INSTALLMENT C.

Module 9. Environmental Forecasting and Scenario Building

Module 9: Outline

A. Scenario Building
    1. The past as prologue for the future
    2. Predicting actor behavior
    3. Predicting future events
    4. Constructing “What if?” statements
    5. Connecting the dots (and possible future events)
    6. Assessing your assumptions about the future

B. Environmental Forecasting
    1. economic forecasting
    2. technological forecasting
    3. political forecasting
    4. social forecasting

Module 9: Text

Scenario-building

When one detects a signal in the environment, often it is not interpreted in terms of its potential impact on the firm. The process of deriving a path of decisions and events which could ultimately come to have an impact on a firm is called "scenario-building." Scenario building consists of a series of "What if?" statements: "What if this decision was made?" "What if that event occurred?" and then this decision followed, then that event, etc. A scenario is only as good as its inherent assumptions. The utility of scenario-building is in identifying the critical assumptions and looking at variations on those assumptions that could alter projected or assumed outcomes.

A firm will want to undertake a scenario or forecast for those signals which it believes could ultimately have a SIGNIFICANT impact on the firm. The scenario not only clarifies the probability of a possible outcome for the firm, but also identifies the key

junctions in the path where the scenario builder could intervene and somehow change the outcome.

A scenario also points the firm toward the important actors and developments to which it should turn the focus of its environmental monitoring system. For example, if the key junction in a scenario is a decision by a potential new competitor, major customer, specific government agency or non-governmental organization (NGO), the firm will want to track the actions of this actor very closely so as to detect any movement toward the key decision that could make the hypothetical scenario a reality.

Environmental Forecasting

Scenario-building can be compared to a closely-related process called "social forecasting." The former focuses on what could occur in the future and the process by which it would occur. The latter focuses on what probably will occur, i.e., it forecasting starts with what could occur and then assigns probabilities to various possible events. Thus, there is overlap in these two concepts.

Most firms do **economic forecasting** on an on-going basis. Using past trends and known information as to how the present situation could alter these trends, extrapolations are made into the future at the time a decision and the time horizon of the associated planning process under consideration. Depending on the nature of the firm, economic forecasts are made of all or some of the major macroeconomic factors--interest rates, equity markets, the money supply, government revenues and spending, disposable consumer income, demographics--as well as economic factors more specific to the firm or industry--competitor sales, new product success, pricing strategy, etc.

In recent years, some firms have sought to apply the techniques of economic forecasting to forecasting changes in other sectors of the corporate environment. **Technological forecasting** is an attempt to predict the rate and direction of technological innovation in a particular industry, market or technology, based on past experience and current trends. The lifetime of a new product in the semiconductor industry, for example, can be predicted on the basis of past changes in this market. Historical data tells forecasters that a new semiconductor product has an average life expectancy of about five years, and development costs should be allocated accordingly. Technological forecasting has also attempted to actually forecast new technological innovations. Leonardo de Vinci and Jules Verne had a remarkable knack for this kind of technological forecasting. However, the forecasts of their more systematic successors have proven to be far less accurate. For example, at one point in the 11050s, some analysts predicted that the typical American family garage would contain a car and a helicopter, and below the garage would be a nuclear fallout shelter.

Political forecasting is an attempt to anticipate changes in the political environment, to include everything from broad changes--the electorate is becoming more conservative, less concerned about government regulation, more concerned about the budget deficit, etc.--to predictions of the reelection or defeat of a candidate, to possible new legislation that will be introduced, and its success in the legislature, to the status of a particular government agency, to the decisions that will be made in the courts (the highest court in a country is becoming more conservative, m ore politicized, etc.)

Political forecasting becomes the basis for a firm's contribution and lobbying strategy. It may lead a firm to back favorite parties or candidates who might be in trouble or

abandon others who have no hope of winning. It will also lead to decisions to exert efforts at one point in the public policy-making process rather than another. The role of political forecasting in formulating political strategy is discussed further in Modules 8 and 10.

