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TAPR II
TECHNICAL ASSISTANCE FOR POLICY REFORM

EISA EARLY WARNING SYSTEM

FINANCIAL ANALYSIS AND RATIOS

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Agenda

- ***Financial Analysis and Early Warning Indicators***
- ***Principles and Objectives***
- ***Source Documents and Procedures***
- ***Comparing Ratios over Time***
- ***Comparing Ratios to Industry Average (peer to peer)***
- ***Understanding Fluctuations and Deviations***
- ***Early Warning Ratios (Indicators)***
- ***Use of Supplementary Financial Analysis Tools***

Principles and Objectives of Financial Analysis

- ***Understand company's financial condition and operating performance***
  - ***At a certain point of time***
  - ***Over a certain period of time (trending)***
- ***Use financial ratios to identify potential areas of risk that threatens solvency and operating efficiency of the company***
- ***Understand the cause or causes of fluctuations, variances and deviations from acceptable norms***

Source Documents & Analytical Procedures

- ***Basic source documents – Company Financial Reports:***
  - ***Balance Sheet (BS)***
  - ***Statement of Operations or Statement of Profit & Loss (P & L)***
  - ***Cash Flow Statements (CFS)***
  - ***Schedules in support to BS, P & L and CFS accounts***
- ***External reports relating to insurance industry &/or markets***
- ***Procedures:***
  - ***Analyze financial reports to identify conditions and trends that may impact company's solvency and profitability***
  - ***Calculate ratios, understand and explain deviations and trends***
  - ***Compare results of prior periods vs. planned company objectives***
  - ***Compare results to industry norms***
  - ***Document findings and enter information into Monitoring Section Notes***

Compare Ratios Over Time

- ***Ratios obtained from a series of time periods indicate comparable company performance records over time***
- ***Comparing these ratios gives us information about the stability of company's financial condition and operating performance***
- ***Compare both monetary (LE) amounts and percentages***
  - ***Note that deviations or variances of ratios obtained over comparable periods do not always convey unfavorable conditions or operating results. They could indicate healthy trends***
- ***Use longer periods (3 – 5 years) to minimize financial statement distortions that tend to result in abnormal variables***

Comparing Ratios to Industry Average (peer to peer)

- ***Industry statistics provide good performance benchmarks***
- ***Significant variances from industry averages must be further analyzed and investigated***
- ***Rule is "peer to peer" comparison***
- ***For example: industry average of net investment yield based on total life insurance assets is 8% . XYZ Life Insurance Company's net investment income rate is 3% of total assets in the same period. The cause of deviation must be further analyzed and investigated. There could be many reasons including:***
  - ***A large portion of the company assets is non-performing***
  - ***Lack of expertise in investment management***
  - ***Forced sale of assets to meet cash flow requirements***
  - ***Abnormal increase of assets at or near end of accounting period to cover deficiency in Capital and Surplus***

Understand Fluctuations and Deviations

Fluctuations or Deviations occur normally as a result of:

- ***Trends – changes in company's business condition***
- ***Seasonal – changes caused by natural forces (weather, climate)***
- ***Market cycle – changes in the economic environment***
- ***Non-recurring transactions***
  - ***Changes in products, customers, marketing focus***
  - ***Acquisition or disposal of business portfolio***
  - ***Significant reinsurance transactions – portfolio transfers***
  - ***Accounts – changes in accounting treatments or reclassification of accounts***
  - ***Errors in or correction of past errors in accounting procedures or practices.***

Early Warning Indicators (Ratios)

- ***Analytical tools used by EISA to identify conditions that threaten the (financial) solvency of insurance companies***
- ***Financial analysis helps EISA allocate its oversight resources to focus on companies deemed to be exposed to solvency risks. These companies are prioritized for solvency surveillance (e.g. on-site examinations)***
- ***It raises alerts of potential financial problems that may seriously impact or have already impacted financial condition of insurance companies***

Early Warning Indicators (EWI) (Continued)

- ***EWIs are ratios or combination of ratios that indicate threats to continuing solvency or viability of insurers***
- ***Inherent to insurance business are risks that may impair its capital and surplus leading to financial distress***
- ***Insurance business are most exposed to solvency risks in the following key areas:***
  - ***Capital Adequacy***
  - ***Asset Quality***
  - ***Reinsurance***
  - ***Actuarial practices***
  - ***Premium or Business Written***
  - ***Earnings & Operating Results***
  - ***Liquidity (Ability to pay liabilities as they fall due)***

