

Andy's 2000 Level II "Most Probable Exam Topics"

Quantitative Applications (20+ minutes):

- * Regression analysis is almost always on the test. Study the old exam questions carefully for a good review of the material in this area. Note however, that the look and feel of the regression question may be different this year due to recent changes in the reading assignments. In particular, you should be prepared to analyze the contents of an ANOVA table – a new topic that you will not find within the old regression questions. Other regression topics that you should focus on are (1) the link between the correlation coefficient, R^2 , and the standard error; (2) t -testing the correlation coefficient; (3) the F-statistic and p -values; (4) the procedures of a stepwise regression; and (5) the use of dummy variables. As always, be ready to (1) show the significance of individual regression coefficients by comparing the computed t -score with its critical value (also be able to look up critical F's and t 's in a table); (2) forecast the dependent variable given forecast values of the independent variables; (3) compute and evaluate confidence intervals; (4) discuss the assumptions and problems or violations of these assumptions; and (5) evaluate the usefulness of regression models by looking at the R^2 , F, p , and t -values. I think that stepwise regression and using the R^2 to show the amount of variability that is unexplained by the regression ($1 - R^2$) are definitely on your exam given AIMR's changes to the LOS from the February candidate bulletin.

Other Potential Topics:

- Mason & Lind, Chapter 19 was new material in '99 and did not get tested. Understand the Bayesian approach and how to evaluate payoff tables and opportunity loss tables (they'll probably be given to you) to choose an optimal decision. Also know your minimax, maximax, and maximin strategies and how to build decision trees.

Economics (20+ minutes):

- * Foreign Currencies: Shapiro chapters 5 and 7 are new this year. I think that it is highly probable that you will see some kind of foreign currency exposure on your examination. The main "level 2" topic from chapter 5 is the concept of interest rate parity. Be able to discuss forward premiums and discounts and their relationship to the nominal interest rate differential between two countries. Remember, interest rate parity's job is to keep the hedged interest rate the same across borders. The forward differential and covered interest arbitrage *could* be on your test. A more likely question however, is the relationship between IRP and PPP from Shapiro chapter 7. Understand PPP and remember that PPP is not bound by arbitrage but instead states that product prices across borders *should* be the same after taking into consideration changes in inflation rates. Know the Fisher Effect and be able to forecast the exchange rate using PPP and the International Fisher relationship.
- * Anti-Trust and Regulation: Get ready to discuss the differences between traditional economic regulation and health and safety (social) regulation. Know the benefits and costs of each methodology. Also, be able to discuss and evaluate the effects of the *regulatory tax* on the pricing structure within an industry. The key here is the elasticity of product demand and supply.

Other Potential Topics:

- The Business Cycle: Since we are knee-deep in the "new economy," it is possible that they could test on the Dudley and McKelvey reading again regarding just-in-time inventories, just-in-time labor and other structural economic changes that are factoring into the resiliency of the "new economy."
- Projecting Sales: Look for a smallish question that uses the tools from Benninga and Sarig, Chapter 5 to project industry and firm sales. This will not look like an econ question, but will more likely look like an equity securities issue.

Accounting (60+ minutes):

- * Purchase v. Pooling appears on most every exam. Be ready for *at least* 15 minutes (probably more) constructing financial statements, comparing and contrasting the two methods, and their impact on financial statements and ratios. Many of you are saying "but FASB has said that it's going to get rid of pooling – so why should we know about pooling?" FASB is not going to totally get rid of pooling, it will simply be reserved for those mergers that are truly "mergers of equals." Hence, know both methods for the exam.
- * Cost Method v. Equity Method v. Consolidation. Concentrate on the differential effect on the balance sheet, income statement and the resulting ratios between the three methods. The most likely scenario is a question that compares the cost method to the equity method *or* a question that compares the equity method to consolidation. Also, watch out for an equity method v. proportionate consolidation question.

- * **Earnings Quality:** Earnings quality comes into play in several places within your level 2 curriculum. Focus on LOS 1.b on the bottom of page 105 of Book 1 regarding the common causes of a decline in earnings quality and recognize that the only place for percentage of completion v. completed contract issues (WS&F, Chapter 2) within the level 2 curriculum is their relationship to the earnings quality of the firm regarding revenue recognition for long-term contracts (i.e., a firm that uses percentage of completion but should be using completed contract will have lower earnings quality because they are recognizing earnings too fast.) Bottom line: look for a question that mixes the Hawkins reading on earnings quality and Chapter 2 of WS&F on revenue recognition.
- * **Pensions:** The way I look at the learning outcomes for the pensions chapter, don't expect a lot of computations. However, definitely be ready to discuss pension plans, their structure and assumptions, and how they impact a firm's financial statements. You may need to know what the minimum liability is this year.