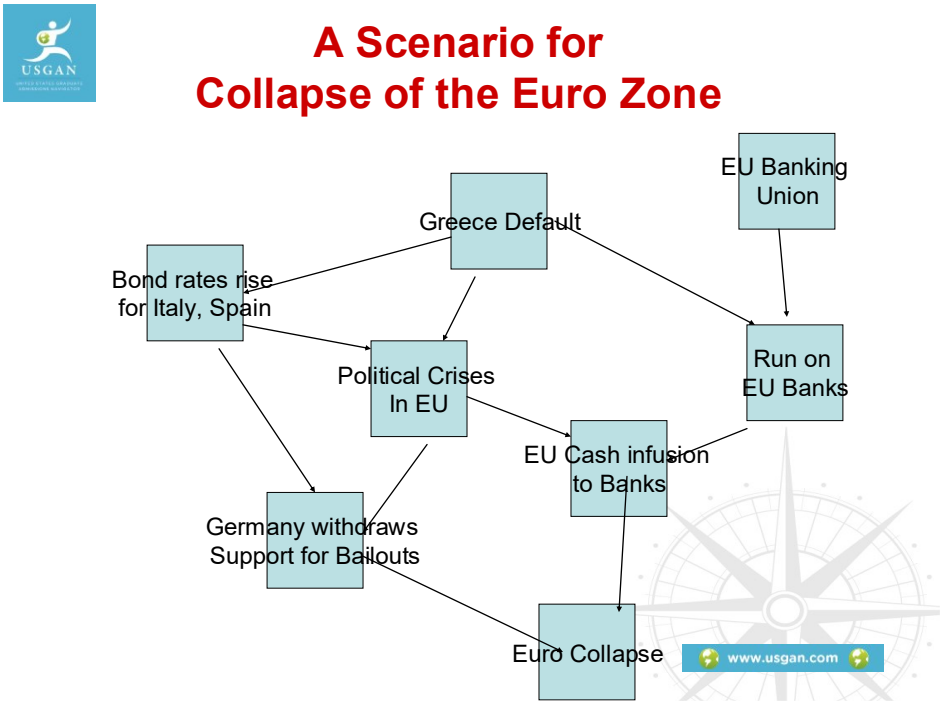
Finally, some companies have attempted **social forecasting**--forecast major social changes, changes that would include emerging "hot" issues, political activism among youth, e.g., the "Arab Spring" or social unrest because of unemployment among young Spaniards, more leisure, bankrupt pension systems, etc. Among the proponents of social forecasting, there has been only a modest success in persuading corporations to undertake this effort.

Those inroads which forecasting has made in corporations have been in the strategic planning process. Managers are being required to specify their assumptions about the environment within which their firm will operate at the time horizon of the plan. At a minimum, this requirement has forced the managers to think beyond a simple extrapolation of existing operational history and seriously consider what parts of their environment could change appreciable over the period of the plan.

Best, Worst and Most Probable Scenarios

Having identified the important actors and developments that will influence the future in various parts of the environment for a firm, the next question is to assess the probability of various futures occurring. While we could assess gradations of probability to various futures, at the simplest level we can speak in terms of what are the best, worst and most probable scenarios for the future. With these three scenarios defined, we can then adjust them as developments in the key environmental areas and among key environmental actors occur. The **Figure below** depicts a worst case scenario, proposed by

an economist in September 2012, whereby the Euro Zone collapses. How realistic is this scenario today? For example, in terms of the worst Euro Zone scenario, what didn't happen and why not? At this time, what is now your best, worst and most probable case scenarios for the future of the Euro Zone, i.e., what would a scenario for the collapse of the Euro Zone look like if the starting point was today, given the "Brexit" vote in the UK?



See Exhibit 8.2 for a good scenario example from a previous case.

Assigning Probabilities to Individual Scenario Elements

As noted above, we assign aggregate probabilities to various scenarios using a simple scale—best, worst and most likely. However, we could assign probabilities to individual scenario elements. For example, in the scenario above, we could assign a probability to each of the evet boxes or "cells," starting with the probability of a Greek default. We then would move to assess the probability of Bond rates rising in Italy and Spain and a Run on the EU Banks. If all of these individuals probabilities are low, then the overall probability of the Euro Collapse is low—our best case scenario. If they are all high, it is our worst case scenario. But if any of the intervening probability are mixed, we can construct a "most likely" scenario.

Entry-level Employee Perspective

As an entry-level employee, given the environmental monitoring system you have set up for the company, you could then be asked by your supervisor or a senior manager in your company to forecast developments in key area of your business operations, e.g., technological developments, governmental actions in a key country, customer buying trends, or competitors in a key product market. Would you be comfortable doing this—trying to predict the future? (If it is any comfort, any commitment to set up a company, develop a product, manufacture that product, and market it assumes a future in which the necessary supply-side resources will be available and the market demand will be there among customers. In doing so, could you highlight key actors and possible developments in your forecast that would require closer tracking and recommend adjustments to your forecast and best, worst and most-likely scenarios on a recommended frequency, e.g., daily, weekly, monthly, annually?

In another context, could you respond to a proposed action by your supervisor or a senior manager in your company by identifying the key assumptions about the future in that proposed action and politely ask for clarification of the basis for his or her certainty as to how the future will likely play out?