Article Title: ARCHIVE | Criteria | Insurance | Life: Insurance Capital Optimization: Reducing Risk Through The Creation Of A Closed Block Data: [Editor's Note: A previous version of this article did not include the capital charge formula for closed block performance. The correct table, RCB risk charges 1, is below.] One of the greatest challenges facing the U.S. life insurance industry comes in the wake of the growing movement toward demutualization. As more firms demutualize (see Charts 1, 2, and 3), shareholder pressures place increased focus on earnings performance, as measured by return on equity. This inevitably will force financial management at insurance companies to reevaluate the amount of capital deployed in their business, especially in light of the historically low return on capital that these firms have produced. Chart 1 Chart 2 As these insurers attempt to balance financial soundness with capital management, they continually seek new risk management techniques to reduce capital needs. Often, this means persuading regulators and rating agencies that the risks that they have assumed have materially diminished. As is the case with most static capital adequacy models, Standard & Poor's capital adequacy ratio assesses risks while maintaining a standard of comparison among companies. This means classes of risk are evaluated similarly from company to company as part of Standard & Poor's normal surveillance of the capital needs of the insurers it rates. Chart 3 If companies can demonstrate that they have materially reduced their risks either through risk management techniques or through contractual protections, then Standard & Poor's will adjust its capital adequacy models to reflect the insurer's reduced capital needs, using its Ratings Evaluation Service (RES) to model the insurer's risks. Given the significant additional analysis required to determine risk and capital charges, this process is not part of Standard & Poor's normal ratings surveillance. It incorporates dynamic modeling of risks in ways that reflect the sophistication of the risk management techniques employed by companies in addition to incorporating contractual protections developed to ensure that the probability of economic loss is remote. Standard & Poor's has developed sophisticated tools to evaluate the risk management capabilities and contractual protections employed by insurers. These tools, used as part of the RES process, integrate dynamic modeling of risks into the rating process to reflect the degree of contractual protection and risk management employed by an insurer. The result of this analysis is a definitive assessment of the capital charges for an insurance company using a rigorous methodology. By undergoing this analysis with Standard & Poor's, an insurer will have put in place an objective process that establishes third-party credibility. While not measured quantitatively in the rating process, risk management will be reflected in the qualitative analysis. Table 1 Largest North American Life Insurers Converted from Mutual Ownership COMPANY YEAR TYPE FSR (AS OF OCT. 1, 2001) ASSETS* 1 Prudential Insurance Co. of America 2001 Full** A+ 196,051 2 Metropolitan Life Insurance Co. 2000 Full AA 181,251 3 Manufacturers Life Insurance Co.*** 1999 Full AA+ 75,884 4 Principal Life Insurance Co. 1997 MHC** AA 75,573 5 Sun Life Assurance Co. of Canada*** 2000 Full AA+ 68,998 6 John Hancock Mutual Life Insurance Co. 2000 Full AA+ 61,813 7 Pacific Life Insurance Co. 1997 MHC AA+ 51,677 8 Canada Life Assurance Co.*** 1999 Full AA 36,354 9 Clarica Life Insurance Co.*** 1999 Full AA 25,914 10 Phoenix Home Life Mutual Insurance Co. 2001 Full AA- 17,620 11 Minnesota Life Insurance Co. 1998 MHC AA+ 16,327 12 MONY Life Insurance Co. 1998 Full AA- 12,108 13 General American Life Insurance Co. 1997 Full AA- 11,966 14 American United Life Insurance Co. 2000 MHC AA- 9,595 15 Industrial-Alliance Life Insurance Co.*** 2000 Full A+ 9,255 16 Western & Southern Life Insurance Co. 2000 MHC AAA 7,662 17 Security Benefit Life Insurance Co. 1998 MHC AA- 7,583 18 Provident Mutual Life Insurance Co. 2001 Full AA- 6,709 19 Standard Insurance Co. 1999 Full A+ 6,540 20 National Life Insurance Co. (VT) 1999 MHC A+ 6,196 21 Ohio National Life Insurance Co. 1998 Full AA 6,068 22 Amerus Life Insurance Co. (member of Amerus Group) 1996 Full A 4,428 23 Anthem Insurance Companies Inc. 2001 Full A 2,857 24 Ameritas Life Insurance Corp. 1998 MHC AA 2,247 25 Indianapolis Life Insurance Co. (member of Amerus Group) 2001 Full A 1,863 MHC--Mutual holding company. Optimizing Capital Through a Regulatory Closed Block In the life insurance industry, an effective risk mitigation structure is created through a change in the contractual relationship between an insurance company and the policyholder through the process of demutualization. In a demutualization, the creation of a regulatory closed block (RCB) of participating policies has the potential to fundamentally reduce economic risk to the insurer. Older policies can be isolated and grouped together because of common characteristics such as low face amounts, low interest rate guarantees, conservative mortality assumptions, high quality assets, and a

