

THE USE OF ECONOMIC INDICATORS IN FORECASTING FOR CORPORATE PLANNING

by

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Introduction

The focus of this short commentary is the need for economic data by the business executive in his planning function, the first and most important task of the manager. It is heartening to note that, especially since the beginning of the seventies, executives in the private sector are taking their planning responsibilities more seriously. This increased willingness to plan is partly due to the significant improvements in the consistency, relevance and timeliness of economic data coming from government and other agencies.

To understand the types of economic data that business executives are increasingly requiring for their planning activities, it may be useful to briefly distinguish among the various phases of business planning. There is the more long-range type of planning usually referred to as *strategic planning*. This consists in determining the desired posture of the company towards its various "stakeholders" (e.g., consumers, workers, managers, funds providers, etc.) at some time in the future, say five years from now. In strategic planning, which usually culminates in an annual conference, the top management of a firm sets long-term objectives. These objectives, however, cannot be set in a vacuum. There must be some way of determining the external environment that will prevail, say five years from now, as regards inflation rates (for market and wage objectives), growth of consumer or other relevant markets, regional shifts in population and income, etc. Here long-term plans of the government (like the Philippine Development Plan, 1978-1982) are increasingly being consulted by business executives.

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Then there is project planning, which is the appraisal of the costs and benefits (usually called a project) of any activity, program or expenditure that can be reasonably distinguished and separated from existing operations. This phase of planning is identical to the process of capital budgeting (Discounted Cash Flow Analysis as the financial executives would call it). Obviously here, the executives need assumptions about how his markets and costs will grow during the productive life of the project. Sales forecasting is a most important feature of project planning. It is on this area where there is a dearth of information on the possible independent variables that can be used for forecasting future sales volumes.

Finally, there is operational planning which is basically deciding what to do with existing products in existing markets with the use of existing resources. Understandably, the time horizon here usually coincides with the budgeting cycle—one year in most companies and three years in a few more progressive firms. In operational planning, short-term goals are set (like a targeted increase in sales for a maximum allowable increase in costs) which are then closely monitored during the budget year (either monthly or quarterly). It is in this monitoring work of executives that economic data from government agencies are increasingly becoming useful. As will be explained below, periodic movements of prices, volumes of production, interest rates, etc. are being used to explain significant variances from budgeted figures as well as for necessary adjustments in some of the short-term goals set at the beginning of the budget period.

General Research Directions

The use of development indicators by the industrial economists of the Center for Research and Communication lies mainly in the field of economic forecasting for corporate planning. Specifically, this has an impact on the economic environmental appraisal activities of business planners. In a few instances, these indicators also help business firms to do a more thorough appraisal of their strengths and weaknesses (called corporate appraisal) by enabling them to compare themselves to certain industry standards.

The forecasting research activities at CRC can generally be grouped under two main headings. One would be economic monitoring and the other would be forecasting proper. In both these activities, the emphasis is more exploratory than normative.

In other words, the forecaster works on the basis of what useful information is available before conducting the analysis rather than specify the way in which analysis should be done before generating the needed information. To a very large extent, therefore, the forecasting research activities conducted by some CRC staff members rely on the type of information provided by the government statistical agencies.

But this is not to say that our industrial economists have relied exclusively on information provided by government agencies. There have been instances when it was felt necessary that they generate some of the information they needed for their research. Two instances that can be cited are the development of the following indicators:

1. *Project Primodex*: In response to the need to monitor inflationary conditions relevant to different types of employees in the Metro Manila area, the project was launched, with the cooperation of a few large corporations in the area, in 1971. The project consisted in a survey of employee household expenditures. On the basis of the results of the survey, three sets of price indices constructed as cost-of-living measures of low, middle and high incomes employees of these corporations that have above-average salary and wage rates. Most of the prices used in the indices are regularly obtained from Central Bank's Department of Economic Research and the Bureau of Commerce. Annually, the Friends of CRC are supplied with these statistics and this is timed at around October when many corporations are in the process of preparing budgets.
2. *Industrial Indicators*: In order to arrive at an up-to-date indication of industrial performance, the CRC-MER-ALCO Industrial Indicators series was launched in 1971. These indicators are constructed out of electricity consumption estimates of industries in the Meralco franchise areas. Clearly, the assumption here is that industrial electrical consumption is indicative of activity levels in manufacturing. The principle of measuring input usage instead of units of output has been found to be very convenient and has been in use in the United States for a long time now. While there are clear limitations in this approach such as the tendency to underestimate activity levels in the face of energy conserva-