Early Warning Indicators (EWI) (Continued)

Capital Adequacy (C)

- *Measures the extent the capital & surplus (C & S) of a company is leveraged in its overall operations*
  - *Highly leveraged*
    - *High risk of financial instability*
    - *Low level of capital and surplus in relation to business requirements*
  - *Conservative level of leverage indicates that C & S*
    - *Is adequate to meet claims including catastrophic or unexpected losses*
    - *Can absorb fluctuations in investments yields or investment losses*
    - *Can withstand changes in regulatory or economic environments*

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Early Warning Indicators (EWI) (Continued)

C 1 – Capital & Surplus to Total Assets

- ***Measures the exposure of C & S to investment, market and credit risks***
- ***Formula: 100 A/B, where***
  - ***A = Average total capital and surplus***
  - ***B = Average Total Assets***
  - ***Total assets***
- ***Benchmark:***
  - ***Life = >8%***
  - ***Non-life = >20%***
  - ***Could be as high as 100% or near 100% at start up; gradually reducing during the early years of operations as reserves build up***

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Early Warning Indicators (EWI) (Continued)

C 2 – Capital Leverage Ratio

- ***Measures the relationship between C & S to Unpaid Insurance Obligations (net of reinsurance)***
- ***Indicates ability of company to withstand adverse underwriting (loss) experience***
  - ***Low value may indicate lesser capacity to handle adverse experience***
- ***Formula: 100 A/B, where:***
  - ***A = Average total capital and surplus***
  - ***B = Technical Reserves***
- ***Benchmark:***
  - ***Life = >10%***
  - ***Non-life = >35%***

Early Warning Indicators (EWI) (Continued)

C 3 – Change in Capital & Surplus

- ***Measures the increase or decrease of equity from one period to another like period (e.g. this year and last year)***

- ***Trend of low or decreasing values may indicate operational inefficiency and threat to long-term viability***

- ***Formula: 100 [(A-B)/B], where:***
  - ***A = C & S this period (year)***
  - ***B = C & S previous period (year)***

- ***Benchmark:***
  - ***Life = < 50%***
  - ***Non-life = < 35%***

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Early Warning Indicators (EWI) (Continued)

Asset Quality

- ***Measures exposure of company assets to investment, market and credit risks***
- ***Investment and market risks corresponds to the credit quality and volatility of company's investment portfolio***
- ***The ratios related to Asset Quality measure the extent of potential impact these risks could do to company's financial strength***
- ***It also measures the extent to which assets of the company is leveraged to capital and surplus***

Early Warning Indicators (EWI), (Continued)

A 1 – Non liquid assets to Total Assets

- *Measures the extent to which assets of the company are not liquid (not available to pay liabilities as they fall due)*
- *A high ratio indicates:*
  - *Weak cash flow and financial stress*
  - *Stress on investment portfolio to produce higher yield in order to provide operational cash flow requirements*
  - *May also indicate improper valuation of investment portfolio such as failure to recognize and write-down impaired investment*
- *Formula: (A+B+C+D)/E, where:*
  - *A = Intangible assets (e.g. goodwill, trademarks, etc)*
  - *B = Real Estate*
  - *C = Investment in equities that are not listed in the capital market*
  - *D = Receivables (policy loans and agents' balances)*
  - *E = Total Assets*
- *Benchmark: Life = <50%; Non-life= <35%*

Early Warning Indicators (EWI) (Continued)

A 2 – Debtors to Gross Premium

- ***Measures the extent to which credit is granted to policyholders, agents and reinsurers and other parties***
- ***A high ratio indicates:***
  - ***Potential liquidity problems***
  - ***Weak quality and standards in underwriting***
  - ***Very aggressive marketing, selling on credit to attain short term sales target and profit goals***
  - ***Balance sheet is heavy with unrealizable accounts***
- ***Formula: (A+B+C+)/D, where:***
  - ***A = Policyholder current accounts***
  - ***B = Agents' balances***
  - ***C = Due from reinsurers***
  - ***D = Total Gross Premium***
- ***Benchmark: Life = <40%; Non-life = <20%***

