

Final Exam
Management V-Financial Management (5077)
WS 2003/2004

There are eight (8) Pages for the Exam. Make sure you have eight consecutively numbered pages.

You will have Twenty (20) minutes to read the examination. You may NOT have any writing instrument in your hand during this period. While you are reading, you may organize your material. You will have 2 hours (120 minutes) to work the examination. This exam working time will commence after the reading period.

You may use the lecture script together with your individual notes and any textbook as reference. Calculators and any other electronic equipment are only permitted in accordance with the regulations enacted by the Board of Examiners (Prüfungsausschuss).

To receive full credit for an answer that requires computations YOU MUST show your work/calculations—do not extensively label them. To be clear: If you only write down the answer—EVEN IF IT IS CORRECT, you will receive NO CREDIT for that answer.

There are three (3) major sections to the exam. Each major section begins at the top of a page.

When there is an explanation called for there will also be noted the approximate number of words that should be necessary to express the idea completely. In total about 500 words of explanation should be sufficient to express your thoughts. This is a general GUIDE for you. If you write more that is OK but you will be trading valuable time. DO NOT COUNT THE WORDS.

Also if you want to correct something—you may simply strike it out and continue. DO NOT TAKE VALUABLE TIME TO ERRASE or WHITE-OUT, BLOW-DRY and THEN CAREFULLY RE-WRITE WHAT YOU WANT TO SAY.

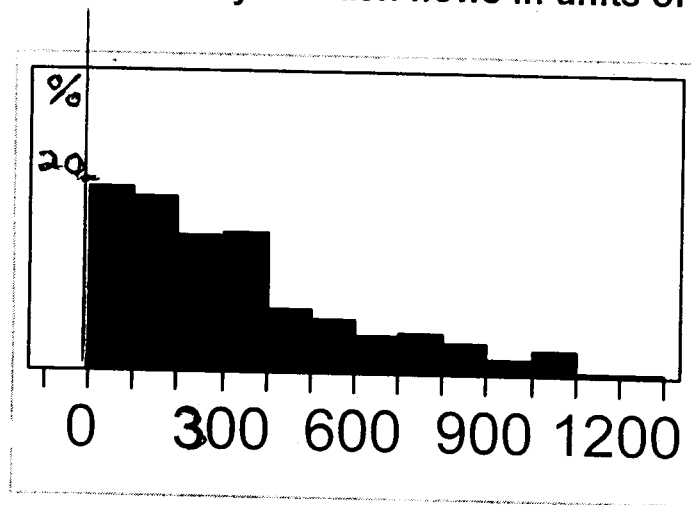
If you think something is “tricky” you are probably reading too much into the question. The exam is a straightforward attempt to cover the important aspects that we discussed during the semester.

Good Luck and thanks for a super semester Ed and Dirk.

Handwritten signatures of Ed and Dirk, with a long horizontal line extending from the end of the signature.

Question I [33 Pts]

Question I, Part A [10 Pts] You are an associate for *Intel—VC* division and are developing Break-Even simulation information for a start-up company in the SIC code 3674: Semi-Conductors. One of the inputs to this simulation is the second year cash inflows. You take a sample of companies from this SIC code for start-up companies that have survived for at least five years. The following graphic is the distribution of these sample points that you have for the second-year cash flows in units of dollars.



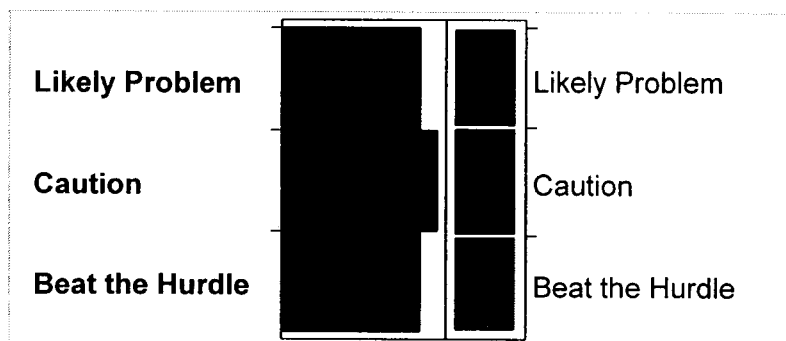
Using the probability density concepts discussed during the course, compute the approximate mean for this distribution and *set up* the equation for the Standard Deviation for the Second Year cash flows. [For the Standard Deviation only set up the equation, do not solve it.] Briefly [25 to 50 words] state how you would use this information.