Other Potential Topics:

- **More International:** Be ready for the "let's compare the effects of our GAAP to your GAAP" question. Question 20 from 1998 is a good example. In addition, foreign currency translation was on last year's examination. If they're going to give you FAS 52, it will be a relatively small, qualitative question.
- **Level 1 issues:** Most level 2 examinations require that you recall the basic accounting knowledge that you acquired last year as a level 1 candidate. Potential exposure here includes LIFO/FIFO, the statement of cash flows (be able to actually *construct* a SCF), depreciation, leasing, and off-balance sheet financing. These issues tend to be integrated within an overall larger accounting or equity analysis question.

Equity Securities (90+ minutes):

- * Equity questions tend to be grouped together and can form a large "block" of points on the level 2 exam. This "block" is typically characterized by (1) a lot of data in the form of industry and company financial statements and other information, and (2) a logical progression beginning with an analysis of the industry and ending with valuation or comparative analysis between two companies within the same industry.
- * Almost every exam has at least some type of industry analysis question. This year, be prepared for a Porter "competitive forces" question. A good example can be found in Book 5: Question 7 from the 1997 exam (your exam question will include templates for you to fill out). Also, always be ready to discuss/evaluate the position of a firm within the industrial life cycle. I think Porter is a higher probability for you in '00.
- * '00 is the year that the level 2's should finally see a substantial FCF valuation question. There has not been a *good* FCF question on the exam for several years and there are just way too many readings in your curriculum that discuss FCF for AIMR's "random rotational testing strategy" to ignore the concept any longer (last year's cash flow valuation question was really lame – discuss why estimating the inputs for cash flow valuation is easier for bonds than for stocks). My opinion? You'll be asked to compute firm FCF, use the WACC, and value the firm using either a multi-stage or single stage FCF discount model. Note that the models for valuation are the same between DDM, FCFE, and FCFF valuation – the only thing that differs is the cash flow that is used in the numerator and the discount rate in the denominator (match FCFF with the WACC and FCFE and dividends with the required return to equity holders).
- * **My BIG BET:** You'll have an EVA® question on this year's examination. EVA entered the curriculum in 1998 and we have not seen any EVA examination exposure. A topic just can't exist within the curriculum that long (with its own study session to boot) without being tested. I don't think that you'll be doing any in-depth computations (know the basic formulas for EVA and MVA). Instead, I think the question will be more qualitative. Examples of most likely issues to arise from this section of the curriculum are (1) compare EVA with NPV, (2) compare EVA with more traditional measures of performance evaluation such as ROE and ROA – especially with respect to their ability to develop portfolios that outperform the market. Bernstein and Pigler find that EVA finishes 15th out of 17 portfolio selection strategies. Look carefully at these short companion articles by Bernstein and Pigler.
- * **Pro Forma Financial Statements:** Be ready to forecast sales and other financial statement items using regression analysis for sales and the percent of sales method for other financial statement accounts. In a template-heavy exam, AIMR will most likely have to give you the sales percentages for each spontaneous account. Forecasting the financing needs of the company is the key here. In addition, you should be able to explain the cyclical nature of the financing need (as debt rises, interest payments rise, net income falls, retained earnings falls and the financing need rises).

Other Potential Topics:

- **Statement of Cash Flows:** Understand how to construct a SCF – concentrating on CFO. Note that CFO is step along the way to FCF. Discuss the differences between CFO and Net Income.

- Ratios and ROE: Maybe they'll give you the ratios, maybe not. Memorize what you can and be ready to use them in all types of questions (i.e., equity, accounting, and FIS). Also, understand the decomposition of ROE (memorize both the three component decomposition from Higgins and the five component decomposition from Billingsley) and its relationship to ROA, the leverage of the firm, and growth rates. A discussion of the "sustainable" growth rate could be the key here.
- The Intrinsic P/E: You may also see a question from Damodaran, Chapter 14 on the intrinsic P/E. The most probable issue here is to discuss the components of the intrinsic P/E and how movements in each of these factors affect valuation.
- Valuation Models: Constant growth dividend discount, multi-staged DDM/FCF, and the H-Model. Be ready to discuss the factors that affect each model. In addition, be able to discuss the conditions under which FCFE and DDM models will arrive at the same valuation estimate (FCFE = Dividends or excess FCFE are invested in zero NPV projects).
- International: Adjust FCF to equity holders for differential accounting practices. Discuss the six problem areas in international accounting. An international accounting standards question is still possible on your exam.
- Reilly: Understand Reilly's P/E valuation methodology. Also be able to discuss a company or industry's franchise P/E.
- Closely Held Valuation: Be prepared to discuss minority interest discounts, control, lack of marketability discounts and other applicable discounts.

