

Question 1: Personal Investment and Financial Management

In the second round, you need to articulate your basic framework to a comprehensive and practical solution. The macro-economic statistics should be applied with careful validation and verification. In some cases, you need to make reasonable assumptions for your planning and management. Field studies with customers and companies, real experiments, and computer simulation with the mined data are highly desired for the best Business Intelligence decisions.

Let's review the original situation again, and do the most rigorous and creative analysis and planning.

Case (pseudo case, not real one): Private banking is the driving force for revenue and profit growth of consumer banking in the booming Greater China. As the head of private banking group in Asia Pacific, you are the boss who takes charge of this critical business for Bank of Yield (BOY). In your company's strategic planning, the most important assignment for you is to develop the business in the Greater China (mainland China, Hong Kong, Macau, Taiwan, and Singapore).

Since the establishment in Basel, Switzerland, BOY has more than 100-year experiences in banking and insurance. It has more than \$150 Billion USD assets, and its offices are located in 66 countries. In 2004, BOY's revenue is around \$20 Billion, and it has 20% gross profit margin. BOY's market shares of banking business in mainland China, Hong Kong, Macau, Taiwan, and Singapore are: 0%, 3%, 0%, 5%, 3%.

You are fully aware of the two big events in 2004. The first one is that BOY acquired 20% share of Moolang Bank and gained the ticket to the China market. Moolang Bank is a state-owned national wide bank whose head quarter is in Beijing, and it just started to build the private banking business. The second one is BOY's expansion plan in Taiwan. With 12 existing branches in Taiwan, BOY wants to acquire 55% share of Taipei-based Winwang Bank. However, the case is not finished yet due to some complex issues.

Considering the regional macro-economics and corporate strategies, now you have to work on following challenges:

Part 1. What kind of private banking service will you provide for the Greater China customers? (vision, mission, tasks, product/service specifications, etc.)

A. How do you define the business functions of private banking and traditional consumer banking? Explain what returns and risks are related to those business functions.

In Greater China, the major business of consumer banking is the saving account. The newly popular products of consumer banking are credit/debit/cash cards. In Hong Kong, Singapore, and Taiwan, the main profits of private banking come from the financial consulting and asset management. Beside the difference of the serving products,

you are clear about the difference of serving locations and tools. (For example, the VIP rooms are for private banking customers instead of savings customers. The internet tools for different groups also have huge variation.)

B. How do you develop the credit card, debit card, and cash card business in Greater China? (This is a joint cooperation of your private banking division with related units like credit card department, marketing department, IT department etc.) You have to do certain segmentations based on regions, incomes and assets, and credit ratings. The key points are to find “most profitable credit card users” and retain them as long as possible. If you run for the short-term increase of sales growth without careful risk management, you would suffer serious loss in the future customers’ defaults.

C. How do you develop the loan programs (especially house mortgages and student loans) for the middle class in mainland China? The middle class in mainland has the population of 30 million in 2005, and it may expand to 350 million in 10 years by projection. You need to well understand the customer risk profile, and use it in your Enterprise Risk Management.

Part 2. Now you should provide the solutions as the role of the Chief Risk Officer of BOY.

A. How do you prepare BOY for the coming Basel II compliance? BOY would enforce the Basel II requirements world wide before Jan 1st 2007. As an established bank, you have the excellent credit rating by S&P, AA. Beside the outstanding records of credit risk, your bank is also the leader in market risk practices. Nevertheless, you do feel the heat from the operational risk side. In your bank, 30% risk is from credit, and market and operation each contributes 35% risk (by VaR measurement). The integration of IT systems with processes and people is key for operational risks. You just heard one big Japanese bank lost 30 B yen due to the operational failure recently. You don’t want to have that disaster in your whole career.

BOY will drive some key businesses for Moolang Bank. However, Moolang won’t apply Basel II in future five years. You need to help making the risk management policy for Moolang Bank. How will you design the risk management plan for Moolang Bank in 5 years?

B. How do you create the securitization products (especially MBS, CDO, CMO, REITs) for the cash flows from the mortgages, loans, and real estates at Greater China? When you design those derivative products, the returns of your securities should not lower than the rates of major government bonds. Though the first REIT from mainland China would be listed on Hong Kong in Dec 2005(done by your competitor), you are not very enthusiastic in REITs from mainland (explain why). Your focus is on the securitization of house mortgages and consumer loans (for education or luxury goods). You need to have step-by-step procedures in your plan, and you need to consider potential buyers and collaborators for the securities.

Question 2: Enterprise Risk Management

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Let's review the original situation again, and do the most rigorous and creative analysis and planning.

Case (pseudo case, not real one): Dragon Prosperity is a manufacturing company of consumer electronics and home appliances. Its head quarter and biggest factory (by production value) are located in the suburban of metropolitan Shanghai. There are another two factories: the second biggest one is in Shenzhen, China, and the third one is in Austin, TX, USA.

Dragon Prosperity has made double digit growth in revenue for the past three years, and it just top \$1 Billion USD for total sales in 2004. Its 2004 financial snapshot is below:

Balance Sheet (Unit: \$USD Million):

Current assets: 600. Long-term investments: 250. Property, plant, and equipment: 300. Some deferred expenses/income. Current liabilities: 500. Long-term and other liabilities: 100. Minority interest: 30. Stockholders' equity: 600.

Income Statement:

Net sales: 1020. Gross profit: 150. Operating income: 40. Non-operating income: 20. Tax: -3.5. Minority interest: -0.5.

Cash Flow Statement:

Operating net cash: 22. Investment net cash: 6. Financing net cash: -20. Effect of exchange rate changes: -1.5. Cash at the year beginning: 30.