Question I, Part B [10 Pts] The average values that you estimated for this Semi-Conductor problem are represented in the following table:

Estimated Sales in Units	PV Inflows	PV Outflows
25.000	\$80.000	\$97.500
87.000	\$278.400	\$240.100

Assuming that the fixed component of the PV Outflows is \$40.000 find the PV-Break-Even point in Units. (8 Pts) What distinguishes this BEP from the Accounting BEP [10 to 15 words]. (2 Pts)

Question I, Part C [13 Pts] You then conduct a simulation for this Break Even Problem. You have a PV-BEP hurdle cut-off of [37.850 units] programmed into JMP to identify Likely Problems which produces the following graphic:
Evaluation



Level	Frequencies	
Beat the Hurdle	32	0,32000
Caution	36	0,36000
Likely Problem	32	0,32000
Total	100	1,00000

Focusing on the Likely Problem percentage, explain this result to *Intel-VC* senior management using a 95% Confidence Interval. [50 to 75 Words].

End of Question I

Question II [33 Pts]

Question II, Part A [10Pts] You have the following information for the Toys R' Us corporation: The monthly Winsorised return of Toys R' Us regressed with the monthly Winsorised Return of the S&P500. The T-Bill composite during this period had the following statistics: Mean, Median and Range of 3,1; 2,85; [1,55 to 4,12]. The usual data preparation steps were performed. The Fisher's Kappa, p-value was 0,072. Return was measured in the usual way $(P_1 - P_0)/P_0$. There were no Event problems.

Here is the JMP output for the above regression and other information:

Parameter Estimates

Term	Estimate	Std. Error
Intercept	0,0209827	0,00406
S&P screened	0,7602013	0,06825

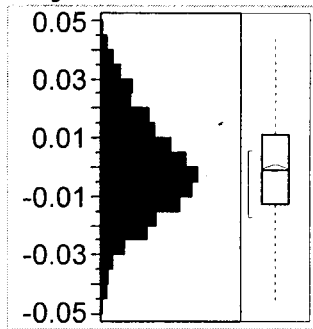
The Winsorised Excess Return for Toys R' Us: 0,032027
The Winsorised Excess Return for the S&P500: 0,016853
The Winsorised Return for Toys R' Us : 0,034611
The Winsorised Return for the S&P500: 0,019436

Compute Jensen's Alpha and report it and Beta along with their CIs in WRV as is the usual convention. This report interpreting Jensen's alpha and Beta should be addressed to your technical colleagues. [50 to 75 words]

Question II, Part B [5 Pts] Using the Disney, Compaq or Goldman Sachs data analyses that we did during the course, write an Executive Summary [50 to 75 Words] for one of these analyses.

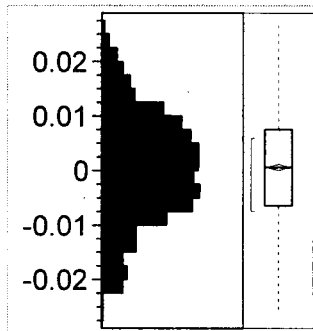
Question II, Part C [8 Pts] Compute the Unique Risk for Toys R Us using the following information in addition to any information above which you may find relevant.