Derivatives (40+ minutes):

- * It's easier to forecast the weather than to forecast the derivatives exposure on your 2000 level 2 exam. However, I can say this – due to the addition of two LOS from the February Candidate Bulletin, I'm relatively confident that there is a question on your exam that relies on your ability to construct a binomial tree for a two-period model and be able to price the option (please see the example on page 169 of Book 2). Also, you should be able to discuss the relationship between the binomial model and the Black-Scholes model (see the last paragraph on page 170). There also might be a little Figlewski thrown in here regarding the factors that are not reflected in option valuation, but affect option prices. Bottom line: look for a relatively substantial options question on your exam. In general, I'm expecting the derivatives questions to be a bit more difficult relative to the "cakewalk" questions that have been on the last two examinations.
- * Warrants and Convertibles (especially convertibles): Know what a warrant is and how it differs from a standard option. It also may pay off to memorize the formulas that apply to convertible bonds since most of the learning outcomes say "compute." I think that we're definitely overdue for a convertible bonds question.
- * Caps, Collars, and Floors: The material on interest rate caps, collars, and floors was new last year. There are two primary possibilities here: (1) explain how a zero-premium collar (a long cap plus a short floor at the same strike rate) can be thought of as a pay-fixed swap, and/or (2) explain the use of a cap as protection for a floating rate borrower (along with drawing the effective borrowing rate profile). You may also be asked how this floating rate borrower could help pay for the cap's protection (by selling a floor) and what the impact of this action would have on the effective borrowing rate over various interest rate scenarios.
- * Foreign Currency Transaction Exposure: This concept shows up several times in your curriculum – accounting, equity, and derivatives. I'm looking for some kind of foreign currency question on your exam. It will probably be a foreign currency transaction/operating exposure that needs to be hedged to "lock in" the purchase price of the goods or asset.

Other Potential Topics:

- Swaps: You should always be able to develop the cash flow diagrams for swap overlays/combinations. This was on last year's exam, and it was extremely straightforward. Also, be able to discuss the concept of a swaption and an equity swap. Combine swaptions with existing swaps to design extendable and cancelable swaps.
- Futures: Know the cash and carry arbitrage relationship and how it applies to equity, interest rate, and currency futures pricing. Also, understand the behavior of the basis and spreads.
- Options: Know your basic payoff profiles. This was also on last year's examination and was very straightforward. Be able to combine basic profiles into more complex option-based payoff structures. Memorize the put-call parity relationship and the factors that affect option pricing. Definitely understand the structure of the covered call and portfolio insurance. Be able to discuss the difference between an insured and uninsured asset distribution.

Debt Securities (55+ minutes):

- * Standard Credit Analysis: There seems to be at least some credit analysis on every level 2 exam. The typical question asks you to evaluate a debt credit, rate the debt and state whether or not you'd buy or sell the firm's bonds. I'd look for more of the same (probably 15 minutes). Also, note that there are relatively new readings on indenture covenants – memorize your covenants and be ready to discuss them on the test.

- * Sovereign Debt: Look for a 10-12 minute question on sovereign debt credit analysis – memorize the factors that affect the *ability* (quantitative/economic risks) of a country to repay its debts versus the factors that affect the country's *willingness* (qualitative/political risks) to repay.
- * Callable Bonds: The price performance of callable bonds, the behavior of the embedded option and the OAS – these are topics that routinely appear on the level 2 test. I would be especially ready to compute effective duration and explain its use in evaluating bonds with embedded options and variable cash flows. Due to the addition of LOS 2.k from SS19, you should definitely be prepared to compute the approximate percentage price change of a callable bond using effective duration and effective convexity. In addition, the OAS and Static Spread are likely topics this year. Be able to discuss the computation of each measure, what they are used for, and the problems with the OAS. If you know nothing else about the OAS, understand that (1) the OAS will decline as interest rate volatility increases (because the option value rises), (2) the OAS is the static spread without the option, (3) that you use the OAS to compare bonds of similar credit quality but with different embedded option features (bigger OAS is usually better), and (4) that the OAS contains model risk because you need to make assumptions about the interest rate modeling process, the call rule, and interest rate volatility.
- * Structured Notes: The Reilly, Chapter 25 reading was new last year. Look for a relatively short question asking you to discuss the features and uses of dual currency bonds, EIL notes, and commodity-linked notes – including who the potential users are. This could be where the swaps material shows up because dual currency bonds and swap linked bonds are just straight bonds with embedded swaps.