To catch the great market opportunity of the digital convergence of 3C (computer, communication, and consumer electronics) industries, the management team decides to develop the core technology in the System-on-Chip (SOC) for next generation multimedia. The current estimate for the 3-year financing in SOC is \$500 M USD. At the same time, Dragon Prosperity needs to accelerate the replacement of old facilities and consider more property insurance for high-end equipments.

Though Dragon Prosperity is a public traded company listed on Shanghai Stock Exchange A Share, its majority share is still state-owned. Therefore, Dragon Prosperity pays high attention for any employee layoff or pension fund issue. As China makes more legal changes to protect social welfare of labor, the management team foresees more expenses regarding employee's welfare and retirement.

Now, assume you are the decision maker in the executive committee, what will you do for the following challenges?

Part 1. How to do the financial and risk management planning for the new SOC initiative?

A. Based on your earlier framework, provide the comprehensive plans for the financial management and risk management. Besides the traditional linear planning for a specific scenario, you are serious about the Scenario Analysis and the Real Options. You understand that the decision tree of Real Options design would provide you the highest “option value” than that of the old linear planning. Certainly, you have collected some reference data from close competitors like BenQ and MediaTek. Therefore, you find out that some important indicators of sensitivity and confidence are similar to theirs.

Actually, your company has two important sets of plans regarding finance and risk management. The CFO is the module leader of financial planning, and the CRO (Chief Risk Officer) is the module leader of risk management. Those two plans are correlated to the Marketing/Sales, R&D, Operation, and General Administration strategies. All the strategic plans are reviewed and approved by the Executive Committee (CEO is the chairman of the Executive Committee.). The board of the company is very helpful and active in the corporate governance.

The time schedule for the new SOC initiative is below:

- Stage 1 -- Research and Planning: 2006 Q1, Q2.
- Stage 2 -- Financing: 2006 Q3, Q4. Get the \$USD 500M for the initiative from 2007 to 2009.
- Stage 3 – SoC core design: 2007 full year. Finish the prototype system chips.
- Stage 4 – SoC reference system design: 2008 Q1, Q2. Finish the reference system design regarding the interconnection with the SoC chip and other hardware components in a subsystem. At this moment, the design of electrical engineering (including all specifications of semiconductors) and related material specifications are completed.
- Stage 5 – End device system design and integration: 2008 Q3, Q4. Finish the mechanical design (industrial design) of the device used by the end customer. The related software module integration is completed.
- Stage 6 – System Testing: 2009 Q1, Q2. Finish complete system testing for the quality assurance. The final little bugs and minor modification may be made under necessary conditions.
- Stage 7 – Mass production of SoC chips and end devices: 2009 Q3 afterward.

Now you can imagine the SoC chip runs well in a mobile multimedia player/computer in the Sony PS 5 or Xbox 4th generation. The most exciting thing is: your company has your own brand for the ample consumer market. You also have the right to sell the SoC chips to other manufacturers, and you have better manufacturing capacity in your OEM and ODM businesses.

Before the mass production, you need at least one year to build a new plant for making new consumer products. And you need another half year to train the workers to operate the new plant with new procedures and machines. The budget for the plant construction is 200M; the equipment is 50M, the R&D is 100M, the marketing and general management are 50M, the operation is 100M. The factory to make SoC chips will cost more than one billion US dollars to build. Therefore, your first choice is to ask the big foundry house (like TSMC or SMIC) to make them for you.

Since the SoC initiative will be run in the headquarter, the interest rate you use to compute discount cash flow and NPV would be based on the People Bank of China. Try to use the longest government bond rate (closest to risk free rate) and transfer it to corresponding annual rate.

B. Design a plan for the \$USD 500M financing. This plan would include the source of capital, the trade-offs, and the RAROC measurement. In your plan, both “what to do” and “how to do” should be put together. For some important choices, explain why you do them.

The China government now controls 75% of total equities. It’s OK to dilute the equities as long as the government holds more than 50% shares. In your trade-offs, the minimum cost of capital (with low risk premium) is the first priority. The second priority is the efficiency of capital. After the financing, the capital structure should not deteriorate much. The current credit rating of the company is BBB+ by S&P.

Because the shortcoming of IRR, you decide to use RAROC to measure ROI. Be careful in your decision and computation for Economic Capital (EC) in the RAROC process.

Part 2. What is the Enterprise Risk Management for Dragon Prosperity?

A. Create a complete plan of Enterprise Risk Management for the company.

The considered financial risks include market risks (exchange rate changes, interest rate changes, stock market, commodity, etc.), credit risks (supplier, buyer, and collaborator), and operational risks (operations of people/process/system, legal, and environment, etc.).

The stages should include (1) Risk Identification (2) Risk Measurement (3) Risk Management (4) Risk Monitoring and Feedback.

B. How do you deal with the following situations? Present your solutions in a professional way and explain why you do so.

B1. How do you hedge the risk of foreign currency exchange? Your company sells 60% products to the United States, and you earn the US dollars for those sales. For

the procurement of raw materials and key components, you pay it by RMB. 45% of the procurement goes to the U.S. firms, and 30% goes to Taiwan vendors. (Consider the usage of money market tool and Forward Contracts of foreign exchange markets. Most account payable and account receivable are long term—6 months to 12 months.)

B2. How do you design your insurance plan for the assets (tangible and intangible assets) and operations?

B3. The employee welfare and pension fund may possibly increase 40% from 2004 to 2009. From the cash flow point, you feel the high pressure to find a way out. How will you solve this urging problem? (Assume that your company and the local rules allow you to convert the company stocks and options to the employee welfare and pension fund.)