

Property and Casualty Insurance Compensation Corporation

Société d'indemnisation en matière d'assurances IARD

Extent of Coverage Review

Options for protecting consumers when an insurance company becomes insolvent

November 2005

Executive Summary

PACICC is the national guarantee association that provides benefits for policyholders and claimants across Canada in the event a member insurer becomes insolvent. For more than fifteen years PACICC has served Canadians well, providing protection to thousands of policyholders and claimants without undue strain on the industry.

The insurance industry is built on the public's confidence that insurance contracts will be fulfilled and eligible claims paid. Property and casualty (P&C) insurance insolvencies are rare in Canada, but they do occur. Five insurance companies have failed since 2001, affecting thousands of policyholders and claimants. In recent years, a record number of P&C insurers have been on regulatory watch lists and experienced financial strength downgrades by rating agencies. Office of the Superintendent of Financial Institutions (OSFI) polling of consumer confidence found that only 63 percent P&C insurance policyholders expressed confidence in the safety of their money put into a policy with a P&C insurance company.

This polling by OSFI has consistently found that the existence of a guarantee fund is a strong contributor to public confidence in the soundness of the financial sector (for 85 percent of respondents since 1997 – the second most important contributing factor). PACICC helps to maintain confidence in the industry by providing loss claims benefits and repaying unearned premiums to policyholders in the event of an insurance company failure, contributing to the sound growth and development of the industry.

As part of its ongoing review of PACICC's strategic plan, the Board of Directors requested staff to conduct comprehensive research and analysis of PACICC's coverage limits. This decision recognized that coverage limits need to keep pace with changes in loss claims and unearned premium trends in the lines of business that are protected by PACICC. The Board noted that the reason for PACICC's existence, and the foundation of its credibility, is to be ready to respond effectively to protect individuals from undue financial loss in the event of an insolvency of a member P&C insurance company.

This paper reviews PACICC's coverage system and limits. The research and analysis has identified several key findings:

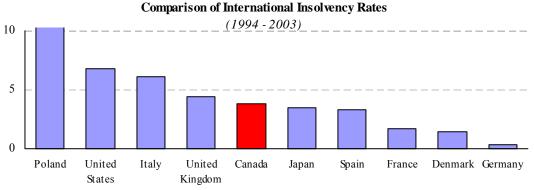
- PACICC's current system of coverage needs to be modernized to become consistent with provincial and federal licencing of classes of insurance
- coverage of large commercial risks should be brought into line with international standards and best practices and PACICC's financial resources should increasingly focus on individuals and small businesses
- unearned premium coverage needs to be enhanced, while mitigating moral hazard
- the loss claim limit of \$250,000 is adequate for automobile and commercial policies, although some adjustment is needed to protect personal property policyholders.

A number of potential approaches exist for each issue identified by the review. These options are explored within the body of the paper and at a high level, as outlined in a menu of options on page 22.

It is expected that the Board meeting on November 16, 2005 will initiate a discussion on modernizing PACICC's coverages and limits. Once Board members have agreed on a recommended approach, PACICC will consult with the members concerning options for modernizing its extent of coverage. Following the consultation, the results will be presented to the Board for decision.

Background

PACICC was established in 1989 to provide policyholders with a reasonable level of recovery for unpaid claims in the event that a member insurance company becomes insolvent and cannot meet its financial obligations. Since then, PACICC has done an excellent job of serving the needs of policyholders, participating in the winding-up of 12 insolvent P&C insurers doing business in Canada.



Source: PACICC, with data from OECD and European Commission

PACICC's challenge in improving its insolvency preparedness is to adopt the best practices that apply to its unique environment, while ensuring that the needs and interests of its main stakeholder groups are represented in a fair and balanced manner. To facilitate this, PACICC initiated a consultation process with member companies during 2003 regarding the development of a strong and effective capacity to respond to future P&C insurance company insolvencies. Following the consultation process, PACICC's Board of Directors met to review PACICC's strategic plan and directed staff to conduct comprehensive research and analysis of PACICC's coverage limits. The Board noted that the reason for PACICC's existence, and the foundation of its credibility, is to be ready to respond effectively to an insolvency of a member P&C insurance company.

In 1996/97, PACICC initiated its first ever review of the Corporation's coverage limits. This review found that PACICC's coverage limits had not kept pace with changes in the insurance industry. Following that review PACICC adjusted its claims limit, increasing it from \$200,000 to \$250,000. In addition, the industry review identified the need to assist policyholders in recovering their unearned premium, prompting PACICC to add this coverage.

PACICC's current limits have successfully met the needs of policyholders for nearly a decade. The Board determined that the Corporation should now review its coverages and limits, in particular exploring whether PACICC's current coverage:

- is consistent with PACICC's mission to protect eligible policyholders from undue financial loss in the event that a member insurer becomes insolvent; and
- balances adequate coverage with the goal of minimizing costs to member insurers.

Moral hazard in the guarantee fund system

Moral hazard is endemic to insurance and, in the context of guarantee funds, refers to the incentive for an increase in the extent for inappropriate risk-taking that exists. Guarantee funds, from the perspective of an individual or institution, reduce the cost of risk taking activity and transfers those costs to third parties. To the extent that policyholders are protected, they have little incentive – and in some cases limited access to the necessary information – to monitor the performance of financial institutions and adjust their behaviour accordingly. Moral hazard means that people take greater risks than they would otherwise do because they know they are protected.

Moral hazard is endemic to insurance. There is an extensive theoretical and empirical literature on moral hazard (the concept extending back to 1776 with Adam Smith's *Wealth of Nations* but the term was coined in 1963 by Kenneth Arrow).¹ Research on the effects of moral hazard and financial sector stability extends across deposit insurance, policyholder protection funds (insurance) and pension benefits guarantee funds.

Guarantee funds change the operating environment for member insurers, their agents/brokers and consumers. The research literature is clear that guarantee funds fortify incentives for the moral hazard problems that guarantee funds raise for policyholders, insurers, brokers and supervisors.

Policyholders

Small personal depositors/policyholders are unlikely to exert much influence on financial institutions even in the absence of a guarantee fund, since they do not have incentives (because they are too fragmented and tend to free ride) – nor the information or competence – to monitor financial institutions. Hence, the control exercised by these depositors/policyholders would only be modestly affected by the guarantee fund arrangements. In contrast, large depositors/policyholders might include large financial and non-financial firms who can be expected to have monitoring capability and to represent a significant threat of exercising the residual rights of control. A credible threat of loss for from such entities is often emphasised as a key to effective market discipline.

