresponding Points-System used whereby reduction of points until suspension of licenses is effected in connection with traffic laws' violations.

It would be a very wise thinking, when one decides to purchase a car in North America, to consider the expenses one would incur after the purchase before considering its price. Actually, one pays the price only once and it could start as low as $500, but pays its insurance and maintenance on yearly basis and these could amount to more than the original price paid.

In Lebanon it is different because one doesn't have to worry about insurance as long as no one urges him/her to purchase it, and in general maintenance is not very expensive if one decides to keep good maintenance, also because no body compels him/her to. These are among the factors causing this huge increase in the number of vehicles in Lebanon, with all the resulting problems such as increased accidents, traffic and parking needs.

After considering insurance and maintenance costs, a North American citizen would purchase the car only if he/she needs it, and in all cases, only
for pleasure use otherwise. Consequently, one car in a household is sufficient, and public transportation is used for everyday moving. In contrast, every Lebanese citizen having a $500 savings is purchasing a car, regardless of it being safe to operate or not, without any consideration to the consequences of owning a car, and most of them use their cars for every day movement.

Naturally, increasing Automobile Insurance Coverages would lead to an increase in Insurance rates which, in turn, might lead to a decrease in the number of vehicles operating in Lebanon due to the inability of most car owners to pay such premiums. But, if one is not able to pay the insurance premium, how is he/she expected to afford accident losses that he/she might cause?. Moreover, a reduction in the number of automobiles in Lebanon might be necessary nowadays to reduce the impact of traffic and parking problems and mainly to reduce the frequency of automobile accidents. Meanwhile, such insurance premiums would not be as high if the owner of a vehicle uses it mainly for pleasure, after the implementation of the new pricing policies, and hence a higher number of car owners would be able to pay for their insurance.
HYPOTHETICAL CASE

As described earlier in this study, small frequent losses are easy to budget for, but large infrequent ones are the main concern of car owners. To illustrate the difference between the benefits provided by the existing Lebanese Automobile system and the proposed one for example, the following hypothetical accident case is to be considered. As one would realize, the value of losses supposed to be suffered is typical to Lebanon, thus the difference deals with coverages rather than limits of insurance.

**Assumption (1)**

<table>
<thead>
<tr>
<th>Coverage purchased</th>
<th>Automobile # 1</th>
<th>Automobile # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third Party Liability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses Incurred</td>
<td>Damage to Car $3,000</td>
<td>Damage to Car $4,000</td>
</tr>
<tr>
<td></td>
<td>Injury of Driver $3,000</td>
<td>Injury of Driver $3,000</td>
</tr>
<tr>
<td></td>
<td>Injury of Wife $4,000</td>
<td></td>
</tr>
<tr>
<td>Degree of Innocence</td>
<td>25 %</td>
<td>75 %</td>
</tr>
</tbody>
</table>

**Compensation for Assumption (1)**

<table>
<thead>
<tr>
<th>Existing System</th>
<th>Automobile # 1</th>
<th>Automobile # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Damage @ 25% = $750</td>
<td>Car Damage 75% = $3000</td>
<td></td>
</tr>
<tr>
<td>Driver Injury @ 25% = $750</td>
<td>Driver Injury 75% = $2250</td>
<td></td>
</tr>
<tr>
<td>Wife Injury @ 25% = $1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total = $2500</td>
<td>Total = $5250</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed System</th>
<th>Automobile # 1</th>
<th>Automobile # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Damage @ 25% = $750</td>
<td>Car Damage 75% = $3000</td>
<td></td>
</tr>
<tr>
<td>No-Fault Injury = $3000</td>
<td>No-Fault Injury = $3000</td>
<td></td>
</tr>
<tr>
<td>No-Fault Injury = $4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total = $7750</td>
<td>Total = $6000</td>
<td></td>
</tr>
</tbody>
</table>
Assumption no. (2) same coverages and losses but automobile #2 not insured.

**Compensation for Assumption (2)**

<table>
<thead>
<tr>
<th></th>
<th>Automobile #1</th>
<th>Automobile #2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing System</strong></td>
<td>No Compensation from insurance.</td>
<td>Car Damage 75% = $3000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Driver Injury 75% = $2250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total = $5250</td>
</tr>
<tr>
<td><strong>Proposed System</strong></td>
<td>Uninsured Auto 25% = $750</td>
<td>Car Damage 75% = $3000</td>
</tr>
<tr>
<td></td>
<td>No-Fault Injury = $7000</td>
<td>No-Fault Injury = $3000</td>
</tr>
<tr>
<td></td>
<td>Total = $7750</td>
<td>Total = $6000</td>
</tr>
</tbody>
</table>

Assumption no. (3) same coverages and losses but accident excluded for automobile #1.

**Compensation for Assumption (3)**

<table>
<thead>
<tr>
<th></th>
<th>Automobile #1</th>
<th>Automobile #2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing System</strong></td>
<td>All Damage @ 25% = $2500</td>
<td>No Compensation from insurance</td>
</tr>
<tr>
<td><strong>Proposed System</strong></td>
<td>Car Damage @ 25% = $750</td>
<td>Car Damage @ 75% = $3000</td>
</tr>
<tr>
<td></td>
<td>No-Fault Injury = $3000</td>
<td>No-Fault Injury = $3000</td>
</tr>
<tr>
<td></td>
<td>Total = $7750</td>
<td>Total = $6000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The car damage loss paid to automobile #2 is paid according to the Absolute Liability Law and is recoverable by the insurer from the owner of Automobile #1.
According to this hypothetical case, it was clearly illustrated that, whatever the consequences of the accident were, one of the insurers involved is going to assume payment of losses. In a very special case, when one of the two automobiles was not insured, the remaining insurer, and according to the enhanced coverage scheme that includes Uninsured Automobile coverage, assumed compensation for all the losses incurred. In such a case, the uninsured motorist would be penalized for non-insurance, and would be required to file a Proof of Financial Responsibility, but nevertheless would be reimbursed according to his/her degree of innocence.

In the worst of cases, where the accident is not covered due to the violation of any of the policy conditions, the insurer is required by law to pay (Absolute Liability), but can later recover his/her payments from the insured.

The recommendations presented in this study constitute the basis for an improved and more effective Automobile Insurance scheme in Lebanon. However, each individual item of them constitutes a separate area of research, to which revision is to be applied according to the results of the experience following the implementation of such a developed insurance scheme. In fact, although the experience in North America could to a large extent be assumed as representative of any Automobile Insurance market in general, different variables might have different implications in one country from another. Illustratively, the impact of "territory" on Insurance rating might have a stronger impact in North America as compared to Lebanon. In contrast, the impact of "Maintenance and Upkeep" of vehicles might be stronger in Lebanon than in North America.
Until after the developed system is applied for a period enough to allow a research on experience data be conducted, the use of foreign data is provisional and subject to adjustments following the results of such researches especially in connection with Frequency and Loss analysis as well as Automobile Insurance Rate Making.


The Insurance Institute of Canada, Automobile Insurance, Canada: The Insurance Institute of Canada; 1989.

The Insurance Institute of Canada, Ontario Automobile Insurance, Canada: The Insurance Institute of Canada; 1990.

The Insurance Institute of Canada, Principles and Practice of Insurance, Canada: The Insurance Institute of Canada; 1989.