Other Potential Topics:

- The Term Structure: Always be able to calculate an implied forward rate from the current cash term structure. If this shows up this year (it was on last year's exam) it will most likely be used to state whether or not arbitrage is available in the interest rate futures market – remember that the implied forward rate must equal the futures yield.
- Asset-Backed Securities: Understand the basic structure of MBS. Be ready to discuss prepayments based on a PSA assumption (this was on last year's test). Also, be ready to discuss the behavior of MBS and MBS derivatives (CMOs, IOs, POs, etc.) relative to changing interest rates and prepayment speeds (contraction/extension risk, etc.). Understand the structure of Auto-backed and Credit Card-backed securities. The most likely outcome here is a discussion of the credit enhancements for asset-backed.

Real Estate & Venture Capital (12+ minutes):

- * My big bet from this study session is venture capital. I'm forecasting that you'll see a relatively large venture capital question – possibly 12-15 minutes. Know your venture capital.

Other Potential Topics:

- The only other thing in this study session is the valuation of real estate using discounted cash flow analysis or comparative valuation measures. Since this has been on your exam each of the last two years, I feel pretty strongly that venture capital is where it's at in 2000. Nevertheless, you should understand that (1) the development of a real estate discount rate is difficult because determining the appropriate market portfolio is tough in real estate, (2) we are going to use Damodaran's standard cash flow valuation methodology to value real estate, (3) we can use comparable sales data and multiple analysis to value real estate (also know the advantages and disadvantages of the comparable sales methodology), and (4) REITs act like small stocks and CREF indices exhibit the appraisal smoothing problem.

Portfolio Theory (15+ minutes):

- * AIMR totally messed up the LOS in the original level 2 Study Guide. As a result, we have an almost entirely new batch of LOS to contend with from the February Candidate Bulletin. I think that *at most* you will see two portfolio theory questions on your exam. My two picks are:
- * The SML and Alpha: It is highly plausible that you may be asked to compute the required rate of return on an asset using the SML and compare that return with analyst expectations. The difference between the two is called Jensen's Alpha. Positive alphas indicate undervaluation of the stock and negative alphas indicate overvaluation.
- * The SML and Historical Betas: This is a nice link between the regression analysis and portfolio theory. Be prepared to use the single-index model to estimate an asset's beta (the slope coefficient is the stock's beta estimate and represents the sensitivity of the stock to movements in the market). Remember, the SML is not the same thing as the Security Characteristic Line (SCL) that is used to estimate historical betas. The SML is the theory and the SCL is the empirical relationship that allows us to estimate betas. Finally, recall the Merrill Lynch technique for adjusting betas for their mean-reversion tendencies (high betas tend to revert back toward 1 over time).

Other Potential Topics:

- Multi-Factor Models: Know the APT and how it differs from the CAPM. Also, recall that empirically, as we add more variables to a model, the R^2 will rise.
- More Multi-Factor Models: Peterson and Fabozzi (see SS 4) outline the primary economic factors that are used in multi-factor models and how multi-factor models can be used in portfolio management. Take a look at these concepts on pages 52-54 of Book 4. The concept of fundamental beta was tested on last year's exam (see page 51 of Book 4) and has a much lower probability of showing up again on your exam.

Ethics (36 minutes):

- * Ethics is all multiple-choice this year. To aid you in making this shift, we have revised all of the old essay questions in Book 5 to fit this new "item set" format. Ethics topics that I feel are critical for level 2 candidates this year are (1) soft dollars, (2) fiduciary duties including the prudent person rule, and (3) misappropriation of material nonpublic information. The remainder of the ethics points will be picked at random from the Standards of Professional Conduct. Although the multiple-choice format may make things seem easier, watch out for potent distractors (i.e., answers that "look" correct but are really meant to throw the marginal candidates off track.) *Good Luck!*