Research by the European Central Bank found evidence in the European marketplace (deposits) of consumers shifting toward insured deposits after the introduction of deposit insurance. In the insurance industry, empirical research by Grace, Klein and Kleindorfer (2004) on Florida homeowners found evidence that consumers pay greater attention to insurers' financial health when exposed to insolvency risk. Consumers with exposure above the guarantee fund loss claim limits had clear preferences for insurers with higher financial strength ratings. Households with exposure below the guarantee fund limit had

¹ The European Central Bank working papers #42 and #302 provide an extensive background on this literature, both in general and for deposit insurance. Kenneth J. Arrow's seminal work in "Uncertainty and the Welfare Economics of Medical Care" published in the *American Economic Review*. A number of articles relating to pensions and insurance have been published in the journals such as the *Journal of Risk and Insurance*.

no such clear ranking of preference. Overall, the results indicate the presence of moral hazard created by guarantee funds for consumers without this exposure.

The existence of rating agencies provides further evidence that large commercial policyholders and their brokers are informed about the financial health of potential insurers. Supporting this, a working paper on the effects of rating downgrades for P&C insurers by Epermanis and Harrington (2000) found a detrimental effect on premium growth from a rating downgrade.²

Insurers

The theoretical literature is unambiguous, in that a guarantee fund increases the propensity of financial institution managers to take on increased risk (moral hazard) since policyholders do not have appropriate incentives to monitor the actions of the management of financial institutions.

Where a guarantee fund does not exist, moral hazard is limited due to the role of depositors/policyholders who offset higher risk taking by demanding compensation (for example, higher interest rates, lower premiums or additional coverages). With a guarantee fund, depositiors/policyholders no longer have the incentive to ask for compensation for risk taking. The financial institution, without facing any additional cost will maximize the risk of its asset portfolio and excessively compete for depositors/policyholders, assuming high-leverage risk. This is the standard result of the literature: while there are many factors that influence behaviour, guarantee funds increase moral hazard and the risk-taking of financial institutions.

This moral hazard effect is highlighted in OSFI's polling of public confidence in the financial sector. In the 2005 polling results, one-in-five respondents with P&C policies indicated that they lacked confidence that their insurer had the financial resources to pay their claims, however, only 4 percent actually took action and modified their behaviour by transferring their policy to another insurer.

In general, the empirical research has found four factors that influence the moral hazard behaviours of insurance companies:

- limitations on coverage (sharing of risk);
- monitoring by non-covered creditors;
- firm valuation; and
- too big to fail.

Where financial institutions also offer services/products that are not covered by the guarantee fund, then, even in the presence of policyholder protection, there is one group of policyholders/creditors that continue to have incentives to monitor financial institution risk. Limitations on coveage and the sharing of risk mitigate the effects of moral hazard.

² Rating downgrades were found to affect premium growth for personal and commercial insurance but were strongest for small commercial insurers. Impacts were generally less for larger insurers.

Firm valuations (generally only available for public companies) may reflect a verifiable signal of good performance or market power or the reputation of the financial institution. In the presence of firm valuation, moral hazard is limited as high firm values act to limit the conflict of interest between equity holders and debt-holders/policyholders. The research literature generally finds that risk taking is less prevalent for institutions with high values, suggesting that those institutions did not suffer from moral hazard. This corroborates the view that moral hazard is mostly prevalent when institutional performance is weak, the so-named 'gambling for resurrection'. Nevertheless, while the research finds that the presence of firm valuation and other policyholders mitigates risk taking, the overall effect of guarantee funds is still higher risk.

In an environment of 'too big to fail', there is an implicit assumption by policyholders that compensation will be provided, reducing the incentive to monitor. 'Too big to fail' has the effect of increasing moral hazard.

Brokers

With the existence of a guarantee fund, independent insurance brokers have reduced incentives to identify and deal with financially sound insurers to avoid loss of future income due to policyholder departures in the event that an insurer failed. Insurance guarantee funds may lead brokers to focus more on price and less on financial soundness. The 2001 Organization for Economic Co-operation and Development (OECD) review on guarantee funds notes that financially weak insurers may try to expand high risk-high return investments in the use of the funds gathered by attractive (under-priced) products. That review further notes that this is typical behaviour of financial institutions when they experience financial distress.

Supervisory authorities

When there is a guarantee fund, insurance supervisory authorities may feel less pressure for strict supervision to avoid insolvency leading to later interventions than would be the case without a guarantee fund or than would be warranted in a risk-based system. As such, an insolvent institution may be allowed to continue to operate as a result of forbearance or political pressure, with the prospect that losses will be greater when the institution finally is wound-up.

Methods for reducing moral hazard in guarantee fund systems

Research in the United States and Europe on moral hazard indicates that the success of guarantee funds depends largely how the system is supervised and on their design, i.e. how incentives and sanctions are set.

In a risk-based environment utilizing market discipline, the theoretical and empirical literature clearly finds that efforts by uninsured policyholders and other creditors to limit their exposure to insolvency-related losses result in market signals such as shifts of funds from institutions perceived to be unsound to those perceived to be financially sound and movements of prices of publicly traded securities by the institutions. Whether such signals provide an accurate assessment of risk depends on the availability of relevant information on the condition and performance of institutions. The assembly and analysis

of such information are facilitated by the activities of supervisory authorities, rating agencies, financial commentators and other professionals. Ultimately the effectiveness of market discipline depends upon the existence of strong accounting and disclosure regimes to ensure the availability to the public of accurate, timely and consistent information on the financial health of insurers.

The establishment of the proper incentives generally involves risk sharing to ensure that there will be incentives for the policyholder, insurance companies and the guarantee fund to ensure that the risk of loss is minimized. No guarantee fund in any jurisdiction provides 100 percent risk coverage.

Best practices in Europe and the United States on guarantee fund design identify four components of a guarantee fund's operation that reduce the moral hazard effect of guarantee fund systems. These include:

- limits on the amounts insured;
- exclusion of coverage from certain policies;
- coinsurance; and
- policyholder preference.

Limits on the amount of coverage expose claimants/policyholders to the risk of loss in the event their institution fails and provide motivation for shifting funds to institutions believed to be safe. In general, for limits to be successful coverage limits should be uniformly applied to policyholders of all failed institutions. Incentives for increased risk taking are greatest under a system of blanket guarantees, whereby full protection is provided to all policyholders. Accordingly, most jurisdictions have established limited coverage systems. A similar effect may be achieved by excluding from coverage policyholders thought to be capable of monitoring the performance of their institutions.

Coinsurance generally provides that policyholders are not protected in full, but only for a portion of their coverage. The possibility of losses may induce some policyholders to monitor more closely the performance of their institutions. Coinsurance also provides a means of sharing the cost of failures with policyholders. Several forms of coinsurance are available with potentially different implications for the moral hazard issue. Coinsurance may pose equity issues because the size of coverage/premium may not be correlated with policyholder's total wealth. Small policyholders may lack the resources or sophistication to evaluate risk. These issues may be addressed by protecting some minimum amount in full and imposing losses only above that amount.