Early Warning Indicators (EWI) (Continued)

A 3 – Non-traded Equity Shares to Total Assets

- ***Measures the extent assets are invested in non-traded equity shares***
- ***High ratio***
  - ***Threatens financial stability. Company may be forced to sell low to provide cash flow requirements***
  - ***Signals unhealthy level of non-liquid assets; liquidity problems***
- ***Formula: 100 (A+B)/C, where***
  - ***A = Unquoted Equity Shares***
  - ***B = Equity Shares not held for investment***
  - ***C = Total Assets***
- ***Benchmark: Life = <50%; Non-life = <25%***

Early Warning Indicators (EWI) (Continued)

Reinsurance (RI) – R

- *Role of RI – spread risks; mitigate underwriting risks; enhance underwriting capacity*
- *Heavy dependency to RI signals:*
  - *Weak C & S (RI being used as Surplus Aid)*
  - *Market/Credit Risks – Reinsurer insolvency or disputed calls*
  - *Market Risk – RI cost escalates following huge losses (tight market)*
- *Oversight concerns:*
  - *Temporary surplus relief indicative of surplus strains of ceding company*
  - *Credit quality of reinsurers*
  - *Fronting arrangements of direct writers*
  - *Lack of risk transfer or unequal exchange of values*

Early Warning Indicators (EWI) (Continued)

R 1- Retained Ratio: Retained Premium to Total Earned Premium

- *Measures RI leverage (dependency) and ceding company's exposure to pricing errors; market risk*
- *High ratio indicates lesser RI dependency*
- *It also indicates:*
  - *Company retains more of the underwriting risks*
  - *Company is ready to absorb risks related to changes in pricing and adverse claims experience*
- *Formula: 100 (A+B-C)/D, where:*
  - *A = Direct premium written*
  - *B = Indirect Premium Written (Reinsurance Assumed)*
  - *C = Premium for Ceded Reinsurance*
  - *D = Total Earned Premium*
- *Benchmark: Life = >90%; Non-Life = >50%*

Early Warning Indicators (EWI) (Continued)

Actuarial – AC

- ***Technical provisions (Reserves) represent the largest liability of insurance companies***
- ***Understatement of technical reserves bloats the Balance Sheet = pads the income statement; leading to:***
  - ***Strain on Capital & Surplus***
  - ***Adverse long term strain to company profitability***
- ***Determined by estimates and assumptions –unreasonably low estimates immediately expose the company to solvency risks***

Early Warning Indicators (EWI) (Continued)

AC 1 – Net Technical Reserves to Average Net Settled Claims (use at least 3 years of claim experience)

- ***Measures the adequacy of technical provisions***
- ***Indicate quality of company's actuarial practices***
- ***May signal certain issues on governance:***
  - *Deliberate understatement to report higher profit (be alert when executive compensation is tied to profit)*
  - *Ratio lower than benchmark indicates exposure of C & S to adverse loss experience*
- ***Formula: 100 A/B, where:***
  - *A = Technical provisions net of reinsurance*
  - *B = Average settled claims for the last 3 years*
- ***Benchmark: Non-life = >100%***
- *(note: in Life = cash flow tests or asset share calculation is used by companies to measure reserve adequacy)*

Early Warning Indicators (EWI) (Continued)

Premiums – P

- ***The life blood of insurance business***
- ***Impacts operating results, assets and capital & surplus to the extent these are leveraged to premium income***
- ***Changes in gross and net premium written measure the variability of sales or revenue generated from insurance operations***
- ***Significant changes should be analyzed (investigated) as these may indicate:***
  - ***Potential strain on C & S***
  - ***Quality of underwriting practices***
  - ***Pricing risks***
  - ***Inappropriate volatility of Earnings***
- ***Analyses on a per line of business should be considered to obtain a better view of the performance of company's product lines***

Early Warning Indicators (EWI) (Continued)