tion measures and its being concentrated in the Metro Manila area (although this is mitigated by the fact that much of manufacturing activity does occur in the area), the indicators have a distinct advantage in the extremely short lag time before they can be made available. Whereas other manufacturing indicators currently have a lag time of at least one quarter, the CRC-MERALCO Industrial Indicators can be made available with lag time of only 1 or 2 weeks. This is aside from the fact that they are made available on a monthly basis. Such indicators are important for the corporate appraisal activities of business firms since they provide up-to-date standards with which they can measure the business firm's performance against that of the industry to which they belong or that of the whole manufacturing sector.

In spite of the fact that forecasting research at CRC is more exploratory than normative, this paper contains some suggestions as to what are the more important indicators that can be developed on the basis of their potential impact on the planning function of the business firm.

Aside from the foregoing, there is another trend in forecasting research at CRC which has a direct bearing on its use of development indicators. And this is in the increasing emphasis that is given to sectoral rather than aggregate forecasting research. From a reading of current research directions, there is less fascination about coming out with a "grand total" in terms of research results. This phenomenon, as can be gleaned from some ten years' experience of communicating to the private business sector, can understandably be attributed to the more specific informational requirements of businessmen. Provided that there is the discipline of checking and re-checking for consistency, the impact that more specific, disaggregated analysis can have on business planning will likely be considerable. Perhaps this can be considered as a general thrust in developing indicators.

Monitoring Research

Economic monitoring forms an integral part of forecasting research. This activity has the purpose of capturing the more recent trends that can have a bearing on future developments. As a formal, regular systematic activity, economic monitoring at CRC is a fairly new field, although the theoretical underpinnings of such an exercise have been laid as early as ten years ago. It

was the desire to regularly assess general economic performance against targets specified in the Philippine Development Plan that spurred the institutionalization of economic monitoring at CRC. This monitoring work is parallel to the control systems in many firms who periodically analyze budget variance.

Economic monitoring, as well as forecasting, organized at CRC along three functional areas: markets, production, and finance. These really constitute the three ways of looking at the economy and, theoretically, the general conclusions that can result from the analysis of one area holds for the other areas.

At present, there are a number of indicators used for monitoring market, production and financial conditions. Aside from the theoretical basis for their use in monitoring, the shortness of lead time for their availability serves as a major criterion for their choice. Outlined below are the indicators for each of the functional areas:

1. *Market Conditions*

In monitoring domestic market activity, two segments are being watched. The first is the consumer market and the indicators used for domestic consumer market activity are merchandise export receipts as provided by the Central Bank and government cash operations as provided by the Bureau of Treasury. Export receipts is considered because of its income impact, particularly in the rural areas. Government cash operations is used on the basis of the principle that government, through its receipts, removes money from the domestic system and, through its disbursements, infuses money into the system. For the investment market, imports of raw machinery and equipment provided by the Central Bank is used as the indicator. As a summary market indicator, a Business Environment Index can be constructed as a composite of the following indicators:

- CB gross sales index and CRC-MERALCO Industrial Indicators (for the consumer market)
- Imports of raw materials and supplies (for the input market)
- Cement sales and machinery imports (for the investment market)

As a signal associated with market conditions and closely watched by businessmen, inflation is being monitored as some sort of a summary indicator. A number of inflation indices are currently in use: NCSO's CPI-Philippines, CB's CPI-Manila and the Wholesale Price Index, and CRC's Project Primodex.

2. *Production Conditions*

There is a relative dearth in timely indicators that can be used for monitoring production conditions. This is particularly true for agricultural production since there are normally no production statistics that are generally available on a monthly, or even on a quarterly basis. As a proxy, export volumes of major agricultural crops could be used but there are clear limitations (as exhibited last year in the case of sugar when export volumes expanded dramatically when production was believed to be on a decline) and the relatively longer lead time prevents regular use in monitoring. A very rough indicator that is presently in use is rainfall patterns, although this, too, has clear and serious limitations. This can be complemented by information on the prices of key agricultural commodities. For industrial production, the CRC-MERALCO Indicators and imports of raw materials and supplies obtained from CB are used. A signal that has a direct bearing on production conditions is the foreign exchange rate. There are two measures of the price of foreign exchange used in monitoring. One is the generally available interbank guiding rate expressed in pesos for every dollar. But because of important economic developments affecting the exchange rate situation, the Center constructed a trade weighted index of the price of foreign exchange as an alternative measure on the basis of CB's statistics on external trade by country of destination/origin and weekly currency quotes obtained from *Newsweek*.