Under policyholder/claimant preference, the insured claimants are usually made whole before other creditors receive any of the proceeds from the liquidation of a failed institution's assets. Although policyholder preference can reduce moral hazard, it also has disadvantages. Policyholder preference shifts the costs of failure to unsecured creditors and gives them stronger incentives to monitor risk. Regulators may also have reduced incentives for prompt corrective action if the policyholder's claims have high priority. The net effect of policyholder preference depends upon the relative ability and willingness to monitor and control risk on the part of other creditors. For PACICC, policyholder preference is established through the *Winding-up and Restructuring Act*.

Adequacy of coverage

PACICC's primary objective is to protect the interests of Canadian policyholders, especially individual policyholders in the event that a member insurance company fails. In its international review of guarantee fund best practices, the Organization for Economic Co-operation and Development (OECD) notes that:

"The primary objective of policyholder protection funds is to protect the interests of policyholders, especially individual or non-professional policyholders in the event of bankruptcy of an insurance company. The funds are expected to serve as the final safety net for policyholders, when in spite of all possible supervisory measures, bankruptcy occurs."

To honour its policyholder protection obligations, PACICC provides coverage for all eligible policies including personal lines policies and commercial policies. In a competitive and innovative P&C insurance industry, the business environment is dynamic, growing and generating new products. To maintain its history of success, PACICC has periodically reviewed its extent of coverage. Coverage limits were last reviewed in 1996.

Coverage scheme

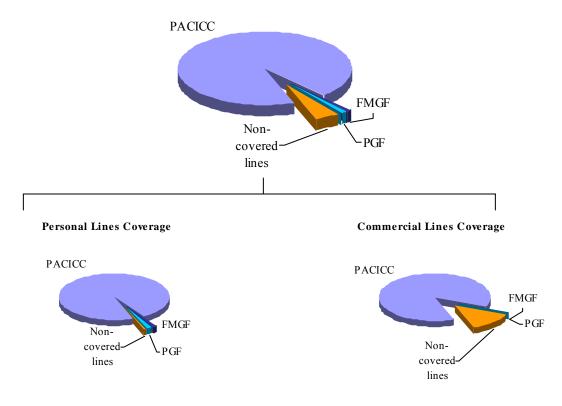
Unless they are covered by another authorized plan, all P&C insurers licensed in a province or territory of Canada are required to be members of PACICC. The exceptions include insurers licensed to sell only one or more of the following – automobile insurance in Manitoba or Saskatchewan and specialty lines of insurance such as surety, fidelity, marine or aviation. In addition, while there may be significant purchases by policyholders, PACICC does not provide protection for title insurance or crop and hail insurance policies.

Overall, PACICC provides protection for 93.7 percent of all eligible P&C premiums written in Canada.³ Specialty lines insurance not covered by any guarantee fund account for approximately five percent of premiums written in the industry. The P&C insurance guarantee fund system in Canada provides extensive protection for consumers, with coverage extending more than \$35 billion in premiums.

PACICC's guarantee system was designed to address the challenge of extending coverage across multiple jurisdictions with different licencing systems and definitions for classes of insurance. In all, there were nearly 60 different classes of insurance around which to build a national industry guarantee fund. To address all of the differences among jurisdictions, PACICC's scheme was designed as an all-risk system to provide general protection, with exclusions being developed as required to limit exposure to specialty risks resulting from product innovation.

³ An additional two percent of P&C insurance premiums are protected through guarantee funds operated by provincial mutual insurers. Accident & sickness insurance coverage is also provided through CompCorp.

P&C Guarantee Fund Coverage in Canada



Source: PACICC, with data from MSA Research and annual reports

In contrast, other guarantee fund systems in Canada and abroad, typically operate in a defined coverage system. Jurisdictions with a uniform licencing of classes of insurance typically have a defined coverage system. Jurisdictions with a heterogeneous system of licencing typically have an all-risks system.

In March 2002, the Canadian Council of Insurance Regulators (CCIR) completed the development of a nationally accepted set of standard insurance classes. The CCIR initiative reduced the number of classes of insurance to 16 (15 in Quebec) and streamlined the licencing process for insurers. In September 2005, OSFI adopted the CCIR classes of insurance. PACICC's current coverage scheme was put in place before the new CCIR classes of insurance. It also requires regular modification of PACICC's by-laws to create bridges between PACICC's coverage system and the CCIR classes of insurance to reduce the potential for inconsistencies and confusion among policyholders

Coverage of commercial risks

The primary objective of PACICC is to protect the interests of policyholders, especially individual and small business policyholders in the event of bankruptcy of a member insurance company. PACICC is expected to serve as the final safety net for policyholders, when in spite of supervisory measures, an insurance company fails. Currently, PACICC provides coverage for all eligible policies including personal lines

policies and commercial policies for businesses of any size.

To ensure that guarantee systems are covering those who really require protection, many systems do not cover commercial risks. Research on insurance guarantee funds has concluded that, while they generally have performed well in meeting their primary objective of protecting policyholders and other claimants, the existence of a guarantee fund may lead to increased risk-taking behaviour for commercial coverage – a moral hazard problem. In particular, researchers at Georgia State University, the Wharton School at the University of Pennsylvania, Sejong University (Korea) and the University of South Carolina have found that moral hazard effects are greater in commercial coverages than personal property coverage. The research is consistent with the principle that individual policyholders or small businesses have less capacity to evaluate the financial condition of an insurer. Commercial entities are generally better equipped than individual consumers to evaluate the financial condition of insurance companies. They often have the in-house expertise to evaluate an insurer's financial data, or they receive assistance from sophisticated commercial brokers.

Academic and empirical research suggests that guarantee fund design and best practices should balance incentives for financial safety with protecting consumers from losses in the event of insolvency. This could be achieved by reducing or even eliminating the scope of guarantee fund protection for commercial insurance. This would increase incentives for commercial buyers to deal with financially sound insurers. It would also discourage policyholders from obtaining coverage that is underpriced.

Further, restrictions on commercial coverage would improve fairness in financing an insolvency. For example, in two of Canada's more recent insolvencies – Markham General and Maplex – commercial policies represented less than one-fifth of total eligible premiums but represented one-third of the claims costs to PACICC. This imbalance results in a net transfer from personal policyholders to commercial policyholders following an assessment. This net transfer would be even larger for the insolvency of a commercial lines insurer.

Responding to the argument that the claims of large, sophisticated commercial policyholders should not be covered by insurance guarantee funds, many countries have adopted mechanisms to protect individual and small business policyholders by limiting exposure to commercial coverage for larger corporate entities. It should be noted that many jurisdictions utilize more than one mechanism for this purpose.