P 1 - Net Risk Ratio: Net Premium to Capital & Surplus

- *Measures the extent to which premium level is leveraged to C & S*
- *Indicates ability or inability of the company to absorb premium inadequacy and/or adverse loss experience*
- *High ratio signals inadequacy of C & S to finance current business*
- *Low ratio indicates:*
  - *Under- utilization of C & S to maximize sales turnover*
  - *Insufficient company expertise to generate sales*
- *Formula: 100 [(A+B-C)/D], where:*
  - *A = Gross direct premium*
  - *B = Gross indirect premium (RI assumed)*
  - *C = Reinsurance (Ceded) premium*
  - *D = Capital & Surplus*
- *Benchmark: Non-life = <200% (or <300%)*

Early Warning Indicators (EWI) (Continued)

P 2 - Gross Risk Ratio: Gross Premium to Capital & Surplus

- ***Measures the ability of the company to absorb above average losses***
- ***Also indicative of level of utilizing company's underwriting capacity (optimal level of risk retention)***
- ***High ratio indicates:***
  - ***Abnormal level of retained risks***
  - ***Solvency is threatened in the event of catastrophic loss***
  - ***Lack of adequate reinsurance protection***
- ***Formula: 100 (A+B/C), where:***
  - ***A = Gross Direct Premium***
  - ***B = Gross Indirect (RI Assumed) Premium***
  - ***C = Capital & Surplus***
- ***Benchmark: Non-life = Range: <400%***

Early Warning Indicators (EWI) (Continued)

P 3 - Change in Net Premium

- *This a measure of sales variability*
- *Significant increase or decrease should be further analyzed in light of:*
  - *Potential threats to the stability of the company*
  - *Company may have commenced business in unfamiliar territories or product lines*
- *Analysis on a per line of business would be necessary to pinpoint where material changes occurred and their potential impact to solvency and operating results*
- *Comparing (at least) 5 years of sales variability gives you better view of the reason for the fluctuations.*
- *Formula: (A – B)/B; where:*
  - *A = Net premium written this period*
  - *B = Net premium written prior period*
  - *(Net premium = gross premium – ceded premium)*

Early Warning Indicators (EWI) (Continued)

P 4 - Change in Gross Premium

- ***This trending comparison is similar to Ratio P 3 except that it use gross premium (before reinsurance) as measurement.***

Early Warning Indicators (EWI) (Continued)

Earnings and Profitability – E

- ***Earnings measure operating performance***
- ***Analysis is focused on the sources of (activities that create) revenue, thus: net profit***
- ***Balance Sheet (financial condition) of the company grows and stabilizes with profit***
- ***Greater emphasis on earnings and surplus accumulation on companies writing long-tailed products, such as life and disability and some form of liability cover.***

Early Warning Indicators (EWI) (Continued)

E 1 - Underwriting Ratio: Net Claims/Net Premium Earned

- ***This ratio measures the ability to absorb claims in relation to cash flow generated by premium***
- ***The higher the ratio the greater is the likelihood of operating loss***
- ***Use of accident year in determining net claims minimizes distortion in reserves (reserving practices)***
- ***Net claims is = settled claims, less reinsurance, plus or minus increase or decrease in loss reserve for the period***
- ***Formula: 100 (A/B) where:***
  - *A = Net Claims*
  - *B = Net Premium Earned*
- ***Benchmark: Non Life = <70 %***
- ***It is necessary to also calculate E1 ratios for each line of business to understand which product line is unprofitable that will require higher level of focus and scrutiny.***

Early Warning Indicators (EWI), (Continued)

E 2 - Expense Ratio: Expenses/Net Premium Earned

- ***Expenses related to conducting insurance business***
  - ***Acquisition Costs***
  - ***Insurance Management Expenses***
- ***Measures the underwriting efficiency***
- ***Acquisition costs include commissions and expenses related to marketing products premium taxes, all expenses that vary in amount in relation to premium volume***
- ***Insurance management expenses = costs incurred related to underwriting, policy issue and conservation of enforce policies***
- ***High ratio indicates:***
  - ***Potential difficulties in sustaining cost-efficient operations***
  - ***Inadequate expense loadings/inadequacy of premium rates (pricing)***
  - ***Inability to attain the number of policies projected in fixing premium rates***
  - ***Management insensitivity to control costs of operations***
- ***Formula: 100 [(A+B)/C], where: A = Acquisition costs; B = Insurance management expenses and C = Net Premium Earned***
- ***Benchmark: Life: < 45%; Non-life <30%***