general maturity of liabilities. As a result, these policies have stable, predictable mortality and lapse experience. The characteristics of such blocks are documented in an insurer's Plan of Demutualization. In many cases, the creation of a regulatory closed block can substantially reduce the insurer's capital needs. By agreeing to an insurer's Plan of Demutualization, the policyholders and regulators have accepted that the assets assigned to the closed block will be the assets used to meet policy obligations. Importantly, those assets of the insurer outside the closed block will not be used to meet policy obligations except to the extent they are needed to meet minimum guaranteed obligations. In many instances, the formation of a closed block of policy obligations substantially reduces an insurer's risks and hence its capital needs. Often, the actuarially determined amount of assets necessary to support the minimum guaranteed obligations of the closed block policy liabilities are a small fraction of the actual assets assigned to the closed block. The excess assets assigned to the block are expected to be used to meet reasonable policyholder expectations through future dividends. These dividends can, and will, be reduced to the extent the insurer incurs adverse experience in its investments, expenses, or underwriting results. Standard & Poor's reevaluation of an organization's capital needs starts with understanding what additional protections are possible to reduce or better manage risks. It is not enough for a company merely to demonstrate effective risk management as the basis for adjusting capital charges. A formal structure for risk isolation, management, and mitigation must be created. The proven existence of such a structure is the basis upon which Standard & Poor's reconsiders capital adequacy charges. There are five key areas in the evaluation of risk isolation, management, and migration: The existence of a significant dividend cushion is actively considered as evidence that contractual minimums can be paid, even with quite adverse experience. Reasonable adverse experience in mortality, persistency, or investment performance should not produce a combined statutory loss, even if dividends are unchanged. Effective segmentation of assets insulates the block from poor performance elsewhere in the insurance company and in turn acts as a buffer for the insurance company from financial responsibility for poor performance within the closed block. Conservative mortality assumptions are important to consider, given the long duration of these contracts. Evidence of effective oversight on the part of the insurance department of the state of domicile provides further assurance that insurance company management will manage the block as necessary to maintain funding. Information that is reviewed includes: A review of any regulatory reports filed with the insurer's state of domicile regarding the proposed demutualization; A copy of the insurer's actuarial analysis and/or third party actuarial analysis as it pertains to the closed block; and Statistical and other data supplied by the insurer in support of its analysis of the amount of asset, insurance, and credit risks embedded in the regulatory closed block. Closed Block Description It has become customary in life insurer demutualizations to set up a closed block of liabilities and assets. The closed block consists of participating life insurance policies that represented ownership in the mutual insurance company. The purpose of the closed block is to wall off the participating policies and their assets from the rest of the demutualized company as a way of preserving the reasonable dividend expectations of policyholders and to keep decisions about dividend policy out of reach of the management, directors, and shareholders of the demutualized company. In setting up regulatory closed blocks, it is common to find that the assets amount to less than liabilities. In an open block of participating life business, most of the "profits" on each policy are returned to the policyholder as dividends, but a small portion is retained to support the capital growth of the company. In the case of a closed block, the future profits of the block are walled off from the remainder of the company. Since no contribution to surplus is expected, the dividend scale can be supported with a somewhat smaller amount of assets. In other words, the embedded