Among industrial countries with P&C insurance guarantee funds, only Canada, Spain and Norway currently place no coverage restrictions on large commercial claims.

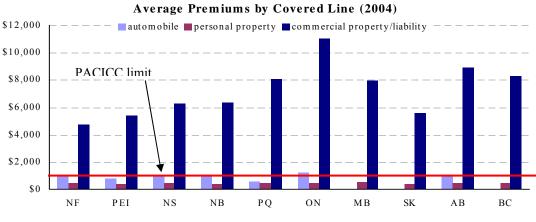
Unearned premiums

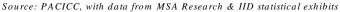
To better protect policyholders, PACICC introduced a voluntary coverage for unearned premiums in 1997, providing up to a maximum repayment of \$1,000 with a 30 percent coinsurance deductible. When a company is declared insolvent, a liquidator "winds up" its affairs, including the processing of unearned premiums. Typically the refund of unearned premiums is a high priority in the early part of the liquidation, to support

policyholders of an insolvent insurer as they seek replacement coverage from a solvent company. The liquidator determines the value of unearned premium claims, with PACICC operating in an advisory capacity.

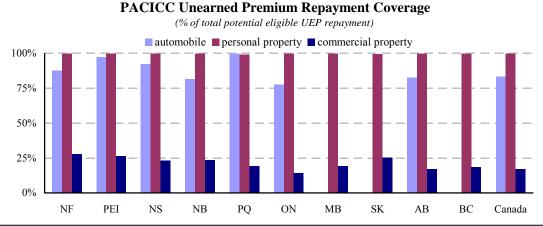
PACICC coverage ensures that claimants receive their refund of unearned premium promptly rather than waiting, as a creditor to the insolvent company's estate, until dividends are issued, a process that can take years. The prompt refund of unearned premiums supports the smooth transition of policyholders from an insolvent company to a solvent insurer and bolsters confidence in the industry and the financial system.

When the coverage was introduced in 1997, the annual average earned premium for personal property and automobile insurance in all jurisdictions was below the \$1,000 threshold. In 2004, the annual average auto automobile insurance premium exceeded the PACICC limit in three provinces (Ontario, Alberta and New Brunswick). Average personal property premiums in all provinces were well below the PACICC limit. Average premiums for commercial property/liability insurance exceeded the PACICC limit in all jurisdictions.





PACICC has constructed various models to simulate the potential impact of coverage changes. The results of the modeling can be viewed as representing the estimated liabilities that would result if an insurer with the premium distribution similar to that of the industry aggregate was wound up.



Property & Casualty Insurance Compensation Corporation

PACICC's unearned premium coverage provides a high level of repayment. Overall, only 18.2 percent of policies are affected by PACICC's current unearned premium limits. Currently, PACICC provides near complete coverage for personal property and a high level of coverage for personal automobile policies. Commercial property/liability policies are only modestly protected in all jurisdictions.

Loss claims

In the event of an insolvency, PACICC's claims liabilities are determined by a number of factors, including the type and terms of the policy and PACICC's loss claims limits. The actual amount to which a particular insured (or third party claiming through the insured) is entitled is determined by first calculating what the aggregate of their entitlement is under all applicable provisions of their policy or policies (for example, deductibles, co-insurance, etc.) and secondly, determining the lesser of that amount and \$250,000.

PACICC coverage ensures that claimants receive their benefits promptly rather than waiting, as a creditor to the insolvent company's estate, until dividends are issued, a process that can take years. PACICC offers a voluntary compensation payment for loss claims up to a \$250,000 maximum per claim. This prompt payment of claims benefits supports confidence in the financial system and mimimizes the disruption caused by the exit of a failed company from the insurance market.

In 1996, PACICC adjusted its benefits for loss claims, increasing its maximum payment level from \$200,000 per occurrence to \$250,000. Since then, Canada has experienced low inflation rates, averaging two percent per year. Adjusting for inflation, \$250,000 in 1997 would be the equivalent of \$300,000 in 2006.

Options for improving coverage

PACICC has served policyholders and claimants well while keeping the costs of liquidation well below that of P&C guarantee funds in other jurisdictions. In recent years, PACICC's extent of coverage has been adversely affected by product innovation which has extended the scope of coverage into higher-risk specialty/niche products, and by growth in loss claims costs and the premiums paid by policyholders.

PACICC's coverages are funded directly by member companies, and ultimately by the policyholders of solvent insurance companies. These coverages must be financed in a fair manner that avoids imposing an excessive burden on member companies. The cost of coverages must be able to be absorbed by member companies without undue pressure on their own balance sheets and solvency. Ideally, the system should not fortify incentives for riskier behaviour.

Research on guarantee fund design and best practices by the OECD and the European Commission suggests that guarantee fund coverage should be carefully designed to specifically ensure protection for consumers and to limit the effects of moral hazard.

Options for changes in PACICC's current extent coverages include:

- transforming PACICC's system of coverage to match the CCIR classes of insurance in a defined benefit system;
- changing the eligibility of coverage for commercial risks
- strengthening eligibility of coverage for personal risks;
- strengthening PACICC's unearned premium repayments;
- increasing the current PACICC limit for loss claims; and/or
- a balanced mix of coverage adjustments.

Transforming PACICC's system of coverage

PACICC's current coverage system was designed in the late 1980s. At that time, each province defined its classes of insurance in somewhat different ways. In all, there were nearly 60 different classes of insurance around which to build a national industry guarantee fund. To address all the differences among jurisdictions, PACICC's coverage scheme was designed to broadly encompass all risks with exclusions being developed as required to limit exposure to specialty risks that might arise as a result of product innovation.

In general, guarantee fund systems are often carefully designed to pursue their objective of providing protection for consumers while limiting the drawbacks of a guarantee system, such as the moral hazard problem. Guarantee fund systems seek to limit the moral hazard problem by carefully defining coverage and ensuring that resources are directed to those the guarantee fund is designed to protect. Defined coverage and all-risk coverage systems are two predominant design mechanisms for guarantee funds. A defined coverage system identifies the specific lines of insurance that are to be provided and all else is excluded from coverage. An all-risk system provides coverage for all products with the exception of those that are specifically excluded.

In terms of the extent of coverage there is no *a priori* difference in the extent of coverage offered by either an all-risk or defined system. In general, both types of systems are typically set up to protect consumers and the coverages that are defined to be protected or excluded reflect the desired level of protection. The differences between the two systems are primarily in their clarity for consumers and relative ease of maintenance. Defined coverage systems provide greater clarity for consumers who can identify immediately what is covered. All-risk systems, with complex lists of exclusions, multitude of definitions and exceptions are less transparent. Defined coverage systems are relatively easy to maintain in an environment where protected lines of business are uniformly defined, requiring little maintenance other than periodic reviews. In diverse product environments, particularly when involving multiple jurisdictions, defined coverage systems can potentially lead to coverage disputes and complex rules.