Toys R Us Excess Return Winsorized



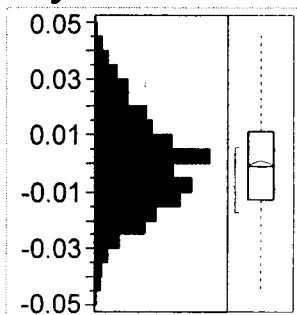
Mean 0,032027
Std Dev 0,017900

S&P Return Winsorized



Mean 0,019436
Std Dev 0,021052

Toys R Us Returned Winsorized



Mean 0,034611
Std Dev 0,018100

Question II, Part D [10 Pts] You have collected also the following information. The Unique risk as a percentage of total risk for similar organizations which sell toys as their principle line—i.e. firms like Kay Bee Toys which are in the SIC code 8234 have unique risk percentages in the interval [34,3% to 85,7%]. With this information and assuming that the distribution of unique risk as a percentage of total risk as it is represented in the above interval is reasonably symmetric, evaluate the unique risk that you have computed for Toys R Us and explain [50 to 75 words] the results of your analysis to one of your technical colleagues.

End of Question II

Question III [34 Pts]

Question III, Part A [21 Pts] You are an associate of the BMI Corporation a M&A/JV/VC specialty investment consulting house. Below as the Appendix you will find copied the exercise that we worked in class dealing with the Holiday Hotel Case. In this version of the problem, you are interested in the Holiday Exercise Facility as a possible take-over/merger for a consortium interested in developing the exercise market. Your primary focus in the analysis is the valuation of the option for the Health enterprise. The worth of the enterprise—i.e. the exercise/health facility as a going concern, is estimated in one years time to be \$1.675.000 if the amendment to Health and Human Services Re-form Act pending before congress passes since Health Exercise and Spa services will be covered by national health insurance thereby stimulating demand for such health/spa/exercise services. If the proposed amendment fails, the value of the organization is estimated to be \$230.000. Your estimates of the success of the legislation RANGE from 35% to 80%. The alternative capital opportunity return rate is the T-bill composite for one year T-Bills. The mean for this return as projected ~~from the T-bill~~ using regression is 4,05%. The average Δ/F_p for this regression was 6,4%. The expected return on invested capital for the Holiday Exercise facility which is also in line with the Dunn's SIC information is three times the T-Bill average. You have done an analysis of the very active secondary exercise equipment market and the re-sale value of the exercise equipment is \$640.000.

Compute the Extreme Valuations for the option value of the Holiday Health Spa—i.e. the WC and BC scenarios for the value of the abandonment option.

Question III, Part B [10 Pts] Your consortium clients have a Hurdle criterion for the value of the option of \$250.000. What percentage of time do you estimate the Holiday Health Spa will meet or beat this hurdle rate? Briefly [50 to 75 words] explain your results to the stockholders of the consortium.

Question III, Part C. [3 Pts] For the Holiday Hotel Corporation you just valued the Put abandonment option for the exercise equipment. This was one part of the analysis. What is another possible "put-option" that could be valued? [5 to 10 Words]

End of Question III: End of EXAMINATION

Appendix

The Holiday Hotel provides a recreation center for the use of its guests and employees. The center also sells memberships to people in the local community. The center has squash and racket ball court facilities, showering facilities, and a room with various types of exercise equipment. The courts occupy about 70% of the facility's floor space, the showering area 10%, the exercise room 15%, and the administrative offices 5%. In the long-run the hotel could convert unused facilities to additional lodging units. The center reports the following costs for the most recent year:

1. Assigned building depreciation and staff costs: \$400,000. The depreciation charges amount to \$250,000; the salaries of the manager and her staff amount to \$150,000. Staff costs are independent of the level of activity in the recreation center.
2. Depreciation on the exercise equipment that are added as demand grows: \$200,000.
3. Maintenance and electrical charges, which are thought to vary with the number of visitors to the center: \$300,000.
4. Laundry costs: \$300,000, comprising \$50,000 of depreciation on the machines and \$250,000 of supplies costs.
5. The cost of other supplies, which are consumed equally by all visitors to the center: \$200,000.

During the last year, there were 67,000 visits to the physical center. The capacity level of each of the showering, exercise, and court areas is estimated as 80,000, 40,000, and 25,000 visits per year respectively.