# Measuring the impact of the business cycle on your industry

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## Evaluate the impact of fluctuations in the business cycle on their particular sector or industry and make strategic plans for the coming year.

The ability to make plans based on forecasts of a business cycle, using publicly available information, is essential now more than ever. Information on the exposure and intensity of exposure of a given industry to general economic fluctuations should enable managers to assess what actions, if any, could be taken to insulate their companies from these fluctuations in the wider market. In taking action, managers may be able to create sustainable competitive advantages for their companies in a changing business climate.

IESE professors Miguel A. Ariño, Africa Ariño and Roberto Garcia-Castro have developed a practical model to quantify the impact of the business cycle on the level of activity of an industry and, therefore, firm performance. Like all good ideas, it starts over a bottle of wine.

Using the Spanish cava industry by way of illustration, the authors explore the relationship between economic activity (GDP growth) and the level of activity in the industry (the growth in the number of bottles of cava produced for the domestic market).

Regression analysis shows a strong relationship between these two variables. Using this analysis, the professors establish that the exposure of cava production to the business cycle is 63 percent. This means that 63 percent of the variations around the growth rate of cava bottles produced in Spain for the domestic market can be explained by the Spanish economic cycle, as measured by the growth rate of the Spanish GDP.

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By factoring in the stage of the business cycle, the model allows for a more specific picture of the current growth rate in the activity of a particular industry. In other words, if one had no information about the wider economic situation, one would only be able to say that the activity of the cava industry saw an average growth rate of 0.83 percent per year between the period studied of 1985 and 1998.

However, the model provides further information about the fluctuations around this average growth rate. Having established the exposure of the cava industry, one can now say that the business cycle accounts for 63 percent of these fluctuations. One can also say that 37 percent of the fluctuations are owing to causes other than GDP growth.

Another important aspect measured by the model is the intensity of the exposure. The intensity is a measure of the impact of a percentage point change in general economic activity on industry activity.

In the case of cava, for each extra percentage point in the growth rate of Spanish GDP, cava production for the domestic market increased by 1.73 percent - hence, the intensity of exposure is 1.73. With cava, this extra growth rate can be clearly translated into absolute terms, that is, the number of bottles. So, if the level of production in a given year is 91 million bottles, an extra percentage point in the growth rate of Spanish GDP translates into an additional production of 1.57 million bottles of cava.

## Applying the model to other industries

The same framework can be applied using other examples. Analysis of Spanish brewers establishes the exposure of the beer industry to the economic cycle at 67 percent. The intensity of the exposure is 1.38, meaning that for each extra percentage point increase in Spanish GDP, the growth rate of beer consumption in Spain increases by 1.38 percent.

Analysis of carmakers in various countries allows for comparison of the sensitivity of the automotive sector to different economic environments. The same methodology is applied to the auto industries in France, Germany, Italy, Japan, Spain, the United Kingdom and the United States, using the number of car registrations as the indicator of activity.

The exposure of the auto industry to the business cycle is not as high as in the cava and beer industries in Spain. This is surprising, given that the auto industry is reported to be highly cyclical and very dependent on the wider business environment. Although this is true for some countries (Germany, Japan and the United States have an exposure of between 50 and

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60 percent), this dependence is not as great as expected for others (France and Italy have exposure of between 20 and 30 percent).

This discrepancy could be explained by looking at the intensity of the exposure. The intensity is very high, ranging from 2 in the case of Germany to 5.5 in the case of Spain. This means that small fluctuations in the business cycle cause greater fluctuations in the car industry, although there will be other variables that also contribute.

## Implications for managers

This model is distinctive for several reasons. First, it focuses on the industry instead of the firm. More significantly, it focuses on the level of activity of the industry instead of its profitability. The level of activity, as translated into revenues, is more linked to the business cycle than profitability, which has to take into account other factors, namely costs. Therefore, it is not surprising that the impact of general economic activity on performance is generally assessed as lower - around 10 percent according to previous research, compared to over 50 percent in the examples used here.

The exposure and intensity of a firm to the business cycle needs to be explored further, as do sectors with more intangible activities, especially service sectors such as tourism, which may not be as straightforward as the examples presented in this research, where the indicators were simple to measure (bottles, cars) and whose annual activities could be summarized in a single number.

Furthermore, global sector indicators are problematic. With the automotive industry, despite the globalized nature of supply, demand remains domestic. More complicated is a sector like the airline manufacturing industry, where demand, not just supply, is global.

Yet for managers in sectors that lend themselves more readily to measurements like this, the professors' method poses a simple yet powerful tool to evaluate the transient effects of fluctuations in the business cycle, enabling managers to create future advantages.



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