All-risk systems are flexible enough to address the concerns of diverse product definitions. They are, however, susceptible to 'coverage creep' whereby new products that are not excluded are automatically covered. This may result in some specialty lines of business being unintentionally covered by a guarantee fund, increasing the moral hazard risk. To mitigate moral hazard risk, all-risk systems such as PACICC require constant updating.

In contrast to PACICC, other guarantee fund systems in Canada and internationally, typically operate in a defined coverage system. Jurisdictions with a uniform licencing of classes of insurance typically have a defined coverage system. Jurisdictions with a heterogeneous system of licencing typically have an all-risk system.

International Comparison of Coverage Systems				
Defined coverage systems	All-risk systems			
Belgium	Canada			
Italy	United States*			
France				
Germany				
Japan				
United Kingdom				
United States*				

CompCorp Canadian credit union guarantee funds Canadian Deposit Insurance Corporation

* most U.S. state P&C systems are open coverage system;, however, several U.S. states have multiple guarantee funds for specific coverages (particularly workers compensation) and are therefore in effect defined coverage systems

In March 2002, the Canadian Council of Insurance Regulators (CCIR) completed the development of a nationally accepted set of standard insurance classes. The CCIR classes of insurance reduces the number of classes of insurance to 16 (15 in Quebec) and streamlines the licencing process for insurers. Currently, most jurisdictions have adopted the harmonized licencing forms for the classes of insurance. Many are now using the harmonized classes of insurance.

A defined coverage system where PACICC defined the classes of insurance according to the CCIR harmonized classes of insurance and defined what it did cover as: automobile insurance, boiler & machinery insurance, property insurance, legal expense insurance, liability insurance (subject to some specific exclusions) and accident and sickness would offer the same level of coverage as PACICC's current system, but with less complexity and maintenance.

Changing the eligibility of commercial risks

Internationally, guarantee fund systems are designed to provide protection for consumers while limiting the problem of moral hazard. This is done by carefully defining coverage and ensuring that resources are directed to those the guarantee fund is designed to protect.

Protecting individuals, rather than large corporate institutions, is the primary objective of a guarantee fund. Policyholders are creditors of financial institutions. Creditors usually extend credit after checking the credibility of a debtor and are responsible for their credit decisions. Typically, information asymmetry and relatively high research costs about the financial soundness of a financial institution make it difficult for individual consumers to adequately assess the creditworthiness of a financial institution. The financial and managerial issues of financial institutions are much more technical and complex than those of other types of corporate entities.

Commercial entities are generally better equipped than individual consumers to evaluate the financial condition of insurance companies. They often have the in-house expertise to evaluate an insurer's financial data, or they receive assistance from sophisticated commercial brokers. In an environment where there is a guarantee fund, sophisticated consumers may opt for the cheapest product regardless of the risk associated with the insurer as they are protected to the extent of the guarantee funds limits, should the insurer become insolvent. The lack of risk-averse behaviour on the part of some consumers may cause some financial institutions to increase risk taking. The 2001 OECD review on guarantee funds notes that such financial institutions may try to expand high-risk-high-return investments in the use of the funds gathered by attractive (under-priced) products. The review further notes that this behaviour is a

Thinking Outside the Box

PACICC's primary objective is the protection of individuals rather corporate institutions. An alternative to either the status quo or moving to a defined coverage system would be to reform the current all-risk system by replacing the specific by-line exclusions incorporated into Schedule A of the Memorandum of Operation with a statement of policyholders who are covered, irrespective of the line of insurance.

Such a transformation would mitigate moral hazard and make PACICC a more consumer based organization. Protection would be extended to individuals and small commercial entities over lines of business not currently protected. Such a transformation would have a positive effect on the industry's interaction with the public in the event of an insolvency.

While the net additional liability to PACICC would be limited (most specialty coverages not covered by PACICC are largely purchased by medium-sized or large commercial entities) there would nevertheless be additional exposure in volatile long-tail lines such as title insurance.

function of moral hazard and typical of financial institutions experiencing financial distress.

The academic and empirical research suggest that guarantee fund design and best practices should provide a balance between incentives for financial safety and protecting consumers from losses in the event of insolvency. Such a balance could be achieved by reducing or even eliminating the scope of guarantee-fund protection for commercial insurance. This would increase incentives for commercial buyers to deal with financially sound insurers and would discourage policyholders from buying coverage that is underpriced.

Among OECD countries with a P&C guarantee fund, only Canada, Norway and Spain do not restrict commercial coverage. Internationally, guarantee funds generally extend coverage to small businesses but exclude large commercial risks. Alternatively, they separate commercial risks coverage in the guarantee system from the personal lines coverage to ensure that there is no subsidization of commercial risks by personal lines policyholders. Examples of this in the United States would be separate guarantee funds for workers' compensation or separate accounts between commercial and personal lines within the same guarantee fund.

Restrictions on commercial coverage risks would improve the fairness in financing an insolvency. For example, in two of Canada's more recent insolvencies - Markham General and Maplex – commercial policies represented less than one-fifth of total eligible premiums but represented one-third of the claims costs to PACICC. This imbalance results in a net transfer from personal policyholders to commercial policyholders following an assessment.⁴ The size of this net transfer varies depending upon the mix of commercial and personal business.

Strengthening eligibility of coverage for personal risks

Extending a defined benefit system to include title and hail insurance policies for personal policyholders and small businesses would strengthen PACICC's coverage of those policyholders.⁵

Currently PACICC excludes employer's liability and marine insurance. However, under a Homeowner's policy there is an employer's liability cover and you can have your boat added too. In the past, there was an explanatory paragraph incorporated into the excluded policy page of the PACICC memorandum of operation. In the course of the maintenance and streamlining of PACICC's memorandum of operation that explanatory paragraph has since been dropped. It had stated that if a Homeowner's policy had a rider adding a boat to it; it was not to be treated as a Marine loss and was to be accepted as a PACICC eligible loss. The removal of the paragraph has had the inadvertent effect of reducing the scope of PACICC's protection for personal policyholders. Reinstating the full scope of protection under a homeowner policy would return PACICC's coverage to its original intent and strengthen PACICC's coverage of personal policyholders.

⁴ PACICC estimates the net aggregate subsidy to date from personal lines policyholders to commercial policyholders for the Markham General and Maplex insolvencies is \$1.1 million.

⁵ Such a change would require regulatory authorities to direct title and hail insurers become members of PACICC as part of their licence conditions.