profits in the business will support the contractual obligations and policyholder dividends, even with an amount of assets somewhat less than the full amount of the statutory liability. This is in part because of the extraordinary conservatism contained in the statutory reserve basis, particularly for older policies. Commonly, an insurer will also set aside additional assets outside the closed block to cover the discrepancy between assets and liabilities in the RCB. This is especially true if the primary insurer is using reinsurance to transfer some or all of the risk based capital needs to reinsurers. These notional assets are the property of the general account and are not part of the closed block. However, they can be used to protect the reinsurers in the event that the assets within the closed block are not sufficient to cover contractual obligations. The amount of

assets that must be set aside within an RCB is determined through a detailed series of actuarial projections. The main projection incorporates the assumptions underlying the current dividend scale. This is based on the theory that if current assumptions hold, then the dividend should be unchanged and all contractual obligations should be met. In addition, other tests are performed to assure that even in moderately adverse situations, the dividend will be reduced but all contractually guaranteed obligations will be met. Based on this analysis, Standard & Poor's determines the amount of assets needed to meet the contractually guaranteed obligations of the closed block. The remaining assets represent the amount needed to cover the present value of future dividends. The goal of the closed block is to ensure that the closed block assets will meet all policy obligations and dividend expectations and when the last policy terminates, all assets will be exhausted. This requires diligence on the part of the insurer to assure that dividend scales are adjusted, as better or worse experience emerges. Standard & Poor's will want to establish that the insurer has an obligation to its policyholders and to the regulator to ensure that the assets run off along this "glide path". If the assets are not sufficient, the insurer is responsible to meet the contractual obligations. If assets remain after the last policy matures, then they must be distributed to the policyholders in some equitable manner. A life company can demonstrate it is following this "glide path" by presenting an annual opinion to the insurance department certifying that the closed block is sufficiently funded and by periodically seeking an independent actuarial review to assure that funding remains appropriate. A life insurer's reorganization plan, filed as part of its demutualization, should ensure that the dividend scale will be reset periodically to assure that the segmented closed block assets remain sufficient to cover the liabilities. That effectively transfers all investment risk (C-1) and mortality/pricing risk (C-2) from the insurer to the policyholder. In order to receive significant capital relief, the event that these risks would exceed the ability to adjust the dividend scale, and therefore impact surplus, must be extremely unlikely. Interest rate/disintermediation risk (C-3) is also expected to be transferred to policyholders. Elements of Risk Within a Closed Block Standard & Poor's evaluates the following elements of risk when determining the capital needs of a regulatory closed block: How mature and stable are the liabilities within the block? Well-seasoned ordinary life insurance and endowments tend to be among the most stable blocks of business and thus would usually have a low risk profile. Similarly, some well-seasoned participating pension liabilities may also be viewed as having low risk. Standard & Poor's evaluates the stability and predictability of mortality and lapse experience. Is there sufficient spread of risk? Standard & Poor's examines the average face amount of the closed block life policies. A large number of policies and a low average face amount ensure that the likelihood of random fluctuations in mortality or lapse experience is greatly diminished. What is the nature of the guarantees on closed block policies? Are the policy guarantees based on mortality rates that are significantly higher than the rates currently being experienced? Are the interest rate guarantees low in comparison to current rates? What is the portfolio's asset quality? Is there effective segmentation of assets? Are the assets of the closed block segmented from the rest of the insurer? Standard & Poor's ascertains whether the insurer is insulated from the performance of the closed block outside any funding needed to meet minimum guaranteed obligations. Any transfer of assets between closed and open blocks must be conducted at market