3. *Financial Conditions*

Monitoring financial conditions is built simply on the basic demand and supply principles. Supply forces are indicated by money supply — 2 (which includes savings and time deposits) and money supply — 3 (which includes either bills payable or deposit substi-

tutes). On the demand side are indicators constituting the different elements of the need for funds such as import payments, inflation rates and industrial production. Summarizing the financial situation is the prevailing interest rate which is the price resulting from both demand and supply forces. There are three kinds of rates used: 30-day commercial papers for corporate liquidity, interbank call loans for bank liquidity and the weighted money market average as a summary measure.

The present elementary nature of the monitoring technology outlined is indicative of the extent of improvement that can be attained, possibly even with just marginal improvements in the type of statistical information available and in shortening lag times. From the standpoint of economic monitoring for the environmental appraisal functions of businessmen, it may even be said that greater impact can be generated from improvements made in the latter rather in the former area.

Forecasting Research

Monitoring results are key inputs for forecasting research. At CRC, forecasting research is conducted at two levels. First, there is the attempt to develop a quarterly forecasting capability and this is a natural outgrowth of the monitoring activity. Secondly, there is a forecasting research based on annual estimates. This is the more institutionalized portion of CRC forecasting research.

Forecasting on the basis of annual estimates was essentially based on the national income accounting framework so that production forecasts are really extensions of value added estimates constituting Gross National Product by sector of origin and market forecasts are extensions of the components of Gross National Product by expenditure. Forecasting research for finance is more closely aligned with the framework for the quarterly monitoring exercise.

While this aggregative type of forecasting activity is still being conducted by the Center, there is, as earlier stated, increased emphasis on sectoral forecasting on a quarterly-estimate basis. This is largely due to the demand for far more disaggregative information coming from the users of forecasts. The intellectual framework here is akin to that followed in the monitoring activity and it has the following basic premises:

1. There are three basic signals that generally affect all business operations: the inflation rate, the foreign exchange rate and the interest rate.
2. Readings of these three "business signals" can go a long way in explaining the present state of the business-economic system, as well as its prospects .
 - a. The inflation rate is the barometer of market conditions. It affects and is affected by the amount of spending going on in the economy.
 - b. The foreign exchange rate is the barometer for production conditions. It is crucial variable for foreign exchange-using and foreign exchange-earning producers in the country.
 - c. The interest rate is the barometer for financial conditions. It is indicative of the conditions facing sources and uses of funds in the economy.
3. Within this context, the three "business signals" are equivalent ways of looking at the three facts of the economy — as a market system, as a production system, and as a financial system.

Much work is still to be done in developing this type of forecasting capability. Further to this, ongoing research is conducted in both monitoring and forecasting indicators at the industrial level. All these are investments made in the Center's continuing efforts to be of greater assistance to the country's business planners.

Presently Perceived Needs

As the major purpose of this dialogue is perhaps the establishment of congruence between producers and users of development indicators, this occasion is taken to outline some for developing indicators on the basis of the needs of business planners as perceived in the course of the Center's extensive dealings with the private business sector.

1. Regional Indicators: Given the fact the different regions in the country are in fact diverse in terms of economic performance, there is a clear need for a system

that can generate timely indicators of regional performance. This will require carrying out the challenging task of identifying the critical factors affecting regional performance as well as the establishment of the working process that can transmit timely information about these factors.

2. *Government Operations*: Given the greater impact government operations can have on the economy, access to information pertaining to actual versus planned government operations is valuable for the planning purposes of not only the private business sector but also that of government.
3. *Survey of Expectations*: Given the subjective influences on decision-making, there is a need for the systematic conduct of surveys of consumer and investor expectations covering mainly planned expenditures.
4. *Retail Sales*: Given the absence of a more direct indicator of the very large consumer market, there is also a need for retail sales indicators.
5. *Capacity Utilization*: Given the capital-scarce nature of the economy, capacity utilization measures are critical in monitoring the use of capital resources and in guiding the private business sector in investment planning.
6. *Inventory Levels*: The need for an indicator of inventory levels is related not only to improving the capability of measuring and monitoring investments but also the market and production planning capability of the private business sector.

It is hoped that with the development work done in the above areas, more than proportionate benefits can be realized in terms of considerably improved public and private decision making.