Strengthening PACICC's unearned premium repayment

In the event of an insolvency, a policyholder's insurance contract and coverage typically expires 45 days after a winding-up order is issued.⁶ During this transition period, policyholders need to find new coverage. The general challenges of seeking new coverage may be compounded by financing if the unearned premium from the previous coverage is not repaid promptly.

To better protect policyholders, PACICC introduced coverage for unearned premiums in 1997, providing up to a maximum repayment of \$700 (\$1,000 with a 30% coinsurance deductible). This ensures that eligible policyholders receive unearned premium refunds in a timely manner – to facilitate acquisition of alternate coverage – despite unearned premiums having lower priority status under the *Winding Up and Restructuring Act*.

Since the unearned premium protection was established, three factors have influenced the effectiveness of the coverage:

- general inflation has eroded the real protection afforded by the current PACICC limit (*adverse impact*);
- there has been growth in average premiums paid by policyholders for coverages (*adverse impact*); and
- innovations in premium payment methods have increased monthly and other term payments, limiting unearned premium liabilities (*favourable impact*).

General inflation accounts for all the reduced protection for personal property lines and between one-third and two-thirds (depending on the jurisdiction) of the reduced protection in automobile insurance. Growth in average premiums accounted for the remainder of the auto and most of the commercial lines reduced unearned premium protection. On the other hand, increased use of payment plans has helped to reduce unearned premium liabilities by about 40 percent.

Accounting for these factors and using projections for 2006, PACICC's unearned premium protection would need to be \$1,172 to match its original level of protection.

In general, increasing the threshold provides a marginal increase in benefits to personal property policyholders. Auto insurance policyholders receive a modest increase in benefits with a threshold increase to \$1,200 or \$1,500 but thresholds above this have very little impact on benefits. As the premiums of commercial policyholders generally exceed the PACICC limit, any extension of the maximum payment is fully captured by the commercial policyholder and higher thresholds generally mean increased benefits to commercial policyholders.

⁶ The timeline for the termination of policies is defined in the winding-up order but is typically 45 days.



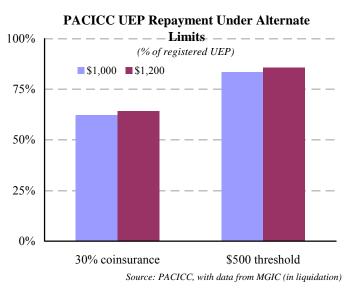
Markham General policies fully covered under alternate thresholds

A number of options exist to strengthen the unearned premium repayment – through variations of increasing the limit to eliminating the coinsurance deductible on a portion of the unearned premium repayment. In general, increasing the limit provides greater benefits to policyholders with higher premiums while eliminating the coinsurance deductible on a portion of the unearned premium provides a greater benefit to individual policyholders than commercial policyholders.

One of the chief concerns of all guarantee funds is the moral hazard problems that may occur for policyholders, insurers and supervisors. In particular, empirical research has found that limiting guarantee fund coverage encourages consumers to pay greater attention to insurers financial health. The effect is larger for commercial than personal insureds, but is statistically significant for both types of policyholders. The main

conclusion is that efficient policyholder protection and deposit insurance fund design and activity should include the use of coinsurance.

Recognizing that moral hazard is greater among commercial and high net worth policyholders, some guarantee funds have designed a coinsurance component to apply after a certain threshold, thereby providing greater protection to individual policyholders, but retaining the coinsurance mechanism to mitigate moral hazard.



A coinsurance threshold primarily

benefits automobile policyholders, who receive an estimated 77.2 percent of the net additional unearned premium repayment distributed. Personal property policyholders, with relatively low average premiums and a high level utilization of payment plans, receive only 1.8 percent of any net additional benefit.

An alternative coinsurance arrangement would be to introduce a deductible to eliminate small unearned premium claims. This is consistent with industry practice on loss claims and reduces the cost associated with increasing the unearned premium limit. In general, however, this results in a transfer from individual policyholders with lower premiums or on monthly pay plans to commercial entities and individual policyholders with higher premiums or annual pay plans. Overall, it is not clear that the reduced liquidation cost offsets the potential goodwill generated. For example, in the case of Markham General, a \$50 deductible would have eliminated payments to more than 1,200 policyholders yet saved only \$21,207.

Increase the current PACICC loss claims benefits

When a company is declared insolvent, PACICC coverage ensures that claimants receive benefits promptly rather than waiting, as a creditor to the insolvent company's estate, until dividends are issued -- a process that can take years. PACICC offers a voluntary compensation payment for loss claims up to a \$250,000 maximum per claim. This prompt payment of claims benefits supports consumer/public confidence in the financial system and mimimizes the disruption caused by the exit of a failed company from the insurance market.

Since the 1997, four factors have generally influenced the effectiveness of PACICC's loss claim coverage:

- general inflation has eroded the real protection afforded by the current PACICC limit (*adverse impact*);
- increasing loss claims severity (*adverse impact*);
- loss claim frequency has decreased (*favourable impact*); and
- product innovations have occurred, extending eligible coverages (*adverse impact*).

In the context of a cost/benefit review of PACICC's loss claims coverage, the benefits of any change are the additional amounts of a claimant's loss that is protected. The costs associated with any change in the loss claims limit are primarily the cost associated with incidence effects (transfers between policyholders) and the direct costs for policyholders of solvent companies that must bear the cost of the increased liabilities.

Adjusting strictly for inflation, \$250,000 in 1997 is equivalent to \$300,000 in 2006. However, as loss claim trends do not closely follow changes in the consumer price index, the general inflation rate may not be the most appropriate indicator of where PACICC's loss claim limit should be.

In evaluating alternative loss claims limits, the following practical issues have important but difficult to quantify effects on PACICC eligible claims costs:

• the limits are used by liquidators as negotiating points. Changing the limit changes the starting negotiating position; and

• the largest growth factor in claims costs is legal costs. Increased limits may largely be absorbed by legal costs.

Potential changes in benefits to claimants and claims liabilities for PACICC under alternative loss claims limits were estimated using models based on data from IBC's Insurance Information Division statistical exhibits and government data.

Most claims on personal property policies are paid on a replacement cost basis. The use of replacement cost policies, while varying by province, has increased steadily since 1997 and is used by an estimated 90 percent of homeowner policies in Canada. During the period between 1997 and April 2005 the cost of housing construction increased by 37 percent.⁷ Low loss claim frequency, particularly for large personal property losses (for example less than one quarter of one percent of personal property claims in recent liquidations), has helped to maintain the reasonableness of the PACICC limit.⁸

While the frequency of automobile accidents has been declining, automobile loss claim trends have increased in severity. In the Markham General and Maplex liquidations, automobile loss claims in excess of PACICC's limits represent less than one percent of total automobile claims, but would have increased PACICC liquidation costs by three to seven percent, depending on the changes to the limit.