value, further reducing the possibility that the block would become underfunded based on management actions. Determining Risk-Based Capital Charges of a Closed Block The risk charges for a regulatory closed block of participating policies are determined by evaluating the performance risk, the timing risk, and the operating risk within the block. The closed block performance analysis covers all risks related to the RCB assets' probability of default, policy lapses, mortality, and expenses, which cannot be mitigated from the changes in the policyholder liability. In addition, Standard & Poor's stresses the portfolio for interest rate risk to determine the level of interest rates needed to support the minimum guarantees. The performance risk is evaluated in conjunction with the dividend cushion and funding cushion of the closed block. It must be determined that contractual minimums can be paid even under significant adverse experience. In addition, a determination is made that even if dividends remain unchanged, some level of adverse experience would be possible without causing a statutory loss. Standard & Poor's assumes that a closed block set up to mitigate risk will have a performance risk equal to the risk associated with a long-term strong investment grade bond adjusted upward or downward based on the size of the dividend cushion and the level of risk inherent in the closed block

assets versus industry average benchmarks. The closed block assets would then be multiplied by this charge to determine the overall performance risk capital charges. While most interest rate risk fluctuations are covered by the ability to adjust the policyholders' dividend, dividends are revised retrospectively, based on experience of the prior period. As a result, there is the potential for poor performance producing statutory losses during a calendar period that will be recovered during a subsequent period. Therefore, a small charge is applied against the closed block reserves to cover the timing risk that dividends are not adjusted in a timely fashion. Lastly, a capital charge is applied for operating risk. This includes management risk and regulatory risk. Management risk covers the risk that, for marketing, public relations, or other factors, the insurer could maintain a dividend scale that is not supported by the experience of the business. There is also a very remote risk that the regulator would not require the insurer to reduce dividends as necessary to maintain sufficiency of the closed block assets. This would most likely occur in an extreme scenario in which the insurance department places public policy or perception ahead of policyholder equity. Closed Block's Risk Transfer Criteria As Adopted by Standard & Poor's Due to the flexibility of adjusting policyholder dividends, adverse deviations from mortality, investments, and lapse risk can be somewhat mitigated. The risk charges for a closed block of participating policies would be applied as follows: RCB risk charges 1 Table 2 RISK CAPITAL CHARGE Closed Block Performance 0.42% x Ratio 1 x Ratio 2 Timing risk 0.05% Operating risk 0.10% - 0.30% Where: Ratio 1a = (Present Value of Expected Dividend Liability / Total RCB Asset) Ratio 1 = Ratio 1a/ Expected Industry Average of Ratio 1a Ratio 2a = (Asset Risk Capital Charges or C-1 of the RCB / RCB Invested Assets) Ratio 2 = Ratio 2a / Estimated Industry Average of Ratio 2a, which is equal to 4.5% based on Standard & Poor's analysis Total Capital Charge = Capital Charge for the Closed Block Performance x RCB Statutory Assets + 0.15% (timing risk + operating risk) x RCB Statutory Reserves Note that the above capital charges are all in lieu of the full C-1, C-2, and C-3 charges that would be applied in a non-RCB, or in an RCB that Standard & Poor's has not had the opportunity to fully analyze. Risk charges outside the RCB (notional assets) Full C-1 Capital Charge applied to the assets outside the RCB. These assets are managed by the investment policy of the ceding company and are set up to cover the deficiency between assets and liabilities in the RCB. However, the performance of these assets is not reflected in the determination of the dividend scale of this block. Other charges No risk reduction or capital credit is given to the ceding company for the reinsurance transaction where there is no meaningful transfer of economic risk. Above charges based on: The Closed Block Performance category covers all the risks related to the RCB assets' probability of defaults, lapses, mortality, and expenses, which cannot be mitigated from the changes in the policyholder liability. In addition, most of the interest rate risk fluctuations are covered by the ability to adjust the policyholders' dividend. No obvious operational risks are apparent. The above sets of RCB capital needs