Early Warning Indicators (EWI) (Continued)

E 3 – Combined Ratio: Ratio E 1 + Ratio E 2

- ***The most common ratio to measure Non-life insurance profitability***
- ***A ratio less than 100% indicates profitable insurance business***
- ***A ratio slightly more than 100% may also be considered viable if company carries long-tailed products allowing it to factor investment income. Consider also investment yield of core capital.***
- ***Non life insurers have very limited opportunity to maximize investment return because of the short term nature of their contracts***
- ***Formula: [100(A/B) + [100(C+D)/B], where:***
  - ***A = Net Claims***
  - ***B = Net Premium Earned***
  - ***C = Acquisition Costs***
  - ***D = Insurance Management Expenses***
- ***Benchmark: Non-life: <95%***

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Early Warning Indicators (EWI) (Continued)

E 4 – Operating Ratio: Administrative & General Expenses to Net Premium Earned

- ***Do not include other operating income or expense, capital gains or income tax expense***
- ***High value (in excess of benchmark) indicates***
  - ***Limitations to growth***
  - ***Disadvantaged in market competition because of the limitation of developing new competitive products and sales areas***
  - ***Potential stress to C & S***
- ***Formula: 100 (A/B) where***
  - ***A = Administrative and General Expenses***
  - ***B = Net Premium Earned***
- ***Benchmark: <10% for Life and Non-life***

Early Warning Indicators (EWI) (Continued)

E 5 – Net Investment Income to Average Invested Assets

- ***Measures the efficiency of investment management***
- ***Investment income is net of investment expenses excluding capital gains and losses and income taxes***
- ***The ratio should be compared with industry average***
- ***Ratio below industry average may indicate:***
  - ***Inefficient management of investment operations***
  - ***Investment expenses are relatively higher than industry costs***
  - ***Potential difficulties in funding interest sensitive products***
  - ***Potential problems in servicing participating life policies***
  - ***Lower income; lower or no dividend payment to shareholders***
- ***Formula: 100 (A – B)/C, where:***
  - ***A = Investment Income (excluding capital gains)***
  - ***B = Investment Expenses (excluding capital losses and income taxes***
  - ***C = Average Invested Assets***
- ***Benchmark: Range: Life: 8% to 13%; Non-Life: 3% to 8%***

Early Warning Indicators (EWI) (Continued)

Liquidity – L

- ***Measures the ability to meet short term and certain long-term obligations of the company***
- ***Liquidity depends on the company's ability to hold cash and investment that could easily be converted into cash and cash generated from cash flow***
- ***Problems on liquidity adversely impact C & S:***
  - ***When company is forced to sell investments or other assets and suffer losses (adverse market and tax consequences)***
  - ***Inability of company to invest long-term for higher yields***
  - ***Payment of finance charges and interest if company is forced to borrow money to pay for its liabilities***

Early Warning Indicators (EWI) (Continued)

L 1 – Liquid Assets to Liabilities

- ***Measures the extent to which liabilities are covered with available cash and investments readily convertible to cash***
- ***Measures the ability to pay for obligations as they fall due***
- ***Liquid assets are:***
  - ***Cash on Hand and in Banks***
  - ***Money Market Placement – short term***
  - ***Invested assets that could be readily converted to cash***
  - ***Other assets quickly convertible to cash***
- ***Formula: 100 (A/B) where:***
  - ***A = Total Liquid Assets***
  - ***B = Total Liabilities***
- ***Benchmark: Life and Non-Life: >100%***

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Early Warning Indicators (EWI) (Continued)

L 2 – Cash Flow Analysis

- ***Measures the ability of operations to generate cash to pay for recurring obligations and for investment***
- ***Measure the extent to which C & S is leveraged: The indicator is Net Cash Flow to C & S***
- ***Formula: 100 (A/B), where***
  - ***A = Net Cash Flow from Operations***
  - ***B = C & S***
- ***A negative cash flow indicates:***
  - ***Potential strain to C & S***
  - ***Potential stress to investment management***
  - ***Operating difficulties***
  - ***Negative growth***

Supplemental Financial Analysis Tools

- This will be covered in Next Session

Appendix 4

Exit Report of Edgar P Balbin

TAPR II, Component B, Insurance

May 29, 2008