Due to how the automobile insurance system functions, increasing the coverage limit will increase PACICC's claims liabilities, but it does not change the benefits received by claimants. When an insurer becomes insolvent, automobile insurance claims are paid by the uninsured motor vehicle (UM) carrier.⁹ The UM carrier is a creditor of the estate of the insolvent company and may recover the claim amount up to the limit from PACICC.

This structure ensures that automobile insurance claimants receive the same level of benefits regardless of PACCIC's level of coverage. For automobile insurers, increasing the PACICC limit increases their recoverable for UM claims that exceed the current limit. However, it also increases the amount that they are assessed to provide PACICC coverage.

Commercial property/liability loss claims have a higher average severity than personal lines claims. Excess liability claims, for example, experienced an average loss claim of \$1.3 million between 1998 and 2003.

The total loss claim impact for alternate PACICC coverage limits is the sum of the individual by line impacts. In general, due to the low frequency and severity of loss claims, alternate limits had a marginal impact on personal property benefits paid. The

⁷ Source: IID statistical exhibits and Statistics Canada housing CPI.

⁸ An insolvent insurer with 10 percent market share in Toronto (insuring more than 100,000 homes) would likely generate an estimated 20 personal property claims over PACICC's limit.

⁹ Barton v. Aitchison (a case involving an insured and an insolvent company – Pitts Insurance Company) established this in 1980.

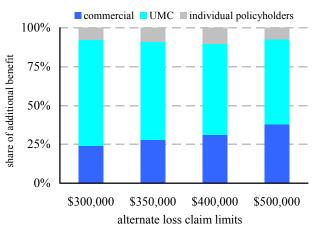
largest impacts were in the automobile and commercial coverages, where claims frequency and severity are higher.

Estimated Aggregate Change in PACICC Exposure/Benefits Paid under Alternate Limits					
Alternate LimitsModelMarkham GeneralMaplex GeneralEstimate					
\$300,000	4.94%	3.89%	0.50%		
\$350,000	8.59%	6.74%	0.90%		
\$400,000 \$500,000	12.73% 20.32%	9.01% 12.39%	1.10% 1.50%		

In the Markham General case, the estimated alternative PACICC limits would have increased claims costs (and hence assessment costs) in the range of \$610,000 to \$2 million. Of these amounts, \$50,000 to \$150,000 would have gone directly to individual policyholders. The remaining claims benefits would have gone to commercial entities (UM carriers and commercial policyholders).

An alternative to increasing the loss claims limit for the protection of individual claimants would be to amend the hardship case clause contained in the Memorandum of Operation. Currently the clause permits, with unanimous consent of the board, the Corporation to compensate a claimant where compensation was either unavailable or inadequate (for example, due to a deductible) to make available or increase a compensation payment, up to the loss claim amount. An amendment to the hardship clause, permitting – as determined by the board on a case-bycase basis – a compensation payment above the \$250,000 loss claim limit for personal

Distribution of additional benefits under alternate loss claim limits (MGIC)



property policies only would ensure that PACICC could extend protection in those rare cases that an individual policyholder has a claim exceeding the loss claim limit. This provision should further be limited by restricting the additional compensation to either: 1.5 times the loss claim limit; or the average annual MLS price.

Modernizing PACICC's coverage

PACICC has served Canadians well since it was established in 1988. At this time, however, changing circumstances require a re-evaluation of the Corporation to ensure that it can be equally successful in the future. When insurers fail, PACICC provides consumers with reasonable recovery of claims for loss and unearned premiums. PACICC is the national guarantee association providing uniform benefits for policyholders and claimants everywhere in Canada. It is a system that has served Canadians well, providing protection to thousands of policyholders and claimants without undue strain on the industry.

In the unlikely event of a collapse of a P&C insurer, the industry seeks to provide a reasonable level of recovery to policyholders under most policies issues by P&C insurance companies. PACICC's mission statement:

"The mission of the Property and Casualty Insurance Compensation Corporation is to protect eligible policyholders from undue financial loss in the event that a member insurer becomes insolvent. We work to minimize the costs of insurer insolvencies and seek to maintain a high level of consumer and business confidence in Canada's property and casualty insurance industry through the financial protection we provide to policyholders."

PACICC should regularly assess its coverage limits so that they reflect current trends and are reasonable for claimants. This paper reviews PACICC's coverage system and limits and has identified a menu of options – shown in the table below – for modernization and reform, ranging from incremental changes, to modernizing PACICC by building on international best practices and supporting PACICC's mission to a fundamental transformation of PACICC to a policyholder defined guarantee fund.

PACICC Coverage Options Matrix					
	System of coverage	Eligibility of commercial risks	Unearned premium coverage		Loss claim coverage
			Limit	Coinsurance	
Status quo	all-risks	commercial risks covered	\$1,000	30% coinsurance	\$250,000
Incremental change	all-risks, updated to reflect CCIR classes of insurance	separate funding/assessments of commercial and personal coverages	\$1,200	30% coinsurance and a \$50 deductible	\$300,000
Modernization	defined coverage	exclusion of large commercial risks	\$1,500	no coinsurance on first \$500, 30% coinsurance on remaining.	\$250,000, amend hardship review clause for homeowner policies, commitment to review limit at least every five years
Fundamental transformation	policyholder defined	n/a	no limit	no coinsurance	\$300,000, amend hardship review clause for homeowner policies

The following tables, organized by coverage issue, provide a summary of the key considerations for each menu option.

System of coverage:

PACICC's system of coverage was designed in the late 1980s for a different environment than which PACICC currently operates in. The CCIR has largely implemented the harmonization of insurance classes and innovation in the industry is rapid, with new specialty coverages being regularly introduced. PACICC had identified three options for modernizing the current system of coverage:

System of coverage options matrix				
	All-risk coverage system	Defined coverage system	Policyholder defined system	
Description	all risks covered unless specifically excluded. This is the status quo.	coverage specifically defined	all risks for policyholder class covered	
Protection of eligible policyholders	maintains current coverage	maintains current coverage	extend scope of coverage	
Moral hazard	monitoring & updating required	constrained	increased moral hazard	
Benefits	flexible	transparent, consistent with CCIR classes, low maintenance	transparent, consistent with a more consumer focused paradigm	
Costs	'coverage creep', not transparent to policyholders	reduced flexibility	increased liquidation complexity & costs	

Eligibility of commercial risks

Protecting individuals rather than large corporate institutions is generally the primary objective of a guarantee fund. Best practices in other jurisdictions identify three options for modernizing the eligibility of commercial risks:

Commercial eligibility options matrix				
	Cover all commercial Exclude larg		Separation of	
	risks	commercial entities	commercial & personal	
Description	all risks covered unless	coverage only provided	all risks covered.	
	specifically excluded. This	for small businesses	Personal & commercial	
	is the status quo.		risks funded separately.	
Protection of eligible	maintains current coverage	restricts coverage for	maintains current	
policyholders		large commercial	coverage.	
		businesses.		
Moral hazard	exists in system	constrained	exists in the system	
Benefits	low maintenance	personal policyholders	personal policyholders do	
		do not fund commercials	not fund commercials	
Costs	transfer from personal	increased adjustment	increased liquidation	
	policyholders to	costs	complexity & costs for	
	commercial policyholders		multi-line companies	

Unearned premium coverage

A number of options exist to strengthen the unearned premium repayment – through variations of increasing the limit to eliminating the coinsurance deductible on a portion of the unearned premium repayment.