are the baseline charges to the demutualizing company and assume no substantive risk transfer to a reinsurer. If the ceding company chooses to reinsure all or part of its obligation, then some of these charges may be transferred to the reinsurer. Depending on the level of experience refunds or make-whole provisions in the treaty, it is possible that performance risk will remain all or in part with the ceding company. However, depending on the transaction, timing risk may be considered transferred and therefore charged against reinsurer capital. Example The following example illustrates Standard & Poor's risk-based capital requirement, applying the new closed block criteria. In this example, assume that XYZ Mutual Life has set up an RCB as part of its demutualization plan. XYZ believes the risk profile of the RCB will change substantially after the demutualization takes effect. Assumptions Company: XYZ Mutual Life Regulatory Closed Block Characteristics: RCB Policies: Participating Whole Life Policies (low interest rate risk) RCB Statutory Assets = $10 million RCB Statutory Reserves = $12 million Total Face Amount (FA) = $60 million Dividend Liability = $8.4 million (or 70% of the total liability) Total Annual Premiums = $1 million Net Amount of Risk (NAR) = $48 million (total FA -- statutory liabilities) Non-RCB Policies: Fixed Annuities Statutory Assets = Statutory Liabilities = $20 million Statutory Surplus = $2 million Average Asset Quality: 'BBB' Capital Standard RCB Capital Charges: C-1 = 3.26% ('BBB') x $10M = $326,000 C-2 = 0.08% (average life charge) x $48M (NAR) = $38,000 C-3 = 0.50% x $12M = $60,000 C-4 = 2% x $1M (Annual Premium) =$20,000 Total Capital Charges = $444,000 New charges after Standard & Poor's review New RCB Capital Charges: C-1 = $0 C-2+C-3+C-4: Performance Risk = 0.45% (average factor) x $10M (Assets) = $45,000 Timing Risk =

0.05% x $12M (Reserves) = $6,000 Operational Risk = 0.10% x $12M (Reserves) = $12,000 Total Capital Charges = $63,000 Charges outside RCB (unchanged) Non-RCB Medium-Risk Fixed Annuity Business Plus Statutory Surplus C-1 = 3.26% ('BBB') x $22M (annuity reserve + surplus) = $717,000 C-2 = 0.08% (average life charge) x 0 = $0 C-3 = 2% x $20M = $400,000 C-4 = 2% x $4M (annual premium) =$80,000 Total Capital Charges = $1.197 million Summary -- total company Table 3 CAPITAL CHARGES BEFORE CRITERIA APPLICATION ($000S) AFTER CRITERIA APPLICATION ($000S) Total adjusted capital 2,000 2,000 C-1 1,043 717 C-2 38 0.0 C-3 460 400 C-4 (including RCB charge) 100 143 TAC minus C1 957 1,283 C2 = C3 + C4 598 543 Capital adequacy ratio (%) 160 236 As a result of the application of this new regulatory closed block criteria, capital adequacy increased to 236% from 160% in this example. Of course, this result would depend on the risk assessment of the closed block, as well as the nature and amount of business outside of the closed block. Use of Reinsurance In order to reduce regulatory risk-based capital requirements, life companies may choose to reinsure parts or all of their regulatory closed blocks. Depending on the nature of these reinsurance treaties, the range of risk transfer to the reinsurer may range from only a negligible amount up to full risk transfer. In most cases, Standard & Poor's expects only a minimal amount of risk transfer between the primary company and its reinsurer. As mentioned above, as insurers transfer these risks through reinsurance, the risk based capital requirements of these blocks are charged against reinsurer capital. Commonly, reinsurers use companies located in domiciles with more flexible reserving requirements in order to assume this business. It is not unusual that little, if any, reserves are actually put up by the reinsurer, despite its acceptance of the transfer of billions of dollars of primary insurer reserve liability. For this reason, Standard & Poor's looks to the primary life insurer's annual statements to determine the amount of risk transfer to reinsurance companies. If the amount of reserves ceded to the reinsurer is significant, Standard & Poor's will discuss with the reinsurer the nature of the transaction and assign risk based capital charges. In most cases, the total charge for these transactions ranges from a minimum of 15bp to 35bp. This capital charge is applied to the closed block statutory reserve transferred to the reinsurer. The above range is based on the assumption that there is minimum risk transfer between the ceding company and the reinsurance company. Typically, a reinsurer assumes regulatory closed block risk through a modified coinsurance treaty. The primary company on the reinsurer's behalf holds assets and liabilities. If there are multiple reinsurers on the treaty, each reinsurer remains responsible for its share of the benefits, dividends, and reserves, and