Unearned premium options matrix						
	Loss claim limit			Coinsurance		
	\$1,000	\$1,200	\$1,500	\$50 deductible	eliminate coinsurance on first \$500	30% coinsurance
Protection of eligible policyholders	primarily homeowner & auto	primarily homeowner & auto	primarily homeowner, auto & small business	eliminates payment for small claims	increased for personal policyholders	status quo
Moral hazard				no impact	limited increase	no impact
Benefits	adequate coverage for most policies	accounts for inflation, improved auto protection	accounts for inflation, improved auto protection	consistent with insurance practices	benefits largely go to personal lines	reduces moral hazard
Costs	coverage for auto eroding	increased UEP costs	increased UEP costs	generates ill- will for little savings	increase in claim costs.	n/a

Loss claim limit

The prompt payment of claims benefits supports confidence in the financial system and mimimizes the disruption caused by the exit of a failed company from the insurance market.

Loss claim options matrix				
	\$250,000 limit	\$300,000 limit	\$250,000 limit with amended hardship review	
Description	Status quo	modest increase	Special provision for increasing benefits in limited cases for homeowners	
Protection of eligible policyholders	adequate for most policies	adequate for most policies	Increased protection for catastrophic homeowner loss	
Moral hazard	limited	increased	limited	
Benefits	covers most eligible policies	covers most eligible policies	covers most eligible policies, increased protection for homeowners	
Costs	coverage for some homeowners eroded	increased commercial lines costs, limited benefits to personal lines	small additional claim cost	

Summary

The insurance industry is built on the public's confidence that insurance contracts will be fulfilled and eligible claims paid. The P&C insurance business is risky and companies are sometimes vulnerable to failure. Five insurance companies have failed since 2001 and in recent years a record number of P&C insurers have been on regulatory watch lists and experienced financial strength downgrades by rating agencies. PACICC helps to maintain confidence in the industry by providing loss claims benefits and repaying unearned premiums to policyholders in the event of an insurance company failure, contributing to the sound growth and development of the industry.

The reason for PACICC's existence, and the foundation of its credibility, is to be ready to respond effectively to an insolvency of a member P&C insurance company by providing protection from undue financial loss from insurance company failures. Since PACICC was established in 1989, it has extended coverage through twelve insolvencies, providing \$152 million in claims and unearned premium protection to more than 8,700 policyholders and 11,000 claimants. PACICC provides protection for policyholders purchasing more than \$35 billion in eligible premiums.

PACICC has served insurance consumers and the insurance industry well since it was established 16 years ago. Changing circumstances, however, require a reassessment of the Corporation's extent of coverage. To sustain PACICC's history of success, coverage limits need to keep pace with changes in loss claims and unearned premium trends in the lines of business that are protected by PACICC. Guarantee fund coverages should be evaluated using the following three criteria:

- their effectiveness in protecting individual policyholders from undue financial loss;
- whether they generate financial transfers/impacts between groups of policyholders; and
- affordable on an ongoing basis to ensure that response to a failure of a member insurer does not cascade into financial difficulty for additional members.

To maintain a strong final safety net for policyholders and continued public confidence in the financial safety of the property and casualty insurance industry PACICC has identified a menu of options for modernization and reform, ranging from:

- incrementally updating PACICC's coverage limits; to
- modernizing PACICC by building on international best practices and supporting PACICC's mission; to
- fundamental transformation of PACICC to a policyholder defined guarantee fund; and
- a balanced mix of adjustment's to PACICC's extent of coverage

Key information sources

- 1. Horsh, Dr. Andreas. *Insurance Guaranty Funds for the German Insurance Industry*, European Commission, 2004.
- 2. Yasui, Takahiro *Insurance and Private Pensions Compendium for Emerging Economies: Policyholder Protection Funds – Rationale and Structure*, Insurance and Pensions Unit, Organization for Economic Co-operation and Development, 2001.
- 3. Miller, R.R. Summary Report on the Projected Cost Impact to PACICC of the Newfoundland Superintendent's Proposal for Change in PACICC's Unearned Premium Coverage in Newfoundland and Labrador, Exactor Insurance Services Inc., December 2002.
- 4. European Commission, *Working Paper on Insurance Guarantee Schemes*, March 2004.
- 5. European Commission, *Working Paper on Insurance Guarantee Schemes*, January 2005.
- 6. Miller, R. R. Summary Actuarial Report on PACICC Pre-funding and Assessments, Exactor Insurance Services Inc., February 1997.
- 7. McDonnell, William *Managing Risk: Practical lessons from recent "failures" of EU insurers*, Financial Services Authority, December 2002.
- 8. Lee, Soon Jae, Mayers, David and Smith, Clifford W., Jr., "Guaranty Funds and Risk-taking: Evidence from the Insurance Industry," Journal of Financial Economics, 44, 3-24 (1997).
- 9. Smith, Michael Larrey and Lee, Soon-Jae, "Property-Casualty Insurance Guaranty Funds and Insurer Vulnerability to Misfortune". The Charles A. Dice Center for Research in Financial Economics WPS #95-6.
- Grace, Martin F, Klein, Robert W and Kleindorfer, Paul R., "Homeowners Insurance With Bundled Catastrophe Insurance," Journal of Risk and Insurance, 71, 351 – 379 (2004).
- 11. Gropp, Reint; Vesala, Jukka. 2001. "Deposit Insurance and Moral Hazard: Does the counterfactual matter?" European Central Bank working paper No. 47
- 12. Gropp, Reint; Vesala, Jukka. 2004. "Deposit Insurance, Moral Hazard and Market Monitoring," European Central Bank working paper No. 302.
- 13. Federal Deposit Insurance Corporation, 2002. "Options for Addressing Moral Hazard", Guidance for Developing Effective Deposit Insurance Systems, Subgroup on Moral Hazard, FDIC.