is credited with its share of the premiums. The risk the reinsurer is assuming is that the closed block is underfunded. This means that there are not sufficient assets in the closed block to support the guaranteed liabilities. Elements of Protection for the Reinsurer In assuming a regulatory closed block liability, there are a number of ways a reinsurer can mitigate its risk: Establishing notional assets outside the closed block. These are an earmarked selection of assets outside the closed block covering reinsurance reserves. Therefore, from the reinsurers' perspective, the block is fully funded. These assets are the property of the general account and are not part of the closed block. However, they can be used to protect the reinsurers in the event that the assets within the closed block are not sufficient to cover contractual obligations. Experience refunds. The reinsurance treaty can establish a vested interest for the primary company to manage the business profitably in order to receive refunds of statutory profits. Under such a treaty, the primary company receives a full refund of the statutory profit for some period of time. If there are any statutory losses, these are accumulated at interest and charged against future refunds. Because of the experience refund, the primary company is effectively responsible for all of the policy cash flows, up to the point of a statutory loss. Regulatory supervision of the closed block. In a strong regulatory environment, the insurance department should oversee the life company so that it manages the dividends in a manner that will assure all of the policyholders get paid. This includes lowering the dividends when necessary to assure that the assets suffice. Repayment of losses on recapture. Often, these reinsurance treaties allow the life company the right to recapture the reinsurance without penalty at any point after several years. The contract can be structured such that if the reinsurer has an accumulated statutory loss at the time of recapture, the insurer must reimburse the loss with interest. Asset valuation reserve (AVR). By including AVR contributions in the refund mechanism, the reinsurer can be assured that the life insurer has a vested interest in maintaining asset quality. Furthermore, credit and equity losses are charged against the AVR, thereby dampening the effect on income. This

makes it less likely there will be a statutory loss in a given year. The dividend. The dividend can represent an enormous cushion against statutory losses. If the primary company manages the dividend appropriately, future statutory earnings often would have to decrease by an extraordinary amount before the dividends are exhausted. Due to the features of reinsurance treaties that contain the above protections, most notably the strong incentive to recapture in a short period, the likely reimbursement of losses by cedent to reinsurer, and the unlikelihood of statutory loss to the reinsurer, Standard & Poor's does not consider this sort of treaty to contain meaningful risk transfer. As such, Standard & Poor's will neither provide credit to the ceding life insurer in its capital model for the proportionate share of risk under the treaty nor fully charge the reinsurer. Remaining Risks to the Reinsurer Those reinsurers that have assumed closed block life reserves and have mitigated their risks through the use of the above mentioned contractual protections would still face some minimal risk. These risks include: Timing risk. Dividends are revised retrospectively, based on experience of the prior period. As a result, there exists the possibility of poor performance producing statutory losses during a calendar period that would be recovered during a subsequent period. Management risk. For marketing, public relations, or other reasons, the primary life insurer could maintain a dividend scale that is not supported by the experience of the business. Regulatory risk. The regulators might not require the primary life insurer to reduce dividends as necessary to maintain sufficiency of the closed block assets. This would most likely occur in an extreme scenario in which the regulator places public policy or perception ahead of policyholder equity. The total risk based capital charge to reinsurers that have assumed closed block life reserves using these minimal risk transactions would range from a minimum of 15bp to 35bp of assumed reserves. All reinsurers in the treaty would be assessed the same capital charge, based on their proportional assumptions, assuming that the risk and the covenants in the treaty are exactly the same. If there are some differences in the contracts among the reinsurers and the ceding company, Standard & Poor's retains the right to increase the charges to individual participants if risks are higher or uncertain.